Nipomo Community Services District

2020 Urban Water Management Plan

Final December 2021

Prepared for:
Nipomo Community Services District
P.O. Box 326
Nipomo, CA 93444

Prepared by:
MKN & Associates, Inc.
530 Paulding Circle., Ste. B
Arroyo Grande, CA 93420

THIS PAGE LEFT INTENTIONALLY BLANK

Nipomo Community Services District

2020 Urban Water Management Plan

Final December 2021

Board of Directors

Ed Eby

Dan Allen Gaddis

Dan Woodson

Richard Malvarose

Craig Armstrong

NCSD Staff

Mario Iglesias – General Manager

Peter V. Sevcik, PE – Director of Engineering and Operations

Elizabeth Villanueva, EIT – Assistant Engineer

Michael K Nunley & Associates Staff

Michael K. Nunley, PE

Robert Lepore, GISP

Cindy Sevilla Esparza, EIT

Henry Liang, PE

Prepared by:

Michael K. Nunley

Michael K. Nunley, PE
Project Manager
MKN & Associates, Inc.

mkn

THIS PAGE LEFT INTENTIONALLY BLANK

Table of Contents

List of Tables

List of Figures

Appendices

Bibliography

The following reports, studies, and other material were reviewed during preparation of this Urban Water Management Plan update.

1) City of Santa Maria 2020 Urban Water Management Plan adopted June 2021 and prepared by the City of Santa Maria.

2) 2020 Urban Water Management Plans Guidebook for Urban Water Suppliers dated March 2020 and prepared by the California Department of Water Resources.

3) Nipomo Mesa Management Area 13th Annual Report (NMMA TG Annual Report) Calendar Year 2020 dated April 2021 and prepared by NMMA Technical Group.

4) 2050 Regional Growth Forecast for San Luis Obispo County Population, Housing, and Employment Projections for San Luis Obispo Council of Governments dated June 2017 and prepared by Beacon Economics.

5) House Element 2014-2019 - County of San Luis Obispo General Plan Adopted June 17, 2014 and prepared by the San Luis Obispo County Department of Planning and Building.

6) Nipomo Community Services District 2015 Urban Water Management Plan dated June 2016 and prepared by Michael K. Nunley and Associates, Inc.

7) San Luis Obispo County 2040 Population, Housing & Employment Forecast for San Luis Obispo Council of Governments dated August 11, 2011 and prepared by AECOM.

8) Nipomo Mesa Management Area Water Shortage Conditions and Response Plan dated April 2009 and prepared by NMMA Technical Group.

List of Acronyms

AB - Assembly Bill
ADU – Accessory Dwelling Unit
AF – Acre-Foot
AFY – Acre-Feet per Year
AMI – Advanced Metering Infrastructure
AWIA – America's Water Infrastructure Act
AWWA – American Water Works Association
BMP – Best Management Practice
CASGEM – California Statewide Groundwater Elevation Monitoring Program
CA – California
CD – Compact Disc
CII – Commercial, Industrial, Institutional, water use sectors
CIMIS – California Irrigation Management Information System
City – City of Santa Maria
CUWCC – California Urban Water Conservation Council
CWC – California Water Code
DACs – Disadvantaged Communities
DMMs – Demand Management Measures
DOF – Department of Finance
DRA – Drought Risk Assessment
DU – Dwelling Unit
DWR – Department of Water Resources
eARDWP - Electronic Annual Reports to the Drinking Water Program (SWRCB)
ETo - Reference Evapotranspiration
GIS - Geographic Information System
GPCD - Gallons per Capita per Day
GSA - Groundwater Sustainability Agency
GSWC - Golden State Water Company
GSWCCR – Golden State Water Company Cypress Ridge
HECW - High-Efficiency Clothes Washer
HET/DFT - High-Efficiency Toilet
ID - Identifier
IRWMP - Integrated Regional Water Management Plans
KWI – Key Wells Index
MG – Million Gallons
MGY – Million Gallons per Year
NA – Not Applicable
NCMA - Northern Cities Management Area
NCSD - Nipomo Community Services District
NMMA – Nipomo Mesa Management Area
NMMA TG – Nipomo Mesa Management Area Technical Group
NMWCA – Nipomo Mesa Water Conservation Area
PWS – Public Water System
Report – NMMA TG's Annual Report
RRA – Risk and Assessment
RUWMP – Regional Urban Water Management Plan
SB – Senate Bill
SWRCB – State Water Resources Control Board
SLOCOG – San Luis Obispo Council of Governments
SLO-PD - San Luis Obispo Planning and Development
SOI- Sphere of Influence
SQ FT – Square Feet
SMVMA - Santa Maria Valley Management Area
NSWP - Nipomo Supplemental Water Project
SB X7-7 – Senate Bill Seven of the Senate's Seventh Extraordinary Session of 2009
UMWP - Urban Water Management Plan
US EPA - United States Environmental Protection Agency
WMWC - Woodlands Mutual Water Company
WRF - Water Reclamation Facility
WSCP - Water Shortage Contingency Plan
WSS - WaterSense Specification
WUE - Water Use Efficiency
WWTP - Wastewater Treatment Plant

THIS PAGE LEFT INTENTIONALLY BLANK

CHAPTER 1 INTRODUCTION AND OVERVIEW

This report comprises the 2020 Urban Water Management Plan (UWMP) update for the Nipomo Community Services District (District). The District is located in Nipomo, California, an unincorporated community in southern San Luis Obispo County. The District serves portions of the Nipomo community and the greater Nipomo Mesa. The District is an independent Special District formed and operated pursuant to Government Code §61000 et seq. The District provides water, wastewater, solid waste, landscape maintenance, street lighting, and drainage services to its customers pursuant to Government Code §61600(a), (b), and (c). The District does not have land planning authority, which is retained by the County of San Luis Obispo (County); however, County land use planning authority is subordinated to resource limitations such as water and sewer capacity as established by the District.

The UWMP is a valuable planning document used for the following purposes:

- Meet a statutory requirement of the California Water Code (CWC)
- Provide a key source of information for Water Supply Assessments (WSAs) and Written Verifications of Water Supply required by SB 610 and SB 221
- Support regional long-range planning documents including County General Plans
- Provide a standardized methodology for water utilities to assess their water resource needs and availability
- Serve as a critical component of developing Integrated Regional Water Management Plans (IRWMPs)

As a part of the California Water Code, the California Urban Water Management Planning Act (UWMP Act) requires all urban water suppliers with more than 3,000 connections or distributing more than 3,000 acre feet per year (AFY) to complete an UWMP every five years ending in '5' and '0'. The UWMP Act is administered by the California Department of Water Resources (DWR), who is responsible for developing guidance for preparation of the UWMPs, reviewing the submitted plans for completeness, compiling the data for statewide and regional analysis, and publishing the documents online for public access.

In 2020, the District produced approximately 1,267 acre-feet (AF) of water, imported 781 AF of supplemental water from the City of Santa Maria, and had 4,300 customer connections. The District adopted its first UWMP in January 2004. Since the first adopted UWMP in 2004, the District has completed and submitted the 2005, 2010, and 2015 updates.

New Requirements for 2020 Update

The following new requirements have been identified in the 2020 Urban Water Management Plan Guidebook for Urban Water Suppliers and have been addressed in the District's 2020 UWMP update:

- Five Consecutive Dry-Year Water Reliability Assessment
- Drought Risk Assessment
- Seismic Risk
- Energy Use Information
- Water Loss Reporting for Five Years
- Water Shortage Contingency Plan (WSCP)
- Groundwater Supplies Coordination
- Lay Person Description

1.1 UWMP Organization

This UWMP update was prepared based on guidance from the final draft of the California Department of Water Resources (DWR) "2020 Urban Water Management Plan Guidebook for Urban Water Suppliers" dated March 2021 and follows the recommended chapter formatting identified in the guidebook and briefly described below.

Chapter 1 – UWMP Introduction and Lay Description: This chapter identifies changes since the 2015 UWMP, fundamentals of the 2020 UWMP, and the required lay description of the District and its service area. Some subsequent chapters also include an initial lay description.

Chapter 2 – Plan Preparation: This chapter provides information on processes used to develop the UWMP, including efforts in coordination and outreach.

Chapter 3 – System Description: This chapter includes maps of the service area, an explanation of the service area and climate, and detail on the public water system.

Chapter 4 – Water Use Characterization: This chapter provides a description and quantification of the current and projected water uses within the District's service area.

Chapter 5 – Conservation Target Compliance: This chapter describes the District's compliance with the 2020 per-capita water conservation mandate, presents the District's 2020 per-capita target value that was adopted in the 2015 UWMP, and compliance with per-capita target based upon actual 2020 customer water use.

Chapter 6 – Water Supply Characterization: This chapter provides a description and quantification of current and projected potable and non-potable water supplies. A narrative description of each supply source and quantification of the supply availability for each supply source was identified.

Chapter 7 – Water Service Reliability and Drought Risk Assessment: This chapter describes the Districts' water system reliability through at least a 20-year planning horizon. The description includes normal, single dry year, and five consecutive dry years. The water system reliability differs from the Drought Risk Assessment (DRA) by allowing a different basis for characterizing the five consecutive dry years.

Chapter 8 – Water Shortage Contingency Plan: This chapter provides a structured plan for dealing with water shortages, incorporating prescriptive information and standardized action levels, along with implementation actions in the event of a catastrophic supply interruption.

Chapter 9 – Demand Management Measures: This chapter identifies the District's efforts to promote conservation and to reduce demand on the water supply; specifically including a narrative describing efforts to implement demand management measures.

Chapter 10 – Plan Adoption, Submittal, and Implementation: This chapter describes and documents the steps taken to make the UWMP publicly available, as well as the steps taken to adopt and submit the UWMP in accordance with the Water Code, and also describes the District's plan to implement the UWMP.

Appendices: To support and further clarify information included in the main chapters of the UWMP, relevant information has been included in the appendix of this UWMP.

Table 1-1 provides an overview of the applicable changes to the Water Code since the 2015 UWMP, which have been included in this 2020 update.

Table 1-1: Water Code Changes Since 2015 UWMP

Change Number	Topic	CWC Section	Summary	Guidebook Section
1	System Description	10631(a)	Suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land uses information for projecting water use in five-year increments, up to the year 2045.	3.0
2	Other Social, Economic, and Demographic Factors	10631	Describe the service area of the supplier, including current and projected population, climate, and other social, economic and demographic factors affecting the supplier's water management planning.	3.4.2
3	Land Uses within Service Area	10631(a)	The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning.	3.5
4	Distribution System Water Loss	10635	Suppliers shall provide a simple lay description of their **projected** water use for the foreseeable future.	4.2.4
5	Distribution System Water Loss	10631(d)(3)(A) and (C)	Suppliers shall provide quantified distribution system **losses** for each of the five preceding years and whether or not the state standard was met.	4.2.4
6	Characteristic Five-Year Water Use	10635(b)	The Supplier must produce a projected water use for the years 2021 through 2025 as part of the water use projections, up to the year 2040.	4.2.7
7	Climate Change Effects	10635(b)(1)	Consideration of climate change in future projections in regards to water supply.	6.2. & 10.1
8	Drought Risk Assessment	10635(b)	DRA prepared as a component of the 2020 UWMP	7.3
9	Water Service Reliability – Five Consecutive Dry Years	10635(a); 10631 (b)(1)	Submittal Table 7-4 is used for the Supplier's water service reliability assessment for five consecutive dry years, for each of the five-year projection increments out to at least 2040	7.2.1 & 7.2.3.3
10	Water Supply Reliability Analysis	10632(a)(1)	Key attributes of its water supply reliability analysis	8.1
11	Six Standard Water Shortage Levels	10632 (a)(3)(A)	Six standard water shortage levels corresponding to progressive ranges of up to 10-, 20-, 30-, 40-, and 50-percent shortages and greater than 50-percent shortage.	8.3
12	Shortage Response Actions	10632 (a)(4)	Locally appropriate "shortage response actions" for each shortage level, with a corresponding estimate of the extent the action will address the gap between supplies and demands.	8.4
13	Annual Water Supply and Demand Assessment Procedures	10632 (a)(2)	Suppliers are required to submit, by July 1 of each year, beginning in the year following adoption of the 2020 UWMP, an annual water shortage assessment report to the California Department of Water Resources (DWR).	8.2

Table 1-1: Water Code Changes Since 2015 UWMP				
14	Communication Protocols	10632 (a)(5)	Communication protocols and procedures to inform customers, the public, and government entities of any current or predicted water shortages and associated response actions.	8.5
15	Monitoring and reporting	10632(a)(9)	Monitoring and reporting procedures to assure appropriate data is collected to monitor customer compliance and to respond to any state reporting requirements.	8.9
16	WSCP Refinement Procedures	10632(a)(10)	A reevaluation and improvement process to assess the functionality of its WSCP and to make appropriate adjustments as may be warranted.	8.10

1.2 UWMP in Relation to Other Efforts

An UWMP is prepared by local Suppliers that have the in-depth and practical knowledge of their water systems. The information contained in each Supplier's UWMP reflects the operations of its system in the context of the Supplier's customers, supplies, and service area. This local planning and preparation remains the fundamental focus of the UWMP.

In addition to the local Supplier focus, the UWMP requires coordination with other planning agencies and is most effective when integrated with other planning efforts. Land-use planning agencies, such as cities and counties, prepare General Plans and Specific Plans that affect a Supplier's analysis provided in its UWMP, and vice versa. Moreover, Water Master Plans, facility plans, Recycled Water Master Plans, Integrated Regional Water Management Plans, Regional Climate Action Plans, Groundwater Sustainability Plans, AB 3030 Groundwater Management Plans, local or regional Hazard Mitigation Plans, and others need to be synthesized with a Supplier's UWMP to ensure a holistic planning process.

For the District's UWMP, elements of the following reports and documents were utilized to develop the required sections of the plan (a brief description is provided for the relevant information contained in each document):

- 2015 Urban Water Management Plan: Served as the basis for the 2020 update.
- Nipomo Mesa Management Area (NMMA) 13th Annual Report (Calendar Year 2020) and prepared by the NMMA Technical Group, submitted April 2021: Used for the development of the water shortage contingency plan and identification of existing groundwater pumping.
- San Luis Obispo County 2040 Population, Housing & Employment Forecast for San Luis Obispo Council of Governments dated August 11, 2011 and prepared by AECOM: Used to estimate future population projections throughout 2045 within the service area.
- San Luis Obispo County Multi-Jurisdictional Hazard Mitigation Plan: Contained information to address the seismic risk assessment and mitigation requirement of the UWMP update.

The District's latest water master plan was developed in December 2007 and was not used to inform this UWMP update since it does not contain current information related to existing water usage, future demand projections, and water supply availability.

1.3 UWMPs and Grant or Loan Eligibility

For a Supplier to be eligible for any water grant or loan administered by DWR, the Supplier must have a current UWMP on file that has been determined by DWR to address the requirements of the Water Code. A current UWMP must also be maintained by the Supplier throughout the term of any grant or loan administered by DWR. An UWMP may also be required in order to be eligible for other state funding, depending on the conditions that are specified in the funding guidelines. Suppliers are encouraged to seek guidance on the specifics of any state funding source from the respective funding agencies.

CHAPTER 2 PLAN PREPARATION

New Requirement for 2020 Update

The preparation and periodic update of a Water Shortage Contingency Plan (WSCP) is now required per the final Guidebook. The WSCP in included in the UWMP, but adopted and amended independently of the UWMP. Coordination with land use agencies, and other relevant regional or local authorities is now required as part of preparing the UWMP and the WSCP.

2.1 Plan Preparation

This chapter includes information about the following sections for the 2020 UWMP:

- Basis for Preparing a Plan
- Regional Planning
- Individual or Regional Planning and Compliance
- Fiscal or Calendar Year and Units of Measure
- Coordination and Outreach

2.2 Basis for Preparing a Plan

2.2.1 Public Water Systems

The District is a public urban water supplier serving an estimated population of 13,771 people. **Table 2-1** provides a summary of the number of connections and total volume of water supplied by the District to its customers for calendar year 2020.

Table 2-1 Retail Only: Public Water Systems

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 (MG)
CA4010026	NCSD	4,470	2,048
	TOTAL	4,470	2,048

2.2.2 Suppliers Serving Multiple Service Areas/Public Water Systems

The District serves a single public water system and service area.

2.3 Regional Planning

The District is located in the NMMA and acts to assist in coordinate regional water resource planning efforts as mandated by the Court. The Nipomo Mesa Management Area Technical Group (NMMA TG) is the court appointed responsibly for assessing groundwater within the NMMA of the Santa Maria Groundwater Basin.

2.4 Individual or Regional Planning and Compliance

2.4.1 Regional UWMP

The District has developed an UWMP that reports solely on its service area as identified in **Table 2-2**. This plan addresses all requirements of the Water Code including water use targets and baselines for Senate Bill Extraordinary Session 7-7 (SB X7-7) Water Conservation Act of 2009 reporting.

2.4.2 Regional Alliance

The District has developed an UWMP that reports solely on its service area. The individual UWMP addresses all requirements of the CWC. The District has notified and coordinated with appropriate regional agencies and constituents during the development of this UWMP update. Those agencies contacted are identified in **Table 2-5**.

Table 2-2 Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance** *if applicable*
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		

2.5 Fiscal or Calendar Year and Units of Measure

2.5.1 Fiscal or Calendar Year

The District has reported water-related information included in this UWMP based on calendar basis and all units are measured in acre-feet (AF) as identified in **Table 2-3**.

Table 2-3: Supplier Identification	
Type of Supplier	
☐	Supplier is a wholesaler
☑	Supplier is a retailer
Fiscal or Calendar Year	
☑	UWMP Tables Are in Calendar Years
☐	UWMP Tables Are in Fiscal Years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of Measure Used in UWMP	
Unit	AF

2.5.2 Reporting Complete 2020 Data

The 2020 UWMP includes water use and planning data for the entire calendar year of 2020.

2.5.3 Units of Measure

Water volumes presented in this 2020 UWMP are measured in acre-feet (AF) as identified in **Table 2-3**.

2.6 Coordination and Outreach

2.6.1 Wholesale and Retail Coordination

As shown in **Table 2-4,** the District has provided the City of Santa Maria, a regional wholesale supplier, with projected water demands in five-year increments for the next 20 years.

Table 2-4 Retail: Water Supplier Information Exchange
The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631.
Wholesale Water Supplier Name
City of Santa Maria

2.6.2 Coordination with Other Agencies and the Community

The District has coordinated with multiple neighboring and stakeholder agencies in the preparation of this UWMP. The coordination efforts were conducted to: 1) inform the agencies of the planning activities of the District; 2) gather data for use in developing this UWMP update; and 3) coordinate planning activities with other related regional plans and initiatives. The coordination activities conducted by the District in preparation of this plan are summarized in **Table 2-5**.

Table 2-5 Agency Coordination							
Agency	**Sent a notice of public hearing for draft UWMP**	**Commented on the draft**	**Attended public meetings**	**Contacted for assistance**	**Sent a copy of the draft plan**	**Sent a notice of intention to adopt**	**Notice of Plan Availability**
California Department of Water Resources	X						
City of Santa Maria	X						
County of San Luis Obispo Public Works	X						
Golden State Water Company	X						
Woodlands Mutual Water Company	X						

2.6.3 Notice to Cities and Counties

The District has notified the County of San Luis Obispo, City of Santa Maria, Woodlands Mutual Water Company, and Golden State Water Company of the public hearing and this notification has been reported in Chapter 10 **Table 10-1**.

THIS PAGE LEFT INTENTIONALLY BLANK

CHAPTER 3 SYSTEM DESCRIPTION

New Requirements for 2020 Update

Per the Water Code the following new requirements are necessary for this chapter of the UWMP 2020 update.

- Inclusion of service area socioeconomic information as part of the system description
- Coordination with land use agencies and a description of current and projected land uses within the service area

3.1 General Description

The District was formed on January 28, 1965 to provide water and sewer services as allowed under the Community Service District Law of Government Code Section 61000 et. seq. The current service area boundary encompasses approximately 3,907 acres (parcel acreage only and excludes right-of-way) in the Nipomo area of southern San Luis Obispo County, and serves water to an estimated current population of 13,771 people (based 2020 Census data within the DWR population tool). The District service area is primarily residential land uses, with some light commercial and suburban residential. The District is comprised of one water system with three pressure zones; one zone serves the Blacklake Specific Plan area, one zone serves the Maria Vista Pressure Zone, and the third zone serves the rest of the District's service area.

3.2 Service Area Boundary Maps

Figure 3-1 illustrates the location of the District within the State of California and **Figure 3-2** shows the extents of the current service area and Sphere of Influence (SOI) boundary. In addition, **Figure 3-3** shows historical areas of annexation for the service area.

3.3 Service Area Climate

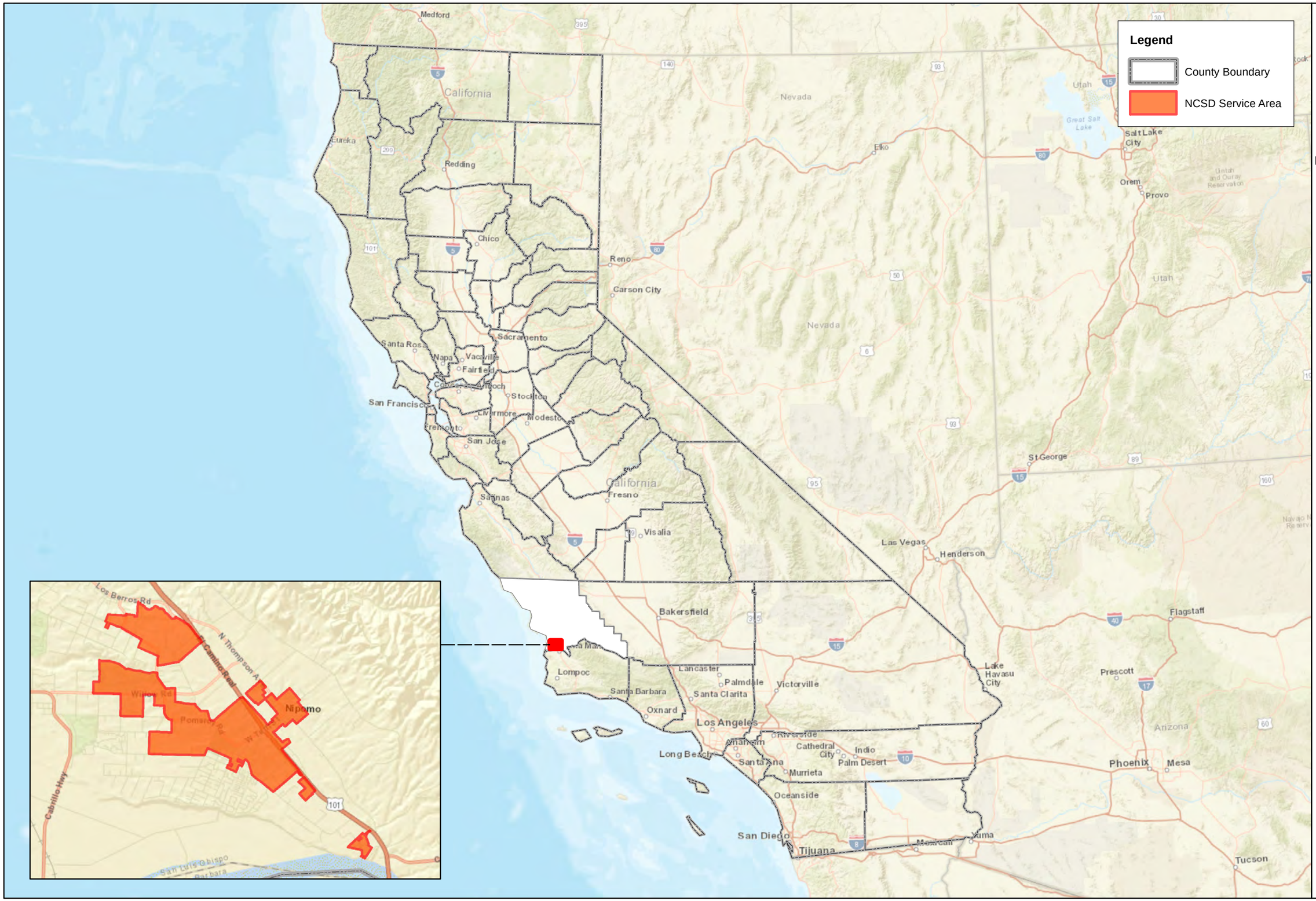
The Mediterranean climate of Nipomo and the surrounding southern San Luis Obispo County area is moderate as a result of the marine influence of the nearby Pacific Ocean. The winter season is usually cool and moist and the summer months are warm and dry, with relatively consistent temperatures averaging 58 degrees. Hills border Nipomo on the north, northeast, and east. The orientation of Nipomo's topography with respect to the Pacific Ocean produces consistent winds from the Pacific in an on-shore direction. During the warmer summer months, heat rises above the surrounding hills, pulling in cooler moist air from the coast. As a result, temperatures stay relatively consistent. Rainfall usually occurs between the months of November and April. **Table 3-0** illustrates monthly and annual average Potential Evapotranspiration (ETo), precipitation and temperature data for the Nipomo area for calendar year 2020.

Table 3-0: Climate Conditions for Calendar Year 2020			
Month	**Monthly Average ETo[1]**	**Monthly Rainfall[2]**	**Monthly Average Temperature[1]**
	Inches	**Inches**	**Fahrenheit**
Jan	2.13	0.91	53.3
Feb	2.87	0.00	53.9
Mar	2.96	4.57	53.4
Apr	4.41	1.77	56.3
May	5.70	0.40	59.6
Jun	5.02	0.04	60.0
Jul	5.09	0.00	59.4
Aug	4.56	0.00	61.5
Sep	3.16	0.04	60.7
Oct	2.98	0.00	63.4
Nov	2.37	0.43	56.1
Dec	2.09	1.18	53.7
Average	**3.61**	**0.78**	**57.6**
Total	**43.34**	**9.34**	-

NOTES:
1. Data from CIMIS Station #202 Nipomo, January 1, 2020 to December 31, 2020.
2. Data from SLO County Rain Gauge, Nipomo (East), January 1, 2020 to December 31, 2020.

With respect to climate change, the District has not conducted an official climate change vulnerability or risk assessment for the existing water service area. However, climate change considerations for the District's groundwater supply are incorporated into the Nipomo Mesa Management Area Annual Reports and Chapter 7 of the 13th Annual Report has been included in Appendix A.

THIS PAGE LEFT INTENTIONALLY BLANK



Nipomo Community Services District

2020 Urban Water Management Plan

Figure 3-1:

Nipomo CSD Location Map

Scale: NTS

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong

THIS PAGE LEFT INTENTIONALLY BLANK

Legend

NCSD Service Area

Sphere of Influence

101

1

166

Nipomo Community Services District

2020 Urban Water Management Plan

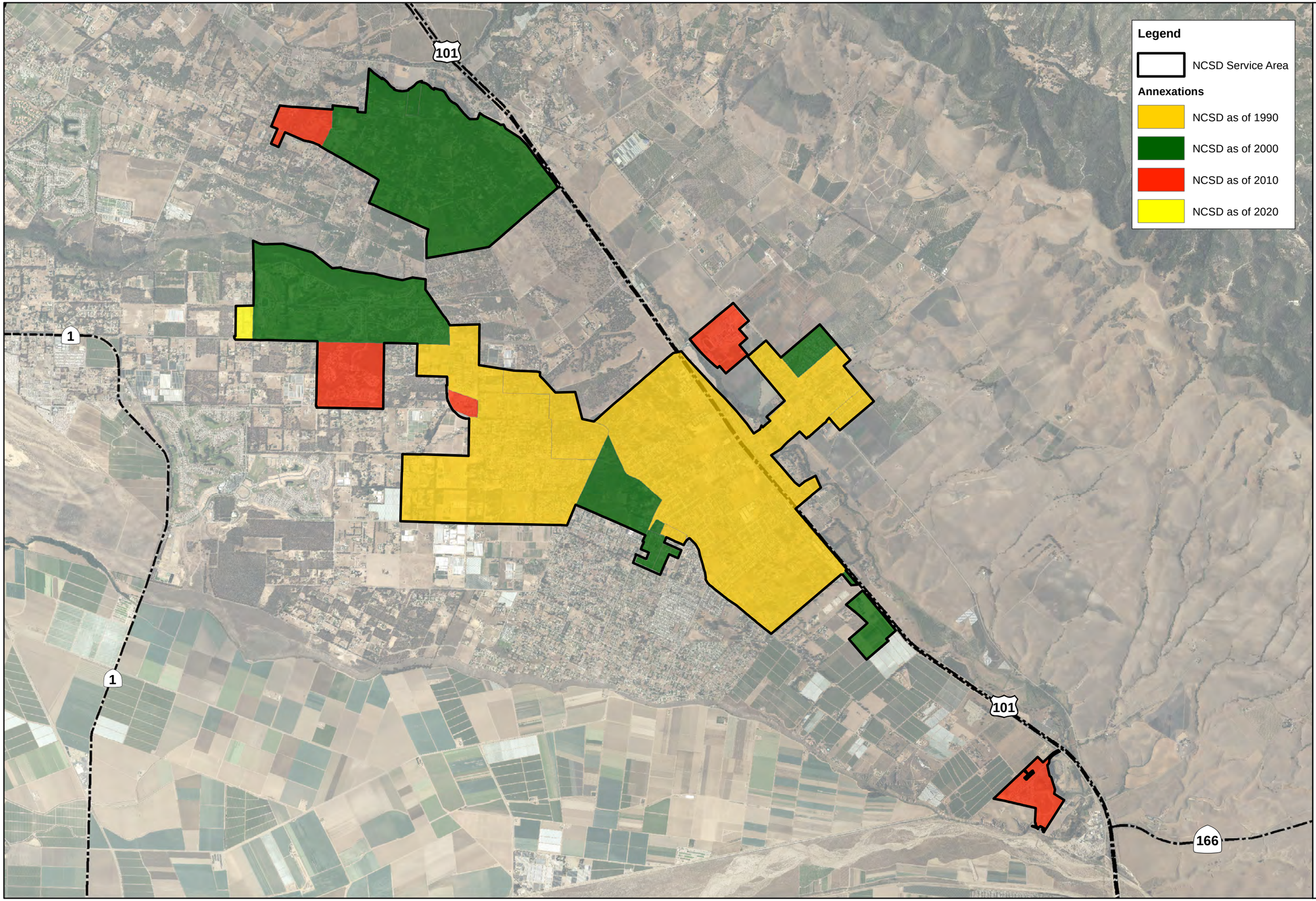
Figure 3-2:

Nipomo CSD Service Area Map

1 inch = 3,500 feet

0 1,750 3,500

THIS PAGE LEFT INTENTIONALLY BLANK



Nipomo Community Services District

2020 Urban Water Management Plan

Figure 3-3:

NCSD Annexation Map

THIS PAGE LEFT INTENTIONALLY BLANK

3.4 Service Area Population and Demographics

3.4.1 Service Area Population

The 2020 population within the District service area was determined by using the Department of Water Resources (DWR) Population Tool, since the service area is not a City limit or Census designated place. To determine historical population data within the District service area using the DWR Population Tool, service area maps were prepared to reflect the service area boundaries for 1990, 2000, and 2010 Census years. Since the District boundary has changed over the course of the above Census years, three service area map layers (see **Figure 3-3**) were uploaded into the DWR Population Tool. The DWR Population Tool was used to estimate historical population from 1990 through 2020. Output from the DWR Population Tool for current and historical population is included in Appendix B.

The District does not have land use planning authority and relies on the County to identify potential new developments and overall population growth within the service area. With respect to population growth within the service area, several planning documents were reviewed to determine the appropriate growth rate to use for the 2020 update. The following planning documents included proposed population estimates through 2050 for the Nipomo area:

- 2050 Regional Growth Forecast for San Luis Obispo County Population, Housing, and Employment Projections for San Luis Obispo Council of Governments (June 2017)
- Nipomo Urban Reserve 2050 population of 18,598 with an annual average growth rate of 0.30% (2020 to 2050)
- San Luis Obispo County 2040 Population, Housing & Employment Forecast for San Luis Obispo Council of Governments (August 2011)
- Nipomo Urban Reserve 2040 population of 19,007 with an annual average growth rate of 0.83% (2020 to 2040)

The Nipomo Urban Reserve represents the limits of the Nipomo community located in southern San Luis Obispo County and encompasses approximately 3,900 acres. It should be noted that the Nipomo Urban Reserve boundary and the District water service area boundary are not the same. Approximately 2,300 acres of the Nipomo Urban Reserve boundary falls within the current District water service area, with approximately 1,300 acres within the Golden State Water Company service area, and the remaining 300 acres within the District's SOI.

The District's 2020 population estimate was based on the DWR population tool (including 2020 Census data) for the current service area only and is the best information currently available for population estimates. At the time this UWMP was prepared the current population within the District's service area was estimated at 13, 771 people. With respect to future population growth and demands two conditions were reviewed and are briefly described below:

- Growth Scenario 1: Existing District population, infill development within the existing service area (parcels with reserved District capacity, parcels currently served by private wells, and development of vacant parcels) and future population associated with annexations under review
- Growth Scenario 2: Existing District population and infill development within the existing service area (parcels with reserved District capacity, parcels currently served by private wells, and development of vacant parcels)

Table 3-1 provides a summary of existing and future population projections for the District through 2045 assuming Growth Scenario 1 as described above.

Table 3-1: Growth Scenario 1 Population Estimate

Year	2020	2025	2030	2035	2040	2045
Population Served	13,771	15,407	17,042	17,494	17,946	18,398
NOTES: 2020 population based on 2020 Census Data included in DWR population tool.						

Table 3-1a provides a summary of existing and future population projections for the District through 2045 assuming Growth Scenario 2 as described above.

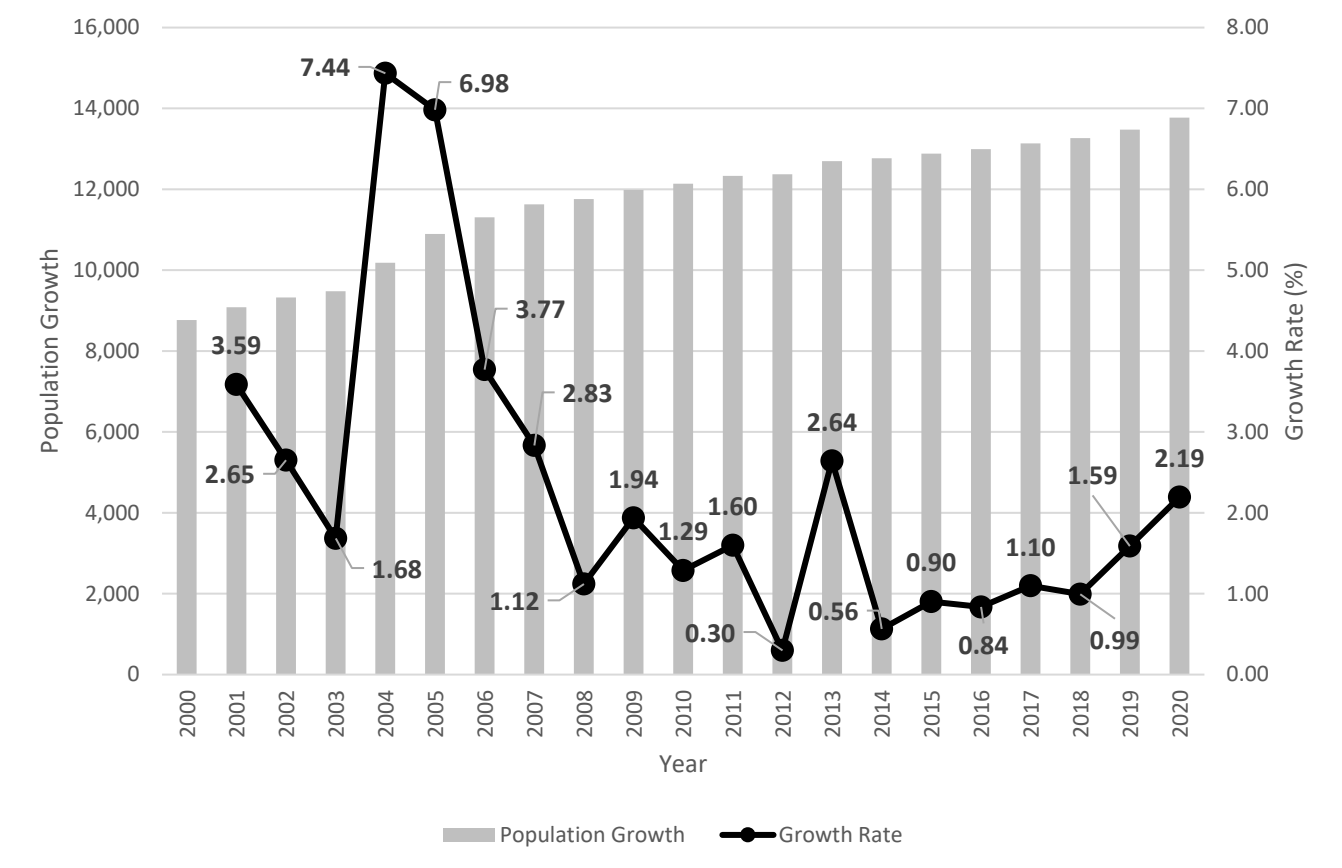
Table 3-1a: Growth Scenario 2 Population Estimate						
Year	**2020**	**2025**	**2030**	**2035**	**2040**	**2045**
Population Served	13,771	14,223	14,675	15,127	15,579	16,031
NOTES: 2020 population based on 2020 Census Data included in DWR population tool.						

It should be noted that County of San Luis Obispo Growth Management Ordinance (Title 26 of the County Code) limits population growth in the Nipomo Mesa area to 1.8%. For the purpose of the UWMP update, the population estimates associated with Growth Scenario 1 was utilized throughout the report.

In addition, **Figure 3-4** provides a summary of historical growth rates within the District service area only over the last twenty years (based on values from the DWR population tool) with the following average growth rates:

- 5-year growth rate of 1.3% (2015-2020)
- 10-year growth rate of 1.27% (2010-2020)
- 20-year growth rate of 2.3% (2000-2020)

Figure 3-4: Service Area 20-year Population and Growth Rate Chart



3.4.2 Other Social, Economic, and Demographic Factors

Total water use increases from year to year due to the growth within the service area. The direct relationship between growth and water consumption should increase at the same rate as population increases. Historically, low water rates and large residential lot sizes allowed for the irrigation of large landscaped areas at relatively low cost to the resident. Future water use patterns will be influenced by the implementation of rate increases, conservation outreach, and State Government Mandates.

The following data was obtained from the US Census Bureau and was the best available information to describe the demographics of the customer base within the District's service area:

- The population includes 51% male and 49% female with 61% of the population between the ages of 18 and 65
- Approximately 49.1% of the population is White with 45% Hispanic or Latino
- The median household income was identified to be $82,500 with 9% of the population within the poverty level

In addition to population, there are several additional factors that may affect water management and planning and are important to consider in the context of this UWMP update:

- Current development in Nipomo is mainly residential
- The County Housing Element identifies Nipomo as a community with realistic development capacity for low-income to above moderate income residential uses
- The County has a need for additional housing units and Nipomo is one of the unincorporated communities with the capacity to absorb population increases
- Development in the Nipomo area has slowed recently as a result of economic conditions and water supply constraints
- Severe Water Shortage Conditions exist in the Nipomo Mesa Management Area (NMMA)[1]
- Update to Accessory Dwelling Unit (ADU) ordinance would allow more residential lots to add a secondary unit
- Availability of imported water to serve future demands

3.4.2.1 Relevant County of San Luis Obispo Land Use Ordinances

In 2015, the County passed Ordinance No. 3307, amending Title 19 of the County's Building and Construction Ordinance relating to water conservation. Under Chapter 19.07 – Plumbing Code, section 19.07.042 – Water Conservation Provisions, all new development and, in certain cases, existing structures within the Paso Robles Groundwater Basin and Nipomo Mesa Water Conservation Area (NMWCA) are subject to the following requirements:

> *(d) Paso Robles Groundwater Basin and Nipomo Mesa Water Conservation Area. In addition to the requirements in Subsections a, b and c above, the requirements of Subsections d.1 through d.4 shall apply to all new development that uses water from the Paso Robles Groundwater Basin (excluding the Atascadero Sub-basin), and the Nipomo Mesa Water Conservation Area as shown on maps in this Subsection.*
>
> *(1) Offset Required. Prior to issuance of a construction permit for a new structure with plumbing fixtures on property that overlies and/or uses water from the Paso Robles Groundwater Basin (excluding the Atascadero*

[1] Nipomo Mesa Management Area 2020 Key Wells Index Status Statement dated June 2020 and prepared by NMMA Technical Group

Sub-basin) or the Nipomo Mesa Water Conservation Area the developer of such new structure shall obtain an Offset Clearance from the Department of Planning and Building verifying that new water use has been offset at a 1:1 ratio. Water savings must come from the same groundwater basin as the proposed new development. Applicants shall meet offset requirements by complying with Sub-section 2 or 3 below.

All development not subject to a general plan amendment or land divisions are subject to sub-section (2) County Approved Water Conservation Program or (3) Alternatives.

In 2006, the County passed Ordinance 3090, an amendment to its Title 22 Land Use Ordinances which established the NMWCA and stipulated requirements for the general plan amendments and land divisions with the NMWCA as summarized below:

Applications for general plan amendments and land divisions in the Nipomo Mesa Water Conservation Area shall include documentation regarding estimated existing and proposed nonagricultural water demand for the land division or development that could occur with the general plan amendment. If this documentation indicates that the proposed nonagricultural water demand exceeds the demand without the requested amendment or land division, the application shall include provisions for supplemental water as follows:

a. General Plan Amendments. Where the estimated nonagricultural water demand resulting from the amendment would exceed the existing nonagricultural demand, the application shall not be approved unless supplemental water to off-set the proposed development's estimated increase in nonagricultural demand has been specifically allocated for the exclusive use of the development resulting from the general plan amendment, and is available for delivery to the Nipomo Mesa Water Conservation Area.

b. Land Divisions. Where the estimated nonagricultural water demand resulting from the land division would exceed the existing nonagricultural demand, a supplemental water development fee shall be paid for each dwelling unit or dwelling unit equivalent, at the time of building permit issuance, in the amount then currently imposed by county ordinance, not to exceed thirteen thousand two hundred dollars. If the development resulting from the land division is subject to payment of supplemental water development fees to an entity other than San Luis Obispo County, the amount of these other fees shall be deducted from the county fee.

3.4.2.2 Nipomo Mesa Management Area

The District extracts groundwater from the Santa Maria River Valley Groundwater Basin and coordinates with the NMMA TG, which is the court-assigned entity responsible for assessing groundwater within the Nipomo Mesa Management Area of the Santa Maria Groundwater Basin.

Severe water shortage conditions within the Santa Maria River Valley Groundwater Basin are defined in the NMMA TG's Annual Report (Report) as is a response plan to be implemented when this condition exists. The Report is filed with the Court overseeing the Final Judgement no later than 120 days after the end of the calendar year; for calendar year 2020 the Report is filed by April 2021. Once filed, water users subject to the Final Judgement are to take actions in accordance with the Report.

3.4.2.3 Accessory Dwelling Unit (ADU) Ordinance

On May 25, 2017, the County Board of Supervisors approved Phase I of the Accessory Dwelling Unit (ADU) Ordinance. The Phase I amendment eliminated County requirements for road surfacing and owner-occupancy for secondary dwellings. On September 12, 2019, the Planning Commission recommended approval of the amendments to the Board of Supervisors with the following changes:

- Prohibiting ADUs in the Very High Fire Hazard Severity Zone countywide
- Allowing one ADU on Agriculture and Rural Lands parcels in addition to the two primary dwellings allowed

- Adding language that an ADU is considered Residential Accessory Use for the purpose of determining land use limitations in Article 9 (Planning Area Standards) and Article 10 (Community Planning Standards)
- Allowing ADUs in front of the primary residence as long as it still meets the setback requirements
- Reduces required minimum site area to 1,750 square feet (previously 6,000 square feet) for sites served by community water and sewer facilities

3.5 Land Uses within Service Area

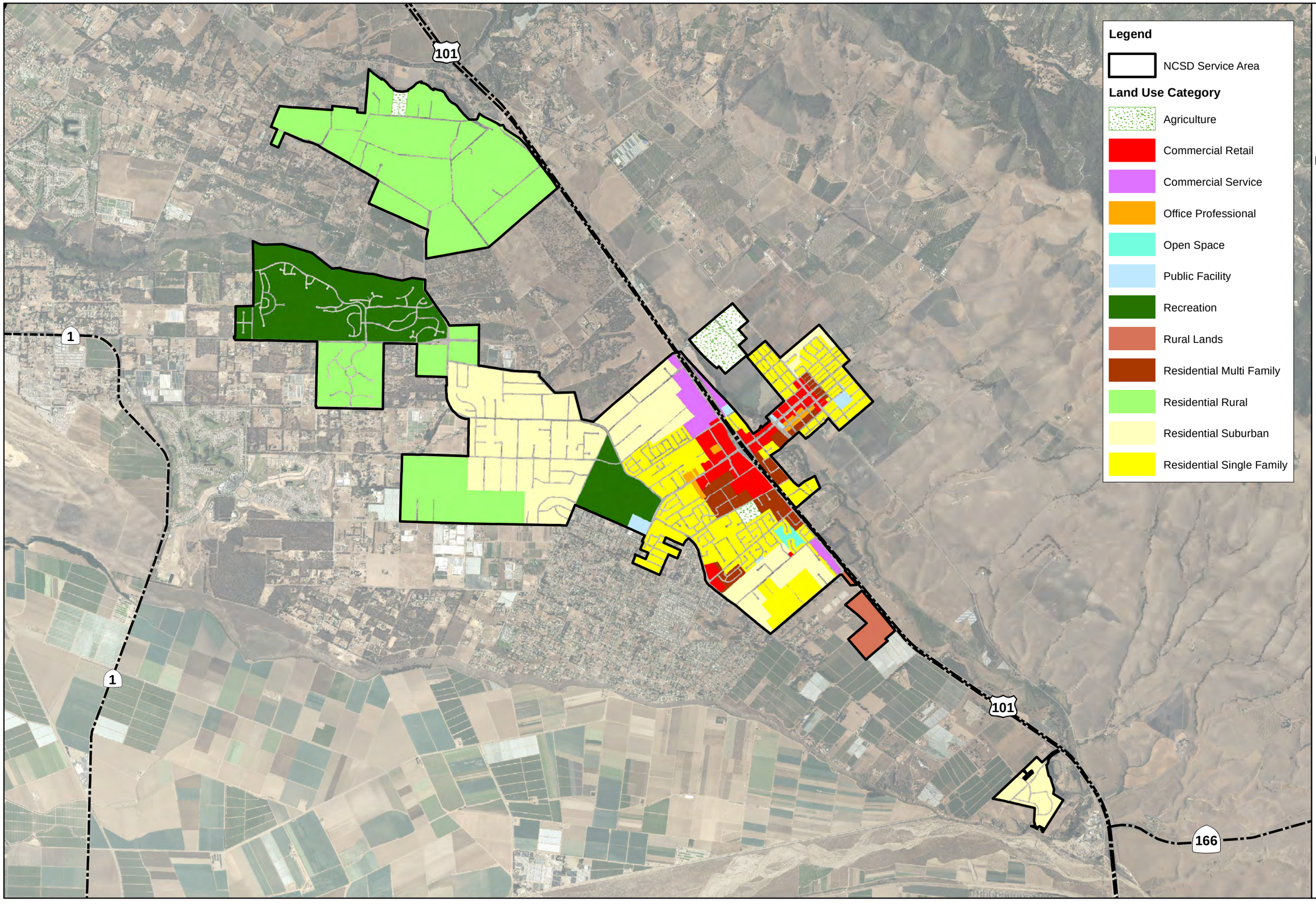
The current District service area encompasses 4,479 acres with approximately 4,635 parcels (3,907 land acres). **Table 3-2** shows a summary of the currently developed land uses throughout the existing service area.

Table 3-2: Developed Land Use Summary within Service Area

Land Use Category	Number of Parcels	Gross Land Acres	Percent of Total
Agriculture	4	97	3%
Commercial Retail	73	66	2%
Commercial Retail / Office Professional	1	3	<1%
Commercial Retail / Residential Multi Family	2	8	<1%
Commercial Service	19	42	1%
Office Professional	22	11	<1%
Office Professional / Residential Multi Family	1	4	<1%
Public Facility	6	22	1%
Recreation	598	454	16%
Rural Lands	1	3	<1%
Residential Multi Family	544	98	3%
Residential Rural	201	817	28%
Residential Suburban	803	765	27%
Residential Single Family	1,982	480	17%
Residential Single Family / Office Professional	3	7	<1%
Total	**4,260**	**2,876**	**100%**

NOTES: Information in this table reflect current District customers only.

Figure 3-5 provides an overview of the overall land use categories within the District's service area.



Nipomo Community Services District

2020 Urban Water Management Plan

Figure 3-5:

Nipomo CSD
Land Use Map

THIS PAGE LEFT INTENTIONALLY BLANK

Table 3-3 shows a summary of the land uses throughout the existing service area that are not currently served by the District, but could receive water service in the future.

Table 3-3: Land Uses Not Currently Served by the District			
Land Use Category	**Number of Parcels**	**Gross Land Acres**	**Percent of Total**
Agriculture	1	6	1%
Commercial Retail	52	40	6%
Commercial Retail / Office Professional	2	10	2%
Commercial Retail / Residential Multi Family	2	12	2%
Commercial Service	5	19	3%
Commercial Service / Commercial Retail	2	9	1%
Office Professional	10	3	0%
Public Facility	1	1	0%
Recreation	4	9	1%
Residential Multi Family	14	9	1%
Residential Rural	69	431	67%
Residential Suburban	37	52	8%
Residential Single Family	60	43	7%
Total	**259**	**646**	**100%**

In addition, there are approximately 117 parcels covering 385 acres that are not developable (drainage basins, parking areas, well site parcel, etc) and will not require water service by the District in the future.

THIS PAGE LEFT INTENTIONALLY BLANK

CHAPTER 4 WATER USE CHARACTERIZATION

New Requirements for 2020 Update

Per Water Code, the following new requirements are necessary for this chapter of the UWMP 2020 update.

- Suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land uses information for projecting water use in five-year increments, up to the year 2045.
- Suppliers shall provide a simple lay description of their projected water use for the foreseeable future.
- Suppliers shall provide quantified distribution system losses for each of the five preceding years and whether or not the state standard was met.
- Both Wholesale and Retail Suppliers shall include a DRA for a drought period that lasts five consecutive water years, starting from the year following the assessment, which would be 2021 for this round of UWMPs (see Chapter 7). The DRA requires a comparison of water supplies with total projected water use. Therefore, the Supplier must produce a projected water use for the years 2021 through 2025 as part of the water use projections, up to the year 2040.
- Both Wholesale and Retail Suppliers will have to conduct an annual water supply and demand assessment on or before July 1 of each year, starting in 2022. The annual assessment will include current year unconstrained demand. Suppliers are encouraged to consider unconstrained demand as the expected water use in the upcoming year, based on recent water use, and before any projected response actions a Supplier may trigger under its Water Shortage Contingency Plan (see Chapter 8).

4.1 Non-Potable Versus Potable Water Use

Recycled water is addressed comprehensively in Section 6.5, however a summary of recycled water demand is included in **Table 4-3**.

4.2 Past, Current, and Projected Water Use by Sector

In this section current and projected water usage is addressed. **Table 4-3** displays water use in five-year increments from 2020 to 2045.

4.2.1 Water Use Sectors Listed in Water Code

The District's service area includes the following water demand sectors listed in the California Water Code applicable to the UWMP update:

- Single Family: Single family detached dwellings
- Multi-Family: Apartments, condominiums, town houses, duplexes and trailer parks
- Commercial: Retail establishments, office buildings, laundries, schools, prisons, hospitals, dormitories, nursing homes, hotels, churches, campgrounds
- Institutional and governmental: Tracked under Commercial customer class
- Landscape: Parks, play fields, cemeteries, median strips, golf courses
- Agricultural
- Distribution system water loss
- Sales to other agencies (projected to start July 2025)

The following sectors are not applicable to the District's UWMP update:

- Industrial
- Saline water intrusion barriers, groundwater recharge, or conjunctive use

4.2.2 Water Use Sectors in Addition to Those Listed in Water Code

To provide clarity, the following sectors are not currently applicable to the District's current demands in this UWMP update:

- Exchanges
- Surface Water Augmentation
- Wetlands or Wildlife Habitat

For the District's imported water source, as described in Section 6.2.1, the District, Golden State Water Company, and Woodlands Mutual Water Company are required by Court Order to purchase water through the Nipomo Supplemental Water Project (NWSP) per the Supplemental Water Management and Groundwater Replenishment Agreement (Replenishment Agreement) to offset groundwater pumping. Supplemental water to Golden State Water Company (GSWC) and Woodlands Mutual Water Company (WMWC) has been included as a water "Sales to Other Agencies" for future demand projections (**Table 4-2**).

4.2.3 Past Water Use

Table 4-0 provides historical water usage by customer type from 2015 through 2019.

Table 4-0: Retail: Historical Water Usage

Use Type	Water Use (AF)					% of Total
	2015	2016	2017	2018	2019	
Single Family	1,312	1,234	1,262	1,316	1,215	66
Multi-Family	151	121	116	111	112	6
Commercial	85	88	86	91	90	5
Landscape Irrigation	238	222	251	252	231	13
Other	7	5	1	3	15	0
Agricultural Irrigation	17	19	20	17	7	1
Losses	138	147	203	171	198	9
Total (AF)	**1,948**	**1,837**	**1,940**	**1,961**	**1,868**	**100**
NOTES: Values represent metered use as reported to DWR.						

4.2.4 Distribution System Water Loss

Table 4-2 includes projected water losses, reported in five-year increments for the next 20 years. Section 4.2.6 contains **Table 4-4** which identities distribution system water losses for each of the five years preceding the plan update.

4.2.5 Current Water Use

Table 4-1 provides an overview of the existing water demands by use type within the District's service area for calendar year 2020.

Table 4-1: Retail: Demands for Potable Water - Actual		
Use Type	2020 Actual	
	Level of Treatment When Delivered	Volume (AF)
Single Family	Drinking Water	1,326
Multi-Family	Drinking Water	122
Commercial	Drinking Water	76
Landscape	Drinking Water	271
Other	Drinking Water	4
Agricultural Irrigation	Drinking Water	12
Losses	Drinking Water	237
	TOTAL (AF)	**2,048**

NOTES:
1. Demands = Annual water consumption by customer type as shown above.
2. Values represent use as reported to DWR for 2020.

4.2.6 Projected Water Use

Based on the 2015 UWMP, the District is required to comply with an urban water use target of 184 gallons per capita per day (gpcd) by 2020. **Table 4-1a** provides a summary of historical gpcd within the service area and years of mandatory conservation with requested conservation level (% reduction).

Table 4-1a: Historical Use Rates (GPCD)						
Year	Service Area Population	Water Production (AFY)	Gross Water Use (gpcd)	Meter Residential Use (AFY)	Residential Water Use (gpcd)	Mandatory Conservation (%)
2010	12,140	2,367	174	1,899	140	-
2011	12,334	2,488	180	1,868	135	-
2012	12,370	2,473	178	1,952	141	-
2013	12,697	2,646	186	1,996	140	-
2014	12,769	2,310	161	1,868	131	28
2015	12,884	1,948	135	1,463	101	28
2016	12,992	1,837	126	1,356	93	28
2017	13,134	1,940	132	1,378	94	23
2018	13,265	1,961	132	1,427	96	-
2019	13,476	1,868	124	1,327	88	-
2020	13,771	2,048	133	1,448	94	-
5-Year Average			**129**		**94**	
10-Year Average			**149**		**112**	

NOTES:
1. Water Production = Pumped groundwater from the Santa Maria Groundwater Basin and supplemental imported water from the City of Santa Maria through the Nipomo Supplemental Water Project
2. Potable Demand based on historical production values provided by the District. The 5-year average includes 2016-2020 and 10-year average includes 2011-2020.

Annual water demand within the service area was assumed to increase in proportion to the population projected in **Table 3-1**. The demand projections in **Table 4-2** are based on population projections multiplied by the year 2020 gpcd of 133 and aggregated for each use type per the customer type percentages in **Table 4-0**. **Table 4-2** also includes water sales to WMWC and GSWC starting in 2025. The following equation was used to determine demand projections:

$$Demands = Population\ x\ 133\ GPCD\ x\ Use\ Type\ Percentage$$

Table 4-2: Retail: Demands for Potable Water - Projected					
Use Type	**Projected Water Use (AF)**				
	2025	**2030**	**2035**	**2040**	**2045**
Single Family	1,406	1,450	1,495	1,540	1,584
Multi-Family	136	140	144	149	153
Commercial	97	100	104	107	110
Landscape	265	273	282	290	299
Other	7	7	7	7	8
Agricultural Irrigation	18	18	19	20	20
Losses	190	196	202	208	214
District Subtotal (AF)	**2,118**	**2,186**	**2,253**	**2,320**	**2,388**
Annexations Under Review	176	352	352	352	352
Subtotal (AF)	**2,294**	**2,538**	**2,605**	**2,672**	**2,740**
Sales to Other Agencies	833	833	833	833	833
TOTAL (AF)	**3,127**	**3,371**	**3,438**	**3,505**	**3,573**
NOTES: District subtotal demand includes existing District demand and future infill development (parcels with reserved District capacity, parcels currently served by private wells, and development of vacant parcels). It was assumed that infill development would occur from 2025 through 2045 within the existing service area					

Table 4-3 summarizes projected water demands through 2045.

Table 4-3: Retail: Total Water Demands (AF)						
	2020	**2025**	**2030**	**2035**	**2040**	**2045**
District Retail Water Demand	2,048	2,118	2,186	2,253	2,320	2,388
Annexations Under Review	0	176	352	352	352	352
District Wholesale Water Demand	0	833	833	833	833	833
Total Water Demand (AF)	**2,048**	**3,127**	**3,371**	**3,438**	**3,505**	**3,573**

Table 4-4 summarizes the distribution system water losses for each of the five years preceding the plan update.

Table 4-4: Retail: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date	Volume of Water Loss (AF)
01/2015	113
01/2016	175
01/2017	239
01/2018	256
01/2019	231
NOTES: Water loss based on AWWA worksheet values.	

4.2.7 Characteristic Five-Year Water Use

Future demands and the characteristic five-year water use represent unconstrained demands as shown in **Tables 4-2, 4-3,** and **4-4a**.

Table 4-4a: Characteristic Five-Year Water Use					
Demand (AFY)	**2021**	**2022**	**2023**	**2024**	**2025**
District Retail Water Demand	2062	2076	2090	2104	2118
Annexations Under Review	0	0	0	0	176
District Wholesale Water Demand	0	0	0	0	833

4.2.8 Worksheets and Reporting Tables

All required worksheets and reporting tables have been provided throughout this Chapter.

4.3 Water Use for Lower Income Households

The District's water use projections through 2045 include water demands for lower income single-family and multi-family households. The total number of lower income households within the District's service area was estimated based on the County of San Luis Obispo's General Plan, a review of median household income statistics provided by the U.S. Census Bureau's American FactFinder, and a review of GIS maps of Disadvantaged Communities (DACs), including block groups, tracts, and places, provided by DWR. The County of San Luis Obispo's Housing Element for 2014-2019 reported 547 very low and low-income housing units. The water need for low-income housing units is approximately 0.44 AFY, as shown in **Table 4-6**. Since there is approximately one low-income unit projected to be needed in the District's service area, it is not possible to separate the demand into multi-family and single-family residential projected water use. The projected water demands for lower income households were included in the District's total projected water demands, as indicated in **Table 4-5**.

Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections?	No
If "Yes" to above, state the section/page where citations of the codes, are found.	-
Are Lower Income Residential Demands Included In Projections?	Yes

Section 10631.1 of the California Water Code requires 2020 UWMPs to include projected water use for lower income single-family and multi-family residential households. Lower Income is defined by Health and Safety Code Section 50079.5 as 80% of County median income or less. The projections are meant to assist water purveyors in complying with the requirements of Government Code Section 65589.7, which requires water purveyors to "grant a priority for the provision of [water and sewer] services to proposed developments that include housing units affordable to lower income households."

Low-income households in the Nipomo area are estimated from the "County of San Luis Obispo General Plan – Housing Element 2014-2019". Estimated low-income residential demands are summarized in **Table 4-6**.

Table 4-6: Low-income Residential Demand Projections	
Portion of unincorporated County overlaid by NCSD (1)	0.22%
# of very low and low-income housing units needed for 2014-2019 for the unincorporated County (2)	547
NCSD's share of very low and low-income housing units needed 2014-2019 (3)	1.20
Single-family residential water use factor (afy/connection) (4)	0.36
Water Needed for low income housing units, 2014-2019 (afy) (5)	0.44

(1) Calculated by dividing NCSD's service area by the total unincorporated area of San Luis Obispo County.
(2) Source: Housing Element 2014-2019 – County of San Luis Obispo General Plan.
(3) The portion of NCSD overlaying the unincorporated County applied to the number of very low and low- income housing units needed for the total unincorporated County.
(4) Calculated by dividing the single-family residential deliveries by the single-family residential connections for 2015.
(5) Since there is approximately one low-income unit projected to be needed in NCSD's service area for 2014-2019, it is not possible to separate the demand into multi-family and single-family residential projected water use.

4.4 Climate Change Considerations

The District has not conducted an official climate change vulnerability or risk assessment for the existing water service area. However, climate change considerations for the District's groundwater supply are incorporated into the Nipomo Mesa Management Area Annual Reports and Chapter 7 of the 13th Annual Report has been included in Appendix A.

CHAPTER 5 SBX7-7 BASELINES, TARGETS, AND 2020 COMPLIANCE

With the adoption of the Water Conservation Act of 2009, also known as the SB X7-7, the State is required to set a goal of reducing urban water use by 20 percent by the year 2020. Each retail urban water supplier must determine baseline water use during their baseline period and also target water use for the years 2020 and 2025 in order to help the State achieve the 20 percent reduction. The District has updated their baseline water usage and goal of reducing urban water use by 20 percent by the year 2020.

New Requirements for 2020 Update

Per the Water Code there are no new requirements for this chapter of the UWMP 2020 update.

5.1 Guidance for Wholesale Suppliers

5.2 SB X7-7 Forms and Summary Tables

5.2.1 SB X7-7 Verification Form (Baselines and Targets)

The District's SB X7-7 Verification Form submitted for the 2015 UWMP has been included as a reference document in the 2020 UWMP as Appendix C.

5.2.2 SB X7-7 2020 Compliance Form

The District has completed the 2020 SB X7-7 Compliance Form and is included as Appendix D.

5.2.3 Submittal Tables 5-1 and 5-2

Submittal **Table 5-1** and **Table 5-2** from the 2020 SB X7-7 Compliance are included in Section 5.5.

5.2.4 Regional UWMP/Regional Alliance

The District has developed an UWMP that reports solely on its service area. The individual UWMP addresses all requirements of the CWC. The District has notified and coordinated with appropriate regional agencies and constituents during the development of this UWMP update.

5.3 Baseline and Target Calculations for 2020 UWMPs

Suppliers that have submitted a 2015 UWMP with the SB X7-7 Verification Form and have not had a change to their service area will not need to recalculate their baselines and targets in their 2020 UWMPs.

5.3.1 Supplier Submitted 2015 UMWP, No Change to Service Area

The District submitted a 2015 UWMP and has expanded the service area based on new construction of a residential development. The expansion was solely due to new construction, therefore, there was no need to recalculate baselines and targets for this update.

5.3.2 Supplier Did Not Submit 2015 UWMP

This topic does not apply to the District.

5.3.3 Supplier Newly Subject to UWMP Requirements

This topic does not apply to the District.

5.3.4 Distribution Area Expansion

The District's service area has expanded based on new construction of a residential development. The expansion was solely due to new construction, therefore, there is no need to recalculate baselines and targets for this update.

5.3.5 Distribution Area Contraction

This topic does not apply to the District.

5.3.6 Large Partial Customers Become Whole Customers

This topic does not apply to the District.

5.4 Methods for Calculating Population and Gross Water Use

5.4.1 Service Area Population

Since the District's service area is not a City limit or Census designated place the DWR population tool and the District's service area boundaries for Census years 1990, 2000, and 2010 were used to estimate historical population.

5.4.2 Gross Water Use

Historical gross water use for this UWMP used information from the District's annual DWR Public Water System Statistics reports (DWR 38) from 1999-2008.

5.5 2020 Compliance Daily Per-Capita Water Use (GPCD)

The baseline daily per capita water use for the District for this UWMP update is shown in **Table 5-1**.

Table 5-1 Baselines and Targets Summary

Baseline Period	Start Year	End Year	Average Baseline GPCD*	2015 Interim Target *	Confirmed 2020 Target*
10-15 year	*1999*	*2008*	*232*	*208*	*184*
5 Year	*2004*	*2008*	*224*		
*All values are in Gallons per Capita per Day (GPCD)					

The District has not applied any adjustments to the 2020 gross water use for this UWMP update.

Table 5-2: 2020 Compliance

Actual 2020 GPCD	Optional Adjustments to 2020 GPCD Enter "0" for adjustments not used *From Methodology 8*					2020 GPCD *(Adjusted if applicable)*
	Extraordinary Events	Economic Adjustment	Weather Normalization	TOTAL Adjustments	Adjusted 2020 GPCD	
133	0	0	0	0	133	133
**All values are in Gallons per Capita per Day (GPCD)*						

5.5.1 2020 Adjustments for Factors Outside of Supplier's Control

The District has not included any adjustments (including Extraordinary Institutional Water Use, Economic Adjustment (CII), or Weather Normalization) for their 2020 GPCD compliance.

5.5.2 Special Situations

The District does not have any special situations that requires a recalculation of the baselines and 2020 Target in the 2020 UWMP.

5.5.3 If Supplier Does Not Meet 2020 Target

As shown in **Table 5-2**, the District has met the 2020 GPCD compliance target.

5.6 Regional Alliance

The District has developed an UWMP that reports solely on its service area. The individual UWMP addresses all requirements of the CWC. The District has notified and coordinated with appropriate regional agencies and constituents during the development of this UWMP update.

THIS PAGE LEFT INTENTIONALLY BLANK

CHAPTER 6 WATER SUPPLY CHARACTERIZATION

New Requirements for 2020 Update

Per Water Code, the following new requirements are necessary for this chapter of the UWMP 2020 update.

- The new requirements for a water supply analysis are largely in the application of that analysis to the new DRA, WSCP, and consideration of climate change in future projections.
- The conclusions drawn from the water supply characterization integrate into a specific understanding of a Supplier's new drought risk in the DRA and inform the management and mitigation actions a Supplier must address in the newly required WSCP, along with consideration of climate change and coordination with land use and planning authorities for future projections. For example, an analysis that concludes that a water supply portfolio is reliable under all conditions conceivable may have fewer supply augmentation actions or demand management actions in a WSCP.
- Water supply analysis conclusions translate into a realistic DRA and implementable actions listed in the WSCP in the event of water shortage conditions.

6.1 Water Supply Analysis Overview

The District's water supply sources include groundwater from the Santa Maria River Valley Groundwater Basin and imported water from the Nipomo Supplemental Water Project. The following sections describe these sources.

6.2 Water Supply Characterization

6.2.1 Purchased or Imported Water

Groundwater was the sole source of the District's water supply until 2015, when the District began importing water from the City as part of the NSWP. The NSWP included the design and construction of the following infrastructure to deliver supplemental water to the District from the City's existing water distribution system:

- Approximately 5,000 feet of 24-inch transmission pipeline located within the City
- Flow control and meter station located within the City
- Santa Maria River crossing including 2,600 feet of 24-inch pipeline
- Joshua Road Pump Station with four 800 gpm pumps with onsite generator and 0.5 MG storage tank
- Approximately 1,700 feet of 24-inch transmission pipeline from the Joshua Road Pump Station to the District's existing distribution system
- Approximately 12,000 feet of 16-inch transmission pipeline located within the District's service area

The District executed the Wholesale Water Supply Agreement (Wholesale Agreement) with the City on May 7, 2013, which is included as Appendix E. Supplemental Water consists of a "municipal mix" of both surface water from the State Water Project and groundwater from the City of Santa Maria. The Wholesale Agreement dictates a minimum water delivery to the District of 2,500 AFY by fiscal year 2025-26 with a maximum allowable delivery of 6,200 AFY. It should be noted that the existing Santa Maria River crossing, pump station and portion of transmission pipeline were designed to deliver 6,200 AFY. However, pump replacements and additional pipelines would be required to deliver the full 6,200 AFY to the District service area. While the District is obligated to meet the minimum delivery from the Wholesale Agreement, the District will continue operating the groundwater wells to serve existing and future demands. **Table 6-0a** outlines the required Wholesale Agreement water delivery schedule.

Table 6-0a : Wholesale Water Agreement Delivery Schedule	
AFY	**Effective Delivery Date**
645	7/1/2015
800	7/1/2016
1,000	7/1/2020
2,500	7/1/2025
6,200	Maximum Capacity

These deliveries also include delivery to Woodlands Mutual Water Company (WMWC), Golden State Water Company (GSWC), and Golden State Water Company Cypress Ridge (GSWCCR). **Table 6-0b** summarizes the required NSWP purchase allocations for the District, GSWC, and Woodlands Mutual Water Company (WMWC) per the Supplemental Water Management and Groundwater Replenishment Agreement (Replenishment Agreement) as of October 16, 2015. The Replenishment Agreement is included as Appendix F.

Table 6-0b: NSWP Replenishment Agreement Allocation (AFY)			
Water Purveyor	**Percent Allocation**	**NSWP (1000 AFY)**	**NSWP (2500 AFY)**
NCSD	66.68	667	1,667
NCSD (as needed)	-	-	500
GSWC	8.33	83	208
GSWCCR	8.33	83	208
WMWC	16.66	167	417
Total	**100.00**	**1,000**	**3,000**

Through this supply source, the District has a maximum supply capacity of 2,167 AFY (including the remaining 500 AFY of NSWP water to serve new development demands). This excludes the 833 AFY allocation for WMWC and GSWC. Based on the existing infrastructure of the NSWP and contractual obligations, between the District and the City, this water supply source is considered 100% reliable and available during normal, single, and multiple dry year conditions.

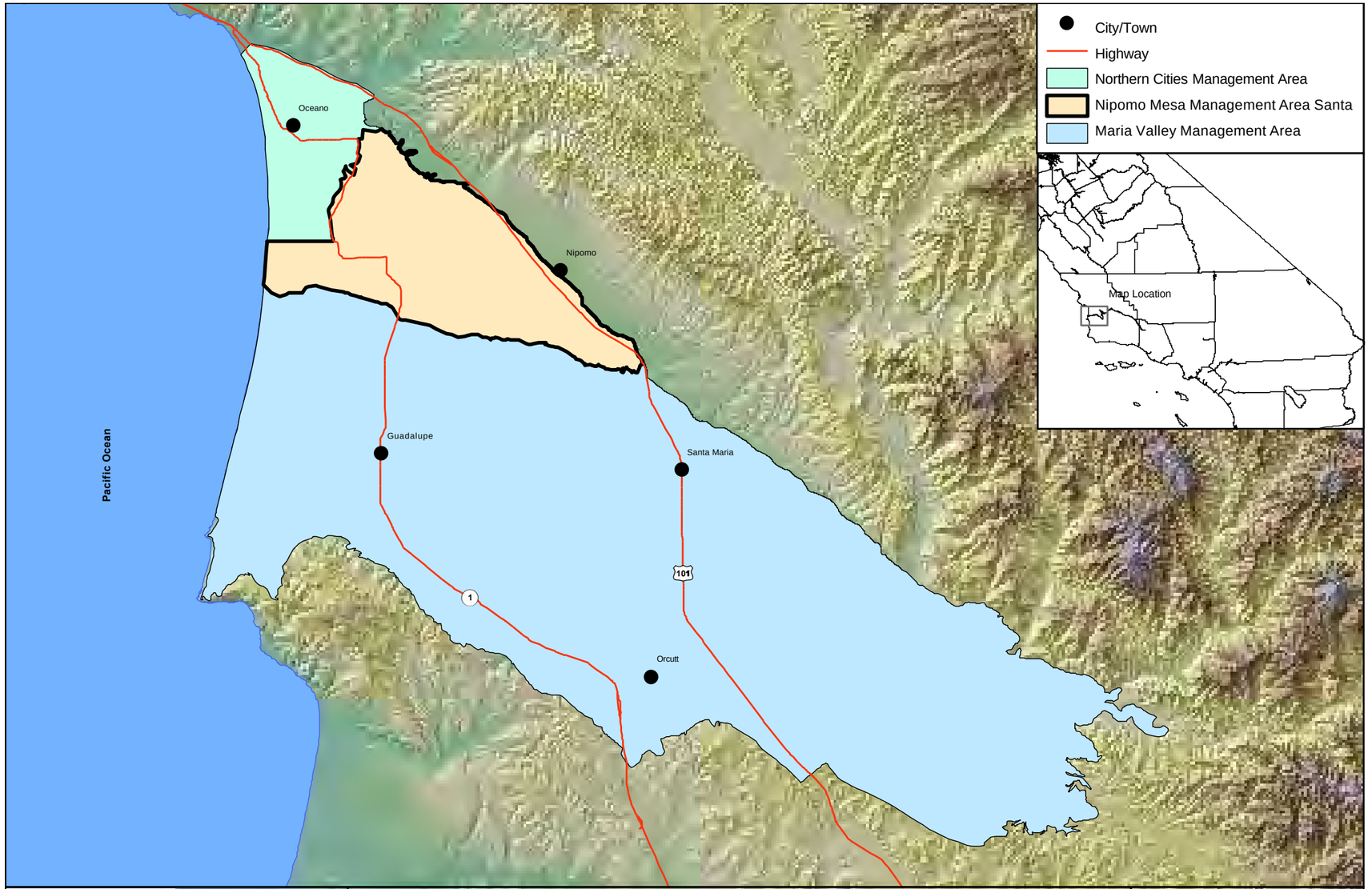
6.2.2 Groundwater

The District extracts groundwater from the Santa Maria River Valley Groundwater Basin. The Nipomo Mesa Management Area Technical Group (NMMA TG), which is the court-assigned entity responsible for assessment of groundwater within the Nipomo Mesa Management Area of the Santa Maria Groundwater Basin, declared a Stage IV water severity condition for subbasin purveyors. This condition results in voluntary groundwater reduction goal of 1,267 AFY for the District. The District's past groundwater production in the Santa Maria Valley Groundwater Basin over the past five years is shown in **Table 6-1** (Section 6.2.2.4). The District owns five wells, 4 of which are active, and one currently being rehabilitated. These five well have a combined pumping capacity of 3,100 gallons per minute (gpm) or 5,000 AFY. However, for planning purposes 2,100 gpm is available assuming the largest well is out of service.

6.2.2.1 Basin Description

Underlying the District is portion of Santa Maria River Valley Groundwater Basin (Basin 3-12 per DWR Bulletin 118). The Santa Maria River Valley Groundwater Basin covers about 288 square miles. It is bordered by the Santa Lucia mountain ranges to the north, the Casmalia-Solomon Hills to the south, the San Rafael Mountains to the east, and the Pacific Ocean to the west. The geologic makeup of the Santa Maria River Valley Groundwater Basin is composed of alluvial deposits covers underlying consolidated rock which usually yields small quantities of water. Most of the water is contained in the alluvial sediments. Recharge of the Santa Maria River Valley Groundwater Basin occurs in four main ways: rainfall percolation, river bed recharge, subsurface inflows, and return flows. As mentioned in the NMMA TG Annual Report, the long-term average precipitation from 1958 to 2020 is 15.65 inches.

THIS PAGE LEFT INTENTIONALLY BLANK



NOTES:
Coordinate System: UTM Zone 10N Horizontal
Datum: NAD 83

NMMA Technical Group

DATE: 4/5/12

BY: B. Newton

Nipomo Community Services District

2020 Urban Water Management Plan

Figure 6-1:

Santa Maria Groundwater Basin and Management Areas

Notes:
Figure 1-1. Santa Maria Groundwater Basin and Management Areas from the Nipomo Mesa Management Area 12th Annual Report – Calendar Year 2019 (Submitted April 2020).

THIS PAGE LEFT INTENTIONALLY BLANK

6.2.2.2 Groundwater Management

The Santa Maria River Valley Groundwater Basin has been the subject of ongoing litigation since 1997 and is an adjudicated basin. **Figure 6-1** provides an overview of the adjudicated basin boundary. The District signed a June 30, 2005 Stipulation in the case that was ultimately approved by the Court and incorporated into the final judgment ("Final Judgment") that was filed on January 25, 2008. The Judgement is included in Appendix G. The Court has the jurisdiction to make orders to enforce the rights of the parties outlined in the judgment. The Stipulation has five primary effects:

1) For purposes of management only, it divides the Santa Maria River Valley Groundwater Basin into three separate administrative management sub-areas: the Northern Cities Management Area (NCMA), the Nipomo Mesa Management Area (NMMA), and the Santa Maria Valley Management Area (SMVMA).

2) It establishes the NMMA TG that includes representatives appointed by the District, Golden State Water Company (GSWC) formally Southern California Water Company, ConocoPhillips, Woodlands Mutual Water Company (WMWC) and an agricultural overlying owner that signed the Stipulation.

3) It provides that a minimum of 2,500 AFY of supplemental water from the City of Santa Maria with an additional 500 AFY for growth for NCSD be transmitted to the NMMA by the District with funding participation from Woodlands Mutual Water Company and Golden State Water Company.

4) It contains specific provisions with regard to groundwater conditions, development of groundwater monitoring programs, and development of plans and programs to respond to Potentially Severe and Severe Water Shortage Conditions. The NMMA TG developed criteria to track groundwater levels and quality throughout the basin using the Key Wells Index (KWI), which collect data from eight selected wells distributed throughout the management area.

5) It contains provisions that each management area prepare an annual report to summarize monitoring results, water balance data and threats to groundwater supplies. The NMMA TG filed its 2020 annual report with the Superior Court in April 2021.

The Nipomo Mesa Management Area (NMMA) is an administrative management sub-area of the Santa Maria River Valley Groundwater Basin. The NMMA is bordered on the north by the Northern Cities Management Area (NCMA) and on the south by the Santa Maria Valley Management Area (SMVMA).

The NMMA covers approximately 33 square miles or 21,100 acres, which accounts for approximately 13 percent of the Santa Maria River Valley Groundwater Basin. The geology underlying the NMMA is comprised of 150 to 250 feet thick sand dune deposits overlying the Paso Robles Formation, the primary groundwater aquifer. There are no significant streams within the NMMA and the sand dune deposits are highly porous and permeable. Recharge to the aquifer only occurs through precipitation, agricultural and urban return flows, and subsurface inflows.

The District has a current voluntary groundwater reduction goal of 1,267 AFY. The availability of this source is governed by the water severity conditions identified by the NMMA based on groundwater levels through the Key Wells Index as described below:

> *The Nipomo Mesa Management Area Technical Group ("NMMA TG") established groundwater level and groundwater quality criteria to track overall basin conditions within the NMMA. The criteria include the Key Wells Index ("KWI"), which combines groundwater level data from eight selected wells distributed throughout the inland portion of the Management Area. Water level measurements are made in NMMA groundwater wells representing the basin as a whole and are used to compute the KWI during the spring of each year.*
>
> *The TG uses the KWI to help identify trends in basin groundwater levels and has compiled KWI data for the period from 1975 to the present. Groundwater levels have changed in the NMMA over time, and in the last seven years are at levels that are lower than at any other time from 1975*

> *One of the NMMA TG's court-required duties is to determine when conditions of "Potentially Severe Water Shortage Conditions" or "Severe Water Shortage Conditions" have been reached. The 2020 KWI value (11.7 feet mean sea level [ft msl]) has decreased from the previous year (15.9 ft msl) but remains within the Severe Water Shortage Conditions (below 16.5 ft msl). This is the sixth consecutive year the KWI value is in Severe Water Shortage Conditions, which signifies a Stage IV NMMA Water Shortage Response.*[2]

The following lists the NMMA Water Shortage Response Stages (Endorsed by NMMA Technical Group April 14, 2014), groundwater supply conditions, and response actions by the District and other purveyors within the NMMA:

- Stage I: Always in place
- Voluntary measures and outreach
- Stage II: Potentially Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan
- Goal of voluntary 20% reduction in groundwater production
- Stage III: Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan.
- Goal of voluntary 30% reduction in groundwater production
- Stage IV: Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan, lasting more than 1 year from the initial declaration; or Severe Water Shortage declaration pursuant to NMMA declaration triggered by both the Key Well Index and the Coastal Area Criterion.
- Goal of voluntary 50% reduction in groundwater production
- Stage V: Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan, lasting more than 2 years from the initial declaration, based on both the Key Well Index and Coastal Area Criterion.
- Goal of voluntary 60% reduction in groundwater production

To achieve the voluntary reduction goals (described above), the District Board adopted Resolution 2014-1335 “Water Shortage Response and Management Plan” (included as Appendix H) during the April 2014 board meeting. Voluntary reduction goals for the District were based on groundwater production for calendar years 2009-2013 with average production of 2,533 AFY.

The NMMA TG has identified the current water shortage conditions within the Santa Maria Valley Groundwater Basin as “Severe Water Shortage Conditions.” This signifies a Stage IV NMMA Water Shortage Response in which the District would have a voluntary groundwater reduction goal of 1,267 AFY or 50% of 2,533 AFY. However, the District’s voluntary pumping limit from the basin is variable depending on the NMMA TG defined drought levels. **Table 6-0c** summarizes the District’s voluntary groundwater reduction goals per NMMA TG defined drought levels.

Table 6-0c: NMMA Water Shortage Response Stages

NMMA Defined Drought Levels	Groundwater Reduction Goal (%)	Available Groundwater (AF)
Stage 1	0	2,533
Stage 2	20	2,027
Stage 3	30	1,733
Stage 4	50	1,267
Stage 5	60	1,013

[2]Nipomo Mesa Management Area Technical Group - Nipomo Mesa Management Area 2020 Key Wells Index Severe Water Shortage Conditions June 25, 2020.

However, for future groundwater supply availability for this UWMP update, it was assumed that the District would have a maximum groundwater pumping limit of 2,533 AFY from the Santa Maria Valley Groundwater Basin.

6.2.2.3 Overdraft Conditions

The Santa Maria River Valley Groundwater Basin is an adjudicated basin as described in Section 6.1. Therefore, over drafting conditions do not apply.

6.2.2.4 Past Five Years

Table 6-1 provides an overview of the groundwater sources and the annual quantity pumped to meet the demands of the District customers from 2016 to 2020.

Table 6-1: Retail: Groundwater Volume Pumped						
☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type	**Location or Basin Name**	**2016**	**2017**	**2018**	**2019**	**2020**
Alluvial Basin	Santa Maria Groundwater Basin	1,078	999	1,003	901	1,007
	TOTAL (AF)	**1,078**	**999**	**1,003**	**901**	**1,007**

Through this supply source, the District has self-allocated 2,533 AFY with a maximum pumping capacity of 2,100 gpm or 3,387 AFY. With several active wells and current operational practices this water supply source is considered 100% reliable and available during normal, single and multiple dry year conditions.

6.2.3 Surface Water

The District does not have a self-supplied surface water supply source, but does receive a blend of imported surface water and groundwater ("municipal mix") from the City of Santa Maria as part of the NSWP as described in Section 6.1 and summarized in **Tables 6-8** and **6-9**.

6.2.4 Stormwater

The District does not currently supplement water supply demands through the capture and reuse of stormwater due to the underlying geology of the Nipomo Mesa.

6.2.5 Wastewater and Recycled Water

6.2.5.1 Recycled Water Coordination

The District currently operates two wastewater treatment facilities within the water service area. The Southland WWTF collects and treats wastewater from the majority of the District and discharges treated effluent back into the Santa Maria River Valley Groundwater Basin via percolation ponds. The Blacklake WRF treats wastewater through secondary treatment. The treated plant's effluent is discharged to the water hazards at Blacklake Golf Course. Water is extracted from the water hazards as necessary and discharged to a spray field. Blacklake WRF operates under Reclamation Orders from Regional Water Quality Control Board.

6.2.5.2 Wastewater Collection, Treatment, and Disposal

The District operates two wastewater collection systems within the water service area. The Town System collects wastewater on the easterly side of the service area from Orchard Road to Cedarwood Street and on the southerly side of the service area from Juniper Street to Southland Street. The Blacklake System collects wastewater from the Blacklake community north of Willow Road. However, it should be noted that the Blacklake WRF is planned to be decommissioned in 2024 and replaced with a new lift station and force main, which will convey wastewater to the Town System for treatment and disposal. **Table 6-2** provides an overview of the quantity of wastewater collected within the District water service area.

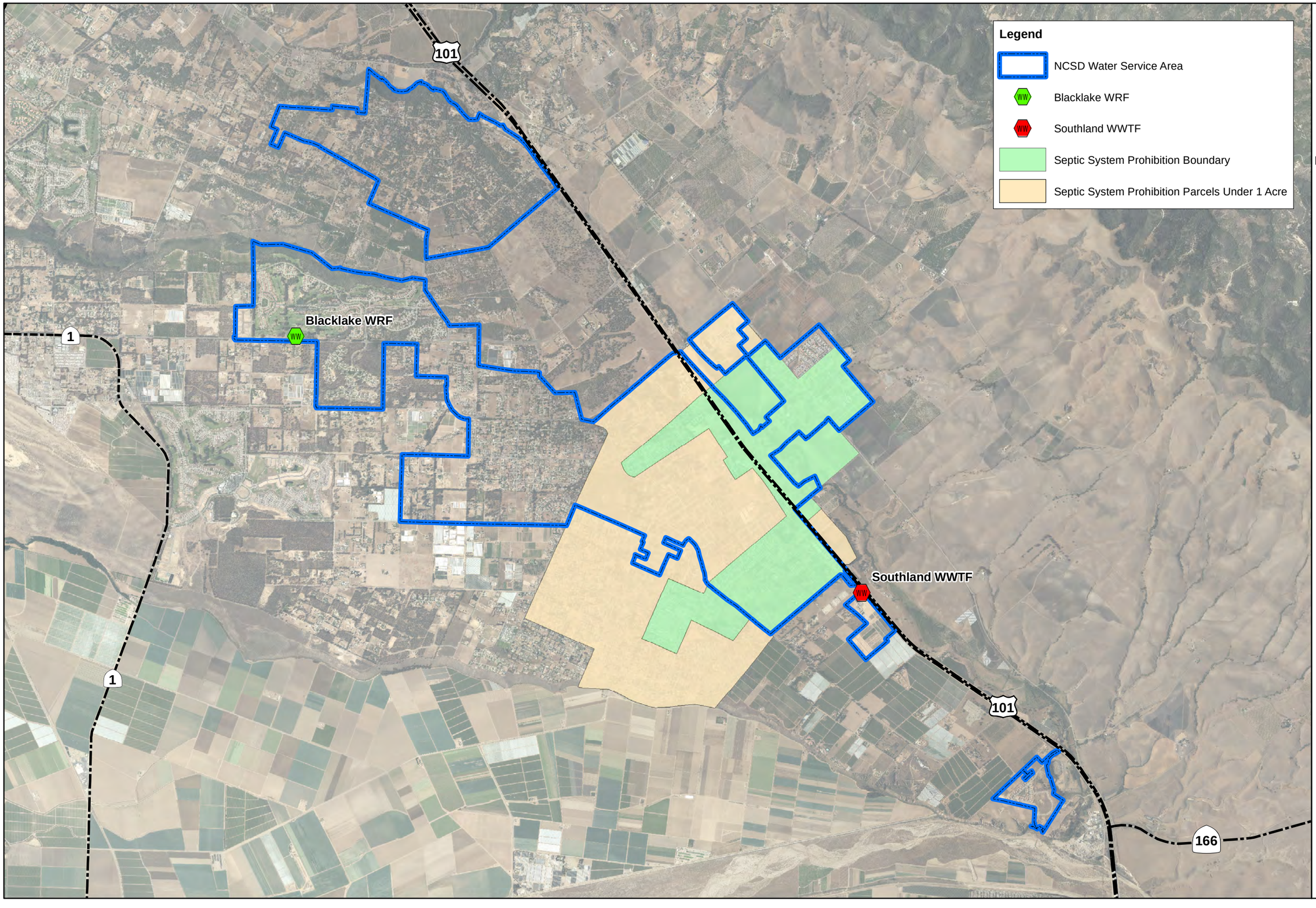
Table 6-2 Retail: Wastewater Collected Within Service Area in 2020						
☐	There is no wastewater collection system. The supplier will not complete the table below.					
Wastewater Collection			**Recipient of Collected Wastewater**			
Name of Wastewater Collection Agency	**Wastewater Volume Metered or Estimated?**	**Volume of Wastewater Collected from UWMP Service Area in 2020 (AF)**	**Name of Wastewater Treatment Agency Receiving Collected Wastewater**	**Treatment Plant Name**	**Is WWTP Located Within UWMP Area?**	**Is WWTP Operation Contracted to a Third Party?**
Nipomo CSD	Metered	554	Nipomo CSD	Southland WWTF	Yes	No
Nipomo CSD	Metered	52	Nipomo CSD	Blacklake WRF	Yes	No
Total Wastewater Collected from Service Area in 2020 (AF):		606				

Table 6-3 provides an overview of the quantity of wastewater treated and discharged within the District's water service area.

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020								
☐	No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.							
WWTP Name	**Discharge Location Name**	**Discharge Location Description**	**Method of Disposal**	**WWTP Outside the Service Area?**	**Treatment Level**	**2020 Volumes (AF)**		
						WW Treated	**Discharged Treated WW**	**Recycled Within Service Area**
Southland WWTF	Infiltration Ponds onsite	Southland WWTF #R3-2012-0003	Perc. ponds	No	Secondary, Undisinfected	554	554	0
Blacklake WRF	Treated effluent storage ponds onsite	Treated effluent storage ponds onsite	Other	No	Secondary, Disinfected - 23	52	52	0
					Total (AF)	**606**	**606**	**0**

It should be noted that a portion of the District water service area is not sewered and utilizes onsite septic systems. **Figure 6-2** provides an overview of the existing septic system prohibition boundary and location of the two existing wastewater treatment facilities.

THIS PAGE LEFT INTENTIONALLY BLANK



Nipomo Community Services District

2020 Urban Water Management Plan

Figure 6-2:

Septic System Prohibition Boundary

THIS PAGE LEFT INTENTIONALLY BLANK

6.2.5.3 Recycled Water System Description

The District owns and operates the Blacklake WRF, as described in Section 6.2.5.2. Treated water use within the District water service area is limited to the treated water discharged to the Blacklake Golf Course spray field. **Table 6-4** provides a summary of current and projected recycled water use within the golf course.

However, as stated in Section 6.2.5.1 the Southland WWTF collects and treats wastewater from the majority of the District and discharges treated effluent back into the Santa Maria River Valley Groundwater Basin via percolation ponds. Per the Final Judgement for the Santa Maria River Valley Groundwater Basin this "return flow" is credited towards the District's overall consumptive use. Sections 5.6 and 5.7 of the current NMMA annual report[3] states the following:

> *Wastewater discharges include wastewater effluent discharged by the six wastewater treatment facilities located within the NMMA, and ocean discharge of treated wastewater from the P66 industrial facility. In addition, discharges are estimated for septic tanks where centralized sewer service is not provided. The WWTFs include the Southland WWTF, the Blacklake WWTF, the Cypress Ridge WWTF, the Woodlands WWTF, and La Serena and Osage (GSWC). The Southland WWTF discharges treated wastewater into infiltration basins (see Section 3.1.11 Wastewater Discharge and Reuse). A portion of the water percolates and returns to the groundwater system and the remaining portion evaporates. The estimated percolation from Southland WWTF is 482 AF. GSWC delivered 741 AF of groundwater to their Nipomo system customers, where a small number of customers are connected to the Southland WWTF. The amount of groundwater produced that was delivered to customers connected to the Southland WWTF was 112 AF in CY 2020. The remaining GSWC Nipomo system customers discharged an estimated 277 AF of wastewater to septic systems. GSWC's La Serena and Osage iron and manganese removal treatment facilities treat water from GSWC's La Serena and Osage wells. Filter backwash water is discharged to percolation ponds, where water infiltrates into the basin. La Serena discharged 9 AF and Osage discharged 1 AF. The total WWTF effluent to infiltration basins in the NMMA was 504 AF (Table 3-9). The treated effluent from Blacklake WWTF (42 AF), Cypress Ridge WWTF (31 AF), and Woodlands WWTF (92 AF) is used to irrigate golf course landscaping. The estimated amount of wastewater discharge from indoor use by rural residences is 183 AF. The wastewater discharged in septic systems percolates downward and may recharge the shallow aquifers, the deep aquifers, or become shallow subsurface flow outside the NMMA.*
>
> *Return flow is defined as the amount of recharge to the aquifers resulting from applied water that percolates past the root zone to recharge the aquifer(s). This functional definition differs somewhat from that used in the Stipulation to apportion the right to use water that was imported to the basin. However, the physical process of recharge by return flow of applied water is the same regardless of where the water originated.*
>
> *The TG currently assumes that, all groundwater produced for outdoor use is attributable to sustaining plant life and replenishing soil profile storage, and that only rainfall generates percolation. Rural residences produced 203 AF of groundwater for indoor use in CY 2020. The estimated amount of return flow in CY 2020 from indoor use by rural residences is 183 AF, which is 90 percent of the 203 AF estimated indoor water use of rural residents plus the 250 AF of estimated return flow from indoor water use of GSWC's Nipomo system. There is no return flow from P66's groundwater production. The estimated total return flow from applied water, which includes 433 AF from indoor use and 504 AF from infiltration at WWTPs, is 937 AF in CY 2020.*
>
> *The estimated consumptive use of water in the NMMA, computed by subtracting the total return flow (937 AF) from the groundwater production (14,313 AF), is 13,376 AF in CY 2020.*

While groundwater recharge via wastewater treatment percolation basins is not considered a reportable recycled water use by DWR, the Superior Court of the State of California considers return flow to the groundwater basin as a beneficial use of recycled water.

[3] Nipomo Mesa Management Area 13th Annual Report Calendar Year 2020 Prepared by NMMA Technical Group Submitted April 2021

6.2.5.4 Potential, Current, and Projected Recycle Water Uses

Table 6-4 provides a summary of the expected recycled water use within the Blacklake service area through 2045.

Table 6-4 Retail: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area							
☐	Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.						
Name of Agency Producing (Treating) the Recycled Water:	Nipomo Community Services District						
Name of Supplier Operating the Recycled Water Distribution System	Nipomo Community Services District						
Supplemental Water Added in 2020	N/A						
Source of 2020 Supplemented Water	N/A						
Beneficial Use Type	**Level of Treatment**	**2020**	**2025**	**2030**	**2035**	**2040**	**2045**
Golf course irrigation	Secondary, disinfected-23	52	0	0	0	0	0
Total (AF):		52	0	0	0	0	0
NOTES: N/A = not applicable							

Table 6-5 provides a summary of the 2015 UWMP Recycled Water Use Projections compared to the 2020 actual use.

Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual		
☐	Recycled water was not used in 2015 nor projected for use in 2020 The supplier will not complete the table below.	
Use Type	**2015 Projection for 2020**	**2020 Actual Use**
Golf course spray field	50	52
Total (AF):	50	52

6.2.5.5 Actions to Encourage and Optimize Future Recycled Water Use

It should be noted that the District is currently designing a new sewer lift station (at the Blacklake WRF) and sewer force main that will convey raw wastewater from the Blacklake development to the District's Town collection system. The existing Blacklake WRF will be decommissioned and land disposal will no longer be utilized. The District does not plan to expand recycled water use within its service area, as noted in **Table 6-6**.

Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
☑	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
N/A	Provide page location of narrative in UWMP		
Name of Action	**Description**	**Planned Implementation Year**	**Expected Increase in Recycled Water Use**
N/A	N/A	N/A	N/A
		Total	N/A
NOTES: N/A = not applicable			

6.2.6 Desalinated Water Opportunities

The District has completed construction of the NSWP to receive water from the City of Santa Maria. The District is not currently pursuing desalinated water, but did review this opportunity as part of the 2007 Water Master Plan.

6.2.7 Water Exchanges and Transfers

The District led the design and construction effort for the NSWP to bring wholesale water from the City of Santa Maria to the Nipomo Mesa as described in Section 6.1. Participating agencies of the NSWP include Golden State Water Company (GSWC) and Woodlands Mutual Water Company (WMWC). GSWC and WMWC have committed to purchase 833 AYF, but are not currently receiving water directly from the NSWP. The District is currently in design of three interconnections to deliver supplemental water to these purveyors. GSWC and WMWC demands/allocations of NSWP are included in the future demand and supply projections shown in **Tables 4-2** and **6-9** respectively.

In addition, the District currently has two emergency intertie connections with GSWC and WMWC through the existing distribution system.

6.2.8 Future Water Projects

As described in Section 6.1, the District has a wholesale water supply agreement with the City of Santa Maria to receive water from the City through the NSWP pipeline and associated facilities. The Wholesale Agreement dictates a minimum water delivery to the District of 2,500 AFY by fiscal year 2025-26 with a maximum allowable delivery of 6,200 AFY. It should be noted that the existing Santa Maria River crossing, pump station and portion of transmission pipeline were designed to deliver 6,200 AFY. However, the license agreement between Santa Barbara County and the District would need to be amended to allow the District full use of the NSWP's designed capacity (6,200 AFY) in addition to pump replacements and additional system pipelines. **Table 6-7** identifies the additional water supply deliveries and planned implementation years to reach the full 6,200 AFY allocation from the NSWP.

Table 6-7 Retail: Expected Future Water Supply Projects or Programs

☐	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
☐	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
Page 6-2	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other agencies?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Agency (AFY)
NSWP	Yes	City of Santa Maria		2025	Average Year	1,500
NSWP	Yes	City of Santa Maria		As needed	Average Year	500
NSWP	Yes	City of Santa Maria		As needed	Average Year	3,200

6.2.9 Summary of Existing and Planned Sources of Water

6.2.9.1 Description of Supplies

The District's existing water supply sources include local groundwater and imported surface water. Based on historical production information provided by the District, management of the Santa Maria Valley Groundwater Basin through

the NMMA, ongoing water resources planning efforts, and existing infrastructure in place for the NSWP it was assumed that the District's water supplies are considered reliable and 100% available during normal, single and multiple drought conditions.

6.2.9.2 Quantification of Supplies

Table 6-8 provides an overview of the actual source and volume of water for the year 2020 to serve the District customer base.

Table 6-8 Retail: Water Supplies — Actual		
Water Supply	**2020**	
	Actual Volume	Water Quality
Groundwater	1,007	Drinking Water
Purchased or Imported Water	1,041	Drinking Water
Total (AF)	**2,048**	

Table 6-9 provides an overview of the projected groundwater and imported water supplies available to serve future demands within the District service area.

Table 6-9 Retail: Water Supplies — Projected						
Water Supply	**Description**	**Projected Water Supply**				
		2025	**2030**	**2035**	**2040**	**2045**
		Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume
Groundwater	Santa Maria River Valley Groundwater Basin	2,533	2,533	2,533	2,533	2,533
Purchased or Imported Water	NSWP (District allocation)	2,167	2,167	2,167	2,167	2,167
Purchased or Imported Water	NSWP (WMWC and GSWC allocation)	833	833	833	833	833
	Subtotal (AF)	**5,533**	**5,533**	**5,533**	**5,533**	**5,533**
Purchased or Imported Water*	NSWP (Future Supply Project)	3,200	3,200	3,200	3,200	3,200
	Total (AF)	**8,733**	**8,733**	**8,733**	**8,733**	**8,733**
NOTES: *Additional 3,200 AFY NSWP delivery is currently limited by Santa Barbara County license agreement and required water system improvements to accept the full delivery of imported water.						

As described in Section 6.2.1, the District will be required to take 2,500 AFY of supplemental water from the City to meet contractual obligations as part of the Wholesale Agreement. There is an additional 500 AFY of supplemental water available through the NSWP that is being utilized by the District to serve future demands on an as needed basis. As stated in Section 6.2.2, the District is assuming a maximum groundwater pumping limit of 2,533 AFY from the Santa Maria Groundwater Basin. However, that pumping limit may be reduced based on the annual water shortage conditions identified by NMMA in order for the District to reach its voluntary groundwater reduction goal. It should be noted the additional 3,200 AF of supplemental water is contingent on the completion of additional system improvements to deliver water to the existing service area and amending the license agreement with Santa Barbara County.

6.2.10 Special Conditions

The District does not have any special conditions that may affect future water supplies and does not anticipate any change.

6.2.10.1 Climate Change Effects

With respect to climate change, the District has not conducted an official climate change vulnerability or risk assessment for the existing water service area. However, climate change considerations for the District's groundwater supply are incorporated into the Nipomo Mesa Management Area Annual Reports and Chapter 7 of the 13th Annual Report has been included in Appendix A.

6.2.10.2 Regulatory Conditions and Project Development

This District does not foresee any emerging regulatory conditions that would negatively impact water supplies. Planned future projects are discussed in Section 6.2.8 and 6.2.9.

6.2.10.3 Other Locally Applicable Criteria

The District does not foresee any other locally applicable criteria that may affect characterization and availability of identified water supply. However, as mentioned in the NMMA 13th Annual Report, the Santa Maria Groundwater Basin is adjudicated and coordination with the NMMA Technical Group will continue with respect to groundwater management.

6.3 Submittal Tables

All required submittal tables for the District's water supply characterization are included throughout this chapter.

6.4 Energy Intensity

The District's water supply facilities include four active groundwater production wells, and the Joshua Road Pump Station. Electrical usage data was provided by the District for each facility in operation. There are three reporting options based on available data which include the following:

- Option 1: Energy Intensity – Water Supply Process Approach by the individual Water Management Processes
- Option 2: Energy Intensity – Total Utility Approach using the sum of all Water Management Processes and total energy for the system
- Option 3: Energy Intensity – Multiple Water Delivery Products by breaking down percentages for retail potable, retail non-potable, agricultural, etc.

Table 6-10 summarizes the District's supply facilities energy intensity using the total utility approach.

Table 6-10: Recommended Energy Intensity - Total Utility Approach

Enter Start Date for Period	1/1/2020	**Urban Water Supplier Operational Control**		
End Date	12/31/2020	**Sum of all Water Processes**	**Non-Consequential Hydropower**	
		Total Utility	**Hydropower**	**Net Utility**
Volume of Water Entering Process (AF)		2,098		
Energy Consumed (kWh)		1,435,973		
Energy Intensity (kWh/AF)		684		

THIS PAGE LEFT INTENTIONALLY BLANK

CHAPTER 7 WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

New Requirements for 2020 Update

Per the Water Code, the following new requirements are necessary for this chapter of the UWMP 2020 update.

- The new UWMP requirements is manifest in the application of new criteria to the Water Use Analysis in Chapter 4, the Water Supply Analysis in Chapter 6, and the resulting water service reliability assessment in this chapter—including the requirement for a five-consecutive dry years analysis compared to the 2015 UWMPs, which included only a three-year analysis.
- A new Drought Risk Assessment (DRA) is now also required and it must be prepared as a component of the 2020 UWMP. The DRA requires a methodical assessment of water supplies and water uses under an assumed drought period that last five consecutive years. The newly required WSCP is described in Chapter 8.

7.1 Introduction

Assessing water service reliability is the fundamental purpose for an urban water supplier to prepare and update their UWMP. Water service reliability reflects the Supplier's ability to meet the water needs of its customers with water supplies under varying conditions. The District's UWMP considers the reliability of meeting customer water use by analyzing plausible hydrological variability, regulatory variability, climate conditions, and other factors that could affect the District's water supply and its customers' water uses. This chapter synthesizes the details imbedded in the other chapters (including 4, 6, 8, and 9) and it provides a rational basis for future decision-making related to supply management, demand management, and project development. In addition, this chapter includes a new requirement for a Drought Risk Assessment (DRA) that enables the District to evaluate its risk under a severe drought period lasting for the next five consecutive years.

7.2 Water Service Reliability Assessment

As described in Chapter 6, the District's water supply portfolio consists of groundwater from the Santa Maria Valley Groundwater Basin with a maximum pumping limit of 2,533 AFY and imported water from the NSWP with a maximum current delivery of 3,000 AFY.

To identify potential water supply reliability concerns, the District completed a preliminary climate change vulnerability screening analysis (including impacts from extreme heat, water quality, sea level rise, flooding, and wildfire) for its supplies as shown in **Table 7-0**.

Table 7-0: Climate Change Vulnerability Screening		
Preliminary Assessment	**Groundwater**	**Imported Water**
	Level of Risk	**Level of Risk**
I. Water Supply and Demand		
Are the water supply diversions sensitive to climate change?	3	2
Is the water supply source affected by urban or agricultural water demand that might be climate sensitive?	2	2
Is groundwater a major supply source?	5	3
Does the water supply source rely on or could it be affected by snowmelt?	Not applicable	3
Does the water supply source come from or could it be affected by coastal aquifers? Has saltwater intrusion been a problem in the past?	2	Not applicable
Does the water supply source rely on or could it be affected by changes in stored water supplies?	2	2
II. Extreme Heat		
Could extreme heat impact operations of the water supply project or diversions?	Not applicable	Not applicable
Does the supply source rely on equipment or infrastructure that could be impacted by extreme or prolonged heat?	Not applicable	Not applicable
III. Water Quality		
Could water quality issues, such as low dissolved oxygen, algal blooms, disinfectant biproducts affect the water supply source?	Not applicable	Not applicable
Could reduction in assimilative capacity of a receiving water body affect the water supply source?	Not applicable	1
Could the water supply source be affected by water quality shifts during rainfall/runoff events?	2	1
IV. Sea Level Rise		
Is any of the water supply source infrastructure located in area that could be exposed to rising tides?	Not applicable	Not applicable
Could coastal erosion affect the water supply source?	Not applicable	Not applicable
Is the water supply source dependent on coastal structures, such as levees or breakwaters, for protection from flooding?	Not applicable	Not applicable
V. Flooding		
Is the water supply or any of its associated infrastructure located within the 200-year floodplain? Does the water supply source rely on flood protection infrastructure such as levees or dams?	Not applicable	Not applicable
VI. Wildfire		
Is the water supply source located in an area that is expected to experience an increase in wildfire activity or severity? Would a wildfire result in damage to the water supply source infrastructure or interruption of its ability to perform as designed? Could the water supply source be affected by an increase in wildfire activity or severity in an upstream watershed or other adjacent area?	Not applicable	1
NOTES: 1. SMVGWB = Santa Maria River Valley Groundwater Basin 2. NSWP = Nipomo Supplemental Water Project 3. Level of Risk: 1 - low, 3-medium, 5-high		

Based on redundancy within the Joshua Road Pump Station, multiple wells sites throughout the system, and groundwater management practices under the NMMA, the District's water supply sources are considered 100% reliable and available during normal, single and multiple dry year conditions.

The water service reliability assessment summarizes the District's expected water service reliability for a normal year, single dry year, and five consecutive dry years projections for 2025, 2030, 2035, and at least through 2040.

7.2.1 Service Reliability - Constraints on Water Sources

The District's water supply portfolio consists of groundwater from the Santa Maria Valley Groundwater Basin with a maximum current pumping limit of 2,533 AFY. However, as described in Section 6.2.2.2, the NMMA TG determines when conditions of "Potentially Severe Water Shortage Conditions" or "Severe Water Shortage Conditions" have been reached within the Santa Maria Valley Groundwater Basin. Currently the basin is within the Severe Water Shortage Conditions per the NMMA TG. This is the sixth consecutive year of Severe Water Shortage Conditions, which signifies a Stage IV NMMA Water Shortage Response. Per the NMMA drought condition level, the current self-imposed groundwater production limit is 1,267 AFY. Depending on the drought level defined by NMMA, the District's groundwater pumping limitation could range from 2,533 AFY to 1,013 AFY.

With respect to water quality, the District's Consumer Confidence Report (2020) in Appendix I describes existing water quality. As shown the District's water supply meets all United States Environmental Protection Agency (US EPA) and SWRCB water quality standards.

7.2.2 Service Reliability - Year Type Characterization

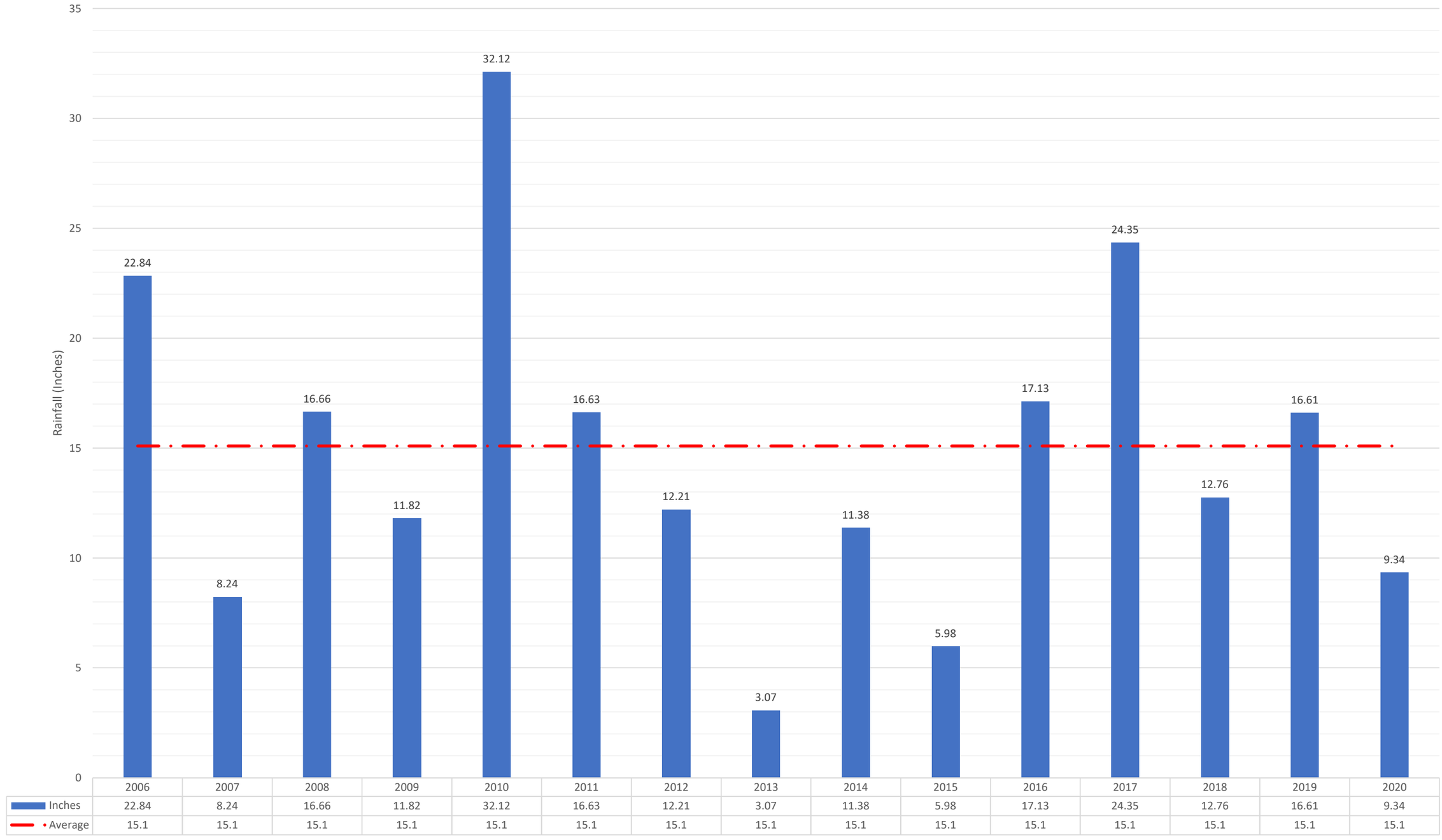
To determine typical average (normal), single dry year, and five consecutive dry years within the service area historical rainfall data was reviewed from the precipitation gauge station Nipomo East #728. The results of the historical rainfall data review are presented in **Figure 7-1**. **Table 7-1** identifies the basis of water year data as required by the UWMP and identifies the volume of the District's water supply that was "produced" to serve demands during historical normal, single, and multiple dry year conditions.

Table 7-1 Retail: Basis of Water Year Data

Year Type	Base Year[1]	Available Supplies if Year Type Repeats	
		☑	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP
		☐	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available (AF)	% of Average Supply
Average Year	2011	2,488	100
Single-Dry Year	2013	2,434	98
Multiple-Dry Years 1st Year	2012	2,340	94
Multiple-Dry Years 2nd Year	2013	2,434	98
Multiple-Dry Years 3rd Year	2014	2,303	93
Multiple-Dry Years 4th Year	2015	1,810	73
Multiple-Dry Years 5th Year	2016	1,690	68
NOTES: Base year represents the typical average year, single dry year, and five consecutive dry years within the service area based on rainfall data from 2006 to 2020.			

THIS PAGE LEFT INTENTIONALLY BLANK

Figure 7-1: District Historic Rainfall Data



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Inches	22.84	8.24	16.66	11.82	32.12	16.63	12.21	3.07	11.38	5.98	17.13	24.35	12.76	16.61	9.34
Average	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1

THIS PAGE LEFT INTENTIONALLY BLANK

Based on variations in groundwater pumping limitations since the Final Judgment of the Santa Maria Valley Groundwater Basin and increased deliveries of imported water from the NSWP, the "Volume Available" in **Table 7-1** are not representative of current and/or future supply availability for the District. The values presented in **Table 7-1** summarizes the actual water supply produced during historical normal, single, and multiple-dry year conditions to serve customer demands. Because of the District's forward thinking, regional water resource planning efforts, and groundwater management they have developed a robust water supply portfolio for serving existing and future customer demands. In addition, as seen in calendar years 2015 – 2016, the District's existing water shortage policies and demand management measures (DMMs) were effective in implementing consumer conservation efforts to reduce overall system demand during state-wide drought conditions.

7.2.3 Water Service Reliability

7.2.3.1 Water Service Reliability – Normal Year Supply

Table 7-2 provides a summary of the District's projected supply and water demands through 2045. The future demand projections are based on future population projections as described in Section 3.4.1. For normal year conditions it was assumed that future supply projections are based on the reasonably available groundwater and imported water volumes as described in Section 6.2.9 and that NMMA would declare a Stage 1 drought level with no voluntary groundwater reduction goals.

Table 7-2 Retail: Normal Year Supply and Demand Comparison

	2025	2030	2035	2040	2045
Groundwater Supply	2,533	2,533	2,533	2,533	2,533
Imported Water Supply	3,000	3,000	3,000	3,000	3,000
Total	**5,533**	**5,533**	**5,533**	**5,533**	**5,533**
District (Existing and Infill)	2,118	2,186	2,253	2,320	2,388
Annexations Under Review	176	352	352	352	352
Sales to Other Agencies	833	833	833	833	833
Total	**3,127**	**3,371**	**3,438**	**3,505**	**3,573**
Difference (AF)	**2,406**	**2,162**	**2,095**	**2,028**	**1,960**

Based on the analysis of the District's projected demands and water supply, there is sufficient resources to serve future demands during normal year conditions.

7.2.3.2 Water Service Reliability – Single Dry Year

For a single dry year it was assumed that NMMA would declare a Stage 2 drought level requiring a voluntary groundwater reduction goal of 20% resulting in 2,027 AFY of groundwater availability. **Table 7-3** provides a summary of the District's projected supply and demand through 2045 for a single dry year.

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison

	2025	2030	2035	2040	2045
Groundwater Supply	2,027	2,027	2,027	2,027	2,027
Imported Water Supply	3,000	3,000	3,000	3,000	3,000
Total	**5,027**	**5,027**	**5,027**	**5,027**	**5,027**
District (Existing and Infill)	2,118	2,186	2,253	2,320	2,388
Annexations Under Review	176	352	352	352	352
Sales to Other Agencies	833	833	833	833	833
Total	**3,127**	**3,371**	**3,438**	**3,505**	**3,573**
Difference (AF)	**1,900**	**1,656**	**1,589**	**1,522**	**1,454**

Based on the analysis of the District's projected demands and water supply, there is sufficient resources to serve future demands during a single dry year.

7.2.3.3 Water Service Reliability – Five Consecutive Dry Year Supply and Demand Comparison

For five consecutive dry years, it was assumed that NMMA would declare a Stage 2 drought level for the first year and increase the voluntary groundwater reduction goals in subsequent years up to 60% (1,013 AFY from groundwater). **Table 7-4** provides a summary of the District's projected supply and demand through 2045 for multiple dry years.

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison

		2025	2030	2035	2040	2045
First year (NMMA Stage 2)	Groundwater Supply	2,027	2,027	2,027	2,027	2,027
	Imported Water Supply	3,000	3,000	3,000	3,000	3,000
	Total	**5,027**	**5,027**	**5,027**	**5,027**	**5,027**
	District (Existing and Infill)	2,118	2,186	2,253	2,320	2,388
	Annexations Under Review	176	352	352	352	352
	Sales to Other Agencies	833	833	833	833	833
	Total	**3,127**	**3,371**	**3,438**	**3,505**	**3,573**
	Difference (AF)	**1,900**	**1,656**	**1,589**	**1,522**	**1,454**
Second year (NMMA Stage 3)	Groundwater Supply	1,733	1,733	1,733	1,733	1,733
	Imported Water Supply	3,000	3,000	3,000	3,000	3,000
	Total	**4,733**	**4,733**	**4,733**	**4,733**	**4,733**
	District (Existing and Infill)	2,118	2,186	2,253	2,320	2,388
	Annexations Under Review	176	352	352	352	352
	Sales to Other Agencies	833	833	833	833	833
	Total	**3,127**	**3,371**	**3,438**	**3,505**	**3,573**
	Difference (AF)	**1,606**	**1,362**	**1,295**	**1,228**	**1,160**
Third year (NMMA Stage 4)	Groundwater Supply	1,267	1,267	1,267	1,267	1,267
	Imported Water Supply	3,000	3,000	3,000	3,000	3,000
	Total	**4,267**	**4,267**	**4,267**	**4,267**	**4,267**
	District (Existing and Infill)	2,118	2,186	2,253	2,320	2,388
	Annexations Under Review	176	352	352	352	352
	Sales to Other Agencies	833	833	833	833	833
	Total	**3,127**	**3,371**	**3,438**	**3,505**	**3,573**
	Difference (AF)	**1,140**	**896**	**829**	**762**	**694**
Fourth year (NMMA Stage 5)	Groundwater Supply	1,013	1,013	1,013	1,013	1,013
	Imported Water Supply	3,000	3,000	3,000	3,000	3,000
	Total	**4,013**	**4,013**	**4,013**	**4,013**	**4,013**
	District (Existing and Infill)	2,118	2,186	2,253	2,320	2,388
	Annexations Under Review	176	352	352	352	352
	Sales to Other Agencies	833	833	833	833	833
	Total	**3,127**	**3,371**	**3,438**	**3,505**	**3,573**
	Difference (AF)	**886**	**642**	**575**	**508**	**440**
Fifth year (NMMA Stage 5)	Groundwater Supply	1,013	1,013	1,013	1,013	1,013
	Imported Water Supply	3,000	3,000	3,000	3,000	3,000
	Total	**4,013**	**4,013**	**4,013**	**4,013**	**4,013**
	District (Existing and Infill)	2,118	2,186	2,253	2,320	2,388
	Annexations Under Review	176	352	352	352	352
	Sales to Other Agencies	833	833	833	833	833
	Total	**3,127**	**3,371**	**3,438**	**3,505**	**3,573**
	Difference (AF)	**886**	**642**	**575**	**508**	**440**

Based on the analysis of the District's projected demands and water supply, there is sufficient resources to serve future demands during multiple dry years.

7.2.4 Description of Management Tools and Options

The District coordinates closely with the City of Santa Maria, GSWC, GSWCCR, and WMWC. The District has participated in the following regional water resource planning efforts:

- Nipomo Mesa Management Area (NMMA) within the Santa Maria River Valley Groundwater Basin
- Nipomo Supplemental Water Project (NSWP)
- San Luis Obispo County Integrated Regional Water Management (IRWM) Plan
- San Luis Obispo Regional Water Management Group (RWMG)

7.3 Drought Risk Assessment

7.3.1 Data, Methods, and Basis for Water Shortage Condition

The following information was used to support the District's DRA to identify water production and consumption to its customers and determine restrictions to supply source:

- Annual AWWA Water Loss Audit Worksheets
- Nipomo Mesa Management Area Annual Reports
- Historical rainfall data from the precipitation gauge station Nipomo East #728

7.3.2 DRA Individual Water Source Reliability

As identified in Section 7.2.2, the District's supplies have exceeded demands, even in dry years. The NMMA Water Shortage Response Stages have been effective in decreasing demands. On this basis, the District's supply is presented as 100% reliable for single and multiple dry year periods.

7.3.3 Total Water Supply and Use Comparison

Sustainable management of the District's groundwater resources and imported supplies will allow the District to serve existing and future water demands during normal, single-dry, and multiple-dry years. Per NMMA, the Santa Maria Valley Groundwater Basin is in its' sixth consecutive year of Severe Water Shortage Conditions, which signifies a Stage 4 NMMA Water Shortage Response. To complete the five-year drought risk assessment, it was assumed that the District would have a voluntary groundwater reduction goal of 1,267 AFY (50%), reflecting a Stage IV NMMA Water Shortage Response. Per the wholesale water agreement delivery schedule for the NSWP, it was assumed that the District would have access to a minimum supplemental water delivery of 1,000 AFY from 2021 to 2024 and 2,500 AFY starting in July 2025. However, if needed the District can increase deliveries over 1,000 AFY (for years 2021 to 2024) if required to serve future demands. **Table 7-5** provides the five-year drought risk assessment for the District from 2021 to 2025.

Table 7-5: Five Year Drought Risk Assessment Tables to address Water Code Section 10635(b)	
2021	**Total**
Gross Water Use	2,062
Supply Total (Groundwater)	1,267
Supply Total (Imported)	1,000
Surplus/Shortfall w/o WSCP Action	205
WSCP – supply augmentation benefit	0
WSCP – use reduction savings benefit	0
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0
2022	**Total**
Gross Water Use	2,076
Supply Total (Groundwater)	1,267
Supply Total (Imported)	1,000
Surplus/Shortfall w/o WSCP Action	191
WSCP – supply augmentation benefit	0
WSCP – use reduction savings benefit	0
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0
2023	**Total**
Gross Water Use	2,090
Supply Total (Groundwater)	1,267
Supply Total (Imported)	1,000
Surplus/Shortfall w/o WSCP Action	177
WSCP – supply augmentation benefit	0
WSCP – use reduction savings benefit	0
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0
2024	**Total**
Gross Water Use	2,104
Supply Total (Groundwater)	1,267
Supply Total (Imported)	1,000
Surplus/Shortfall w/o WSCP Action	163
WSCP – supply augmentation benefit	0
WSCP – use reduction savings benefit	0
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0
2025	**Total**
Gross Water Use (NCSD)	2,118
Gross Water Use (Annexations Under Review)	176
Gross Water Use (WMWC and GSWC)	833
Supply Total (Groundwater)	1,267
Supply Total (Imported)	2,500
Surplus/Shortfall w/o WSCP Action	640
WSCP – supply augmentation benefit	0
WSCP – use reduction savings benefit	0
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0

CHAPTER 8 WATER SHORTAGE CONTINGENCY PLAN

New Requirements

Per the Water Code, the following new requirements are necessary for this chapter of the UWMP 2020 update.

- Key attributes of its water supply reliability analysis conducted pursuant to Water Code Section 10635. [Water Code Section 10632(a)(1)]
- Six standard water shortage levels corresponding to progressive ranges of up to 10-, 20-, 30-, 40-, and 50-percent shortages and greater than 50-percent shortage. [Water Code Section 10632 (a)(3)(A)]
- Locally appropriate "shortage response actions" for each shortage level, with a corresponding estimate of the extent the action will address the gap between supplies and demands. [Water Code Section 10632 (a)(4)]
- Procedures for conducting an annual water supply and demand assessment with prescribed elements. Under Water Code Section 10632.1, urban water Suppliers are required to submit, by July 1 of each year, beginning in the year following adoption of the 2020 UWMP, an annual water shortage assessment report to the California Department of Water Resources (DWR). [Water Code Section 10632 (a)(2)]
- Communication protocols and procedures to inform customers, the public, and government entities of any current or predicted water shortages and associated response actions. [Water Code Section 10632 (a)(5)]
- Monitoring and reporting procedures to assure appropriate data is collected to monitor customer compliance and to respond to any state reporting requirements. [Water Code Section 10632(a)(9)]
- A reevaluation and improvement process to assess the functionality of its WSCP and to make appropriate adjustments as may be warranted. [Water Code Section 10632(a)(10)]

8.1 Water Supply Reliability Analysis

As described in Chapter 7 of this UWMP, the District's water supply has been determined to be reliable. More detail about this section can be found in the District's WSCP in Appendix J.

8.2 Annual Water Supply and Demand Assessment Procedures

In accordance with CWC 10632, the District will conduct an annual water supply and demand assessment, or annual assessment by July 1st of each year. The District will draft and prepare a written report that discusses the results of the annual water supply and demand assessment. Descriptions of the methodology, key data inputs, and a timeline for the annual assessment can be found in the WSCP in Appendix J.

8.2.1 Decision- Making Process

The written decision-making process can be found in the WSCP.

8.2.2 Data and Methodologies

The data and methodologies can be found in the WSCP.

8.3 Six Standard Water Shortage Levels

This WSCP identifies water conservation measures and progressive restrictions on water use to enable the District to implement water management measures in a fair and orderly manner for the benefit of the public in accordance with CWC §10632(a)(3). This WSCP establishes six (6) stages of drought response actions that could be voluntarily implemented by the District in times of shortage, with increasing restrictions on water use in response to decreasing

supplies. This WSCP includes both voluntary and mandatory water use reductions depending on the causes, severity, and anticipated duration of the water supply shortage. Water use reduction stages may be triggered by contamination in one water source, combination of sources, or during times that a shortage is declared by the NMMA, District, State, or Federal government. Because shortages overlap stages, triggers automatically implement the more restrictive stage. Specific criteria for triggering the District's water use reduction stages are shown in **Table 8-1** below.

Table 8-1: Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions
1	Up to 10%	Always in place with voluntary measures and outreach.
2	Up to 20%	Potentially Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan with goal of voluntary 20% reduction in groundwater production.
3	Up to 30%	Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan with goal of voluntary 30% reduction in groundwater production.
4	Up to 40%	Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan with goal of voluntary 30% reduction in groundwater production.
5	Up to 50%	Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan, lasting more than 1 year from the initial declaration; or Severe Water Shortage declaration pursuant to NMMA declaration triggered by both the Key Well Index and the Coastal Area Criterion with goal of voluntary 50% reduction in groundwater production.
6	>50%	Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan, lasting more than 2 years from the initial declaration, based on both the Key Well Index and Coastal Area Criterion with goal of voluntary 60% reduction in groundwater production.

Figure 8-1 provides a comparison that shows the District's water shortage levels to those mandated by statute.

Figure 8-1: Comparison for the District's 2015 Shortage Levels and the 2020 WSCP Mandated Shortage Levels

Stages from 2015 UWMP			Crosswalk	2020 WSCP Mandated Shortage Levels			
Stage	**Percent Supply Reduction**	**Water Supply Condition**		**Stage**	**Percent Supply Reduction**	**Water Supply Condition**	**Mandatory compliance with water savings measures**
1	0%	Always in place		1	0% to 10%	Normal	Voluntary, always in place
2	20%	Potentially Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan.		2	10% to 20%	Slightly Restricted	Mandatory compliance
3	30%	Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan.		3	20% to 30%	Moderately Restricted	Mandatory compliance
4	50%	Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan, lasting more than 1 year from the initial declaration; or Severe Water Shortage declaration pursuant to NMMA declaration triggered by both the Key Well Index and the Coastal Area Criterion		4	30% to 40%	Restricted	Mandatory compliance
5	60%	Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan, lasting more than 2 years from the initial declaration, based on both the Key Well Index and Coastal Area Criterion.		5	40% to 50%	Severely Restricted	Mandatory compliance
				6	50% and above	Extremely Restricted	Mandatory compliance

8.4 Shortage Response Actions

8.4.1 Demand Reduction

Table 8-2 summarizes the restrictions and prohibitions on end uses during each stage of water shortage response implemented by the District in accordance with CWC §10632(a)(4)(B). The shortage response actions are aligned to the six water shortage levels with the goal of reducing the gap between supply and demand by the required amount per level.

Table 8-2 Demand Reduction Actions

Stage	Demand Reduction Actions	Estimated Extent of Reducing the Water Shortage Gap	Penalty, Charge, or Other Enforcement?
1	Other - Education for water conservation methods.	Low	No
1	Other - Public outreach for voluntary reduction in water use by 15%	Low	No
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	High	Yes
1	Landscape - Limit landscape irrigation to specific times	High	Yes
1	Landscape - Restrict or prohibit runoff from landscape irrigation	Medium	Yes
1	Water Features - Restrict water use for decorative water features, such as fountains	High	Yes
1	Landscape- Check all irrigation systems periodically	Low	Yes
2	All Stage 1 reduction actions	Medium	Yes
2	Water Features- Cover swimming pools and spas when not in use	Low	Yes
2	Other - Prohibit use of potable water for washing hard surfaces	Low	Yes
3	All Stage 1 and 2 reduction actions	High	Yes
3	Landscape - Limit landscape irrigation to specific days	High	Yes
3	Other- Prohibit use of hoses without automatic shut-off devices	High	Yes
3	Landscape - Other landscape restriction or prohibition	High	Yes
3	Other – Prohibit use of potable water for construction and dust control	Low	Yes
3	Other - Turn off all automated irrigation systems	High	Yes
3	Water Features – Prohibit water use for decorative water features, such as fountains	High	Yes
4	All Stage 1,2 and 3 reduction actions	Medium	Yes
4	Landscape - Other landscape restriction or prohibition	High	Yes
5	All Stage 1,2,3 and 4 reduction actions	Medium	Yes
5	Landscape- Other landscape restriction or prohibition	High	Yes
6	All Stage 1,2,3,4 and 5 reduction actions	Medium	Yes

A complete description of operational and mandatory restrictions issued by the District can be found in the WSCP.

8.4.2 Supply Augmentation

Table 8-3 summarizes the restrictions and prohibitions on end users during each stage of water shortage responses implemented by the District in accordance with CWC §10632(a)(4)(A).

Table 8-3: Supply Augmentation and Other Actions			
Stage	**Supply Augmentation Methods and Other Actions by Water Supplier**	**Estimated Extent of Reducing the Water Shortage Gap**	**Penalty, Charge, or Other Enforcement?**
All Stages	Expand Public Information Campaign	Medium	No
All Stages	Other - Demand Reduction Program	Medium	No
All Stages	Other - Use Prohibitions	Low	No
1 and 2	Other - Voluntary Water Use Reductions	Medium	No
3	Other - Flow Restriction	Medium	No
4	Other - Prohibit landscape irrigation	High	No
5 and 6	Other - Interrupt Irrigation Services	High	No

8.4.3 Operational Changes

In the event of an extreme water shortage, the District will implement some or all of the following operational changes in accordance with CWC §10632(a)(4)(C) and §10632.5(a):

- The District shall provide prompt notice to customer whenever the District obtains information that indicates a leak may exist within the end-user's exclusive control. The customer must repair all leaks within twenty-four (24) hours of notification by the District.
- Restrict or prohibit the issuance of new water services.

8.4.4 Additional Mandatory Restrictions

The District's customers shall comply to the mandatory water shortage response actions listed in **Table 8-2** associated with a level 3 or higher water shortage event in accordance with §10632(a)(4)(D).

8.4.5 Emergency Response Plan

A catastrophic event may result in a complete loss of District water supplies for a temporary period lasting from a day to a week or more. Examples of catastrophic events include earthquakes, widespread power outage, contamination, long-term drought, or loss of imported supplies. Through information included in billing inserts, and information on its website, the District encourages its customers to be prepared for emergencies and potential interruption of water supply system. The District has an Emergency Response Plan which provides guidance for emergency situations. In the event of a catastrophic emergency the District will immediately declare and enact level six (6) water shortage level and response actions, shown in **Table 8-3** until service is restored to pre-emergency conditions. More detail about this section can be found in the District's WSCP in Appendix J.

8.4.6 Seismic Risk Assessment and Mitigation Plan

The District completed their American's Water Infrastructure Act (AWIA) Risk and Assessment (RRA) in June 2021, which assessed seismic risk. In addition, the County of San Luis Obispo, in partnership with the District, developed a Multi-Jurisdictional Hazard Mitigation Plan (Hazard Plan), which evaluated seismic risk within District's service area. A summary of these seismic risk assessments can be found in the WSCP.

8.4.7 Shortage Response Action Effectiveness

The District will monitor and evaluate the effectiveness of the shortage response actions. In the event that the shortage response actions are not effective, the District will have the power to amend the WSCP. A more detailed description of the District's plan to monitor effectiveness can be found in the WSCP.

8.5 Communication Protocols

The District will inform customers, the public, and the necessary local, regional, and state government entities in regard to any current or predicted water shortages based on the results of the Annual Water Supply and Demand Assessment or in the event of an emergency. The District will also notify all necessary entities of any shortage response actions mandated in response to the Annual Assessment. A detailed communication plan can be found in the WSCP.

8.6 Compliance and Enforcement

The District's enforcement policies can be found in the WSCP.

8.7 Legal Authorities

The District has the power to declare a water shortage. See the WSCP for the District's declaration of a water shortage.

8.8 Financial Consequences of WSCP

The District is currently able to meet expenses with a combination of rates and reserves. The District has sufficient reserves and rate stabilization funds to meet its current near-term obligations; however, rates may need to be adjusted in the future, in accordance with Proposition 218, to mitigate future revenue reduction as a result of the WSCP.

8.9 Monitoring and Reporting

Monitoring and reporting procedures can be found in the WSCP.

8.10 WSCP Refinement Procedures

Refinement procedures can be found in the WSCP.

8.11 Special Water Feature Distinction

A description of special water features can be found in the WSCP.

8.12 Plan Adoption, Submittal and Availability

The procedures that were used to adopt the WSCP are detailed in the WSCP.

CHAPTER 9 DEMAND MANAGEMENT MEASURES

New Requirements for 2020 Update

There are no new plan preparation requirements from the 2020 UWMP guidance.

9.1 Demand Management Measures for Wholesale Suppliers

The District is not a wholesale agency and is not required by DWR to complete Section 9.1.

9.2 Existing Demand Management Measures for Retail Suppliers

The UWMP Act requires a discussion of Demand Management Measures (DMMs), including a description of each of the DMMs currently being implemented/scheduled for implementation, the schedule of implementation for all DMMs, and the methods, if any, the District will use to evaluate the effectiveness of DMMs.

9.2.1 Water Waste Prevention Ordinances

Ordinance 2015-122, adopted on August 12, 2015, updated the District's Water Shortage Response and Management Plan. A copy of the NCSD Code of Ordinances is available on the District's website:

- https://ncsd.ca.gov/resources/documents/district-codes/

New development is required to comply with County imposed building and planning water efficiency standards.

9.2.2 Metering

The District is 100% metered and water usage is tracked by usage type and service size, which includes single family residential, multi-family residential, commercial/institutional, landscape irrigation, and other.

9.2.3 Conservation Pricing

Table 9-2 summarizes the District's bimonthly fixed charges.

Table 9-2: NCSD Water Rate Structure

Meter Size	Fixed Charge
5/8 thru 1-inch	$53.70
1-1/2-inch	$75.76
2-inch	$106.42
3-inch	$223.04
4-inch	$312.99
6-inch	$631.28
8-inch	$995.04

9.2.4 Public Education and Outreach

The District implements many public outreach programs. Public outreach efforts are updated on the District's conservation website (http://ncsd.ca.gov/cm/Resources/Conservation.html). The District provides multiple workshops, giveaway items, brochures, newsletters, and bill inserts to customers. Below is a list of the public outreach efforts implemented by the District:

- High efficiency washer rebate program

- Advertising
- Events and item giveaways
- Post cards, brochures mailed out to NCSD customers
- Door-hangers for water waste and other water-use issues
- Conservation website
- Water audit program
- Annual newsletter
- Toilet-retrofit-at-time-of-sale, administered by San Luis Obispo County Planning and Development (SLO-PD) (Title 8 Amendment) for Nipomo Mesa Water Conservation Area (NMWCA) (includes all of NCSD)

Some public outreach events that NCSD participates in include the Harvest Festival and Creek Day.

9.2.5 Programs to Assess and Manage Distribution System Real Loss

District staff visit and inspect all production and storage facilities weekly. All of the District's tanks, reservoirs, and pumps have alarms to indicate over-topping or loss of pressure. These alarms provide notification to District staff of any potential problems so adjustments can be made to limit system losses. The District has begun to install an automated distribution pipeline leak detection system that monitors the District' pipelines for leaks. The leak detection system consists of Permalog leak noise loggers that are deployed throughout the water distribution system. Data from the loggers is transmit through a licensed frequency wireless network to software that is monitored by Operations personnel.

The District produces and submits annual reports to DWR quantifying the amount of metered water deliveries and the total water in the system. These reports are one way to measure the effectiveness of the District's water loss control measures based on the comparison of production and deliveries. The District completes the standard water audit and balance using the AWWA Water Loss software to determine their current volume of apparent and real water loss and the cost impact of these losses on District operations, and plans to re-conduct the analysis at annual intervals.

The District provides leak detection information and assistance to its customers through providing educational tools and giveaways, such as dye tablets, to detect leaks. The District's database that tracks water use alerts utility billing staff when current water use at a given meter varies significantly from the historic use, which indicates a leak is likely. The District has also begun implementing Advanced Metering Infrastructure (AMI) with 15 minute interval reads. When a leak is detected, the District contacts the customer with the information needed to find leaks. Statistics of the number of customers assisted with leak detection and repair is tracked by utility billing staff.

9.2.6 Water Conservation Program Coordination and Staffing Support

Water conservation activities are performed by utility billing staff, public outreach staff, operations staff, and engineering staff. BMP report preparation is coordinated by engineering staff.

9.2.7 Other Demand Management Measures

Other demand management measures that NCSD has implemented include the following:

Water Survey Programs for Single- Family Residential and Multi-Family Residential Customers:

The District provides leak detection information and assistance to its customers through providing educational tools and giveaways, such as dye tablets, to detect leaks. The District's database that tracks water use alerts utility billing staff when current water use at a given meter varies significantly from the historic use, which indicates a leak is likely. When a leak is detected, the District contacts the customer with the information needed to find leaks. Statistics of the number of customers assisted with leak detection and repair is tracked by utility billing staff.

The County's Ordinance 3370 amends Title 19 of the County Code to require any applicant for a construction permit or remodel permit constituting a permit fee greater than $20,000 to install plumbing fixtures with certain criteria designed for water conservation. New construction permits will only be given when an applicant has retrofitted the plumbing fixtures of five existing structures in the Nipomo Mesa Water Conservation Area. The District distributes and tracks aerators, hose nozzles, hose timers, moisture meters, and toilet tabs. The District plans to continue implementing this BMP through educational tools, giveaways and by supporting County Ordinance 3370.

Landscape Water Survey

The District provides giveaways, workshops, and educational tools to assist customers with their own landscape water surveys, thereby making customer landscapes more efficient. The District plans to continue implementing, giveaways, workshops, and educational tools.

High-Efficiency Clothes Washing Machine Financial Incentives Programs

The District provides a high efficiency washer rebate program through which it provides a rebate of $75 on new high efficiency washers.

Water Sense Specification (Wss) Toilets

The County Code requires a toilet-retrofit-at-time-of-sale, administered by San Luis Obispo County Planning and Development (SLO-PD) (Title 8 Amendment) for Nipomo Mesa Water Conservation Area (NMWCA) (includes all of NCSD).

9.3 Reporting Information

9.3.1 Implementation Over the Past Five years

NCSD has implemented the required DMMs per CWC 10631 to achieve its water use targets pursuant to Section 10608.20 and described in section 5.

9.3.2 Implementation to Achieve Water Use Targets

NCSD has implemented the required DMM per CWC 10631 to achieve its water use targets pursuant to Section 10608.20. Baseline and target 2020 GPCD are described in section 5 of the UWMP. No additional DMMs are proposed to be implemented by NCSD.

9.4 Water Use Objectives (Future Requirements)

The Water Code requires suppliers to develop new water use objectives by 2023 that align with the supplier's conservation management actions. The District describes its water use objectives during water shortages in its WSCP and will further develop objectives by 2023.

CHAPTER 10 PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

New Requirements

- Since 2015, the public processes for completing the UWMP have not been revised. However, the Water Shortage Contingency Plan is a new component of the 2020 UWMP that can be amended separately from the UWMP (see Chapter 8)

10.1 Inclusion of all 2015 Data

This 2020 UWMP update includes water use and planning data for the entire 2020 calendar year.

10.2 Notice of Public Hearing

10.2.1 Notice to Cities and Counties

10.2.1.1 60 Day Notification

The District notified the agencies listed in **Table 10-1** at least sixty (60) days prior to the public hearing of the preparation of the 2020 Plan and invited them to participate in the development of the Plan. A copy of the notification letters sent to these agencies is provided in Appendix K.

10.2.1.2 Notice of Public Hearing

The Notice of the public hearing, held at the November 10, 2021 Board meeting at the District office, was sent to the City of Santa Maria and County of San Luis Obispo on September 10, 2021. A copy of the letters from the District to the City and County are included in Appendix K of this UWMP.

10.2.1.3 Submittal Tables

Table 10-1 summarizes the agencies which were provided notifications by the District.

City Name	60 Day Notice	Notice of Public Hearing
City of Santa Maria	☑	☑
County of San Luis Obispo County	☑	☑

10.2.2 Notice to the Public

The public hearing was noticed in the local newspaper as prescribed in Government Code 6066. This notice included time and place of hearing, as well as the location where the UWMP and WSCP is available for public inspection. A copy of the newspaper notice is included in Appendix L.

10.3 Public Hearing and Adoption

10.3.1 Public Hearing

Prior to adopting the 2020 UWMP and WSCP, the District held a public hearing on November 10, 2021 which included input from the community regarding the District's draft 2020 UWMP and WSCP. As part of the public hearing, the District provided information on determination of its water use targets and action plan in case of severe water shortage conditions.

THIS PAGE LEFT INTENTIONALLY BLANK

10.3.2 Adoption

The 2020 UWMP was adopted on December 8, 2021 during a regularly scheduled board meeting. A copy of the resulting adoption Resolution 2021-1608 and meeting minutes is included in Appendix M of this UWMP.

10.4 Plan Submittal

10.4.1 Submitting a UWMP and Water Shortage Contingency Plan to DWR

Within 30 days of adoption of the 2020 UWMP by the District Board, the District will submit the adopted 2020 UWMP to DWR, as required by CWC 10621 and 10644. The 2020 UWMP will be submitted through DWR's "Water Use Efficiency (WUE) Data Online Submittal Tool" website.

DWR previously provided a checklist to determine if an Urban Water Management Plan has addressed the requirements of the California Water Code. The District has completed the DWR checklist by indicating where the required CWC elements can be found within the District's 2020 UWMP (See Appendix N).

10.4.2 Electronic Data Submittal

Within 30 days of adoption of the 2020 Plan, the District will also submit all data tables associated with the 2020 Plan through DWR's "Water Use Efficiency (WUE) Data Online Submittal Tool" website.

10.4.3 Submitting a UWMP to the California State Library

Within 30 days of adoption of the 2020 UWMP by the District Board, a copy (CD or hardcopy) of the 2020 Plan will be submitted to the State of California Library. A copy of the letter to the State Library will be maintained in the District's file. The 2020 Plan will be mailed to the following address if sent by regular mail:

California State Library
Government Publications Section
P.O. Box 942837
Sacramento, CA 94237-0001
Attention: Coordinator, Urban Water Management Plans

The 2020 Plan will be delivered to the following address if sent by courier or overnight carrier:

California State Library
Government Publications Section
914 Capitol Mall
Sacramento, CA 95814

10.4.4 Submitting a UWMP to Cities and Counties

Within 30 days of adoption of the plan by the District Board, a copy of the 2020 UWMP will be submitted to the County of San Luis Obispo Registrar / Recorders office and District's office. A copy of the letter to the County of San Luis Obispo and the City of Santa Maria will be maintained in the District's file.

10.5 Public Availability

Within 30 days of adoption of the 2020 UWMP by the District Board, the adopted plan will be available on the District's website at www.ncsd.ca.gov and at the District's office at 148 South Wilson Street, Nipomo between the hours of 8 AM and 4:30 PM Monday through Friday.

10.6 Notification to Public Utilities Commission

The section is not applicable to the District.

10.7 Amending an Adopted UWMP or Water Shortage Contingency Plan

10.7.1 Amending a UWMP

If the District amends the adopted 2020 UWMP, the amended UWMP will undergo adoption by the District's governing board. Within 30 days of adoption, the amended UWMP will then be submitted to DWR, the State of California Library, the County of San Luis Obispo / Recorders office, and the District's office.

10.7.2 Amending a Water Shortage Contingency Plan

If the District amends the adopted 2020 WSCP, the amended WSCP will undergo adoption by the District's governing board. Within 30 days of adoption, the amended WSCP will then be submitted to DWR, the State of California Library, the County of San Luis Obispo / Recorders office, and the District office.

Appendix A- 13th Annual Nipomo Mesa Management Area Annual Report

Nipomo Mesa Management Area

13th Annual Report

Calendar Year 2020

Prepared by

NMMA Technical Group

Submitted April 2021

This page intentionally left blank.

Table of Contents

List of Figures

List of Tables

Acronyms

AF	-	acre-feet
AFY	-	acre-feet per year
ALERT	-	Automated Local Evaluation in Real Time
CY		Calendar Year
C.E.G.	-	Certified Engineering Geologist
C.H.G.	-	Certified Hydrogeologist
CCAMP	-	Central Coast Ambient Monitoring Program
CDF	-	California Department of Forestry (now Cal Fire)
CIMIS	-	California Irrigation Management Information System
CPUC	-	California Public Utilities Commission
CU	-	consumptive use
D	-	Day
DPH	-	California Department of Public Health
DWR	-	California Department of Water Resources
ES	-	Executive Summary
Ft	-	Feet
ft^2	-	square feet
ft msl	-	feet above mean sea level
Gpd	-	gallons per day
GSWC	-	Golden State Water Company
K	-	hydraulic conductivity
MCL	-	Maximum Contaminant Level
mg/L	-	milligrams per Liter
MOU	-	memorandum of understanding
Msl	-	mean sea level
NCSD	-	Nipomo Community Services District
NCMA		Northern Cities Management Area
NMMA	-	Nipomo Mesa Management Area
NSWP	-	Nipomo Supplemental Water Project
TG	-	Nipomo Mesa Management Area Technical Group
P.E.	-	Professional Engineer
P.G.	-	Professional Geologist
PG&E	-	Pacific Gas & Electric
PWD		Public Works Department
RF	-	return flow
RP	-	reference point
RWC	-	Rural Water Company (now Golden State Water Company)
SCWC	-	Southern California Water Company (now Golden State Water Company)
SLO	-	San Luis Obispo
SLO PWD	-	San Luis Obispo County Public Works Department
SMVMA		Santa Maria Valley Management Area
SWP	-	State Water Project
TDS	-	Total Dissolved Solids
U.S.	-	United States
WWTF	-	wastewater treatment facility
WY	-	Water Year
Yr	-	year

Abbreviations

Blacklake WWTF	-	Blacklake Reclamation Facility
Cypress Ridge WWTF	-	Cypress Ridge Sewer Company's Cypress Wastewater Treatment Facility
Judgment	-	Judgment After Trial dated January 25, 2008
Phase III	-	Santa Maria Groundwater Litigation Phase III
Program	-	Nipomo Mesa Management Area Monitoring Program
Santa Maria Groundwater Litigation	-	*Santa Maria Valley Water Conservation District vs. City of Santa Maria, et al.* Case No. 770214
Southland WWTF	-	Southland Wastewater Treatment Facility
Stipulation	-	Stipulated Judgment dated June 30, 2005
Temp	-	Temperature
Woodlands	-	Woodlands Mutual Water Company
Woodlands WWTF	-	Woodlands Mutual Water Company Wastewater Reclamation Facility

Executive Summary

This 13th Annual Report, covering calendar year 2020 for the Nipomo Mesa Management Area (NMMA), is prepared in accordance with the Stipulation and Judgment for the Santa Maria Groundwater Litigation (Lead Case No. 1-97-CV-770214). The Annual Report provides an assessment of hydrologic conditions for the NMMA based on an analysis of the data accruing each calendar year. Each Annual Report is submitted to the court annually in accordance with the Stipulation in the year following that which is assessed in the report. This Executive Summary contains three sections: ES-1 Background; ES-2 Findings; and ES-3 Recommendations.

ES-1. Background

The Court established three management areas overlying the Santa Maria Groundwater Basin (SMGB). The NMMA lies between the Northern Cities Management Area (NCMA) to the north and the Santa Maria Valley Management Area (SMVMA) to the south. The NMMA Technical Group (TG) is one of three management area committees formed to administer the relevant provisions of the Stipulation. Golden State Water Company, Nipomo Community Services District, Phillips 66, and Woodlands Mutual Water Company are responsible for appointing the members of the committee, and along with an agricultural overlying landowner, who is also a Stipulating Party, are responsible for the preparation of this Annual Report. The goal of each committee is to promote monitoring and management practices in their respective management areas so that present and future water demands are satisfied without causing long-term damage to the underlying groundwater resource.

The TG, charged with developing the technical bases for sustainable management of the surface and groundwater supplies, prepared this 13th Annual Report – Calendar Year 2020. The TG collected and compiled data and reports from numerous sources including the NMMA Monitoring Parties, the Counties of San Luis Obispo (SLO) and Santa Barbara, the California Departments of Forestry, Water Resources, and Public Health, the State Water Resources Control Board, the U. S. Geological Survey, and the Engineers for the NCMA and SMVMA. The TG previously developed, and continues to update, and maintain an electronic database to aid in the evaluation of the long-term sustainability of the NMMA portion of the SMGB. The TG reviewed these data and reports and concluded that the development of additional data and evaluations will be on-going to aid the understanding of the hydrogeologic conditions of the NMMA and to make comprehensive recommendations for the long-term management of the NMMA.

The TG evaluated the available compiled data to reach the findings presented in the following section of this Executive Summary. The TG recognizes that the data used in the evaluations are not equally reliable but represent what is currently available. In some cases, additional analysis will be required for an adequate characterization of the physical setting within the NMMA, which will allow development of an appropriately detailed model of the stratigraphy that defines the location and thickness of production aquifers and confining layers. Refinements in the understanding of the physical setting will improve upon estimates of groundwater in storage available for pumping to meet water demands. Such work is an important goal for the TG and mirrors the TG's desire to characterize groundwater storage in the NMMA. The TG has developed specific recommendations to address these issues for the next Annual Report.

ES-2. Findings

Presented in this section of the Executive Summary are brief descriptions of the findings by the TG for Calendar Year (CY) 2020. Presented in the body of this report are the details and bases for these findings.

1. Severe Water Shortage Conditions continue to exist in the NMMA in calendar year 2020 as indicated by the Key Wells Index of 11.7 ft msl (see Section 7.2 Water Shortage Conditions).

2. The Nipomo Community Services District (NCSD) completed Phase I of the Nipomo Supplemental Water Project (NSWP). Water deliveries began on July 2, 2015, and 1,041 AF of imported water were delivered through the NSWP in CY 2020 (see Section 3.1.10 Imported Water).

3. Consistent with Stage IV of the NMMA Water Shortage Response Stages, a total reduction of 2,155 AF (-38%) in purveyor production was accomplished in 2020 as compared to 2013 (see Section 7.3.3 Stipulating Party Water Use Trends).

4. There is no evidence of seawater intrusion based on coastal water quality (see Section 6.1.2 Results from Coastal Monitoring Wells).

5. Total rainfall for CY 2020 is approximately 60 percent of the long-term average. The total rainfall for Water Year (WY) 2020 (October 1, 2019 through September 30, 2020) is approximately 100 percent of the long-term average (see Section 3.1.3 Rainfall).

6. The period of analysis (1975-2020) used by the TG is roughly 8 percent "wetter" on average than the long-term record (1920-2020) indicating there is a slight bias toward overstating the amount of local water supply resulting from percolation of rainfall (see Section 5.1 Rainfall and Percolation Past Root Zone).

7. The total estimated 2020 calendar year groundwater production is 14,313 acre-feet (AF). The breakdown by user and type of use is shown in the following table (see Section 3.1.9 Groundwater Production).

Agriculture	7,176 AF
Urban/Industrial	7,137AF
Total Production	**14,313 AF**

8. No surface water is diverted for water supplies in the NMMA (see Section 3.1.7).

9. The total Waste Water Treatment Facility effluent discharged in the NMMA was 657 AF for CY 2020 (see Section 3.1.11 Wastewater Discharge and Reuse).

10. Contour maps prepared using Spring and Fall 2020 groundwater elevation data suggest regional groundwater flow is generally from east to west (toward the ocean). The contour maps also show a landward gradient from the coast in the deep aquifer, which is an indication that groundwater flow is from the coastal area toward inland areas resulting in an increased potential for seawater intrusion. There exists a persistent pumping depression in the central area of the NMMA (see Section 6.1.3 Groundwater Contours and Pumping Depressions).

11. The 2020 acreage for land use classification of Urban is 10,596 acres; of Agriculture is 2,988 acres; and, of Non Irrigated is 7,957 acres (see Section 3.1.8 Land Use).

12. In 2020, water samples from some wells in both the shallow and deep aquifers had nitrate concentrations greater than the drinking water standard and samples from one well contained 1,2,3-Trichloropropane (1,2,3-TCP) at concentrations at or above the notification level. Shallow groundwater monitoring and remediation occurs at a near-coastal refinery, including at the site of a former leaking pipe where cleanup for metals and hydrocarbon contaminants in the shallow aquifer is ongoing (see Section 6.2.2 Results of Inland Water Quality Monitoring).

13. There continues to be uncertainty in the contribution from flow in Los Berros and Nipomo Creeks to the NMMA groundwater supply and quality. Stream stage data that indicate when flow is occurring are recorded at three gaging stations on Los Berros Creek. However, no rating curves are available to convert the stage data to stream flow. No stream gage exists on Nipomo Creek (see Section 2.3 Hydrogeology and Section 3.1.5 Streamflow).

14. There is a lack of detailed understanding about confined and unconfined aquifer conditions in the NMMA, except near the coast and locally adjacent areas where the deep aquifers are known to be confined (see Sections 2.3.1 Geology and 2.3.2 Groundwater Flow Regime).

15. There is a lack of detailed understanding of the flow path of rainfall, applied water, and treated wastewater to specific aquifers underlying the NMMA (see Section 2.3 Hydrogeology).

ES-3. Recommendations

A list of recommendations was developed and published in each of the previous NMMA Annual Reports. The TG will address past and newly developed recommendations based on future budgets, feasibility, and priority. The recommendations are subdivided into two categories: (1) Achievements from earlier NMMA Annual Report recommendations accomplished in 2020, and (2) Technical Recommendations – to address the needs of the TG for data collection and compilation.

ES-3.1. Achievements from Previous NMMA Annual Report Recommendations

The TG worked to address several of the recommendations outlined in the previous Annual Reports. Achievements made during 2020 are as follows:

- As part of the continued operation of the NSWP, a total of 1,041 AF of water was delivered to the NMMA during the CY 2020.

- A water level transducer and data logger were installed at one of the Key Wells (11N35W22C02) in late 2020.

- The TG continued review of the NMMA Monitoring Program to identify additional wells or monitoring points to include, in an effort to better characterize conditions in the shallow aquifer and to fill geographic data gaps associated with shallow and deep aquifers. The TG also approached and coordinated with SLO County, which resumed semi-annual monitoring of groundwater levels at a previous Key Well (11N35W23L01).

- To support certain estimates of groundwater production, the TG updated the classification of land use in the NMMA, which was last categorized in 2014, based on 2020 conditions.

- The TG continued tracking, in part through regular communication with San Luis Obispo County, groundwater management activities in groundwater basins adjacent to the SMGB upgradient of the NCMA. These activities are being implemented within the Arroyo Grande subbasin under the umbrella of California's Sustainable Groundwater Management Act.

- To better support evaluation of the potential for seawater intrusion, this report includes ion ratio time-series data for certain coastal wells and charts of ion ratio time-series data for other coastal wells.

ES-3.2. Technical Recommendations

The following technical recommendations are not organized in their order of priority, because the monitoring parties, considering their own particular funding constraints and authorities, will determine the implementation strategies and priorities.

- **Supplemental Water Supplies –** Reducing pumping is the most effective method to reduce the stress on the aquifers and to allow groundwater to recover; continued operation of the NSWP (see Section 1.1.5-Supplemental Water) is another viable method to achieve these goals. The TG recommends that this project continue to be implemented consistent with the Judgment and Stipulation.

- **Subsurface Flow Estimates –** Evaluate subsurface flow along the NMMA boundaries based on groundwater gradients and hydraulic conductivities in the shallow and deep aquifers.

- **Key Wells Monitoring –** Where possible, install data loggers in all Key Wells.

- **Key Wells Index 5-Year Review –** Evaluate and review the Key Wells Index by 2025.

- **Monitoring Points –** Replace the lost monitoring wells near Oso Flaco Lake. Select specific shallow dune sand aquifer wells for groundwater monitoring.

- **Well Reference Point Elevations – –** Continue to improve the accuracy of the RP elevations using LIDAR and other survey data.

- **Groundwater Production –** Develop a method to collect groundwater production data from all stipulating parties. Continue to update the land use classification on an interval commensurate with significant changes in land use patterns and as is practical, with the intention that the interval is more frequent than DWR's 10-year cycle of land use classification.

- **Agricultural Groundwater Production –** Continue to work with NMMA area farmers to measure groundwater production. Continue consultation with San Luis Obispo County Agriculture Department and other local experts in crop water use with specific updates to emerging crops and crop conversions.

- **Hydrogeologic Characteristics of NMMA –** Continue to review well screen intervals, lithology, groundwater level, and other relevant information. Improve the understanding of NMMA area

fault displacements and potential effects of faulting on the hydrostratigraphy and groundwater flow in the NMMA.

- **Stream Flow Estimates – –** Develop rating curve for Los Berros Creek, and install a new stream sensor on Nipomo Creek and develop a rating curve.

- **Groundwater Modeling –** Continue to engage with users of utilizing the regional groundwater model developed for Pismo Beach and the South SLO County Sanitation District, to assess efforts to revise and update the accuracy of the model.

- **SGMA –** Continue communication between the TG and SLO County with respect to the County's groundwater management activity adjacent to the adjudicated portion of the SMGB. The TG will continue to report annual groundwater conditions to the DWR SGMA reporting site for adjudicated basins.

1. Introduction

The rights to extract water from the Santa Maria Groundwater Basin (SMGB) have been in litigation since the late 1990s. By stipulation and Court action, three separate management areas were established in 2008 as a result of such litigation: the Northern Cities Management Area (NCMA), the Nipomo Mesa Management Area (NMMA), and the Santa Maria Valley Management Area (SMVMA). The Court directed monitoring parties of each management area to form a group of technical experts to continue to study and evaluate the characteristics and conditions of each management area and to annually present their findings to the Court in the form of an Annual Report. The NMMA Technical Group (TG) is one of three management area committees formed to administer the relevant provisions of the Stipulation. Golden State Water Company (GSWC), Nipomo Community Services District (NCSD), Phillips 66 (P66), and Woodlands Mutual Water Company (Woodlands) are responsible for appointing members of the committee, together with an agricultural overlying landowner, who is also a Stipulating Party.

This 13th Annual Report – Calendar Year 2020 is a joint effort of the TG. The requirement contained in the Judgment for the production of an Annual Report is as follows:

> "Within one hundred and twenty days after each Year, the Management Area Engineers will file an Annual Report with the Court. The Annual Report will summarize the results of the Monitoring Program, changes in groundwater supplies, and any threats to groundwater supplies. The Annual Report shall also include a tabulation of Management Area water use, including Imported Water availability and use, Return Flow entitlement and use, other Developed Water availability and use, and Groundwater use. Any Stipulating Party may object to the Monitoring Program, the reported results, or the Annual Report by motion."

This Annual Report is organized into an executive summary, and nine sections which present: the general background of the litigation and some of the requirements imposed by the Court, a description of the basin, a summary of data collection, water supply and demand, hydrologic inventory, groundwater conditions, an analysis of water conditions, and a presentation of other considerations, recommendations, and references.

Five appendices are also included in the Annual Report: Appendix A – Monitoring Program, Appendix B – Water Shortage Conditions and Response Plan, Appendix C – Well Management Plan, Appendix D – Data Acquisition Protocols for Groundwater Level Measurements for the NMMA, and Appendix E – Additional Data. Twelve annual reports have previously been prepared, spanning calendar years 2008 to 2019 (NMMA, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, and 2020).

1.1. *Background*

Presented in this subsection is a brief history of the litigation process through 2008 and general discussions of activities that have been undertaken to date or are underway to manage the water resources of the NMMA.

1.1.1. History of the Litigation Process

The SMGB was the subject of litigation from 1997 to 2008. Collectively called the Santa Maria Groundwater Litigation (*Santa Maria Valley Water Conservation District vs. City of Santa Maria, et al.* Superior Court for the County of Santa Clara Case No. 770214), over 1,000 parties were involved with competing claims to pump groundwater from within the boundary of the SMGB (Figure 1-1).

The Santa Maria Valley Water Conservation District was originally concerned that banking of State Water Project (SWP) water in the groundwater basin by the City of Santa Maria would give the City of Santa Maria priority rights to the groundwater. The lawsuit was subsequently broadened to address groundwater management of the entire SMGB.

On June 30, 2005, the Stipulating Parties entered a Stipulated Judgment ("Stipulation") in the case, which was approved by the Court on August 3, 2005. The Stipulation divides the SMGB into three separate management sub-areas: the NCMA, NMMA, and the SMVMA. The Stipulation contains specific provisions with regard to rights to use groundwater, development of groundwater monitoring programs, and development of plans and programs to respond to Potentially Severe and Severe Water Shortage Conditions.

The TG was formed pursuant to a requirement contained in the Stipulation. Sections IV D (All Management Areas) and Section VI (C) (NMMA) contained in the Stipulation were independently adopted by the Court in the Judgment After Trial (herein "Judgment"). The Judgment is dated January 25, 2008, and was entered and served on all parties on February 7, 2008. It is noted that pursuant to paragraph 5 of the Judgment, the TG retains the right to seek a Court Order requiring non-stipulating parties to monitor their well production, maintain records thereof, and make the data available to the Court or the Court's designee. The compilation and evaluation of existing data, and the aggregation of additional data, are ongoing processes. Given its limited budget and resources, the TG has focused its efforts on the evaluation of readily accessible data. The TG does intend to slowly integrate into its assessment new data that may be collected from stipulating parties and other sources that were not previously compiled as part of the database existing in 2008. In November 2017 the Court's current presiding judge was given a day-long ground- and aerial-based tour of the SMGB, which was planned in the months leading up to November 2017.

1.1.2. Development of Monitoring Program

In 2008, the TG developed and the Court approved, the NMMA Monitoring Program ("Monitoring Program"), attached as Appendix A, to ensure systematic collection of important information in the basin. This Monitoring Program includes information such as groundwater elevations, groundwater quality, and pumping amounts. The Monitoring Program also identifies a number of wells in the NMMA to be monitored (Figure 1-2) and discusses the methods of analysis of the data.

A large areal extent within the NMMA receives water service from the major water purveyors (Figure 1-3). The majority of the lands within the NMMA obtain water by means other than from a purveyor. A fraction of these property owners are Stipulating Parties. All of the larger purveyors are also Stipulating Parties. All Stipulating Parties are obligated to make available relevant information regarding groundwater elevations, water quality, and pumping data necessary to implement the NMMA Monitoring Program.

1.1.3. Water Shortage Conditions and Response Plan

Pursuant to the Stipulation, the TG developed a Water Shortage Conditions and Response Plan that is included as part of the Monitoring Program. The water shortage conditions are characterized by two different criteria – those for Potentially Severe Water Shortage Conditions and those for Severe Water Shortage Conditions. The response to these conditions includes voluntary and mandatory actions by the parties to the Stipulation. The Court approved the Water Shortage Conditions and Response Plan on April 22, 2009 (see Appendix B).

1.1.4. Well Management Plan

The Stipulation requires the preparation of a Well Management Plan (WMP) when Potentially Severe Water Shortage Conditions or Severe Water Shortage Conditions exist prior to the completion of a Supplemental Water project. The WMP provides for steps to be taken by the NCSD, GSWC (formerly named Southern California Water Company [SCWC]), and Woodlands, under these water shortage conditions. The WMP has no applicability to either P66 or Overlying Owners as defined in the Stipulation. The WMP was adopted by the TG in January 2010 and submitted to the Court in April 2010 with the 2009 Annual Report, and is attached as Appendix C to this report. On April 14, 2014, the NMMA Water Shortage Response Stages were endorsed by the TG and submitted to the Court with the 2013 Annual Report (see Appendix C).

1.1.5. Supplemental Water

To bring Supplemental Water to the NMMA, pursuant to the Stipulation:

> "The NCSD agrees to purchase and transmit to the NMMA a minimum of 2,500 acre-feet of Nipomo Supplemental Water each Year. However, the NMMA Technical Group may require NCSD in any given Year to purchase and transmit to the NMMA an amount in excess of 2,500 acre-feet and up to the maximum amount of Nipomo Supplemental Water which the NCSD is entitled to receive under the MOU if the Technical Group concludes that such an amount is necessary to protect or sustain Groundwater supplies in the NMMA. The NMMA Technical Group also may periodically reduce the required amount of Nipomo Supplemental Water used in the NMMA so long as it finds that groundwater supplies in the NMMA are not endangered in any way or to any degree whatsoever by such a reduction."

> "Once the Nipomo Supplemental Water is capable of being delivered, those certain Stipulating Parties listed below shall purchase the following portions of the Nipomo Supplemental Water Yearly:
>
> NCSD - 66.68%
> Woodlands Mutual Water Company - 16.66%
> SCWC - 8.33%
> Rural Water Company - 8.33%"

The Judgment states: "The court approves the Stipulation, orders the Stipulating Parties only to comply with each and every term thereof, and incorporates the same herein as though set forth in full." Thus, the terms of the Stipulation as herein stated must be complied with in accordance with the order of the Court.

NCSD completed the initial phase of the planned 3,000 AFY Nipomo Supplemental Water Project (NSWP) in 2015 and began delivering water onto the NMMA on July 2, 2015. With the initiation of NSWP deliveries, a minimum purchase schedule 'time clock' was triggered in accordance with the NCSD and City of Santa Maria Wholesale Agreement (NCSD and City of Santa Maria, 2013). Commencing no later than delivery year eleven (2026), NCSD is required to purchase from the City of Santa Maria (and import to the NMMA) a minimum of 2,500 AFY.

The initial phase of the NSWP included the construction of a two-mile long pipeline that traverses under the Santa Maria River, across the Santa Barbara/San Luis Obispo County boundary and interconnects the City of Santa Maria's water system to NCSD's. This interconnect provides the NMMA with its first and only means of importing water and links the NMMA via the City of Santa Maria and the State Water Project to Northern California. This pipe is capable of delivering 6,200 AFY. The License Agreement the County of Santa Barbara issued to facilitate the pipeline crossing the County's flood control levee constrains the project to a maximum delivery of 3,000 AFY.

NCSD is planning additional phases of work to ramp up capacity well ahead of the minimum purchase schedule contained in the Wholesale Agreement.

1.1.6. Other Groundwater Management Activities

San Luis Obispo County Public Works Department (SLO PWD) performs, among other activities, services related to administration and operation of various water and wastewater wholesale and retail facilities, as well as long term master water planning. Consistent with these activities, SLO PDW is the lead agency for the 2019 San Luis Obispo County Integrated Regional Water Management (IRWM) Plan, which covers the SLO County region. The revised SLO County Final 2019 IRWM Plan was completed in August 2020.

The SLO County IRWM Region received $1 million in Proposition 84 Round 2 Planning Grant funding in late 2012. This funding was set aside for updating the County's 2007 IRWM Plan and for six planning studies, including characterization of the SMGB, to help to address key planning needs in the county. The County's groundwater basin characterization activities, which are also known as the SMGB Characterization and Planning Activities Study, were intended to support development of a groundwater flow model and Salt and Nutrient Management Plan for the NCMA and NMMA portions of the SMGB (FUGRO, 2015).

As part of the County's groundwater basin characterization activities, the TG previously provided the County's groundwater basin characterization consultant with various data, including, but not limited to, lithologic (well) logs, geophysical logs, and pump efficiency and aquifer test results. And, NCSD and GSWC provided access in 2014 for aquifer testing of selected wells during execution of the groundwater basin characterization activities. The TG subsequently provided comments on draft versions of the SMGB Characterization and Planning Activities Study report, which was made available to the public and the TG as a final version in January 2016.

SLO County began developing a regional groundwater model in 2017. The active model domain covers the NCMA, NMMA, and a portion of the SMVMA north of the Santa Maria River. The model utilizes a significant amount of information presented in the SMGB Characterization and Planning Activities Study report among other sources. The TG provided model input data and a TG representative provided input via participation in frequent meetings. The TG also provided other feedback on the model development process in 2017 and 2018 by reviewing key documents and providing written comments to

the groundwater modeling team, and provided comments and concerns during the final model calibration phase in 2019. The model was completed in 2019 (Geoscience, 2019).

SLO PWD is also taking a leading role with respect to initiating the implementation of the state of California's Sustainable Groundwater Management Act (SGMA) in applicable groundwater basins. SGMA, which was signed into law in September 2014 and enacted beginning January 1, 2015, established a new structure for managing California's groundwater resources at a local level. SGMA requires the formation of locally-controlled groundwater sustainability agencies (GSAs) in certain groundwater basins. And, SGMA requires that GSAs develop and implement a groundwater sustainability plan (GSP) to meet the sustainability goal of the basin or subbasin, to ensure that it is operated within its sustainable yield, without causing undesirable results.

In 2015, to comply with SGMA requirements, the SLO County and Flood Control District Board adopted a strategy which seeks to establish community focused GSAs based on cooperative interagency and stakeholder relationships. Although most of the Santa Maria Valley Groundwater Basin is exempt from the SGMA, there are non-adjudicated portions (i.e., "fringe areas") that lie outside of the adjudicated portion of the basin that are subject to SGMA (GSI, 2018a and 2018b; SLO, 2019b). These fringe areas include an area of about 6,200 acres east of Nipomo Creek and the NMMA, known as the Nipomo Valley fringe area. Based on DWR's decisions in February 2019 on the final 2019 basin boundary modification processes, three of the Santa Maria River Valley Basin fringe areas, including the Nipomo Valley, were removed from the basin. As a result, groundwater in the Nipomo Valley will not be subject to the SGMA process. The TG reviewed and provided comments to the public draft documents prepared by the SLO County for the basin boundary modification.

1.2. *Reporting*

The Annual Report is prepared and internally reviewed by the TG and is subsequently made available to the Court and public, as described below.

1.2.1. Description of the Nipomo Mesa Management Area Technical Group

The TG is composed of representatives of each of the Monitoring Parties: NCSD, GSWC, P66 (formerly named ConocoPhillips), Woodlands; and an agricultural user that is also a Stipulating Party. The agricultural overlying landowner representative is not responsible for funding a portion of the TG's efforts.

In October 2015, GSWC acquired the Rural Water Company (RWC) drinking water system, not including the wastewater treatment and disposal facilities. Because GSWC began operating the former RWC drinking water system at that time, late in the calendar year, and to provide greater clarity, attribution to RWC was made throughout the 2015 Annual Report wherever possible. In the interest of simplification, references in subsequent annual reports to RWC have been removed and replaced with references to GSWC.

The TG is responsible for developing the Monitoring Program, implementing the Monitoring Program, and preparing the Annual Report. Unanimous approval on all material issued is obtained by way of a single vote per Monitoring Party. If the TG is unable to obtain unanimous approval, the matter may be taken to the Court for resolution.

The Monitoring Parties may hire individuals or consulting firms to assist in the preparation of the Monitoring Program and Annual Reports (the Judgment describes these individuals or consulting firms as

the "Management Area Engineer"). The Monitoring Parties' representatives to the TG, as a group, function as the Management Area Engineer (Table 1-1) and attend monthly meetings where data collection and preparation of the Annual Report are the primary focus. The Monitoring Parties have the sole discretion to select, retain, and replace the Management Area Engineer.

Table 1-1. NMMA Technical Group

Monitoring Parties	Management Area Engineer Representatives
Agricultural Overlying Landowner	Jacqueline Frederick, J.D.
Golden State Water Company	Toby Moore, Ph.D., P.G., C.H.G.
	Robert Collar, P.G., C.H.G.
Nipomo Community Services District	Brad Newton, Ph.D., P.G.
Phillips 66	Steve Bachman, Ph.D., P.G.
	Norm Brown, Ph.D., P.G.
Woodlands	Rob Miller, P.E.
	Tim Cleath, P.G., C.H.G., C.E.G.
Note: Each Monitoring Party has a single vote in order to unanimously approve final work product.	

1.2.2. Coordination with Northern Cities and Santa Maria Valley Management Areas

The NMMA is bounded on the north by the NCMA and on the south by the SMVMA (Figure 1-1). The TG recognizes that collaborative technical efforts with the NCMA and SMVMA technical groups will be important to the appropriate management of the basin. Examples of collaborative efforts include:

- Sharing and evaluating technical data throughout the year, and during the preparation of Annual Reports,
- Opportunities for review and comment on technical work products,
- Sharing of protocols and standards for data collection and analysis, and
- Consideration of jointly-pursued projects and grant opportunities.

As the conditions of the existing basin underlying the NMMA are described in subsequent sections, periodic reference will be made to the Annual Reports produced by the two neighboring technical groups.

1.2.3. Distribution

The Annual Report for each calendar year (January 1 to December 31) is completed by April 30th of the following calendar year and submitted to the Court. Beginning in 2016, and in compliance with SGMA, the Annual Report, along with select information extracted from the Annual Report, has been published to the California Department of Water Resources' website for adjudicated groundwater basins (DWR, 2019).

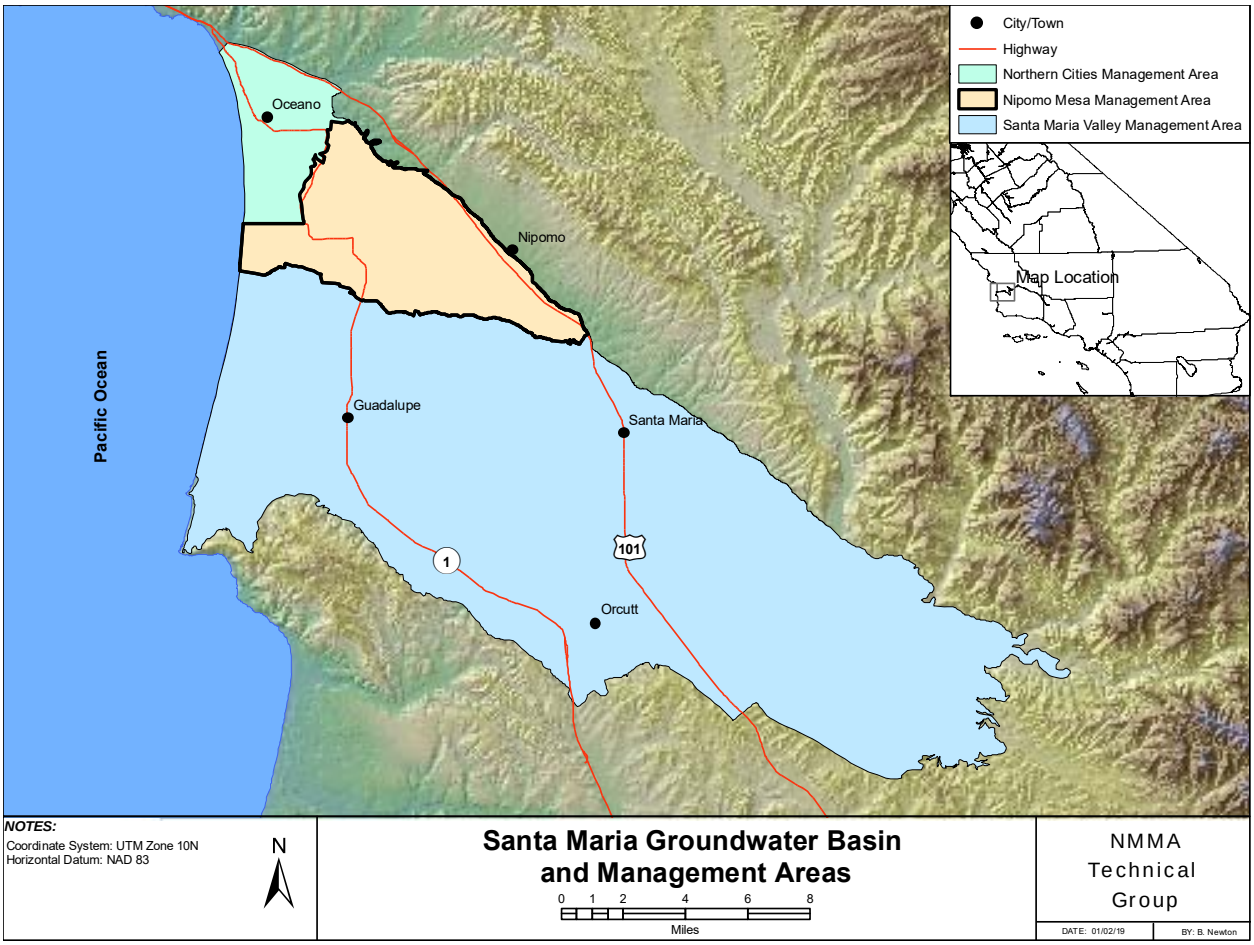


Figure 1-1. Santa Maria Groundwater Basin and Management Areas

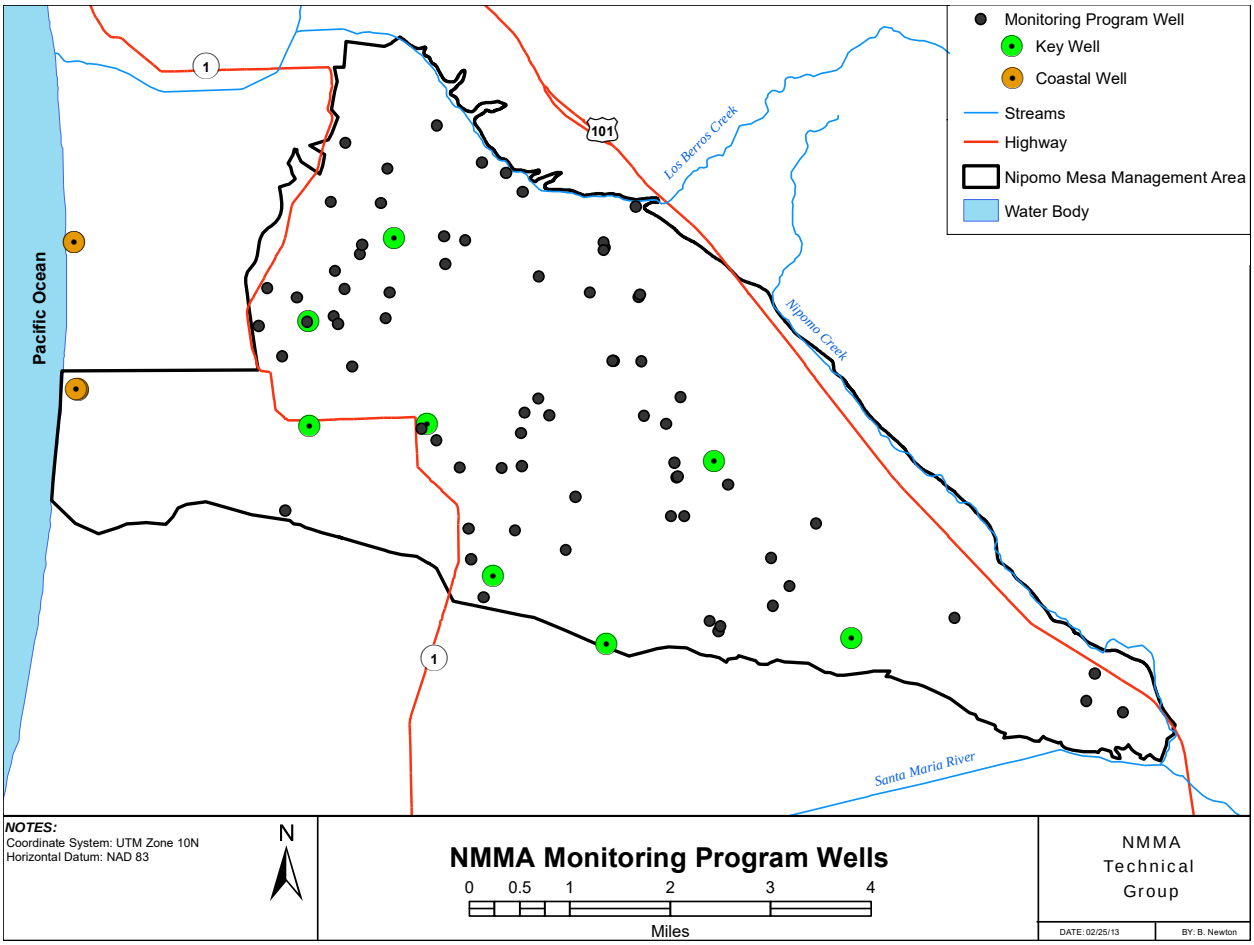


Figure 1-2. Wells identified in the NMMA Monitoring Program (NMMA, 2009)

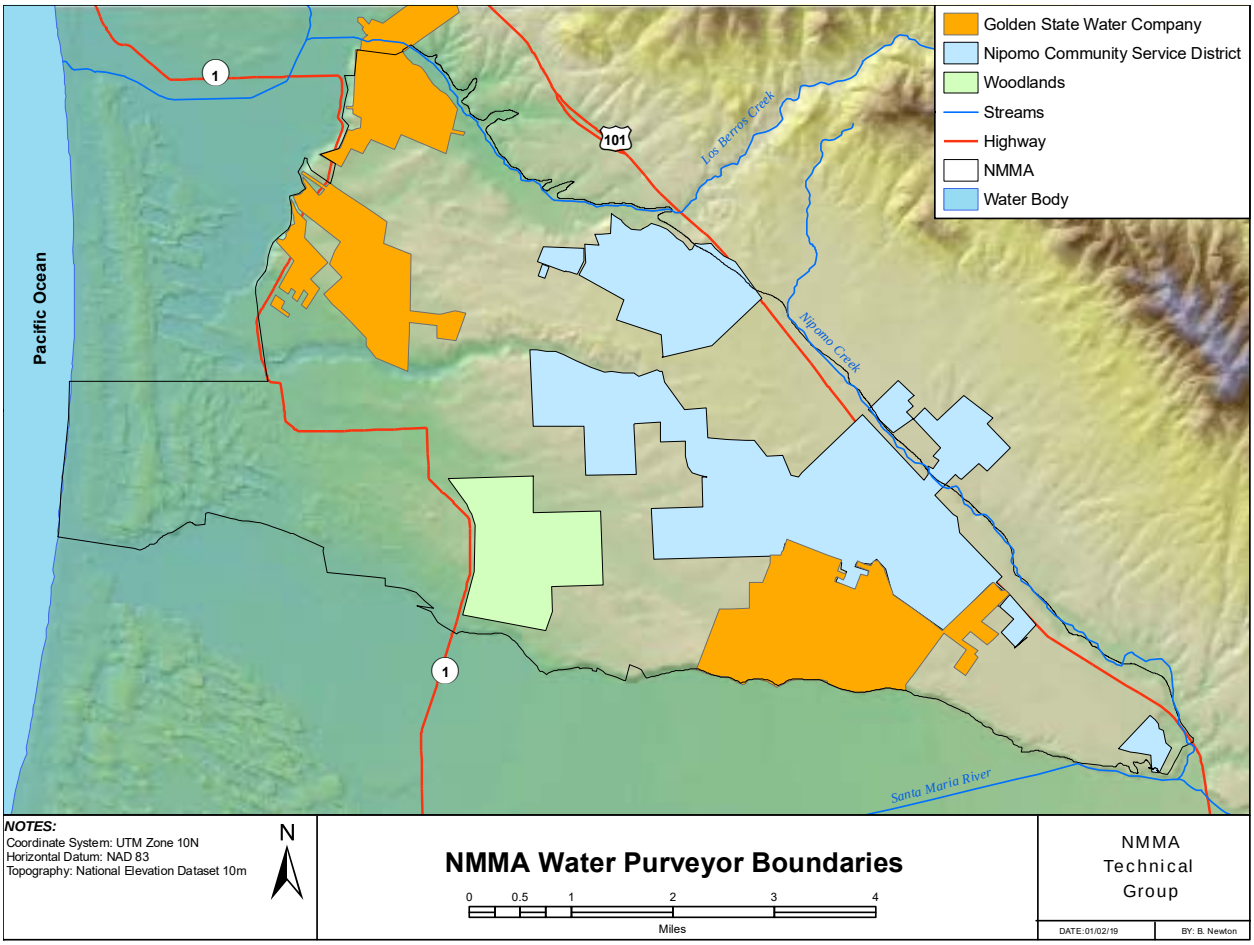


Figure 1-3. NMMA Water Purveyor Boundaries

2. Basin Description

The SMGB, covering a surface area of approximately 256 square miles, is bounded on the north by the San Luis and Santa Lucia mountain ranges, on the south by the Casmalia-Solomon Hills, on the east by the San Rafael Mountains, and on the west by the Pacific Ocean. The basin receives water from rainfall directly and runoff from several major watersheds drained by the Cuyama River, Sisquoc River, Arroyo Grande Creek, and Pismo Creek, as well as many minor tributary watersheds. Sediment eroded from these nearby mountains and deposited in the Santa Maria Valley formed beds of unconsolidated alluvium, averaging 1,000 feet in depth, with maximum depths up to 2,800 feet and comprise the principal production aquifers from which water is extracted to supply the regional demand. Three management areas were defined to recognize that the development and use of groundwater, State Water Project water, surface water storage, and treatment and distribution facilities have historically been financed and managed separately, yet they are all underlain by, or contribute to the supplies within, the same groundwater basin.

2.1. *Physical Setting*

The NMMA has physical characteristics which are distinct from the other two management areas. It is largely a mesa area that is north of the Santa Maria River, west of the San Luis Range and south of the Arroyo Grande Creek, with a lower lying coastal environment to the west. The mesa was formed when the Santa Maria River and Arroyo Grande Creek eroded the surrounding area. The current coastal environment developed subsequently, is composed of beach dunes and lakes, and is a recreational area with sensitive species habitat. Locally, hummocky topography on the mesa area reflects the older dune deposits. Black Lake Canyon is an erosional feature north-central in the NMMA and where the dune deposit thickness is exposed. Los Berros Creek valley is along the north side of the NMMA and the Nipomo Creek valley is along the east side of the NMMA.

2.1.1. Area

The NMMA covers approximately 33 square miles or 21,590 acres, which accounts for approximately 13 percent of the overall SMGB (164,000 acres). Approximately 13,500 acres on the NMMA, or 64 percent, is developed land requiring water pumped from the underlying aquifers to sustain the agricultural and urban development. In the 2018 Annual Report, the common boundary between the NMMA and the SMVMA was changed to follow parcels, in coordination with SMVMA Engineer.

2.1.2. General Land Use

Land uses include agricultural, urban (residential and commercial), and native or undeveloped areas. There are also three golf courses and one oil-processing facility. The crop types grown in the order of largest acreage were strawberries and cane berries, nursery, rotational vegetables (broccoli, lettuce, etc.) avocado and lemon, pasture, deciduous and grapes, and most recently cannabis. The most recent survey of crops was performed in 2020.

2.2. *Climate*

A Mediterranean-like climate persists throughout the area with cool moist winters and warm dry summers. During the summer months, the warm air inland rises and draws in the relatively cooler marine layer near the coastline keeping summer cooler and providing moisture for plant growth, while in the winter months the relatively warmer ocean temperature keeps the winter warmer. The average annual maximum temperature is 69 degrees Fahrenheit, and the average annual minimum temperature is 46 degrees Fahrenheit. Precipitation normally occurs as rainfall between November and April when cyclonic storms originating in the Pacific Ocean move onto the continent. The long-term (1958 to 2020) average annual rainfall reported at CDF Nipomo Rain Gauge #151.1 is 15.65 inches and is representative of the larger area of the NMMA. Rainfall variability exists across the NMMA and rainfall increases in the foothills and mountains due to the orographic (elevation) effect. The long-term average annual evapotranspiration from standard turf (a well-watered, actively growing, closely clipped grass that is completely shading the soil) is 46.3 inches, and is referred to as the reference evapotranspiration of Reference Zone 3 (Table 2-1).

Table 2-1. Climate in the Nipomo Mesa Area

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max Temp (Fahrenheit)[1]	63.3	64.3	64.8	66.9	68.3	70.6	72.8	73.2	74.4	73.5	69.2	64.3	68.8
Average Min Temp (Fahrenheit)[1]	39.0	40.9	42.0	43.5	46.8	50.1	53.1	53.6	52.2	48.1	42.6	38.7	45.9
Average Rainfall (inches)[2]	3.27	3.18	2.81	1.08	0.27	0.04	0.02	0.03	0.18	0.71	1.52	2.52	15.65
Monthly Average Reference Evapotranspiration (inches)[3]	1.86	2.24	3.72	4.80	5.27	5.70	5.58	5.27	4.20	3.41	2.40	1.86	46.3
Monthly Average Reference Evapotranspiration (inches)[4]	2.13	2.87	2.96	4.41	5.7	5.02	5.09	4.56	3.16	2.98	2.37	2.09	43.34
Monthly Average Reference Evapotranspiration (inches)[5]	3.81	3.65	3.90	4.38	4.90	4.57	4.49	4.26	3.80	3.73	3.60	3.51	48.60

Notes:

1. Data from Santa Maria Airport - Nearest long-term temperature record to the NMMA in the Western Regional Climate Center is from the Santa Maria Airport, station #47946. The average is from 1948 through 2016. Source: http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7946.
2. Data from CDF Nipomo Rain Gauge 151.1 (1959 to 2020).
3. Data from California Irrigation Management Information System (CIMIS) – Reference Zone 3 Source: http://wwwcimis.water.ca.gov/App_Themes/images/etozonemap.jpg
4. Data from California Irrigation Management Information System (CIMIS) calculated from monthly evapotranspiration (ET_o) for the period of record at Station 202 Nipomo (June 2006 to December 2020), and the station is regularly over-sprayed by irrigation. Source: http://www.cimis.water.ca.gov/cimis/data.jsp
5. Data from California Irrigation Management Information System (CIMIS), calculated from monthly evapotranspiration (ET_o) for the period of record at Station 232 Santa Maria II (April 2011 to December 2020). Source: http://www.cimis.water.ca.gov/cimis/data.jsp

2.3. *Hydrogeology*

Groundwater management is founded upon the current understanding of the geology and the groundwater flow regime specific to the NMMA. Two recent investigations of the hydrogeology within the SMGB build on the historic understanding. The Geoscience Phase 1B hydrogeologic investigation led to the preparation of a conceptual hydrogeologic model across a study area that includes the NMMA (Geoscience, 2018). The City of Pismo Beach contracted with Ramboll Group to perform "SkyTEM" aerial resistivity survey of the non-urban areas of South County in 2020.

2.3.1. Geology

The NMMA overlies part of the northwest portion of the SMGB (Figure 1-1). The sedimentary deposits comprising the principal production aquifers of the groundwater basin underlying the NMMA include the Pliocene age Careaga Formation and the Plio-Pleistocene age Paso Robles Formation. These basin sedimentary formations are overlain by Quaternary age dune sands in the NMMA, and by the

Quaternary age alluvium in Los Berros Creek valley (in the northern perimeter of the NMMA) and in Nipomo Creek valley (on the east perimeter of the NMMA) which, when saturated, comprise shallow production aquifers locally. These sedimentary beds have been deposited within the Santa Maria Valley synclinal basin. The pre-Quaternary age sedimentary beds have been displaced by faults within and on the perimeter of the basin (Figure 2-1). Further information on these geologic formations and the geologic structure is available in the 2nd Annual Report – Calendar Year 2009 (NMMA, 2010). Cross sections developed by the TG characterize portions of the NMMA boundary, were prepared to advance the understanding of hydrogeology, and are plotted on the generalized geologic map (Figure 2-1).

Northwestern Boundary

The A-A' geologic cross section generally follows the northwestern boundary of the NMMA from Los Berros Creek and Nipomo Hill in the north to Black Lake Canyon and State Route 1 (Figure 2-2). The cross section was prepared based on well logs and geologic maps as a foundation for evaluating groundwater flow in this area. It was developed primarily using 19 wells distributed from north to south along, and located within roughly one half mile east (primarily) and west of the approximately 4-mile-long cross section. The wells and associated lithology were not included on the cross section at that time because they were considered confidential according to the California Water Code.

The cross section generally shows the land surface, relatively permeable aquifers tapped by many wells in the area that are underlain by relatively impermeable bedrock of the Franciscan Formation, and the Oceano fault. Younger Alluvium, Dune Sand and Older Dune Sand deposits (the Dune Sand and Older Dune Sand Formations are collectively referred to in this report as the "shallow dune sand aquifer"), Paso Robles Formation (clay and gravel beds), and underlying marine sands of the Careaga Formation contain aquifers. The base of the Older Dune Sand Formation slopes to the southwest from where it laps onto the Nipomo Hill bedrock at an elevation of more than 100 feet above sea level to an elevation of about 100 feet below sea level at the southern end of the cross section. The Paso Robles and Careaga Formation beds also slope to the southwest from Nipomo Hill toward Black Lake Canyon, where the base of these formations drops to an elevation of at least about 400 feet below sea level but is not well defined.

The relatively impermeable bedrock is comprised of the Cretaceous and Jurassic age Franciscan Complex rock and older sedimentary beds (early Pliocene age Sisquoc Formation). Very few wells produce groundwater from the bedrock in the NMMA. Franciscan Complex bedrock is exposed on the lower slope of Nipomo Hill at Los Berros Road and remains at relatively shallow depths, within a few hundred feet of the land surface, toward the south to Woodland Hills Road. Older sedimentary beds that thicken toward the coast, have low permeability and underlie the principal aquifers. These older sedimentary beds, though not as impermeable as the Franciscan Complex rock, contain poorer quality groundwater than the overlying Paso Robles and Careaga Formations comprising the principal production aquifers.

Southern Boundary

The B-B' geologic cross section generally follows the southern boundary of the NMMA and is based on available subsurface information from exploratory oil well logs, water well logs, published geology and hydrogeologic reports, and geophysical surveys (Figure 2-3). The aquifers depicted extend both to the south and north of the SMVMA - NMMA boundary and groundwater flow can be expected to occur across this boundary. Groundwater flow may be impeded by geologic features including near-vertical boundaries such as faults and near-horizontal aquitards that are illustrated on this cross section.

The stratigraphy in this area is similar to that described for the A-A' cross-section. Here however, the thickness of the deep aquifer is much greater, on the order of 500 feet in many places. The shallow dune sand aquifer, overlying the deep aquifer, increases in saturated thickness from approximately 50 feet on the east to 300 feet on the west.

Cross section B-B' shows the land surface, the relatively permeable aquifers utilized by many wells in the area, and the underlying, relatively impermeable, undifferentiated Tertiary sedimentary beds. Younger Alluvium, Older Dune Sand Formation, Paso Robles Formation (clay and gravel beds), and underlying marine sands of the Careaga Formation contain aquifers. The base of the Older Dune Sand slopes toward the coast, from where it laps onto the Franciscan bedrock east of the Wilmar Avenue fault near Highway 101 at an elevation of more than 100 feet above sea level to an elevation of about 100 feet below sea level at the western end of the cross section. The Paso Robles and Careaga Formation beds also slope toward the coast, where the base of these formations is at an elevation of at least about 800 feet below sea level. The Oceano, Santa Maria River, and Wilmar Avenue faults appear to displace the basin sediments with an apparent upward offset to the east.

Northern Boundary

Geologic cross-section C-C' generally follows the northern edge of the Nipomo Mesa, from Nipomo Hill at the west end to Summit Station at the east end, along the Los Berros Creek valley (Figure 2-4). The cross section was prepared based on well logs and geologic maps as a foundation for understanding basin characteristics and to evaluate groundwater flow from the Los Berros Creek alluvium into aquifers within the NMMA. The cross section shows the water-bearing formations above the underlying bedrock.

In addition to the alluvium, the water-bearing formations along cross-section C-C' include the Older Dune Sand Formation and clay and gravel beds of the Paso Robles Formation. The underlying Careaga Formation appears to be absent or very thin in this area. The base of the Dune Sand slopes to the southwest, orthogonal to cross-section C-C', from where it laps onto the Nipomo Hill bedrock at an elevation of more than 100 feet above sea level, to near El Campo Road at an elevation of about 50 feet above sea level. The base of the Paso Robles Formation from El Campo Road to Pomeroy Road is 50-100 feet below sea level and rises east from Pomeroy Road to an elevation of more than 150 feet above sea level.

The bedrock along cross-section C-C' is primarily the Cretaceous age Franciscan Assemblage rock, although drilling logs identify "blue clay" and "shale" that could be more recent low permeability consolidated sedimentary beds of the Sisquoc and possibly the Monterey Formations.

The TG's understanding of the subsurface conditions indicated by a review of geologic maps (Hall, 1974; DWR, 1970; and DWR, 2002) and well completion reports suggests that the base of the permeable sediments in the Nipomo Hill area is approximately 100 feet above sea level. This interpretation differs from the 2015 SMGB characterization study (FUGRO, 2015) which represents the base of the permeable sediments in this area to be much deeper (100 feet below sea level or deeper).

Eastern Boundary

Geologic cross-section D-D', close to the eastern boundary of the NMMA from the Santa Maria River valley to Los Berros Creek valley, illustrates the uplifted basin sediments resting on predominantly Franciscan Assemblage bedrock (Figure 2-5). Basin sediments along this cross-section include Older Dune Sands Formation, Paso Robles Formation, and a relatively thin section of the Careaga Formation. The base of the basin sediments is at an elevation of about 150 feet above sea level from Los Berros

Creek to where Highway 101 veers to the east off of the cross-section alignment. Southeast of this location, the base of the basin sediments deepens to an elevation of about 50 feet above sea level.

The potentially water-bearing formations along cross-section D-D' include the Older Dune Sand Formation, clay and gravel beds of the Paso Robles Formation, and a thin (20-50 feet thick) marine sand unit of the Careaga Formation. The Dune Sands deposits are typically unsaturated and the Paso Robles Formation terrestrial sedimentary beds are only partially unsaturated and tend to be fine grained. The Careaga sands are saturated.

Differentiation of Older Dune Sand Formation from Paso Robles Formation

The geologic map (Figure 2-1) shows that Dune Sand and Older Dune Sand Formation extend over the entire mesa area, except for the Los Berros Creek valley and a small area in Black Lake Canyon. The Dune Sand Formation includes active sand dunes whereas the Older Dune Sand Formation is comprised of typically very fine to medium grained sands with some interbedded older soil horizons and inter-dune silts and clays. The elevation of the contact between Older Dune Sand Formation and the Paso Robles Formation was determined in each well where possible (Figure 2-6).

The geologic cross sections in the Santa Maria Groundwater Basin Characterization and Planning Activities Study illustrate that the Older Dune Sand Formation deepen toward the southwest. Beneath the Older Dune Sand Formation, these cross sections also show that there are clayey sediments that separate shallow dune sand aquifer from the deeper Paso Robles Formation aquifers in most areas (Fugro, 2015). The area of significant saturated shallow dune sand aquifer thickness (typically greater than 50 feet), where wells can produce more than a few gallons per minute, is in the southwest portion of the NMMA.

Faulting

The Oceano fault (U.S. Geological Survey and California Geological Survey, 2006) trends northwest-southeast as it crosses the NMMA boundary near Woodland Hills Road and Kip Lane. Vertical offset of the Paso Robles and Careaga Formations and the Older Dune Sand Formation along the northwestern boundary of the NMMA is approximately 150 feet (Figure 2-2). A seismic (geophysical) survey line transecting the NMMA suggests that the Oceano fault displaced Older Dune Sand Formation (PG&E, 2014), but the nature of offset of the Paso Robles Formation and the Older Dune Sand Formation along the southern boundary of the NMMA, if any, is not known (Figure 2-3). Vertical offset of the Tertiary - Quaternary contact is estimated to be 250-415 feet and an even greater offset is observed at the top of the Franciscan Assemblage (Hanson et al, 1994). The PG&E fault maps for the Offshore Geologic Mapping Study show the offshore Oceano fault as comprised of two splays near the coastline, which extend onshore through the NMMA: the Oceano fault and the Santa Maria River fault. Offset along the Oceano fault has relatively down-dropped aquifers on the southwest side of the structure. The Santa Maria River fault strand is shown to split off of the Oceano fault about ½ mile east of the coast and diverges north from the Oceano fault as it crosses the NMMA (PG&E, 2014).

Offshore, a boundary or change to the groundwater basin may be closer to shore than previously understood. Formerly, the basin limit was considered to be the Hosgri fault, which is about 10 miles offshore. However, the PG&E study recognizes the Shoreline fault, about four miles west of the coastline, as an active fault with significant displacement of basin sediments (PG&E, 2014).

2.3.2. Groundwater Flow Regime

Groundwater flows within the NMMA from recharge sources toward areas of groundwater discharge. Groundwater flow is controlled by:

- hydraulic head (e.g., recharge and pumping),
- impediments to flow (e.g., aquitard),
- preferential flow paths (e.g., buried gravel channel deposits), and
- geology (e.g., geologic facies, contacts, or tilted beds).

Groundwater elevation hydrographs show measured groundwater elevations over time within the specific aquifers tapped by a well and are site-specific for specific times. Groundwater elevation measurements within an aquifer are mapped and interpreted to develop groundwater contours (see Section 6.1.3 Groundwater Contours and Pumping Depressions). Groundwater contour maps provide an interpreted understanding of the hydraulic head conditions within specific aquifer zones.

The following paragraphs present our current understanding of the groundwater flow regime. This understanding includes groundwater flow along the boundaries of the NMMA and groundwater flow within the NMMA.

Groundwater Flow at the NMMA Boundary

The NMMA area encompasses only part of the SMGB. Groundwater flow between adjacent portions of the basin can be expected to occur, but less subsurface flow is likely to occur along bedrock basin edges than between areas where there is continuity of the aquifers.

The eastern boundary of the NMMA is approximately coincident with Nipomo Creek in Nipomo Valley (Figure 2-5). Groundwater recharge from the creek may occur through the shallow alluvial deposits but minimal subsurface inflow into the NMMA area occurs from the bedrock underlying the creek.

The northern boundary of the NMMA is coincident with the northern edge of the Los Berros Creek valley alluvium – Paso Robles Formation boundary within Los Berros Creek valley (Figure 2-4). The alluvium receives recharge from Los Berros Creek. Formations north of the Los Berros Creek valley include sedimentary deposits and underlying Franciscan Complex, where groundwater flow from these formations to the NMMA is likely negligible.

The northwest boundary of the NMMA is at the base of the mesa along the Cienega Valley of Arroyo Grande Creek. Groundwater flow across this boundary can occur, and may be affected by the Oceano and Santa Maria River faults. There is no appreciable flow from the bedrock outcrop at Nipomo Hill. A cross section along the north edge of the mesa was developed to aid in characterization of the subsurface geology (Figure 2-2). Flow from the shallow dune sand aquifer recharges the dune lakes west of this boundary. Hydrogeologic parameters and groundwater level contour maps are the basis for evaluation of the amount of groundwater flow that occurs across this interface between the NMMA and the NCMA (see Section 5.2 Subsurface Flow).

The western boundary of the NMMA is a combination of the east-west R3 administrative line (San Luis Obispo County land use zoning) from the Cienega Valley to the coast and south along the coastline. Groundwater flow has historically occurred from land to the ocean across this boundary. This boundary is particularly important because a reversal of flow across this boundary may result in seawater intrusion.

Along the coastal portion of the NMMA, there is a potential for seawater intrusion to occur. The risk of seawater intrusion into NMMA water supply aquifers is a function of the groundwater elevation, the depth of the aquifers, the structural geology and stratigraphy, and the location of a seawater-fresh groundwater interface. It is not known if the aquifers are exposed on the seafloor along the coastal

portion of the NMMA (PG&E, 2014). The nearest known aquifer exposure on the seafloor occurs to the north of the NMMA area. A further risk of seawater intrusion to NMMA water supply could exist along vertical migration pathways in a near coastal zone or lateral intrusion from the adjacent management areas. Seawater intrusion is minimized where offshore gradients exist, and could occur most rapidly if the onshore aquifers are pumped in excess of fresh water replenishment.

The southern boundary of the NMMA is at the base of the mesa along the Santa Maria River Valley. Groundwater flow across this boundary can occur and may be impeded by the Oceano fault. A cross section along this boundary has been developed to aid in characterization of the subsurface geology. Hydrogeologic parameters, if available, may then be used, along with groundwater level contour maps, to estimate the amount of flow that occurs at this interface between the NMMA and the SMVMA.

Groundwater from the shallow dune sand aquifer has been observed to discharge into the streams that follow the base of the mesa on the northwest, southeast and southwest, including: an irrigation drainage ditch in the Cienega Valley west of Halcyon Road, Nipomo Creek downstream of Nipomo, the base of the mesa from Nipomo Creek to Division Road, and Little Oso Flaco Creek west of Highway 1 (Althouse and Meade, 2012). Groundwater discharges as springs from the shallow dune sand aquifer, into drainages north of the Summit Station Road area, and along the southern slope of Nipomo Creek Valley.

Groundwater flow within the NMMA

Groundwater flow within the NMMA is influenced by geologic features, and recharge and discharge points. Laterally discontinuous aquitards within the NMMA restrict vertical groundwater flow particularly between the shallow and deep aquifers. Recharge sources include major point sources (Los Berros Creek, stormwater runoff basins, and wastewater percolation ponds) and distributed recharge sources (septic systems, percolation of rainfall, and irrigation return flows). Discharge locations include pumping wells, areas of springs and seeps, and phreatophyte consumption.

Previous geological studies identify multiple faults that transect the NMMA (Figure 2-1). The faults and the offset of beds could impede flow within basin sedimentary deposits. Recent investigations further explore the possibility that these faults could act as leaky barriers to groundwater flow (Fugro, 2015; Geoscience, 2018).

Aquitards that influence vertical migration of groundwater between aquifers can have varying thicknesses and hydraulic conductivities as demonstrated in the geologic cross-sections (Figure 2-2, Figure 2-3, Figure 2-4, Figure 2-5). A significant aquitard exists in some areas underneath the base of the Older Dune Sand formation that confines groundwater in underlying aquifers. Locally groundwater may be perched above the aquitard. Some leakage is likely to occur where the aquitard hydraulic conductivity increases and thickness decreases. The extent and thickness of the aquitards have been defined in some places based on well logs and correlations or inferred based on groundwater levels. Aquitard extent and variations in permeability are interpreted for the regional groundwater flow model, which includes the NMMA (Fugro, 2015; Geoscience, 2018).

Shallow aquifer groundwater elevation reflect unconfined conditions. As described previously, where shallow aquifer groundwater reaches the ground surface, groundwater discharges to springs and creeks. This drainage is observed within and adjacent to the NMMA, in Black Lake Canyon, Little Oso Flaco Creek, and in the nearby coastal dune lakes. The standing water in these surface water features reflects the groundwater elevation in the shallow aquifer. The water levels in these surface water features have been intermittently monitored and can be used to represent the shallow aquifer groundwater elevation if recent measurements are available. Perched groundwater occurs locally where fine-grained

lenses occur within the shallow aquifer. Perching layers and relatively high groundwater elevation have been observed in the southeastern portion of the NMMA and in the northern portion of the NMMA, north of Halcyon Road.

Groundwater flow from the Los Berros Creek alluvium toward the NMMA can occur where the alluvium overlies or is in contact with the shallow and deep aquifers along the southern edge of the Los Berros Valley. Hydrogeologic parameters can then be used, along with groundwater levels, to estimate the amount of groundwater flow that occurs at Los Berros Valley alluvium and NMMA basin sediments interface. The TG is evaluating the alluvial valley aquifer and seasonal conditions.

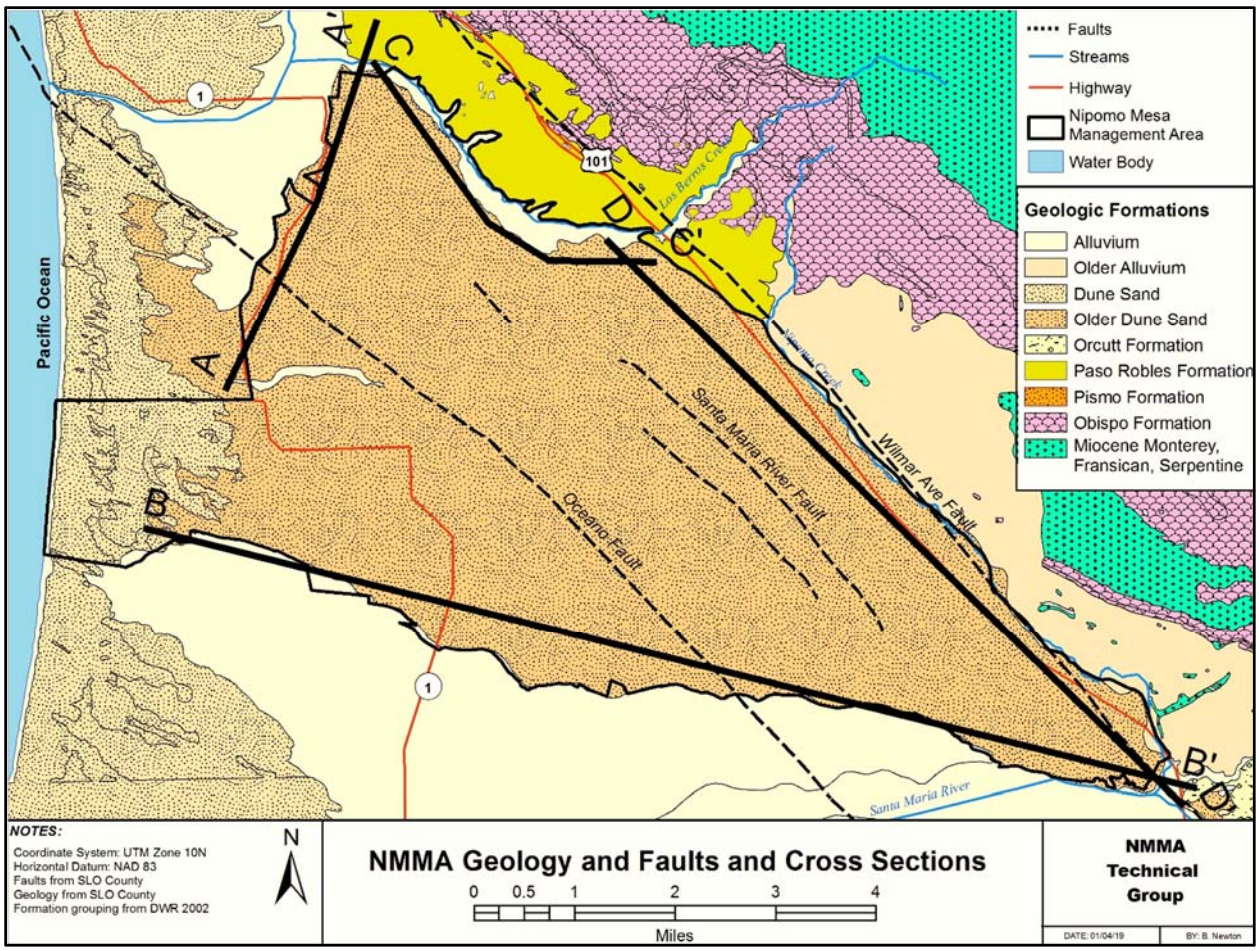


Figure 2-1. NMMA Geology and Faults and Cross Sections

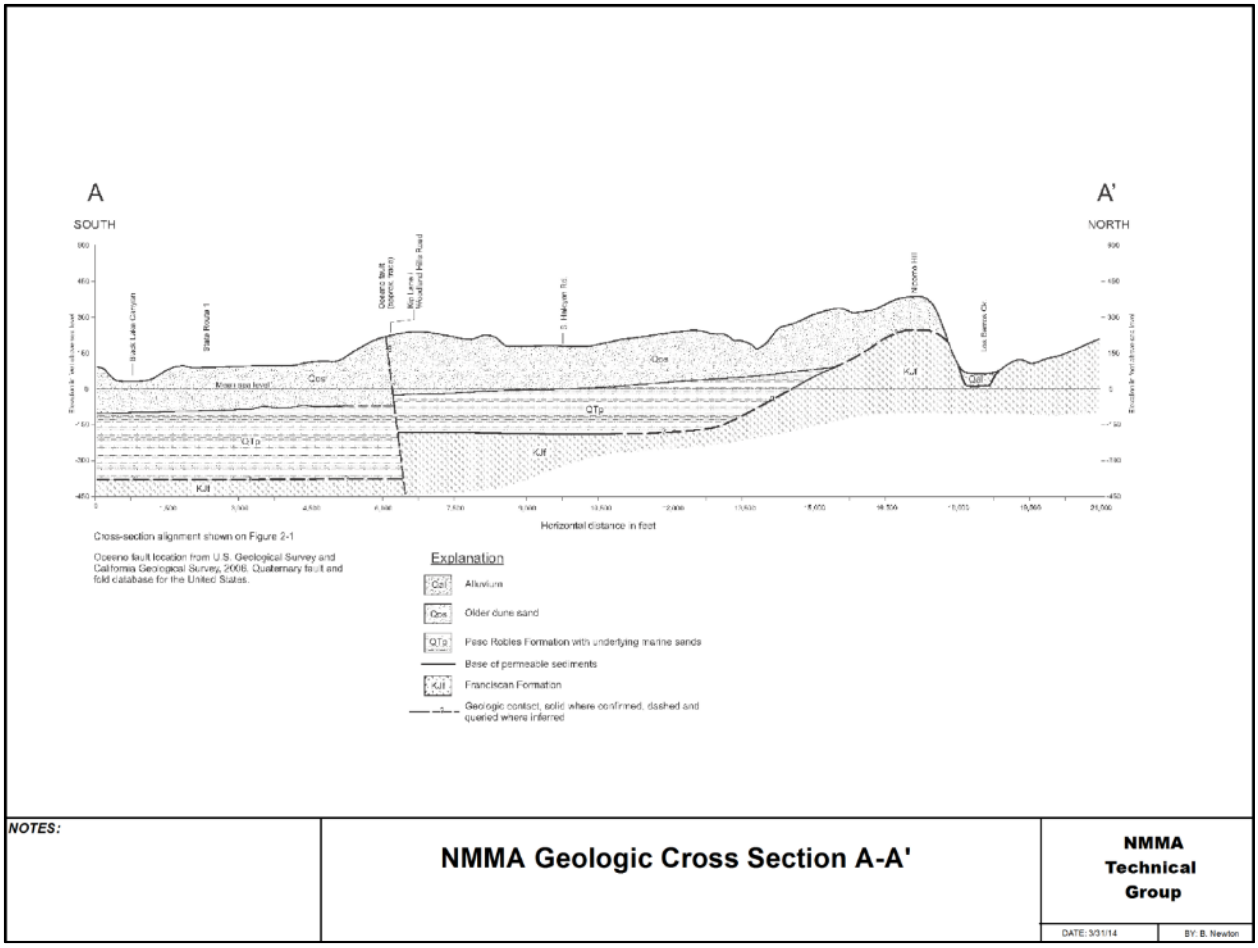
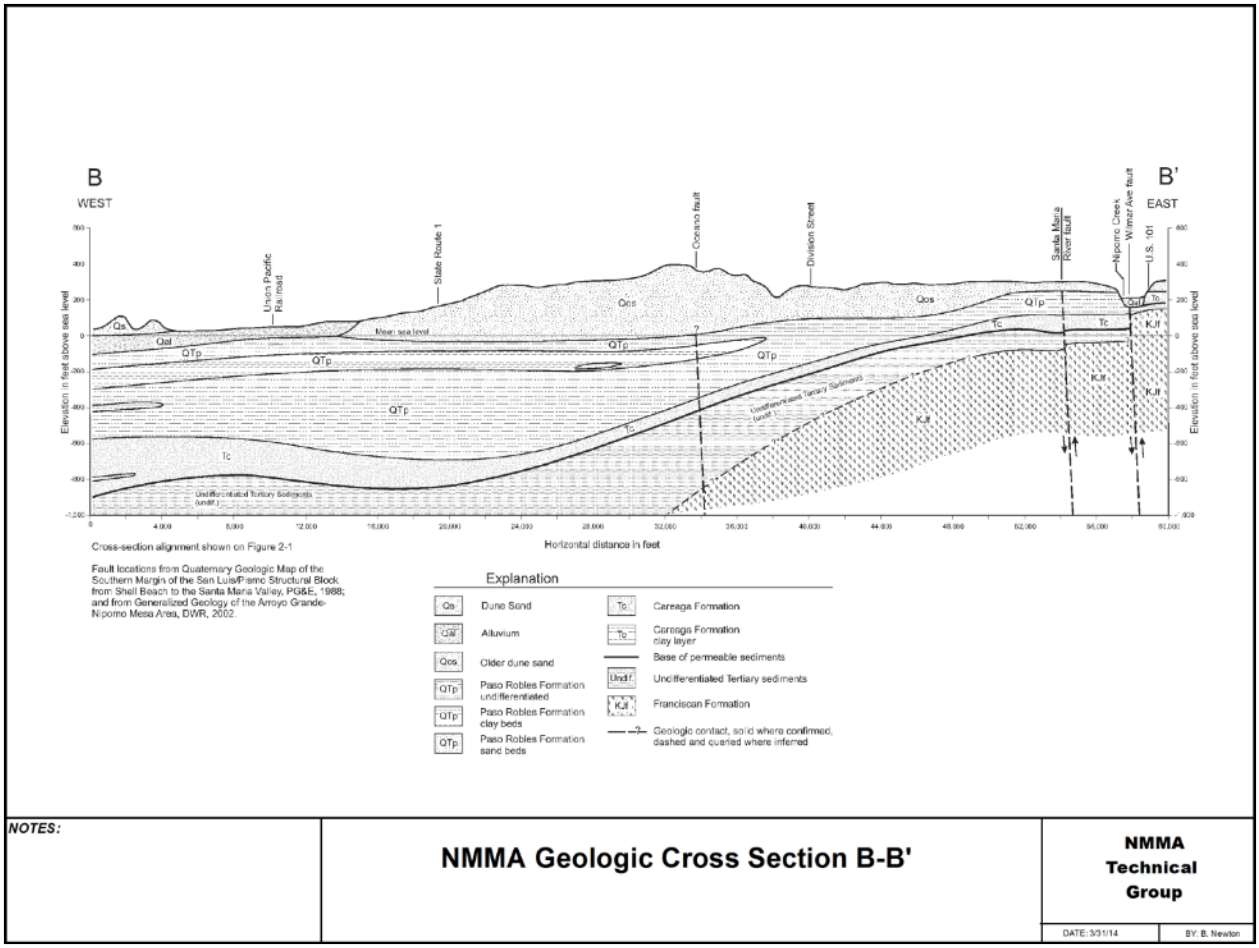
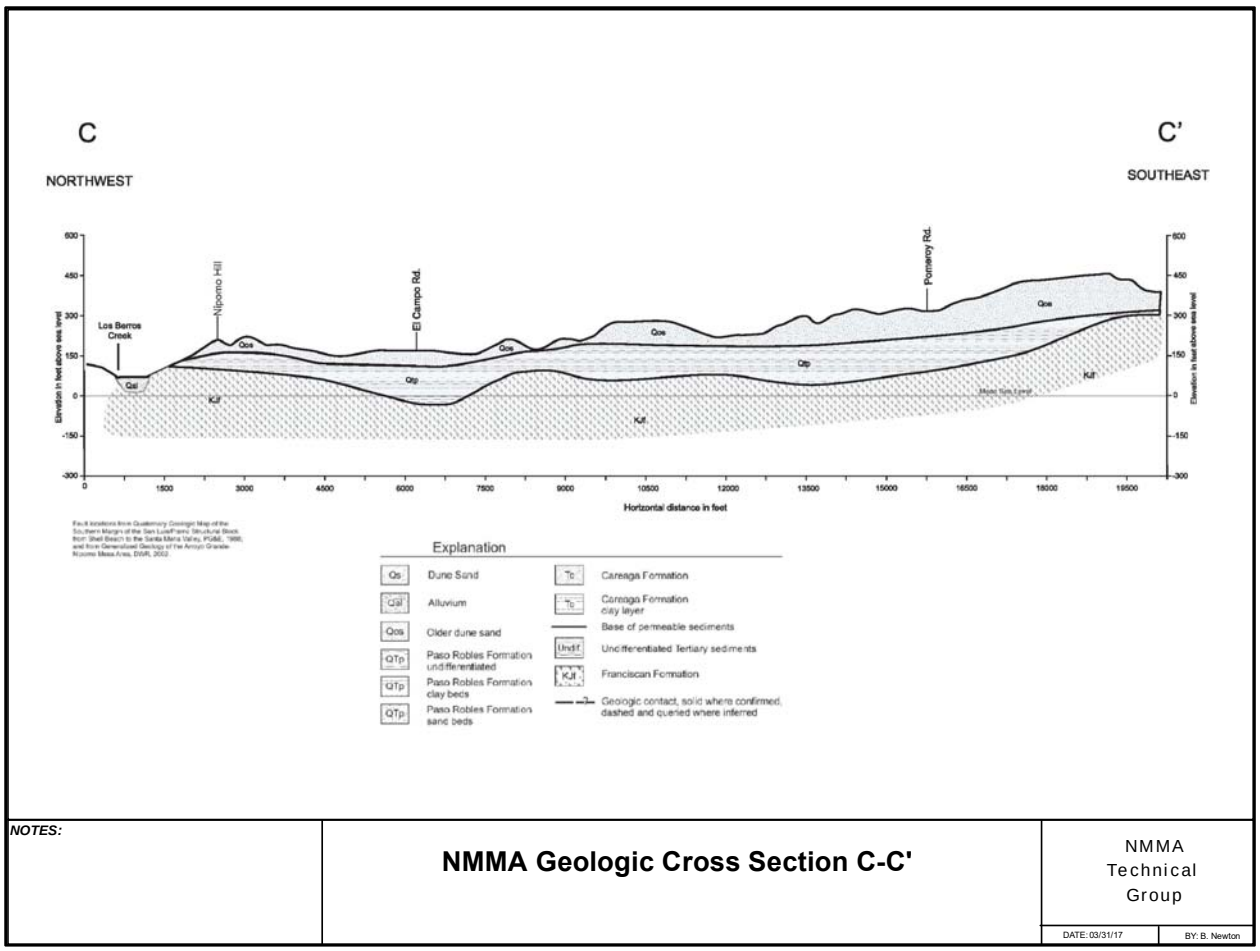


Figure 2-2. NMMA Geologic Cross Section A-A'



NOTES:	NMMA Geologic Cross Section B-B'	NMMA Technical Group
		DATE: 3/31/14 BY: B. Newton

Figure 2-3. NMMA Geologic Cross Section B-B'



NOTES:	NMMA Geologic Cross Section C-C'	NMMA Technical Group
		DATE: 03/31/17 BY: B. Newton

Figure 2-4. NMMA Geologic Cross Section C-C'

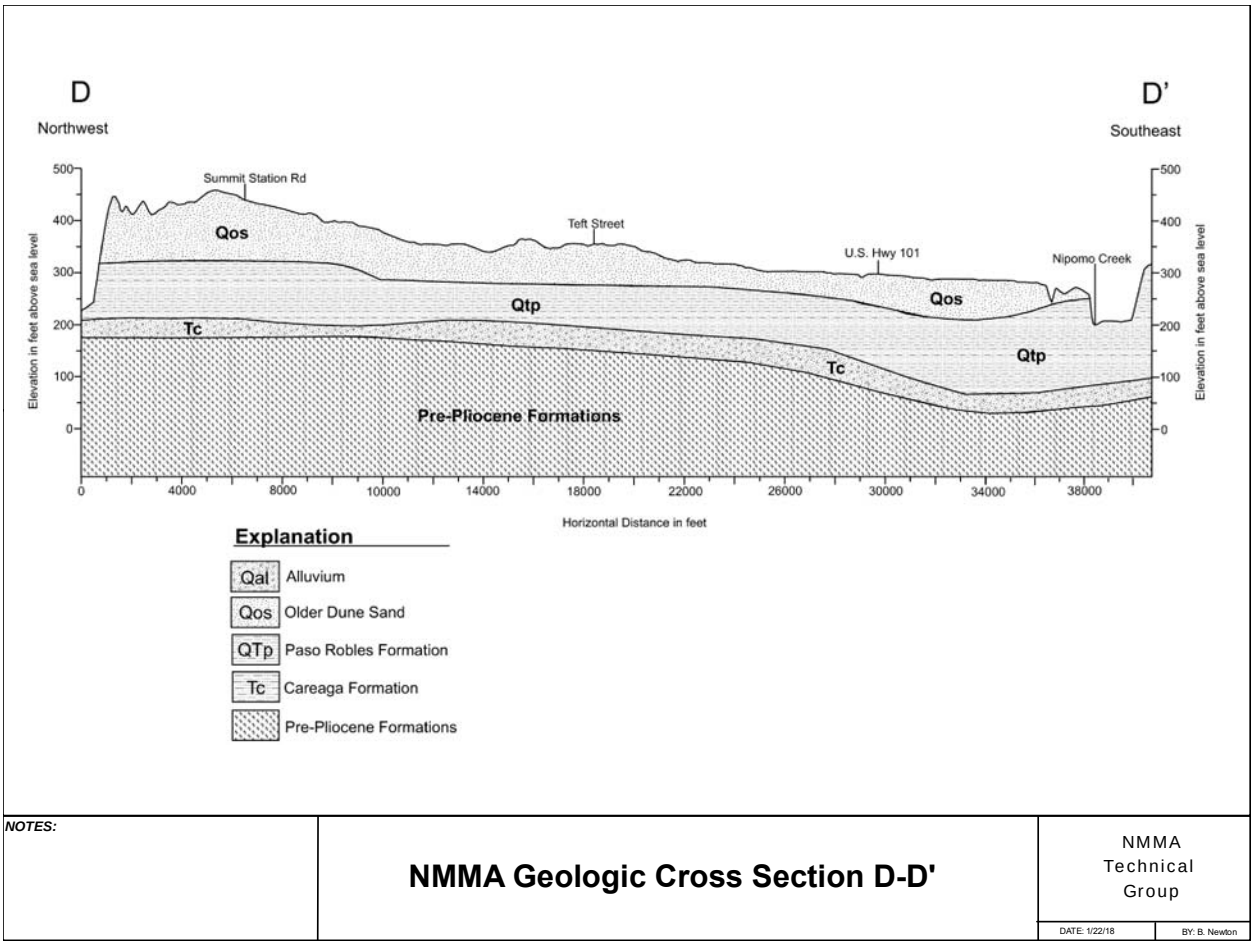


Figure 2-5. NMMA Geologic Cross Section D-D'

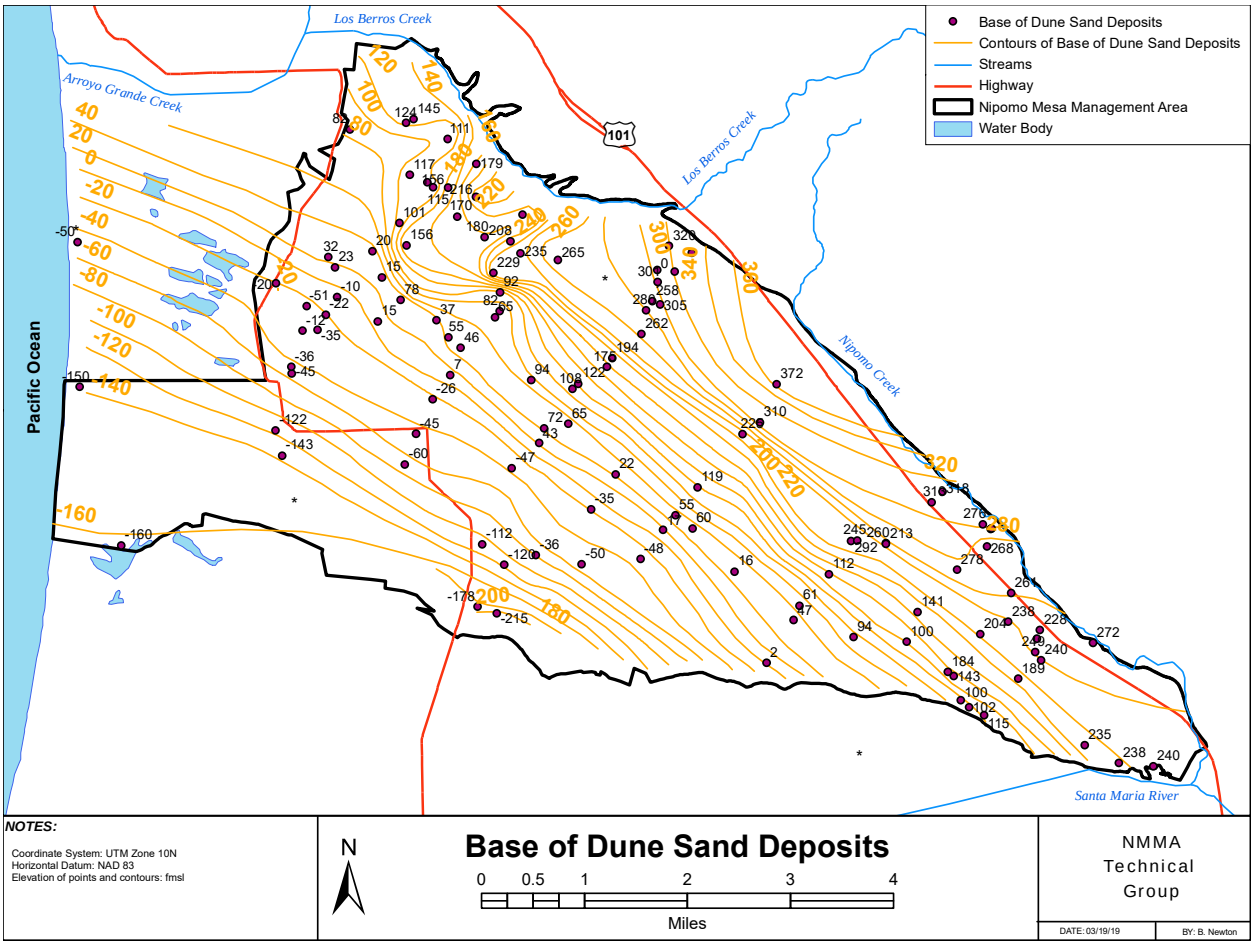


Figure 2-6. Base of Dune Sand Deposits

3. Data Collection

The TG is monitoring and analyzing water conditions in the NMMA in accordance with the requirements of the Stipulation and Judgment. The Stipulating Parties are required to provide monitoring and other production data at no charge, to the extent that such data are readily available. The TG has developed protocols concerning measuring devices in order to obtain consistency with the Monitoring Programs of other Management Areas. Discussions of these subjects are presented in the following subsections of this 13th Annual Report – Calendar Year 2020.

3.1. *Data Collected*

The data presented in this section of the Annual Report were measured during the calendar year (CY) 2020 and are the subject of this Annual Report. Groundwater elevations, water quality, rainfall, surface water, land use, groundwater production and wastewater discharge data were compiled and are presented in the following sections.

3.1.1. Groundwater Elevations in Wells

Groundwater elevation is determined by measuring the depth to water in a well from a reference point at the top of the well casing. The reference point and depth to water data are collected from each agency and input into a TG database that includes groundwater elevation determinations. The date, depth to water, measuring agency, pumping condition, and additional comments are recorded. When the database is updated with new data, an entry is posted in the database log describing the changes that have been made to the database. The groundwater elevation measurements are subjected to Quality Assurance Quality Control procedures adopted by the TG in part by reviewing historical hydrographs to determine if the measurements are within the historical range for the given well.

The accuracy of the groundwater elevations depends on measurement protocols, the reference point and local drawdown effects at that well. The TG surveyed the elevation for all the reference points at each Key Well in February of 2009. Additional elevation surveys for all monitoring program wells are scheduled for the continued improvement of groundwater elevations accuracy. Furthermore, protocol standards were developed by the TG regarding the length of time for well shut down before a groundwater elevation measurement is taken, and a notation of whether nearby wells are known to be concurrently pumping.

The management area engineers have compared construction, location, reference point elevation, and depth to water measurements for wells near their common boundary as an ongoing practice since the first annual report. In 2017, engineers from the TG and NCMA Monitoring Parties conducted a focused study to compare construction, location, reference point elevation, and depth to water measurements for wells near the boundary between the management areas to identify any inconsistencies. These differences within the management area engineers' databases were reconciled, and these conditions are reviewed each year. This process improves consistency between groundwater elevation contours across and close to the boundary shared by the NMMA and NCMA.

Depth-to-water measurements were collected in both shallow aquifers and deep aquifers in April and October of 2020 by the County of San Luis Obispo, NCSD, P66, Woodlands, GSWC; and, the Santa Maria Valley Water Conservation District collected depth-to-water measurements in CY 2020 (Figure 3-1, Figure 3-2, Figure 3-3, Figure 3-4).

3.1.2. Water Quality in Wells

Water quality of the NMMA during 2020 is summarized from a wide range of data sources, including:

- California State Water Resources Control Board Division of Water Quality records of water supply system groundwater sources and environmental monitoring sites (GeoTracker GAMA database),
- State Water Resources Control Board site assessments, remediation project reports, and related materials (GeoTracker database),
- NPDES Permit Monitoring and Reporting data, and
- Other NMMA groundwater monitoring data.

Data reported in this Annual Report are derived from samples obtained using standard professional sampling protocols and analyzed at certified laboratories. The TG maintains these data in a digital database. In the NMMA, historical data from approximately 200 wells can be used to map groundwater quality conditions. In some cases, water quality records consist of only one or two sampling

events from a well, and only a few water quality parameters, such as total dissolved solids or chloride. In other cases, such as wells within potable water systems or for environmental testing, regular groundwater quality testing for a wide range of constituents is conducted.

Groundwater quality in wells near the ocean is of considerable importance because this is the most likely area where intrusion of seawater would first be detected. The coastal nested wells, 11N36W12C01, 12C02, and 12C03, are monitored under agreement with SLO PWD and allow quarterly water quality sampling of general mineral and physical water quality constituents, subject to access constraints for the protection of endangered species (Table 3-1). In addition to monitoring this coastal site for water quality, the TG has assessed the cost of updating coastal monitoring near the former nested wells 11N36W13K02 through 13K06 adjacent to Oso Flaco Lake and recommends replacement of these wells.

Table 3-1. 2020 Water Quality Data from Coastal Wells

Coastal Well	Date	Cl (mmoles/L)	HCO3 (mmoles/L)	Na (mmoles/L)	Ca (mmoles/L)	Mg (mmoles/L)	SO4 (mmoles/L)	B (mmoles/L)
11N36W12C01S	1/22/2020	1.32	3.8	3.13	2.99	1.73	3.95	0.018
	4/28/2020	1.24	3.8	3.52	3.74	2.18	4.37	0.019
	10/21/2020	1.38	3.8	3.74	3.24	1.89	3.95	0.020
11N36W12C02S	1/22/2020	1.46	3.8	3.39	3.49	2.10	5.10	0.019
	4/28/2020	1.46	3.8	3.17	3.24	1.93	5.20	0.019
	10/21/2020	1.35	3.8	3.61	3.74	2.22	4.79	0.018
11N36W12C03S	1/22/2020	2.68	5.1	3.78	2.24	1.52	2.39	0.026
	4/28/2020	not sampled	not sampled	not sampled	not sampled	not sampled	not sampled	not sampled
	10/21/2020	2.62	4.9	4.26	2.49	1.69	2.39	0.025
Seawater		544.9	2.38	467.5	10.4	53.3	28.1	0.41

Water quality data are collected from a variety of wells such as environmental monitoring wells that are screened in the unconfined shallow aquifers, and purveyor water supply wells of which many are completed in deep aquifers. Monitoring of shallow groundwater is conducted at a near-coastal industrial facility, in the vicinity of wastewater treatment facility discharges, and in NMMA areas where a shallow aquifer is separately utilized, and from wells that provide agricultural irrigation supply. In 2020, water quality data results were available from 65 water supply wells in addition to 16 monitoring wells and 17 environmental monitoring wells (Figure 3-5).

3.1.3. Rainfall

There are seven active rainfall gauges available to estimate the NMMA rainfall (Figure 3-6). Four gauges are part of the ALERT Storm Watch System: Nipomo East (728), Nipomo South (730), Los Berros (4620), and Oceano (795). One gauge is a California Irrigation Management Information System (CIMIS), CIMIS Nipomo (202). The other two gauges are active volunteer gauges and include Mehlschau (38), and Nipomo CDF (151.1). The data are collected by the SLO PWD and CIMIS. The TG obtains these data from CIMIS and SLO PWD at the beginning of the calendar year for the rainfall data from the preceding year. SLO PWD staff collects volunteer gauge data once each year in the month of July for the previous year, July through June. In CY 2020, the TG directly collected the remainder of the Nipomo CDF (151.1) data for July through December from the San Luis Obispo County Fire Department. Rainfall data are compiled on a water year and calendar year basis. A water year (WY) typically begins October 1st and ends September 30st of the following year, and the year referenced is that of September (i.e., WY 2003 is defined as October 1, 2002, through September 30, 2003). For the volunteer gauges, data collected from July 2020 to December 2020 are unavailable until July 2021, when County staff collects and compiles the rainfall data.

The WY 2020 rainfall total is 88 percent of the long-term average (Table 3-2, see Note 2). Reference evapotranspiration for WY 2020 is 48.63 inches, which is the same as WY 2019. Rainfall measurements made during CY 2020 range from 8.19 to 10.19 inches, and are approximately 60 percent of the average long-term annual rainfall.

Table 3-2. Rainfall Gauges and 2020 Rainfall Totals

Name	Period of Record	Period of Record Mean	Water Year 2020[1]	WY Percent of Mean[2]	Calendar Year 2020	CY Percent of Mean[2]
Nipomo East (728)	2005-2020	15.39	13.93	88%	9.32	60%
Nipomo South (730)	2005-2020	13.29	11.73	74%	8.19	52%
Oceano (795)	2005-2020	12.37	14.14	89%	10.04	64%
Los Berros (4620)	2014-2020	16.32	13.66	86%	9.49	61%
CIMIS Nipomo (202)	2006-2012	13.74	ND	ND	ND	ND
Nipomo CDF (151.1)	1958-2020	15.83	15.85	100%	10.19	65%
Mehlschau (38)[3]	1920-2020	16.58	14.81[3]	94%	8.18[3]	52%

Notes:
ND - Data reported is indicative of irrigation overspray with daily reported amounts ranging from 0.01 to 0.03 from spring into summer or data is not available.
1. Water Year is defined as Oct. 1 of previous year through Sept. 30 of the current year.
2. Percent of Normal, calculated using the period of record annual mean for gauge #151.1.
3. Volunteer gauge is collected in July of the year and therefore is missing the remaining months (July through December) of that year.

3.1.4. Rainfall Variability

Quantifying the temporal and spatial variability is critical where rainfall is a large portion of the water supply. Spatial variability in the volume of rainfall across the NMMA is apparent when comparing the WY 2020 rainfall totals from these gauges. The WY 2020 total rainfall ranged from 11.73 inches (Nipomo South #730) to 15.85 inches (Nipomo CDF #151.1). Temporal variability is also an important consideration, particularly between storms. Two storms with the same total rainfall can have a vastly different impacts to water supply, for instance, if one storm occurred over a week and the other occurred over a day.

Climatic trends and interannual variability also impact the water supply to the NMMA. The cumulative departure from the mean was prepared for two rain gauge stations, Mehlschau #38 and Nipomo CDF #151.1, over the period from WY 1975 to WY 2020 (Figure 3-7). Periods of wetter than average and drier than average conditions are coincident at both gauges. The most pronounced dry period occurred from 1983 to 1994, followed by a wetter than average period from 1994 to 1998. From 1998 to present, there have been several years of alternating wet and dry conditions. WY 2014 was the driest year since WY 1975, with six of the last eight years well below normal.

3.1.5. Streamflow

Currently, there are some records of streamflow near the NMMA boundary. There are three streamflow gauge on Los Berros Creek: the Los Berros #757 streamflow sensor is located 0.8 miles downstream from Adobe Creek and 3.7 miles north of Nipomo on Los Berros Road, the Valley Road

#731 streamflow sensor is located on at the Valley Road bridge over Los Berros Creek, and the Los Berros Creek #4660 streamflow sensor is located at Quailwood Lane bridge downstream of State Route 101. The stage data at the Los Berros gauges are compiled by SLO PWD. Nipomo Creek streamflow is not currently gauged. Cachuma Resource Conservation District and San Luis Resource Conservation District maintain the Oso Flaco #312OFC20 streamflow sensor located between the Oso Flaco Lakes on Oso Flaco Creek. Flow was observed during April and May 2020 at Los Berros Creek #4660 streamflow sensor, near the upstream edge of the NMMA. No flow was recorded at the Valley Road #731 streamflow sensor during 2020, a short distance downstream of the boundary of the NMMA (Figure 3-8).

3.1.6. Surface Water Usage

There are no known diversions of surface water within the NMMA.

3.1.7. Surface Water Quality

There are no surface water quality data presented in this annual report.

3.1.8. Land Use

Land use data historically have been collected for the NMMA by the DWR at approximately ten year intervals from 1959 to 1996. DWR periodically performs land use surveys of the Southern Central Coast area (which includes the NMMA). DWR has not updated the land use for the South Central Coast area (which includes the NMMA) since 1996.

The 2007 NMMA land use was classified by applying the DWR methodology to a June 2007 one-foot resolution aerial photograph. Land use was classified into four main categories based on the methodology used by DWR in 1996; agriculture, urban, golf course and native vegetation (undeveloped lands). Agricultural lands for 2009 were further subdivided using the San Luis Obispo County Agriculture Commissioner survey of the 2009 crop types and acreage for San Luis Obispo County. The major crops grown on in the NMMA are strawberries and cane berries, nursery plants, vegetable rotational, and avocados.

Urban lands were classified following the DWR methodology with additional sub categories based on San Luis Obispo County land use categories from land use zoning maps. The categories for urban include (1) Commercial-Industrial; (2) Commercial-office, (3) Residential Multi-family; (4) Residential-Single Family; (5) Residential-Suburban; (6) Residential-Rural; (7) Recreational grass; (8) Vacant. Golf courses were classified separately from Agricultural or Urban Lands.

Native vegetation lands were classified following the 1996 DWR methodology. In the DWR methodology, all undeveloped land was classified as native vegetation and includes groves of non-native eucalyptus and fields of non-native grasses. The lands classified as native vegetation were further broken down into two categories: grasses; and trees and shrubs; to better estimate deep percolation of rainfall required for the hydrologic inventory (see Section 5 Hydrologic Inventory).

The land use acreage was surveyed and updated in 2013 by performing aerial imagery analysis, observations made by NMMA TG engineer representatives, and assessing San Luis Obispo County pesticide purchase records. The update indicates that an increase in agriculture usage occurred from 2009 to 2013. The largest increase occurred in areas of the NMMA planted with strawberries and cane berries. The second largest increase in agriculture usage occurred in areas planted with vegetable rotational. In addition to agriculture, golf course acreage increased. In 2015, agricultural land use was updated to track

the emerging cane berry crop and expanding strawberry acreage. In 2016, the golf course area irrigated was updated (Table 3-3). Some of the greenhouses and agricultural lands have been converted to grow cannabis. The square footage of greenhouse cannabis grows and the water use impacts of this conversion have yet to be determined. The 2016 SLO County Ordinance requires that all cannabis cultivation operations provide a detailed water management plan and that any water use shall be offset from a prior use at a 1:1 ratio and that under severe water decline shall be offset at least at a 2:1 ratio as documented in a County approved Water Conservation Program. The water use of these operations is to be reported to the County. In 2020, the agriculture and golf course land use acreages were surveyed and updated by performing aerial imagery analysis. This update includes a correction in golf course area, and modest increases in acreage for grape and deciduous, vegetable rotational, and berries while there was a commensurate decrease in recreational grass, pasture, and non-irrigated farmland.

The land use acreage for Urban is 10,596 acres; for Agriculture is 2,988 acres; and for Non Irrigated is 7,957 acres. Sub-categorical land use acreage is also defined and will subsequently be utilized to compute the groundwater production and consumptive use of water for each subcategory (Table 3-3).

Table 3-3. Land Use Summary

Land Use Category	Year of Data	Acreage
Urban		
Commercial – Industrial	2007	472
Commercial – Office	2007	118
Golf Course	2020	611
Residential Multi-family	2007	24
Residential Single Family	2007	821
Residential Suburban	2007	3,597
Residential Rural	2012	4,829
Recreational Grass	2020	124
Urban Total	**2020**	**10,596**
Agriculture		
Grape and Deciduous	2020	135
Pasture	2020	17
Vegetable Rotational	2020	425
Avocado and Lemon	2020	340
Berries	2020	1,621
Nursery	2020	366
Non-irrigated Farmland	2020	84
Agriculture Total	**2020**	**2,988**
Non Irrigated		
Native Vegetation	2018	7,232
Urban Vacant	2007	716
Water Surface	2007	9
Non Irrigated Total	**2018**	**7,957**
Total Land Use		**21,541**

3.1.9. Groundwater Production (Reported and Estimated)

The groundwater production data presented in this section of the Annual Report were collected for CY 2020. Where groundwater production records were unavailable, the groundwater production was estimated for CY 2020 (Figure 3-9).

Reported Groundwater Production

Individual landowners, public water purveyors, and industry all rely on groundwater pumping from the aquifers underlying the NMMA. Data were requested by the TG from the public water purveyors and individual pumpers and incorporated in this CY 2020 Annual Report. Stipulating Parties to the Judgment are required to provide monitoring and other production data at no charge, to the extent that such data have been generated and are readily available.

Monitoring Parties provided production records that report a total of 4,066 acre feet (AF) of groundwater produced from the principal production aquifers in CY 2020 (Table 3-4).

Table 3-4. Calendar Year 2020 Groundwater Production for Monitoring Parties

Monitoring Parties	Production (AFY)
NCSD	1,008
GSWC	1,332
Woodlands (less Golf Course, Vineyard, Landscape, and Construction)	626
P66	1,100
Total	**4,066**

Groundwater produced for golf course irrigation in CY 2020 was 1,392 AF. An estimated value of 36.5 inches of golf course irrigation was calculated based on the soil water balance model. The total amount of water applied to golf courses is the combination of groundwater and treated wastewater that is used for irrigation. Monarch Dunes reports a blending ratio of five parts groundwater to one part reclaimed wastewater for irrigation on 238 acres of golf course. Total estimated irrigation on Monarch Dunes is 449 AF in CY 2020, of which 217 AF is shallow aquifer groundwater production and 92 AF is reclaimed wastewater. The Woodlands provides sufficient reclaimed wastewater to meet the golf course irrigation blending ratio (see Section 3.1.11 Wastewater Discharge and Reuse). The Cypress Ridge golf covers 191 acres with a total estimated 571 AF of golf course irrigation in CY 2020, of which 552 AF is groundwater production and 19 AF is reclaimed wastewater. The Blacklake golf course covers 182 acres, with a total estimated amount of golf course irrigation of 544 AF in CY 2020, of which 502 AF is groundwater production and 42 AF is reclaimed wastewater.

Table 3-5. Calendar Year 2020 Groundwater Production for Golf Courses

Golf Course	Production (AFY)
Monarch Dunes	357
Cypress Ridge	533
Blacklake	502
Total	**1,392**

Estimated Production

The CY 2020 estimated groundwater production for irrigating agricultural crops in the NMMA is 7,176 AF, computed by a soil water balance model on a daily time-step by multiplying the crop area and the crop specific water demand met by either soil moisture, rainfall, or groundwater production, thus developing the unit production for CY 2020 (Table 3-6). Drip irrigation is the dominant mechanism for watering crops, and therefore, an irrigation efficiency parameter is deemed not necessary to estimate groundwater production for agriculture in the NMMA. Furthermore, daily time steps are critically important in this climate when relatively warm dry windy conditions persist during winter months and are only interrupted by storms that occur over a few days. The crop specific water demand was re-evaluated in conjunction with the 2015 Land Use update (see Section 3.1.8 Land Use). The change in crop coefficients used for this estimate is presented in an appendix to this Annual Report (see Appendix E). Berry crops continue to account for the largest portion (64% in 2020) of the total annual agricultural groundwater production (Table 3-6).

Table 3-6. Calendar Year 2020 Estimated Groundwater Production for Agriculture

Crop Type	2020 Area (Acres)	2020 Unit Production (AF/acre)	2020 Production (AFY)
Grape and Deciduous	135	0.8	111
Pasture	17	3.1	52
Vegetable Rotational	425	2.3	972
Avocado and Lemon	340	2.5	839
Berries	1,621	2.8	4,594
Nursery	366	1.6	608
Non-irrigated Farmland	84	0.0	0
Total	**2,988**		**7,176**

Groundwater production for urban use was estimated for other land uses including rural landowners not served by a purveyor. The estimated production for the other land uses is 1,679 AF for CY 2020 (Table 3-7).

Table 3-7. Calendar Year 2020 Estimated Groundwater Production for Other Land Uses

Land Use Type	Water Use Area (acres)	Unit Production (AF/acre)	Production (AFY)
451RS Zoned Parcels[1]	172	3.4	696
616 RR Zoned Parcels[1]	243	3.4	983
Total	**886**		**1,679**

Note:
1. Unit production values from NCSD 2007, Water and Sewer Master Plan Update scaled to measured drought conservation by purveyors.

Combining the estimates of groundwater production for Stipulating Parties (Table 3-4), for golf courses (Table 3-5), for agriculture (Table 3-6), and for other land uses (Table 3-7) results in an estimated total groundwater production of 14,313 AF for CY 2020 (Table 3-8).

Table 3-8. Calendar Year 2020 Measured and Estimated Groundwater Production (AFY)

Measured	
NCSD	1,008
GSWC	1,332
Woodlands	626
P66	1,100
Golf Course	1,392
Subtotal	**5,458**
Estimated	
Other Land Uses	1,679
Agriculture	7,176
Total NMMA Production	**14,313**

3.1.10. Imported Water

Nipomo Supplemental Water Project (NSWP) water is currently the only source of imported water delivered onto the NMMA. NSWP began delivering water to the NMMA on July 2, 2015 and continued to deliver water through December 31, 2020. A total of 1,041 AF of NSWP water was delivered during the CY 2020.

3.1.11. Wastewater Discharge and Reuse

Six wastewater treatment facilities (WWTF) discharge treated effluent within the NMMA. Four of the WWTFs are the Southland Wastewater Works (Southland WWTF), the Blacklake Reclamation Facility (Blacklake WWTF), Cypress Ridge Wastewater Treatment Facility (Cypress Ridge WWTF), and the Woodlands Mutual Water Company Wastewater Reclamation Facility (Woodlands WWTF) (Figure 3-10). The GSWC iron and manganese removal treatment facilities at La Serena and Osage groundwater production wells discharge treatment filter backwash to percolation ponds. The total wastewater discharge in the NMMA was 657 AF for CY 2020 (Table 3-9).

Table 3-9. 2020 Wastewater Volumes

WWTF	Influent (AFY)	Effluent (AFY)	Re-use
Southland	554	482[(1)]	Infiltration
Blacklake	51	42[(1)]	Irrigation
Cypress Ridge	53	31	Irrigation and Infiltration[(3)]
Woodlands	Not Reported	92	Irrigation
La Serena	Not Applicable	9[(2)]	Infiltration
Osage	Not Applicable	1[(2)]	Infiltration
Total		**657**	

Notes:

1. Effluent was estimated as the sum of Influent - Evaporation from Aeration Ponds - 10% of Influent to account for biosolid removal. For the Nipomo Mesa calendar year 2020, the annual evapotranspiration measured at CIMIS 232 gage is 48.36 inches and the rainfall measured at Gauge 151.1 gage is 10.19 inches (CIMIS, 2020 and SLO DPW, 2020). This results in a net evaporation from a pond of 38.17 inches in calendar year 2020.
2. GSWC's La Serena and Osage iron and manganese removal facilities treat water from GSWC's La Serena #1 and Osage #1 wells. Filter backwash water is discharged to percolation ponds, where it infiltrates into the groundwater basin and a negligible amount is lost to evaporation.
3. The amount of wastewater discharged from the WWTF includes process losses of 3% relative to the influent wastewater stream. Re-used effluent includes 19 AFY withdrawn from lined golf course ponds for irrigation, after evaporative losses from 6.3 acres of ponds, and 12 AFY discharged to an unlined infiltration basin, after minor evaporative losses (see footnote 1 for evaporation rate).

3.2. *Database Management*

The database of monitoring data is an entirely digital database and is maintained as a confidential document. The database is broken into seven tables or datasets: groundwater elevation, groundwater production, wastewater treatment, stream flow, groundwater quality, climate, and land use.

NCSD's technical representative is currently designated as the database steward and is responsible for maintaining and updating the digital files and for distributing any updated files to other members of the TG. A "change log" is maintained for each database. The date and nature of the change, along with any special features, considerations or implications for linked or related data are recorded in the change log. The Stipulation and Judgment require that absent a Court order or written consent, the confidentiality of well data from individual owners and operators is to be preserved.

3.3. *Data and Estimation Uncertainties*

Uncertainties exist in data, and therefore uncertainties exist in derivatives of data, including interpretations and estimations made from direct measurements. Uncertainties arise from errors in measurements, missing measurements, and inaccurate methodologies and generalizing assumptions. For example, rainfall is measured at a few locations across the NMMA. However, it is well known that the spatial and temporal variability in rainfall deposition in a storm is much greater than that which the density of rainfall gauges can represent. Ground surface elevation across the NMMA is known to be in

error at places and may be reported incorrectly by amounts as large as 20 feet. This affects the accuracy of groundwater elevations and contours. There exists missing data from both groundwater elevations and rainfall records. Estimations are made to fill in these data gaps with the understanding that the accuracy of these estimates is reduced. Derivatives from these data therefore contain inaccuracies. Additionally, precision issues arise when interpretations are made from data, in that individuals make decisions during the process of interpreting data that are subjective and therefore not documentable. For example, aerial image classification is a subjective process as is the preparation of groundwater elevation contours. Estimations are made for parameters, such as crop coefficients, that are not measurable or very difficult to measure. The methodologies used to make estimates represent a simplified numerical representation of the environment and are based on assumptions defining these simplifications. Quantifying the uncertainty in data or data derivatives is a rigorous and ongoing process.

The measured groundwater production values are reliable and are considered precise to the tens place for NCSD, GSWC, and Woodlands, and the hundreds place for P66. The estimated production values are less reliable and precise for the rural residence groundwater production. The unit production factors used to estimate the rural residence groundwater production were developed for the NCSD Water and Sewer Master Plan. For the estimated agricultural production, there are no measured data available in the NMMA to verify the precision or reliability of the agricultural production.

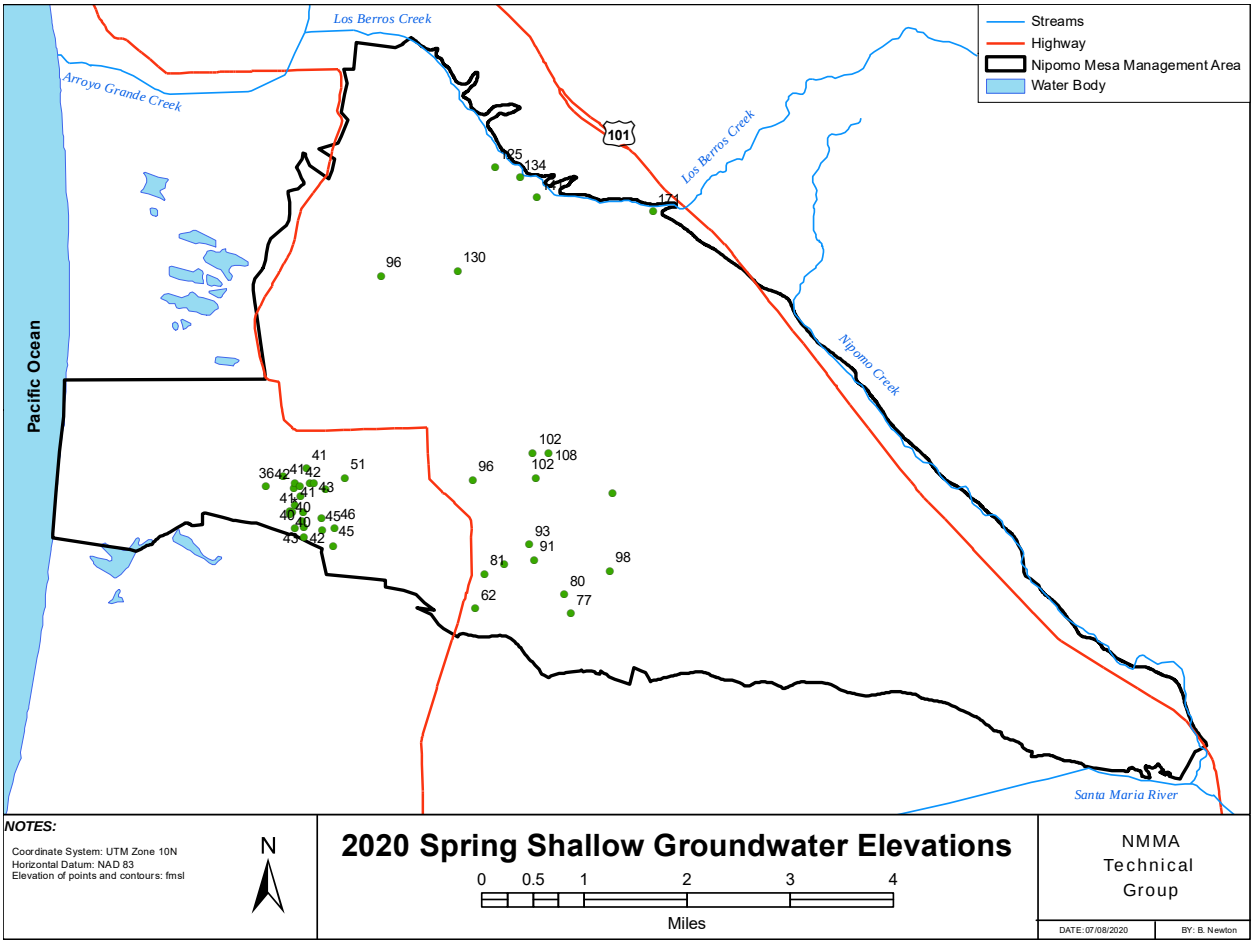


Figure 3-1. 2020 Spring Shallow Aquifer Groundwater Elevations

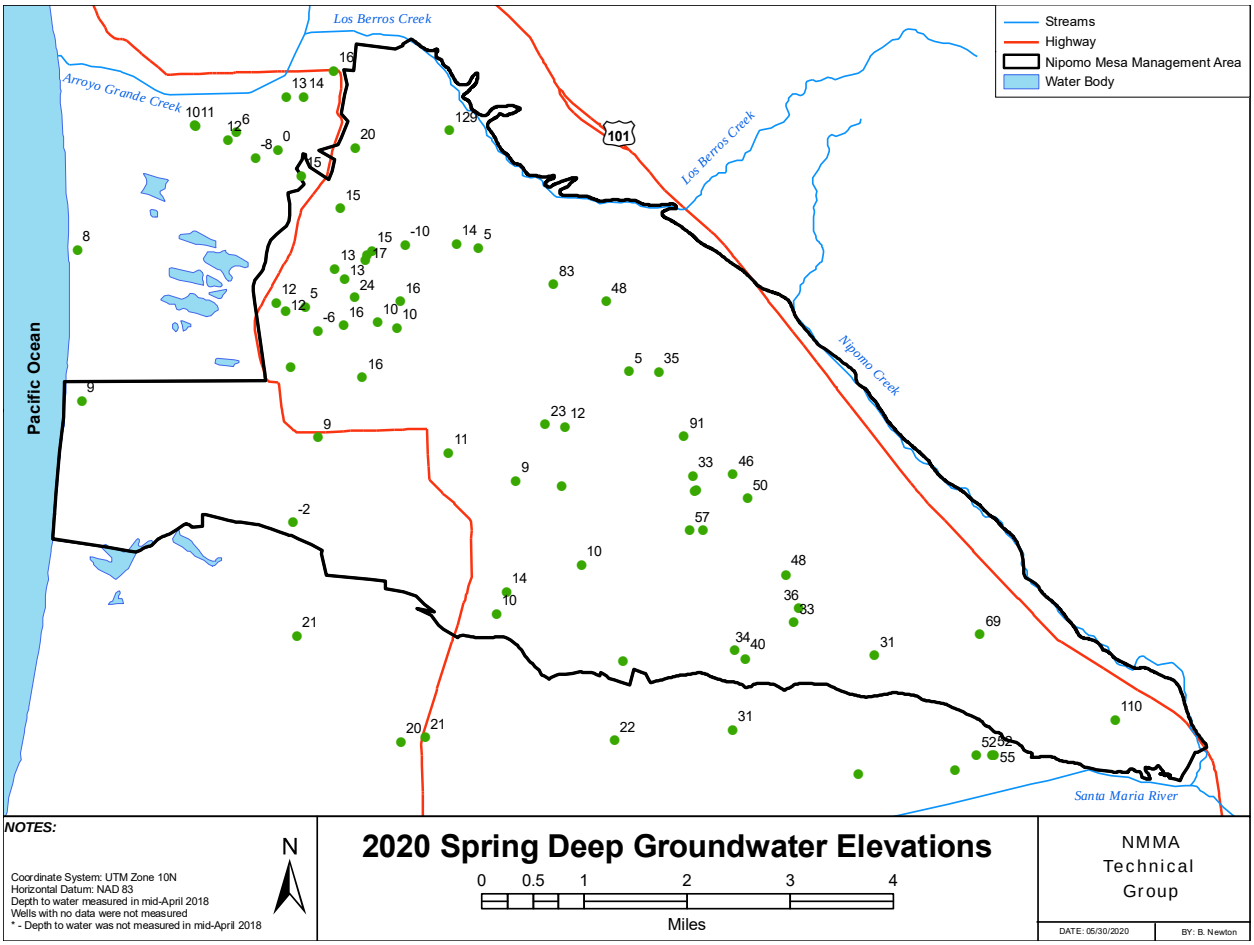


Figure 3-2. 2020 Spring Deep Aquifer Groundwater Elevations

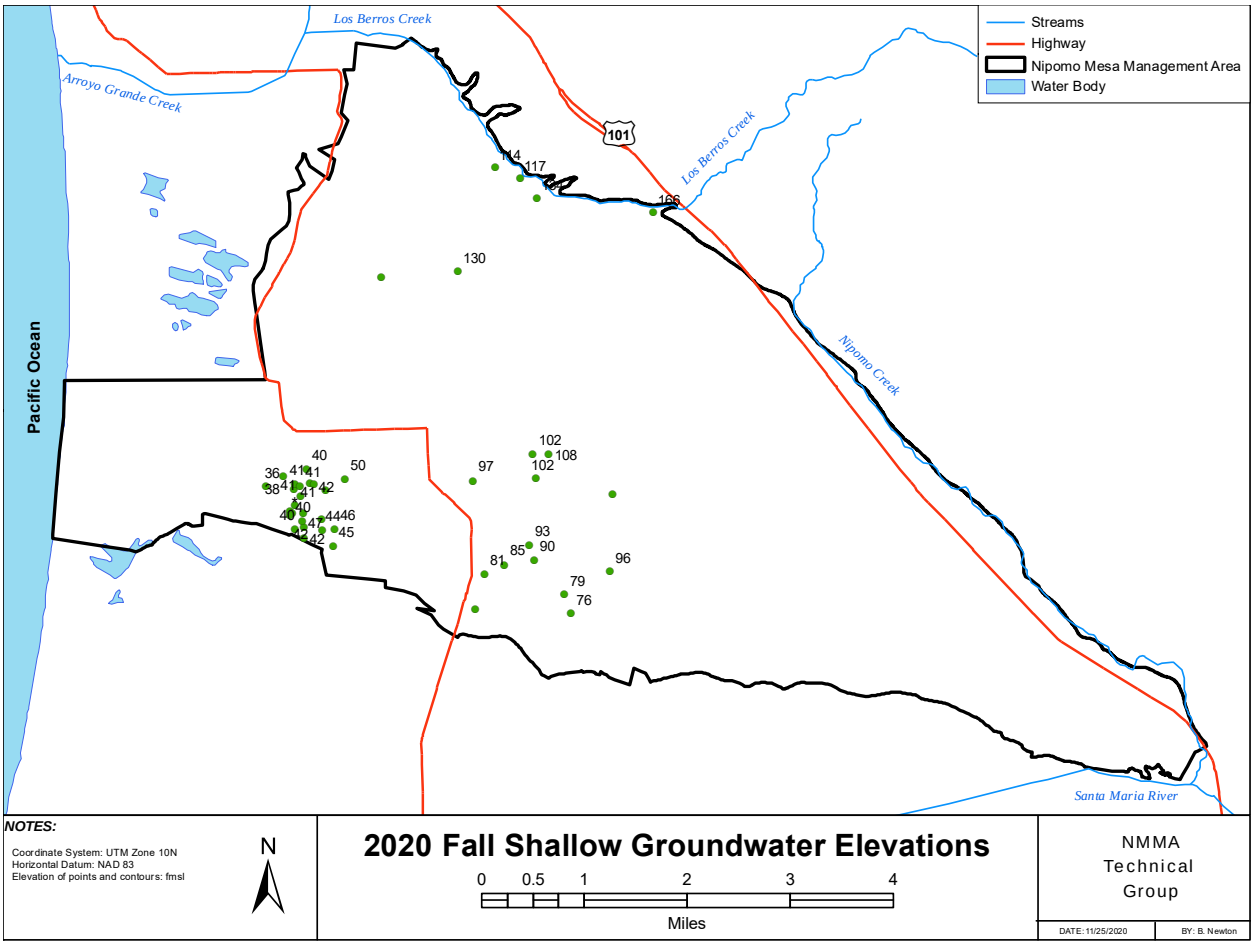


Figure 3-3. 2020 Fall Shallow Aquifer Groundwater Elevations

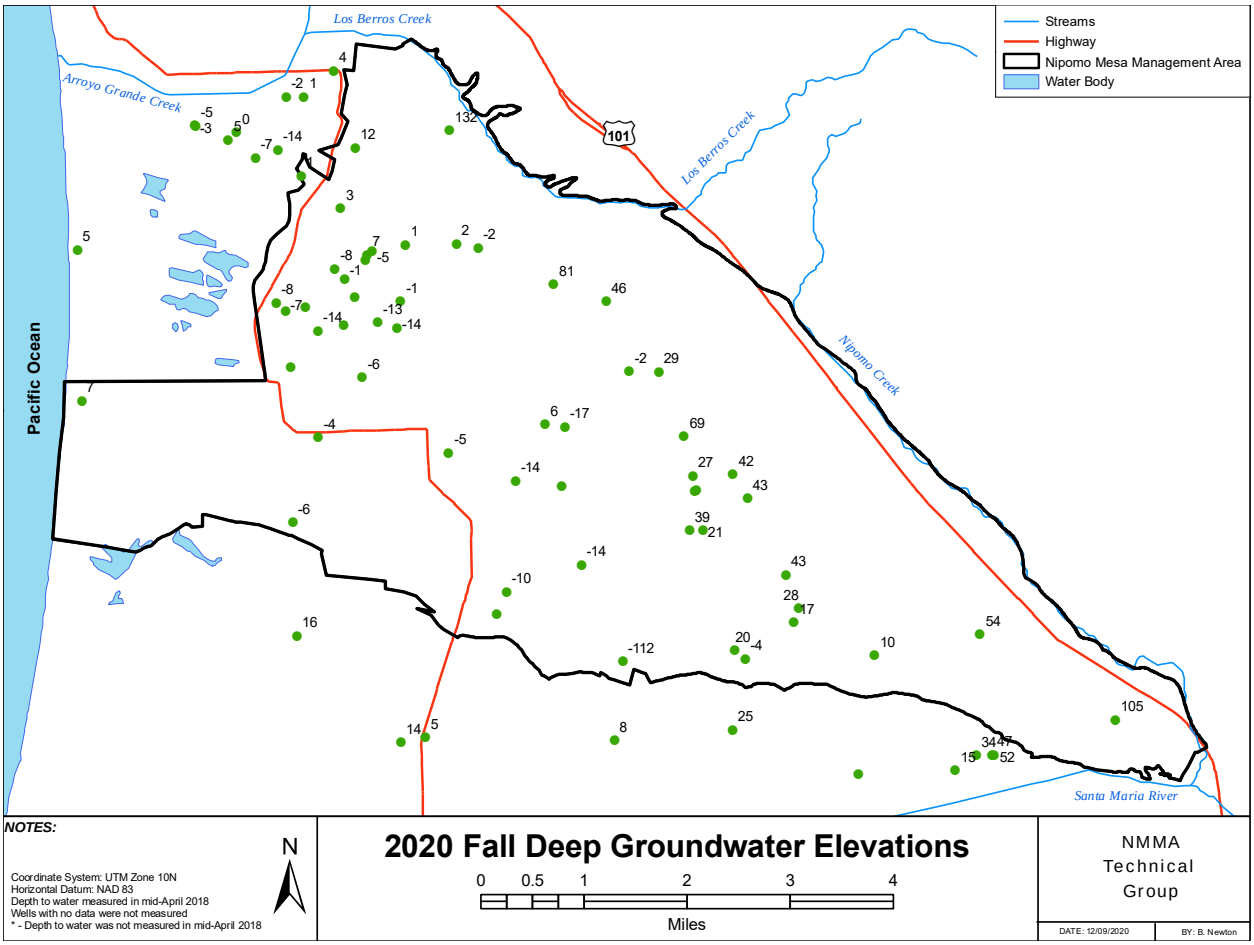


Figure 3-4. 2020 Fall Deep Aquifer Groundwater Elevations

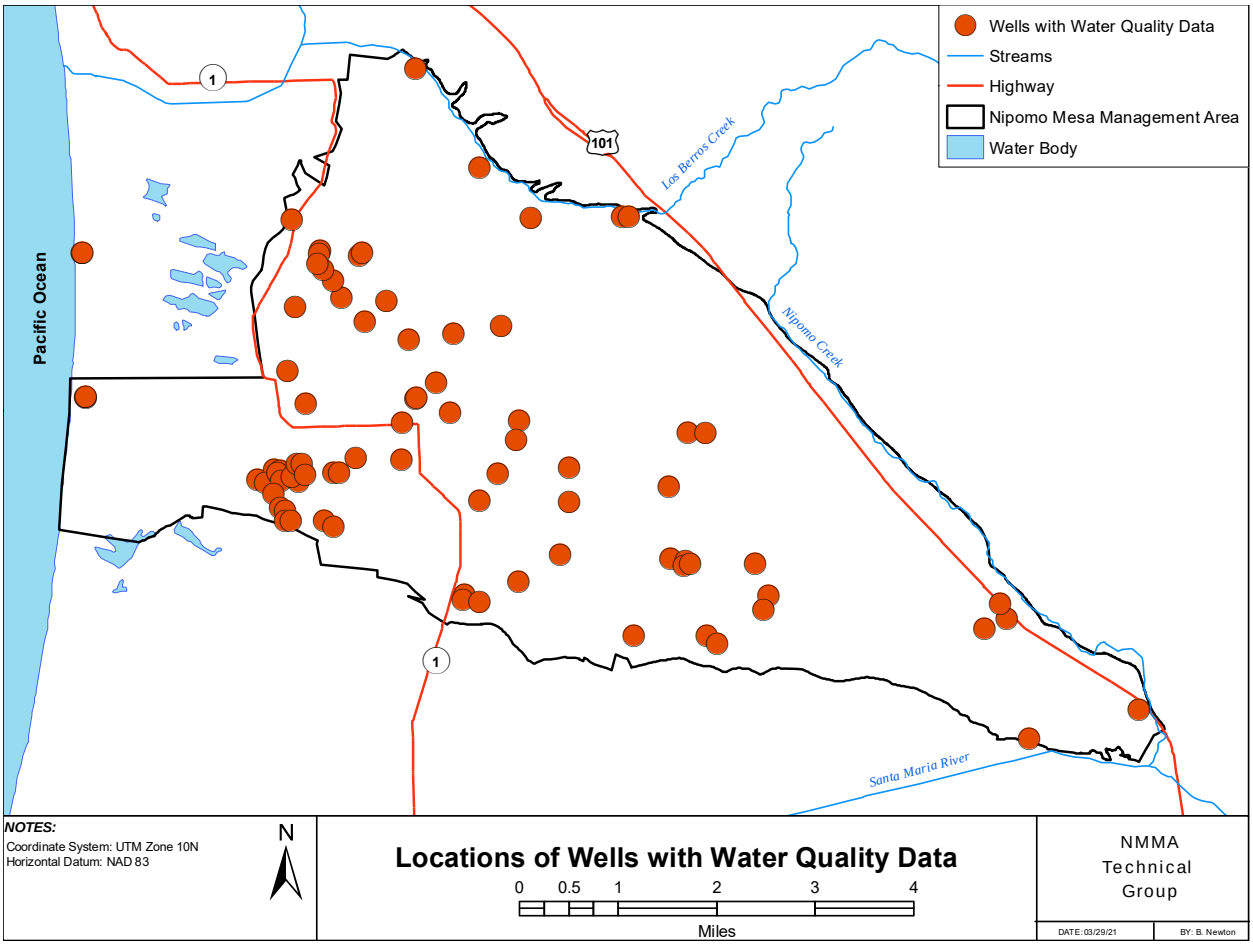


Figure 3-5. 2020 Locations of Wells with Water Quality Data

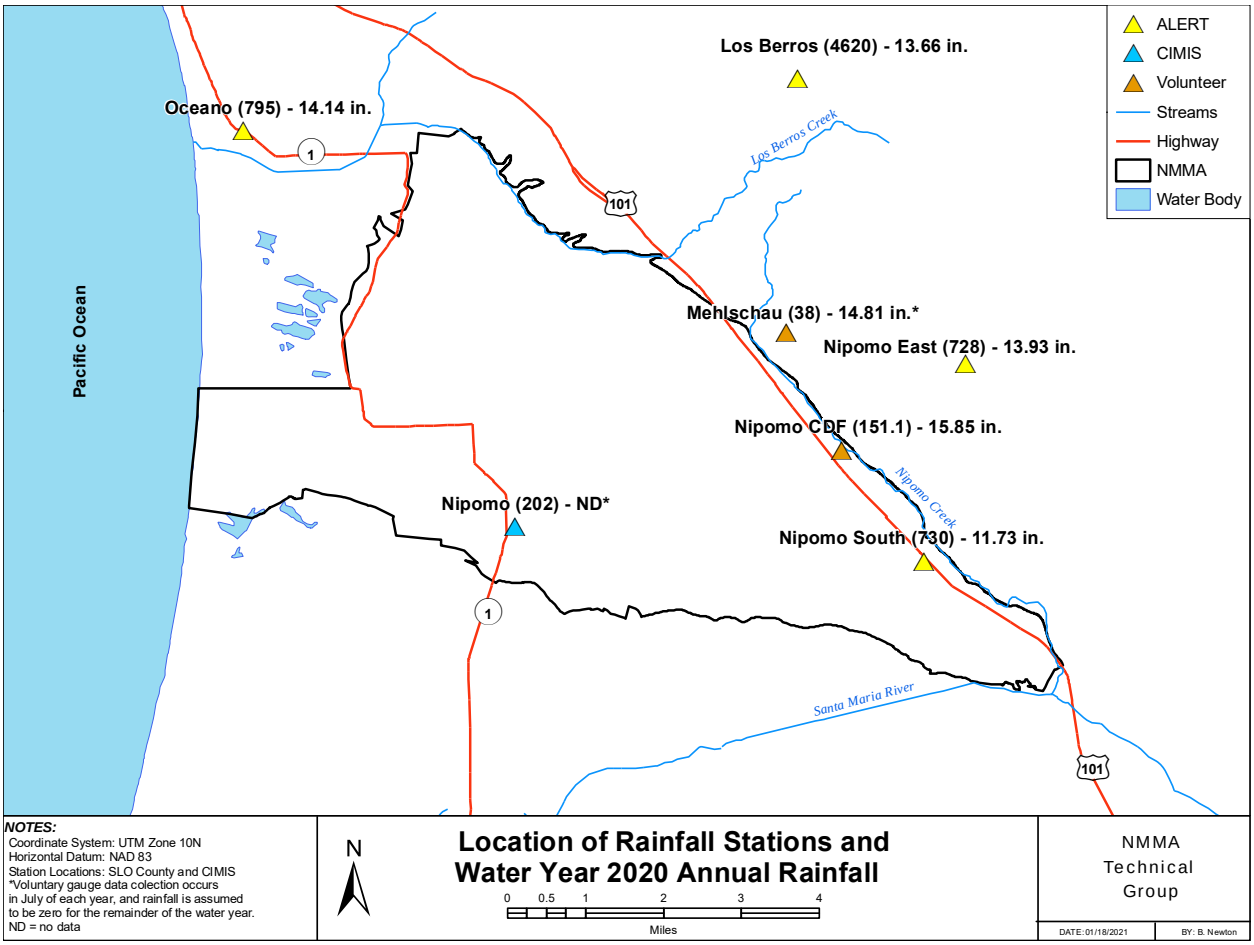


Figure 3-6. Rainfall Station Location and Water Year 2020 Annual Rainfall

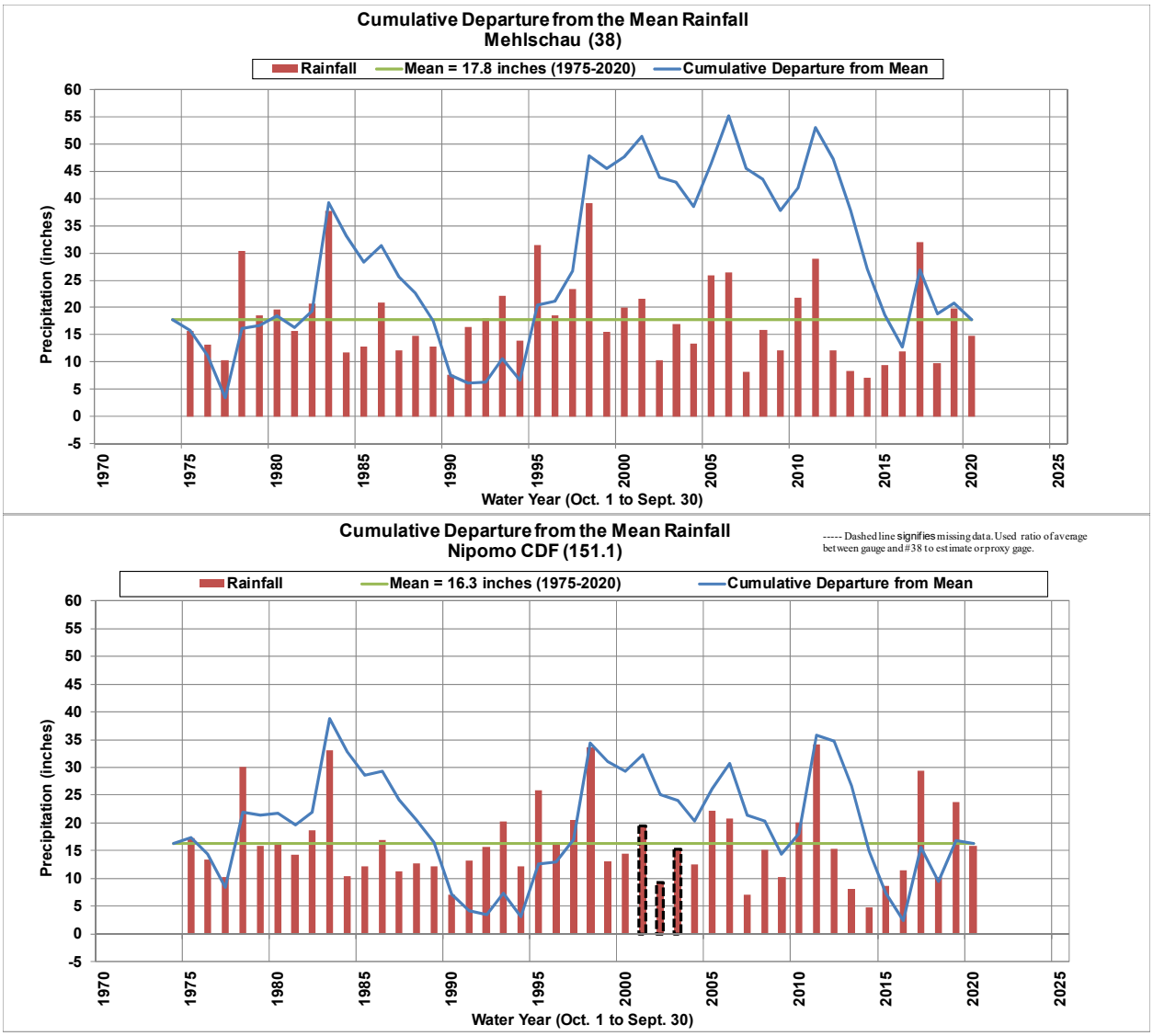


Figure 3-7. Cumulative Departure from the Mean for the following rain gauges: Mehlschau (38) and Nipomo CDF (151.1)

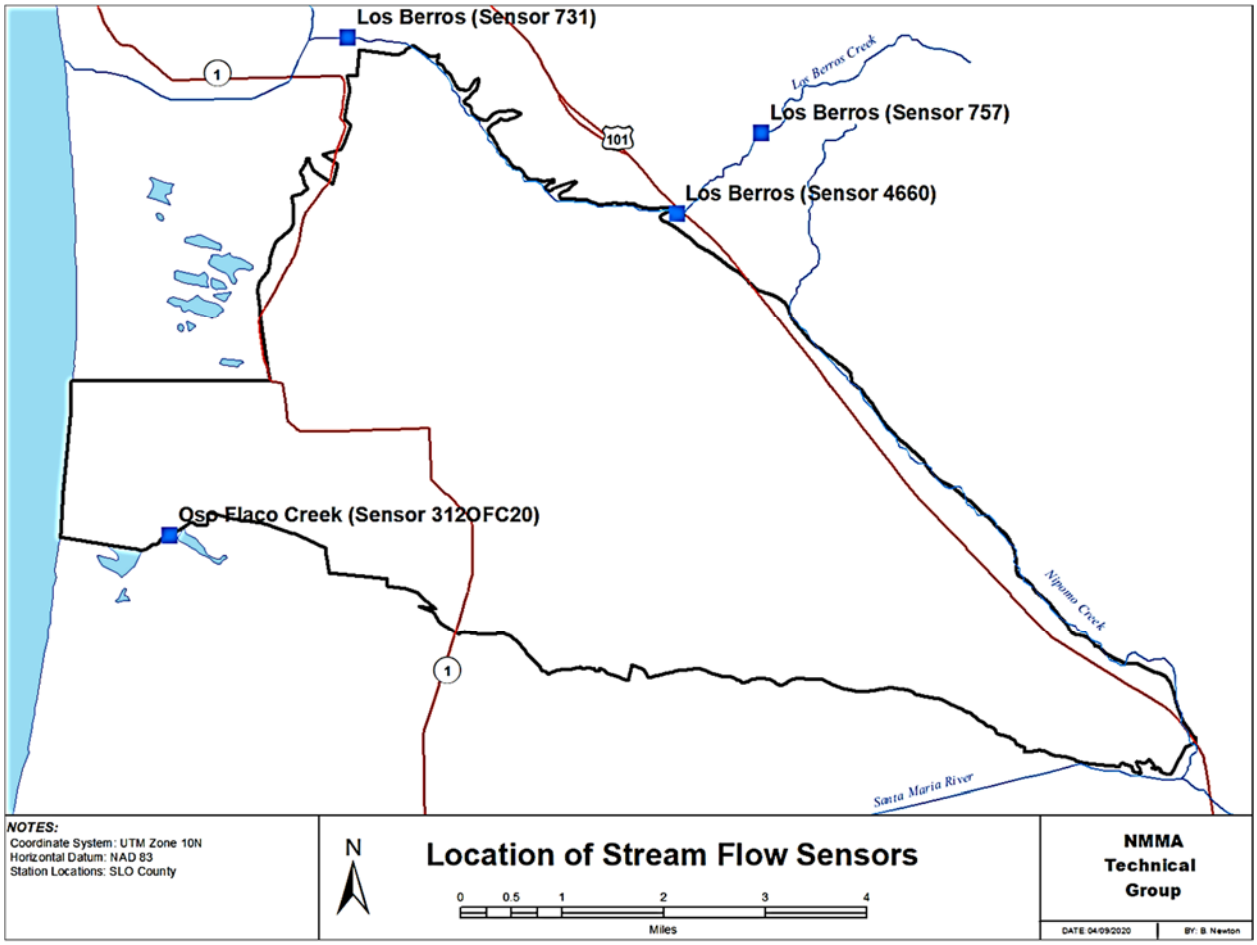


Figure 3-8. Location of Stream Flow Sensors

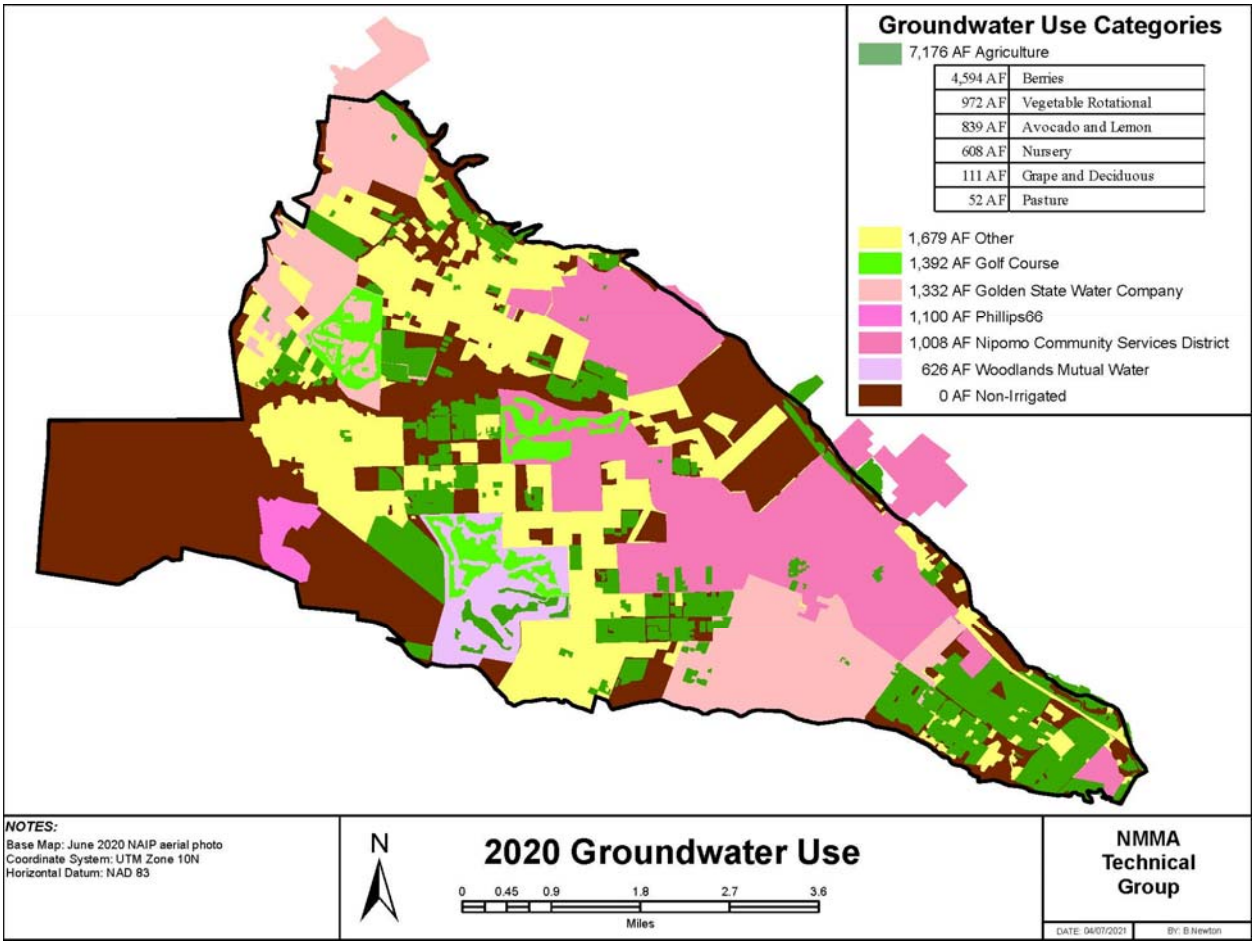


Figure 3-9. 2020 Groundwater Use

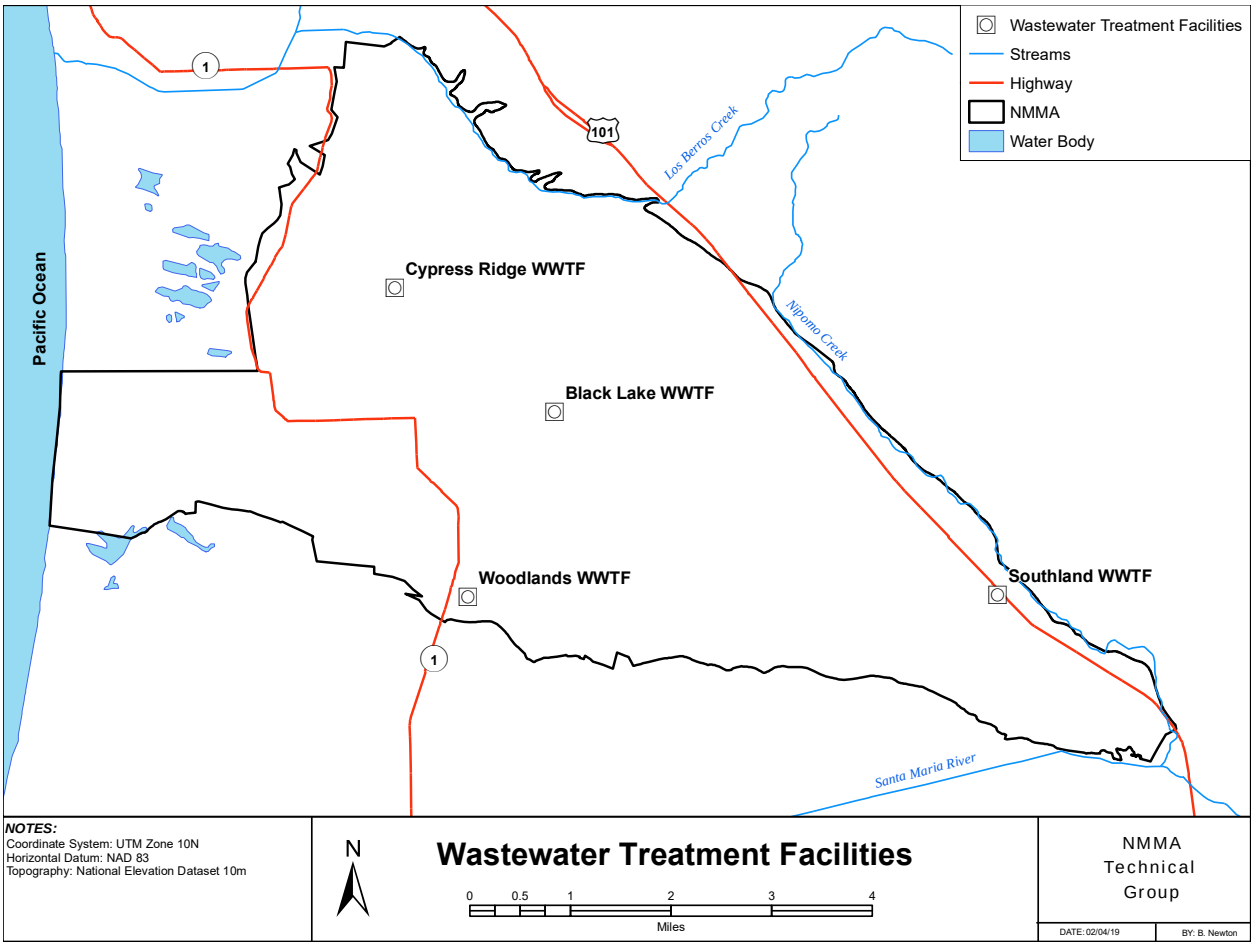


Figure 3-10. Wastewater Treatment Facilities

4. Water Supply & Demand

Presented in this section are discussions of the various components of current and projected estimates of water supplies and demands for the NMMA.

4.1. *Water Supply*

The water supplies supporting activities within the NMMA are met primarily from groundwater production with a minor amount of recycled water. No surface water diversions exist. Supplemental Water, as defined by the Stipulation, has been developed and Phase I deliveries began on July 2, 2015. A brief description of the groundwater production, recycled water, Supplemental Water, and surface water diversion is presented in the following sections.

4.1.1. Groundwater Production

Groundwater pumping was not differentiated between various strata, shallow or deep aquifers in previous annual reports. The specifics of shallow and deep aquifer production are better known by the

TG for purveyor wells which, at least through 2016, produce primarily from the deep aquifers, but this information is not available for many more private wells in the NMMA.

Shallow Aquifers

Domestic production by rural landowners was estimated to be about 1,679 AFY (Table 3-7). The majority of this production may be from shallow aquifers. A portion of the estimated 1,392 AF of golf course pumping may be from shallow aquifers (Table 3-5). A portion of the estimated 7,176 AF of agricultural pumping may also be from shallow aquifers (Table 3-6). The Woodlands shallow aquifer irrigation wells produced an estimated 217 AF for vineyard irrigation, buffer landscape, and construction in CY 2020 (Table 3-4).

Deep Aquifers

Production from wells used for public drinking water and industrial water is predominantly pumped from the deep aquifers (primarily the Paso Robles Formation), although some limited amount of production may also occur from shallow aquifers. This pumping is estimated to be about 4,066 AF (Table 3-4). In addition, a portion of the estimated 1,392 AF of golf course pumping by Cypress Ridge and Blacklake Golf Courses may also be from the deep aquifers (Table 3-5). Also, a portion of the estimated 7,176 AF of agricultural pumping may also be from the deep aquifers (Table 3-6).

4.1.2. Recycled Water

Wastewater effluent from the golf course developments at Blacklake Village, Cypress Ridge, and Woodlands is recycled and utilized for golf course irrigation. The amount of recycled water used in CY 2020 for irrigation at Blacklake Village, Cypress Ridge and Woodlands are 42 AF, 31 AF, and 92 AF, respectively (see Section 3.1.9 Groundwater Production (Reported and Estimated)and Table 3-9).

4.1.3. Supplemental Water

Nipomo Supplemental Water Project delivered 1,041 AF of water to the NMMA in CY 2020 (see Section 3.1.10 Imported Water).

4.1.4. Surface Water Diversions

There are no known surface water diversions within the NMMA.

4.1.5. Future Water Supply

The Stipulation (VI.E.5.) states all new urban uses shall provide a source of supplemental water to offset the water demand associated with the development. Currently, the only source of supplemental water dedicated to new urban uses is the 500 AFY of capacity NCSD added to the NSWP. Woodlands level of participation in the NSWP is considered their projected build out demand.

NCSD has committed to holding approval of new (since the date of the Judgment) water connections to the 500 AFY of capacity unless and until the District defines and acquires additional sources of supplemental water.

In September 2015, the County of San Luis Obispo adopted Ordinance 3307 which allows new urban development within the NMMA without imposing a requirement that the development project offset its water demand with a source of supplemental water. Instead, Ordinance 3307 requires the

project proponent to offset the estimated new water demand of the project through some form of demand offset approved by the County (e.g., plumbing retrofit or participation in a County approved conservation program). By not requiring a source of supplemental water to offset project demand, this new County development approval process allows new groundwater uses for new development projects potentially inconsistent with the provisions in the Stipulation applicable to the NMMA water purveyors. The development approval process applied through Ordinance 3307 is concerning as it may allow for increased groundwater production within the NMMA, contrary to the groundwater management efforts of the NMMA water purveyors and TG.

4.2. *Water Demand*

The water demands in the NMMA include urban (residential, commercial, industrial), golf course, and agricultural demands. The TG used a variety of methods to estimate the water demands of the respective categories (see Section 3.1.9 Groundwater Production).

4.2.1. Historical Demand

The historical data from 1975 to 2008 were compiled from available information. The TG has continued the historical data compilation with information from Annual Reports for 2008 to present. The historical demand estimated for urban (including golf course and industrial) and agricultural land uses has been steadily increasing since 1975, with urban accounting for the largest increase in total volume and percentage (Figure 4-1).

4.2.2. Current Demand

The estimated demand is 14,313 AF for CY 2020, based on annual groundwater production records provided by the water purveyors on the Nipomo Mesa, estimated groundwater production by land use area, and recycled water use (see Section 3.1.9 Groundwater Production (Reported and Estimated) and Section 3.1.11Wastewater Discharge and Reuse). This amount of demand represents a decrease from the previous year due to above average rainfall, correspondingly reduced irrigation, and an increase in imported water through the NSWP.

4.2.3. Potential Future Production (Demand)

The projected future demand for NCSD is an increase from 2,293 AFY in CY 2010 to 3,400 AFY in 2030 (NCSD, 2011 see Table 21 and 23). The P66 refinery expects future production to be similar to recent years' production amounts of approximately 1,100 AFY. The projected water demand for Woodlands at build-out, according to the Woodlands Specific Plan Environmental Impact Report, is 1,600 AFY (SLO, 1998). The projected water demand for GSWC at full build-out of the current Nipomo system service area is estimated to potentially increase to approximately 1,940 AFY in 2030 (GSWC, 2008). Currently, no estimates of potential future production for agriculture or GSWC's Cypress Ridge system service area have been developed.

4.2.4. Base Year Pooled Amount

The Stipulation (VI.D.2.b.i) requires the determination of the highest pooled amount of groundwater production previously collectively used in a year by Overlying Owners other than Woodlands and P66. The quantification of the highest pooled amount pursuant to this subsection shall be determined at the time the mandatory action trigger point (Severe Water Shortage Conditions) described in Paragraph VI(D)(2) is reached. The TG developed a technically responsible and consistent method to

determine the pooled amount and any individual's contribution to the pooled amount. That method is as follows: identify those parcels that are included in the Stipulation and Judgment dated January 25, 2008 and that are located within the NMMA boundary and are not located within the service areas of the NCSD, GSWC, Woodlands, and P66. For each of such parcels, the highest pooled amount of groundwater production will be ascertained in any given year that yields the highest volume of production. This quantity for each parcel shall be determined either by the parcel owner's records of metered wells or, if the wells are unmetered, by an estimate of the production based upon other records that may be available, such as utility records. In the absence of utility records or any other reliable resource, this quantity shall be estimated based upon established industry data consistent with the sum of Agricultural demand and Rural Housing demand as presented in the Annual Report. The Stipulation (VI.A.5) conditions the enforcement of a reduction in their current use of Groundwater to no more than 110% of that highest pooled amount, upon the full implementation of the Nipomo Supplemental Water Project, including the Yearly use of at least 2,500 acre-feet of Nipomo Supplemental Water (subject to the provisions of Paragraph VI(A)(2)) within the NMMA. The method of reducing pooled production to 110% is to be prescribed by the TG and approved by the Court.

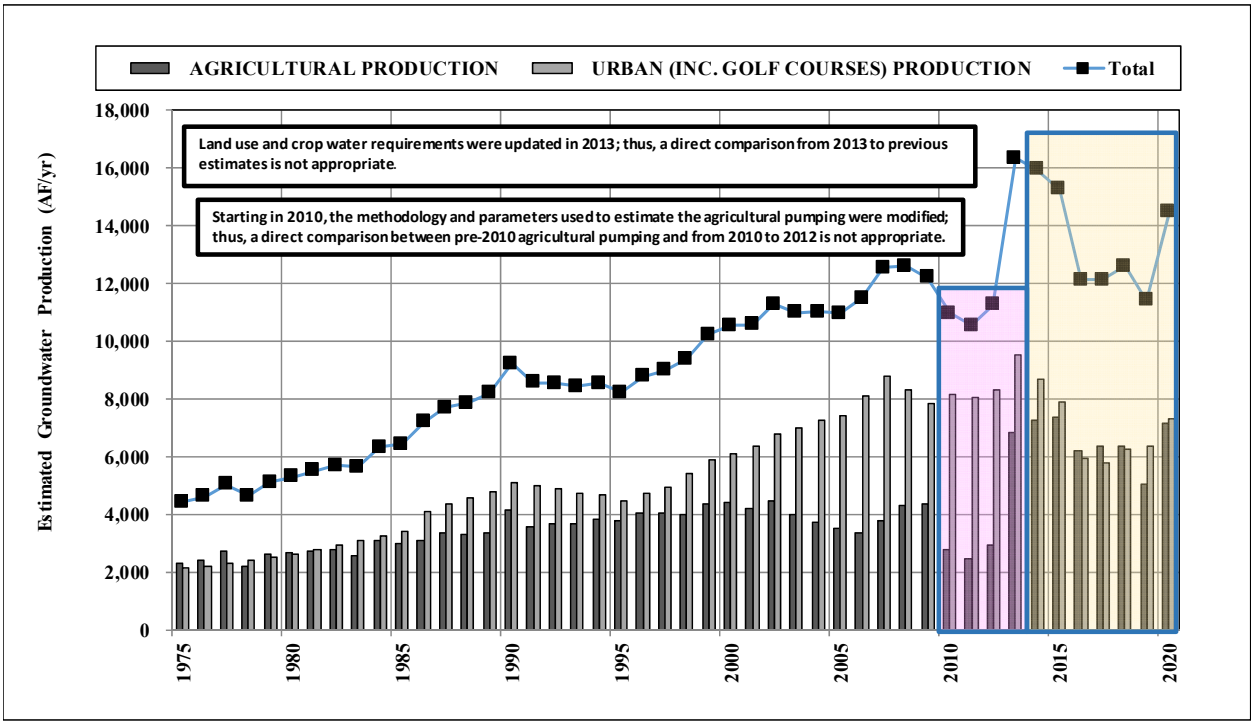


Figure 4-1. Historical NMMA Groundwater Production

5. Hydrologic Inventory

The hydrologic inventory accounts for the volumes of water that flow in to and out of the aquifers in the NMMA resulting in the change in storage. A conceptual schematic depicts the inflows and outflows to the aquifers underlying the NMMA (Figure 5-1). The hydrologic inventory can be formalized in the following equation:

$$\text{Change in Storage } (\Delta S) = \text{Inflow} - \text{Outflow}.$$

The components of the 2020 hydrologic inventory are presented and discussed in the following sections. The primary sources of inflow are groundwater (i.e., subsurface flow across the boundaries of the NMMA) inflow, rainfall, wastewater, and return flow. The primary outflows are groundwater production and groundwater outflow. Supplemental Water is also discussed as a potential future source of inflow.

5.1. *Rainfall and Percolation Past Root Zone*

Rainfall measurements made during CY 2020 range from 8.19 to 10.19 inches. The CY 2020 rainfall is 60 percent of the average long-term annual rainfall (Table 3-2, see Note 2). Rainfall on the NMMA infiltrates the soil surface and is either stored in the soil profile until it is evaporated or transpired by overlying vegetation, or percolates downward into shallow or deep aquifers. Rainfall on hardscape surfaces flows to local depressions where infiltration occurs. Locally rainfall may generate runoff from the NMMA to places adjacent to the NMMA boundary; however, the amount of runoff out of the NMMA is negligible. The TG estimates that the portion of rainfall that percolates past the root zone was 3,002 AF in CY 2020 (see Appendices E).

5.2. *Subsurface Flow*

Subsurface flow is the volume of water that flows into and out of the NMMA groundwater system. Typical methods used to estimate subsurface flow include Darcy's equation (using hydraulic conductivity, groundwater gradient, and aquifer thickness) or flow equations that are part of a regional groundwater model. In the NMMA, the three areas with the most potential for subsurface flow are at the northwestern boundary with the NCMA, the southern boundary with the SMVMA, and the seaward edge of the basin. Contours of groundwater elevations within the deep aquifer in this report (see Section 6.1.4 Groundwater Gradients) suggest that there is both flow in to and out of the boundaries of the NMMA with other management areas and along the coast. Groundwater elevation contours for the shallow dune sand aquifer suggest that there is a component of flow to the SMVMA.

The nature and extent of the confining layer(s) beneath the NMMA and the extent to which faults in the NMMA may act as impediments to subsurface flow are not well understood. The TG has not yet quantified the subsurface flows for CY 2020. However, the TG has developed hydrogeologic cross-sections along the NMMA boundary (see Section 2.3.1 Geology) sufficient to make estimates of subsurface flow (see Section 9 Recommendations).

5.3. *Streamflow and Surface Runoff*

Streamflow and surface runoff are the volumes of water that flow into and out of the NMMA through surface water channels or as overland flow. Streamflow includes water within the Los Berros Creek, Nipomo Creek, Oso Flaco Creek, and Black Lake Creek (Figure 5-2). Surface runoff occurs during major rainfall events and could occur in locations where local conditions near the NMMA boundary are sufficient to promote overland flow out of the area, and where shallow subsurface flow contributes to streamflow that is conveyed out of the NMMA, or to coastal dune lakes where it evaporates. This may occur in the following areas (Figure 5-2):

- Los Berros Creek streamflow into and out of the NMMA,
- Nipomo Creek streamflow into and out of NMMA,
- Black Lake Canyon streamflow out of the NMMA,
- Oso Flaco Creek streamflow into and out of NMMA,

- Surface runoff from steep bluffs adjacent to Arroyo Grande Valley, and
- Surface runoff from steep bluffs adjacent to Santa Maria River Valley.

The volume of streamflow which enters and leaves the NMMA is only partially understood. The TG continues to analyze where it might be appropriate for SLO County to install temporary or permanent stream sensor sites to determine the volume of water that percolates beneath streams in the NMMA (see Section 3.1.5 Streamflow).

5.4. *Groundwater Production*

The groundwater production component of the Hydrologic Inventory is calculated using metered production records where available and estimated from land use data where measurements are unavailable. The CY 2020 groundwater production is approximately 14,313 AF (Table 3-8).

5.5. *Supplemental Water*

Supplemental Water is the volume of water produced outside the NMMA and delivered to the NMMA through the NSWP. Supplemental water was delivered to the NMMA in CY 2020. The total amount of Supplemental Water delivered during the CY 2020 was 1,041 AF.

5.6. *Wastewater*

Wastewater discharges include wastewater effluent discharged by the six wastewater treatment facilities located within the NMMA, and ocean discharge of treated wastewater from the P66 industrial facility. In addition, discharges are estimated for septic tanks where centralized sewer service is not provided. The WWTFs include the Southland WWTF, the Blacklake WWTF, the Cypress Ridge WWTF, the Woodlands WWTF, and La Serena and Osage (GSWC). The Southland WWTF discharges treated wastewater into infiltration basins (see Section 3.1.11 Wastewater Discharge and Reuse). A portion of the water percolates and returns to the groundwater system and the remaining portion evaporates. The estimated percolation from Southland WWTF is 482 AF. GSWC delivered 741 AF of groundwater to their Nipomo system customers, where a small number of customers are connected to the Southland WWTF. The amount of groundwater produced that was delivered to customers connected to the Southland WWTF was 112 AF in CY 2020. The remaining GSWC Nipomo system customers discharged an estimated 277 AF of wastewater to septic systems. GSWC's La Serena and Osage iron and manganese removal treatment facilities treat water from GSWC's La Serena and Osage wells. Filter backwash water is discharged to percolation ponds, where water infiltrates into the basin. La Serena discharged 9 AF and Osage discharged 1 AF. The total WWTF effluent to infiltration basins in the NMMA was 504 AF (Table 3-9). The treated effluent from Blacklake WWTF (42 AF), Cypress Ridge WWTF (31 AF), and Woodlands WWTF (92 AF) is used to irrigate golf course landscaping. The estimated amount of wastewater discharge from indoor use by rural residences is 183 AF. The wastewater discharged in septic systems percolates downward and may recharge the shallow aquifers, the deep aquifers, or become shallow subsurface flow outside the NMMA.

5.7. *Return Flow of Applied Water and Consumptive Use*

Return flow is defined as the amount of recharge to the aquifers resulting from applied water that percolates past the root zone to recharge the aquifer(s). This functional definition differs somewhat from that used in the Stipulation to apportion the right to use water that was imported to the basin. However,

the physical process of recharge by return flow of applied water is the same regardless of where the water originated.

The TG currently assumes that, all groundwater produced for outdoor use is attributable to sustaining plant life and replenishing soil profile storage, and that only rainfall generates percolation. Rural residences produced 203 AF of groundwater for indoor use in CY 2020. The estimated amount of return flow in CY 2020 from indoor use by rural residences is 183 AF, which is 90 percent of the 203 AF estimated indoor water use of rural residents plus the 250 AF of estimated return flow from indoor water use of GSWC's Nipomo system. There is no return flow from P66's groundwater production. The estimated total return flow from applied water, which includes 433 AF from indoor use and 504 AF from infiltration at WWTPs, is 937 AF in CY 2020.

The estimated consumptive use of water in the NMMA, computed by subtracting the total return flow (937 AF) from the groundwater production (14,313 AF), is 13,376 AF in CY 2020.

5.8. *Change in Groundwater Storage*

The change in groundwater storage from the hydrologic inventory reflects the difference between inflow and outflow for a period of time. Typically, this change in storage is compared to a change in storage computed from groundwater contours, cross-checking the results of each. Storage changes from groundwater contours are typically calculated by measuring change in groundwater elevation and multiplying that change by a storage factor (i.e., the specific yield of aquifer sediments), and the aquifer area. The TG's current understanding of conditions within the NMMA precludes calculating change in groundwater storage from groundwater contours at this time for the management area.

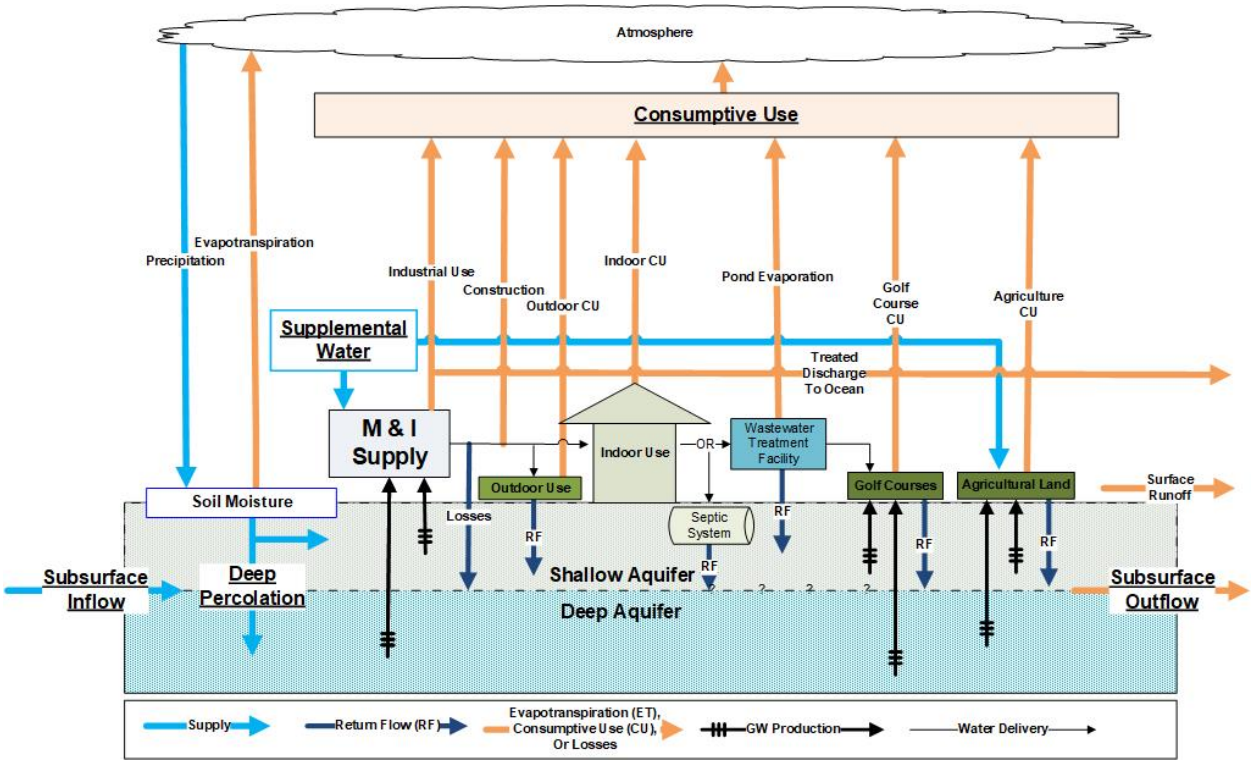


Figure 5-1. Schematic of the Hydrologic Inventory

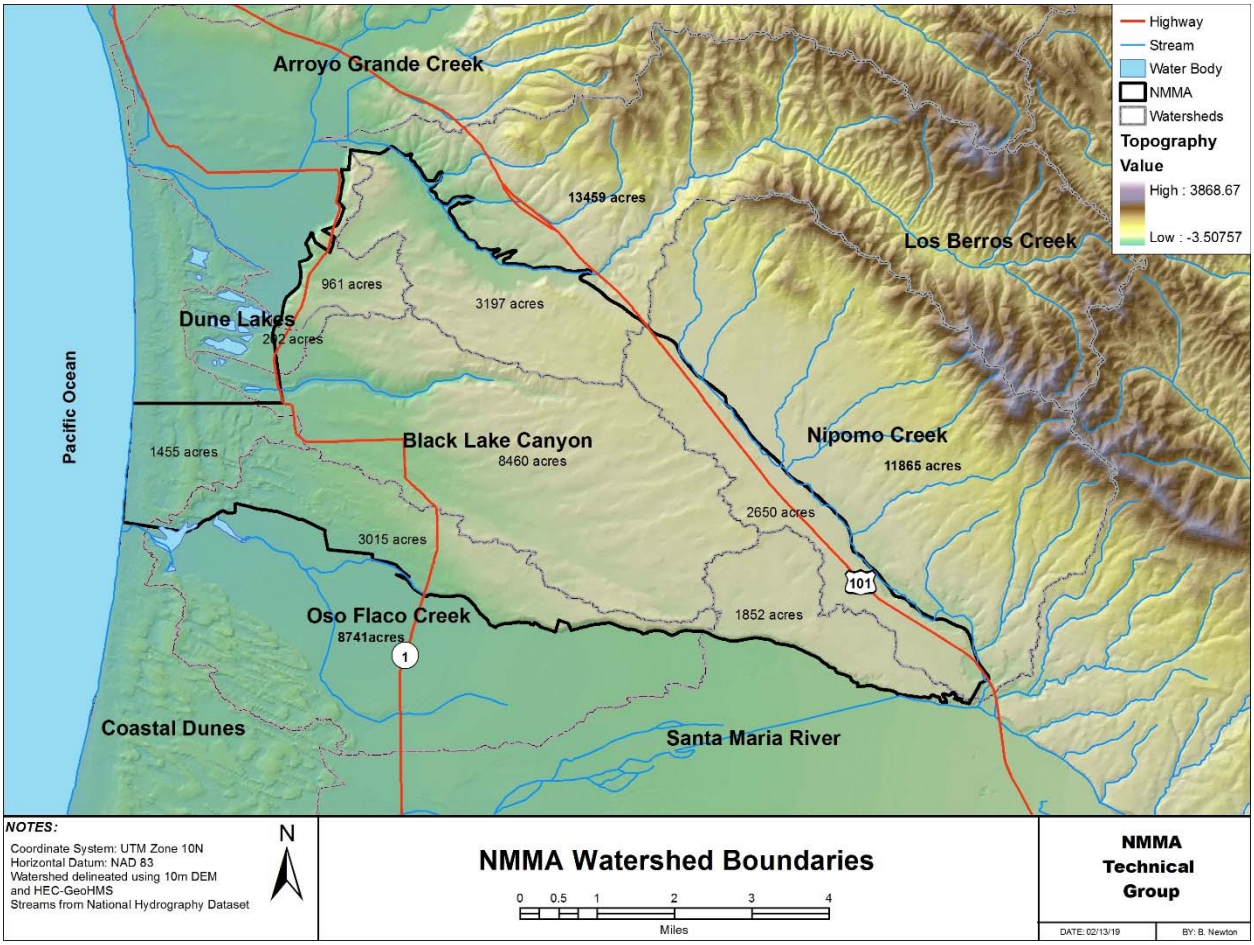


Figure 5-2. NMMA Watershed Boundaries

6. Groundwater Conditions

Groundwater conditions are primarily characterized by measurements of groundwater elevations and groundwater quality, and interpretations such as groundwater elevation contours, groundwater gradients, and historical trends in groundwater elevations and water quality.

6.1. *Groundwater Elevations*

Groundwater elevations are analyzed using several methods. Hydrographs (graphs of groundwater elevation through time) for wells within and adjacent to the NMMA were updated through CY 2020. Hydrographs were constructed for a number of wells, including the wells used to calculate the Key Wells Index and both sets of coastal monitoring wells. The key wells are combined to produce the Key Wells Index which represents groundwater levels beneath the NMMA as a whole (see Appendix B and Section 7.2.1). In coastal monitoring wells, groundwater elevations were graphed for each well completion within a nested site to compare to sea level. Finally, the aggregate of groundwater elevation measurements was used to construct groundwater contour maps for the Spring and Fall of 2020.

6.1.1. Results from Key Wells

Individual hydrographs were prepared for the key wells (Figure 6-1, Figure 6-2). These eight wells are used to calculate the Key Wells Index. Following a below normal precipitation year in 2020, groundwater elevations decreased from 2019 elevations in most key wells.

6.1.2. Results from Coastal Monitoring Wells

The elevation of groundwater in the coastal monitoring wells is very important because it is required to determine whether there is an onshore or offshore gradient to the ocean. Groundwater elevations in the nested coastal wells 12C and 36L were very similar in 2020 as compared to 2019 for coastal well 12C, and somewhat lower for coastal well 36L (Figure 6-3, Figure 6-4).

6.1.3. Groundwater Contours and Pumping Depressions

Groundwater elevation data representing water levels were plotted on separate maps for Spring and Fall of 2020 and contoured by hand. Groundwater elevation contours were constructed for both Spring and Fall of 2020 so that seasonal high and low groundwater elevation conditions could be analyzed (Figure 6-5, Figure 6-6, Figure 6-7, Figure 6-8).

There is limited information from publicly accessible wells that are screened in the shallow aquifers in the northern portion of the NMMA. Therefore, in that area, water levels from shallow wells are provided but were not contoured. Surface water elevations of the dune lakes within and immediately adjacent to the NMMA, that may be in hydraulic connection with shallow aquifers (dune sands and alluvial deposits), could also be useful in contouring of the shallow aquifer groundwater elevation. There is no formal monitoring of the dune lake water levels at this time and therefore were not used in the contouring of the shallow dune sand aquifer groundwater level. The base of the dune sand deposits rises in elevation toward the east within the NMMA (Figure 2-6). As the sloping base of the dune sands deposits approaches the relatively flat groundwater table, the saturated thickness decreases accordingly such that local areas of dune sand deposits are unsaturated. Therefore, shallow aquifer groundwater elevations from wells screened in the dune sand deposits have not been contoured in the northern and eastern NMMA, between the Wilmar Avenue fault and the northwestern projection of the Santa Maria River fault zone trend (Figure 2-1).

Spring 2020 shallow aquifer groundwater elevations in the southwestern portion of the NMMA reflect groundwater flow to the west. Groundwater elevations for select wells illustrate that spring to fall water level fluctuations are typically less than a few feet and there is a relatively stable long-term trend since 2008. Recharge to this shallow aquifer from surface is reflected in slowly rising water levels in some monitoring wells, although there is little difference in groundwater elevation in the shallow aquifer between 2019 and 2020.

Spring 2020 deep aquifer groundwater elevations are generally unchanged compared with Spring 2019, with areas of both higher and lower groundwater elevations. Fall 2020 deep aquifer groundwater elevations are generally lower compared with Fall 2019. The pumping depression within the inland portion of the NMMA continues to be expressed in both Spring and Fall 2020 deep aquifer groundwater elevation contours (Figure 6-6, Figure 6-8).

Deep aquifer groundwater contours along the eastern portion of the NMMA are sub-parallel to the eastern NMMA boundary indicating flow southwest into the NMMA. Recharge from rainfall and seepage from adjacent older sediments along and to the east of the NMMA boundary may be contributing

to the southwest flow in the NMMA. Additionally, the Los Berros Creek bed is comprised of shallow alluvium and is in places in contact with the Paso Robles formation. This suggests the Los Berros Creek may be a source of local recharge along the northern boundary of the NMMA.

6.1.4. Groundwater Gradients

Groundwater gradient direction and magnitude can be calculated directly from the groundwater elevation contour maps; however, numerical computations are not presented here because local structural and stratigraphic controls on the NMMA groundwater flow regime are not sufficiently understood. The discussion of gradients is separated into coastal groundwater gradients that could affect potential seawater intrusion and gradients to and from adjacent management areas.

Coastal Gradients

Shallow dune sand aquifer groundwater contours in both Spring and Fall 2020 show a seaward gradient in the western NMMA. Deep aquifer groundwater contours in Spring 2020 show a landward gradient in the northwestern portion of the NMMA. There is only a small difference in deep aquifer groundwater elevations parallel to the coastline between the coastal plain of the NCMA, the coastal portion of the NMMA, and the pumping depression in the central portion of the NMMA. In Fall 2020, there continues to be a deep aquifer groundwater gradient that is landward from the coast, toward a broad area of the inland pumping depression which is below sea level.

The deep aquifer groundwater divide that historically separated the coastal area from inland areas was a transient feature formed because of the inland pumping depression. Although deep aquifer groundwater elevations at the southern coastal monitoring wells are above those defined for water shortage conditions, having such a landward gradient from coastal to inland increases the potential for seawater intrusion. This condition is not prudent for the long-term and will continue to be monitored carefully.

Gradients between Adjacent Management Areas

The shallow aquifer groundwater gradient along the southern boundary of the NMMA indicates flow to the southwest toward the boundary with the SMVMA and toward the ocean (Figure 6-5, Figure 6-7). The deep aquifer groundwater elevation contours between the NMMA and the NCMA indicate that the gradient between the management areas remains relatively flat in both Spring and Fall 2020. The deep aquifer groundwater gradient along the southern boundary of the NMMA indicates flow in to and out of the NMMA boundary with the SMVMA (Figure 6-6, Figure 6-8).

6.2. *Groundwater Quality*

Water quality is a concern for all groundwater producers, although the specific concerns vary by water use. Water quality is somewhat different in different portions of the NMMA because:

- the source of recharge varies for different portions of the aquifer system,
- groundwater can develop different mineral signatures from the rock it flows through, and
- percolation of surface water can mobilize constituents of concern and carry these into the aquifers.

Water quality conditions in the NMMA during CY 2020 exhibit much of the same variability as observed in prior years. The following sections describe coastal water quality and inland water quality conditions.

6.2.1. Results of Coastal Groundwater Quality Monitoring

There is no evidence of seawater intrusion based on coastal groundwater quality. Quarterly coastal groundwater quality monitoring within the NMMA boundary is currently conducted at the nested wells site 11N36W12C01, 12C02, and 12C03, but the TG is also aware of published data for coastal groundwater quality conditions in the NCMA, at nested wells site 12N36W36L01 and 36L02. Limited historical groundwater quality data are also available for other coastal monitoring wells south of the NMMA near Oso Flaco, and from other coastal monitoring sites north of the 36L well. Chloride concentrations in the coastal wells are less than 100 mg/L, and do not show evidence of significant change over time (Figure 6-9). Coastal water quality monitoring at 11N36W12C01, 12C02, and 12C03 in 2020 also shows consistent results with respect to other common water quality characteristics such as total dissolved solids and electrical conductivity (Figure 6-10). Values for these constituents confirm relatively high dissolved ion content in groundwater, but at historically consistent values that are mostly within limits for existing uses.

Starting in 2018, the TG expanded the suite of ions analyzed that can be indicators of seawater intrusion. A series of charts display historical concentrations of major ions in groundwater from the coastal monitoring wells (Figure 6-11 through Figure 6-20). Two types of charts are included: major ion ratios compared to typical seawater (Figures 6-11 through 6-15), and time series of major ions (Figure 6-16 through 6-20). The purpose of presenting these data is to help document any significant changes in NMMA coastal groundwater chemistry. Major ion concentrations as well as ratios of different ions can be used to help determine if salinization of an aquifer is occurring and, if so, whether the source is seawater, sediments, or other factors.

There are no trends or changes in recent years that would suggest the onset of any contamination by a saline water source or seawater. Together with the historical chloride and electrical conductivity data, ion ratios of groundwater sampled in the coastal monitoring wells show that there are currently no ionic indicators of seawater intrusion.

6.2.2. Results of Inland Groundwater Quality Monitoring

In general, water quality of groundwater from NMMA wells is suitable for its existing uses and meets US EPA requirements for those intended uses. Exceptions include locally contaminated shallow groundwater where surface discharges or leaching have produced elevated concentrations of water quality constituents of concern. Examples include an ongoing remediation effort at a coastal refinery (in the unused shallow aquifer only), areas of nitrate contamination and a water supply well which has 1,2,3-Trichloropropane (1,2,3-TCP) concentrations slightly higher than the notification level of 5 ng/L. In most cases, these contaminants exist locally and are being monitored and managed with the oversight of local and regional regulatory agencies.

Groundwater from inland wells has a wide range of groundwater quality composition and can be variable, both between wells with similar groundwater elevations drawing water from the same aquifer, and over time within a single well. Chloride and total dissolved solids concentrations in samples from inland deep aquifer groundwater wells have been relatively constant over time, while groundwater in some shallow dune sand aquifer wells exhibits elevated nitrate concentrations or increasing salinity. During 2020, 65 water supply wells in addition to 16 monitoring wells and 17 environmental monitoring wells were sampled at least once for water quality; many were sampled multiple times during the year for many water quality constituents. The water quality components evaluated vary by well and sampling periods depending on the purpose of sampling and on regulatory requirements.

Approximately ten water supply wells that produce at least in part or primarily from the deep groundwater aquifer are known to have water quality with nitrate concentrations at, or in excess of primary drinking water maximum contaminant levels, or with iron and manganese concentrations in excess of secondary drinking water maximum contaminant levels. Iron and manganese water quality concerns are historically limited to a few wells in the southern NMMA.

Nitrate concentrations of at least half the MCL are documented for more than two dozen water supply wells, up to one and half times the MCL, and are located throughout the inland portions of the NMMA. Such groundwater must be treated or blended before it can be used in potable water systems. In the shallow aquifer, groundwater is observed to have nitrate concentrations up to ten times the MCL in local sampling, though none of these wells is used for water supply.

No other water quality constituents are currently known to restrict local use of groundwater supplies for domestic or irrigation purposes.

Nitrate: Elevated nitrate concentrations in groundwater generally result from anthropogenic causes. Nitrate is mainly a potable water concern (as compared to a concern for irrigation water).

Of the 65 water supply production wells sampled in CY 2020, water samples from three wells had nitrate concentrations in excess of the nitrate drinking water standard maximum contaminants level (MCL) at least once. Water samples from another production well screened in the principal producing aquifers have long-term elevated iron and manganese concentrations greater than the secondary MCL and require treatment or blending prior to use.

Chloride: A primary concern for both drinking water and irrigation use is high chloride concentrations. Depending upon the crop, chloride concentrations well below the secondary MCL of 500 mg/L can cause leaf burn, plant stunting, and plant death. Elevated chloride concentrations can occur in groundwater, especially in shallow or unconfined aquifers, from the recharge of return flows and tidal.

In CY 2020, chloride concentrations measured in coastal monitoring wells and in deep aquifer water supply wells were below 100 mg/L, with little change from previous years. Chloride concentrations up to 170 mg/L were observed in groundwater from shallow monitoring wells near industrial and wastewater facilities, well below the secondary MCL of 250 mg/L.

Total Dissolved Solids (TDS): In CY 2020, concentrations of TDS were mostly at or below 1,000 mg/L, the California recommended secondary standard, and are largely unchanged from previous years. Groundwater from one water supply well in the deep aquifer had TDS concentrations as high as 1,100 mg/L. Elsewhere within the NMMA, TDS concentrations for the deep aquifer in CY 2020 varied considerably, from 200 to 690 mg/L. In the shallow aquifer, TDS concentrations in CY 2020 ranged between 140 and 1,230 mg/L.

Hydrocarbons and Trace Metals. Two local sites of known or potential soil and shallow groundwater contamination are described by environment assessments or ongoing monitoring activity within the NMMA. The open sites are regulated by the RWQCB and are subject to corresponding monitoring, assessment or other action (Table 6-1).

Table 6-1. 2020 State Water Resources Control Board GeoTracker Open Sites

Site Name	Address	Status	Notes
Conoco Phillips Line 300	Tefft St at Carrillo St	Open; Site Assessment	Petroleum hydrocarbon impacts to soil and shallow groundwater adjacent to two petroleum pipelines (P66 & Unocal). No cleanup actions required as of 2020.
Phillips 66 Refinery, Santa Maria Facility	2555 Willow Rd	Open; Site Assessment and Interim Remedial Action	Metals, petroleum hydrocarbon and related organic contaminants in vicinity of former coke pile and slops line. LNAPL recovery from soils and shallow aquifer ongoing.
Source: http://geotracker.waterboards.ca.gov			

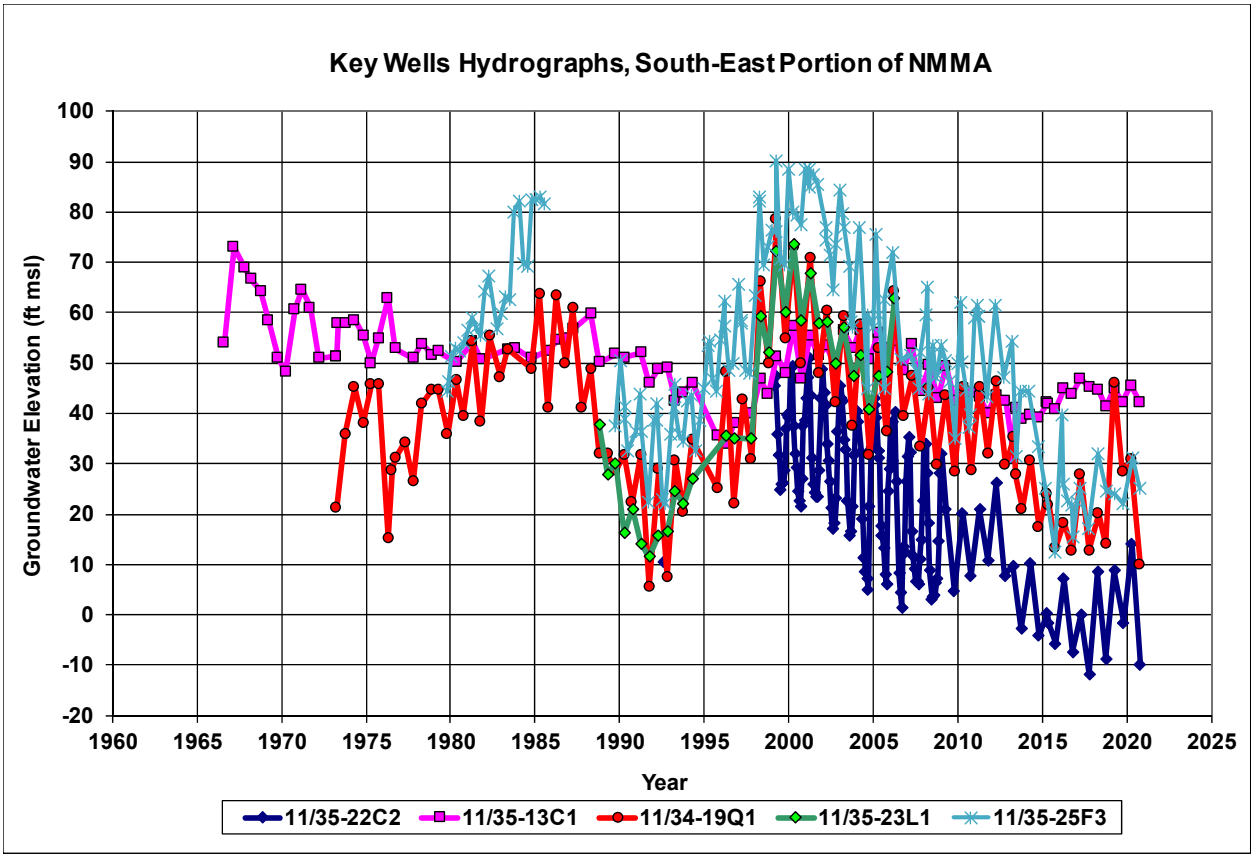


Figure 6-1. Key Wells Hydrographs, South-East Portion of NMMA

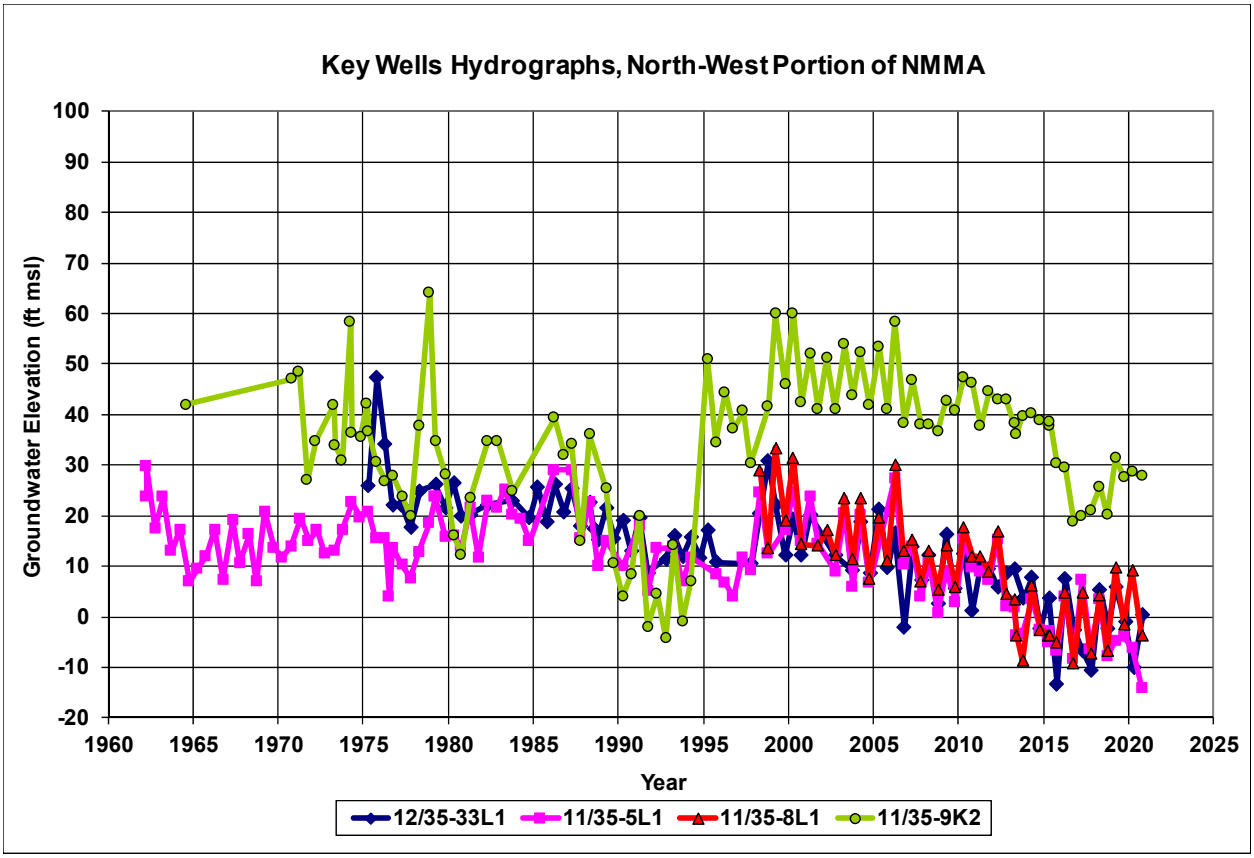


Figure 6-2. Key Wells Hydrographs, North-West Portion of NMMA

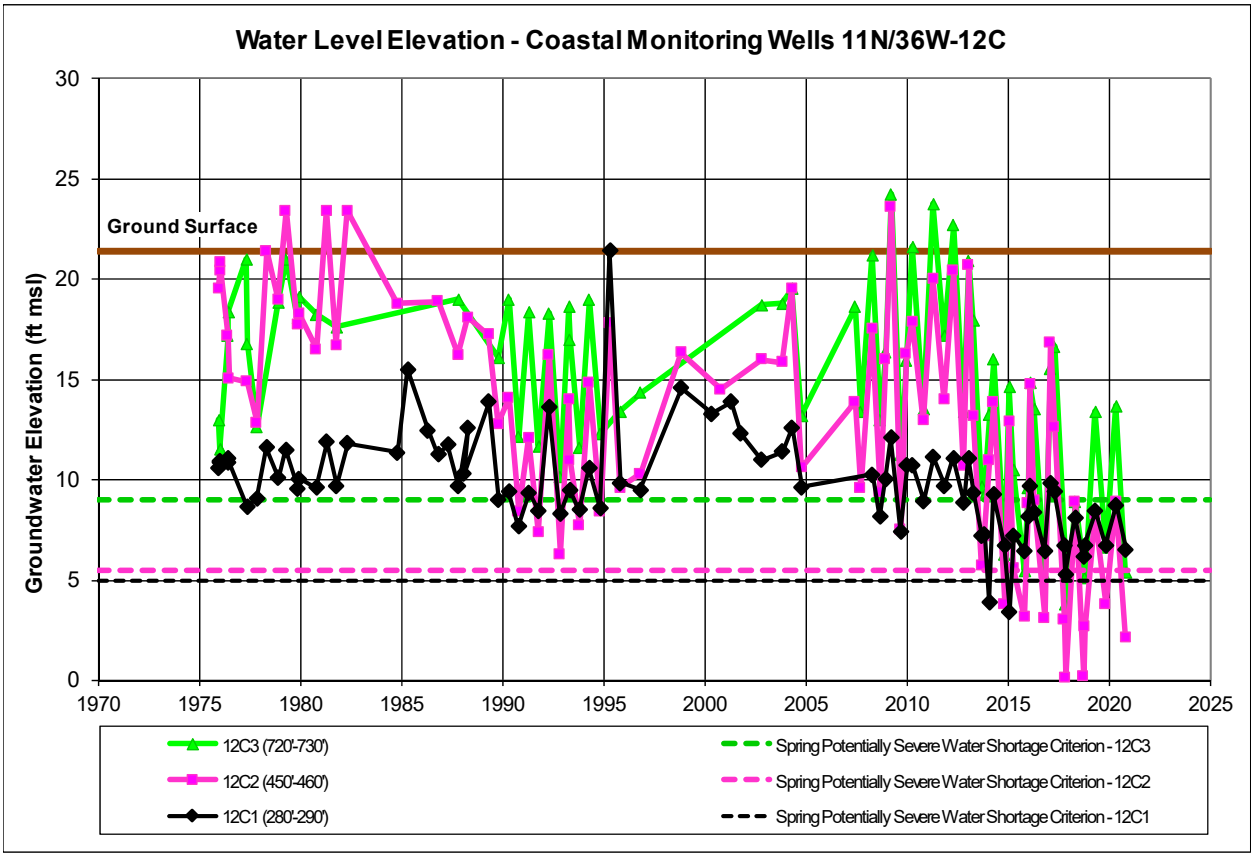


Figure 6-3. Hydrograph for Coastal Monitoring Well Nest 11N/36W-12C Note: Water levels measured under artesian flow prior to 2008 were observed without measuring the hydraulic head and recorded as a default value of 2 feet above the casing.

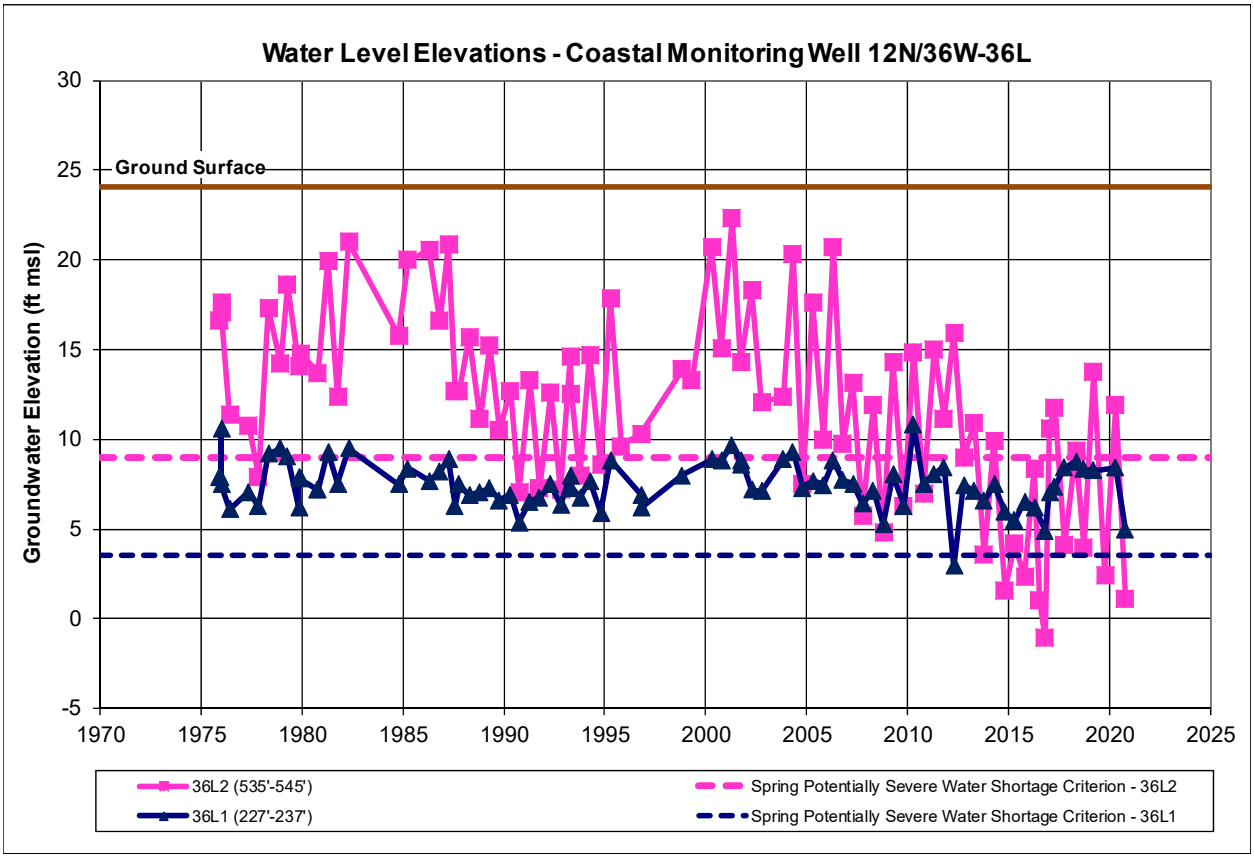


Figure 6-4. Hydrograph for Coastal Monitoring Well Nest 12N/36W-36L

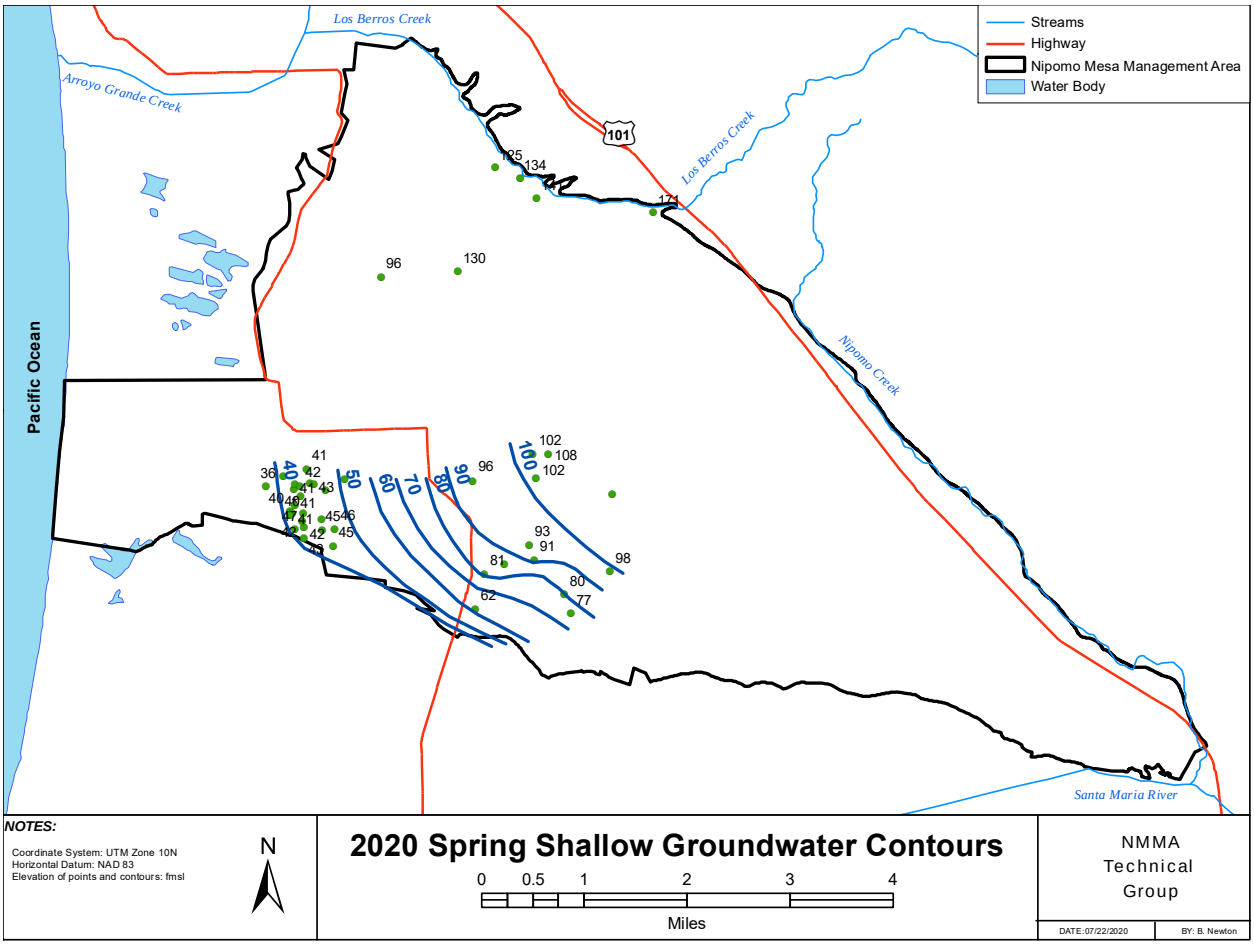


Figure 6-5. 2020 Spring Shallow Aquifer Groundwater Contours

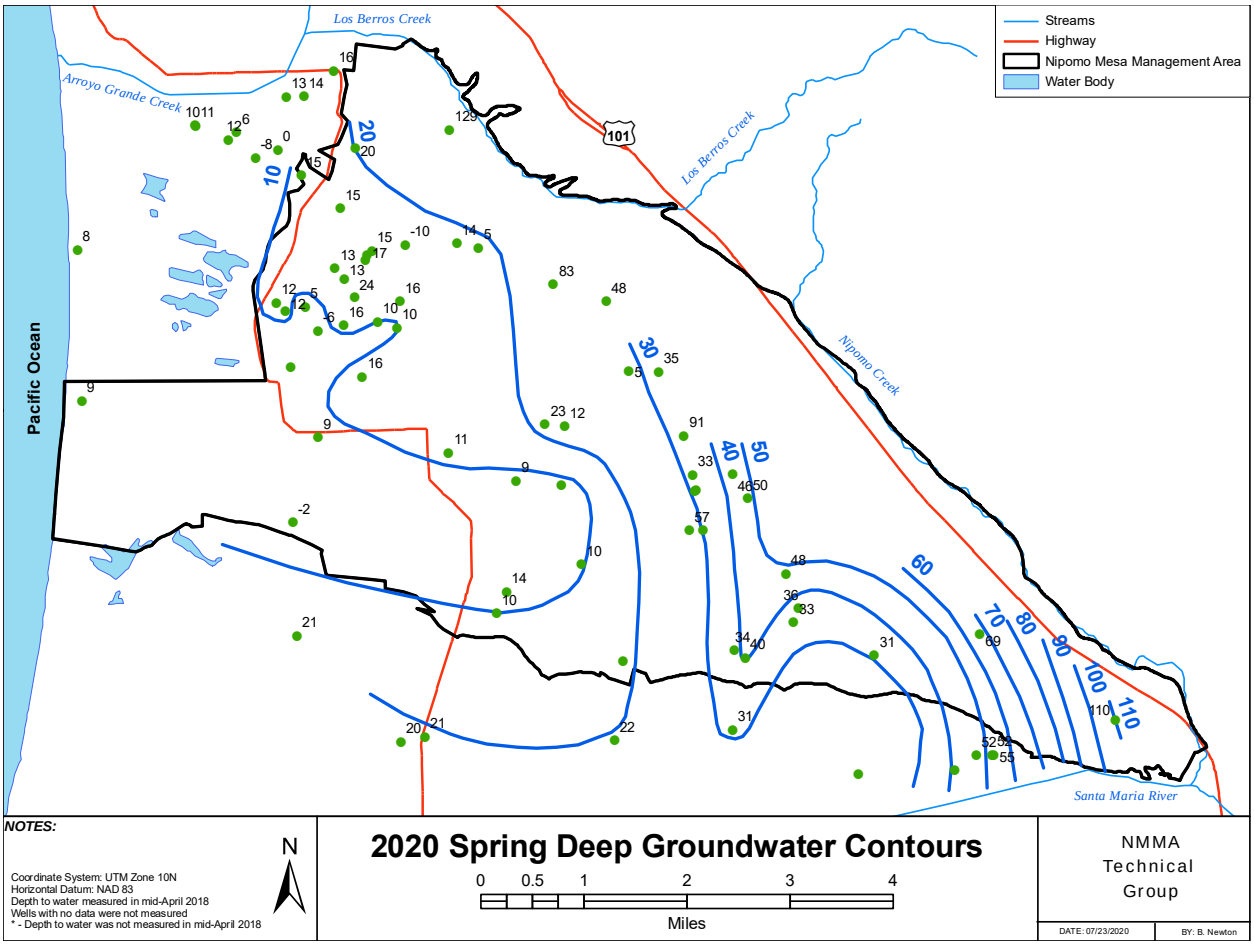


Figure 6-6. 2020 Spring Deep Aquifer Groundwater Contours

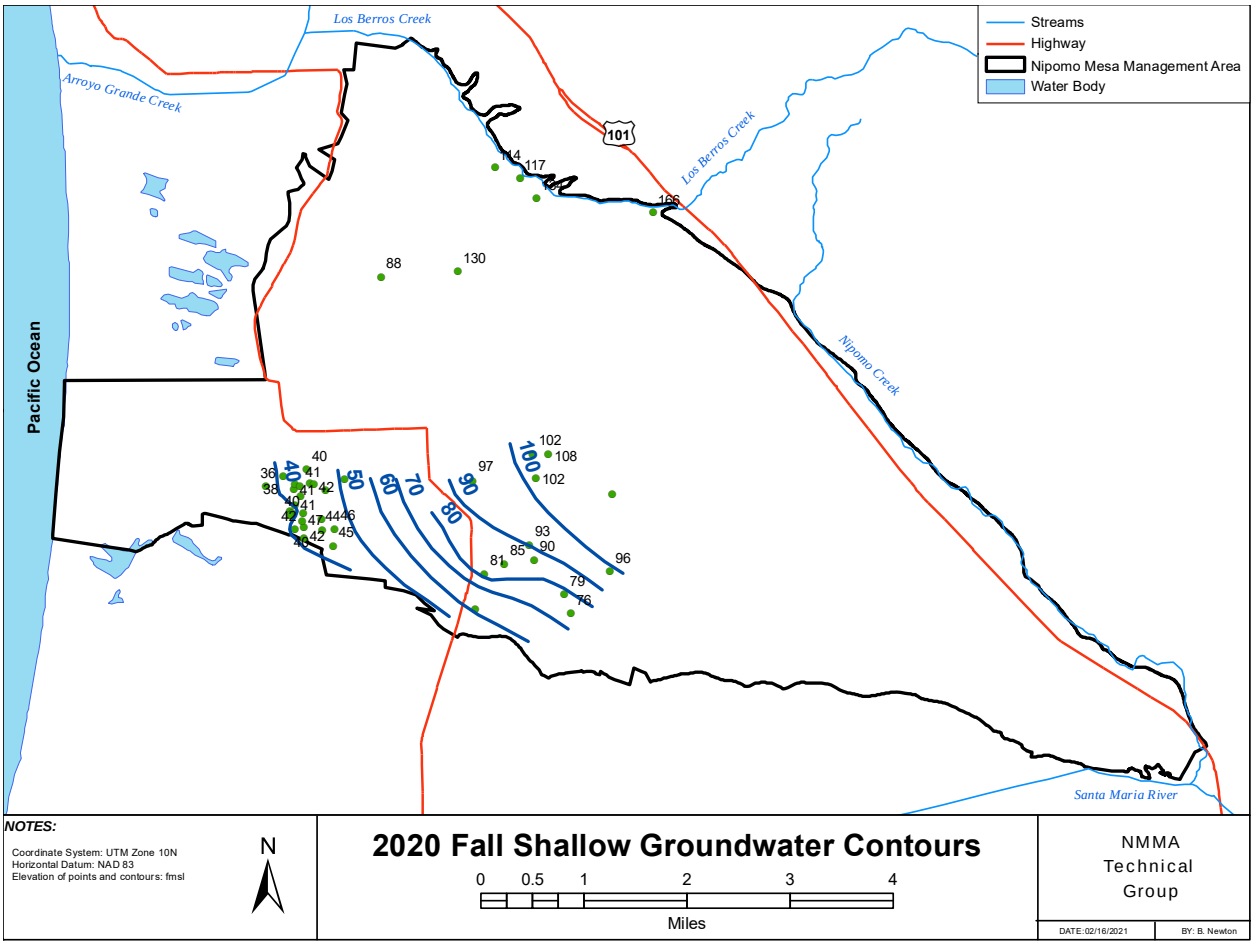


Figure 6-7. 2020 Fall Shallow Aquifer Groundwater Contours

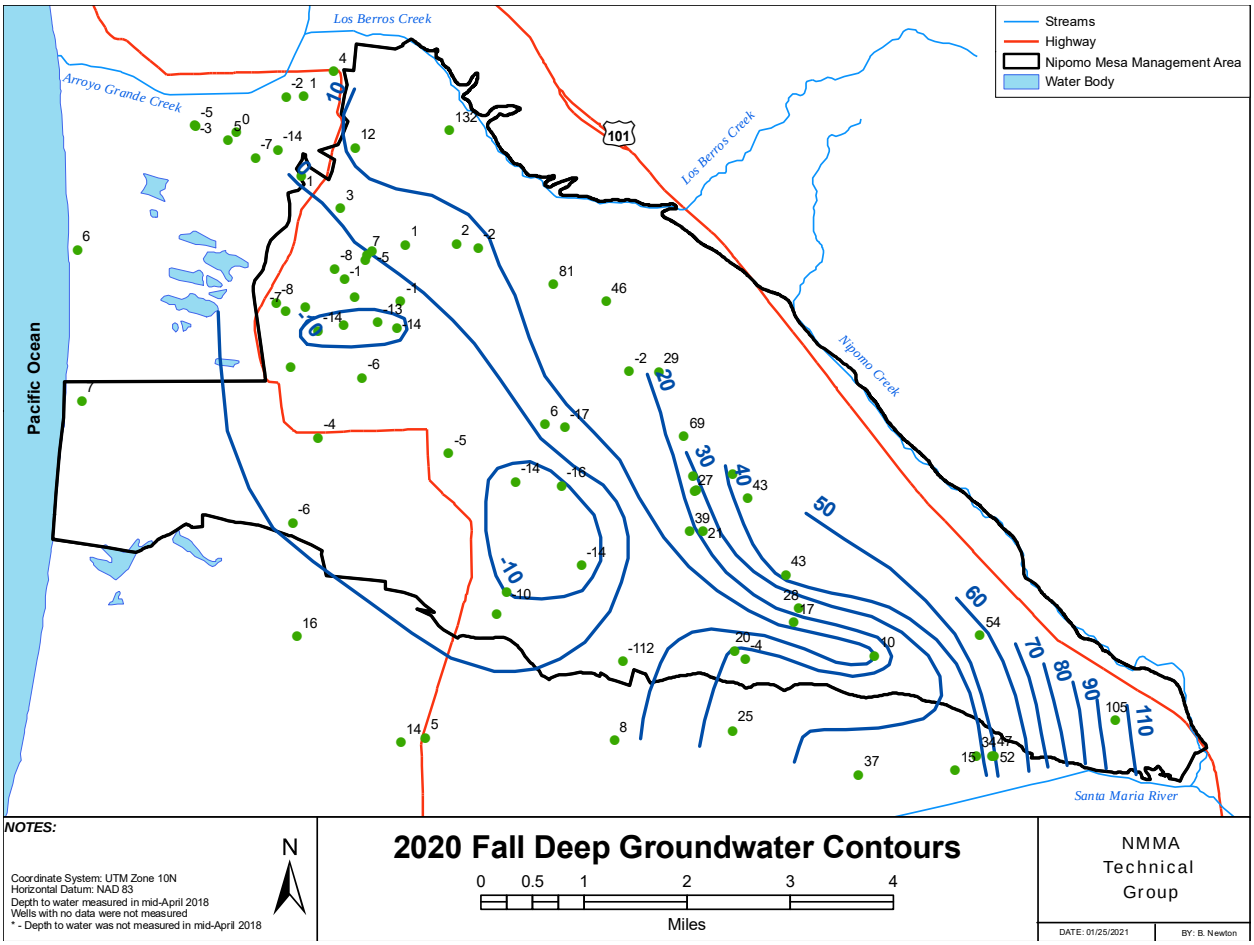


Figure 6-8. 2020 Fall Deep Aquifer Groundwater Contours

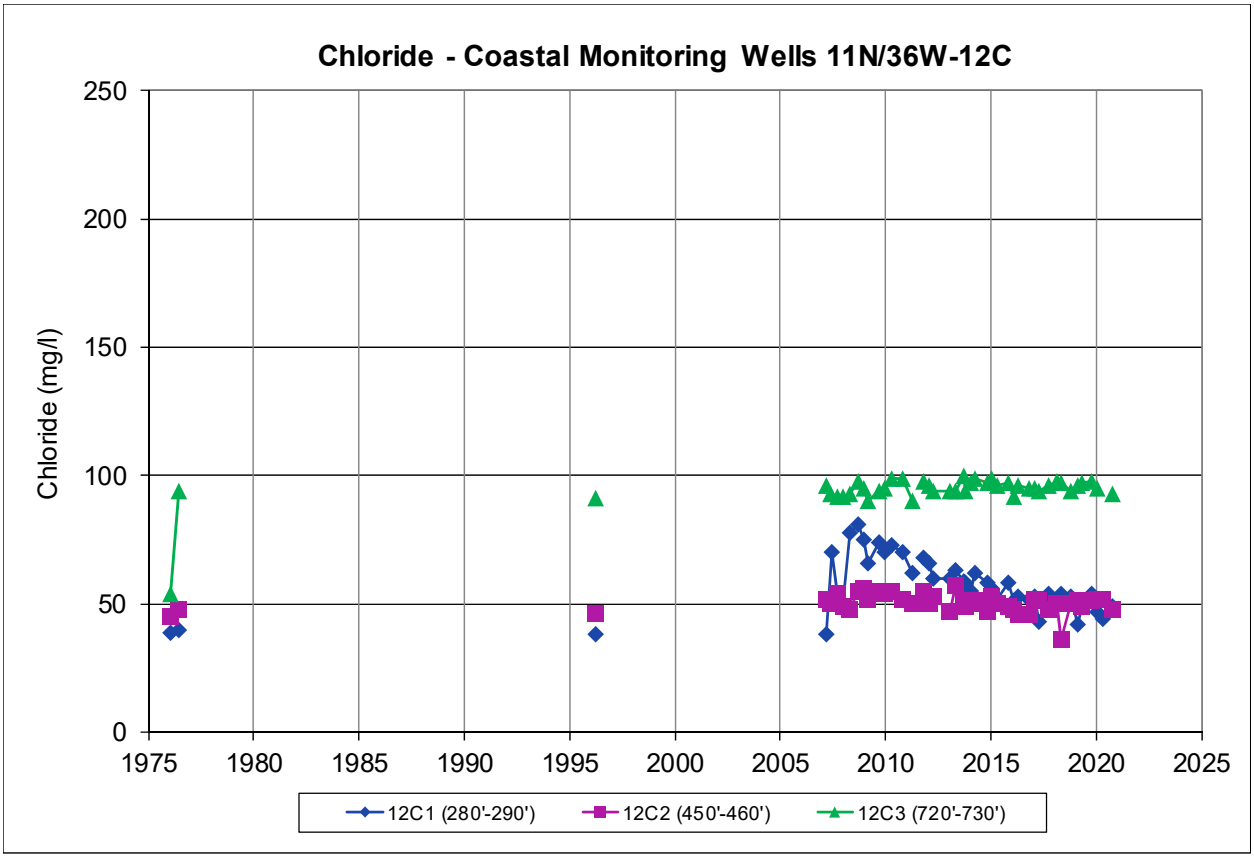


Figure 6-9. Chloride in Coastal Wells 11N/36W-12C 1, 2, and 3

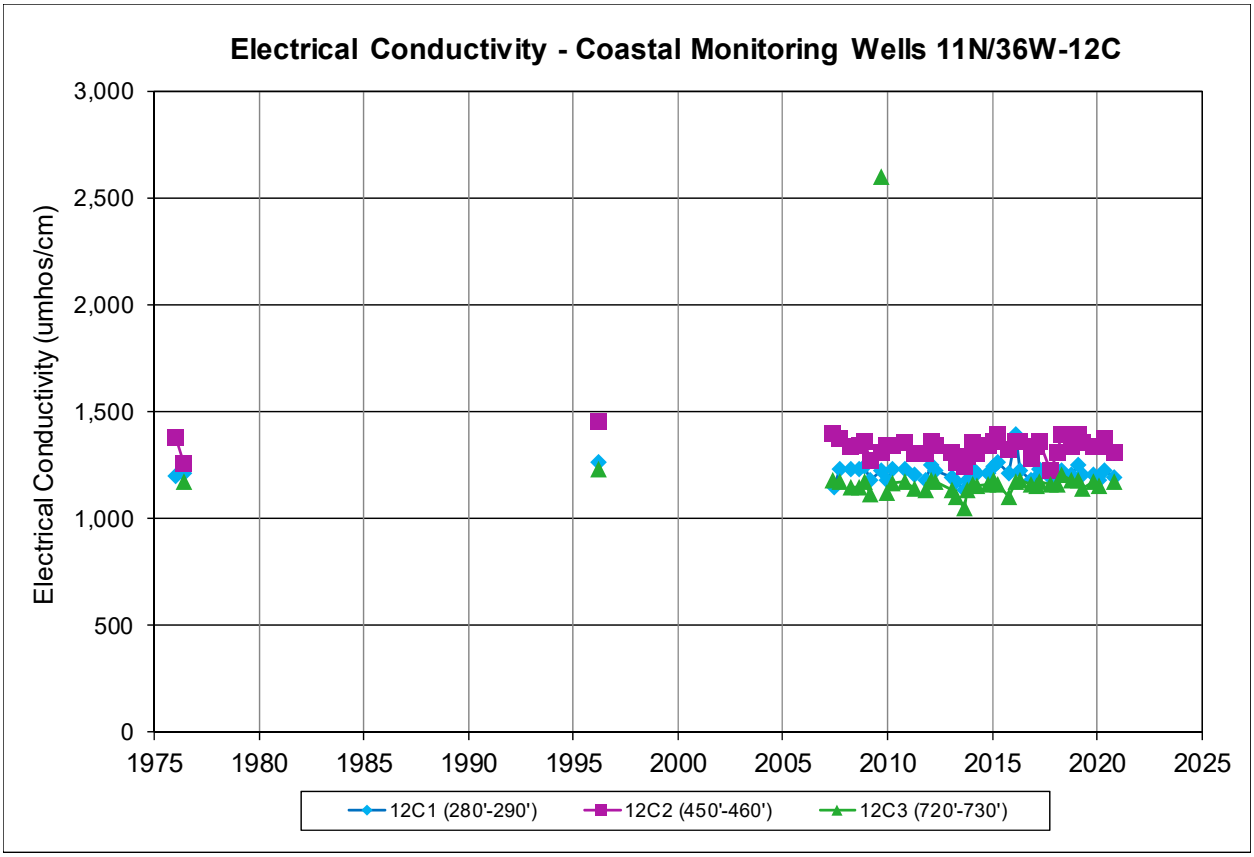


Figure 6-10. Electrical Conductivity in Coastal Wells 11N/36W-12C 1, 2, and 3

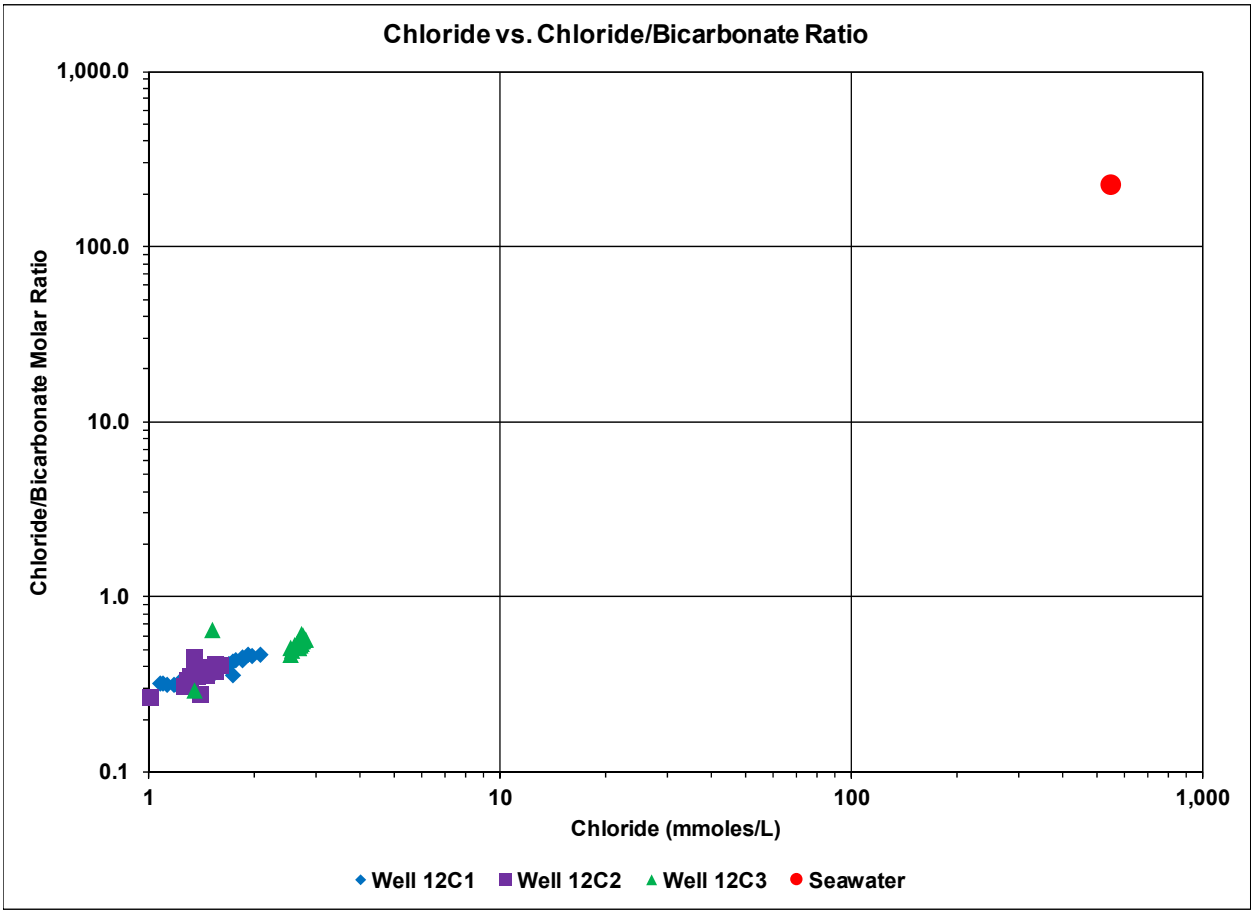


Figure 6-11. Chloride vs Chloride/Bicarbonate Ratio for Coastal Wells

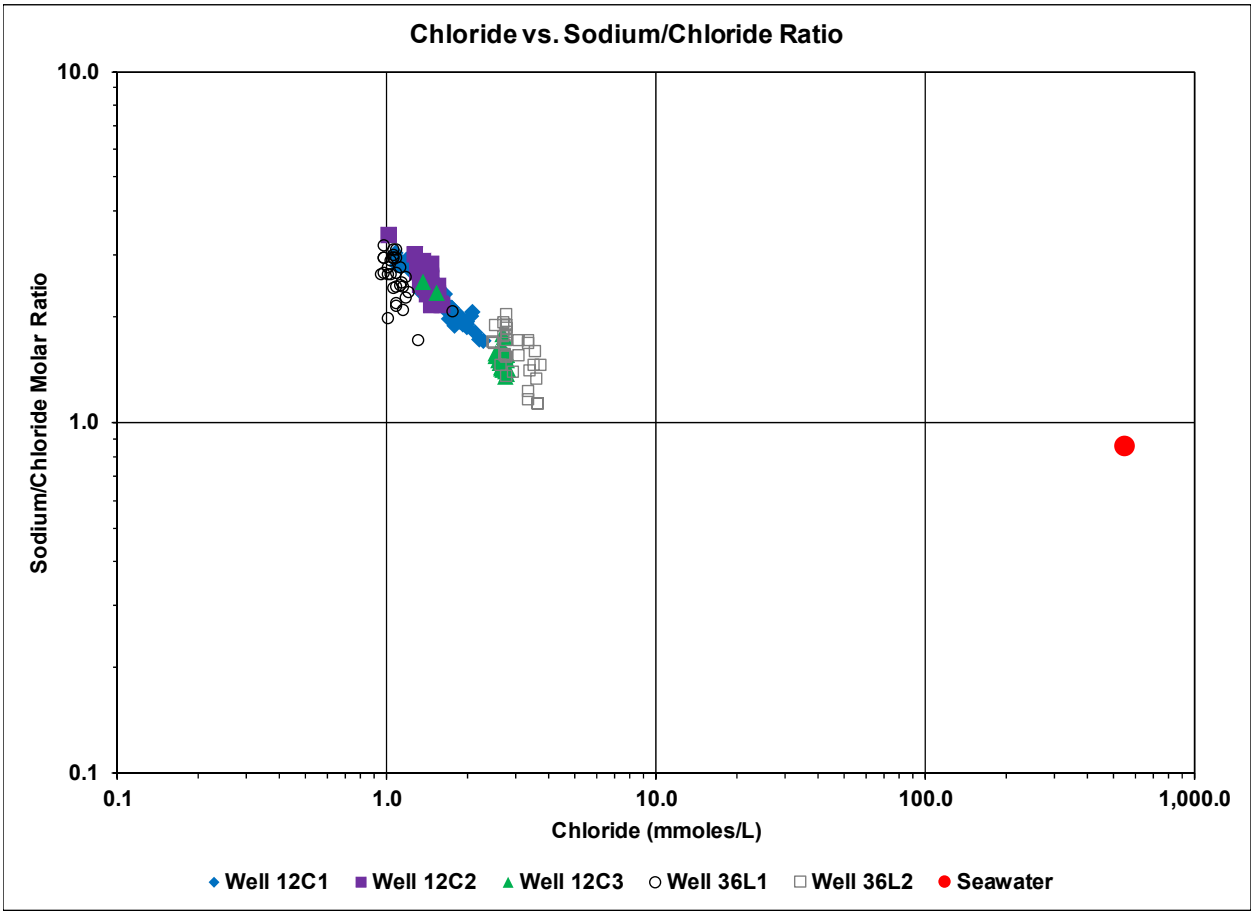


Figure 6-12. Chloride vs Sodium/Chloride Ratio for Coastal Wells

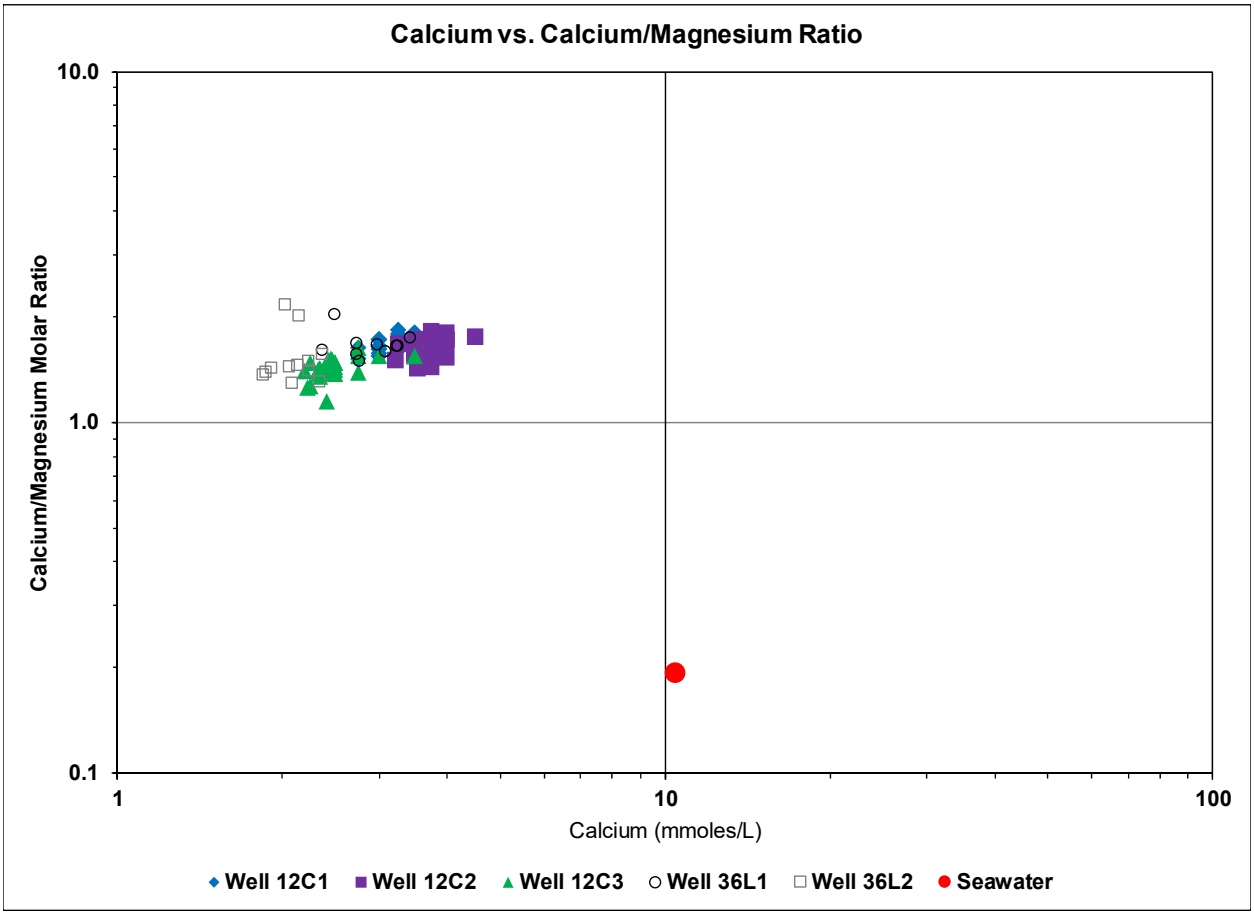


Figure 6-13. Calcium vs Calcium/Magnesium Ratio for Coastal Wells

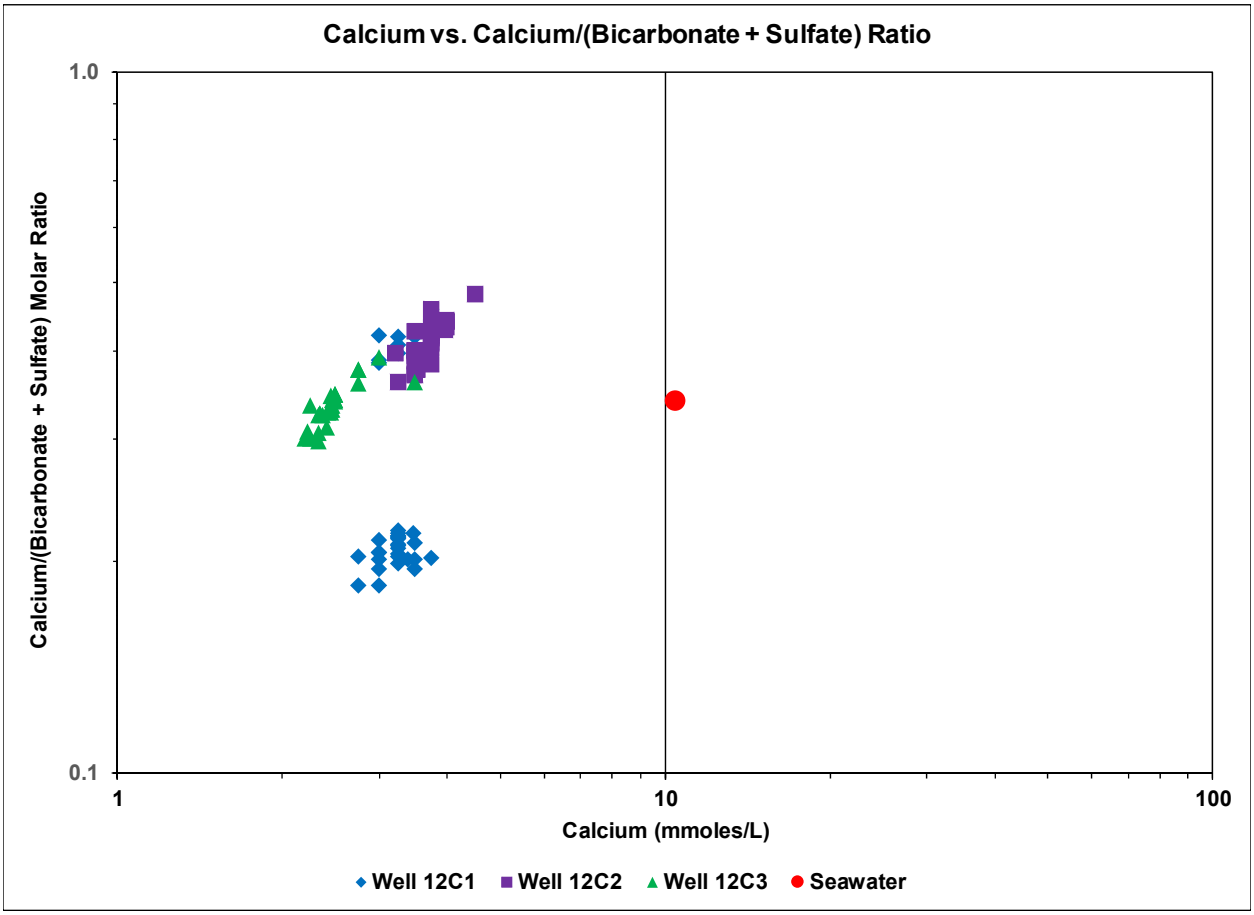


Figure 6-14. Calcium vs Calcium/(Bicarbonate + Sulfate) Ratio for Coastal Wells

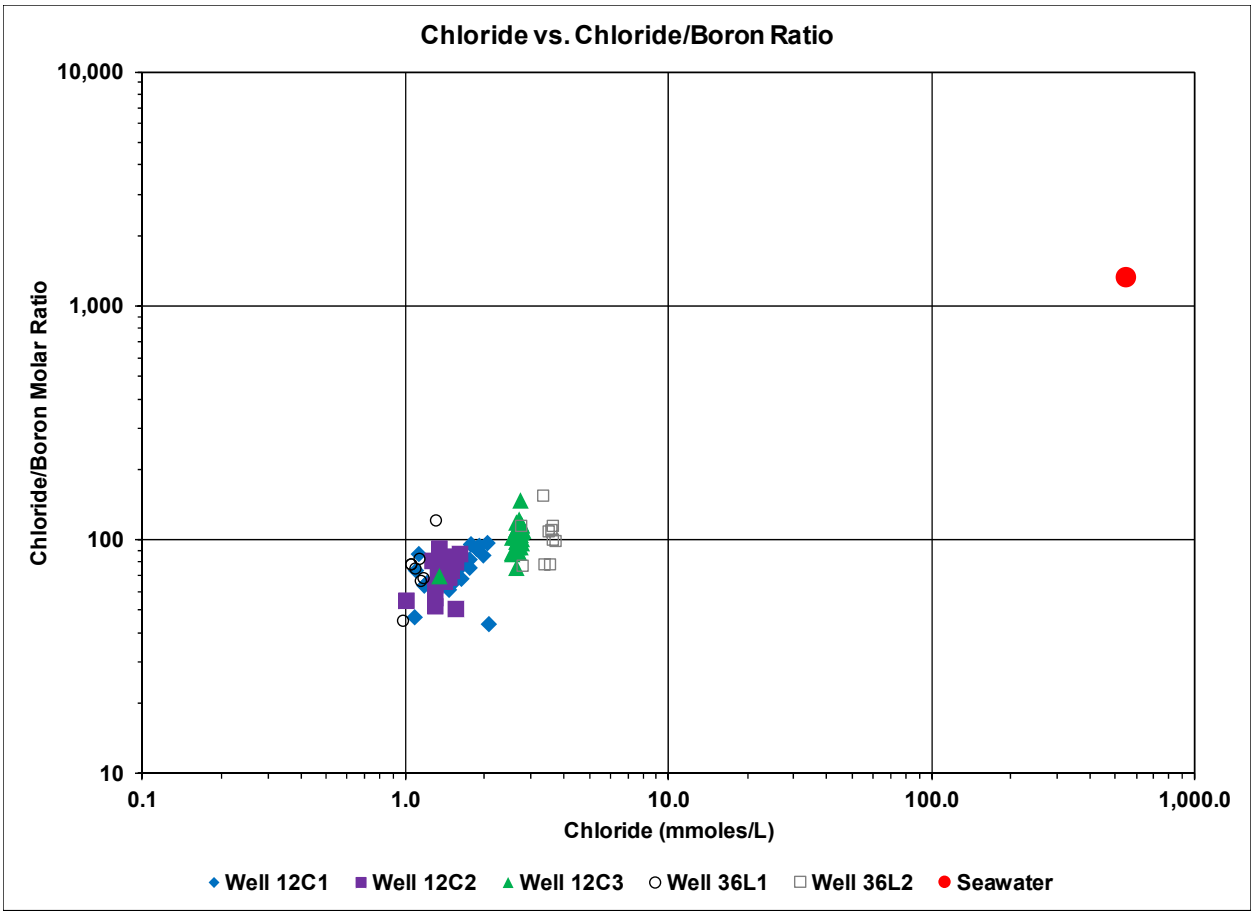


Figure 6-15. Chloride vs Chloride/Boron Ratio for Coastal Wells

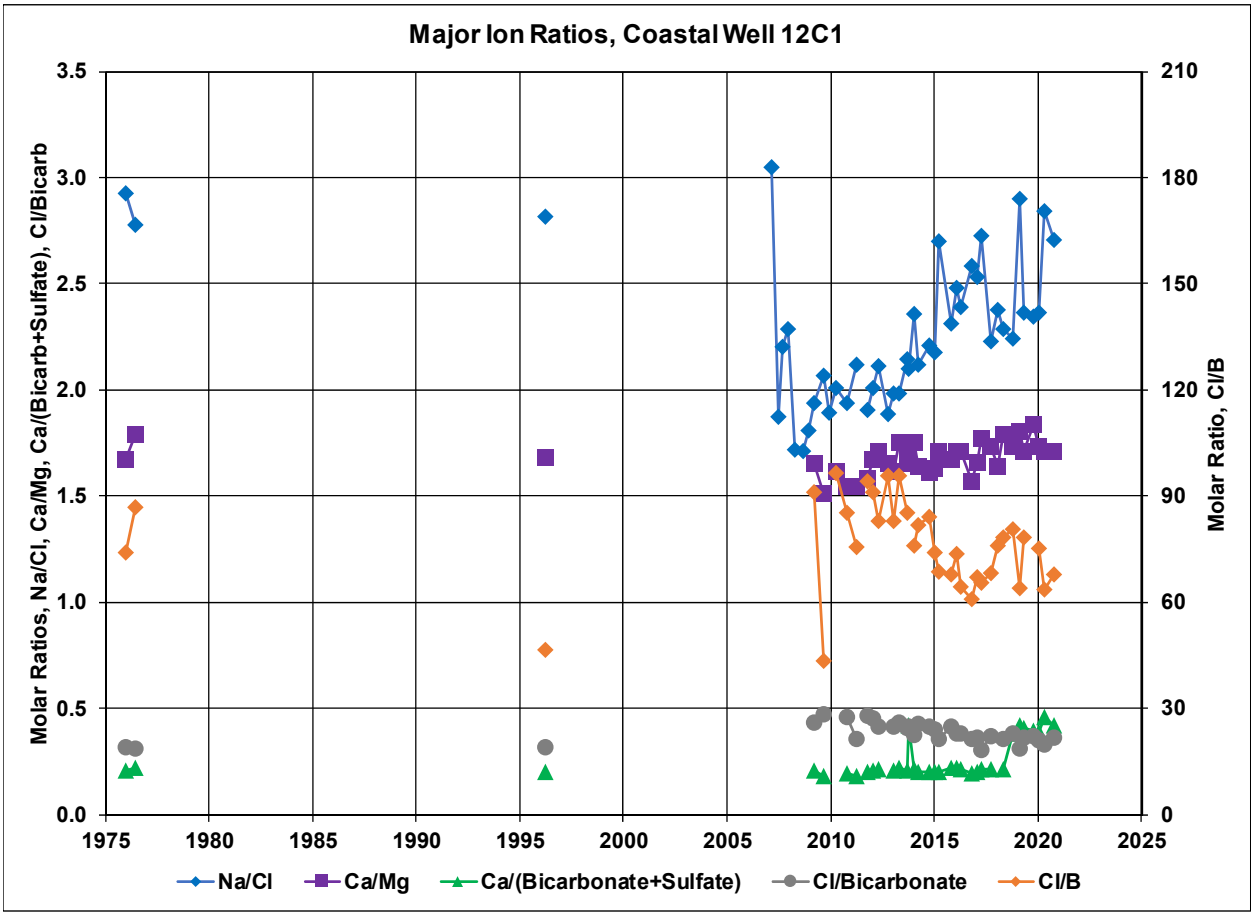


Figure 6-16. Major Ion Ratios for Coastal Well 12C1

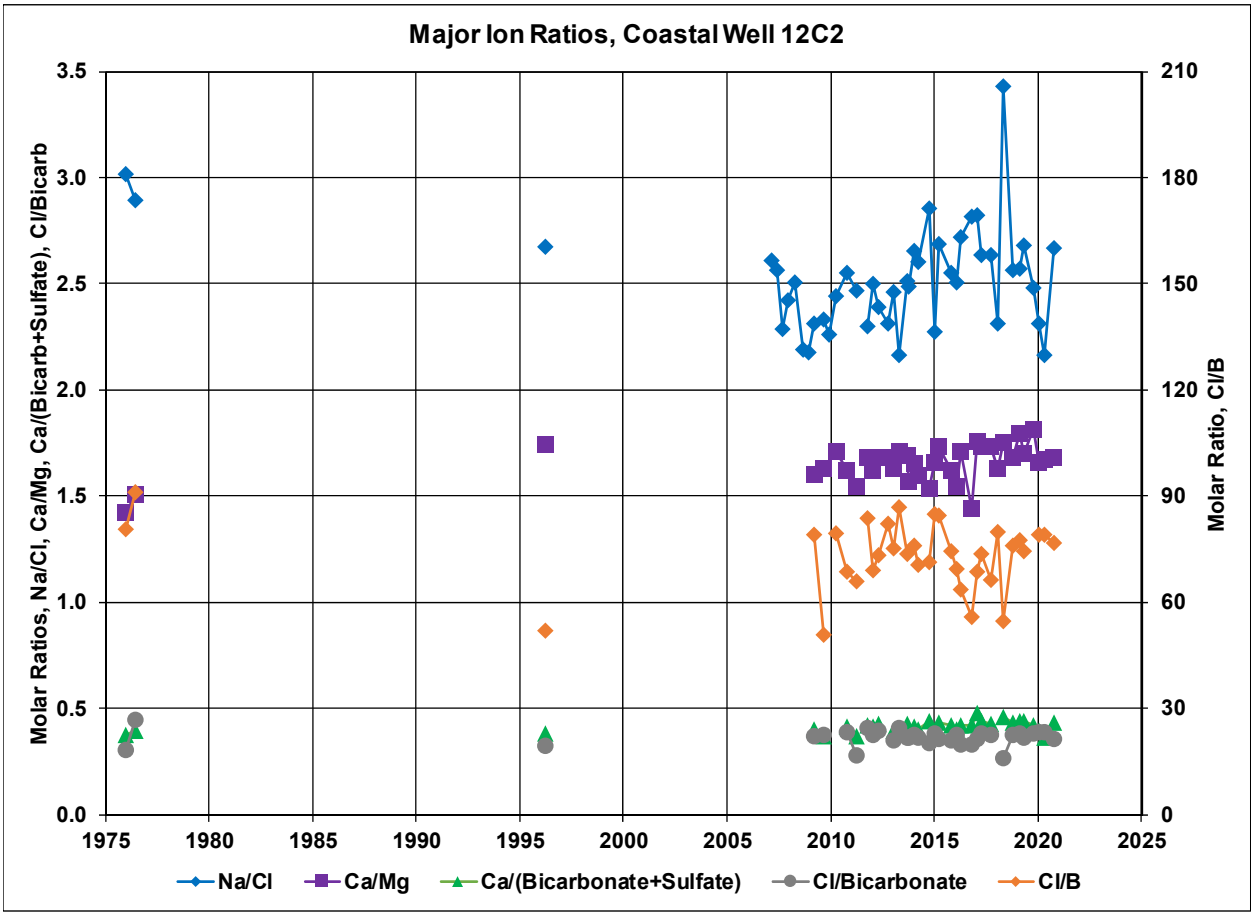


Figure 6-17. Major Ion Ratio for Coastal Well 12C2

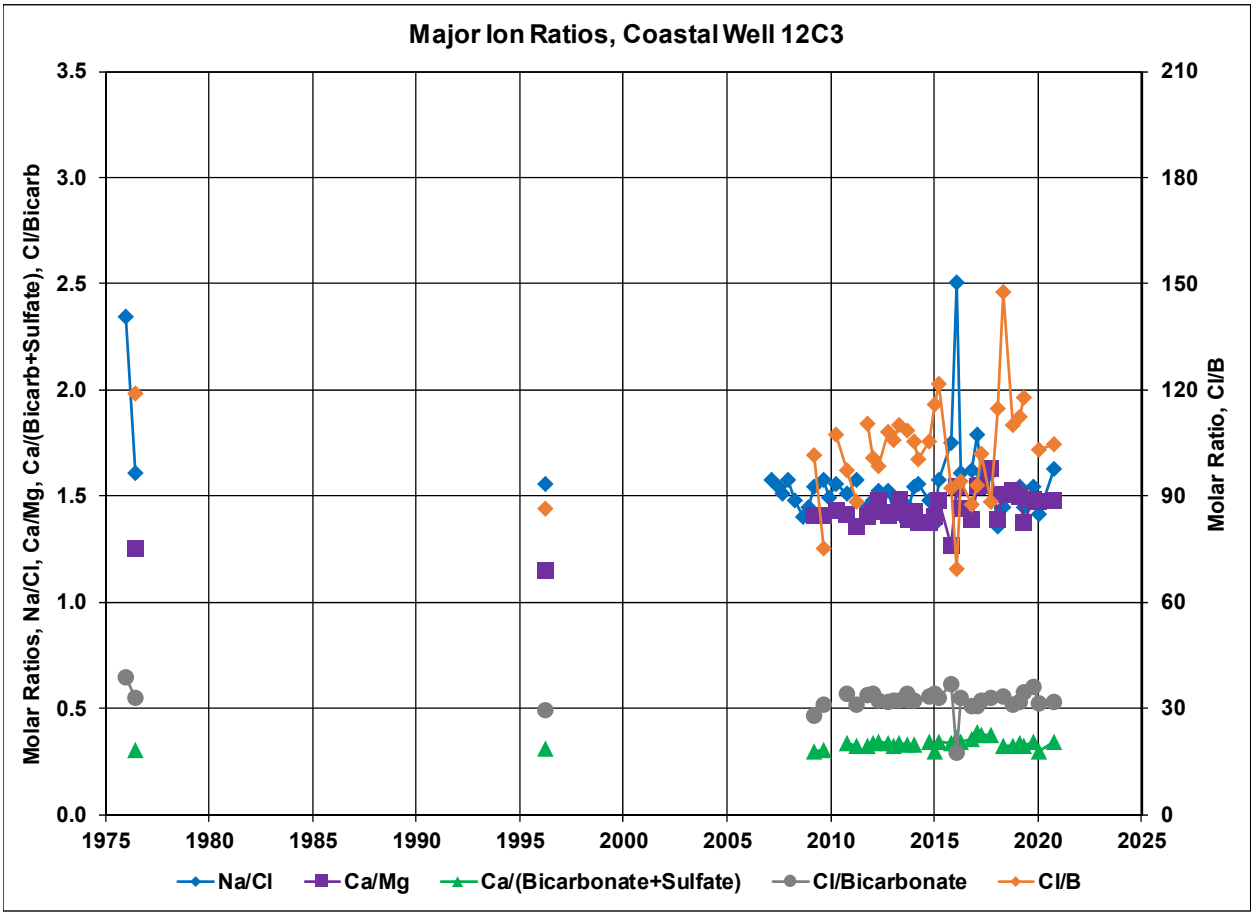


Figure 6-18. Major Ion Ratio for Coastal Well 12C3

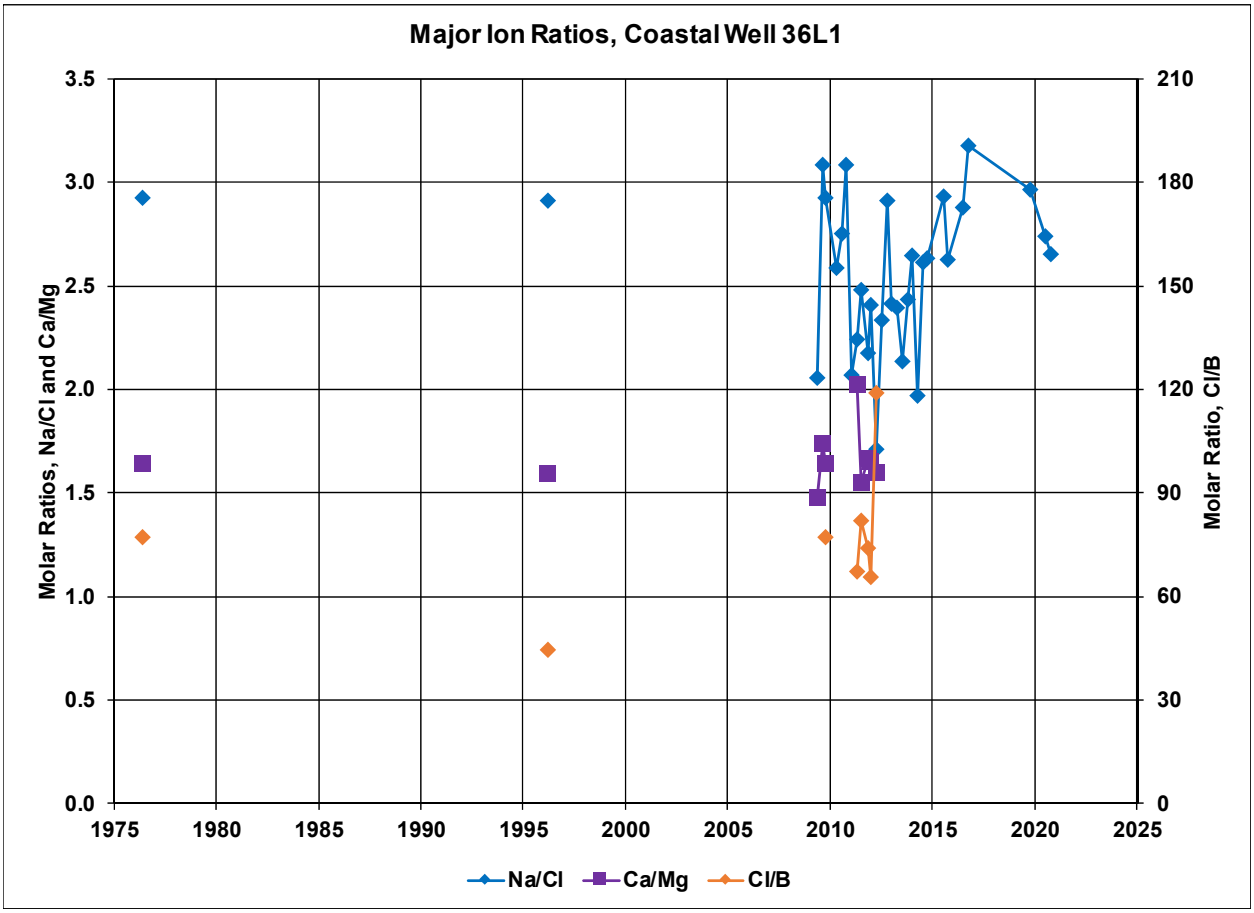


Figure 6-19. Major Ion Ratio for Coastal Well 36L1

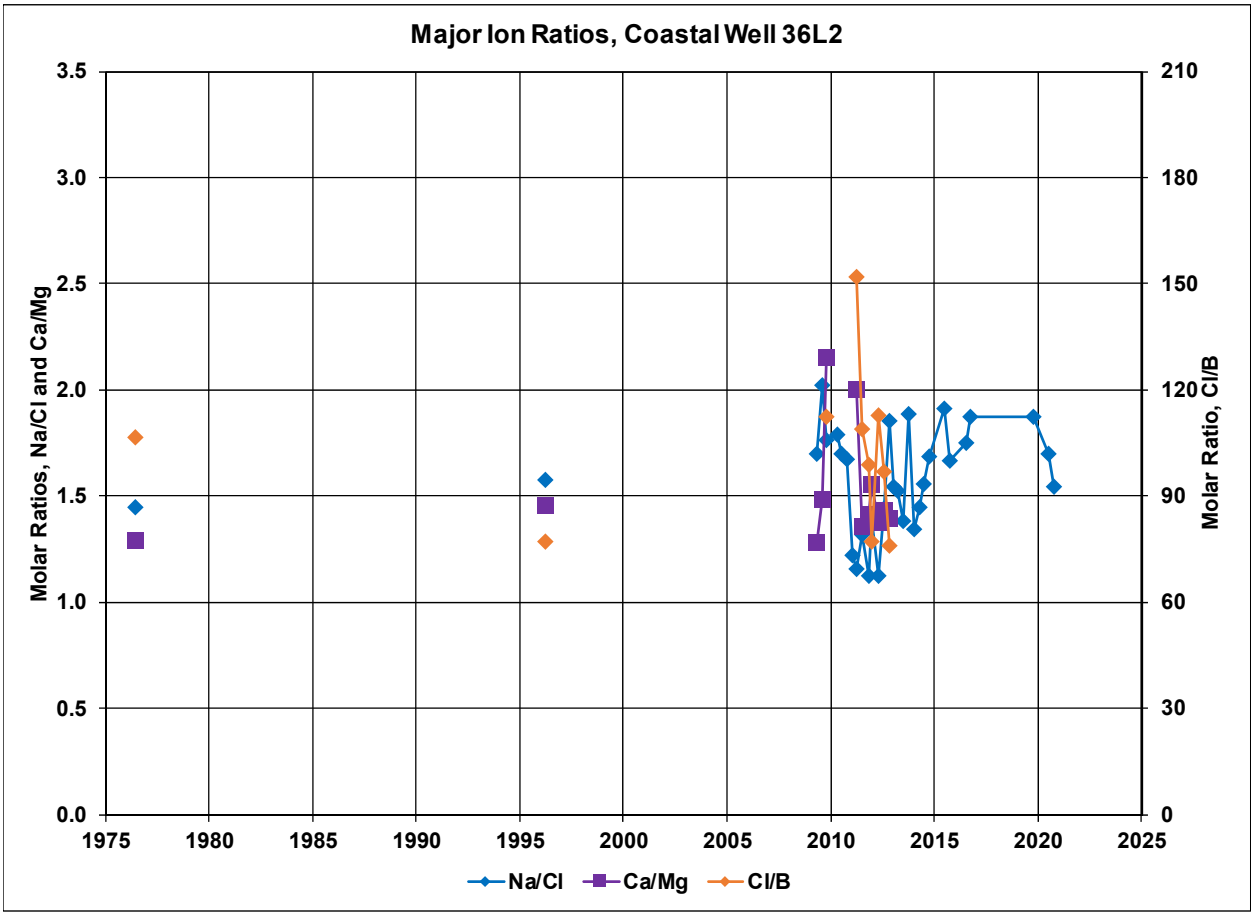


Figure 6-20. Major Ion Ratio for Coastal Well 36L2

7. Analyses of Water Conditions

Stipulation requirements, water shortage conditions, and long-term trends are presented in the following sections.

7.1. *Stipulation Requirements*

The Stipulation requires the determination of the water shortage condition as part of the Annual Report. Water shortage conditions are characterized by criteria designed to reflect that groundwater levels beneath the NMMA as a whole are at a point at which a response would be triggered to avoid further declines in groundwater levels (Potentially Severe), and to declare that the lowest historical groundwater levels beneath the NMMA as a whole have been reached or that conditions constituting seawater intrusion have been reached (Severe).

Potentially Severe Water Shortage Conditions

The Stipulation, page 25, defines Potentially Severe Water Conditions as follows:

Caution trigger point (Potentially Severe Water Shortage Conditions)

(a) Characteristics. The NMMA Technical Group shall develop criteria for declaring the existence of Potentially Severe Water Shortage Conditions. These criteria shall be approved by the Court and entered as a modification to this Stipulation or the judgment to be entered based upon this Stipulation. Such criteria shall be designed to reflect that water levels beneath the NMMA as a whole are at a point at which voluntary conservation measures, augmentation of supply, or other steps may be desirable or necessary to avoid further declines in water levels.

Severe Water Shortage Conditions

The Stipulation, page 25, defines Severe Water Conditions as follows:

Mandatory action trigger point (Severe Water Shortage Conditions)

(a) Characteristics. The NMMA Technical Group shall develop the criteria for declaring that the lowest historic water levels beneath the NMMA as a whole have been reached or that conditions constituting seawater intrusion have been reached. These criteria shall be approved by the Court and entered as a modification to this Stipulation or the judgment to be entered based upon this Stipulation.

7.2. *Water Shortage Conditions*

7.2.1. Inland Criteria

The inland criteria for water shortage conditions is the Key Wells Index. The 2020 Key Wells Index was 11.7 ft msl, indicating Severe Water Shortage Conditions (Figure 7-1).

Key Wells Index

The Key Wells Index indicates trends in groundwater elevations within inland areas of the NMMA, and is intended to reflect whether there is a general balance between inflows and outflows in the NMMA. There was a decrease in the Key Wells Index in 2020, which continues to meet the criteria for Severe Water Shortage Conditions (Figure 7-1). Groundwater elevations in several of the wells that make up the Key Wells Index have generally declined since about 2000 (see Section 6.1.1 Results from Key Wells).

7.2.2. Coastal Criteria

Coastal groundwater elevations and water quality were better than Potentially Severe Water Shortage Conditions for all criteria in Spring 2019 (Table 7-1).

Table 7-1. Criteria for Potentially Severe Water Shortage Conditions

Well	Perforations Elevations (ft msl)	Aquifer	Spring 2020 Elevations (ft msl)	Elevation Criteria (ft msl)	2020 Highest Chloride (mg/L)	Chloride Concentration Criteria (mg/L)
11N/36W-12C1	-261 to -271	Paso Robles	8.73	**5.0**	49	**250**
11N/36W-12C2	-431 to -441	Pismo	8.91	**5.5**	52	**250**
11N/36W-12C3	-701 to -711	Pismo	13.67	**9.0**	95	**250**
12N/36W-36L1	-200 to -210	Paso Robles	8.42	**3.5**	40	**250**
12N/36W-36L2	-508 to -518	Pismo	11.88	**9.0**	100	**250**

7.2.3. Status of Water Shortage Conditions

The Key Wells Index remains below the Severe Water Shortage Conditions in 2020. Exiting the Severe Water Shortage Conditions requires two consecutive years where the Key Wells Index is above the level of Severe Water Shortage Conditions.

The responses discussed in the Stipulation are set forth as follows:

VI(D)(2b) Responses [Severe Water Shortage Conditions]. *As a first response, subparagraphs (i) through (iii) shall be imposed concurrently upon order of the Court. The Court may also order the Stipulating Parties to implement all or some portion of the additional responses provided in subparagraph below.*

> *(i) For Overlying Owners other than Woodlands Mutual Water Company and ConocoPhillips* (now Phillips 66), *a reduction in the use of Groundwater to no more than 110% of the highest pooled amount previously collectively used by those Stipulating Parties in a Year, prorated for any partial Year in which implementation shall occur, unless one or more of those Stipulating Parties agrees to forego production for consideration received. Such forbearance shall cause an equivalent reduction I the pooled allowance. The base Year from which the calculation of any reduction is to be made may include any prior single Year up to the Year in which the Nipomo Supplemental Water is transmitted. The method of reducing pooled production to 110% is to be prescribed by the NMMA Technical Group and approved by the Court. The quantification of the pooled amount pursuant to this subsection shall be determined at the time the mandatory action trigger point (Severe Water Shortage Conditions) described in Paragraph VI(D)(2) is reached. The NMMA Technical Group shall determine a technically responsible and consistent method to determine the pooled amount and any individual's contribution to the pooled amount. If the NMMA Technical Group cannot agree upon a technically responsible and consistent method to determine the pooled amount, the matter may be determined by the Court pursuant to a noticed motion.*
>
> *(ii) ConocoPhillips* (now Phillips 66) *shall reduce its Yearly Groundwater use to no more than 110% of the highest amount it previously used in a single Year, unless it agrees in writing to use less Groundwater for consideration received. The base Year from which the calculation of any reduction is to be made may include any prior single Year up to the Year in which the Nipomo Supplemental Water is transmitted. ConocoPhillips* (now Phillips 66) *shall have discretion in determining how reduction of its Groundwater use is achieved.*

(iii) NCSD, RWC, SCWC, and Woodlands (if applicable as provided in Paragraph VI(B)(3) above) shall implement those mandatory conservation measures prescribed by the NMMA Technical Group and approved by the Court.

(iv) If the Court finds that Management Area conditions have deteriorated since it first found Severe Water Shortage Conditions, the Court may impose further mandatory limitations on Groundwater use by NCSD, SCWC, RWC and the Woodlands. Mandatory measures designed to reduce water consumption, such as water reductions, water restrictions and rate increases for the purveyors, shall be considered.

(v) During Severe Water Shortage Conditions, the Stipulating Parties may make agreements for temporary transfer of rights to pump Native Groundwater voluntary fallowing, or the implementation of extraordinary conservation measures. Transfer Native Groundwater must benefit the Management Area and be approved by the Court.

Nipomo Mesa groundwater management options to address water shortage conditions include responses required under the Stipulation as well as other possible groundwater management actions to address a range of resource concerns associated with the current Severe Water Shortage Condition. TG concerns directly relating to groundwater conditions include:

- Depressed groundwater elevations, both as measured by the Key Wells Index and in specific portions of the management area;
- An onshore gradient for a large area of the coastal and central portions of the NMMA.

Potential actions to address the above concerns include a range of projects and activities already in place, in progress, or contemplated for future consideration. Many of these possibilities have been reviewed previously in water supply evaluations (SAIC, 2006; Kennedy-Jenks, 2001; Bookman-Edmonston, 1994).

Existing actions in the NMMA reviewed by the TG include

- Consistent with Stage IV of the NMMA Water Shortage Response Stages, a total reduction of 2,155 AF (-38%) in purveyor production was accomplished in 2020 as compared to 2013.
- Continued progress in 2020 on the NSWP (see Section 1.1.5 Supplemental Water).

Potential actions to be reviewed by the TG include

- Increased development of reclaimed water for certain NMMA water supply needs in lieu of pumping from the deep aquifers.

Different management options have different potential capacity to reduce demand or increase supply, and each has its own technical considerations. By way of example, and assuming regulatory agency approval and the establishment of an appropriate cost benefit that meets the requirements of California's Proposition 218 or the California Public Utilities Commission (CPUC), wastewater effluent that is not already reclaimed may be discharged in locations where wastewater effluent would have a beneficial effect on the deep aquifers and in areas closer to the coast.

Areas of special concern with regard to Severe Water Shortage Conditions have special significance if they experience beneficial results from projects to manage groundwater demands and overall supply. For example, the coastal portion of the NMMA has a component of landward

groundwater flow in the deep aquifers and is potentially threatened by seawater intrusion. Actions that maintain a healthy seaward component of flow, protect the basin from potential seawater intrusion. Similarly, the pumping depression in the central portion of the NMMA has long-standing groundwater levels below sea level and is a pronounced feature of the principal production aquifers in the NMMA (Figure 6-6, Figure 6-8). Allowing water levels to rebound in this area would also help to reestablish and maintain protective groundwater gradients.

7.3. *Long-term Trends*

Long-term trends in climate, land use, and water use are presented in the following sections.

7.3.1. Climatological Trends

Climatological trends have been identified through the use of cumulative departure from mean analyses. A cumulative departure from the mean represents the accumulation, since the beginning of the period of record, of the differences (departures) in annual total rainfall volume from the mean value for the period of record. Each year's departure is added to or subtracted from the previous year's cumulative total, depending on whether that year's departure was above or below the mean annual rainfall depth. When the slope of the cumulative departure from the mean is negative (i.e., downward), the sequence of years is drier than the mean, and conversely when the slope of the cumulative departure from the mean is positive (i.e., upward), the sequence of years is wetter than the mean. The cumulative departures from the mean were computed for the rainfall station Mehlschau (38), which has the longest rainfall record for the NMMA (Figure 7-2).

Historical rainfall records for the Nipomo Mesa begin in 1920. There are three significant long-term dry periods in the record, from 1921 to 1934, from 1944 to 1951, and from 1984 to 1991. Long-term dry periods have occurred in the last 90 years that are longer in duration than the 1987 to 1992 drought (Figure 7-2). Between each large dry period, three wet periods have occurred. These wet periods are from 1935 to 1943, from 1977 to 1983, and from 1994 to 2001.

The period of analyses (1975-2020) used by the TG is roughly 8 percent "wetter" on average than the long-term record (1920-2020) indicating a slight bias toward overestimating the amount of local water supply resulting from percolation of rainfall. WY 2007, WY 2008, and WY 2009 had less than average rainfall. WY 2007 was approximately 45 percent to 50 percent of average rainfall, WY 2008 was approximately 94 percent to 97 percent of average rain fall, and WY 2009 was approximately 67 percent to 73 percent of average rain fall. During WY 2010 (20.1 inches) and WY 2011 (34.1 inches), rainfall was approximately 130 percent and 180 percent of average conditions (Table 3-2). Annual rainfall was below average during WY 2012 to WY 2016, above average in WY 2017, and below average in 2018. Rainfall was just below average during WY 2012 (15.4 inches), approximately 50 percent of average in WY 2013 (8.1 inches), 30 percent of average rainfall in WY 2014 (4.7 inches), approximately 50 percent of average in WY 2015 (8.1 inches), approximately 66 percent of average in WY 2016 (10.1 inches), approximately 175 percent of the average in WY 2017, approximately 58 percent of the average in WY 2018, and approximately 150 percent of the average in WY 2019. Based on the rainfall totals, 2020 is the seventh year with below average rainfall out of the past nine years.

7.3.2. Land Use Trends

The DWR periodically has performed land use surveys of the South Central Coast of California, which includes the NMMA: in 1958, 1969, 1977, 1985, and 1996. A land use survey for only the NMMA was performed by the TG in 2007 based on 2007 aerial photography (see Section 3.1.8 Land

Use). The most recent survey occurred in 2013 by performing aerial imagery analysis, reviewing observations made by NMMA TG engineer representatives, and assessing San Luis Obispo County pesticide purchase reports. Based on these surveys, land use in the NMMA has changed dramatically over the past half-century (Table 7-2, Figure 7-3, and Figure 7-4). Urban development has replaced native vegetation over the past 20 years, changing by a factor of two. Total agriculture acreage has approximately doubled from 1959 (see Section 3.1.8 Land Use).

Table 7-2. NMMA Land Use – 1959 to 2020 (acres)

	1959	1968	1977	1985	1996	2007	2013	2014	2020
Agricultural	1,600	2,000	2,000	2,200	2,000	2,600	2,970	2,970	2,988
Urban	300	700	2,200	3,300	5,800	10,200	10,460	10,670	10,596
Native	19,200	18,400	16,900	15,600	13,300	8,300	7,670	7,460	7,957
Total	21,100	21,100	21,100	21,100	21,100	21,100	21,100	21,100	21,541

7.3.3. Stipulating Party Water Use Trends

Consistent with Stage IV of the NMMA Water Shortage Response Stages, a total reduction of 2,155 AF (-38%) in production was accomplished in 2020 as compared to 2013. NCSD reduced groundwater production in 2020 by 62%, GSWC increased groundwater production by 14%, and Woodlands increased groundwater production by 11%, as compared to 2013 (Table 7-3).

Table 7-3. Groundwater Production by Purveyor from 2008 to 2020

Groundwater Production (AFY)													
Purveyors	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
NCSD	2,700	2,560	2,370	2,488	2,472	2,646	2,224	1,626	1,087	999	1,003	901	1,008
GSWC	1,380	1,290	1,060	1,043	1,103	1,169	940	786	1,340	1,292	1,316	1,193	1,332
Woodlands	540	810	850	864	857	1,016	856	871	1,029	1,088	1,366	1,066	1,131
RWC	900	880	720	728	763	795	688	651	*	*	*	*	*
Total	**5,520**	**5,540**	**5,000**	**5,123**	**5,195**	**5,626**	**4,708**	**3,934**	**3,456**	**3,379**	**3,684**	**3,160**	**3,471**
* - As of 2016, Production is included in GSWC													

7.3.4. Trends in Basin Inflow and Outflow

The estimated groundwater production is 14,313 AF for CY 2020, which is about two and a half times the groundwater production in 1975 (Figure 4-1), confirming a trend of increased groundwater production over the last 44 years, although there was a downward trend since 2013 due to conservation by urban users in the face of prolonged drought. The estimated consumptive use of water for urban, agricultural and golf course, and industrial use for CY 2020 is 13,376 AF (Section 5.7).

Contours of groundwater elevations suggest that there is likely some inflow of groundwater from the SMVMA, a flat gradient between NCMA and NMMA, and likely landward groundwater flow from the coastal zone.

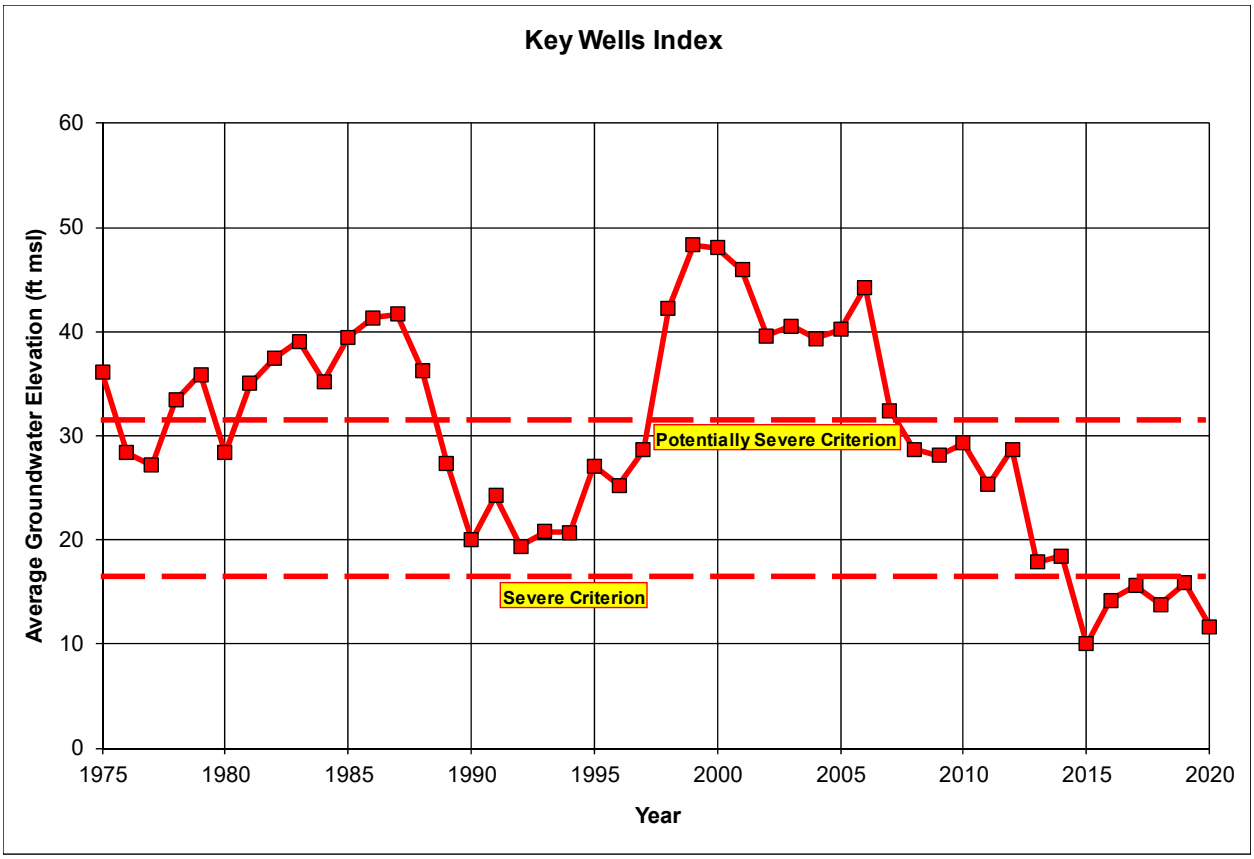


Figure 7-1. Key Wells Index *The upper dashed line is the criterion for Potentially Severe Water Shortage Conditions and the lower dashed line is the criterion for Severe Water Shortage Conditions.*

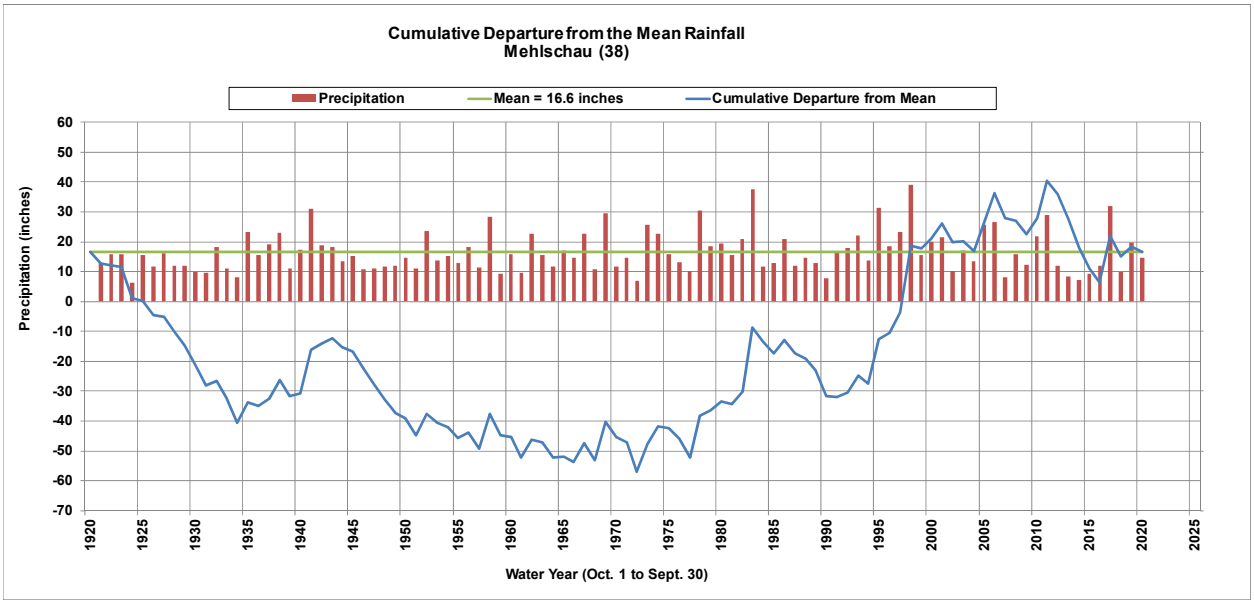


Figure 7-2. Rainfall: Cumulative Departure from the Mean – Rainfall Gauge Mehlschau (38).

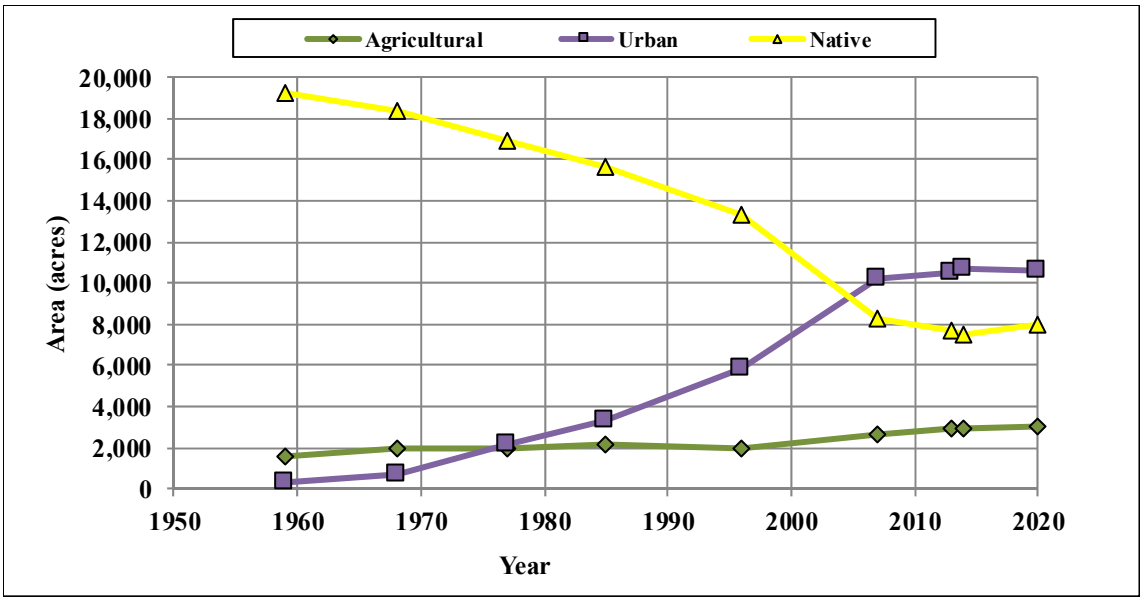


Figure 7-3. NMMA Land Use – 1959 to 2020

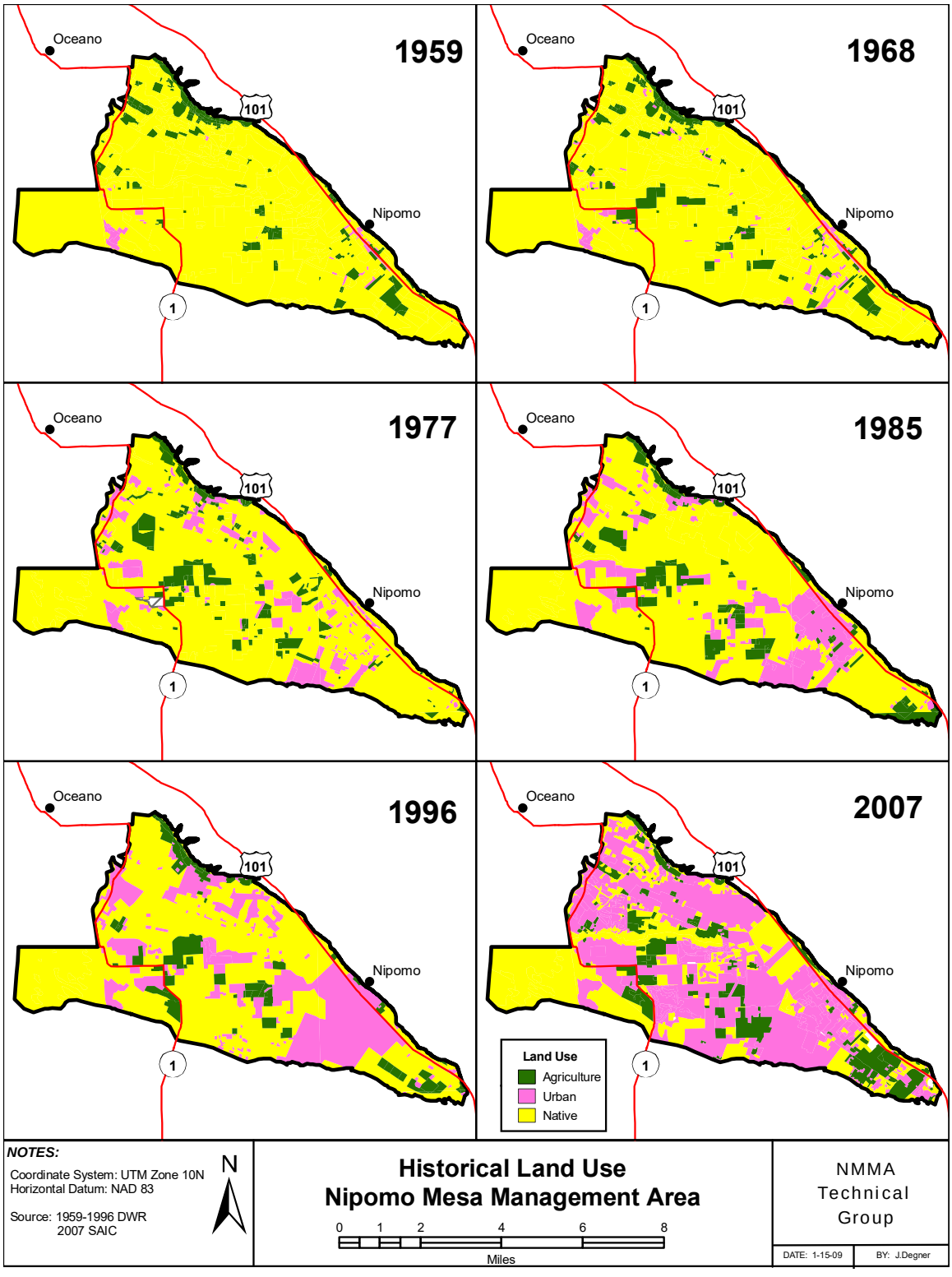


Figure 7-4. Historical Land Use in the NMMA

8. Other Considerations

8.1. *Institutional or Regulatory Challenges to Water Supply*

Several types of entities and individual landowners extract water from aquifers underlying the NMMA to meet water demands and no single entity is responsible for the delivery and management of available water supplies. Each entity must act in accordance with the powers and authorities granted under California law.

The powers and authorities for Woodlands and NCSD are set forth in the California Water Code. The CPUC regulates GSWC. This diversity of the public water purveyors' powers and the locations of their respective service areas (Figure 1-1) must be taken into account in attempting to develop consistent water management strategies that can be coupled with enforceable measures to ensure timely compliance with recommendations made by the TG, or mandatory Court orders. This is particularly true when there are legal requirements relating to the timing of instigating changes in water rates, implementation of mandatory water conservation practices, or forcing a change in pumping patterns, which may require one entity to deliver water to a location outside its service area.

A cooperative effort among the purveyors and other parties is the only expedient means to meet these institutional and regulatory challenges relating to the water supply and overall management of the NMMA. The purveyors developed a WMP in CY 2010 which outlines steps to take in "potentially severe water shortage conditions," as well as in "severe water shortage conditions" (see Appendix B). The WMP identifies a list of recommended water use restrictions to limit prohibited, nonessential and unauthorized water uses. For each condition, the WMP also identifies both voluntary and mandatory actions such as conservation goals, shifts in pumping patterns, and potential additional use and pumping restrictions.

9. Recommendations

A list of recommendations was developed and published in each of the previous NMMA Annual Reports. The TG will address past and newly developed recommendations, based on future budgets, feasibility, and priority. The recommendations are subdivided into two categories: (1) Achievements from earlier NMMA Annual Report recommendations accomplished in 2020, and (2) Technical Recommendations – to address the needs of the TG for data collection and compilation.

9.1. *Achievements from Previous NMMA Annual Report Recommendations*

The TG worked to address several of the recommendations outlined in the previous Annual Reports. Achievements made during 2020 are as follows:

- As part of the continued operation of the NSWP, a total of 1,041 AF of water was delivered to the NMMA during the CY 2020.
- A water level transducer and data logger were installed at one of the Key Wells (11N35W22C02) in late 2020.

- The TG continued review of the NMMA Monitoring Program to identify additional wells or monitoring points to include, in an effort to better characterize conditions in the shallow aquifer and to fill geographic data gaps associated with shallow and deep aquifers. The TG also approached and coordinated with SLO County, which resumed semi-annual monitoring of groundwater levels at a previous Key Well (11N35W23L01).

- To support certain estimates of groundwater production, the TG updated the classification of land use in the NMMA, which was last categorized in 2014, based on 2020 conditions.

- The TG continued tracking, in part through regular communication with San Luis Obispo County, groundwater management activities in groundwater basins adjacent to the SMGB upgradient of the NCMA. These activities are being implemented within the Arroyo Grande subbasin under the umbrella of California's Sustainable Groundwater Management Act.

- To better support evaluation of the potential for seawater intrusion, this report includes ion ratio time-series data for certain coastal wells and charts of ion ratio time-series data for other coastal wells.

9.2. *Technical Recommendations*

The following technical recommendations are not organized in order of priority, because the monitoring parties, considering their own particular funding constraints and authorities, will determine the implementation strategies and priorities.

- **Supplemental Water Supplies –** Reducing pumping is the most effective method to reduce the stress on the aquifers and to allow groundwater to recover; continued operation of the NSWP (see Section 1.1.5-Supplemental Water) is another viable method to achieve these goals. The TG recommends that this project continue to be implemented consistent with the Judgment and Stipulation.

- **Subsurface Flow Estimates –** Evaluate subsurface flow along the NMMA boundaries based on groundwater gradients and hydraulic conductivities in the shallow and deep aquifers.

- **Key Wells Monitoring –** Where possible, install data loggers in all Key Wells.

- **Key Wells Index 5-Year Review –** Evaluate and review the Key Wells Index by 2025.

- **Monitoring Points –** Replace the lost monitoring wells near Oso Flaco Lake. Select specific shallow dune sand aquifer wells for groundwater monitoring.

- **Well Reference Point Elevations –** Continue to improve the accuracy of the RP elevations using LIDAR data and other survey data.

- **Groundwater Production –** Develop a method to collect groundwater production data from all stipulating parties. Continue to update the land use classification on an interval commensurate with significant changes in land use patterns and as is practical, with the intention that the interval is more frequent than DWR's 10-year cycle of land use classification.

- **Agricultural Groundwater Production –** Continue to work with NMMA area farmers to measure groundwater production. Continue consultation with San Luis Obispo County Agriculture Department and other local experts in crop water use with specific updates to emerging crops and crop conversions.

- **Hydrogeologic Characteristics of NMMA –**Continue to review well screen intervals, lithology, groundwater level, and other relevant information. Improve the understanding of NMMA area fault displacements and potential effects of faulting on the hydrostratigraphy and groundwater flow in the NMMA.

- **Stream Flow Estimates –** Develop rating curves for Los Berros Creek, and install a new stream sensor on Nipomo Creek and develop a rating curve.

- **Groundwater Modeling –** Continue to engage with users utilizing the regional groundwater model developed for Pismo Beach and the South SLO County Sanitation District to assess efforts to revise and update the accuracy of the model.

- **SGMA –** Continue communication between the TG and SLO County with respect to the County's groundwater management activity adjacent to the adjudicated portion of the SMGB. The TG will continue to report annual groundwater conditions to the DWR SGMA reporting site for adjudicated basins.

References

Althouse and Meade, 2012, Final Report for the Oso Flaco Creek Non-Point Source Pollution Assessment, prepared for Coastal San Luis Resource Conservation District, 263 p. http://www.rcdsantabarbara.org/wp-content/uploads/2012-CSLRCD-Oso-Flaco-Creek-Non-Point-Source-Pollution-Assessment.pdf.

Bachman, S.B., Hauge, C., McGlothlin, R., Neese, K., Parker, T., Saracino, A., and Slater, S., 2005. California Groundwater Management, Second Edition: California Groundwater Resources Association, 242 p.

Bendixen, Warren and Hanson, Blaine. 2004. Drip irrigation evaluated in Santa Maria Valley Strawberries. California Agriculture Vol. 58, Number 1, pg. 48-53.

Bookman-Edmonston, 1994. Evaluation of Alternative Supplemental Water Supplies. Report *prepared for* Nipomo Community Services District, 29 p.

California Department of Health Services, 2000. California Safe Drinking Water Act and related laws, 365 p.

California Department of Public Health [DPH], 2009. Water Quality Monitoring Data – electronic product, Drinking Water Program, Department of Public Health, 1616 Capitol Avenue, MS 7416, Sacramento, CA 95814.

California Department of Water Resources [DWR], 1970. Sea-Water Intrusion: Pismo-Guadalupe Area. Bulletin 63-3, February 1970, 76 p. http://wdl.water.ca.gov/waterdatalibrary/docs/historic/Bulletins/Bulletin_63/Bulletin_63__1970.pdf.

California Department of Water Resources [DWR], 1975. Vegetative Water Use in California, 1974. Bulletin 113-3, April 1975. http://wdl.water.ca.gov/waterdatalibrary/docs/historic/Bulletins/Bulletin_113/Bulletin_113-3__1975.pdf.

California Department of Water Resources [DWR], 2002. Water Resources of the Arroyo Grande – Nipomo Mesa Area: Southern District Report, 367 p. https://www.slocounty.ca.gov/getattachment/455e4e3b-c8be-4c57-8feb-33ad7456119c/2002-DWR-AG-Nipomo-Mesa-Study.aspx.

California Department of Water Resources [DWR], 2019. Nipomo Mesa Management Area Annual Report 01/01/2018 - 12/31/2018. https://sgma.water.ca.gov/adjudbasins/report/preview/150.

Chipping, D.H., 1994. Black Lake Canyon geologic and hydrologic study, *prepared for* the Land Conservancy of San Luis Obispo County, 76 p.

Fugro West, Inc., 2007. Hydrogeologic characterization – Southland Wastewater Treatment Facility, Nipomo, California, July 2007.

Fugro Consultants, Inc. [FUGRO], 2015, Santa Maria Groundwater Basin Characterization and Planning Activities Study, Final Report. Prepared for San Luis Obispo County Flood Control and Water

Conservation District, December 30, 2015. https://www.slocounty.ca.gov/getattachment/6bd0e5f8-dfe3-4fce-b53c-1642f54ffdbe/2018-SMGB-Characterization-Planning-Study.aspx.

Geoscience Support Services, Inc. [Geoscience], 2018, City of Pismo Beach and South San Luis Obispo County Sanitation District Regional Groundwater Sustainability Project Phase 1B Hydrogeologic Evaluation – Technical Memorandum No. 1: Conceptual Model, prepared for Water Systems Consulting, Inc, June 15.

Geoscience Support Services, Inc. [Geoscience], 2019, City of Pismo Beach and South San Luis Obispo County Sanitation District, Central Coast Blue Phase 1B Hydrogeologic Evaluation Executive Summary, prepared for Water Systems Consulting, November 25, 622 p., unpublished report.

Golden State Water Company [GSWC], 2008. Water Shortage Contingency Plan – Nipomo System, November 2008, internal report.

GSI Water Solutions [GSI], 2018a, Santa Maria River Valley Groundwater Basin Fringe Area Characterization Study July 20, 2018 Prepared for San Luis Obispo County Flood Control and Water Conservation District, 170p. https://www.slocounty.ca.gov/getattachment/cc8a1dd6-bc84-4f6d-acfe-cbe76dc713a6/2018-SMRVGB-Fringe-Area-Characterization-Study.aspx.

GSI Water Solutions [GSI], 2018b, Santa Maria River Valley Groundwater Basin, Basin Boundary Modification Request Technical Report July 20, 2018 Prepared for San Luis Obispo County Flood Control and Water Conservation District, 215 p. https://www.slocounty.ca.gov/getattachment/f0c1acef-0321-4cc2-9477-5644f2af2103/2018-SMRVGB-BBMR-Technical-Report.aspx.

Hanson, K.L., Wesling, J.R., Lettis, W.R., Kelson, K.I., and Mezger, L., 1994. Correlation, Ages and Uplift Rates of Quaternary Marine Terraces: South-Central Coastal California, in Alterman, I. B., McMullen, R. B., Cluff, L. S., and Slemmons, D. B., eds., Seismotectonics of the Central California Coast Ranges. Boulder, Colorado, Geological Society of America Special Paper 292, pg. 45-71.

Kennedy Jenks, 2001. Evaluation of Water Supply Alternatives - Final Report. Report *prepared for* Nipomo Community Services District, 99 p.

Luhdorff & Scalmanini Consulting Engineers, 2000. Development of a numerical ground-water flow model and assessment of ground-water basin yield, Santa Maria Valley Ground-water Basin; *prepared for* Santa Maria Valley Water Conservation District, 65 p.

Miller, G.A., and Evenson, R.E., 1966. Utilization of ground water in the Santa Maria Valley area: U.S. Geological Survey Water-Supply Paper 1819-A, 24 p. https://pubs.usgs.gov/wsp/1819a/report.pdf.

Morro Group, 1996. Final Environmental Impact Report, Cypress Ridge Tract Map and Development Plan, *prepared for* Office of Environmental Coordinator, San Luis Obispo County, August 1996.

Nipomo Community Services District [NCSD], 2006. 2005 Urban Water Management Plan Update. Adopted January 25, 2006. *Prepared by* SAIC. https://ncsd.ca.gov/wp-content/uploads/documents/urban-water-management/Final%20UWMP%20Nipomo%201-25-06%20complete.pdf.

Nipomo Community Services District [NCSD], 2007. Water and Sewer Master Plan Update. December 2007. *Prepared by* Cannon Associates. https://ncsd.ca.gov/wp-content/uploads/documents/wsmp/FINAL%20REPORT.pdf.

Nipomo Community Services District [NCSD], 2011. 2010 Urban Water Management Plan. Adopted June 29, 2011. *Prepared by* WSC. https://ncsd.ca.gov/wp-content/uploads/documents/urban-water-management/NCSD%202010%20UWMP_Final_Signed%20Title%20Page.pdf.

Nipomo Community Services District [NCSD] and City of Santa Maria, 2013. Wholesale Water Supply Agreement [Wholesale Agreement], Resolution No. 2013-40, A Resolution of the City Council of the City of Santa Maria, California, Approving a Wholesale Water Supply Agreement with Nipomo Community Services District, May 7, https://ncsd.ca.gov/wp-content/uploads/documents/supplemental-water-project/Wholesale_Water_Agreement_05-07-13.pdf.

Nipomo Mesa Management Area [NMMA]. 2009. 1st Annual Report – Calendar Year 2008. NMMA TG.

Nipomo Mesa Management Area [NMMA]. 2010. 2nd Annual Report – Calendar Year 2009. NMMA TG.

Nipomo Mesa Management Area [NMMA]. 2011. 3rd Annual Report – Calendar Year 2010. NMMA TG.

Nipomo Mesa Management Area [NMMA]. 2012. 4th Annual Report – Calendar Year 2011. NMMA TG.

Nipomo Mesa Management Area [NMMA]. 2013. 5th Annual Report – Calendar Year 2012. NMMA TG.

Nipomo Mesa Management Area [NMMA]. 2014. 6th Annual Report – Calendar Year 2013. NMMA TG.

Nipomo Mesa Management Area [NMMA]. 2015. 7th Annual Report – Calendar Year 2014. NMMA TG.

Nipomo Mesa Management Area [NMMA]. 2016. 8th Annual Report – Calendar Year 2015. NMMA TG.

Nipomo Mesa Management Area [NMMA]. 2017. 9th Annual Report – Calendar Year 2016. NMMA TG.

Nipomo Mesa Management Area [NMMA]. 2018. 10th Annual Report – Calendar Year 2017. NMMA TG.

Nipomo Mesa Management Area [NMMA]. 2019. 11th Annual Report – Calendar Year 2018. NMMA TG.

Nipomo Mesa Management Area [NMMA]. 2020. 12th Annual Report – Calendar Year 2019. NMMA TG.

Northern Cities Management Area [NCMA]. 2009. NCMA Annual Report 2008.

Northern Cities Management Area [NCMA]. 2010. NCMA Annual Report 2009.

Northern Cities Management Area [NCMA]. 2011. NCMA Annual Report 2010.

Northern Cities Management Area [NCMA]. 2012. NCMA Annual Report 2011.

Northern Cities Management Area [NCMA]. 2013. NCMA Annual Report 2012.

Northern Cities Management Area [NCMA]. 2014. NCMA Annual Report 2013.

Northern Cities Management Area [NCMA]. 2015. NCMA Annual Report 2014.

Northern Cities Management Area [NCMA]. 2016. NCMA Annual Report 2015.

Northern Cities Management Area [NCMA]. 2017. NCMA Annual Report 2016.

Northern Cities Management Area [NCMA]. 2018. NCMA Annual Report 2017.

Northern Cities Management Area [NCMA]. 2019. NCMA Annual Report 2018.

Northern Cities Management Area [NCMA]. 2020. NCMA Annual Report 2019.

Pacific Gas and Electric Company (PG&E), 2014. Central Coastal California Seismic Imaging Project (CCCSIP), report to the California Public Utilities Commission; available at http://www.pge.com/en/safety/systemworks/dcpp/seismicsafety/report.page.

San Luis Obispo County [SLO], 1998. Woodlands Specific Plan - Final Environmental Impact Report. *Prepared by* Environmental Science Associates.

San Luis Obispo County [SLO], 2001. Water Master Plan Update – Water Planning Area #6, Nipomo Mesa.

San Luis Obispo County [SLO], 2018. Basin Boundary Modification Request, County of San Luis Obispo GSA - Santa Maria Basin Fringe Areas. https://sgma.water.ca.gov/basinmod/modrequest/preview/226.

San Luis Obispo County [SLO], 2019a. 2016 -2018 Resource Summary Report, Volume I of II – Findings and Recommendations, San Luis Obispo County General Plan, PUBLIC REVIEW DRAFT. https://www.slocounty.ca.gov/Departments/Planning-Building/Forms-Documents/Informational/Planning-Informational-Documents-(1).aspx.

San Luis Obispo County [SLO], 2019b. Santa Maria River Valley Groundwater Basin. https://www.slocounty.ca.gov/Departments/Public-Works/Committees-Programs/Sustainable-Groundwater-Management-Act-(SGMA)/Santa-Maria-River-Valley-Groundwater-Basin.aspx.

San Luis Obispo County Agriculture Commissioner [SLO Ag Commissioner]. 2009. Shapefile containing field boundaries of crops in San Luis County for 2008. Published January 2009. Accessed February 2009. http://lib.calpoly.edu/collections/gis/slodatafinder/

Santa Maria Valley Groundwater Litigation, 2003 [Phase III]. Water Resources Evaluation of the Nipomo Mesa Management Area. Toups Corporation, 1976. Santa Maria Valley water resources study: *prepared for* City of Santa Maria, 166 p.

Santa Maria Valley Water Conservation District v. City of Santa Maria, et al and Related Cross-Actions and Actions Consolidated For All Purposes, Santa Maria Groundwater Litigation, Lead Case No.1-97-CV-770214. [Judgment]. 2008. The Judgment After Trial was filed on January 25, 2008. The Stipulation is Exhibit 1 to the Judgment entitled "STIPULATION (JUNE 30, 2005 VERSTION)". The appellate case no. in the Sixth Appellate District is H032750 and it was filed on Nov. 21, 2012.

Santa Maria Valley Management Area [SMVMA]. 2009. SMVMA Annual Report 2008.

Santa Maria Valley Management Area [SMVMA]. 2010. SMVMA Annual Report 2009.

Santa Maria Valley Management Area [SMVMA]. 2011. SMVMA Annual Report 2010.

Santa Maria Valley Management Area [SMVMA]. 2012. SMVMA Annual Report 2011.

Santa Maria Valley Management Area [SMVMA]. 2013. SMVMA Annual Report 2012.

Santa Maria Valley Management Area [SMVMA]. 2014. SMVMA Annual Report 2013.

Santa Maria Valley Management Area [SMVMA]. 2015. SMVMA Annual Report 2014.

Santa Maria Valley Management Area [SMVMA]. 2016. SMVMA Annual Report 2015.

Santa Maria Valley Management Area [SMVMA]. 2017. SMVMA Annual Report 2016.

Santa Maria Valley Management Area [SMVMA]. 2018. SMVMA Annual Report 2017.

Santa Maria Valley Management Area [SMVMA]. 2019. SMVMA Annual Report 2018.

Santa Maria Valley Management Area [SMVMA]. 2020. SMVMA Annual Report 2019.

U.S. Geological Survey and California Geological Survey, 2006, Quaternary fault and fold database for the United States, accessed December 28, 2011. http://earthquake.usgs.gov/regional/qfaults/

University of California, Agriculture and Natural Resources [UCANR], 2009. Avocado information website. Accessed March 2, 2009. http://www.ucavo.ucr.edu/AvocadoWebSite%20folder/AvocadoWebSite/Irrigation/CropCoefficients.html

Woodring, W.P and Bramlette, M.N. 1950. Geology and Paleontology of the Santa Maria District, California: U.S. Geological Survey, Professional Paper 222, 142 p. https://pubs.er.usgs.gov/publication/pp222.

Worts, G.F., Jr., 1951. Geology and ground-water resources of the Santa Maria Valley area, California: U.S. Geological Survey Water-Supply Paper 1000, 176 p. https://pubs.er.usgs.gov/publication/wsp1000.

Appendices

Appendix A: Monitoring Program

Nipomo Mesa Monitoring Program

Prepared by

Nipomo Mesa Management Area Technical Group

August 2008

Table of Contents

1 INTRODUCTION

1.1 Background

This Monitoring Program is a joint effort of the Nipomo Mesa Management Area ("NMMA") Technical Group ("Technical Group"). The Technical Group was formed pursuant to a requirement contained in the 2005 Stipulation ("Stipulation") for the Santa Maria Basin Adjudication. Sections IV D (All Management Areas) and Section VI (C) (Nipomo Mesa Management Area) contained in the Stipulation were independently adopted by the Court in the Judgment After Trial[1] (herein "Judgment"). The Monitoring Program is a key component of the portions of the Judgment that involve the NMMA and forms the basis for subsequent analyses of the basin to be included in Annual Reports for the NMMA.

This Monitoring Program includes a discussion of the various parameters to be monitored within the NMMA, and a discussion of data analysis methods and water shortage triggers. The Monitoring Program provides a permanent foundation for the type of information to be regularly monitored and collected. However, the Technical Group is expected periodically to evaluate and update the Monitoring Program to ensure it provides comprehensive information sufficient to assess the integrity of water resources within the NMMA. For example, the Technical Group may change or expand monitoring points or types of data to be collected and otherwise periodically amend the Monitoring Program. Material amendments will be submitted for court approval.

1.2 Judgment

As a component of the physical solution for the Santa Maria groundwater basin, the Judgment requires the development and implementation of comprehensive monitoring and reporting in each of three Management Areas in the basin – Northern Cities Management Area, Nipomo Mesa Management Area, and Santa Maria Valley Management Area (Figure 1). For each of these Management Areas the Judgment specifies:

"A Monitoring Program shall be established in each of the three Management Areas to collect and analyze data regarding water supply and demand conditions. Data collection and monitoring shall be sufficient to determine land and water uses in the Basin, sources of supply to meet those uses, groundwater conditions including groundwater levels and quality, the amount and dispositions of Developed Water supplies, and the amount and disposition of any sources of water supply in the Basin.

[1] The Judgment is dated January 25, 2008 and was entered and served on all parties on February 7, 2008. This Monitoring Program is to be submitted for court approval on or before August 6, 2008.

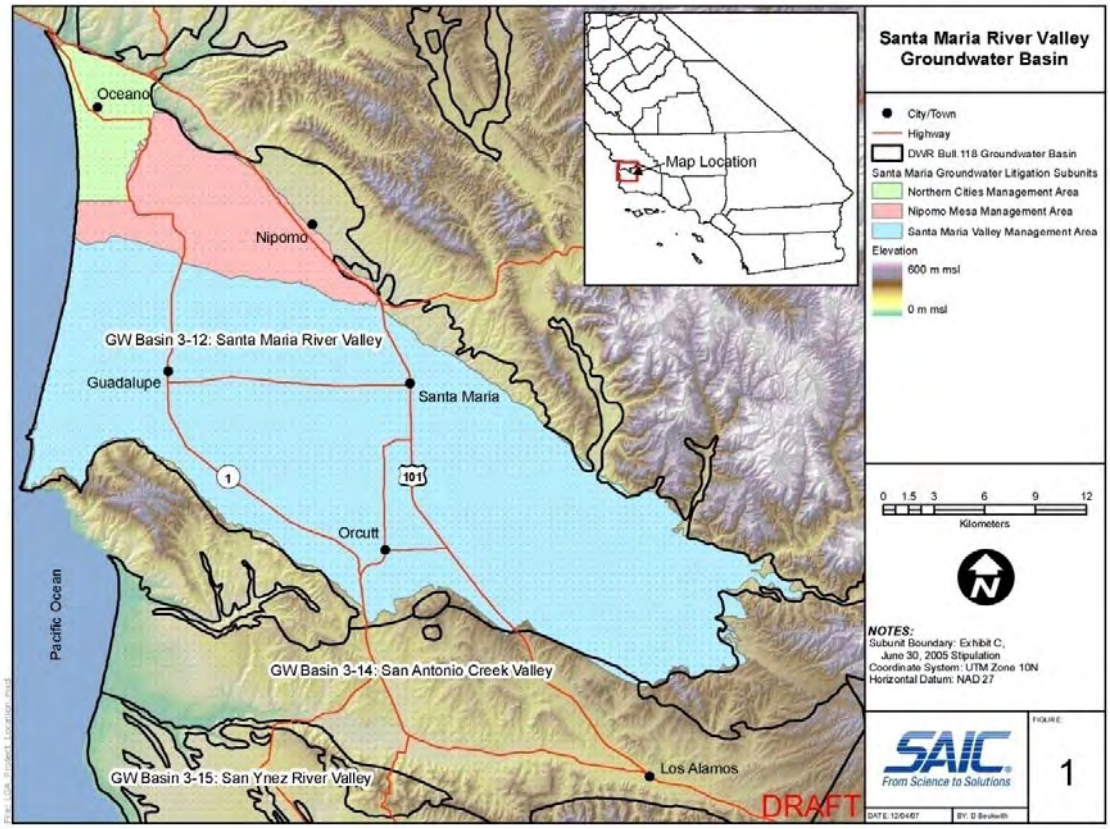


Figure 1. Santa Maria groundwater basin location map.

Within one hundred and eighty days after entry of judgment, representatives of the Monitoring Parties from each Management Area will present to the Court for its approval their proposed Monitoring Program."

The Judgment also requires the NMMA and the Santa Maria Valley management area technical committees to submit for court approval the criteria that trigger responses to "potentially severe and severe shortage conditions" that are specified in the Judgment.

An additional requirement of the Judgment is an Annual Report:

"Within one hundred and twenty days after each Year, the Management Area Engineers will file an Annual Report with the Court. The Annual Report will summarize the results of the Monitoring Program, changes in groundwater supplies, and any threats to Groundwater supplies. The Annual Report shall also include a tabulation of Management Area water use, including Imported Water availability and use, Return Flow entitlement and use, other Developed Water availability and use, and Groundwater use. Any Stipulating Party may object to the Monitoring Program, the reported results, or the Annual Report by motion."

Each Management Area Monitoring Plan will provide the basis for the preparation of the annual reports and the data to support the evaluations for the potentially severe and severe water shortage conditions relevant to the NMMA and the Santa Maria Valley management area.

1.3 Technical Group

The NMMA Technical Group is designated as the Monitoring Party for the NMMA.

Membership

The NMMA Technical Group is designated in the Judgment as including representatives appointed by Nipomo Community Services District, Southern California Water Company (now known as Golden State Water Company), ConocoPhillips, Woodlands Mutual Water Company, and an agricultural overlying owner who is also a Party to the Stipulation. The service areas of purveyors in the Technical Group are indicated in Figure 2.

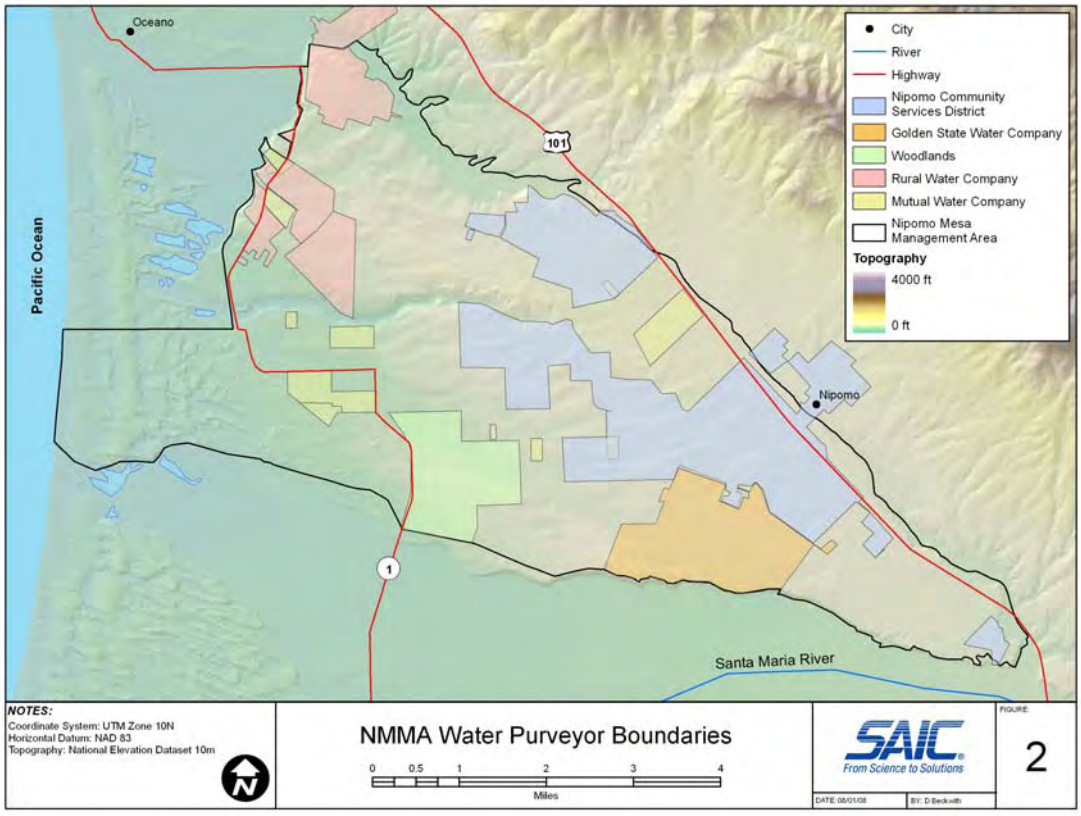


Figure 2. Water purveyors within the NMMA.

Role

The Technical Group is responsible for preparing the Monitoring Program, conducting the Monitoring Program, and preparing the Annual Reports. The Technical Group may hire individuals or consulting firms to assist in the preparation of the Monitoring Program and Annual Reports (the Judgment describes these individuals or consulting firms as the "Management Area Engineer"). The Technical Group has the sole discretion to select, retain, and replace the Management Area Engineer.

To assist the Technical Group in monitoring and analyzing water conditions in the NMMA, Stipulating Parties are required to provide monitoring and other production data at no charge, to the extent that such data have been generated and are readily available. The Technical Group is required to adopt rules and regulations concerning measuring devices that are consistent with the Monitoring Programs of other Management Areas when feasible.

If the Technical Group is unable to agree on any aspect of the Monitoring Program, the matter may be taken to the Court for resolution.

Cost Sharing

The Technical Group functions are to be funded by contribution levels negotiated by Nipomo Community Services District, Golden State Water Company, Rural Water Company, ConocoPhillips, and Woodlands Mutual Water Company. In-lieu contributions through engineering services may be provided, subject to agreement by those parties. The budget of the Technical Group shall not exceed $75,000 per year without prior approval of the Court.

1.4 Objectives Of Monitoring Program

The objectives of the Monitoring Program are to establish appropriate data collection criteria and analytical techniques to be used within the NMMA so that groundwater conditions, changes in groundwater supplies, threats to groundwater supplies, water use, and sources of water can be documented and reported on an annual basis. In addition, data developed through the Monitoring Program will be relied upon to provide the criteria for potentially severe and severe water shortage conditions.

1.5 Reporting Requirements

The Monitoring Program shall be presented for Court approval consistent with the Judgment. The Annual Report shall be submitted to the Court by April 30 of each year (April 29 on leap years).

2 MONITORING PARAMETERS

To satisfy the objectives of the Monitoring Program (section 1.4), data need to be collected from a variety of sources. The data to be collected include:

- Groundwater elevations measured in wells
- Water quality measured in wells
- Precipitation
- Streamflow
- Surface water usage
- Surface water quality
- Land use to the extent differential uses impact the NMMA water budget
- Groundwater pumping (measured)
- Groundwater pumping (estimated)
- Wastewater discharge and reuse amounts and locations

2.1 Groundwater Elevations

The San Luis Obispo County Department of Public Works, the U.S. Geological Survey, the California Department of Water Resources, and some groundwater users within the NMMA periodically gather groundwater elevation data on a large number of wells within the NMMA. Various members of the NMMA Technical Group already maintain these data in digital databases.

Current monitoring of groundwater elevations is conducted primarily by the County of San Luis Obispo, and additionally by Nipomo Community Services District, ConocoPhillips, Woodlands, Golden State Water Company, and Rural Water Company. The Monitoring Program will include compilation of groundwater elevations for a large number (93 initially) of groundwater wells located throughout the NMMA. Typically, groundwater elevations are measured during the fall and spring of each year. The initial list of the wells to be included in the Monitoring Program are shown in the Appendix.

The extensive current monitoring of groundwater elevations within the NMMA is sufficient to provide initial information on groundwater trends. However, there are four additional issues that the Technical Group will consider for further monitoring or analysis over the first years of implementation of the Monitoring Program:

- Additional existing coastal nested monitoring wells will be considered for inclusion in the groundwater elevation monitoring program. These include the 13K2-K6 nested site near Oso Flaco Lake (currently not being monitored) and the 36L1-L2 nested site in the coastal dunes west of Black Lake Canyon (outside the NMMA, currently monitored for groundwater elevations by SLO County).

- The wells used in the Monitoring Program will be investigated as necessary to ensure that the aquifer penetrated by the wells is verified.

- Additional wells may be added as necessary to the Monitoring Program in a phased approach to fill in data gaps recognized during preparation of the Annual Reports.

- The Technical Group may recommend that additional dedicated monitoring well(s) need to be installed at critical locations where no other information is available.

2.2 Groundwater Quality

As an element of compliance with their drinking water reporting responsibilities, public water purveyors within the NMMA have historically gathered and reported groundwater quality data (filed with the California Department of Public Health). In addition, the U.S. Geological Survey, the California Department of Water Resources, and SLO County have also gathered some water quality data within the NMMA. Members of the NMMA Technical Group maintain these data in digital databases.

Of considerable importance is groundwater quality in wells near the ocean, the most likely site where any intrusion of seawater would first be detected. Because there was no current monitoring of groundwater quality in any of the coastal nested monitoring wells, the Monitoring Program will include the following:

- Coastal nested monitoring well site 11N/36W-12C (west of the ConocoPhillips refinery) is now monitored under agreement with SLO County and provides quarterly water quality sampling. Samples are collected for chloride, sulfate, and sodium lab analyses and pH, EC, and temperature are measured in the field.

Regular sampling and analyses of groundwater quality is an important component of the Monitoring Program, because of the potential threat of seawater intrusion at the coastline and potential water quality changes caused by pumping stress in other portions of the NMMA and the basin as a whole. Water quality does not change as rapidly as groundwater elevations, so quality monitoring does not have to be as frequent. With the addition of the coastal nested monitoring data, current water quality monitoring appears to be adequate. However, four aspects of the Monitoring Program will be further evaluated to ensure the ongoing adequacy of the Monitoring Program:

- The Technical Group will arrange to receive water quality monitoring results from purveyors within the NMMA, either directly from the purveyors or annually from the Department of Public Health.

- Coastal nested monitoring well site 12C will be evaluated to determine whether current quarterly sampling can be reduced in frequency (or field testing substituted for laboratory analysis), thus allowing funding for water quality monitoring of additional nested site 13K2-K6 near Oso Flaco Lake (not sampled for three decades) and the 36L1-L2 nested site in the coastal dunes west of Black Lake Canyon (last sampled 12 years ago).

- Each well used for monitoring of groundwater elevations will be tested once for general minerals (if such testing is not already conducted) as budgeting allows. This testing will help further define particular aquifer characteristics.

- A water quality monitoring contingency plan will be developed in the event that there are indications of seawater intrusion in coastal monitoring wells. This contingency plan will consider triggers for increased sampling, both in frequency and in added analytes (e.g., iodide, strontium, boron, oxygen/hydrogen isotopes).

2.3 Precipitation

There is a wide choice of existing precipitation stations that can be used to estimate rainfall within the NMMA. Two gauges are part of the ALERT Storm Watch System, Nipomo East (728) and Nipomo South (730). Other gauges include Simas (201.1), Black Lake (222), Runels Ranch (42.1), Oceano Wastewater Plant (194), Nipomo Mesa (152.1), Peny Ranch (175.1), Mehlschau (38), NCSD Shop (223), Nipomo CDF (151.1), and CIMIS Nipomo #202 Station. As part of the analysis for the Annual Reports, data from an appropriate subset of these gauges will be used to estimate precipitation each year.

2.4 Streamflow

Streamflow can be important both as an input and an output of the water balance for an area. Currently, streamflow within the NMMA is partially gauged. The Los Berros Creek gauge (Sensor 757) is located 0.8 miles downstream from Adobe Creek and 3.7 miles north of Nipomo on Los Berros Road. This station is located approximately where Los Berros Creek conveys water out of the NMMA.

Nipomo Creek is not currently being monitored and is observed to convey water out of the NMMA during some of the year. The Technical Group will consider whether monitoring of Nipomo Creek or any other surface water monitoring is necessary or appropriate.

2.5 Surface Water Quality and Usage

There has been limited surface water monitoring of the dune lake complex and in Black Lake Canyon by the San Luis Obispo Land Conservancy and others. The

Technical Group will evalute whether this monitoring is sufficient and will obtain this and any additional related data as necessary and appropriate.

It is not known whether there are surface water diversions within the NMMA. The Technical Group will investigate this issue and determine whether additional monitoring is necessary and appropriate.

2.6 Land and Water Uses Impacting NMMA Water Balance

Land uses within the NMMA include agricultural, residential/commercial, and undeveloped areas. Land use surveys can be useful both in developing an overall water balance assessment and as an aide to estimate water use when such use is not directly measured. The most common method of conducting a land use survey is to obtain current digital aerial photography, classify the land uses, and create GIS mapping of the various land use classifications. In some cases, field checking is also required to confirm information obtained from aerial photography.

Where necessary, water use may be established based on the various types of land use within the NMMA. Information may be obtained from both published data (including San Luis Obispo County WPA-6) and any information compiled from existing stations installed in and around the NMMA that monitor climate data (CIMIS). This is described in greater detail in Section 2.8.

2.7 Groundwater Pumping (Measured)

Individual landowners, public water purveyors, and industry all rely on groundwater pumping from the NMMA. To the extent users measure their volume of use, these data will be reported to the Technical Group on an annual basis. Stipulating Parties to the Judgment are required to provide monitoring and other production data at no charge, to the extent that such data have been generated and are readily available.

Pursuant to paragraph 5 of the Judgment, the Technical Group retains the right to seek a Court Order requiring non-stipulating parties to monitor their well production, maintain records thereof, and make the data available to the Court or the Court's designee.

2.8 Groundwater Pumping (Estimated)

Some groundwater users do not measure the volume of their groundwater production, and thus, this increment of groundwater pumping will have to be estimated each year. There are several methods of estimating groundwater pumping when totalizing meters are not installed. For cooperating pumpers, electrical records for pumping can be used, with the most accuracy obtained when the wells are tested regularly for pump efficiency.

Another method of estimating agricultural pumping is through self-reporting or surveys of crop type and irrigated acreage. For agriculture, water use can then be

estimated using calculations that include crop water demand, effective precipitation, evapotranspiration, irrigation efficiency, and leaching requirements. An active California Irrigation Management Information System (CIMIS) station is located in the southern portion of the Woodlands within the NMMA and provides a useful reference for Nipomo Mesa evapotranspiration. A second active station is located adjacent to the Sisquoc River, above Tepusquet Creek.

For municipal or mixed rural lands, estimates will be based on acreage and development type. In some urban lands, a "unit water use" can be derived from average water consumption recorded from comparable or historical conditions.

To develop a complete picture of groundwater withdrawals for Nipomo Mesa, the Technical Group will develop methods for estimating unmetered groundwater pumping that will likely include some combination of those discussed above.

2.9 Wastewater Discharge and Reuse

Four wastewater treatment facilities discharge treated effluent within the NMMA and include the following: NCSD's Southland Wastewater Treatment Facility in the eastern portion of Nipomo Mesa, NCSD's wastewater treatment plant at Blacklake Village, Cypress Ridge's wastewater treatment facility, and the Woodland's wastewater treatment facilities. The Monitoring Program will include an annual compilation of wastewater treatment plant discharges, any reuse of the treated water (quantities and locations), and available water quality parameters.

3 DATA ANALYSIS & WATER SHORTAGE TRIGGERS

The primary purpose of the Monitoring Program is to detect changes in groundwater conditions that indicate current and future water supply problems within the NMMA. Although the determination of methods of data analysis and subsequent triggers that can indicate negative water supply conditions are not elements of the Monitoring Program, initial assessment of these issues are the responsibility of the Technical Group. A short discussion of potential methodologies follows.

3.1 Data Analysis

The focus of data analysis is to help detect and predict whether any conditions exist that could harm the aquifer, either by excessive drawdown or by degrading water quality. In evaluating the Monitoring Program data, the Technical Group will establish methodologies to use monitoring data to define the "health" of the basin. Among the methodologies that the Technical Group will evaluate in developing potentially severe and severe water shortage triggers are:

- **Coastal monitoring wells** – trends in water quality and groundwater elevations. Establish criteria to recognize both the potential for seawater intrusion and evidence of actual seawater intrusion.

- **Coastal groundwater gradient** – the direction and magnitude of groundwater flow either towards the ocean or in a landward direction. Establish criteria to recognize conditions that could cause seawater intrusion.

- **NMMA-wide groundwater elevation contouring** – establish groundwater flow directions, detect areas of increased drawdown, determine how pumping patterns are affecting the basin and the effects of any changes in the location of pumping that may serve to mitigate negative impacts.

- **Key wells** – indicator wells in key areas that track changes in groundwater elevations and water quality. Establish criteria to determine whether monitored changes could potentially be harmful to the aquifers.

- **Groundwater in storage** – calculation of changes of groundwater in storage and consideration of changes of groundwater storage over time can be used to analyze trends in the basin hydrologic balance.

3.2 Water Shortage Triggers

The Stipulation requires that water level and water quality criteria are to be established that will trigger responses to potential water shortages (the potentially severe and severe water shortage conditions). The Technical Group will rely on the Monitoring Program data and protocol in establishing the proposed criteria for these triggers. The triggers points will be presented for court approval, as required in the Stipulation, prior to or concurrent with the filing of the first Annual Report in 2009. Annual Reports will include an assessment of basin conditions relative to the proposed trigger points.

APPENDIX – MONITORING POINTS

The monitoring points shown on Figure A-1 and in Table A-1 are the 93 initial wells that the NMMA Technical Group determined would provide information to evaluate the health of the Nipomo Mesa portion of the Santa Maria basin. Many of the wells indicated are currently being monitored (see Table A-1), with the remainder planned to be monitored prior to preparation of the first Annual Report.

As discussed in the main text of this Monitoring Program, wells will be added and/or dropped in subsequent years as the basin is evaluated annually. The addition and/or subtraction of monitoring wells will be based on data gaps, areas of special concern that require more monitoring, and data redundancy. Information from some of the wells listed in Table A-1 that are monitored by the County of San Luis Obispo may not be available because of privacy concerns – this issue will be addressed prior to preparation of the first Annual Report.

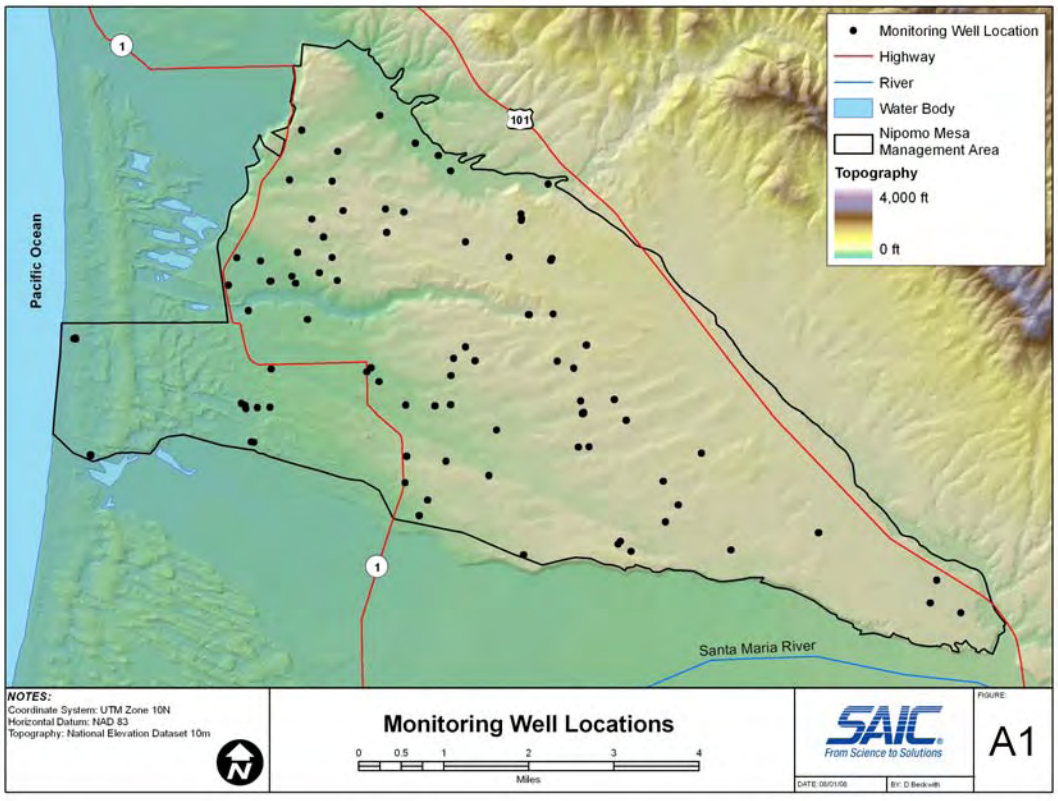


Figure A-1. Locations of monitoring points listed in Table A-1.

Appendix B: Water Shortage Conditions and Response Plan

Nipomo Mesa Management Area

Water Shortage Conditions and Response Plan

Nipomo Mesa Management Area
Technical Group

April 2009

The Santa Maria basin was divided into three management areas as a result of the adjudication of the Santa Maria groundwater basin. The June 30, 2005 Stipulation ("Stipulation"), the terms of which are incorporated into the Court's Judgment dated January 25, 2008 ("Judgment"), established the boundaries of the Nipomo Mesa Management Area ("NMMA"), and provided for a technical group (NMMA Technical Group) to oversee management of the NMMA. As part of the Stipulation, the Technical Group was tasked to develop a Monitoring Program that shall include the setting of well elevations and groundwater quality criteria that trigger the responses set forth in Paragraph VI(D) of the Stipulation.

The NMMA Technical Group prepared a Monitoring Program dated August 5, 2008 that was submitted to the Court in accordance with the Judgment. This Water Shortage Conditions and Response Plan is an addendum to the Monitoring Program and completes the Monitoring Program requirements as defined in the Stipulation.

This document is divided into three sections:

I. Water Shortage Conditions Nipomo Mesa Management Area,
II. Response Plan for Potentially Severe and Severe Water Shortage Conditions, and
III. Discussion of Criteria for Potentially Severe and Severe Water Shortage Conditions.

I. Water Shortage Conditions Nipomo Mesa Management Area

Water shortage conditions are characterized by criteria designed to reflect that groundwater levels beneath the NMMA as a whole are at a point at which a response would be triggered to avoid further declines in groundwater levels (Potentially Severe), and to declare that the lowest historic groundwater levels beneath the NMMA as a whole have been reached or that conditions constituting seawater intrusion have been reached (Severe).

Groundwater levels beneath the NMMA as a whole impact the cost of pumping, the quality of groundwater pumped, and the overall flow of fresh water to the ocean that balances potential seawater intrusion. Lowering of groundwater levels below certain thresholds is to be curtailed by importing supplemental water, increasing conservation, and decreasing consumptive use of groundwater produced.

The NMMA Technical Group has developed criteria for declaring the existence of Potentially Severe and Severe Water Shortage Conditions. These criteria represent the conditions in both coastal and inland wells, and depend upon measurements of groundwater elevation and groundwater quality.

While this Response Plan relies on quantitative measurements of groundwater levels, the Technical Group acknowledges these measurements are subject to many variables so that

any given measurement may only be accurate within a percentage range; no given measurement is exact or precise. For example, water level measurements obtained from groundwater production wells may be influenced by a range of factors, including but not limited to temperature, the method, protocol, and equipment used to obtain the measurement, the condition of the well, the time allowed for water levels in a previously producing well to equilibrate, and any nearby wells that remain pumping while the measurements are taken. As well, the historic data used as the basis to set action levels for Severe and Potentially Severe Water Shortage Conditions may be influenced by these and other factors. Finally, while there is sufficient historical data to reliably set Severe and Potentially Severe Water Shortage Conditions criteria, as more data is gathered pursuant to the NMMA Monitoring Plan, the Technical Group expects its understanding of NMMA characteristics will become increasingly more sophisticated and accurate. As a result of these considerations, the Technical Group acknowledges and expects that it will recommend modifications to the Severe and Potentially Severe Water Shortage Conditions criteria as more data are obtained on a consistent basis and as the Technical Group's understanding of the NMMA characteristics improves over time.

Seawater intrusion is a condition that could permanently impair the use of the principal producing aquifer to meet water demands of the NMMA. For coastal areas, the criteria described here are set either to indicate conditions that, if allowed to persist, may lead to seawater intrusion or increasing chloride concentrations, or that actual seawater intrusion has occurred.

Monitoring Wells

As with the NMMA Monitoring Plan, primary data for this Water Shortage Conditions and Response Plan is derived from a select group of wells located within the NMMA. Identification of these wells and the selection criteria are as follows.

Coastal sentinel wells, installed by the Department of Water Resources in the 1960s, are monitored to characterize any condition for the advancement of seawater into the freshwater aquifer. Specifically, the groundwater elevation and concentration of indicator constituents are evaluated to determine the threat or presence of seawater intrusion to the fresh water aquifer. These coastal monitoring wells are as follows:

Coastal Well	Perforation Elevation (ft msl)	Aquifer
11N/36W-12C1	-261 to -271	Paso Robles
11N/36W-12C2	-431 to -441	Pismo
11N/36W-12C3	-701 to -711	Pismo
12N/36W-36L1	-200 to -210	Paso Robles
12N/36W-36L2	-508 to -518	Pismo

For inland areas, criteria for water shortage conditions are based on annual Spring groundwater elevation measurements made in key wells located inland from the coast (the "Key Wells Index"). The inland Key Wells are as follows:

Key Wells
11N/34W-19
11N/35W-5
11N/35W-8
11N/35W-9
11N/35W-13
11N/35W-22
11N/35W-23
12N/35W-33

Potentially Severe Water Shortage Conditions

The Stipulation, page 25, defines Potentially Severe Water Conditions as follows:

Caution trigger point (Potentially Severe Water Shortage Conditions)[1]

(a) Characteristics. The NMMA Technical Group shall develop criteria for declaring the existence of Potentially Severe Water Shortage Conditions. These criteria shall be approved by the Court and entered as a modification to this Stipulation or the judgment to be entered based upon this Stipulation. Such criteria shall be designed to reflect that water levels beneath the NMMA as a whole are at a point at

[1] The multiple citations to and partial restatements of the Stipulation are intended to provide context to this Water Shortage Conditions and Response Plan. However, neither the restatement of a portion of the Stipulation herein, nor the omission of a portion of a quotation from the Stipulation, is intended to override or alter the mutual obligations and requirements set forth in the Stipulation.

which voluntary conservation measures, augmentation of supply, or other steps may be desirable or necessary to avoid further declines in water levels.

Inland Areas: The NMMA Technical Group set the criteria for a Potentially Severe Water Shortage Condition to the elevation of groundwater as determined by the Key Wells Index. If the Spring groundwater elevations indicate that the Key Wells Index is less than 15 feet above the Severe Water Shortage criterion (equal to **31.5 ft msl**[2]**)**, the Technical Group will notify the Monitoring Parties of the current data, and evaluate the probable causes of this low level as described below. If the Key Wells Index continues to be lower than **31.5 ft msl** in the following Spring, the Technical Group will report to the Court in the Annual Report that Potentially Severe Water Shortage Conditions are present and provide its recommendations regarding the appropriate response measures. During the period a Potentially Severe Water Shortage Condition persists, the NMMA Technical Group shall include in each Annual Report an assessment of the hydrologic conditions and any additional recommended response measures. A discussion of how the groundwater elevations criteria were determined is presented in discussion Section III. Potentially Severe Water Shortage Conditions will no longer be considered to exist when: 1) the Key Well Index is above the Potentially Severe criterion of 31.5 ft msl for two successive Spring measurements, or 2) the Key Well Index is 5 ft or higher above the Potentially Severe criterion (which calculates to 36.5 ft msl) in any Spring measurement. Alternatively, the NMMA Technical Group may determine that the Potentially Severe Water Shortage Condition no longer exists when the Key Well Index is above the Potentially Severe criterion of 31.5 ft msl and conditions warrant this conclusion.

The Key Well Index criteria for Potentially Severe Water Shortage Conditions may be modified in the future by the Technical Group as more data are developed on the accuracy of measured data and Key Well construction or condition.

Coastal Areas: The NMMA Technical Group set the coastal criteria for a Potentially Severe Water Shortage Condition using both groundwater surface elevation and groundwater quality measured in the coastal monitoring wells, as presented in the table below. The groundwater elevation criteria are discussed in Section III. The groundwater quality portion of the coastal criteria is set at **250 mg/L** chloride. There is no water quality criterion for the shallow alluvium. Potentially Severe Water Shortage Conditions are determined if either the Spring groundwater elevation drops below the criteria elevation, or chloride concentration exceeds the criteria concentration, in any of the coastal monitoring wells subject to the Response Plan data analysis and verification described below.

[2] The decimal point does not imply the accuracy of the historical low calculation.

The NMMA Technical Group will report to the Court in the Annual Report that Potentially Severe Water Shortage Conditions are present and provide its recommendations regarding the appropriate response measures. During the period a Potentially Severe Water Shortage Condition persists, the Technical Group shall include in each Annual Report an assessment of the hydrologic conditions and any additional recommended response measures.

When Spring groundwater elevations or groundwater quality subsequently improves so that the criteria threshold for two successive measurements are no longer exceeded, Potentially Severe Water Shortage Conditions will no longer be considered to exist. Alternatively, the Technical Group may determine that the Potentially Severe Water Shortage Condition no longer exists when the Spring groundwater elevation or groundwater quality criteria threshold are no longer exceeded in a single measurement and conditions warrant this conclusion.

The coastal threshold criteria for Potentially Severe Water Shortage Conditions may be modified in the future by the Technical Group as more data are developed on the accuracy and extent of the coastal data, including the potential for inclusion of additional coastal monitoring wells into the Monitoring Plan.

Criteria for Potentially Severe Water Shortage Conditions, Coastal Area

Well	Perforation Elevation (ft msl)	Aquifer	Elevation Criteria (ft msl)	Chloride Concentration Criteria (mg/L)
11N/36W-12C1	-261 to -271	Paso Robles	**5.0**	**250**
11N/36W-12C2	-431 to -441	Pismo	**5.5**	**250**
11N/36W-12C3	-701 to -711	Pismo	**9.0**	**250**
12N/36W-36L1	-200 to -210	Paso Robles	**3.5**	**250**
12N/36W-36L2	-508 to -518	Pismo	**9.0**	**250**

Severe Water Shortage Conditions

The Stipulation, page 25, defines Potentially Severe Water Conditions as follows:

Mandatory action trigger point (Severe Water Shortage Conditions)

(a) Characteristics. The NMMA Technical Group shall develop the criteria for declaring that the lowest historic water levels beneath the NMMA as a whole

have been reached or that conditions constituting seawater intrusion have been reached. These criteria shall be approved by the Court and entered as a modification to this Stipulation or the judgment to be entered based upon this Stipulation.

Inland Areas: A Severe Water Shortage Condition exists when the Key Wells Index is less than **16.5 feet msl**, using Spring groundwater elevation measurements. The Mandatory Response Plan will remain in effect until groundwater elevations as indicated by the Key Wells Index are 10 ft above the Severe criterion (which calculates to **26.5 feet msl**). Alternatively, the NMMA Technical Group may determine that the Severe Water Shortage Condition no longer exists when the Key Well Index is above the Severe criterion of 16.5 ft msl and conditions warrant this conclusion.

The criteria for Severe Water Shortage Conditions may be modified in the future by the Technical Group as more data are developed on the accuracy of measured data and Key Well construction or condition.

Coastal Areas: The NMMA Technical Group set the coastal criteria for Severe Water Shortage Condition to the occurrence of the chloride concentration in groundwater greater than the drinking water standard in any coastal monitoring well. Thus, the coastal criterion for a Severe Water Shortage Condition is the chloride concentration exceeding **500 mg/L** in any of the coastal monitoring wells. If the criterion is exceeded, an additional sample will be collected and analyzed from that well as soon as practicable to verify the result. The response triggered by the measurement will not be in effect until the laboratory analysis has been verified. If the chloride concentration subsequently improves above the criterion threshold for two successive Spring measurements, Severe Water Shortage Conditions will no longer be considered to exist. Alternatively, the Technical Group may determine that the Severe Water Shortage Condition no longer exists when groundwater quality criteria threshold are no longer exceeded in a single measurement and conditions warrant this conclusion.

The coastal threshold criteria for Severe Water Shortage Conditions may be modified in the future by the Technical Group as more data are developed on the accuracy and extent of the coastal data, including the potential for inclusion of additional coastal monitoring wells into the Monitoring Plan.

II. Response Plan for Potentially Severe and Severe Water Shortage Conditions

("Response Plan")

Introduction

This Response Plan is triggered by criteria designed to reflect either Potentially Severe Water Shortage Conditions or Severe Water Shortage Conditions. Nothing in this Response Plan is intended to, nor shall operate so as to reduce, limit or change the rights, duties, and responsibilities of the parties to this Response Plan as those rights, duties, and responsibilities are stated in the Stipulation and the Judgment.

1. Potentially Severe Water Shortage Conditions

The responses required by the Stipulation are set forth as follows:

VI(D)(1b) Responses [Potentially Severe]. *If the NMMA Technical Group determines that Potentially Severe Water Shortage Conditions have been reached, the Stipulating Parties shall coordinate their efforts to implement voluntary conservation measures, adopt programs to increase the supply of Nipomo Supplemental Water*[3] *if available, use within the NMMA other sources of Developed Water or New Developed Water, or implement other measures to reduce Groundwater use.*[4]

VI(A)(5). …In the event that Potentially Severe Water Shortage Conditions or Severe Water Shortage Conditions are triggered as referenced in Paragraph VI(D) before Nipomo Supplemental Water is used in the NMMA, NCSD, [GSWC[5]*], Woodlands and RWC agree to develop a well management plan that is acceptable to the NMMA Technical Group, and which may include such steps as imposing conservation measures, seeking sources of supplemental water to serve new customers, and declaring or obtaining approval to declare a moratorium on the granting of further intent to serve or will serve letters.*[6]

---

[3] A defined term in the parties' Stipulation. The following terms, when used in this Response Plan, are terms whose definitions are found in the Stipulation and that definition is specifically incorporated herein and adopted as the meaning of these terms: "Developed Water," "Groundwater," "Native Groundwater," "New Developed Water," "Nipomo Supplemental Water," "Nipomo Supplemental Water Project," "Stipulating Parties" and "Year."

[4] Ibid at p.25.

[5] Name changed from Southern California Water Company (SCWC) in 2005.

[6] Ibid at p.22.

The Response Plan shall be implemented when the Potentially Severe Water Shortage Conditions occur within the NMMA. The Response Plan is a combination of technical studies to better determine the nature of the threat, water supply and demand actions to mitigate overall conditions in the NMMA, and compliance with the Stipulation and the Judgment. The Response Plan includes, where applicable, the following:

1. Coastal Groundwater Elevation and/or Groundwater Quality Conditions:

   a. Verify that the measurement is not an anomaly by retesting at the site(s) of exceedence as soon as practicable and again in the following month.

   b. Characterize the extent of either low groundwater elevation(s) or increased chloride concentration(s) near the coast, which might include adding and/or installing additional monitoring points.

   c. Identify, to the extent practical, factors that contributed to the low groundwater elevations in coastal monitoring wells.

   d. Investigate whether increased chloride concentration(s) indicate intrusion of seawater or other causes through chemistry/geochemistry studies.

2. Inland Groundwater Elevation Condition:

   a. Verify that the measurement is not an anomaly by retesting at the site(s) of exceedence as soon as practicable and again in the following month.

   b. Characterize the extent of the area where groundwater elevation(s) have decreased sufficiently to lower the Key Wells Index.

   c. Identify factors that contributed to the low groundwater elevation(s) in coastal monitoring wells.

3. Implement sections VI(D)1(b) and VI(A)(5) of the Stipulation, as reproduced above.

4. When either the groundwater quality or groundwater elevation conditions are confirmed, the following provisions apply to the Response Plan for Potentially Severe Water Shortage Conditions:

   a. ConocoPhillips shall have the right to the reasonable and beneficial use of Groundwater on the property it owns as of the date of the Stipulation located in the NMMA without limitation.[7]

[7] Ibid at p. 23.

b. Overlying Owners that are Stipulating Parties that own land located in the NMMA as of the date of the Stipulation shall have the right to the reasonable and beneficial use of Groundwater on their property within the NMMA without limitation.[8]

c. Woodlands shall not be subject to restriction in its reasonable and beneficial use of Groundwater, provided it is concurrently using or has made arrangements for other NMMA parties to use within the NMMA, the Nipomo Supplemental Water allocated to Woodlands. Otherwise, Woodlands shall be subject to reductions equivalent to those imposed on NCSD, GSWC, and RWC.[9]

2. Severe Water Shortage Conditions

The responses required by the Stipulation are set forth following:

VI(D)(1b) Responses [Severe]. *As a first response, subparagraphs (i) through (iii) shall be imposed concurrently upon order of the Court. The Court may also order the Stipulating Parties to implement all or some portion of the additional responses provided in subparagraph (iv) below.*

(i) For Overlying Owners other than Woodlands Mutual Water Company and ConocoPhillips, a reduction in the use of Groundwater to no more than 110% of the highest pooled amount previously collectively used by those Stipulating Parties in a Year, prorated for any partial Year in which implementation shall occur, unless one or more of those Stipulating Parties agrees to forego production for consideration received. Such forbearance shall cause an equivalent reduction in the pooled allowance. The base Year from which the calculation of any reduction is to be made may include any prior single Year up to the Year in which the Nipomo Supplemental Water is transmitted. The method of reducing pooled production to 110% is to be prescribed by the NMMA Technical Group and approved by the Court. The quantification of the pooled amount pursuant to this subsection shall be determined at the time the mandatory action trigger point (Severe Water Shortage Conditions) described in Paragraph VI(D)(2) is reached. The NMMA Technical Group shall determine a technically responsible and consistent method to determine the pooled amount and any individual's contribution to the pooled amount. If the NMMA Technical Group cannot agree upon a technically responsible and consistent method to determine the pooled amount, the matter may be determined by the Court pursuant to a noticed motion.

[8] Ibid.
[9] Ibid at p. 23.

(ii) ConocoPhillips shall reduce its Yearly Groundwater use to no more than 110% of the highest amount it previously used in a single Year, unless it agrees in writing to use less Groundwater for consideration received. The base Year from which the calculation of any reduction is to be made may include any prior single Year up to the Year in which the Nipomo Supplemental Water is transmitted. ConocoPhillips shall have discretion in determining how reduction of its Groundwater use is achieved.

(iii) NCSD, RWC, SCWC, and Woodlands (if applicable as provided in Paragraph VI(B)(3) above) shall implement those mandatory conservation measures prescribed by the NMMA Technical Group and approved by the Court.

(iv) If the Court finds that Management Area conditions have deteriorated since it first found Severe Water Shortage Conditions, the Court may impose further mandatory limitations on Groundwater use by NCSD, SCWC, RWC and the Woodlands. Mandatory measures designed to reduce water consumption, such as water reductions, water restrictions, and rate increases for the purveyors, shall be considered.

(v) During Severe Water Shortage Conditions, the Stipulating Parties may make agreements for temporary transfer of rights to pump Native Groundwater, voluntary fallowing, or the implementation of extraordinary conservation measures. Transfer of Native Groundwater must benefit the Management Area and be approved by the Court.[10]

The following Response Plan for Severe Water Shortage Conditions is premised on the assumption that the Nipomo Supplemental Water Project within the NMMA is fully implemented and yet Severe Water Shortage Conditions exist.

If either the coastal or inland criteria occur for Severe Water Shortage Conditions within the NMMA, a Response Plan shall be implemented. The Response Plan is a combination of technical studies to better determine the nature of the threat, water supply and demand actions to mitigate overall conditions in the NMMA that triggered a Response Plan, and compliance with the terms of the Stipulation and the Judgment. It includes, where applicable, the following NMMA Technical Group actions:

1. Groundwater Quality Condition:
   a. Verify data.

[10] Ibid at pp. 25-27.

b. Investigate whether increased chloride concentration(s) indicate intrusion of seawater or result from other causes through chemistry/geochemistry studies.

c. Characterize the extent of the increase in chloride concentration(s), which may include adding additional monitoring points and/or installing new monitoring points.

d. Given information from sections (a) and (b) above, identify the factors that may have caused the groundwater quality degradation.

2. Groundwater Elevation Condition:

a. Verify that the measurement is not an anomaly by retesting at the site(s) of exceedence as soon as practicable and again in the following month.

b. Characterize the extent of the area where groundwater elevation(s) have decreased sufficiently to lower the Key Wells Index.

c. Identify the factors that contributed to the low groundwater elevation(s) in key wells.

3. As a first response, the NMMA Technical Group shall request the Court to order concurrently sections VI(D)(1b)(i) through (iii) of the Stipulation, as reproduced above.

4. Prepare a semi-annual report on the trend in chloride concentration for the Court. If chloride concentration(s) continue to increase at the coastline, request the Court to implement section VI(D)(1b)(iv) of the Stipulation, as reproduced above.

5. During Severe Water Shortage Conditions, the Stipulating Parties may make agreements for temporary transfer of groundwater pumping rights in accordance with section VI(D)(1b)(v) of the Stipulation, as reproduced above.

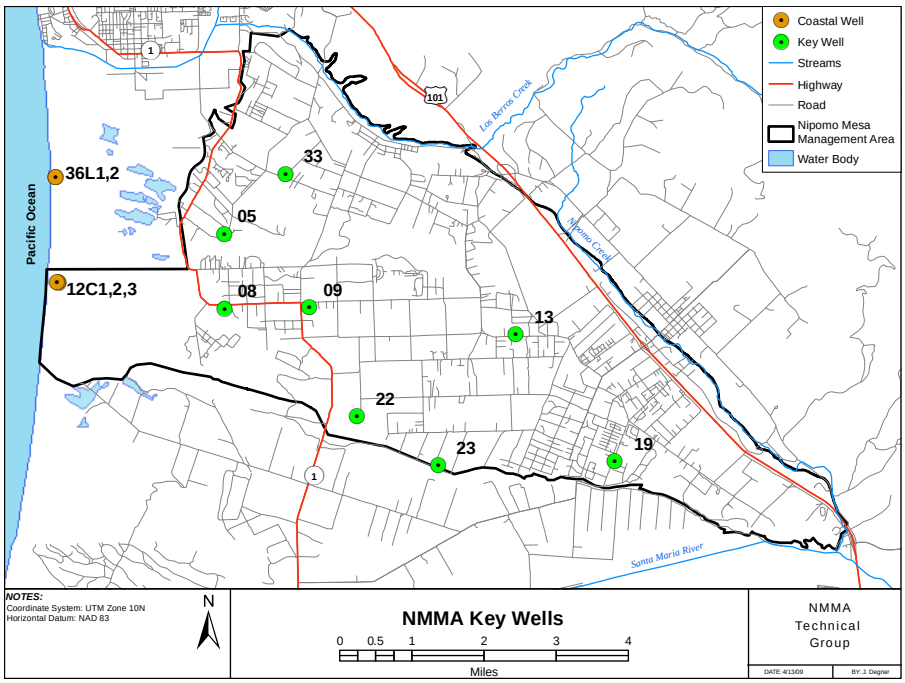
III. Discussion of Criteria for Potentially Severe and Severe Water Shortage Conditions

1. Water Shortage Conditions as a Whole

The Stipulation established that the Severe Water Shortage Conditions is characterized by the lowest historic groundwater levels beneath the NMMA as a whole. The NMMA Technical Group selected the data from eight inland key wells to represent the whole of the NMMA. These wells are listed in the following tabulation and are shown on the

figure entitled “NMMA Key Wells”. The average Spring groundwater elevation of these key wells is used to calculate the Key Wells Index (“Index”).

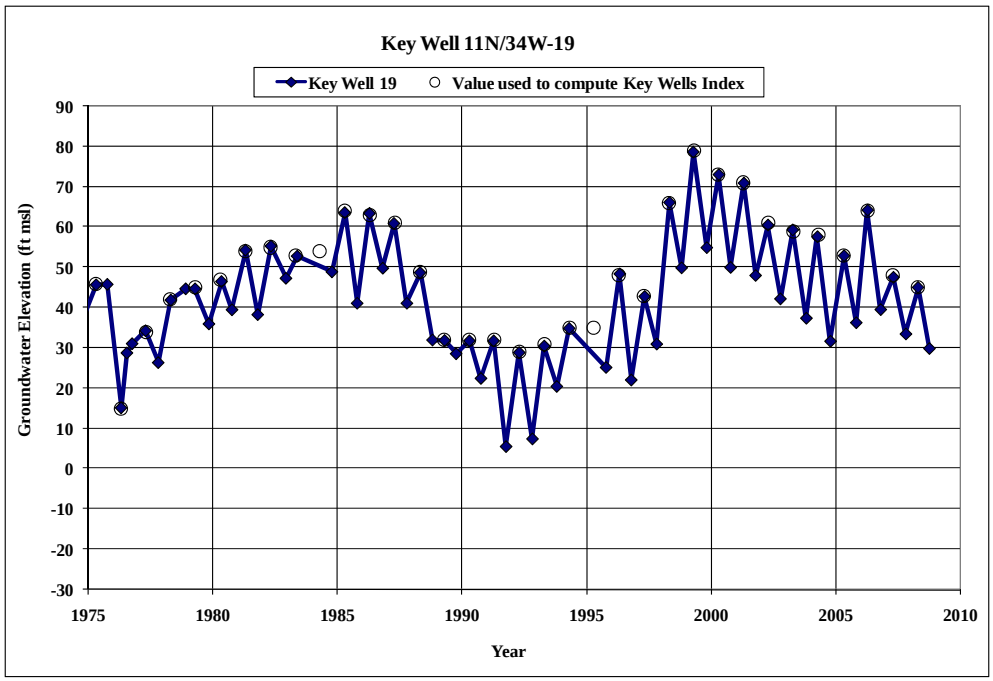
Key Wells For Inland Criterion
11N/34W-19
11N/35W-5
11N/35W-8
11N/35W-9
11N/35W-13
11N/35W-22
11N/35W-23
12N/35W-33

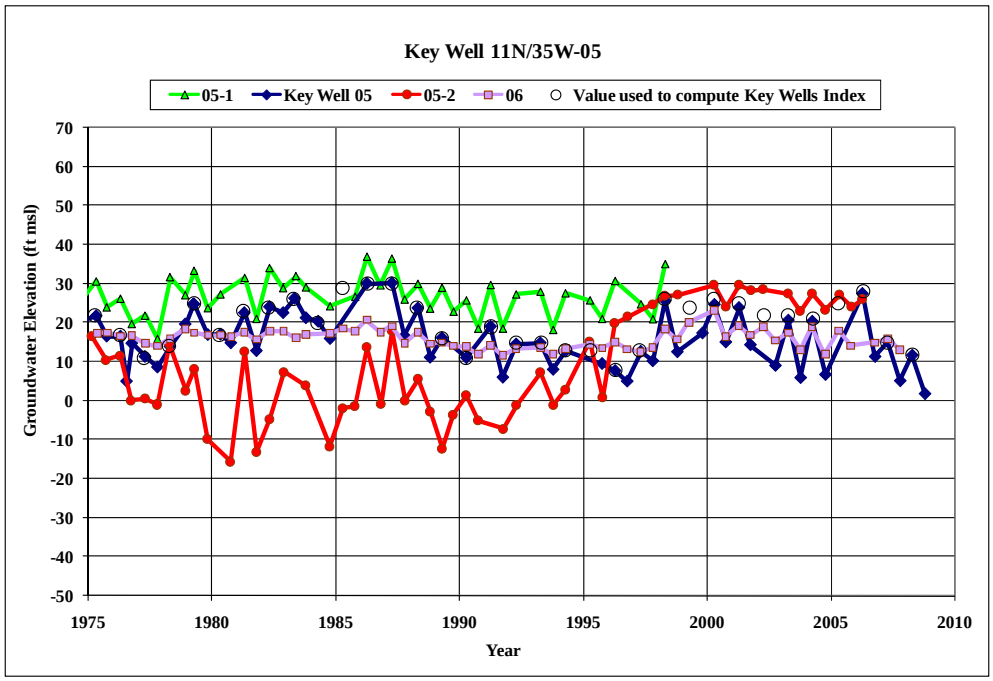


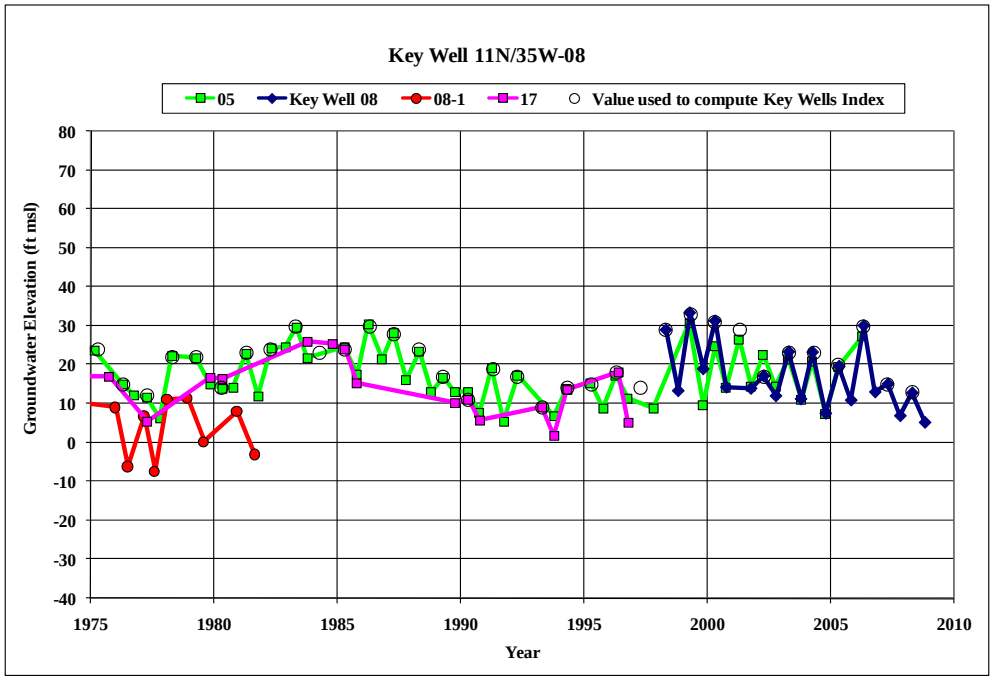
The Index was calculated annually using Spring groundwater elevation measurements from 1975 to 2008. The Key Wells were selected to represent various portions of the groundwater basin within the NMMA. The following charts display the hydrographs for each Key Well and surrounding wells. The open circles represent the actual Spring value for that year or a correlation of that value for each year that was used to compute the Index.

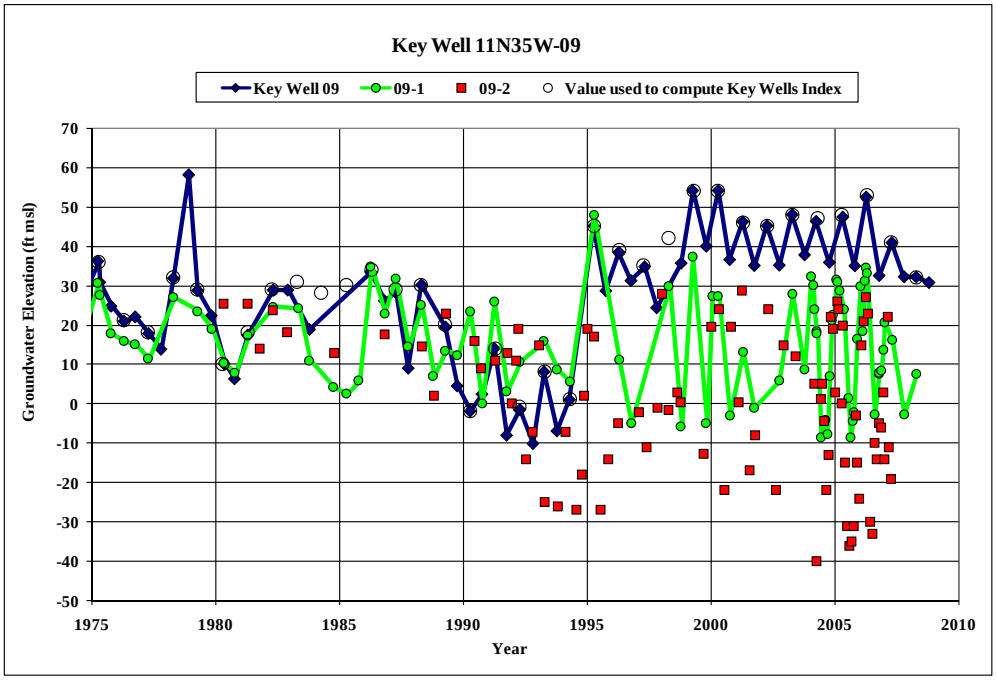
When there was no Spring groundwater elevation measurement for a particular year, the value was determined by either 1) interpolating between Spring measurements in adjacent years or 2) computing the Spring elevation by taking the Fall measurements in adjacent years and increasing the value by the typical increase in groundwater elevations

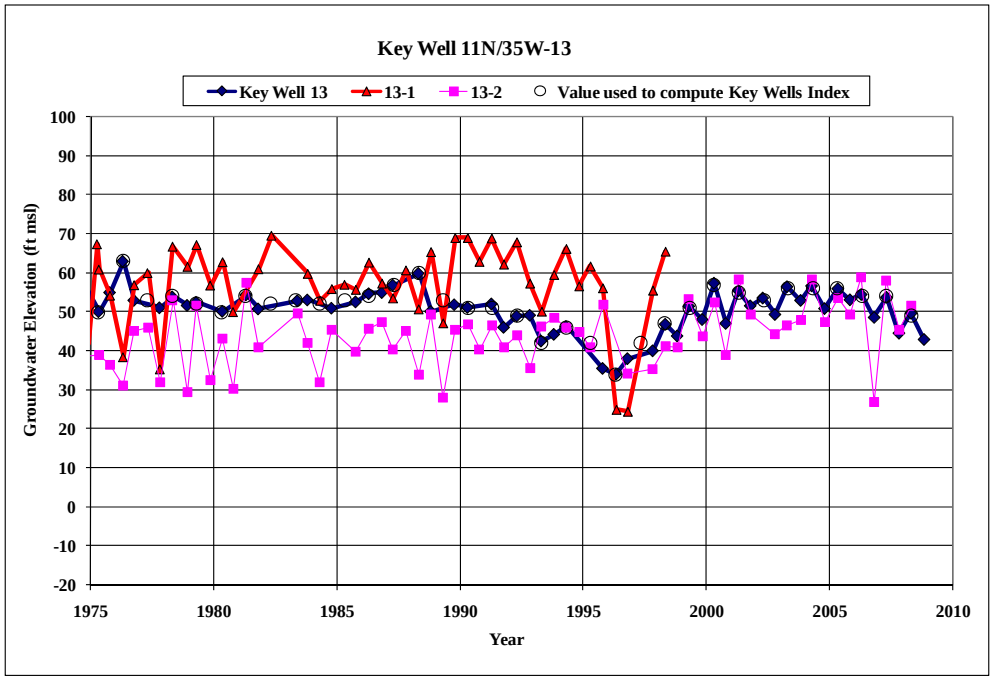
between Spring and Fall measurements in that well. If there is a significant data gap in the record for a particular well (e.g., 22 well below), a nearby well was used to fill the gap.

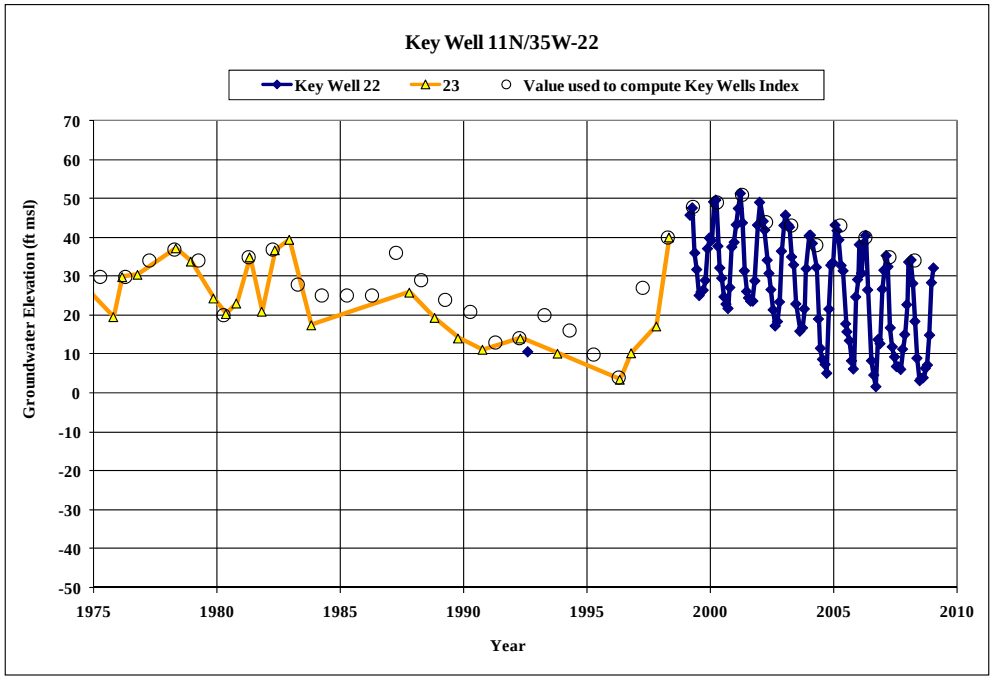


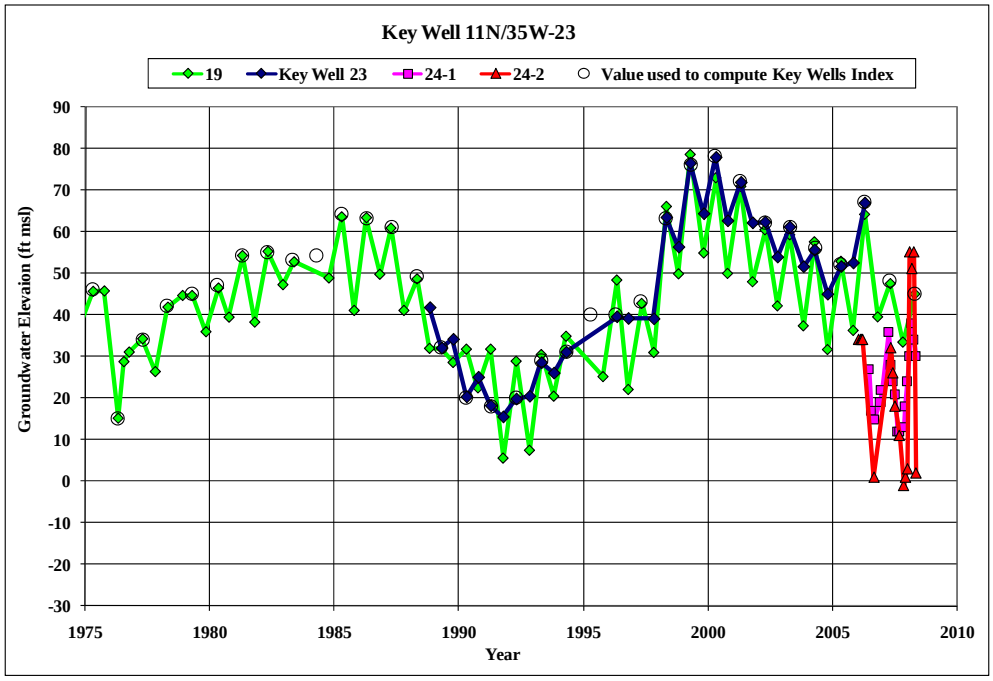


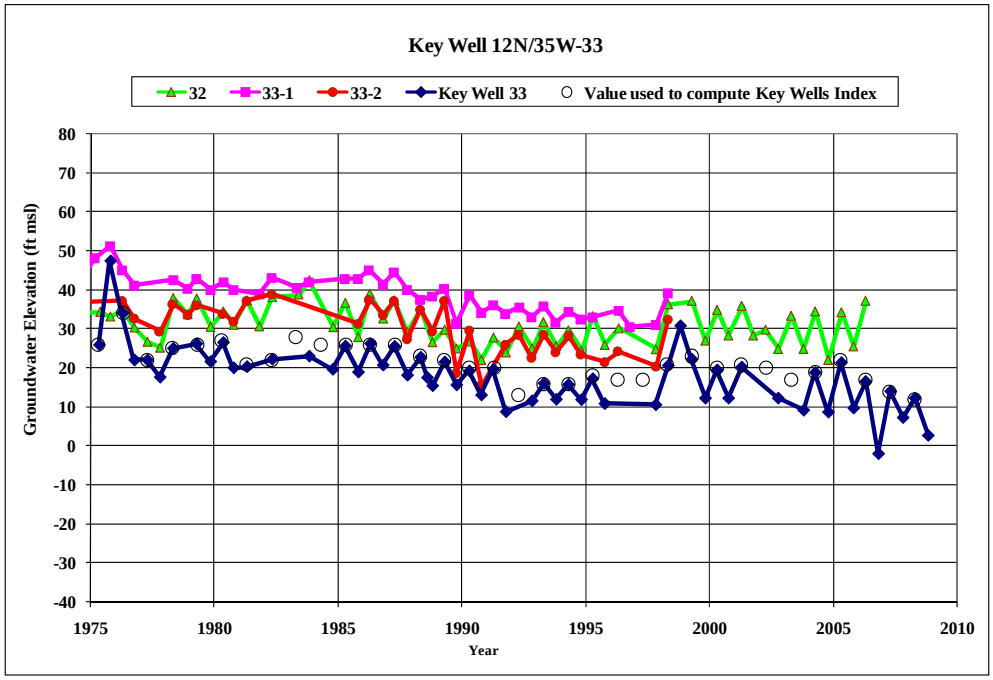

Key Well 11N/35W-08
05
Key Well 08
08-1
17
Value used to compute Key Wells Index
Groundwater Elevation (ft msl)
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
1975
1980
1985
1990
1995
2000
2005
2010
Year


Key Well 11N35W-09
Key Well 09
09-1
09-2
Value used to compute Key Wells Index
Groundwater Elevation (ft msl)
70
60
50
40
30
20
10
0
-10
-20
-30
-40
-50
1975
1980
1985
1990
1995
2000
2005
2010
Year


Key Well 11N/35W-13
Key Well 13
13-1
13-2
Value used to compute Key Wells Index
Groundwater Elevation (ft msl)
100
90
80
70
60
50
40
30
20
10
0
-10
-20
1975
1980
1985
1990
1995
2000
2005
2010
Year


Key Well 11N/35W-22
Key Well 22
23
Value used to compute Key Wells Index
Groundwater Elevation (ft msl)
70
60
50
40
30
20
10
0
-10
-20
-30
-40
-50
1975
1980
1985
1990
1995
2000
2005
2010
Year





In selecting the eight key wells, the following criteria were applied so that the wells generally represent the NMMA as a whole:

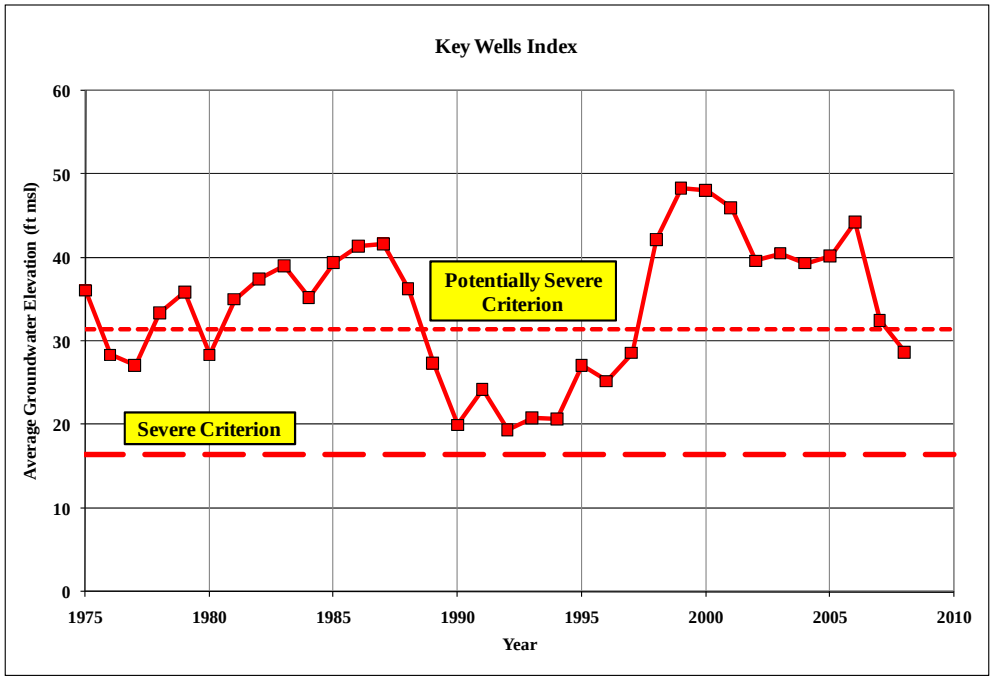
(1) The wells are geographically distributed.

(2) No single well overly influences the Index.

The first criterion was met in the selection of the wells. To meet the second criterion, groundwater elevations from each well were normalized so that any well where elevations were on the average higher or lower than the other wells did not overly influence the overall Index. This normalization was accomplished by dividing each Spring groundwater elevation measurement by the sum of all the Spring groundwater elevation data for that well.

The Index was defined for each year as the average of the normalized Spring groundwater data from each well. The lowest value of the Index could be considered the "historical low" within the NMMA. The sensitivity of that "historical low" was tested by examining the effect of eliminating a well from the Key Wells Index. Eight separate calculations of the Index from 1975 to 2008 were made by excluding the data from one of the eight wells, and computing the average value for each year from the remaining wells' normalized Spring groundwater data.

The criterion for a Potentially Severe Water Shortage Conditions should provide for enough time before the Severe criterion occurs to allow pumpers time to implement voluntary measures to mitigate a falling Key Wells Index. Based on the assumption that two years is adequate for this early warning, then the historical Index can be used to determine the potential rate of fall of the Index. The maximum drop in the historical Index over a two-year period was about 15 feet, during the last two years of the 1986-1991 drought. Thus, the criterion for Potentially Severe Water Shortage Conditions is set at 15 feet above the Severe Water Shortage Condition criterion, which calculates to **31.5 ft msl**. The Key Wells Index for all eight wells, which will be computed each year in the future, will be compared to the Potentially Severe and Severe criteria discussed above. The Index through 2008 is shown below.



Key Wells Index for the period 1975 to 2008. Upper dashed line is criterion for Potentially Severe Water Shortage Conditions and lower dashed line is criterion for Severe Conditions.

The Index generally tracks wet and dry climatic cycles, indicating the importance of natural recharge in the NMMA. Significant deviations from this climatic tracking could occur if supplemental water deliveries reduced pumping, if overlying land use changed the return flows to the aquifer, or if there was a large change in groundwater extractions in addition to those resulting from the introduction of the Supplemental Water.

A. Seawater Intrusion Criteria for Potentially Severe Water Shortage Conditions

The criteria for potentially severe conditions in coastal areas are either gradient conditions that could pull seawater into the principal aquifer, or threshold chloride concentrations detected in coastal monitoring wells. Whereas chloride is the principal indicator for the groundwater quality portion of this criteria, other groundwater quality constituents may be considered for future refinement of this criteria.

To avoid seawater contamination, groundwater elevations in the coastal monitoring wells must be sufficiently high to balance higher-density seawater (about 2.5 of extra head is required for every 100 ft of ocean depth of an offshore outcrop of the aquifer). Thus, if an aquifer is penetrated at 100 ft below sea level in a coastal well, it is assumed that groundwater elevations in that aquifer must be at least 2.5 ft above sea level to counteract the higher density of seawater. Although offshore outcrop areas are not currently defined, it is assumed that some hydraulic connection between the onshore aquifers and seawater at the sea floor is possible or even probable.

Historical groundwater elevation data from these coastal wells indicate that groundwater elevations have not always been higher than the theoretical elevations of fresh water to balance sea water, described in the preceding paragraph. It is not known to what extent (if any) that seawater has advanced toward the land during the periodic depression of groundwater elevation, nor has any groundwater quality data supported the indication that seawater has contaminated the fresh water aquifer at the coastal monitoring well locations. Thus, coastal groundwater elevation criteria must take into account the periodic depression of groundwater elevations. To accommodate these fluctuations and until further understanding is developed, the coastal criteria are presented in the table below, based on the lower of 1) historical low groundwater elevations in the coastal monitoring wells or 2) a calculation of 2.5 ft of elevation for every 100 ft of aquifer depth in the well. If the historical low elevation is used, the value is reduced by one foot and rounded to the nearest half-foot. Similarly, if a calculated value is the lower option, it is rounded to the nearest half-foot. The results of these criteria are indicated in the following table.

Criteria for Potentially Severe Water Shortage Conditions

Well	Perforations Elevation (ft msl)	Aquifer	Historic Low (ft msl)	2.5' per 100' Depth (ft msl)	Elevation Criteria (ft msl)	Highest Chloride (mg/L)	Chloride Concentration Criteria (mg/L)
11N/36W-12C1	-261 to -271	Paso Robles	5.8	6.5	**5.0**	81	**250**
11N/36W-12C2	-431 to -441	Pismo	6.3	10.8	**5.5**	55	**250**
11N/36W-12C3	-701 to -711	Pismo	10.1	17.5	**9.0**	98	**250**
12N/36W-36L1	-200 to -210	Paso Robles	4.3	5.7	**3.5**	38	**250**
12N/36W-36L2	-508 to -518	Pismo	10.1	13.4	**9.0**	127	**250**

The groundwater quality portion of the criteria is set at 250 mg/L chloride. There is no groundwater quality criterion for the shallow alluvium. Although there is no assumption that seawater intrusion has occurred at this concentration, the cause of the rise in chloride concentration must be investigated and appropriate mitigation measures taken. Thus, Potentially Severe Water Shortage Conditions are established if either the groundwater elevation or groundwater quality criteria are met.

B. Seawater Intrusion Criteria for Severe Water Shortage Conditions

One criterion for Severe Water Shortage Conditions is the occurrence of conditions that result in chloride concentration(s) in groundwater greater than the drinking water standard in any of the coastal monitoring wells.

A principal threat for such occurrence is from seawater intrusion. The first evidence of seawater intrusion can occur very quickly or may involve a slower and more subtle change. Because the rate of change for chloride concentrations during seawater intrusion is difficult to predict for the NMMA, the criterion is set to the Maximum Contaminant Level for chloride in drinking water.

The Nipomo Mesa Technical Group set the coastal criterion for Severe Water Shortage Conditions at a chloride concentration at or above **500 mg/L** in any of the coastal monitoring wells. If the criterion is exceeded, an additional sample will be collected and analyzed from that well as soon as practically possible to verify the result. The Severe Water Shortage Condition will not be in effect until the laboratory analysis has been verified.

Appendix C: Well Management Plan

NMMA PURVEYOR

NMMA WELL MANAGEMENT PLAN[1]

Adopted January 21, 2010

Stage 1: Potentially Severe Water Shortage Conditions

- Potentially Severe Water Shortage Conditions Triggered[2];
- Voluntary measures urged by Water Purveyors (NCSD, GSWC, Woodlands, and RWC). See list of "Recommended Water Use Restrictions;"
- Voluntary evaluation of sources of new supplemental water;
- Voluntary purveyor conservation goal of 15% (Baseline to be suggested by the NMMA TG);
- Voluntary/Recommended public information program;
- Voluntary evaluation and implementation of shifting pumping to reduce GW depressions and/or protect the seaward gradient. This includes the analysis and establishment of a potential network of purveyor system interties to facilitate the exchange of water;

[1] This Well Management Plan is required by the terms of the Stipulation (page 22). The Well Management Plan provides for steps to be taken by the NCSD, GSWC, Woodlands and RWC under a factual scenario where Nipomo Supplemental Water (a defined term in the Stipulation) has not been "used" in the NMMA (page 22). The Well Management Plan, therefore, has no applicability to either ConocoPhillips or Overlying Owners as defined in the Stipulation (page 22).

[2] Water shortage conditions are characterized by criteria designed to reflect that groundwater levels beneath the NMMA as a whole are at a point at which a response would be triggered to avoid further declines in the groundwater levels (potentially severe), and to declare that the lowest historic groundwater levels beneath the NMMA as a whole have been reached or that conditions constituting seawater intrusion have been reached (severe). See current version of Water Shortage Conditions and Response Plan – appendix to Annual Report.

Stage 2: Severe Water Shortage Conditions

- Severe Water Shortage Conditions Triggered and Nipomo Supplemental Water has been used in the NMMA (see footnote 1)[3];

- Overlying landowners other than Woodlands and ConocoPhillips shall reduce groundwater use to no more than 110% of the highest pooled base year prior to the transmittal of Nipomo supplemental water. The NMMA TG will determine a technically responsible and consistent method to determine the pooled amount and an individual's contribution (To be determined when trigger occurs). The method of reducing pooled production to 110% is to be prescribed by the TG and approved by the court. Landowners may consider using less water for consideration received;

- ConocoPhillips shall reduce its yearly groundwater use to no more than 110% of the highest amount it used in a single year prior to the transmittal of Nipomo supplemental water. ConocoPhillips may consider using less water for consideration received and has discretion to determine how its groundwater reduction is achieved;

- Water Purveyors (NCSD, GSWC, Woodlands, and RWC) shall implement mandatory conservation measures. Where possible, institute mandatory restrictions with penalties;

- The mandatory conservation goals will be determined by the NMMA TG when the Severe water shortage trigger is reached. Annually, should conditions worsen; the NMMA TG will re-evaluate the mandatory conservation goal;

- Measures may include water reductions, additional water restrictions, and rate increases. GSWC and RWC shall aggressively file and implement[4] a schedule 14.1 mandatory rationing plan with the CPUC consistent with the mandatory goals;

- Penalties, rates, and methods of allocation under the rationing program shall be at the discretion of each entity and its regulating body;

---

[3] [see comment at footnote #1] Water shortage conditions are characterized by criteria designed to reflect that groundwater levels beneath the NMMA as a whole are at a point at which a response would be triggered to avoid further declines in the groundwater levels (potentially severe), and to declare that the lowest historic groundwater levels beneath the NMMA as a whole have been reached or that conditions constituting seawater intrusion have been reached (severe). See current version of Water Shortage Conditions and Response Plan (appendix to Annual Report).

[4] CPUC has the authority to set rates and allow mandatory conservation actions. As CPUC regulated entities, GSWC and RWC cannot implement such programs without CPUC approval.

- Aggressive voluntary public information program which includes discussions with high use water users such as school districts, parks, and golf courses to seek voluntary reductions in potable water irrigation;

List of Recommended Water Use Restrictions

The following provisions are examples of what may be considered prohibited, nonessential, and/or unauthorized water use:

1) Prohibit nonessential and unauthorized water use, including but not limited to:
   a) Use of potable water for more than minimal landscaping, as defined in the landscaping regulated of the jurisdiction or as described in Article 10.8 of the California Government Code in connection with new construction;
   b) Use through any meter when the company has notified the customer in writing to repair a broken or defective plumbing, sprinkler, watering or irrigation system and the customer has failed to effect such repairs within five business days;
   c) Use of potable water which results in flooding or runoff in gutters or streets;
   d) Individual private washing of cars with a hose except with the use of a positive action shut-off nozzle. Use of potable water for washing commercial aircraft, cars, buses, boats, trailers, or other commercial vehicles at any time, except at commercial or fleet vehicle or boat washing facilities operated at a fixed location where equipment using water is properly maintained to avoid wasteful use;
   e) Use of potable water washing buildings, structures, , driveways, patios, parking lots, tennis courts, or other hard-surfaced areas, except in the cases where health and safety are at risk;
   f) Use of potable water to irrigate turf, lawns, gardens, or ornamental landscaping by means other than drip irrigation, or hand watering without quick acting positive action shut-off nozzles, on a specific schedule, for example: 1) before 9:00 a.m. and after 5:00 p.m.; 2) every other day; or 3) selected days of the week;
   g) Use of potable water for watering streets with trucks, except for initial wash-down for construction purposes (if street sweeping is not feasible), or to protect the health and safety of the public;
   h) Use of potable water for construction purposes, such as consolidation of backfill, dust control, or other uses unless no other source of water or other method can be used.

i) Use of potable water for construction purposes unless no other source of water or other method can be used;

j) Use of potable water for street cleaning;

k) Operation of commercial car washes without recycling at least 50% of the potable water used per cycle;

l) Use of potable water for watering outside plants, lawn, landscape and turf areas during the hours of 9:00 am to 5:00 pm;

m) Use of potable water for decorative fountains or the filling or topping off of decorative lakes or ponds. Exceptions are made for those decorative fountains, lakes, or ponds which utilize recycled water;

n) Use of potable water for the filling or refilling of swimming pools.

o) Service of water by any restaurant except upon the request of a patron; and

p) Use of potable water to flush hydrants, except where required for public health or safety.

NMMA WATER SHORTAGE RESPONSE STAGES

Endorsed by NMMA Technical Group April 14, 2014

STAGE	GROUNDWATER SUPPLY CONDITION	RESPONSE - GENERAL DESCRIPTION*	DURATION of RESTRICTION
I	Always in place.	Voluntary measures and outreach to encourage best water management practices and conservation.	Always in place.
II	Potentially Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan.	Goal: voluntary 20% reduction in groundwater production – supported with aggressive public outreach and customer communications.	Until Potentially Severe Water Shortage Condition does not exist.
III	Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan.	Goal: 30% reduction in groundwater production – supported with mandatory conservation restrictions.	Until Severe Water Shortage Conditions no longer exist pursuant to NMMA criteria.**
IV	Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan, lasting more than 1 year from the initial declaration; or Severe Water Shortage declaration pursuant to NMMA declaration triggered by both the Key Well Index and the Coastal Area Criterion.	Goal: 50% reduction in groundwater production – supported with mandatory conservation restrictions.	Until Severe Water Shortage Conditions no longer exist pursuant to NMMA criteria.
V	Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan, lasting more than 2 years from the initial declaration, based on both the Key Well Index and Coastal Area Criterion.	Goal: 60% reduction in groundwater production – supported with mandatory conservation restrictions.	Until Severe Water Shortage Conditions no longer exist pursuant to NMMA criteria.

* This is a general descriptor. Detailed response to meeting the applicable goal is the responsibility of each NMMA purveyor. The NMMA parties acknowledge that Golden State Water Company and Rural Water Company must obtain CPUC approval and hold public hearings before implementing any aspect of this water shortage response.

** The Technical Group may determine Severe Water Shortage Conditions no longer exists when groundwater quality criteria threshold are no longer exceeded in a single measurement.

General Notes

1. Potentially Severe and Severe Water Shortage Conditions, Key Well Index and Coastal Area Criteria are defined in the NMMA Water Shortage Conditions Response Plan, April 13, 2009.
2. Reductions goals are to be based on average usage, prior to the delivery of supplemental water, as follows:
    a. For Woodlands Mutual Water Company – based on average same month production for a single year prior to declaration of Stage III.
    b. For Nipomo CSD, Golden State Water Company and Rural Water Company – based on average same month production for the five years prior to declaration of Stage III. Individual purveyors may use other baselines in their respective responses if dictated by their respective regulatory bodies.
3. Each NMMA purveyor will implement programs to meet the reduction levels.
4. When drought Stage III or higher is in effect, Managers will meet monthly to report previous months production and coordinate efforts.
5. The Technical Group may revisit and revise this response plan should conditions change and after the full implementation of the Nipomo Supplemental Water deliveries.

Appendix D: Data Acquisition Protocol for Groundwater Level Measurement for the Nipomo Mesa Management Area

Data Acquisition Protocol for Groundwater Level Measurement for the Nipomo Mesa Management Area

Introduction

The purpose of this memorandum is to establish a protocol for measuring and recording groundwater levels for Nipomo Mesa Management Area (NMMA) wells, and to describe various methods used for collecting meaningful groundwater data. Static groundwater levels obtained for the NMMA monitoring program are determined by measuring the distance to water in a non-pumping well from a measuring point that has been referenced to sea level. Subtracting the distance to water from the elevation of the measuring point determines groundwater surface elevations above or below sea level. This is represented by the following equation:

$$E_{GW} = E_{MP} - D$$

Where:

E_{GW}	=	Elevation of groundwater above mean sea level (feet)
E_{MP}	=	Elevation above sea level at measuring point (feet)
D	=	Depth to water (feet)

Groundwater elevation data can be used to construct groundwater contour maps, determine groundwater flow direction and hydraulic gradients, show locations of groundwater recharge, determine amount of water in storage, show changes in groundwater storage over time, and identify other aquifer characteristics. Miss-representation of aquifer conditions result from errors introduced during water level measurements, from a changed measuring point, during data recording, from equipment problems, or from using inappropriate measuring equipment or techniques for a particular well.

In an effort to minimize such errors and to standardize the collection of groundwater data, the U.S. Geological Survey (U.S.G.S.) has conducted extensive investigations into methods for measuring groundwater levels. In conjunction with several other federal agencies, the U.S.G.S. published the "National Handbook of Recommended Methods for Water-Data Acquisition" (1977); "Introduction to Field Methods for Hydrologic and Environmental Studies, (2001); and several Stand-alone Procedure Documents (GWPD, 1997). Excerpts from these publications relating to water-level measurements are attached. The following protocol for obtaining and reporting accurate data, including a discussion of potential errors associated with several measurement techniques, are based on these U.S.G.S. documents.

Well Information

To give the most meaningful value to the data obtained in the NMMA monitoring program, each well file should include as much information as is available. Table 1 below lists important well information to be maintained in a well file or in a field notebook. Additional information that should be available to the person collecting water-level data should include a description of access to the

property and the well, the presence and depth of cascading water, or downhole obstructions that could interfere with a sounding cable. San Luis Obispo County Department of Public Works maintains well cards on the wells in the County monitoring network.

Table 1
Well File Information

Well Completion Report	Hydrologic Information	Additional Information to be Recorded
Well name	Map showing basin boundaries and wells	Township, Range, and ¼ ¼ Section
Well Owner	Name of groundwater basin	Latitude and Longitude (Decimal degrees)
Drilling Company	Description of aquifer	Assessor's Parcel Number
Location map or sketch	Confined, unconfined, or mixed aquifers	Description of well head and sounding access
Total depth	Pumping test data	Measuring point & reference point elevations
Perforation interval	Hydrographs	Well use and pumping schedule if known
Casing diameter	Water quality data	Date monitoring began
Date of well completion		Land use

Types of Wells

The monitoring program is likely to include several types of wells with various means of access and pumping schedules. It is important to understand the characteristics of each well type and its downhole conditions to best determine monitoring schedules and appropriate measuring technique. Below is a brief summary of well types and their pumping characteristics. A more detailed description of these well types is included in the attached "National Handbook of Recommended Methods for Water-Data Acquisition".

Existing Wells

These include abandoned wells, irrigation wells, public supply wells, and domestic wells. Existing wells provide convenient and inexpensive measuring sites; however, they should be carefully evaluated to show that they can provide accurate data under static conditions with reliable access.

Abandoned wells are often in poor condition and may have partially collapsed casing or accumulated sediments. Damaged casing may also result in cascading water. An undamaged well with the pump removed, however, can provide easy access and reliable water-level data.

Irrigation wells are generally pumped on a regular schedule, allowing static water-level measurements to be taken during known non-pumping periods. Seasonal changes in the pumping schedules should also be noted when planning monitoring events.

Public supply wells may be part of a monitoring program if sufficient information regarding their operations is available. Hydrographs showing periods or pumping and recovery should be obtained to determine the best time to measure static water levels.

Domestic wells are generally pumped frequently and for short durations, making it difficult to monitor during static conditions. Determining when the lowest domestic water use occurs during the day can facilitate monitoring schedules.

Observation Wells
These wells are designed for specific sites and depths in known hydrogeologic conditions to supply desired information. Typically, there is no permanent pump, making measurements relatively easy.

Piezometers
A piezometer is a small diameter observation well designed to measure the hydraulic head within a small zone. It should have a very short screen and filter pack interval so it can represent the hydraulic head at a single point within the aquifer.

Access to Supply Wells

Access into a well to obtain a water level measurement depends on pump types and wellhead construction. For turbine-pump wells, there is typically an opening between the pump column and the casing either through a port or between the base plate and the casing. The filter-pack fill tube should not be confused with a casing vent or sounding access pipe. In some wells, there is no access for a downhole measuring tape; however, the well may be equipped with an air-line measuring system.

Access to submersible wells is generally through a small diameter plug located in the plate on top of the casing. In wells where there is no sounding tube, caution should be used during water level measurements to minimize the chance of the sounding tape becoming entangled with the power cable. Additional information and wellhead diagrams regarding supply well access is found in the attached "National Handbook of Recommended Methods for Water-Data Acquisition".

Measuring Points and Reference Points

Measuring point (MP) elevations are the basis for determining groundwater elevations relative to sea level. The MP is generally that point on the well head that is the most convenient place to measure the water level in a well. In selecting an MP, an additional consideration is the ease of surveying either by Global Positioning System (GPS) or by leveling.

The MP must be clearly defined, well marked, and easily located. If permissible, the point should be labeled with the letters MP and an arrow. A description, sketch, and photograph of the point should be included in the well file.

The Reference Point (RP) is a surveyed point established near the wellhead on a permanent object. It serves as a benchmark by which the MP can be checked or re-surveyed if the MP is changed. The RP should be marked, sketched, photographed, and described in the well file.

All MPs and RPs for the NMMA monitored wells should be surveyed using the same horizontal and vertical datum by a California licensed surveyor to the nearest tenth of one foot vertically, and the nearest one foot horizontally. The surveyor's report should be maintained in the project file.

In addition to the MP and RP survey, the elevation of the ground surface adjacent to the well should also be surveyed and recorded in the well file. Because the ground surface adjacent to a well is rarely uniform, the average surface level should be estimated. This average ground surface elevation is referred to in the U.S.G.S. Procedural Document (GWPD-1, 1997) as the Land Surface Datum (LSD).

Water-Level Data Collection

Prior to beginning the field work, the field technician should review each well file to determine which well owners require notification of the upcoming site visit, or which well pumps need to be turned off to allow for water level recovery. Because groundwater elevations are used to construct groundwater contour maps and to determine flow direction, all water level measurements should be collected within a 24-hour period or within as short a period as possible. Weather and groundwater conditions are least likely to change significantly during a short period for data collection. For an individual well, the same measuring method and the same sounder should be used during each sampling event where practical.

Prior to taking a measurement, the length of time since a pump has been operating should be determined. If possible, a domestic well should be allowed to recover at least one half hour prior to measuring, whereas an irrigation or public well should recover a minimum of eight hours prior to measuring. If the well is capped but not vented, remove the cap and wait several minutes before measurement to allow water levels to equilibrate to atmospheric pressure.

When there is doubt about whether water levels in a well are continuing to recover, repeated measurements should be made. Or, if an electric sounder is being used, it is possible to hold the sounder level at one point just above the known water level and wait for a signal that would indicate rising water. For each well, the general schedule of pump operation should be determined and noted.

When lowering a graduated steel tape (chalked tape) or electric tape in a well without a sounding tube in an equipped well, the tape should be played out slowly by hand to minimize the chance of the tape end becoming caught in a downhole obstruction. The tape should be held in such a way that any change in tension will be felt. When withdrawing a sounding tape, it should also be brought up slowly so that if an obstruction is encountered, tension can be relaxed so that the tape can be lowered again before attempting to withdraw it around the obstruction.

All water level measurements should be made to an accuracy of 0.1 feet. The field technician should make at least two measurements. If measurements of static levels do not agree within 0.1 feet , the

technician should continue measurements until the reason for the disparity is determined, or the measurements are within 0.1 feet.

Where groundwater levels are found to be above ground surface, a sensitive pressure gage can be used to determine the height above the measuring point or a sealed well could have a manometer tube that would show the height above ground surface. A manometer tube may not be high enough to measure the water level if the groundwater is under more than 5 feet of pressure.

Record Keeping in the Field

The information recorded in the field is often the only remaining evidence of the conditions at the time of the monitoring event. It is important that the field book be protected carefully and that it contains the name of the field technician and appropriate contact information. Because the field book contains original tables of multiple monitoring events, copies of the tables should be made following each monitoring event. The data can be further protected by entering the data electronically as soon as practicable.

All field notes must be recorded during the time the work is being done in the field. Accurate documentation of field conditions cannot be made after the field technician has returned to the office. Because much of the data will be reviewed by office staff, and because more than one field technician may participate in the monitoring program, it is essential that notes be intelligible to anyone without requiring a verbal explanation. As a means to support field information, sketches or digital photos attached to field notes should be encouraged.

All field notes should be made with a sharp pencil with lead appropriate for the conditions. Erasures should not be made when recording data. A single line should be drawn through an error without obscuring its legibility, and the correct value or information should be written adjacent to it or in a new row below it.

During each monitoring event it is important to record any conditions at a well site and its vicinity that may affect groundwater levels, or the field technician's ability to obtain groundwater levels. Table 2 lists important information to record, however, additional information should be included when appropriate. Table 3, The Water Level Measurement Form, is a suggested format for recording field data.

Table 2
Information Recorded at Each Well Site

Well name	Property access conditions	Downhole obstructions
Name and organization of field technician	Changes in land use	Presence of oil in well
Date & time (time in 24-hour notation)	Changes in MP	Cascading water
Measurement method used	Nearby wells in use	Equipment problems
Sounder used	Weather conditions	Physical changes in wellhead
Most recent sounder calibration	Recent rainfall events	Comments

Measurement Techniques

Four standard methods of obtaining water levels are discussed below. The chosen method depends on site and downhole conditions, and the equipment limitations. In all monitoring situations, the procedures and equipment used should be documented in the field notes and in final reporting. Additional detail on manual methods of water level measurement is included in the attached U.S.G.S. Stand-Alone Procedure Documents and the "National Handbook of Recommended Methods for Water-Data Acquisition". The attached "Introduction to Field Methods for Hydrologic and Environmental Studies" includes a discussion of pressure transducers.

Graduated Steel Tape

This method uses a graduated steel tape with a brass or stainless steel weight attached to its end. The tape is graduated in feet. The approximate depth to water should be known prior to measurement.

- Chalk the lower few feet of the tape by applying blue carpenter's chalk.
- Lower the tape to just below the estimated depth to water so that a few feet of the chalked portion of the tape is submerged. Be careful not to lower the tape beyond its chalked length.
- Hold the tape at the MP and record the tape position (this is the "hold" position and should be at an even foot);
- Withdraw the tape rapidly to the surface;
- Record the length of the wetted chalk mark;
- Subtract the wetted chalk number from the "hold" position number and record this number in the "Depth to Water below MP" column;
- Perform a check by repeating the measurement using a different MP hold value;
- All data should be recorded to the nearest 0.01 foot;
- Disinfect the tape by pouring a small amount of chlorine bleach on a clean cloth and wiping down the portion of the tape that was submerged below the water surface.

The graduated steel tape is generally considered to be the most accurate method for measuring static water levels. Measuring water levels in wells with cascading water or with condensing water on the well casing causes potential errors, or can be impossible. The tape should be calibrated against another steel tape that is maintained in the office and is used only for calibration.

Electric Tape

An electric tape operates on the principle that an electric circuit is completed when two electrodes are submerged in water. Most electric tapes are mounted on a hand-cranked reel equipped with batteries and an ammeter, buzzer or light to indicate when the circuit is closed. Tapes are graduated in either one-foot intervals or in hundredths of feet depending on the manufacturer. Like graduated steel tapes, electric tapes are attached with brass or stainless steel weights.

- Check the circuitry of the tape before lowering the probe into the well by dipping the probe into water and observe if the ammeter needle or buzzer/light signals that the circuit is closed;
- Lower the probe slowly and carefully into the well until the signal indicates that the water surface has been reached;

- Place a finger or thumb on the tape at the MP when the water surface is reached;
- If the tape is graduated in one-foot intervals, partially withdraw the tape and measure the distance from the MP mark to the nearest one-foot mark to obtain the depth to water below the MP. If the tape is graduated in hundredths of a foot, simply record the depth at the MP mark as the depth to water below the MP;
- Make all readings using the same needle deflection point on the ammeter scale (if equipped) so that water levels will be consistent between measurements;
- Make check measurements until agreement shows the results to be reliable;
- All data should be recorded to the nearest 0.01 foot;
- Disinfect the tape by pouring a small amount of chlorine bleach on a clean cloth and wiping down the submerged portion of the tape;
- Periodically check the tape for breaks in the insulation. Breaks can allow water to enter into the insulation creating electrical shorts that could result in false depth readings.

The electric tape may give slightly less accurate results than the graduated steel tape. Errors can result from signal "noise" in cascading water, breaks in the tape insulation, or tape stretch. Electric tape products graduated in hundredths of a foot generally give more accurate results than electric tapes graduated in one-foot intervals. This accuracy difference is due to less stretch and ease of measurement in the tapes graduated in hundredths of a foot. All electric tapes should be calibrated periodically against a steel tape that is maintained in the office and used only for calibration.

Air Line

The air line method is usually used only in wells equipped with pumps. This method typically uses a 1/8 or 1/4-inch diameter, seamless copper tubing, brass tubing, or galvanized pipe with a suitable pipe tee for connecting an altitude or pressure gage. Plastic tubing may also be used, but is considered less desirable. An air line must extend far enough below the water level that the lower end remains submerged during pumping of the well. The air line is connected to an altitude gage that reads directly in feet of water, or to a pressure gage that reads pressure in pounds per square inch (psi). The gage reading indicates the length of the submerged air line.

The formula for determining the depth to water below the MP is: **d = k – h** where d = depth to water; k = constant; and h = height of the water displaced from the air line. In wells where a pressure gage is used, h is equal to 2.31 ft/psi multiplied by the gage reading. The constant value for k is approximately equivalent to the length of the air line.

- Calibrate the air line by measuring an initial depth to water (d) below the MP with a graduated steel tape. Use a tire pump, air tank, or air compressor to pump compressed air into the air line until all the water is expelled from the line. When all the water is displaced from the line, record the stabilized gage reading (h). Add d to h to determine the constant value for k.
- To measure subsequent depths to water with the air line, expel all the water from the air line, subtract the gage reading (h) from the constant k, and record the result as depth to water (d) below the MP.

The air line method is not as accurate as a graduated steel tape or electric tape. Measurements with an altitude gage are typically accurate to approximately 0.1 foot, and measurements using a pressure

gage are accurate to the nearest one foot at best. Errors can occur with leaky air lines, or when tubing becomes clogged with mineral deposits or bacterial growth.

Submersible Pressure Transducers

Electrical pressure transducers make it possible to collect frequent and long-term water-level or pressure data from wells. These pressure-sensing devices, installed at a fixed depth in a well, sense the change in pressure against a membrane. The pressure changes occur in response to changes in the height of the water column in the well above the transducer. To compensate for atmospheric changes, transducers may have vented cables or they can be used in conjunction with a barometric transducer that is installed in the same well or a nearby observation well above the water level.

Transducers are selected on the basis of expected water-level fluctuation. The smallest range in water levels provides the greatest measurement resolution. Accuracy is generally 0.01 to 0.1 percent of the full scale range.

Retrieving data in the field is typically accomplished by downloading data through a USB connection to a portable "lap-top" computer. A site visit to retrieve data should involve several steps designed to safeguard the data and the continued useful operation of the transducer:

- Inspect the wellhead and check that the transducer cable has not moved or slipped;
- Ensure that the instrument is operating properly;
- Measure and record the depth to water with a graduated steel or electric tape;
- Document the site visit, including all measurements and any problems;
- Retrieve the data and document the process;
- Review the retrieved data by viewing the file or plotting the original data;
- Recheck the operation of the transducer prior to disconnecting from the computer.

A field notebook with a checklist of steps and measurements should be used to record all field observations and the current data from the transducer. It provides an historical record of field activities. In the office, maintain a binder with field information similar to that recorded on the field notebook so that a general historical record is available there and can be referred to before and after a field trip.

Summary and Recommendations

Static groundwater levels obtained for the NMMA monitoring program are determined by measuring the distance to water from wellhead MPs that have been surveyed using an accepted sea level-based datum. Subtracting the distance to water from the elevation of an MP determines groundwater surface elevations above or below sea level. The following items should be considered important to creating and maintaining a successful monitoring program:

- All wells should be surveyed by a licensed surveyor;

- Three survey points should be set for each well: the MP on the wellhead, the RP on a nearby permanent object, and the adjacent ground surface;
- The points should be surveyed to the nearest tenth of one foot vertically, and the nearest one foot horizontally;
- A one-inch diameter water-level sounding tube should be installed in each NMMA monitoring program well;
- Static water levels should always be measured to the nearest 0.01 feet from the same measuring point, using the same measuring techniques for each well;
- Measurement techniques using graduated steel tapes, electric tapes graduated in hundredths of feet, or pressure transducers should be considered appropriate for the monitoring program;
- Because of its lower accuracy and higher potential for errors than other methods, the air-line method should not be used in the program;
- Thorough and accurate field documentation and complete project files are essential to a successful monitoring program.

Appendix E: Additional Data and Maps

To estimate the annual amount of pumped groundwater used for crop irrigation in the NMMA, land use data are used together with crop water use estimates and local climate data. A spreadsheet model with a daily time step keeps track of various parameters, including evapotranspiration, precipitation, soil moisture, crop water requirements, and related information, to estimate how much irrigation water is required for a crop and, during wet periods, how much precipitation is recharged to the aquifer.

The model estimates a crop's water requirement, otherwise known as the evapotranspirative requirement (ET_C), based on the local weather and a crop coefficient (K_C), and keeps track of soil moisture. The crop coefficient is an estimated value that accommodates seasonal conditions such as growth stage and canopy cover. Reference evapotranspiration (ET_O) values used in the model are obtained from a California Irrigation Management Information System (CIMIS) station in Nipomo, which provides daily meteorological data.

Crop Water Requirement:

$$ET_C = K_C * ET_O \quad \text{where}$$

ET_C = crop evapotranspirative requirement
K_C = crop coefficient
ET_O = reference evapotranspiration (data from Nipomo CIMIS station)

The model then keeps track of the amount of water on a daily time-step that is needed to grow the crop, and whether that water first comes from precipitation (P) and then from soil water. When the total amount of soil water is reduced to half or less of the soil's water-holding capacity (calculated together with the crop's rooting depth), it is assumed that application of water via irrigation (AW_T) will occur to replenish the soil water.

Crop Evapotranspiration of Applied Water:

$$AW_T = ET_C - P \quad \text{where}$$

AW_T = total applied crop water
P = precipitation

The NMMA TG modified the methodology used to estimate the annual amount of pumped groundwater used for crop irrigation and parameter values used in the model calculation in 2010. The crop coefficients, K_C, and land use areas were subsequently updated in 2013 compared to those used in 2012 (this Annual Report; see Tables 1 and 2 below).

Table 1: Crop Coefficients (K_c) assigned to Land Use categories for 2012.

Crop Coefficient (Kc)											
	Native		Agriculture							Golf Course	
Month	Grasses	Trees and Shrubs	Deciduous	Pasture	Vegetable Rotational	Avocado and Lemon	Strawberries	Nursery	Un-irrigated Ag Land	Golf Course	Urban
1	0.42	0.89	1.33	1.33	1.33	0.40	0.18	0.50	1.33	0.60	0.42
2	0.42	1.33	0.31	0.31	1.00	0.50	0.36	0.50	0.31	0.60	0.42
3	0.42	1.26	0.58	1.00	1.00	0.55	0.56	0.50	0.13	0.60	0.42
4	0.42	1.49	0.72	1.00	1.00	0.55	0.65	0.50	0.08	0.60	0.42
5	0.42	1.47	0.83	1.00	0.51	0.60	0.68	0.50	0.03	0.60	0.42
6	0.00	1.67	0.90	1.00	0.01	0.65	0.69	0.50	0.01	0.60	0.42
7	0.00	1.64	0.96	1.00	0.49	0.65	0.35	0.50	0.00	0.60	0.42
8	0.00	1.38	0.96	1.00	1.00	0.65	0.05	0.50	0.05	0.60	0.42
9	0.42	1.63	0.92	1.00	1.00	0.60	0.13	0.50	0.13	0.60	0.42
10	0.42	1.28	0.81	1.00	1.00	0.55	0.12	0.50	0.12	0.60	0.42
11	0.42	0.95	0.54	0.54	0.54	0.55	0.54	0.50	0.54	0.60	0.42
12	0.42	0.87	1.20	1.20	1.20	0.50	1.20	0.50	1.20	0.60	0.42

Table 2: Crop Coefficients (K_c) assigned to Land Use categories for 2013.

Crop Coefficient (Kc)											
	Native		Agriculture							Golf Course	
Month	Grasses	Trees and Shrubs	Grape	Pasture	Vegetable Rotational	Avocado and Lemon	Strawberries and cane berries	Nursery	Un-irrigated Ag Land	Golf Course	Urban
1	0.42	0.89	0.00	0.54	0.65	0.54	0.78	0.65	1.33	1.00	0.42
2	0.42	1.33	0.00	0.54	0.65	0.31	0.78	0.65	0.31	1.00	0.42
3	0.42	1.26	0.00	1.00	0.65	0.58	0.78	0.65	0.13	1.00	0.42
4	0.42	1.49	1.00	1.00	0.65	0.72	0.78	0.65	0.08	1.00	0.42
5	0.42	1.47	1.00	1.00	0.65	0.83	0.78	0.65	0.03	1.00	0.42
6	0.00	1.67	1.00	1.00	0.65	0.90	0.78	0.65	0.01	1.00	0.42
7	0.00	1.64	0.00	1.00	0.65	0.96	0.78	0.65	0.00	1.00	0.42
8	0.00	1.38	0.00	1.00	0.65	0.96	0.78	0.65	0.05	1.00	0.42
9	0.42	1.63	0.00	1.00	0.65	0.92	0.78	0.65	0.13	1.00	0.42
10	0.42	1.28	0.00	1.00	0.65	0.81	1.00	0.65	0.12	1.00	0.42
11	0.42	0.95	0.00	0.54	0.65	0.54	0.78	0.65	0.54	1.00	0.42
12	0.42	0.87	0.00	0.54	0.65	0.54	0.78	0.65	1.20	1.00	0.42

The golf course, nursery, and pasture K_C values (Table 2) were calculated from measured irrigation in portions of the NMMA. Strawberry and cane berry, vegetable rotational, and citrus and avocado K_C values were derived from known water demands for these crops in nearby coastal regions.

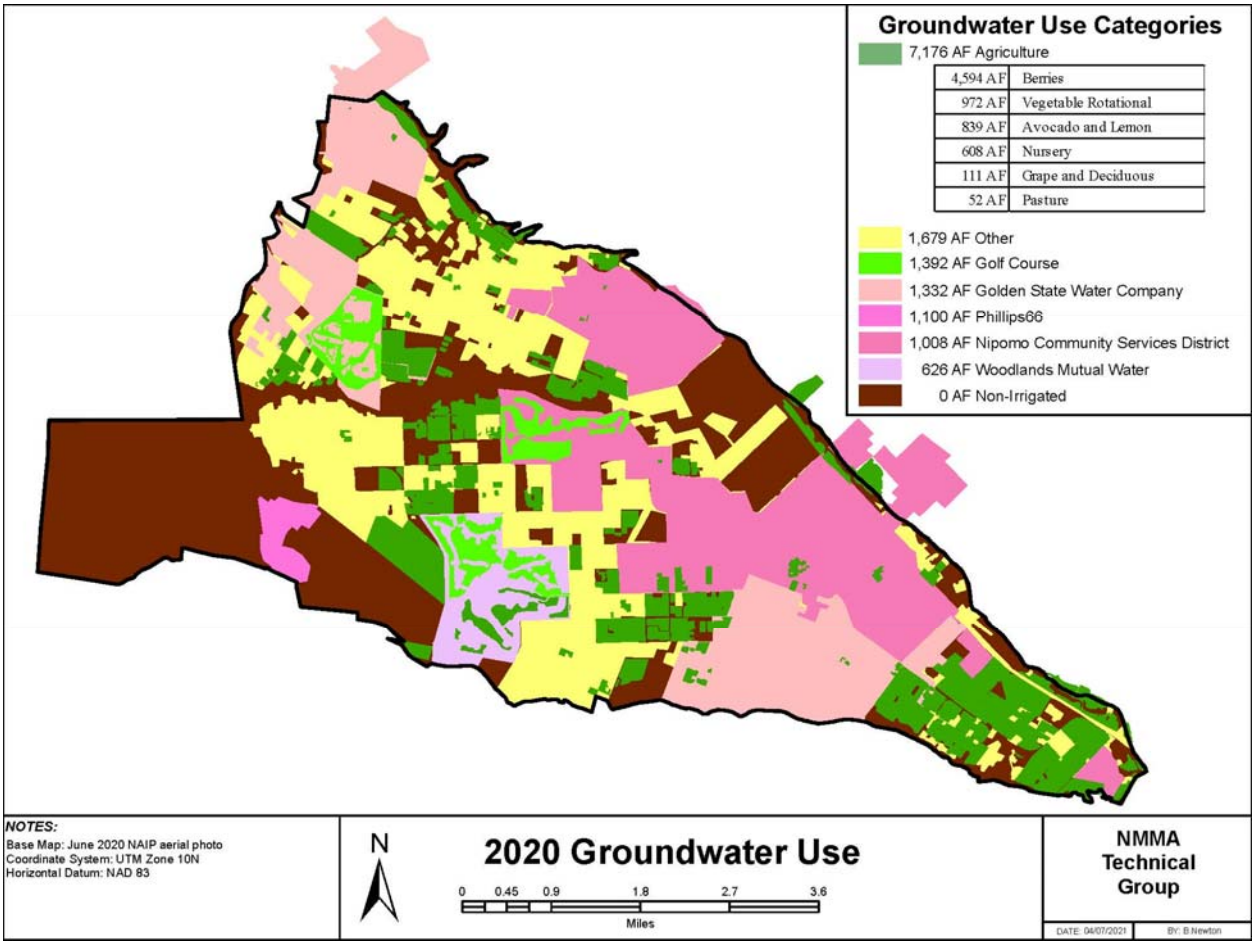


Figure 3-9. 2020 Groundwater Use

Appendix B- DWR Population Tool Results

WUEdata - Nipomo Community Service District

Sign Out

Please print this page to a PDF and include as part of your UWMP submittal.

Confirmation Information

Generated By	Water Supplier Name	Confirmation #	Generated On
Rob Lepore	Nipomo Community Service District	3263150870	3/2/2021 10:19:06 AM

Boundary Information

Census Year	Boundary Filename	Internal Boundary ID
1990	NCSD_BNDY_1990.kml	857
2000	NCSD_BNDY_2000.kml	858
2010	NCSD_BNDY_2010.kml	859

Baseline Period Ranges

10 to 15-year baseline period

Number of years in baseline period: 1

Year beginning baseline period range: 19

Year ending baseline period range[1]: 2012

5-year baseline period

Year beginning baseline period range: 20

Year ending baseline period range[2]: 2010

[1] The ending year must be between December 31, 2004 and December 31, 2010.

[2] The ending year must be between December 31, 2007 and December 31, 2010.

Persons-Per-SF Connection and Persons-Per-MF/GQ Connection

Year	Census Block Group Level	Census Block Level						
	% Population in SF Housing	Service Area Population	Population in SF Housing (calculated)	Population in MF/GQ Housing (calculated)	# SF Connections	# MF/GQ Connections	Persons per SF Connection	Persons per MF/GQ Connection
1990	74.54%	3,976	2,964	1,012	1698	33	1.75	30.67
1991	-	-	-	-	-	-	1.82	28.19
1992	-	-	-	-	-	-	1.90	25.71
1993	-	-	-	-	-	-	1.98	23.24
1994	-	-	-	-	-	-	2.05	20.76
1995	-	-	-	-	-	-	2.13	18.28
1996	-	-	-	-	-	-	2.20	15.80
1997	-	-	-	-	-	-	2.27	13.32
1998	-	-	-	-	-	-	2.35	10.85
1999	-	-	-	-	-	-	2.42	8.37
2000	83.95%	8,768	7,360	1,408	2944	239	2.50	5.89
2001	-	-	-	-	-	-	2.54	5.69
2002	-	-	-	-	-	-	2.59	5.49
2003	-	-	-	-	-	-	2.64	5.29
2004	-	-	-	-	-	-	2.68	5.09
2005	-	-	-	-	-	-	2.73	4.88
2006	-	-	-	-	-	-	2.77	4.68
2007	-	-	-	-	-	-	2.81	4.48
2008	-	-	-	-	-	-	2.86	4.28
2009	-	-	-	-	-	-	2.91	4.08
2010	84.90%	12,148	10,314	1,834	3493	473	2.95	3.88
2011	-	-	-	-	-	-	3.00	3.68
2012	-	-	-	-	-	-	3.04	3.48
2013	-	-	-	-	-	-	3.09	3.27
2014	-	-	-	-	-	-	3.13	3.07
2015	-	-	-	-	-	-	3.18	2.87
2020	-	-	-	-	-	-	3.41 *	1.86 *

Population Using Persons-Per-SF Connection and Persons-Per-MF/GQ Connection

Year		# SF Connections	# MF/GQ Connections	Persons per SF Connection	Persons per MF/GQ Connection	SF Population	MF/GQ Population	Total Population
10 to 15 Year Baseline Population Calculations								
Year 1	1998	2637	235	2.35	10.85	6,197	2,549	8,746
Year 2	1999	2803	234	2.42	8.37	6,797	1,958	8,755
Year 3	2000	2944	239	2.50	5.89	7,360	1,408	8,768
Year 4	2001	3047	236	2.54	5.69	7,755	1,343	9,097
Year 5	2002	3093	239	2.59	5.49	8,011	1,312	9,323
Year 6	2003	3116	237	2.64	5.29	8,211	1,253	9,464
Year 7	2004	3354	235	2.68	5.09	8,989	1,195	10,184
Year 8	2005	3337	366	2.73	4.88	9,093	1,788	10,881
Year 9	2006	3423	390	2.77	4.68	9,482	1,827	11,308
Year 10	2007	3481	412	2.81	4.48	9,799	1,847	11,646
Year 11	2008	3481	421	2.86	4.28	9,956	1,803	11,758
Year 12	2009	3520	427	2.91	4.08	10,226	1,743	11,968
Year 13	2010	3493	473	2.95	3.88	10,314	1,834	12,148
Year 14	2011	3504	495	3.00	3.68	10,498	1,821	12,319
Year 15	2012	3506	492	3.04	3.48	10,665	1,710	12,375
5 Year Baseline Population Calculations								
Year 1	2006	3423	390	2.77	4.68	9,482	1,827	11,308
Year 2	2007	3481	412	2.81	4.48	9,799	1,847	11,646
Year 3	2008	3481	421	2.86	4.28	9,956	1,803	11,758
Year 4	2009	3520	427	2.91	4.08	10,226	1,743	11,968
Year 5	2010	3493	473	2.95	3.88	10,314	1,834	12,148
2020 Compliance Year Population Calculations								
2020		3786	463	3.41 *	1.86 *	12,904	862	13,766

Hide Print Confirmation

Appendix C- SBX7-7 Verification Form Submitted for the 2015 UWMP

SB X7-7 Table 0: Units of Measure Used in UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent with Table 2-3*
NOTES:

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	**Parameter**	**Value**	**Units**
10- to 15-year baseline period	2008 total water deliveries	2,755	Acre Feet
	2008 total volume of delivered recycled water	0	Acre Feet
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period[1]	10	Years
	Year beginning baseline period range	1999	
	Year ending baseline period range[2]	2008	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2004	
	Year ending baseline period range[3]	2008	

[1] If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period.

[2] The ending year must be between December 31, 2004 and December 31, 2010.

[3] The ending year must be between December 31, 2007 and December 31, 2010.

NOTES:

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population (may check more than one)	
☐	**1. Department of Finance** (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
☐	**2. Persons-per-Connection Method**
☑	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: Service Area Population		
Year		**Population**
10 to 15 Year Baseline Population		
Year 1	1999	8,485
Year 2	2000	8,768
Year 3	2001	8,835
Year 4	2002	9,323
Year 5	2003	9,464
Year 6	2004	10,184
Year 7	2005	10,881
Year 8	2006	11,308
Year 9	2007	11,646
Year 10	2008	11,758
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2004	10,184
Year 2	2005	10,881
Year 3	2006	11,308
Year 4	2007	11,646
Year 5	2008	11,758
2015 Compliance Year Population		
2015		12,886
NOTES:		

SB X7-7 Table 4: Annual Gross Water Use *								
			Deductions					
	Baseline Year *Fm SB X7-7 Table 3*	**Volume Into Distribution System** *Fm SB X7-7 Table(s) 4-A*	Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water *Fm SB X7-7 Table 4-B*	Water Delivered for Agricultural Use	Process Water *Fm SB X7-7 Table(s) 4-D*	**Annual Gross Water Use**
10 to 15 Year Baseline - Gross Water Use								
Year 1	1999	2271.2			0	19	0	2,252
Year 2	2000	2414.51			0	20	0	2,394
Year 3	2001	2285.02			0	19	0	2,266
Year 4	2002	2520.79			0	17	0	2,504
Year 5	2003	2633.33			0	17	0	2,617
Year 6	2004	2907.83			0	18	0	2,890
Year 7	2005	2794.04			0	14	0	2,781
Year 8	2006	2726.77			0	16	0	2,710
Year 9	2007	2856.15			0	16	0	2,840
Year 10	2008	2755.24			0	16	0	2,740
Year 11	0	0			0		0	0
Year 12	0	0			0		0	0
Year 13	0	0			0		0	0
Year 14	0	0			0		0	0
Year 15	0	0			0		0	0
10 - 15 year baseline average gross water use								**1,733**
5 Year Baseline - Gross Water Use								
Year 1	2004	2,908			0	18	0	2,890
Year 2	2005	2,794			0	14	0	2,781
Year 3	2006	2,727			0	16	0	2,710
Year 4	2007	2,856			0	16	0	2,840
Year 5	2008	2,755			0	16	0	2,740
5 year baseline average gross water use								**2,792**
2015 Compliance Year - Gross Water Use								
2015		1,948			0	17	0	1,930
* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3								
NOTES:								

SB X7-7 Table 4-A: Volume Entering the Distribution System(s) Complete one table for each source.				
Name of Source	Groundwater			
This water source is:				
☑	The supplier's own water source			
☐	A purchased or imported source			
Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional* *(+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1999	2271.2		2,271
Year 2	2000	2414.51		2,415
Year 3	2001	2285.02		2,285
Year 4	2002	2520.79		2,521
Year 5	2003	2633.33		2,633
Year 6	2004	2907.83		2,908
Year 7	2005	2794.04		2,794
Year 8	2006	2726.77		2,727
Year 9	2007	2856.15		2,856
Year 10	2008	2755.24		2,755
Year 11	0			0
Year 12	0			0
Year 13	0			0
Year 14	0			0
Year 15	0			0
5 Year Baseline - Water into Distribution System				
Year 1	2004	2907.83		2,908
Year 2	2005	2794.04		2,794
Year 3	2006	2726.77		2,727
Year 4	2007	2856.15		2,856
Year 5	2008	2755.24		2,755
2015 Compliance Year - Water into Distribution System				
2015		1626		1,626
** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*				
NOTES:				

SB X7-7 Table 4-A: Volume Entering the Distribution	
Name of Source	Supplemental Water Project
This water source is:	
☐	The supplier's own water source
☑	A purchased or imported source

Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1999			0
Year 2	2000			0
Year 3	2001			0
Year 4	2002			0
Year 5	2003			0
Year 6	2004			0
Year 7	2005			0
Year 8	2006			0
Year 9	2007			0
Year 10	2008			0
Year 11	0			0
Year 12	0			0
Year 13	0			0
Year 14	0			0
Year 15	0			0
5 Year Baseline - Water into Distribution System				
Year 1	2004			0
Year 2	2005			0
Year 3	2006			0
Year 4	2007			0
Year 5	2008			0
2015 Compliance Year - Water into Distribution System				
2015		322		322
** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*				
NOTES:				

SB X7-7 Table 4-A: Volume Entering the Distribution	
Name of Source	Source 3
This water source is:	
☐	The supplier's own water source
☐	A purchased or imported source

Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1999			0
Year 2	2000			0
Year 3	2001			0

SB X7-7 Table 4-C.1: Process Water Deduction Eligibility					
Criteria 1 Industrial water use is equal to or greater than 12% of gross water use					
Baseline Year *Fm SB X7-7 Table 3*		Gross Water Use Without Process Water Deduction	Industrial Water Use	Percent Industrial Water	**Eligible for Exclusion Y/N**
10 to 15 Year Baseline - Process Water Deduction Eligibility					
Year 1	1999	2,252		0%	NO
Year 2	2000	2,394		0%	NO
Year 3	2001	2,266		0%	NO
Year 4	2002	2,504		0%	NO
Year 5	2003	2,617		0%	NO
Year 6	2004	2,890		0%	NO
Year 7	2005	2,781		0%	NO
Year 8	2006	2,710		0%	NO
Year 9	2007	2,840		0%	NO
Year 10	2008	2,740		0%	NO
Year 11	0	0			NO
Year 12	0	0			NO
Year 13	0	0			NO
Year 14	0	0			NO
Year 15	0	0			NO
5 Year Baseline - Process Water Deduction Eligibility					
Year 1	2004	2,890		0%	NO
Year 2	2005	2,781		0%	NO
Year 3	2006	2,710		0%	NO
Year 4	2007	2,840		0%	NO
Year 5	2008	2,740		0%	NO
2015 Compliance Year - Process Water Deduction Eligiblity					
2015		1,930		0%	NO
NOTES:					

SB X7-7 Table 4-C.2: Process Water Deduction Eligibility					
Criteria 2 Industrial water use is equal to or greater than 15 GPCD					
Baseline Year *Fm SB X7-7 Table 3*		Industrial Water Use	Population	Industrial GPCD	**Eligible for Exclusion Y/N**
10 to 15 Year Baseline - Process Water Deduction Eligibility					
Year 1	1999		8,485	0	NO
Year 2	2000		8,768	0	NO
Year 3	2001		8,835	0	NO
Year 4	2002		9,323	0	NO
Year 5	2003		9,464	0	NO
Year 6	2004		10,184	0	NO
Year 7	2005		10,881	0	NO
Year 8	2006		11,308	0	NO
Year 9	2007		11,646	0	NO
Year 10	2008		11,758	0	NO
Year 11	0		0		NO
Year 12	0		0		NO
Year 13	0		0		NO
Year 14	0		0		NO
Year 15	0		0		NO
5 Year Baseline - Process Water Deduction Eligibility					
Year 1	2004		10,184	0	NO
Year 2	2005		10,881	0	NO
Year 3	2006		11,308	0	NO
Year 4	2007		11,646	0	NO
Year 5	2008		11,758	0	NO
2015 Compliance Year - Process Water Deduction Eligibility					
2015			12,886	0	NO
NOTES:					

SB X7-7 Table 4-C.3: Process Water Deduction Eligibility							
Criteria 3 Non-industrial use is equal to or less than 120 GPCD							
Baseline Year *Fm SB X7-7 Table 3*		Gross Water Use Without Process Water Deduction *Fm SB X7-7 Table 4*	Industrial Water Use	Non-industrial Water Use	Population *Fm SB X7-7 Table 3*	Non-Industrial GPCD	**Eligible for Exclusion Y/N**
10 to 15 Year Baseline - Process Water Deduction Eligibility							
Year 1	1999	2,252		2,252	8,485	237	NO
Year 2	2000	2,394		2,394	8,768	244	NO
Year 3	2001	2,266		2,266	8,835	229	NO
Year 4	2002	2,504		2,504	9,323	240	NO
Year 5	2003	2,617		2,617	9,464	247	NO
Year 6	2004	2,890		2,890	10,184	253	NO
Year 7	2005	2,781		2,781	10,881	228	NO
Year 8	2006	2,710		2,710	11,308	214	NO
Year 9	2007	2,840		2,840	11,646	218	NO
Year 10	2008	2,740		2,740	11,758	208	NO
Year 11	0	0		0	0		NO
Year 12	0	0		0	0		NO
Year 13	0	0		0	0		NO
Year 14	0	0		0	0		NO
Year 15	0	0		0	0		NO
5 Year Baseline - Process Water Deduction Eligibility							
Year 1	2004	2,890		2,890	10,184	253	NO
Year 2	2005	2,781		2,781	10,881	228	NO
Year 3	2006	2,710		2,710	11,308	214	NO
Year 4	2007	2,840		2,840	11,646	218	NO
Year 5	2008	2,740		2,740	11,758	208	NO
2015 Compliance Year - Process Water Deduction Eligiblity							
2015		1,930		1,930	12,886	134	NO
NOTES:							

SB X7-7 Table 4-C.4: Process Water Deduction Eligibility

Criteria 4
Disadvantaged Community
Use IRWM DAC Mapping tool http://www.water.ca.gov/irwm/grants/resources_dac.cfm

California Median Household Income		Service Area Median Household Income	Percentage of Statewide Average	**Eligible for Exclusion? Y/N**
2015 Compliance Year - Process Water Deduction Eligibility				
2010	$53,046		0%	YES

A "Disadvantaged Community" is a community with a median household income less than 80 percent of the statewide average.

NOTES:

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Annual Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1999	8,485	2,252	237
Year 2	2000	8,768	2,394	244
Year 3	2001	8,835	2,266	229
Year 4	2002	9,323	2,504	240
Year 5	2003	9,464	2,617	247
Year 6	2004	10,184	2,890	253
Year 7	2005	10,881	2,781	228
Year 8	2006	11,308	2,710	214
Year 9	2007	11,646	2,840	218
Year 10	2008	11,758	2,740	208
Year 11	0	0	0	
Year 12	0	0	0	
Year 13	0	0	0	
Year 14	0	0	0	
Year 15	0	0	0	
10-15 Year Average Baseline GPCD				**232**
5 Year Baseline GPCD				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use
Year 1	2004	10,184	2,890	253
Year 2	2005	10,881	2,781	228
Year 3	2006	11,308	2,710	214
Year 4	2007	11,646	2,840	218
Year 5	2008	11,758	2,740	208
5 Year Average Baseline GPCD				**224**
2015 Compliance Year GPCD				
2015		12,886	1,930	134
NOTES:				

SB X7-7 Table 6: Gallons per Capita per Day *Summary From Table SB X7-7 Table 5*	
10-15 Year Baseline GPCD	232
5 Year Baseline GPCD	224
2015 Compliance Year GPCD	134
NOTES:	

SB X7-7 Table 7: 2020 Target Method *Select Only One*		
Target Method		Supporting Documentation
☑	Method 1	SB X7-7 Table 7A
☐	Method 2	SB X7-7 Tables 7B, 7C, and 7D *Contact DWR for these tables*
☐	Method 3	SB X7-7 Table 7-E
☐	Method 4	Method 4 Calculator
NOTES:		

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	2020 Target GPCD
232	185
NOTES:	

SB X7-7 Table 7-E: Target Method 3				
Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets	Method 3 Regional Targets (95%)
☐		North Coast	137	130
☐		North Lahontan	173	164
☐		Sacramento River	176	167
☐		San Francisco Bay	131	124
☐		San Joaquin River	174	165
☑	100%	Central Coast	123	117
☐		Tulare Lake	188	179
☐		South Lahontan	170	162
☐		South Coast	149	142
☐		Colorado River	211	200
Target *(If more than one region is selected, this value is calculated.)*				**117**
NOTES:				

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target			
5 Year Baseline GPCD *From SB X7-7 Table 5*	Maximum 2020 Target*	Calculated 2020 Target *Fm Appropriate Target Table*	Confirmed 2020 Target
224	213	185	185
** Maximum 2020 Target is 95% of the 5 Year Baseline GPCD*			
NOTES:			

SB X7-7 Table 8: 2015 Interim Target GPCD		
Confirmed 2020 Target *Fm SB X7-7 Table 7-F*	10-15 year Baseline GPCD *Fm SB X7-7 Table 5*	2015 Interim Target GPCD
185	232	208
NOTES:		

SB X7-7 Table 9: 2015 Compliance								
Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments *(in GPCD)*				Adjusted 2015 GPCD	2015 GPCD *(Adjusted if applicable)*	Did Supplier Achieve Targeted Reduction for 2015?
		Extraordinary Events	Weather Normalization	Economic Adjustment	TOTAL Adjustments			
134	208	*0*	*0*	*0*	0	133.7395554	133.7395554	YES
NOTES:								

Appendix D- SBX7-7 2020 Compliance Form

SB X7-7 Table 0: Units of Measure Used in 2020 UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*
NOTES:

SB X7-7 Table 2: Method for 2020 Population Estimate	
Method Used to Determine 2020 Population (may check more than one)	
☐	**1. Department of Finance** (DOF) or **American Community Survey** (ACS)
☐	**2. Persons-per-Connection Method**
☑	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: 2020 Service Area Population	
2020 Compliance Year Population	
2020	13,766
NOTES:	

SB X7-7 Table 4: 2020 Gross Water Use							
Compliance Year 2020	**2020 Volume Into Distribution System** *This column will remain blank until SB X7-7 Table 4-A is completed.*	**2020 Deductions**					**2020 Gross Water Use**
		Exported Water *	**Change in Dist. System Storage*** (+/-)	**Indirect Recycled Water** *This column will remain blank until SB X7-7 Table 4-B is completed.*	**Water Delivered for Agricultural Use***	**Process Water** *This column will remain blank until SB X7-7 Table 4-D is completed.*	
	2,048			-		-	**2,048**

*** Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES:

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	Groundwater
This water source is *(check one)* **:**	
☑	The supplier's own water source
☐	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	1,007	-	1,007

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.* [2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s) Meter Error Adjustment

Complete one table for each source.

Name of Source	Purchased or imported water
This water source is *(check one)* **:**	
☐	The supplier's own water source
☑	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	1,041		1,041

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.* [2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	Enter Name of Source 3
This water source is *(check one)* **:**	

SB X7-7 Table 4-B: 2020 Indirect Recycled Water Use Deduction *(For use only by agencies that are deducting indirect recycled water)*

2020 Compliance Year	2020 Surface Reservoir Augmentation					2020 Groundwater Recharge			Total Deductible Volume of Indirect Recycled Water Entering the Distribution System
	Volume Discharged from Reservoir for Distribution System Delivery[1]	Percent Recycled Water	Recycled Water Delivered to Treatment Plant	Transmission/ Treatment Loss[1]	Recycled Volume Entering Distribution System from Surface Reservoir Augmentation	Recycled Water Pumped by Utility[1,2]	Transmission/ Treatment Losses[1]	Recycled Volume Entering Distribution System from Groundwater Recharge	
	-	0%	-		-			-	-

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.*

[2] *Suppliers will provide supplemental sheets to document the calculation for their input into "Recycled Water Pumped by Utility". The volume reported in this cell must be less than total groundwater pumped - See Methodology 1, Step 8, section 2.c.*

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C: 2020 Process Water Deduction Eligibility **(For use only by agencies that are deducting process water) Choose Only One**	
☐	**Criteria 1**- Industrial water use is equal to or greater than 12% of gross water use. Complete SB X7-7 Table 4-C.1
☐	**Criteria 2** - Industrial water use is equal to or greater than 15 GPCD. Complete SB X7-7 Table 4-C.2
☐	**Criteria 3** - Non-industrial use is equal to or less than 120 GPCD. Complete SB X7-7 Table 4-C.3
☐	**Criteria 4** - Disadvantaged Community. Complete SB x7-7 Table 4-C.4
NOTES:	

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.1: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 1)*

Criteria 1
Industrial water use is equal to or greater than 12% of gross water use

2020 Compliance Year	2020 Gross Water Use Without Process Water Deduction	2020 Industrial Water Use	Percent Industrial Water	**Eligible for Exclusion Y/N**
	2,048		0%	NO

NOTES:

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.2: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 2)*

Criteria 2
Industrial water use is equal to or greater than 15 GPCD

2020 Compliance Year	2020 Industrial Water Use	2020 Population	2020 Industrial GPCD	**Eligible for Exclusion Y/N**
		13,766	-	NO

NOTES:

Data from this table will not be entered into WUEdata. Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.3: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 3)*

Criteria 3
Non-industrial use is equal to or less than 120 GPCD

2020 Compliance Year	2020 Gross Water Use Without Process Water Deduction *Fm SB X7-7 Table 4*	2020 Industrial Water Use	2020 Non-industrial Water Use	2020 Population *Fm SB X7-7 Table 3*	Non-Industrial GPCD	**Eligible for Exclusion Y/N**
	2,048		2,048	13,766	133	NO

NOTES:

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.4: 2020 Process Water Deduction Eligibility ***(For** use only by agencies that are deducting process water using Criteria 4)*

Criteria 4

Disadvantaged Community. A "Disadvantaged Community" (DAC) is a community with a median household income less than 80 percent of the statewide average.

SELECT ONE

"Disadvantaged Community" status was determined using one of the methods listed below:

1. IRWM DAC Mapping tool https://gis.water.ca.gov/app/dacs/

☐	If using the IRWM DAC Mapping Tool, include a screen shot from the tool showing that the service area is considered a DAC.

2. 2020 Median Income

	California Median Household Income*		Service Area Median Household Income	Percentage of Statewide Average	**Eligible for Exclusion? Y/N**
☐	**2020**	**$75,235**		0%	YES

*California median household income 2015 -2019 as reported in US Census Bureau QuickFacts.

NOTES

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)		
2020 Gross Water *Fm SB X7-7 Table 4*	**2020 Population** *Fm SB X7-7 Table 3*	**2020 GPCD**
2,048	13,766	**133**
NOTES:		

SB X7-7 Table 9: 2020 Compliance							
Actual 2020 GPCD[1]	Optional Adjustments to 2020 GPCD Enter "0" if Adjustment Not Used			TOTAL Adjustments[1]	Adjusted 2020 GPCD [1] *(Adjusted if applicable)*	2020 Confirmed Target GPCD [1, 2]	**Did Supplier Achieve Targeted Reduction for 2020?**
	Extraordinary Events[1]	Weather Normalization[1]	Economic Adjustment[1]				
133	-	-	-	-	133	184	**YES**

[1] *All values are reported in GPCD*

[2] ***2020 Confirmed Target GPCD*** *is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.*

NOTES:

Appendix E- Wholesale Water Supply Agreement

RESOLUTION NO. 2013-40

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA MARIA, CALIFORNIA, APPROVING A WHOLESALE WATER SUPPLY AGREEMENT WITH NIPOMO COMMUNITY SERVICES DISTRICT

WHEREAS, on September 7, 2004, the City Council entered into a Memorandum of Understanding with Nipomo Community Services District ("NCSD") to define the terms under which the City of Santa Maria ("City") and NCSD would negotiate for NCSD to purchase supplemental water from the City; and

WHEREAS, on June 30, 2005, a majority of the parties in the Santa Maria Groundwater Litigation, including the City and NCSD, entered into a Stipulated Agreement ("Stipulation"); and

WHEREAS, on June 25, 2008, the Superior Court of California (Santa Maria Groundwater Litigation Lead Case No. 1-97-CV-770214) entered into a judgment incorporating the Stipulation; and

WHEREAS, on January 5, 2010, the City Council adopted a statement of overriding consideration and made findings of consistency regarding the Final Environmental Impact Report on Resolution 2010-04; and

WHEREAS, on January 5, 2010, the City Council approved a Wholesale Water Supply Agreement ("Agreement") for the sale and delivery of supplemental water by the City to NCSD on Resolution 2010-04; and

WHEREAS, on May 9, 2012, the NCSD failed to achieve votes necessary to form an Assessment District to acquire approximately $30 million in funding to construct infrastructure to deliver the quantities of water specified in the initial Agreement; and

WHEREAS, the NCSD desires to construct an interim project to deliver quantities of water greatly reduced from the original project, thereby reducing delivery capacity; and

WHEREAS, the City and NCSD wish to revise the initial Agreement, notably to modify the Minimum Takedown Schedule (i.e. Quantity) to reflect the reduced delivery capacity, and to modify renegotiation language; and

WHEREAS, the proposed revision to the initial Agreement was approved by the NCSD Board of Directors at their regular meeting on Wednesday, April 24, 2013; and

WHEREAS, all other terms in the Agreement approved on Resolution 2010-04 remain the same.

NOW, THEREFORE, IT IS HEREBY RESOLVED by the City Council of the City of Santa Maria as follows:

1.) Authorize and direct the Director of Utilities to enter into a new Wholesale Water Supply Agreement with Nipomo Community Services District, hereto attached as Exhibit "A" and made a part of this resolution; and

2.) Authorize and direct the Director of Utilities, or his designee, to enter into extensions and modifications to the Agreement, consistent with the terms of the Agreement, in order to carry out the project.

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Santa Maria, California, held this 7th day of May 2013.

/s/ ALICE M. PATINO
Mayor

ATTEST:

/s/ RHONDA M. GARIETZ, CMC
Chief Deputy City Clerk

APPROVED AS TO FORM
Sr. Asst. City Attorney

APPROVED AS TO CONTENT
City Manager

Department Head

WHOLESALE WATER SUPPLY AGREEMENT

This Wholesale Water Supply Agreement ("Agreement") is made and entered into as of May 7, 2013, by and between the **CITY OF SANTA MARIA ("City")**, a California municipal corporation and charter City, and **NIPOMO COMMUNITY SERVICES DISTRICT ("NCSD")**, an independent special district formed under and pursuant to Section 61000, *et seq.* of the California Government Code. City and NCSD are sometimes individually referred to herein as a "Party" and collectively as the "Parties".

RECITALS

WHEREAS, the City provides retail potable water service to customers within its service area in the Santa Maria Valley, in northern Santa Barbara County. The City holds a contract with the Central Coast Water Authority to receive water from the State Water Project ("SWP"). City also holds rights to recharge from Twitchell Reservoir and rights to pump groundwater from the Santa Maria Groundwater Basin ("Santa Maria Basin"); and

WHEREAS, NCSD provides retail potable water service and sewer service within its established boundaries located in and around the Nipomo Mesa Management Area ("NMMA") of the Santa Maria Basin; and

WHEREAS, both the City and the NCSD are Parties to a certain groundwater adjudication lawsuit commonly referred to as the Santa Maria Groundwater Litigation (Santa Maria Valley Water Conservation District vs. City of Santa Maria, et al.; Superior Court of California, County of Santa Clara Case no. 1-97-CV-770214) (referred to herein as "Basin Litigation"). On August 3, 2005, the Court approved a Settlement Stipulation (referred to herein as "Stipulation") that was signed by the Parties, related to the Basin Litigation which, among other things, provides that "the NCSD and City shall employ their best efforts to timely implement the Nipomo Supplemental Water Project, subject to their quasi-judicial obligations specified for administrative action and in the California Environmental Quality Act." The Stipulation was later incorporated into the final Judgment; and

WHEREAS, on a long term basis, City has water available for use in the NMMA that is surplus to that needed to serve City's current and long-term future anticipated demands; and

WHEREAS, pursuant to the Stipulation, NCSD seeks to acquire a Supplemental Water supply (referred to herein as "Supplemental Water") to alleviate pressure on the NMMA from groundwater pumping and to meet current needs and projected demands of NCSD customers; and

WHEREAS, consistent with the Stipulation and Judgment, and subject to the terms and conditions of this Agreement, City is willing to sell and deliver to NCSD an established quantity of Supplemental Water on a wholesale basis.

NOW THEREFORE, in consideration of the foregoing recitals and the promises and covenants contained herein, the Parties agree as follows:

1. **Purpose**. Consistent with the Stipulation and Judgment, the purpose of this Agreement is to formalize the terms and conditions by which City will provide Supplemental Water to NCSD, including an equivalent amount of capacity in City's water distribution system, for delivery to the NCSD water distribution system through the interconnection described in Paragraph 9, beginning on the Effective Date and continuing each year thereafter for as long as this Agreement remains in effect.

2. **Termination of MOU and Original Wholesale Water Supply Agreement**. City and NCSD executed a Memorandum of Understanding ("MOU") on September 7, 2004, to provide for the reservation of a Supplemental Water supply of up to three thousand (3,000) acre-feet per year ("AFY") in anticipation of the negotiation of the original Wholesale Water Supply Agreement ("Original Agreement"), executed on January 5, 2010. This Agreement shall supersede the terms of the MOU and Original Agreement, which shall terminate and be of no further force or effect. The initial reservation payment of $37,500 made upon execution of the MOU has already been credited by City to the first quarterly invoice for water delivery pursuant to Paragraph 8.

3. **Term of Agreement**.

(a) **Contract Term**. The term of the Agreement shall commence on the Effective Date and end on June 30, 2085 ("Term"). Notwithstanding the Term, the delivery of Supplemental Water pursuant to this Agreement during any period on or after June 30, 2035, shall be subject to the renewal of the contract between the City and Central Coast Water Authority for SWP water. Furthermore, the terms of this Agreement shall be subject to renegotiation as described below in the event that the SWP contract or any subsequent SWP contract is not renewed or is renegotiated by the City and Central Coast Water Authority prior to June 30, 2035, and the terms of such renegotiation or renewal either (i) substantially impair the ability of City to continue to provide Supplemental Water in the quantities set forth in this Agreement; or (ii) the cost of continuing to provide Supplemental Water pursuant to the terms of this Agreement would create a significant financial burden on the City. In no event shall the City be required to deliver Supplemental Water at a financial loss following June 30, 2035, or in the event of a change in price due to a renegotiation occurring prior to June 30, 2035, as described in the foregoing sentence. Upon the occurrence of one of the foregoing events and within thirty (30) days of a written request from City to NCSD requesting renegotiation, the Parties shall negotiate in good faith and use their best efforts to equitably amend the terms of this Agreement to allow for the continued delivery of Supplemental Water on terms that are mutually beneficial to the Parties for the duration of the Term. The parties will meet in good faith in 2085 to determine whether to extend the term of the Agreement.

(b) **Dispute Resolution**. In the event of a dispute as to whether clause (i) and/or (ii) of Paragraph 3(a) have been triggered as a result of the renegotiation or non-renewal of the SWP contract, then such dispute shall be referred to the dispute resolution procedures referenced in Paragraph 19 of this Agreement. If a final finding is made as a result of such dispute resolution procedure that clause (i) and /or clause (ii) have been triggered, then the Parties shall negotiate in good faith pursuant to Paragraph 3(a). If the Parties cannot agree on the terms and conditions for equitably amending the terms of this

Agreement to address a substantial impairment pursuant to clause (i) of Paragraph 3(a), then whether or not there is a feasible solution to address such substantial impairment may also be referred to the dispute resolution procedures referenced in Paragraph 19 of this Agreement. Notwithstanding the foregoing, the allocation of cost and/or any revision in the price of Supplemental Water to implement a solution or address the existence of an impairment or significant financial burden as set forth in Paragraph 3(a) shall be solely determined by the Parties on mutually acceptable terms and the dispute resolution procedure shall have no authority to order or impose any change with respect to such terms.

(c) **Effective Date**. The "Effective Date" shall mean the date that the NCSD interconnection described in Paragraph 9 has been completed and approved by City's technical staff as operationally ready for commencement of delivery of Supplemental Water.

(d) **Delivery Year**. Each "Delivery Year" shall commence on the Effective Date and any anniversary thereof during the Term and continue for a period of one (1) year.

4. **Quantity of Supplemental Water**.

(a) **Minimum Delivery**. In each Delivery Year during the Term of this Agreement, City shall deliver and NCSD shall purchase the following minimum quantity of Supplemental Water ("Minimum Quantity"):

Delivery Years	Minimum Delivery Volume (AFY)
1	645
2-5	800
6-10	1,000
11-Term	2,500

Any portion of the Minimum Quantity of Supplemental Water that is available for delivery by City in accordance with the mutually agreeable to delivery schedule referenced in Paragraph 9(e) and that is not taken by NCSD during a given Delivery Year shall be forfeit and shall not roll over to the next year. In the event that City, in its sole and absolute discretion, agrees to deliver unused Supplemental Water in a subsequent Delivery Year, such late delivery shall be an accommodation to NCSD and shall not constitute a waiver or amendment to the terms of this Agreement.

(b) **Additional Delivery**. NCSD may request delivery of Supplemental Water in excess of the Minimum Quantity up to an additional thirty-two hundred (3,200) acre feet per year. NCSD shall give City no less than thirty (30) days written notice of its desire to purchase additional Supplemental Water and the proposed schedule for such delivery. City shall make a good faith effort to comply with such request subject to (i) the availability of excess Supplemental Water from sources used for delivery of water to City's retail customers; and (ii) sufficient delivery capacity to fulfill such request at the NCSD interconnection using the City's existing water distribution system. Any such additional Supplemental Water shall be purchased and delivered on the same terms as the Minimum Quantity, provided, however, that if the cost of procuring and delivering

additional Supplemental Water exceeds the cost of delivering the Minimum Quantity, City shall have the right to impose a surcharge to compensate City for such additional cost as a condition to delivery. City shall notify NCSD of the amount of any such surcharge prior to delivery of any additional Supplemental Water and NCSD shall have the right to withdraw its request. In no event shall City be required to undertake any capital cost or expansion of its existing infrastructure to provide additional Supplemental Water.

5. **Reservation of Minimum Quantity**. Subject to the terms and conditions of this Agreement, City shall hold on reserve sufficient Supplemental Water each year, including an equivalent amount of capacity in City's water distribution system, for City to fulfill its obligation to deliver the Minimum Quantity to NCSD under this Agreement. City shall deliver such Supplemental Water to NCSD from sources used to provide water to City's retail customers. Notwithstanding the foregoing, during the term of the Agreement, City may substitute or combine new or additional replacement sources of water for the source of Supplemental Water, provided, however, that any substitute, combined or additional sources must be equivalent in deliverability, reliability, quality, pressure, and environmental impacts to the source being replaced. Disputes regarding this Paragraph shall be resolved pursuant to Paragraph 19.

6. **Purchase Price for Supplemental Water**. The purchase price for Supplemental Water delivered by City to NCSD shall be based on the "Base Rate" of the City's Water Consumption Rates. For fiscal year 2012-13, the Base Rate is two dollars and ninety seven cents ($2.97) per one hundred (100) cubic feet of water (or $1,293.73 per acre-foot of water). The Base Rate may be adjusted each fiscal year subject to approval by the City Council, consistent with applicable legal requirements. Any such adjustment in the purchase price shall go into effect in the next quarterly billing period.

7. **Costs of Delivery**. Except as expressly set forth in this Agreement, City shall be responsible for all costs and expenses related to providing Supplemental Water to NCSD at the NCSD interconnection pursuant to this Agreement. Notwithstanding the foregoing, the purchase price for Supplemental Water includes a cost component for energy costs incurred by City to supply Supplemental Water to the NCSD interconnection equal to two hundred and six dollars and eighty five cents ($206.85) per acre foot ("Base Energy Cost"). In the event that the actual cost of energy incurred by City to supply Supplemental Water in any Delivery Year exceeds the Base Energy Cost, then City shall have the right to charge NCSD a premium equal to the difference between the actual cost and the Base Energy Cost. The Base Energy Cost shall be adjusted each Delivery Year by a percentage which is equivalent to fifty (50) percent of the increase or decrease, if any, in the Consumer Price Index-Energy Services (Electricity and Natural Gas)-Los Angeles-Riverside-Orange County or any successor index.

8. **Payments for Supplemental Water**. City shall bill NCSD on a quarterly basis in arrears for Supplemental Water delivered to NCSD's interconnection during the previous three (3) months. The amount payable by NCSD to City shall be based on the total quantity in acre-feet of Supplemental Water delivered during the quarter just ended multiplied by the then-current purchase price (as determined in Paragraph 6), plus any costs payable by NCSD pursuant to this Agreement. Notwithstanding the foregoing, to the extent that NCSD has taken less than the Minimum Quantity as of the final quarterly billing

for a Delivery Year, City shall bill NCSD for the remainder of the Minimum Quantity whether or not such Supplemental Water has been delivered, provided that such water was made available for delivery to NCSD as provided in Paragraph 9. All invoices billed to NCSD shall be payable within thirty (30) days of the invoice date, provided that no charges are disputed. City shall have the right to charge late fees of up to five (5) percent of the overdue amount for any invoice that is not paid within such period. In the event NCSD disputes any charges on an invoice, the undisputed amount shall be paid consistent with this Paragraph and the original invoice shall be returned to City for correction and resubmission. If the parties are unable to reach an agreement regarding disputed charges, disputes shall be resolved pursuant to Paragraph 19.

9. **Delivery of Water**.

(a) **Point of Delivery**. The physical point of delivery of Supplemental Water pursuant to this Agreement shall be the proposed interconnection between the City water distribution system and the NCSD water distribution system located at Taylor Street and Blosser Road or such other alternative location as may be approved by City and NCSD. All facilities constructed by NCSD will be used solely for the purpose of delivering Supplemental Water to NCSD. NCSD shall cooperate with the reasonable requests of City with respect to taking any action necessary to preserve the integrity of the City's water distribution system and the City shall do likewise for NCSD. The operation and maintenance of the NSCD Interconnection will be detailed in an Operation Memorandum of Understanding that will be approved by the City and NCSD prior to connection. City shall waive any fees for City permits related to construction of facilities for delivery of the water. If the parties cannot agree on the terms of the Operations Memorandum of Understanding then the disputed terms will be subject to the dispute resolution procedures referenced in Paragraph 19 of this Agreement.

(b) **Facilities**. NCSD shall be responsible for designing, constructing and operating the NCSD interconnect. The plans and specifications of the NCSD interconnect shall be subject to prior approval by City, which approval shall not unreasonably be withheld provided that such plans and specifications conform to applicable code provisions and any technical requirements imposed for connections to the City's water distribution system. NCSD shall also be responsible for obtaining any and all regulatory and environmental permits, licenses or other approvals necessary to construct and operate the NCSD interconnection. NCSD and/or any contractor working on the NCSD interconnect shall provide insurance coverage naming the City as an additional insured and the scope of such insurance coverage shall be subject to the reasonable approval of City's Risk Manager prior to commencement of any work.

(c) **Construction, Regulatory/Permit and Other Costs**. NCSD shall be solely responsible for all costs related to the construction and operation of the NCSD interconnection with City's retail water distribution system. NCSD shall also be solely responsible for all regulatory and/or permit compliance and costs with respect to the NCSD interconnection.

(d) **City Streets: License to Use Easements and Rights of Way**. The City shall provide NCSD a license, at no additional cost, to use such portions of City streets,

easements, and right of ways as are reasonably necessary to build the NCSD interconnect and deliver the Supplemental Water to NCSD. Such license shall be non-revocable during the Term of this Agreement and shall automatically terminate upon the termination of this Agreement. The foregoing licenses shall not include the right of NCSD to make any alteration or improvement within such City streets, easements and rights of way except in compliance with Paragraph 9.

(e) **Delivery Schedule**. City will deliver the Supplemental Water to NCSD at the NCSD interconnection upon a mutually agreeable delivery schedule. The volume of delivery to the NCSD interconnection shall not exceed a maximum of two hundred seventy-five (275) acre-feet per month or a peak hour flow averaging twenty-five hundred (2,500) gallons per minute. Delivery pressure at the point of connection shall exceed sixty (60) psi during City's normal system operation, not including emergencies or incidents described in Paragraph 9(f). Before delivery begins, the District and City shall agree to an Operation Memorandum of Understanding (OMOU) to describe the specific procedures and limitation on the operations provided for in this Agreement.

(f) **Force Majeure**. If by reason of acts of God, earthquakes, droughts, floods, storms, explosion, fires, labor troubles, strikes, insurrection, riots, acts of the public enemy, or federal, or state, order, rule, or regulation, the City is prevented, in whole or in part, from the delivery of the Supplemental Water to NCSD, as provided herein, then City may reduce delivery of Supplemental Water up to the same percentage the City reduces water delivery to its retail customers.

(g) **Suspension**. The delivery of water may be suspended or curtailed during any period of public emergency or disaster that is declared by City. For the purposes of this Agreement, a public emergency or disaster shall not include ordinary measures taken during periods of drought or water shortage.

(h) **Obligations of City**. For the purposes of this Agreement and subject the limitations contained in this Paragraph 9, City shall have fulfilled its obligation to make Supplemental Water available for delivery so long as the amount of Supplemental Water purchased by NCSD is available at the NCSD interconnection for NCSD to take delivery of pursuant to a predetermined and mutually agreed upon delivery schedule.

10. **Water Quality**. City shall be responsible for ensuring that the quality of the Supplemental Water made available for delivery is of the same pressure and quality of water that City delivers to its residential customers. The quality of water which is delivered by the City to its residents complies with federal, state and local laws, regulations and permit requirements which are applicable to City, including standards applicable to wastewater discharge, as amended from time to time and subject to any compliance waiver granted to the City ("Quality Standards"). City shall provide NCSD with a copy of the Quality Standards (and any change thereto) which are applicable to City and NCSD shall be solely responsible for ensuring that the Quality Standards meet the federal, state and local laws, regulations and permit requirements for potable water delivery by NCSD to its customers, including the discharge of such water. To the extent that the quality standards which are applicable to NCSD exceed the Quality Standards, then NCSD shall be responsible for any necessary additional treatment of the Supplemental Water. City

agrees to indemnify and hold NCSD harmless from any actual liability which arises as a result of the failure of Supplemental Water which is delivered to the NCSD interconnection to meet the Quality Standards. NCSD shall be solely responsible for any actual liability resulting from a change in water quality following the point of delivery (including any additional treatment undertaken by NCSD) and shall indemnify and hold City harmless from any actual liability which arises from any such change. City and NCSD shall promptly notify the other in the event that either becomes aware of a material adverse change in the quality of the Supplemental Water and shall cooperate to identify the cause of such change.

11. **Remarketing of Supplemental Water**. NCSD shall be free to remarket the Supplemental Water to other Parties within the NMMA without restriction to price and terms. NCSD assumes all responsibility for delivery of Supplemental Water from the NCSD interconnection to its customers and contracting Parties. City's obligations under this Agreement are solely with NCSD and no customer of NCSD nor other third party shall have the right to enforce the terms of this Agreement as a third party beneficiary. City shall not sell water to other parties or persons within NCSD's service area or sphere of influence, as amended from time to time, without first receiving the written approval of NCSD.

12. **Regulatory Requirements**.

(a) **Obligations of the City**. The implementation of this Agreement shall be subject to satisfaction by City of the regulatory requirements set forth herein. City shall, if necessary, undertake the following: (i) Obtain all permits, consents, entitlements and approvals necessary to enable the City to reserve and sell, and NCSD to purchase, the Supplemental Water that is the subject of this Agreement; and (ii) fully and completely comply with the requirements of the California Environmental Quality Act ("CEQA"), including, if it is determined that this transaction is subject to CEQA and not exempt from CEQA. The completion of an initial study, and (1) either (a) there shall have been adopted a negative declaration or a mitigated negative declaration, or (b) a final environmental impact report shall have been completed and certified, and (2) the time shall have expired within which a judicial proceeding may be instituted challenging the validity or completeness of any such determination of exemption, or adoption of a negative declaration or of a mitigated negative declaration, or approval of a final environmental impact report.

(b) **Obligations of NCSD**. NCSD shall be solely responsible for obtaining all regulatory approvals necessary in connection with purchasing and taking delivery of the Supplemental Water.

13. **Service Area Integrity**. Nothing in this Agreement is intended nor shall it be interpreted to waive the right of City to provide water service to current or future areas within or adjacent to its existing service area.

14. **Representations or Warranties of City**. City makes the following representations, warranties, and covenants to NCSD:

(a) **Power and Authority to Execute and Perform this Agreement**. The City has the power and authority to enter into this Agreement and to perform its obligations and all necessary approvals and authorizations have been obtained.

(b) **Availability of Resource**. Based on information which is currently known to City and City's current forecast of future use, on a long-term basis, City has water and the necessary infrastructure available to fulfill City's obligations under this Agreement that is surplus to that needed to serve City's current and long-term future anticipated demand.

(c) **Enforceability**. This Agreement constitutes a legal, valid, and binding obligation of the City, and is enforceable against the City in accordance with its terms.

15. **Representations or Warranties of NCSD**. NCSD makes the following representations, warranties, and covenants to City:

(a) **Power and Authority to Execute and Perform this Agreement**. NCSD has the power and authority to enter into this Agreement and to perform its obligations and all necessary approvals and authorizations have been obtained.

(b) **Enforceability**. This Agreement constitutes a legal, valid, and binding obligation of NCSD, enforceable against NCSD in accordance with its terms.

16. **Default and Termination by City**. In the event NCSD fails to make any payment to City under this Agreement when due, or fails to perform any obligation otherwise required by this Agreement, City shall demand in writing that NCSD cure such non-performance. NCSD shall have thirty (30) days after receipt of such demand to cure. In the event NCSD fails to cure a default within the thirty (30) day period, City may suspend delivery of Supplemental Water and redirect such water to other uses for the duration of the suspension. City shall restore water delivery when NCSD has cured all outstanding defaults and paid all amounts due to the City in full. In the event that NCSD does not cure a default within one (1) year of suspension, then City may terminate this Agreement at any time thereafter.

17. **Default and Termination by NCSD**. NCSD shall have the right to terminate this Agreement, without recourse, if (i) the City is found to be in material breach of its obligations to deliver the Supplemental Water as set forth in this agreement; or (ii) upon written notice to City that NCSD is unable to pay for the Supplemental Water due to the majority protest procedures or other procedures referenced in Proposition 218; or (iii) upon three (3) years prior written notice to City, provided, however, that no such termination without cause shall become effective until the thirtieth (30th) anniversary of the Effective Date.

18. **Expiration of Term**. This Agreement shall terminate and be of no further force and effect as of the expiration of the Term.

19. **Dispute Resolution**. Except as otherwise limited by this Agreement, any dispute arising under this Agreement, including, without limitation, all disputes relating in any manner to the performance or enforcement of this Agreement, shall be resolved by

binding arbitration in the County of Santa Barbara, California, pursuant to the comprehensive arbitration rules and procedures of Judicial Arbitration and Mediation Services ("JAMS") or any successor thereto, as amended or as augmented in this Agreement (the "Rules"). Arbitration shall be initiated as provided by the Rules, although the written notice to the other party initiating arbitration shall also include a description of the claim(s) asserted and the facts upon which the claim(s) are based. Arbitration shall be final and binding upon the parties and shall be the exclusive remedy for all claims subject hereto, including any award of attorney's fees and costs. Either party may bring an action in court to compel arbitration under this Agreement and to enforce an arbitration award. All disputes shall be decided by a single arbitrator. The arbitrator shall be selected by mutual agreement of the parties within thirty (30) days of the effective date of the notice initiating the arbitration. If the parties cannot agree on an arbitrator, then the complaining party shall notify JAMS and request selection of an arbitrator in accordance with the Rules. The arbitrator shall have only such authority to award equitable relief, damages, costs, and fees as a court would have for the particular claim(s) asserted. In no event shall the arbitrator award punitive damages of any kind. The parties acknowledge that one of the purposes of utilizing arbitration is to avoid lengthy and expensive discovery and allow for prompt resolution of the dispute. The arbitrator shall have the power to limit or deny a request for documents or a deposition if the arbitrator determines that the request exceeds those matters which are directly relevant to the claims in controversy. The parties may make a motion for protective order or motion to compel before the arbitrator with regard to the discovery, as provided in the Code of Civil Procedure. Notwithstanding the election by the parties to arbitrate their disputes, nothing contained herein shall prevent a party from filing an action in a court of competent jurisdiction to seek any form of equitable remedy or relief.

20. **Indemnity**. NCSD, its successors and assigns, shall hold harmless, defend and indemnify City, its officials, employees, agents, successors and assigns (all of which are herein referred to as the "City Indemnified Parties") from and against all liabilities, obligations, claims, damages, losses, actions, judgments, suits, costs and expenses, including but not limited to reasonable attorneys' fees (collectively, "Damages"), which may be imposed on, incurred by, or asserted against City Indemnified Parties as a result of (i) a breach of NCSD's obligations; or (ii) the conduct of NCSD's operations associated with the NCSD interconnection to City's retail distribution system and the subsequent delivery of Supplemental Water to NCSD's customers. Notwithstanding the foregoing, in no event shall NCSD be liable to indemnify a City Indemnified Party for (i) any Damages resulting from the negligence or willful misconduct of City; (ii) any third party claim brought in connection with regulatory approvals; or (iii) any claim brought in connection with the quality of the Supplemental Water as provided in Paragraph 10 above. This indemnification shall survive termination of the Agreement.

21. **Third Party Claims**. Promptly following notice of any "Third Party Claim" for which City is indemnified hereunder, City shall notify NCSD of such claim in writing. NCSD shall have a period of thirty (30) days following the receipt of such notice to notify City of whether NCSD elects to assume the defense thereof. If NCSD so notifies City that it elects to assume the defense, NCSD thereafter shall undertake and diligently pursue the defense of the Third Party Claim. NCSD shall not consent to entry of a judgment or enter into any settlement agreement, without the consent of City, which does not include a

complete and unconditional release of City or which imposes injunctive or other equitable relief against City. City shall be entitled to participate in, but not control, the defense thereof, with counsel of its choice and at its own expense. If NCSD does not give the requisite notice, or fails to assume and diligently pursue the defense of such Third Party Claim, City may defend against such Third Party Claim in such manner as it may deem appropriate, at NCSD's expense, including without limitation settlement thereof on such terms as City may deem appropriate, and to pursue such remedies as may be available to City against NCSD. Notwithstanding the foregoing, City shall not consent to entry of a judgment or enter into any settlement agreement, without the consent of NCSD, which does not include a complete and unconditional release of NCSD.

22. **Notice of Claims**. The Parties shall promptly notify each other within ten (10) days of City or NCSD becoming aware of: (1) any claims or suits brought against City or NCSD which involve this Agreement or water supplied to NCSD pursuant to this Agreement, (2) any Third Party Claims, and (3) any force majeure event. Any such notice shall conform to the requirements specified in Paragraph 28 of this Agreement.

23. **Remedies Not Exclusive**. Remedies provided in this Agreement for enforcement of its terms are intended and shall be construed as cumulative rather than exclusive and shall not be deemed to deprive either Party from also using any other remedies provided by this Agreement or by law.

24. **No Transfer of Rights**. The rights granted to NCSD hereunder constitute the right to take delivery of Supplemental Water only and shall not be interpreted as a sale, transfer, or assignment of any of City's water rights.

25. **Subject to Applicable Law**. The Parties acknowledge and agree that this Agreement and the rights and obligations of the Parties shall be subject to the laws governing municipal corporations and special districts as they now exist and as they may be amended or codified by the Legislature of the State of California.

26. **Entire Agreement**. This Agreement contains the entire understanding between NCSD and City with respect to its subject matter, and supersedes all prior agreements, oral or written, and all prior or contemporaneous discussions or negotiations between NCSD and City. This Agreement cannot be amended except in writing signed by both Parties.

27. **No Waiver**. Any failure or delay on the part of either Party to exercise any right under this Agreement shall not constitute a waiver of the right, and shall not preclude such Party from exercising or enforcing the right, or any other provision of this Agreement, on any subsequent occasion.

28. **Notices**. All notices or other communications required or desired to be given pursuant to this Agreement shall be in writing and shall be hand-delivered or sent by a reputable overnight courier service providing delivery confirmation. Each such notice or communication shall be deemed to be duly given when hand-delivered or one (1) day after being deposited for next day delivery with an overnight courier. Each such notice or communication shall be addressed to the Parties at their respective addresses set forth

next to their signatures below, or such other address as a Party notifies the other in writing.

29. **Headings; Paragraph References**. Captions and headings appearing in this Agreement are inserted solely as reference aids for the ease and convenience; they shall not be deemed to define or limit the scope or substance of the provisions they introduce, nor shall they be used in construing the intent or effect of such provisions.

30. **Separability**. If any provision of this Agreement is finally determined by a court to be invalid or unenforceable as written, the provision shall, if possible, be enforced to the extent reasonable under the circumstances and otherwise shall be deemed deleted from this Agreement. The other provisions of this Agreement shall remain in full force and effect so long as the material purposes of the Agreement and understandings of the Parties are not impaired.

31. **Binding Effect Assignment**. This Agreement shall be binding on and inure to the benefit of the Parties, and their respective successors and permitted assigns. NCSD shall have the right to assign its rights under this Agreement with the written consent of City, provided, however, that the City shall not unreasonably withhold such consent and further provided that the assignee agrees to be bound by all of the obligations of NCSD set forth herein. Notwithstanding the foregoing, no assignment permitted hereunder shall permit the delivery of Supplemental Water to any property or development other than the Property without the written consent of the City, in its sole and absolute discretion.

32. **Opinions and Determinations: Good Faith**. Where the terms of this Agreement provide for action to be based upon opinion, judgment, approval, review or determination of either party hereto, such terms are not intended to and shall never be construed to permit such opinion, judgment, approval, review or determination to be arbitrary, capricious or unreasonable. The City and the NCSD shall each act in good faith in performing their respective obligations as set forth in this Agreement.

33. **Incorporation of Recitals**. Recitals A through F are incorporated herein by reference as though set forth at length.

34. **Attorneys Fees.** In the event that any legal proceeding other than the dispute resolution procedures referenced in Paragraph 19, above, is brought to enforce one or more of the terms of this Agreement, to restrain an alleged violation of this Agreement, or to determine the validity of this Agreement or any part, the prevailing Party in any such action or proceeding shall be entitled to recover from the other its reasonable costs and attorneys' fees, in addition to any other remedies available to it in law or equity. If both Parties are successful in one or more causes of action during any such proceeding, the costs and fees shall be apportioned as determined by the court.

35. **Governing Law and Venue**. This Agreement is a contract governed in accordance with the laws of the State of California. THE PARTIES HEREBY AGREE THAT VENUE FOR ANY ACTION BROUGHT TO ENFORCE THE TERMS OF THIS AGREEMENT SHALL BE IN A COURT OF COMPETENT JURISDICTION IN THE

COUNTY OF SANTA BARBARA OTHER THAN A COURT LOCATED WITHIN THE CITY OF SANTA MARIA OR THE NORTHERN PORTION OF SANTA BARBARA COUNTY, CALIFORNIA, AND CONSENT TO THE JURISDICTION THEREOF.

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

CITY:
City of Santa Maria, a California municipal corporation and charter city

By: _____
Name: **Richard G. Sweet, P.E.**
Title: Director of Utilities
Address: 2065 East Main Street
Santa Maria, CA 93454
Fax: (805) 928-7240
Phone: (805) 925-0951 ext. 7211

NCSD:
Nipomo Community Services District, a California public agency

By: _____
Name: **Jim Harrison**
Title: President
Address: Post Office Box 326
Nipomo, CA 93444
Fax: (805) 929-1932
Phone: (805) 929-1133

APPROVED AS TO FORM:
Best, Best & Krieger LLP

By: _____
Jill Willis, Partner

APPROVED AS TO FORM:
District Counsel

By: _____
Michael W. Seitz, District Counsel

STATE OF CALIFORNIA)
COUNTY OF SANTA BARBARA) ss.
CITY OF SANTA MARIA)

I, RHONDA M. GARIETZ, CMC, Chief Deputy City Clerk of the City of Santa Maria and ex officio Clerk of the City Council DO HEREBY CERTIFY that the foregoing is a full, true and correct copy of Resolution No. 2013-40 which was duly and regularly introduced and adopted by said City Council at a regular meeting held May 7, 2013, and carried on the following vote:

AYES: Councilmembers Boysen, Green, Orach, Zuniga, and Mayor Patino.

NOES: None.

ABSENT: None.

ABSTAIN: None.

Chief Deputy City Clerk
of the City of Santa Maria and
ex officio Clerk of the City Council

CITY OF SANTA MARIA
OFFICE OF THE CITY MANAGER
Records/City Clerk, Ext. 306

110 EAST COOK STREET, ROOM #3 • SANTA MARIA, CA 93454-5190 • 805-925-0951 • FAX 805-925-2243 • www.ci.santa-maria.ca.us

May 10, 2013

Jim Harrison
Nipomo Community Services District
P.O. Box 326
Nipomo, CA 93444

RE: WHOLESALE WATER SUPPLY AGREEMENT WITH NIPOMO COMMUNITY SERVICES DISTRICT (NCSD)

Dear Mr. Harrison:

At its regular meeting held on Tuesday, May 7, 2013, the City Council of the City of Santa Maria entered into an Agreement with Nipomo Community Services District ('NCSD") an independent special district formed under and pursuant to Section 61000, et seq. of the California Government Code. Enclosed are two execution originals of the Agreement.

Please sign the Agreements where indicated. Once you have done so, please return one fully executed original to me in the enclosed self-addressed envelope. You should retain one fully executed original for your records.

A certified copy of the Resolution approving the agreement is also enclosed for your records. Should you have any questions regarding the Council's action, please do not hesitate to contact this office at 805-925-0951, Ext. 307 or the Utilities Department at Ext. 7211.

Sincerely,

Rhonda M. Garietz, CMC
Chief Deputy City Clerk

Enclosure: Wholesale Water Supply Agreement x2
Resolution - Certified

pc: Utilities Department

Appendix F – Supplemental Water Management and Groundwater Replenishment Agreement

NIPOMO SUPPLEMENTAL WATER PROJECT

SUPPLEMENTAL WATER MANAGEMENT AND GROUNDWATER REPLENISHMENT AGREEMENT

This Nipomo Supplemental Water Project Supplemental Water Management and Groundwater Replenishment Agreement ("Agreement") is made this 16th day of ~~September~~ October, 2015, between the Nipomo Community Services District, Rural Water Company, The Woodlands Mutual Water Company of San Luis Obispo County and Golden State Water Company with regards to the following facts:

I. RECITALS:

A. The Nipomo Community Services District ("NCSD") is a public entity, independent special district organized and operated pursuant to Govt. Code section 61000 et seq. NCSD provides water and related services within the NCSD boundary located in the southern portion of San Luis Obispo County, within an area generally referred to as the Nipomo Mesa.

B. Golden State Water Company ("GSWC") is a California corporation and a public utility water corporation as defined by Public Utilities Code §§ 216 and 241 providing water service to customers within the Nipomo Mesa subject to California Public Utilities Commission ("PUC") regulation.

C. Rural Water Company ("RWC") is a California corporation and a public utility water corporation as defined by Public Utilities Code §§ 216 and 241 providing water service to customers within the Nipomo Mesa subject to PUC regulation.

D. The Woodlands Mutual Water Company of San Luis Obispo County ("WMWC") is a California corporation and a mutual water company providing water service to its shareholder – customers within the Nipomo Mesa.

E. Collectively, GSWC, RWC and WMWC, are referred to as the "Water Companies" and individually as a "Water Company". NCSD, GSWC, RWC and WMWC are collectively referred to as the "Parties" and individually as a "Party".

F. The Parties, along with hundreds of other individuals and entities are parties to a certain legal proceedings entitled "*Santa Maria Valley Water Conservation District v. City of Santa Maria, et al.*, Superior Court of the State of California, County of Santa Clara, Consolidated Cases CV770214 ("Santa Maria Litigation"), regarding the respective rights of the litigants to groundwater resources in the Santa Maria Groundwater Basin ("Basin").

G. After lengthy proceedings, the court entered an amended judgment

("Judgment") on April 17, 2014, which provides for the long-term management of the Basin water resources.

H. The court retained jurisdiction over the Judgment to ensure the parties manage the Basin water resources consistently with the Judgment.

I. Incorporated into and made a part of the Judgment is a Stipulation dated June 30, 2005 ("Stipulation"), which establishes a detailed management plan for three subareas within the Basin. The Nipomo Mesa is included in the subarea called the Nipomo Mesa Management Area ("NMMA").

J. The Judgment (through the Stipulation) requires NCSD to purchase and transmit to the NMMA a minimum of 2,500 acre-feet of "Nipomo Supplemental Water" each year. NCSD is further required to employ its best efforts to timely implement the Nipomo Supplemental Water Project (NSWP).

K. The Judgment further provides that once the Nipomo Supplemental Water is capable of being delivered, the Parties shall purchase the following portions of the Nipomo Supplemental Water each year to offset groundwater pumping within the NMMA.

Entity	Percent Allocation	AFY (2,500 AF NSWP Yield)
NCSD	66.68	1667.00
GSWC	8.33	208.25
RWC	8.33	208.25
WMWC	16.66	416.50
Total	100.00	2500.00

L. NCSD has entered into a Wholesale Water Supply Agreement with the City of Santa Maria (City), dated May 7, 2013, ("NCSD-City Agreement," attached and incorporated as Exhibit "A"). The NCSD-City Agreement provides a mechanism through which NCSD may purchase Nipomo Supplemental Water for sale and distribution in the NSWP, consistent with the obligations in the Judgment.

M. NCSD has completed construction of the first stage of the NSWP such that NCSD is taking delivery of Nipomo Supplemental Water as of July 1, 2015. The additional stages of the NSWP to allow increased water delivery of a minimum of 2,500 AFY, as required under the Judgment, are currently being planned.

N. On or about June 25, 2015, the PUC approved GSWC's acquisition of RWC. Upon completion of GSWC's acquisition of RWC, GSWC will assume the entirety of RWC's benefits and obligations under this Agreement.

O. NCSD has designed the NSWP to deliver 3,000 AFY. All costs associated with

the capacity in excess of 2,500 AFY are solely assigned to NCSD. Should the Parties, or any faction thereof, elect to expand NSWP facilities to deliver water in excess of 3,000 AFY, further negotiation and agreement among the participating Parties will be required.

P. The purpose of this Agreement is to implement the Parties' obligations with respect to the NSWP as provided in the Stipulation and the Judgment.

In consideration of the foregoing recitals that are incorporated herein by reference and the mutual terms and conditions set forth herein, the Parties agree as follows:

II. DEFINITIONS:

Terms used herein with initial capitalization, whether in singular or plural, shall have the following meanings:

A. "AFY" shall mean acre-feet per year.

B. "Costs" shall mean all the administrative, planning, design, permitting, capital, financing, construction, operation, maintenance, repair, replacement and overhead allocation costs associated with and arising out of the construction and ongoing operation of the NSWP, excluding costs of Points of Interconnection, which shall be funded as provided in Section VII. Costs shall include both actual expenses and reasonably anticipated NSWP related expenses expected to be incurred for the completion of the NSWP and for the ongoing operations of the NSWP. Costs include future financing of phases of the NWSP and future changes in water costs resulting from renegotiation of the NCSD-City Agreement.

C. "Effective Date" shall mean July 1, 2015.

D. "Fiscal Year" shall mean the twelve (12) month period commencing each July 1st during the term of this Agreement and ending the following June 30th.

E. "NSWP Enterprise Fund" shall mean the NSWP Enterprise Fund used by NCSD to account for, budget and track the Costs.

F. "Judgment" shall mean the amended judgment entered by the Court in that case entitled *Santa Maria Valley Water Conservation District v. City of Santa Maria, et al.*, Superior Court of the State of California, County of Santa Clara, consolidated cases CV770214.

G. "NCSD-City Agreement" shall mean the agreement between the City of Santa Maria and Nipomo Community Services District titled "Wholesale Water Supply Agreement," dated May 7, 2013.

H. "Nipomo Mesa Management Area" or "NMMA" shall mean the area so defined and described in the Judgment.

I. "Nipomo Supplemental Water" shall mean up to 2,500 AFY of water delivered within the NMMA to offset groundwater pumping.

J. "Nipomo Supplemental Water Project" or "NSWP" shall mean the facilities and appurtenances, including each Point of Interconnection, necessary to deliver Nipomo Supplemental Water as provided in Section VI.(A) of the Stipulation.

K. "NMMA Technical Group" is the group formed pursuant to the requirements of the Stipulation and Judgment.

L. "Point of Interconnection" shall mean those components of the NSWP extending from NCSD's water distribution system to each Water Company through which Nipomo Supplemental Water may be delivered to each Water Company.

M. "Prudent Utility Practice" shall mean the practices, methods, and acts which, in the exercise of reasonable judgment in light of the facts (including but not limited to the practices, methods, and acts engaged in or approved by a significant portion of the water utility industry prior thereto) known at the time the decision was made, would have been expected to accomplish the desired result at the lowest reasonable cost consistent with good business practices, reliability, safety, and expedition, taking into account the fact that Prudent Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be a spectrum of possible practices, methods, or acts which could have been expected to accomplish the desired result. Prudent Utility Practice includes due regard for manufacturers' warranties and requirements of agencies of competent jurisdiction.

N. "PUC" shall mean the California Public Utilities Commission, the entity with regulatory oversight responsibility for RWC and GSWC.

O. "PUC Application" shall mean those materials and testimony required so that GSWC and RWC may obtain PUC approval adequate to satisfy the conditions subsequent set forth in Section V below.

P. "Stipulation" shall mean the agreement dated June 30, 2005, by and between the majority of the litigants in the Santa Maria Litigation, settling their disputes and imposing a physical solution on the management of water resources in the Santa Maria Basin. The Stipulation is incorporated in and is a part of the Judgment.

Q. "Uncontrollable Force" shall mean any cause or event which is beyond the control of the Party affected, including, but not restricted to, failure of or threat of failure of facilities, flood, earthquake, storm, fire, lightning, epidemic, war, riot, civil disturbance or disobedience, labor dispute or strike, labor or material shortage, sabotage, restraint by court order or public authority and action or non-action by or

failure to obtain the necessary authorizations or approvals from any governmental agency or authority which by exercise of due diligence such party could not reasonably have been expected to avoid and which by exercise of due diligence it shall be unable to overcome.

III. PURPOSE:

A. The purpose of this Agreement is to enable the Parties to meet their respective obligations under the Judgment, based on the percentage allocations presented in Section I.K, regarding the NSWP. In particular, the Parties intend this Agreement to provide for: (1) payment to NCSD for each Party's allocation of Costs, and (2) distribution and use of Nipomo Supplemental Water.

B. The underlying premise of the NSWP is to use Nipomo Supplemental Water within the NMMA to offset 2,500 AFY of groundwater pumping in those areas within the NMMA where groundwater levels are most depressed and thus augment the replenishment of groundwater in those critical areas within the NMMA. As described herein, the Parties will use the Nipomo Supplemental Water to increase groundwater replenishment within the NMMA and improve the long-term reliability and integrity of groundwater availability within the NMMA. The Nipomo Supplemental Water delivered to the Parties pursuant to this Agreement shall be used exclusively for the benefit of properties within the existing jurisdictions and service areas of the Parties and in accordance with the Judgment and Stipulation.

IV. EFFECTIVE DATE AND TERM:

A. This Agreement shall be effective on July 1, 2015 and shall terminate on June 30, 2085 ("Term").

B. Notwithstanding the Term, the delivery of Nipomo Supplemental Water to the Parties subsequent to June 30, 2035, is subject to the renewal of the contract for state water between the City and the Central Coast Water Authority. The NCSD-City Agreement provides that it is subject to renegotiation in the event that the City's contract with the Central Coast Water Authority is not renewed as of June 30, 2035 or if the renewal terms would create a significant financial burden to the City or impair the ability of the City to provide Nipomo Supplemental Water in the quantities set forth in the NCSD-City Agreement.

C. Should renegotiation of the NCSD-City Agreement be required, NCSD and the City are required to negotiate and use their best efforts to equitably amend the terms of the NCSD-City Agreement to allow for the continued delivery of Nipomo Supplemental Water on terms mutually beneficial to both parties for the duration of the Term. NCSD will consult and confer with the Water Companies prior to entering into any material amendments to the NCSD-City Agreement.

D. Obligations incurred hereunder but not satisfied prior to termination of this Agreement shall survive such termination until fully discharged, including any payments due by one Party to another Party hereunder.

V. CONDITIONS SUBSEQUENT:

This Agreement shall terminate and shall be of no further force and effect as to either or both GSWC and RWC, subject to the following conditions.

A. As promptly as is reasonably practicable and in no event later than October 30, 2015, GSWC shall apply for PUC approval for imposition of the necessary rate adjustments so that GSWC may meet its financial obligations provided under this Agreement. GSWC shall provide NCSD with written notice of the satisfaction or waiver of this provision. If GSWC fails to obtain this PUC approval, through a PUC decision or order that is no longer subject to appeal, on or before December 31, 2017, either NCSD or GSWC may, each in its sole discretion, declare a failure to satisfy this condition and terminate this agreement as to GSWC. If either NCSD or GSWC exercises this termination right, the provisions of Article X(D)(1) of the Stipulation shall apply.

B. As promptly as is reasonably practicable and in no event later than October 30, 2015, RWC shall apply to for PUC approval for imposition of the necessary rate adjustments so that RWC may meet its financial obligations provided under this Agreement. RWC shall provide NCSD with written notice of the satisfaction or waiver of this provision. If RWC fails to obtain this PUC approval, through a PUC decision or order that is no longer subject to appeal, on or before December 31, 2017, either NCSD or RWC may, each in its sole discretion, declare a failure to satisfy this condition and terminate this agreement as to RWC. If either NCSD or RWC exercises this termination right, the provisions of Article X(D)(1) of the Stipulation shall apply.

C. The Parties shall make every reasonable business effort to coordinate and cooperate in providing any necessary data, information and testimony to support the PUC approval processes contemplated in this Section.

D. GSWC and RWC shall each be responsible for its own PUC Application. However, each entity expects its PUC Application to be substantially the same in its content. Each PUC Application shall include a request for full financial participation in the NSWP as provided in this Agreement, as of the Effective Date. RWC and GSWC shall make their reasonable best efforts to obtain a prompt and reasonable response to the PUC Application from the PUC, including making every reasonable attempt to reach an acceptable settlement of the PUC Application in lieu of processing the PUC Application through a contested administrative hearing at the PUC. The Parties acknowledge that obtaining PUC approval of each PUC Application may take 12 months or more, following the date of submission of the PUC Application, and that neither GSWC nor RWC have control over the time it takes the PUC to process and

resolve each PUC Application. Notwithstanding the Effective Date, neither GSWC's, nor RWC's financial obligations provided in this Agreement accrue and are enforceable as to either entity, unless and until the PUC provides GSWC and RWC approval to make the necessary customer water rate adjustments equal to each entity's respective share of the Costs provided in this Agreement as of the Effective Date and otherwise consistent with Section IX.B.

E. Until the conditions subsequent in this section are satisfied with written notice, or waived, neither NCSD, RWC, nor GSWC waive their rights to exercise the provisions of Article X(D)(1) of the Stipulation.

VI. USE OF NIPOMO SUPPLEMENTAL WATER.

NCSD shall be responsible for the distribution and use of the Nipomo Supplemental Water between and among the Parties subject to the following:

A. Subject to the groundwater management and recharge protocols provided in this Agreement, the presumed quantity and rate of delivery of Nipomo Supplemental Water for each Party shall be as provided in the table below, based upon an assumed delivery of 2,500 AFY. To the extent Nipomo Supplemental Water is not available for delivery at the volumes or rates shown, each Party's deliveries shall be reduced on a proportional basis. To the extent the implementation of groundwater management and recharge protocols provide for alternative deliveries, each Party shall be responsible for its portion of the Costs as otherwise provided in this Agreement.

Entity	Annual (AF)	*Quarterly (AF)*	Maximum per Month (AF)
NCSD	1668	*417*	139
GSWC	208	*52*	17
RWC	208	*52*	17
WMWC	416	*104*	35

B. The highest priority use of Nipomo Supplemental Water shall be to offset groundwater pumping within those regions within the NMMA where depressed groundwater levels exist.

C. Provided that such reduction does not materially and adversely affect its ability to provide water for the reasonable and beneficial use of its customers, for each AF of the 2,500 AFY Nipomo Supplemental Water used within the NMMA, the user shall reduce its groundwater pumping by the same amount. The Parties shall develop a method of confirming this reduction in groundwater use.

D. Over the term of this Agreement, the Advisory Committee (as defined in XII.A) shall periodically meet and confer with the NMMA Technical Group regarding the distribution of the Nipomo Supplemental Water between the Parties, given the priority

specified in subsections VI.A and B, above. Based on the input from the Advisory Committee and the NMMA Technical Group, the status of Points of Interconnection as provided in the Section VII.A below and other relevant hydrologic conditions, NCSD shall determine the distribution of Nipomo Supplemental Water among the Parties. NCSD shall make its determination regarding the distribution of Nipomo Supplemental Water, following the consultation described in this subsection and based upon a reasonable, good faith interpretation of how best to manage the then existing hydrologic conditions within the NMMA, the availability of Nipomo Supplemental Water and the ability to rely on existing Points of Interconnection and establish a new Point of Interconnection with RWC, if one has not yet been established.

E. Pursuant to section VI(B)(3) of the Stipulation, provided WMWC is concurrently using or has made arrangements for other Parties to use within the NMMA the Nipomo Supplemental Water allocated to the WMWC under Section VI(A), above, WMWC shall not be subject to restriction in the reasonable and beneficial use of groundwater necessary for full development of its service area; provided however, nothing in this Agreement is intended to modify or amend the benefits and obligations provided in the Stipulation and the Judgment applicable to WMWC, or the court's retained jurisdiction pursuant to the Stipulation and the Judgment.

VII. POINTS OF INTERCONNECTION, CONTROL AND MEASUREMENT OF NIPOMO SUPPLEMENTAL WATER DELIVERIES.

A. Point(s) of Interconnection. As of the Effective Date, NCSD's water system is interconnected with GSWC and WMWC water systems. Each of these existing interconnections will require improvements, and possibly reconstruction, to be fully functional "Point(s) of Interconnection." No Point of Interconnection is in place between NCSD and RWC. If, pursuant to Section VI.D, the Parties determine each or all Points of Interconnection are necessary to make optimal use of Nipomo Supplemental Water, NCSD and each Water Company shall develop the most cost effective design and arrange for the construction of the Points of Interconnection as promptly as practical. The Cost of each Point of Interconnection, including the improvements required for existing Points of Interconnection with WMWC and GSWC, shall be incorporated into the NSWP Costs and NSWP Enterprise Fund as provided in this Agreement. The Parties acknowledge and agree that the Point of Interconnection with RWC, if and when established, will be included as a component of the NWSP. However, the Parties agree that allocation of Costs for the pipeline portion of the RWC Point of Interconnection may differ from the allocation set forth in Section I.K above, to be agreed upon by the Parties once those Costs are determined. The Costs for the RWC Point of Interconnection, excluding the Costs of the pipeline portion of the RWC Point of Interconnection, shall be shared consistent with the allocation set forth in Section I.K in a magnitude equivalent to that included in the Costs for the WMWC and GSWC Points of Interconnection.

B. Each Point of Interconnection shall include flow control and metering devices

used to control and measure the delivery of Nipomo Supplemental Water at the Point of Interconnection. Each Point of Interconnection and the appurtenant facilities shall be considered part of the NSWP and shall be owned, operated and maintained by NCSD.

C. NCSD shall arrange for the inspection and testing of the metering devices at least once per calendar year, unless more frequent testing and inspection is appropriate as a result of repairs to or replacements of a metering device. NCSD shall provide reasonable advance notice to and coordinate with each Water Company to accomplish required testing or inspection activities.

D. The operation and maintenance of any Point of Interconnection will be detailed in an Operation Memorandum of Understanding that will be approved by the NCSD and other affected parties prior to connection. If the Parties cannot agree on the terms of the Operations Memorandum of Understanding then the disputed terms will be subject to the dispute resolution procedures referenced in XII of this Agreement.

VIII. NSWP ENTERPRISE FUND BUDGET:

A. NCSD shall operate the NSWP as an enterprise fund ("NSWP Enterprise Fund"), separating all Costs related to the NSWP within and only to that NSWP Enterprise Fund. Prudent Utility Practices shall apply to NCSD's management of the NSWP Enterprise Fund and the NSWP.

B. Each Fiscal Year NCSD shall prepare a NSWP Enterprise Fund Budget ("Budget") for all revenues and expenditures related to the NSWP Enterprise Fund. The Budget shall include a summary of projected Nipomo Supplemental Water deliveries and the Costs associated with those deliveries. A draft of the Budget shall be available to each Water Company for review by May 1st of each year. NCSD shall make every reasonable effort to adopt the final Budget during June of each year at a regularly scheduled NCSD board meeting. The Advisory Committee shall determine the most effective content, format and reporting frequency for financial and budget reports for the NSWP Enterprise Fund.

C. The Budget shall provide the basis for and detail the cost allocations and quarterly billings described in Section IX.

D. Unless the Parties agree otherwise, every five years, a third party expert accounting firm shall perform an overhead allocation analysis for NCSD, including the NSWP Enterprise Fund. The overhead allocation recommendations of that study shall be applied in the next annual budgeting cycle for the NSWP Enterprise Fund. The cost of this study shall be included in the administrative overhead allocated to the NSWP Enterprise Fund. The Advisory Committee shall appoint the accounting firm to perform the overhead allocation analysis.

E. The Water Companies acknowledge and agree that NCSD has incurred

substantial Costs related to the completed portions of the NSWP as of the Effective Date and will incur additional Costs to complete the NSWP. These costs include, but are not limited to, planning, environmental reviews, legal fees, acquisition of easements, an assessment election, and the construction and financing of the primary distribution pipeline extending from the City to NCSD facilities and future stages of the NSWP project. These Costs have been funded by NCSD, with very limited contributions from the Water Companies.

F. The Budget shall include the amortized recovery of the NSWP capital costs (whether funded by NCSD with internal funds or borrowed funds) attributable to each Water Company, pursuant to Section I.K above, plus interest on the unamortized balance of such costs. The capital costs to be amortized in each Budget shall include amounts expended to date and the additional costs necessary to complete the NSWP. NCSD shall not recover interest on the capital portion of NSWP Costs that are funded through the use of NSWP Enterprise Fund assets or reserves.

G. The amortization period for capital costs shall be 30 years beginning July 1, 2015. Interest will be charged monthly on the remaining unamortized balance as of the prior month end.

H. Each Water Company may elect to make early payments of its amortized portion of the capital costs and such early payments shall be credited against the capital obligation of that Water Company.

I. The interest rates to be charged to each Water Company will be determined as follows:

1. For GSWC and RWC, the interest rate charged will be equal to the interest rate on amounts NSCD has borrowed to finance a portion of the project Costs plus one-half of one percent. In the event GSWC's credit rating drops materially below its current rating of A+, and such change would have a material impact on any expected borrowing or financial security related to the NSWP Enterprise Fund, the interest rate charged will be subject to renegotiation between GSWC, RWC and NCSD. The interest specified in this subsection applicable to RWC is predicated on expectation that GSWC will complete its acquisition of RWC prior to the PUC approval of this Agreement. The interest rate and security assurance applicable to RWC's capital obligation shall be subject to renegotiation should GSWC fail to complete its acquisition prior to the PUC's approval of this Agreement.

2. For WMWC, the interest rate charged will be equal to the interest rate on amounts NSCD has borrowed to finance a portion of the project Costs plus two percent. In the event there is a material change in WMWC's financial condition, the interest rate charged will be subject to renegotiation between NCSD and WMWC. WMWC acknowledges that its agreement to amend its bylaws to authorize recordation and enforcement of liens under Corporations

Code § 14304 ("Section 14304 Lien Rights") constitutes a material inducement to NCSD to forego other forms of security for repayment of WMWC's capital obligations, and agrees that it shall not subsequently revise its bylaws to relinquish its Section 14304 Lien Rights without having previously agreed to provide alternate security reasonably acceptable to NCSD.

3. In the event NCSD makes additional borrowings to finance subsequent stages of the NSWP, the interest rates charged GSWC, RWC and WMWC will be adjusted based on the weighted average of the interest rates attributable to unamortized balances of prior stages of the NSWP and the interest rate attributable to the capital costs of the new stage.

J. The NSWP Enterprise Fund shall include a funded replacement reserve ("NSWP Enterprise Fund Reserve") to accumulate funds for the future replacement of NSWP equipment and facilities. The initial NSWP Enterprise Fund Reserve amount shall be set at one percent of total project Costs. Thereafter, the NSWP Enterprise Fund Reserve shall be increased annually based upon the percentage increase in the Consumer Price Index (CPI) – All Urban Consumers (Los Angeles-Riverside-Orange Co., CA area) for the immediately preceding calendar year, subject to the following.

1. The maximum balance in the NSWP Enterprise Fund Reserve shall be $3,000,000. The NSWP Enterprise Fund Reserve maximum shall be increased annually based upon the percentage increase in the Consumer Price Index (CPI) – All Urban Consumers (Los Angeles-Riverside-Orange Co., CA area) for the immediately preceding calendar year. Once the balance in the NSWP Enterprise Fund Reserve reaches the maximum then in effect, the annual reserve shall cease to be collected until such time as the NSWP Enterprise Fund Reserve balance drops below the maximum. Should required expenditures exceed the balance then in the NSWP Enterprise Fund Reserve, the Advisory Committee will establish a plan for funding the deficit in a timely manner. The maximum balance in the NSWP Enterprise Fund Reserve may be increased or decreased subject to unanimous approval by the Advisory Committee.

2. Subject to approval by the Advisory Committee, the balance in the NSWP Enterprise Fund Reserve can be used to fund extraordinary unbudgeted operations and maintenance expenses in those cases where the NSWP Enterprise Fund does not have sufficient operating funds to cover the expenditure.

3. Interest income earned on the NSWP Enterprise Fund Reserve shall remain in the NSWP Enterprise Fund.

IX. RATES AND CHARGES: Based on the Budget, NCSD shall allocate Costs to and invoice the Water Companies as follows:

A. Each Water Company shall be responsible for its share of the Costs of Nipomo Supplemental Water and the NSWP based on the pro-rata shares of the NSWP as provided in Section I.K and the Budget. The Cost allocations shall take into account all Costs for the NSWP. An energy (pumping) credit shall be provided to each Party for any portion of its Nipomo Supplemental Water not delivered directly to that Party, but instead used by another Party pursuant to Section VI.

B. During the term of this Agreement, and where applicable subject to the jurisdiction and approval by the PUC, each Water Company shall charge and collect rates and charges for the water services furnished in its service area which will yield gross revenues sufficient to pay all costs of operating and maintaining the water system within the designated area, including all payments due under this Agreement, as they become due and payable.

C. Following each calendar quarter, NCSD shall provide a written invoice to each Water Company for its share of the Costs during the prior quarter. All invoices will be payable within thirty (30) days of delivery of the invoice. NCSD shall have the right to charge late fees of up to five (5) percent of the overdue amount for any invoice that is not paid within such period.

D. Until such time as GSWC and RWC receive approval from the PUC as provided in Section V, NCSD will not charge late fees on outstanding GSWC and RWC invoices; however, interest will accrue on outstanding charges at the rate specified in Section VIII.

E. In the event a Party disputes any charges on an invoice, the undisputed amount shall be paid and no late fee will be assessed pending resolution of the disputed amount. Along with payment of the undisputed amount, the Party shall provide a detailed written description of the nature and amount in dispute. NCSD and the Party with the dispute shall make every reasonable business effort to resolve the dispute promptly.

F. Within 90 days after the end of each fiscal year, NCSD shall compare prior year actual Costs to the total amount billed to the Parties for that year. If actual Costs exceed the amount billed for that year, each Party will be billed for its allocated share of the excess costs. If actual Costs are less than the amount billed for that year, each party will have the option to have its allocated share of the difference be (1) credited against any unamortized capital costs then due NCSD or (2) be refunded.

X. CONTINUITY OF SERVICE:

A. NCSD reserves the right to temporarily interrupt or curtail delivery of Nipomo Supplemental Water to make repairs, replacements, modifications, or to perform maintenance work on the NSWP, or to respond to an existing or impending Uncontrollable Force, as determined in NCSD's sole judgment. NCSD shall use its

reasonable best business efforts to provide advance written notice to the Water Companies of any restriction or interruption in the use of the NSWP or planned deliveries of Nipomo Supplemental Water.

B. In addition to limitations specified in X.A. above, NCSD may interrupt or curtail the use of the NSWP to the extent that the continued use of the NSWP could: (i) materially and adversely affect the reliability of the NSWP; or (ii) cause NCSD to violate the terms of any rule, regulation, or binding obligation it may otherwise have with respect to the production, treatment or delivery of Nipomo Supplemental Water.

XI. DEVELOPMENT OF EXPANDED GROUNDWATER MANAGEMENT AND RECHARGE CAPABILITY:

The Parties acknowledge and agree that the availability of additional Nipomo Supplemental Water would be beneficial for use within the NMMA. The Parties agree to negotiate an amendment to this Agreement to include the expanded use of Nipomo Supplemental Water for the benefit of the groundwater resources water balance within the NMMA. The Parties shall use their reasonable best efforts to complete the negotiation as promptly as practical.

XII. RESOLUTION OF DISPUTES:

The Parties' shall attempt to amicably and promptly resolve any dispute arising between the Parties and under this Agreement. Nothing in this Agreement shall preclude any Party from taking any lawful action it deems appropriate to enforce its rights under this Agreement. The Parties shall initially attempt to resolve any dispute by the means set forth below:

A. Advisory Committee. The Parties shall exercise best efforts to resolve disputes through consensus. An Advisory Committee shall be established and be comprised of two representatives of each Party. The Advisory Committee shall be convened whenever necessary to ensure this Agreement is being administered and implemented consistent with the intentions of all the Parties. An NCSD representative shall chair the Advisory Committee. The Chair shall be responsible for scheduling all meetings under this section. Any Party may request a meeting of the Advisory Committee.

B. Annual Meeting. The Advisory Committee shall meet annually, or as often as necessary, to review the administration and implementation of this Agreement. The Advisory Committee shall use its best efforts to obtain consensus on the resolution of technical, administrative, financial, legal and operational issues that may arise from time to time with regard to this Agreement.

C. Dispute Resolution Procedure. The Parties shall submit any dispute related to or arising out of this Agreement to the Advisory Committee for consideration. The

Chair may request the Party or Parties to any dispute to submit a description of the dispute in writing prior to convening the Advisory Committee. As soon as practical, and within 14 days of the submission of a written description of a dispute, the Chair shall schedule a meeting of the Advisory Committee. The Advisory Committee shall convene within 30 days of the submission of a written description of a dispute and shall make every reasonable effort to resolve the dispute.

D. Failure of the Advisory Committee to Resolve the Dispute. If the Advisory Committee fails to resolve a dispute, the Parties may elect to refer the dispute to mediation. If the Parties are unable to agree promptly upon a mediator or a mediation process, each Party may freely pursue any equitable and legal remedy.

E. Emergencies. Where an unresolved dispute may pose an imminent danger to the public, health, safety or welfare, the Parties shall not be subject to the provisions of this Section.

XIII. LIABILITY AND INDEMNIFICATION:

A. Limitation of Liability: Except as to the negligent or willful misconduct of a Party, each Party shall release and hold harmless the other Parties from and against any and all liability, loss, damage and expense arising from, alleged to arise from, in connection with, or incident to the services rendered under this Agreement.

B. Indemnification and Defense: Each Party shall indemnify, defend and hold harmless the other Parties, its directors, members, officers, employees and agents from and against any and all third-party claims, suits or actions instituted on account of personal injuries or death of any person (including but not limited to workers and the public) or physical damage to property resulting from or arising out of the indemnitor's willful misconduct or negligent act or omission while engaged in the performance of obligations or exercise of rights under this Agreement.

C. Limitation on Damages: No Party shall be liable to any other Party for any consequential, incidental, punitive, special or exemplary damages or lost opportunity costs, lost profit or other business interruption damages, by statute or in tort or contract, under any provision of this Agreement.

D. Water Quality. NCSD shall be responsible for ensuring that the quality of the Nipomo Supplemental Water made available for delivery is of the same pressure and quality of water that NCSD delivers to its residential customers. The quality of water which is delivered by NCSD to its residents shall comply with all federal, state and local laws, regulations and permit requirements which are applicable to NCSD, including standards applicable to wastewater discharge, as amended from time to time and subject to any compliance waiver granted to NCSD ("Quality Standards"). NCSD shall provide GSWC, RWC and WMWC with a copy of the Quality Standards (and any change thereto) which are applicable to NCSD and GSWC, RWC and WMWC shall be solely responsible for ensuring that the Quality Standards meet the federal, state and local laws, regulations and

permit requirements for potable water delivery by GSWC, RWC and WMWC to its customers, including the discharge of such water. To the extent that the quality standards which are applicable to GSWC, RWC and WMWC exceed the Quality Standards, then GSWC, RWC and WMWC shall be responsible for any necessary additional treatment of the Nipomo Supplemental Water. NCSD agrees to indemnify and hold GSWC, RWC and WMWC harmless from any liability which arises as a result of the failure of the Nipomo Supplemental Water which is delivered to the GSWC, RWC and WMWC to meet the Quality Standards. GSWC, RWC and WMWC shall be solely responsible for any actual liability resulting from a change in water quality following the Point of Interconnection (including any additional treatment undertaken by GSWC, RWC and WMWC) and shall indemnify and hold NCSD harmless from any actual liability which arises from any such change. NCSD and GSWC, RWC and WMWC shall promptly notify the other in the event that either becomes aware of a material adverse change in the quality of the Nipomo Supplemental Water and shall cooperate to identify the cause of such change.

XIV RELATIONSHIP OF THE PARTIES:

The covenants, obligations and liabilities of the Parties are intended to be several and not joint or collective and nothing herein contained shall ever be construed to create an association, joint venture, trust or partnership, or to impose a trust or partnership covenant, obligation or liability on or with regard to any Party. Each Party shall be individually responsible for its own covenants, obligations and liabilities as herein provided. No Party shall be under the control of or shall be deemed to control another Party. No Party shall be the agent of or have a right or power to bind another Party without such other Party's express written consent, except as provided in this Agreement.

XV. UNCONTROLLABLE FORCES:

If the existence of an Uncontrollable Force, as defined in Section II.Q above, disables a Party from performing its obligations under this Agreement (except for such Party's obligations to make payments hereunder), such Party shall not be considered to be in default in the performance of any such obligations while such disability of performance exists. A Party rendered unable to fulfill any of its obligations under this Agreement by reason of an Uncontrollable Force shall exercise due diligence to remove such inability with all reasonable dispatch. Nothing contained herein shall be construed so as to require a Party to settle any strike or labor dispute in which it may be involved.

XVI. AUDITS:

Each Party shall have the right to audit any costs, payments, settlements or other supporting information pertaining to this Agreement, including the Costs and the Budget. Any such audit shall be undertaken by the requesting Party or its representative at reasonable times and in conformance with generally accepted auditing standards. The audited Party shall fully cooperate with any such audit, the cost of which shall be paid by the requesting Party. The right to audit a billing shall extend for a period of three (3) years

following the rendering of the bill. Each Party shall retain all necessary records or documentation for the entire length of such three (3) year period and shall, to the extent permitted by law, take all steps reasonably available to assure the confidentiality of the audited Party's accounting records and supporting documents.

XVII. THIRD PARTY BENEFICIARIES:

There are no third Party beneficiaries to this Agreement. This Agreement shall not confer any right or remedy upon any person or entity other than the Parties and their respective successors and assigns permitted under Section XVIII. This Agreement shall not release or discharge any obligation or liability of any third party to any Party or give any third party any right of subrogation or action over or against a Party.

XVIII. ASSIGNMENT OF INTERESTS:

A. No Party shall assign this Agreement without the prior written consent of the other Parties, which consent shall not be unreasonably withheld or delayed. Each Water Company expressly understands and agrees that it shall not be unreasonable for NCSD to withhold or delay its consent to any proposed or purported assignment to any person or entity ("Assignee") that has not demonstrated to NCSD's reasonable satisfaction that NCSD's interests as contemplated herein will not be adversely affected thereby.

B. Any assignment by a Party of its interest in this Agreement which is made without the prior written consent of the other Parties shall not relieve the assigning Party from primary liability for any of its duties and obligations under this Agreement, and in the event of any such assignment, the assigning Party shall continue to remain primarily liable for payment of any and all money due the other Parties as provided under this Agreement, and for the performance and observance of all covenants, duties and obligations to be performed and observed under this Agreement by the Party to the same extent as though no assignment had been made.

C. Whenever an assignment of a Party's interest in this Agreement is made with the written consent of the other Parties, the assigning Party's assignee shall expressly assume in writing the duties and obligations under this Agreement of the assigning party and, within thirty (30) days after any such assignment and assumption of duties and obligations, the assigning Party shall furnish, or cause to be furnished, to the other Party a true and correct copy of such assignment and assumption of duties and obligations. Upon the effective date of such assignment, the assigning Party shall be relieved of its obligations and duties under this Agreement.

D. Subject to the foregoing restrictions on assignment, this Agreement shall be binding upon, inure to the benefit of and be enforceable by the Parties and their respective successors and assigns.

XIX. NO DEDICATION OF FACILITIES:

Any undertaking by a Party to another Party under this Agreement shall not constitute the dedication of the system, or any portion thereof, of that Party to the public or to another Party, nor affect the status of that Party as an independent system.

XX. COMPLETE AGREEMENT:

This Agreement contains the entire agreement and understanding between the Parties as to the subject matter of this Agreement and supersedes all prior commitments, representations and discussions between the Parties.

XXI. CONSTRUCTION OF AGREEMENT:

Ambiguities or uncertainties in the wording of this Agreement shall not be construed for or against any Party, but shall be construed in a manner that most accurately reflects the intent of the Parties when this Agreement was executed and is consistent with the nature of the rights and obligations of the Parties with respect to the matter being construed.

XXII. NON-DISCRIMINATION:

During the performance of this Agreement, no Party shall deny the Agreement's benefits to any person, nor shall any Party discriminate unlawfully against any employee or applicant for employment, on the grounds of or because of race, color, creed, national origin, ancestry, age, sex, sexual orientation, marital status or disability, including the medical condition of Acquired Immune Deficiency Syndrome (AIDS) or any condition related thereto. Each party shall insure that the evaluation and treatment of employees and applicants for employment are free of such discrimination.

XXIII. EVENTS OF DEFAULT:

In the event that a Party shall materially default in the performance of its obligations under this Agreement, the Authorized Representatives of the non-defaulting Parties may give written notice of the default to the Authorized Representative of the defaulting Party. If within thirty (30) days after the non-defaulting Parties' Authorized Representative shall have given such written notice to the defaulting Party's Authorized Representative, the defaulting Party shall have failed to cure the default in its performance of this Agreement, or if such default requires more than thirty (30) days to cure and the defaulting Party fails to commence such cure and diligently prosecute such cure to completion, in addition to any other remedies provided by law, the non-defaulting Parties may terminate this Agreement by written notice of termination as provided for in Section **XXVIII**. In addition to any other cause of default arising hereunder, a Party shall be in a default if:

A. It becomes insolvent; or

B. It makes a general assignment of substantially all of its assets for the benefit of its creditors, files a petition for bankruptcy or reorganization or seeks other relief under any applicable insolvency laws; or

C. It has filed against it a petition for bankruptcy, reorganization or other relief under any applicable insolvency laws and such petition is not dismissed within sixty (60) days after it is filed.

D. In the event of a default and termination of the Agreement as to the defaulting Party, the non-defaulting Parties shall use commercially reasonable best efforts to negotiate any revisions to this Agreement that are necessary or appropriate in light of such termination, which revisions shall be consistent with the purpose and intent or this Agreement and shall preserve, to the maximum extent possible, all material consideration to the remaining parties. Termination of this Agreement, either in its entirety or as to one or more Parties, shall not affect the validity or enforceability of the Stipulation and Judgment or the rights and obligations of any Party thereunder.

XXIV. AMENDMENTS:

This Agreement may be modified, supplemented or amended only by a writing duly executed by the Parties.

XXV. WAIVERS:

A. Any waiver at any time by any Party of its rights with respect to a default under this Agreement, or with respect to any other matter arising in connection with this Agreement, shall not be deemed a waiver with respect to any subsequent default or other matter arising in connection therewith. Any delay, short of the statutory period of limitation in asserting or enforcing any right, shall not be deemed a waiver of such right.

B. Nothing in this Agreement shall limit, nor act as a waiver, of any Party's rights or defenses in pursuing or defending against any legal or equitable claim or remedy that may be asserted regarding each Party's rights and obligations to participate in the NSWP and bear its percentage allocation of the Costs of the NSWP (as presented in Recital K).

XXVI. SECTION HEADINGS:

All captions and headings appearing in this Agreement are inserted to facilitate reference and shall not govern, except where logically necessary, the interpretations of the provisions hereof.

XXVII. GOVERNING LAW:

This Agreement shall be interpreted, governed by and construed under the laws of the State of California or the laws of the United States as applicable, as if executed and to be performed wholly within the State of California.

XXVIII. NOTICES:

A. Any notice, demand or request provided for in this Agreement, or served, given or made in connection with it, shall be in writing and shall be deemed properly served, given or made if delivered in person, by email or sent by United States mail, postage prepaid, to the persons specified below, unless otherwise provided for in this Agreement:

Nipomo Community Services District
Attention: General Manager
P.O. Box 326
Nipomo, California 93444-326
generalmanger@ncsd.ca.gov

Golden State Water Company
Attention: Senior Vice President of Regulated Utilities
630 East Foothill Blvd
San Dimas, CA 91773

Rural Water Company
c/o Frank B. & Associates
Attention: Frank Brommenschenkel
134 Davis Street
Santa Paula, CA 93060

Woodlands Mutual Water Company
c/o Wallace Group
Attention: Robert S. Miller
612 Clarion Ct.
San Luis Obispo, CA 93401

B. Any Party may at any time, by written notice to the other Parties, change the designation or address of the person so specified as the one to receive notices pursuant to this Agreement.

[signatures on following page]

XXIX. SIGNATURE CLAUSE:

The signatories hereto represent that they have been appropriately authorized to enter into this Agreement on behalf of the Party for whom they sign.

NIPOMO COMMUNITY SERVICES DISTRICT

Michael S. LeBrun

Date: October 16, 2015
By: MICHAEL S. LEBRUN
GENERAL MANAGER

GOLDEN STATE WATER COMPANY

Date: _____, 2015
BY:

RURAL WATER COMPANY

Date: _____, 2015
BY:

WOODLANDS MUTUAL WATER COMPANY

Date: _____, 2015
BY:

XXIX. SIGNATURE CLAUSE:

The signatories hereto represent that they have been appropriately authorized to enter into this Agreement on behalf of the Party for whom they sign.

NIPOMO COMMUNITY SERVICES DISTRICT

Date: _____, 2015
By: MICHAEL S. LEBRUN
GENERAL MANAGER

GOLDEN STATE WATER COMPANY

Robert J. Sprowls
Date: September 10, 2015
BY: Robert J. Sprowls
President & CEO

RURAL WATER COMPANY

Date: _____, 2015
BY:

WOODLANDS MUTUAL WATER COMPANY

Date: _____, 2015
BY:

036774\0183\13275004.1
9/7/15

XXIX. SIGNATURE CLAUSE:

The signatories hereto represent that they have been appropriately authorized to enter into this Agreement on behalf of the Party for whom they sign.

NIPOMO COMMUNITY SERVICES DISTRICT

Date: _____, 2015
By: MICHAEL S. LEBRUN
GENERAL MANAGER

GOLDEN STATE WATER COMPANY

Date: _____, 2015
BY:

RURAL WATER COMPANY

Date: Charles M Baker Sept 9, 2015
BY: Chuck Baker

WOODLANDS MUTUAL WATER COMPANY

Date: _____, 2015
BY:

XXIX. SIGNATURE CLAUSE:

The signatories hereto represent that they have been appropriately authorized to enter into this Agreement on behalf of the Party for whom they sign.

NIPOMO COMMUNITY SERVICES DISTRICT

Date: _____, 2015
By: MICHAEL S. LEBRUN
GENERAL MANAGER

GOLDEN STATE WATER COMPANY

Date: _____, 2015
BY:

RURAL WATER COMPANY

Date: _____, 2015
BY:

WOODLANDS MUTUAL WATER COMPANY

Date: 10/15, 2015
BY: Dan R. Gallagher President

036774\0183\13275004.1
9/7/15

Appendix G – Final Santa Maria River Valley Groundwater Basin Judgement

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SANTA CLARA

SANTA MARIA VALLEY WATER CONSERVATION DISTRICT, Plaintiff, v. CITY OF SANTA MARIA, et al., Defendants. AND RELATED CROSS-ACTIONS AND ACTIONS CONSOLIDATED FOR ALL PURPOSES	SANTA MARIA GROUNDWATER LITIGATION Lead Case No. CV 770214 (CONSOLIDATED FOR ALL PURPOSES) [Consolidated With Case Numbers: CV 784900; CV 785509; CV 785522; CV 787150; CV 784921; CV 785511; CV 785936; CV 787151; CV 784926; CV 785515; CV 786791; CV 787152; CV 036410] San Luis Obispo County Superior Court Case Nos. 990738 and 990739 [Assigned to Judge Jack Komar for All Purposes]

STIPULATION (JUNE 30, 2005 VERSION)

TABLE OF CONTENTS

I. INTRODUCTION -- ALL MANAGEMENT AREAS

The Stipulating Parties hereby stipulate and agree to entry of judgment containing the terms and conditions of this Stipulation.

A. Parties and Jurisdiction

1. Plaintiff and Cross-Defendant Santa Maria Valley Water Conservation District ("District") is a water conservation district organized under California Water Code section 74000, *et seq*. The District does not pump Groundwater from the Basin.

2. Defendants, Cross-Complainants and Cross-Defendants the City of Santa Maria ("Santa Maria"), City of Guadalupe ("Guadalupe"), Southern California Water Company ("SCWC"), Nipomo Community Services District ("NCSD"), Rural Water Company ("RWC"), City of Arroyo Grande ("Arroyo Grande"), City of Pismo Beach ("Pismo Beach"), City of Grover Beach ("Grover Beach") and Oceano Community Services District ("Oceano") rely, in part, on Groundwater to provide public water service to customers within the Basin.

3. Cross-Defendant County of San Luis Obispo ("San Luis Obispo") is a subdivision of the State of California. Cross-Defendant San Luis Obispo County Flood Control and Water Conservation District ("SLO District") is a public entity organized pursuant to the laws of the State of California. Neither San Luis Obispo nor SLO District pumps Groundwater from the Basin.

4. Cross-Defendant County of Santa Barbara ("Santa Barbara") is a subdivision of the State of California. Santa Barbara does not pump Groundwater from the Basin.

5. Numerous other Cross-Defendants and Cross-Complainants are Overlying Owners. Many of these Overlying Owners pump Groundwater from the Basin, while others do not currently exercise their Overlying Rights. Those Overlying Owners who are Stipulating Parties are identified on Exhibit "A".

6. This action presents an *inter se* adjudication of the claims alleged between and among all Parties. This Court has jurisdiction over the subject matter of this action and over the Parties herein.

/ / /

B. Further Trial

The Stipulating Parties recognize that not all Parties have entered into this Stipulation and that a trial will be necessary as to all non-Stipulating Parties. No Stipulating Party shall interfere or oppose the effort of any other Stipulating Party in the preparation and conduct of any such trial. All Stipulating Parties agree to cooperate and coordinate their efforts in any trial or hearing necessary to obtain entry of a judgment containing the terms and conditions of this Stipulation. No Stipulating Party shall have any obligation to contribute financially to any future trial.

C. Definitions

As used in this Stipulation, the following terms shall have the meanings herein set forth:

1. *Annual or Year* – That period beginning January 1 and ending December 31.

2. *Annual Report* – The report prepared and filed with the Court annually for each Management Area.

3. *Appropriative Rights* – The right to use surplus Native Groundwater for reasonable and beneficial use.

4. *Available State Water Project Water* – The amount of SWP Water an Importer is entitled to receive in a given Year based upon the California Department of Water Resources final Table A allocation.

5. *Basin* - The groundwater basin described in the Phase I and II orders of the Court, as modified, and presented in Exhibit "B".

6. *Developed Water* – Groundwater derived from human intervention as of the date of this Stipulation, which shall be limited to Twitchell Yield, Lopez Water, Return Flows, and recharge resulting from storm water percolation ponds.

7. *Groundwater* – Twitchell Yield, Lopez Water, Return Flows, storm water percolation, Native Groundwater and all other recharge percolating within the Basin.

8. *Importer(s)* – Any Party who brings Imported Water into the Basin. At the date of this Stipulation, the Importers are Santa Maria, SCWC, Guadalupe, Pismo Beach, and Oceano.

9. *Imported Water* – Water within the Basin, originating outside the Basin that absent human intervention would not recharge or be used in the Basin.

10. *Lopez Project* – Lopez Dam and Reservoir located on Arroyo Grande Creek, together with the associated water treatment plant, delivery pipeline and all associated facilities, pursuant to State Water Resources Control Board permit No. 12814 (A-18375) and pending application No. A-30826.

11. *Lopez Water* – Groundwater within the Basin derived from the operation of the Lopez Project.

12. *Management Areas* – The three areas within the Basin that have sufficient distinguishing characteristics to permit the water resources and facilities of each area to be individually managed. The Management Areas are: the Northern Cities Management Area, the Nipomo Mesa Management Area, and the Santa Maria Valley Management Area, as shown on Exhibit "C".

13. *Management Area Engineer* – The individual(s) or consulting firm(s) that are hired to prepare the Monitoring Plan(s) and Annual Report(s) for one or more of the Management Areas.

14. *Monitoring Parties* – Those Parties responsible for conducting and funding each Monitoring Program.

15. *Monitoring Program* – The data collection and analysis program to be conducted within each Management Area sufficient to allow the preparation of the Annual Report.

16. *Native Groundwater* – Groundwater within the Basin, not derived from human intervention, that replenishes the Basin through precipitation, stream channel infiltration, tributary runoff, or other natural processes.

17. *New Developed Water* – Groundwater derived from human intervention through programs or projects implemented after the date of this Stipulation.

18. *New Urban Uses* – Municipal and industrial use which may occur on land that, as of January 1, 2005, was located: 1) within the boundaries of a municipality or its sphere of influence, or within the process of inclusion in its sphere of influence; or 2) within the certificated

service area of a publicly regulated utility. The New Urban Use areas are identified in Exhibit "D". New Urban Uses does not include the current DJ Farms development within Guadalupe City limits (including Santa Barbara County APN 113-080-18, 113-080-24).

19. *Nipomo Mesa Management Area or NMMA* – That Management Area shown on Exhibit "C".

20. *Nipomo Mesa Management Area Technical Group* – The committee formed to administer the relevant provisions of the Stipulation regarding the Nipomo Mesa Management Area.

21. *Northern Cities Management Area* – That Management Area which is part of Zone #3 of the San Luis Obispo County Flood Control and Water Conservation District as shown on Exhibit "C".

22. *Northern Cities* – Arroyo Grande, Pismo Beach, Grover Beach and Oceano.

23. *Northern Parties* – The Northern Cities, the Overlying Owners within the Northern Cities Management Area, San Luis Obispo and the SLO District.

24. *Overlying Right* – The appurtenant right of an Overlying Owner to use Native Groundwater for overlying, reasonable and beneficial use.

25. *Overlying Owner(s)* – Owners of land overlying the Basin who hold an Overlying Right.

26. *Party* – Each Person in this consolidated action, whether a Stipulating Party or a non-Stipulating Party.

27. *Person* – Any natural person, firm, association, organization, joint venture, partnership, business, trust, corporation, or public entity.

28. *Public Hearing* – A hearing after notice to all Parties and to any other person legally entitled to notice.

29. *Return Flows* – Groundwater derived from use and recharge within the Basin of water delivered through State Water Project facilities.

///

30. *Santa Maria Valley Management Area* – That Management Area shown on Exhibit "C".

31. *Severe Water Shortage Conditions* – Those conditions, as separately defined in a Severe Water Shortage Response Plan for each Management Area, that trigger certain discretionary and mandatory responses by the Stipulating Parties upon order of the Court.

32. *Severe Water Shortage Response Plan* – The discretionary and mandatory responses for each Management Area that are to be implemented when Severe Water Shortage Conditions exist.

33. *State Water Project Water* or *SWP Water* – Water imported through the State of California State Water Resources Development System pursuant to Division 6, Part 6, Chapter 8, of the California Water Code.

34. *Stipulating Party* – A Party that has signed this Stipulation, as listed in Exhibit "A", or its heirs, executors, administrators, trustees, successors, assigns, and agents.

35. *Storage Space* – The portion of the Basin capable of holding water for subsequent reasonable and beneficial uses.

36. *SWP Contract(s)* – Those series of contracts that entitle the Importers to use SWP facilities to bring Imported Water into the Basin.

37. *Twitchell Management Authority* or *TMA* – The committee formed to administer the relevant provisions of the Stipulation regarding the Santa Maria Valley Management Area.

38. *Twitchell Participants* – Those Stipulating Parties holding rights to Twitchell Yield.

39. *Twitchell Project* – Dam and reservoir authorized by Congress as the "Santa Maria Project" on September 3, 1954 (Public Law 774, 83d Congress, ch. 1258, 2d session, 68 Stat. 1190) and located on the Cuyama River, approximately six miles upstream from its junction with the Sisquoc River, pursuant to that certain License For Diversion And Use of Water, License No. 10416, issued by the State Water Resources Control Board.

///

40. *Twitchell Water* – Groundwater derived from operation of the Twitchell Project.

41. *Twitchell Yield* – The total amount of Groundwater allocated annually to the Twitchell Participants.

II. EXHIBITS

The following Exhibits are attached to this Stipulation and incorporated herein:

1. *Exhibit "A"*, list identifying the Stipulating Parties and the parcels of land bound by the terms of this Stipulation.

2. *Exhibit "B"*, Phase I and II Orders, as modified, and the attached map depicting the Santa Maria Basin.

3. *Exhibit "C"*, map of the Basin and boundaries of the three Management Areas.

4. *Exhibit "D"*, map identifying those lands as of January 1, 2005: 1) within the boundaries of a municipality or its sphere of influence, or within the process of inclusion in its sphere of influence; or 2) within the certificated service area of a publicly regulated utility; and a list of selected parcels that are nearby these boundaries which are excluded from within these areas.

5. *Exhibit "E"*, 2002 Settlement Agreement between the Northern Cities and Northern Landowners.

6. *Exhibit "F"*, the agreement among Santa Maria, SCWC and Guadalupe regarding the Twitchell Project and the TMA.

7. *Exhibit "G"*, the Court's Order Concerning Electronic Service of Pleadings and Electronic Posting of Discovery Documents dated June 27, 2000.

8. *Exhibit "H"*, the form of memorandum of agreement to be recorded.

III. DECLARATION OF RIGHTS -- ALL MANAGEMENT AREAS

The terms and conditions of this Stipulation set forth a physical solution concerning Groundwater, SWP Water and Storage Space, consistent with common law water rights priorities.

/ / /

A. Recognition of Priority of Overlying Rights

Except as expressly modified by the settlement agreement among the Northern Parties (Exhibit "E"), all Overlying Owners that are also Stipulating Parties have a prior and paramount Overlying Right, whether or not yet exercised.

B. Prescriptive Rights

As to the Stipulating Parties, no Party has proved prescriptive rights to any Native Groundwater. Future use by the Stipulating Parties will not be adverse and will not ripen into a prescriptive right as between the Stipulating Parties.

C. Appropriative Rights

Consistent with the specific provisions governing each Management Area, the Stipulating Parties owning and exercising Appropriative Rights have the right to the reasonable and beneficial use of Native Groundwater that is surplus to the reasonable and beneficial uses of the Stipulating Parties that are Overlying Owners. New appropriative uses shall be subordinate to existing appropriations and shall be prioritized on a first in time, first in right basis.

D. Developed Water Rights

The Stipulating Parties owning Developed Water or New Developed Water have the right to its reasonable and beneficial use, consistent with the specific provisions governing each Management Area. The right to use Developed Water is a right to use commingled Groundwater and is not limited to the corpus of that water.

E. Rights to Storage Space

The Court shall reserve jurisdiction over the use of the Storage Space, and any Party may apply to the Court for the approval of a project using Storage Space. The Court must approve any project using Storage Space before any Party can claim a right to stored water from that project. The Stipulating Parties agree that Groundwater derived from Developed Water is exempt from the Court approval requirements of this Paragraph.

F. Other Surface Water Rights

Nothing in this Stipulation affects or otherwise alters common law riparian rights or any surface water rights, unless expressly provided in this Stipulation.

IV. PHYSICAL SOLUTION – ALL MANAGEMENT AREAS

A. Authority

Pursuant to Article X, section 2 of the California Constitution, the Stipulating Parties agree that the Court has the authority to enter a judgment and physical solution containing the terms and conditions of this Stipulation. Unless the Court imposes this physical solution, potential changes in water use could affect Basin adequacy and integrity. The Declaration of Rights is a component of this physical solution.

B. Purposes and Objectives

The terms and conditions of this Stipulation are intended to impose a physical solution establishing a legal and practical means for ensuring the Basin's long-term sustainability. This physical solution governs Groundwater, SWP Water and Storage Space, and is intended to ensure that the Basin continues to be capable of supporting all existing and future reasonable and beneficial uses. This physical solution is: 1) a fair and equitable basis for the allocation of water rights in the Basin; 2) in furtherance of the mandates of the State Constitution and the water policy of the State of California; and 3) a remedy that gives due consideration to applicable common law rights and priorities to use Groundwater and Storage Space, without substantially impairing any such right.

C. Basin Management Areas

Development and use of Groundwater, SWP Water and Storage Space have historically been financed and managed separately in three Management Areas. For example, only the Northern Parties have paid for, managed, and benefited from the Lopez Project; whereas only Santa Maria Valley parties have paid for, managed, and benefited from the Twitchell Project. In contrast, the Nipomo Mesa parties have not been involved in the funding or management of either the Twitchell or Lopez Projects.

The Stipulating Parties agree that Groundwater, SWP Water and Storage Space can be more efficiently allocated and managed in three Management Areas, given the physical, geographical, political, economic, and historic conditions. The three Management Areas, as shown on Exhibit "C," are as follows: Northern Cities Management Area; Nipomo Mesa Management

Area; and Santa Maria Valley Management Area. The Stipulating Parties intend that management through three Management Areas will preserve the Basin's integrity.

D. Groundwater Monitoring

1. *Monitoring Program*. A Monitoring Program shall be established in each of the three Management Areas to collect and analyze data regarding water supply and demand conditions. Data collection and monitoring shall be sufficient to determine land and water uses in the Basin, sources of supply to meet those uses, groundwater conditions including groundwater levels and quality, the amount and disposition of Developed Water supplies, and the amount and disposition of any other sources of water supply in the Basin. The Northern Cities Management Area shall not be required to include in its Monitoring Program or Annual Reports quantification of groundwater recharge from the Lopez Project or storm water percolation ponds, unless the Court orders inclusion of this information.

Within one hundred and eighty days after entry of judgment, representatives of the Monitoring Parties from each Management Area will present to the Court for its approval their proposed Monitoring Program. The Management Area Engineers shall freely share available well data, groundwater models, and other products and tools utilized in monitoring and analysis of conditions in the three Management Areas, consistent with the confidentiality provisions of this Stipulation.

Absent a Court order to the contrary, all Stipulating Parties shall make available relevant information regarding groundwater elevations and water quality data necessary to implement the Monitoring Program approved for their respective Management Area. The Monitoring Parties shall coordinate with the Stipulating Parties to obtain any needed data on reasonable terms and conditions. Metering may only be imposed on Stipulating Parties upon a Court order following a showing that such data is necessary to monitor groundwater conditions in the Basin, and in the case of an Overlying Owner, that Overlying Owner has failed to provide information comparable to that provided by other Overlying Owners. The confidentiality of well data from individual owners and operators will be preserved, absent a Court order or written consent.

///

2. *Monitoring Parties*. The Monitoring Parties are as follows:

(a) Santa Maria Valley Management Area – The Twitchell Management Authority.

(b) Northern Cities Management Area – The Northern Cities.

(c) Nipomo Mesa Management Area – The NMMA Technical Group.

3. *Annual Reports*. Within one hundred and twenty days after each Year, the Management Area Engineers will file an Annual Report with the Court. The Annual Report will summarize the results of the Monitoring Program, changes in groundwater supplies, and any threats to Groundwater supplies. The Annual Report shall also include a tabulation of Management Area water use, including Imported Water availability and use, Return Flow entitlement and use, other Developed Water availability and use, and Groundwater use. Any Stipulating Party may object to the Monitoring Program, the reported results, or the Annual Report by motion.

4. *Management Area Engineer*. The Monitoring Parties may hire individuals or consulting firms to assist in the preparation of the Monitoring Programs and the Annual Reports. Except as provided below for the Santa Maria Valley Management Area, the Monitoring Parties, in their sole discretion, shall select, retain and replace the Management Area Engineer.

E. New Developed Water

1. Stipulating Parties in each Management Area may prepare and implement plans to develop, salvage or import additional water supplies.

2. The Stipulating Parties that pay, or otherwise provide consideration, for New Developed Water are entitled to use it to the extent the New Developed Water augments the water supplies in that Management Area. If more than one Stipulating Party finances or participates in generating New Developed Water, rights to the supply of New Developed Water shall be proportional to each Stipulating Party's financial contribution or other consideration, or as otherwise mutually agreed to by the participating Stipulating Parties. This paragraph does not apply to Return Flows.

///

3. The Stipulating Parties who desire to claim New Developed Water supplies must bring a motion, and obtain an order from the Court, quantifying and allocating the rights to the New Developed Water, before they have the prior right to the New Developed Water.

F. Severe Water Shortage Response

This physical solution sets forth a Severe Water Shortage Plan for each Management Area which is intended to provide an effective response to Severe Water Shortage Conditions that may develop within each or all of the Management Areas. The specific Severe Water Shortage Plans for each Management Area are incorporated herein and made a part of the physical solution.

V. PHYSICAL SOLUTION: PROVISIONS SPECIFIC TO SANTA MARIA VALLEY MANAGEMENT AREA

As supplemented by the provisions of this Stipulation that apply to all Management Areas, the following terms govern rights to Groundwater, SWP Water and Storage Space in the Santa Maria Valley Management Area.

A. Water Rights to Sources of Supply

1. *Overlying Rights*. The Stipulating Parties who are Overlying Owners within the Santa Maria Valley Management Area each have the prior and paramount right to use Native Groundwater. Subject to Paragraph V(C)(2)(b)(vi), all Overlying Rights are appurtenant to the overlying land and cannot be assigned or conveyed separate or apart from those lands.

2. *Appropriative Rights*. The Parties listed in Exhibit "A" are the owners of Appropriative Rights exercised in the Santa Maria Valley Management Area. Each Appropriative Right is limited to Native Groundwater that is surplus to reasonable and beneficial uses of the Stipulating Parties that are Overlying Owners in the Santa Maria Valley Management Area. New appropriative uses shall be subordinate to existing Appropriative Rights and shall be prioritized on a first in time, first in right basis.

3. *Developed Water*. The Stipulating Parties owning Developed Water have the right to its reasonable and beneficial use, subject only to the Severe Water Shortage Plan. On an annual basis, the Stipulating Parties shall have the right to the reasonable and beneficial use of Developed Water that is surplus to the reasonable and beneficial uses of the owners of that

Developed Water. The right to use Developed Water is a right to use commingled Groundwater and is not limited to the corpus of that water.

(a) New Developed Water. The ownership and use of New Developed Water shall be subject to Court order.

(b) Twitchell Water.

(i) *Amount.* The Twitchell Project annually provides a variable amount of Developed Water that augments the Groundwater in the Santa Maria Valley Management Area. Twitchell Yield is thirty-two thousand acre-feet per year ("afy").

(ii) *Division of Twitchell Yield.* Twitchell Yield shall be divided as follows: 80% to Santa Maria, SCWC and Guadalupe, and 20% to the Overlying Owners within the District who are Stipulating Parties.

a. The Twitchell Yield allocated to Santa Maria, SCWC and Guadalupe is suballocated pursuant to the agreement among Santa Maria, SCWC and Guadalupe, as attached and incorporated herein as Exhibit "F".

b. The Twitchell Yield allocated to the Overlying Owners who are Stipulating Parties within the District shall be equally allocated to each acre of land within the District owned by these Stipulating Parties. Concurrently with the execution of this Stipulation, each of these Stipulating Parties shall report their acreage of overlying land within the District on a parcel specific basis. Within one hundred and twenty days of the effective date of this Stipulation, the Management Area Engineer shall create a list of all the Stipulating Parties and their respective allocation of the Twitchell Yield.

(iii) *Recapture of Twitchell Yield.* The right to use Twitchell Yield is a right to use commingled Groundwater and is not limited to the corpus of that water.

(iv) *Transfer of Twitchell Yield.* Twitchell Yield may be transferred, temporarily or permanently, only between Stipulating Parties and the transfer market shall be as open and competitive as practical. A memorandum of agreement summarizing each transfer shall be filed with the Court and provided to the TMA. Any such memorandum of agreement shall state the Parties to the transfer, the amount of Twitchell Yield transferred, the price per acre-

foot, and the Party responsible for the financial obligation associated with the Twitchell Yield.

(v) *Carryover.* Any portion of Twitchell Yield that is not used in a given Year shall not be carried over into the following Year.

(c) State Water Project Water.

(i) *Import and Use of State Water Project Water.* Santa Maria, SCWC and Guadalupe all have SWP Contracts. Santa Maria will import and use within the Santa Maria Valley Management Area not less than 10,000 acre-feet each Year of Available SWP Water, or the full amount of Available SWP Water if the amount physically available is less than 10,000 acre-feet in a given Year under Santa Maria's SWP Contract. Guadalupe will import and use within the Santa Maria Valley Management Area a minimum of 75% of its Available SWP Water. SCWC will import and use within the Basin all its Available SWP Water. Santa Maria, SCWC and Guadalupe will not voluntarily relinquish or terminate their current SWP Contracts, and shall seek renewal of these SWP Contracts.

(ii) *Return Flows.*

a. Fixed Amount. The Return Flows available to each Importer is fixed based on a percentage of the annual amount of SWP Water the Importer uses within the Basin. The fixed percentage for each importer is as follows: (a) Santa Maria 65%; (b) SCWC 45%; and (c) Guadalupe 45%. The percentage provided to SCWC and Guadalupe shall be adjusted through a Court order if: a) either entity increases its use of water imported into the Basin, b) the applicable method of wastewater treatment and discharge to the Basin is altered, or c) good cause is shown.

b. Recapture. The right to use Return Flows does not attach to the corpus of SWP water deliveries or the treated SWP wastewater discharged into the Basin but is a right to use the commingled Groundwater. The Importer's right to Return Flows is assignable in whole or in part, subject to necessary accounting.

c. Quantification of Return Flows. Return Flows equal the total amount of SWP Water used by the Importer in the prior five Years, divided by five, and then multiplied by the Importer's percentage as provided in Paragraph V(A)(3)(c)(ii)(a) above.

d. Carryover. Any portion of Return Flows that is not used in a given Year shall not be carried over into the following Year.

B. Monitoring and Management

1. *Status of Management Area*. Current Groundwater and SWP Water supplies are sustaining existing water uses. Changes in land and water use and demographic conditions can be expected to occur, possibly resulting in changes in water supply or demand requirements.

2. *Need for Monitoring*. Monitoring and reporting of changes in land and water use and demographic conditions are necessary to ensure that water supplies continue to be sufficient to support water uses.

3. *Monitoring Program*.

(a) Annual Report: Content and Processing.

The Annual Report shall include an analysis of the relationship between projected water demands and projected water supplies.

(i) The Annual Report shall be prepared and signed by the Management Area Engineer, and shall be simultaneously submitted to the Court and the TMA.

(ii) Within forty-five days of submission, the TMA shall hold a noticed public hearing to take comments on and consider for adoption the Annual Report. No later than forty-five days from the date of the public hearing, the TMA shall submit to the Court its recommendations regarding the Annual Report.

(iii) Within one hundred and twenty days of the date of the submission of the Annual Report to the Court, it shall conduct a noticed hearing on the Annual Report. Any Party may submit comments on the Annual Report. After the hearing, the Court shall accept the Annual Report or direct its modification.

(b) Management Area Engineer

(i) Absent the unanimous consent of the TMA, the Management Area Engineer shall not concurrently be employed by any Party holding rights to use Groundwater in the Santa Maria Valley Management Area.

(ii) The Management Area Engineer shall initially be the engineering firm of Luhdorff & Scalmanini. Luhdorff & Scalmanini shall be the Management Area Engineer for a minimum of the shorter of five years from the date of this Stipulation or the date upon which Mr. Joseph Scalmanini discontinues full time work for that firm.

(iii) The TMA shall employ the following process to replace the Management Area Engineer:

a. The TMA shall solicit candidates for Management Area Engineer through a public process. All submissions and candidate materials shall be available to any Party upon request. The TMA shall conduct its interview through a public process to the extent practical, and include District and Overlying Owner representatives in the candidate review process.

b. Once a short list of candidates (less than five) for Management Area Engineer is obtained, the TMA shall hold a noticed public hearing to take comments on and consider the candidates for Management Area Engineer. The TMA shall make a reasonable effort to select the Management Area Engineer with a unanimous vote. If the TMA unanimously endorses a candidate, that nominee shall be recommended to the Court. Otherwise, the short list of candidates shall be submitted.

c. The Court shall appoint the Management Area Engineer following a noticed hearing.

4. *Funding*. The TMA shall pay for the Monitoring Program for the Santa Maria Valley Management Area, which includes the cost of the Management Area Engineer and the Annual Report. The cost of the Monitoring Program shall be divided among the Twitchell Participants on the same basis as the allocation of their Twitchell Yield.

C. Response to Varying Conditions

1. *Early Response to Avoid Severe Water Shortage Conditions*. If the Management Area Engineer determines that projected demands are expected to materially exceed projected water supplies, then the Management Area Engineer may recommend programs and projects to augment the Management Area's water supplies. The Stipulating Parties will collabo-

rate on a response based upon current conditions, but absent Severe Water Shortage Conditions, implementation of programs and projects will not be mandated.

The Stipulating Parties may voluntarily participate in any recommended program or project, either through financial or other contributions. The Stipulating Parties that contribute to such a program or project shall have a priority to the water supplies generated by that program or project with Court approval. The Stipulating Parties agree to aggressively pursue New Developed Water sources, including necessary funding.

2. *Severe Water Shortage Conditions and Response*.

(a) Determination. Severe Water Shortage Conditions shall be found to exist when the Management Area Engineer, based on the results of the ongoing Monitoring Program, finds the following: 1) groundwater levels in the Management Area are in a condition of chronic decline over a period of not less than five Years; 2) the groundwater decline has not been caused by drought; 3) there has been a material increase in Groundwater use during the five-Year period; and 4) monitoring wells indicate that groundwater levels in the Santa Maria Valley Management Area are below the lowest recorded levels.

(b) Response.

(i) If the Management Area Engineer determines that Severe Water Shortage Conditions exist within the Santa Maria Valley Management Area, the Management Area Engineer shall file and serve, as part of its Annual Report, findings and recommendations to alleviate such shortage conditions or the adverse effects caused by such water shortage.

(ii) Upon the filing of the Annual Report, the Court shall hold a noticed hearing regarding the existence and appropriate response to the Severe Water Shortage Conditions. If, after that hearing, the Court finds that Severe Water Shortage Conditions exist in the Santa Maria Valley Management Area, the Court shall first order all use of Groundwater to be limited to: (a) for Guadalupe, Santa Maria and SCWC, their Developed Water; (b) entitled Stipulating Parties to their New Developed Water; and (c) for the Overlying Owners, the Native Groundwater plus any Developed Water to which individual Overlying Owners are entitled.

///

(iii) The Court may also order Stipulating Parties to address specific adverse effects caused by the Severe Water Shortage Conditions. The responses may include, but are not limited to: (a) measures recommended in the Annual Report and the related Court proceedings; and (b) other measures intended to address localized problems in the Santa Maria Valley Management Area directly related to the Severe Water Shortage Conditions.

(iv) The Court may adjust the Groundwater use limitations imposed on any Stipulating Party(ies) who implement programs or projects providing additional water supplies within the Santa Maria Valley Management Area.

(v) If the Court finds that Management Area conditions have deteriorated since it first found Severe Water Shortage Conditions, the Court may impose further limitations on Groundwater use. If the Court imposes further limitations on Groundwater use, a Stipulating Party shall be exempt from those limitations to the extent: (a) the Stipulating Party can demonstrate that it has already implemented limitations in its Groundwater use, equivalent to those ordered by the Court; or (b) the Stipulating Party can demonstrate that further limitations would not avoid or reduce the deteriorating conditions.

(vi) During Severe Water Shortage Conditions, the Stipulating Parties may make agreements for temporary transfer of rights to pump Native Groundwater, voluntary fallowing, or the implementation of extraordinary conservation measures. Transfers of Native Groundwater must benefit the Management Area and be approved by the Court.

D. Management and Administration of the Twitchell Project

1. *Operational Parameters.* All Twitchell Project operations (operation and maintenance and capital projects) will be performed consistent with the following parameters (Operational Parameters):

(a) Maximize recharge of the Santa Maria Valley Management Area from Twitchell Water, including without limitation, the avoidance of impacts on recharge resulting from ongoing accumulation of silt to the maximum extent practical.

(b) Operate the Twitchell Project in accordance with the requirements of applicable law including, without limitation, the requirements of the Bureau of Reclamation

and Army Corps of Engineers.

(c) Operate the Twitchell Project in accordance with industry standards and best management practices.

2. *Twitchell Project Manual*.

(a) The TMA will hire and pay for a professional engineering consulting firm with expertise in dam and reservoir operations and maintenance, acceptable to the District and the TMA, to develop an integrated operation and maintenance procedure manual ("Twitchell Project Manual") and provide recommendations for capital and maintenance projects that are consistent with the Operational Parameters.

(b) The District shall hold one or more public hearings to solicit input regarding the content of the Twitchell Project Manual.

(c) Within eighteen months of entry of the judgment, the TMA and the District shall adopt a final Twitchell Project Manual.

(d) Any disagreement between the District and the TMA regarding the content of the final Twitchell Project Manual shall be presented for Court review and determination pursuant to the judicial review provisions provided in this Stipulation.

(e) The District will exercise its discretionary authority to conduct all its operation and maintenance activities for the Twitchell Project in accordance with the Twitchell Project Manual.

3. *Twitchell Project Funding*.

(a) District will maintain its current operation and maintenance (O&M) assessments. These funds will be used for District staff salaries, property, equipment, rent, expenses, and other day-to-day operations, and will be expended consistent with the Twitchell Project Manual to the extent it is applicable.

(b) The TMA will separately fund, administer, construct and manage any additional Twitchell Project expenses or projects, including Capital Improvement Projects (see below) and O&M, (Extraordinary Project Operations) consistent with the Twitchell Project Manual. The TMA and the District will make reasonable efforts to work cooperatively to imple-

ment Extraordinary Project Operations.

(c) Consistent with the provisions of this Paragraph V(D), the District and the TMA shall be responsible for ensuring the ongoing operational integrity of the Twitchell Project and the maintenance of the Twitchell Yield. The Stipulating Parties expect that this ongoing responsibility may involve significant expenditures. Within 120 days of the effective date of this Stipulation, and annually thereafter, the Twitchell Participants shall establish an operating budget for the TMA to fund its responsibilities set forth in this Stipulation. For the first five years following the PUC approval as provided below, the TMA's annual budget shall be established at an amount between $500,000 to $700,000. Following the initial budgeting period, the TMA shall set its budget in three- to five-year increments, as it deems necessary to meet its obligations to preserve the Twitchell Yield. Any unused revenues shall be segregated into a reserve account, for future funding needs of the Twitchell Project. The Stipulating Parties agree to cooperate and coordinate their efforts to enable the TMA to fulfill its responsibilities as provided in this Stipulation.

4. *Twitchell Management Authority*.

(a) The TMA shall be comprised of one representative of each of the following parties: Santa Maria, Guadalupe, Southern California Water Company, the District, and Overlying Landowners holding rights to Twitchell Yield.

(b) Only those parties holding an allocation of Twitchell Yield shall be voting members of the TMA. Voting shall be based on each party's proportionate allocation of Twitchell Yield.

(c) The TMA shall be responsible for all the Extraordinary Project Operations.

(d) The TMA shall be responsible for developing proposals for Capital Improvement Projects relating to the Twitchell Project. Capital Improvement Projects shall mean projects involving the expenditure of funds for the improvement or enhancement of the Twitchell Project, but shall not include normal operation, maintenance or repair activities.

///

(e) Upon the development of a proposal for a Capital Improvement Project, the TMA shall, in cooperation with the District, hold one or more public hearings to solicit input.

(f) Following the public hearing process, the TMA may vote on whether to implement the Capital Improvement Project.

(g) The cost of TMA-sponsored Extraordinary Project Operations and Capital Improvement Projects shall be divided among Twitchell Participants on the same basis as the allocation of their Twitchell Yield.

(h) The District shall assume operation and maintenance responsibility for any TMA sponsored Capital Improvement Project to the extent practical within the District's day-to-day operations.

5. *Regulatory Compliance*. The TMA or the District shall provide advance notice to the Court and all Parties of the initiation of any regulatory proceeding relating to the Twitchell Project.

6. *Existing Contracts*. The Twitchell Reservoir Project will continue to be governed by and subject to the terms and conditions of the December 1955 agreement between the District and the Santa Barbara County Water Agency and nothing in this Stipulation is intended to modify the rights or obligations provided in that agreement. To the extent that the approval of Santa Barbara County Water Agency or the United States Bureau of Reclamation is required in connection with the implementation of this Stipulation, the Stipulating Parties agree to work cooperatively to obtain such approval(s).

E. New Urban Uses – Santa Maria Valley Management Area

1. New Urban Uses shall obtain water service from the local public water supplier. The local public water supplier shall provide water service on a reasonable and non-discriminatory basis.

2. New municipal and industrial uses on land adjacent to or within one-quarter mile of the boundary line depicted in Exhibit D shall comply with any applicable Corporations Code provisions and negotiate in good faith to obtain water service from the local

public water supplier, before forming a mutual water company to provide water service.

3. No modification of land use authority. This Stipulation does not modify the authority of the entity holding land use approval authority over the proposed New Urban Uses.

4. New Urban Uses shall provide a source of supplemental water to offset the water demand associated with that development. For the purposes of this section, supplemental water shall include all sources of Developed Water, except: i) Twitchell Water, ii) storm water percolation ponds existing as of the date of entry of the judgment, or iii) Overlying Owners' right to use of surplus Developed Water.

VI. PHYSICAL SOLUTION: PROVISIONS SPECIFIC TO NIPOMO MESA MANAGEMENT AREA

As supplemented by the provisions of this Stipulation that apply to all Management Areas, the following terms shall apply to the Nipomo Mesa Management Area.

A. Supplemental Water

1. *MOU.* NCSD has entered into a Memorandum of Understanding ("MOU") with Santa Maria which contemplates the wholesale purchase and transmission from Santa Maria to the NMMA of a certain amount of water each Year (the "Nipomo Supplemental Water"). All water delivered pursuant to the MOU for delivery by NCSD to its ratepayers shall be applied within the NCSD or the NCSD's sphere of influence as it exists at the time of the transmission of that water.

2. The NCSD agrees to purchase and transmit to the NMMA a minimum of 2,500 acre-feet of Nipomo Supplemental Water each Year. However, the NMMA Technical Group may require NCSD in any given Year to purchase and transmit to the NMMA an amount in excess of 2,500 acre-feet and up to the maximum amount of Nipomo Supplemental Water which the NCSD is entitled to receive under the MOU if the Technical Group concludes that such an amount is necessary to protect or sustain Groundwater supplies in the NMMA. The NMMA Technical Group also may periodically reduce the required amount of Nipomo Supplemental Water used in the NMMA so long as it finds that groundwater supplies in the NMMA are not

endangered in any way or to any degree whatsoever by such a reduction.

3. The Stipulating Parties agree to support (and, conversely, not to oppose in any way or to encourage or assist any other Person or party in opposing or challenging) the implementation of the MOU, which includes environmental and regulatory permits and approvals, the approval of a wholesale water supply agreement between Santa Maria and NCSD, and the alignment and construction of a pipeline and related infrastructure necessary to deliver the Nipomo Supplemental Water from Santa Maria to the NMMA ("Nipomo Supplemental Water Project"). ConocoPhillips retains the right to object to or provide input on the alignment of any pipelines associated with the Nipomo Supplemental Water Project if they might interfere with the location of existing ConocoPhillips pipelines. The Stipulating Parties retain their rights to be compensated for any interest or property acquired in implementing the Nipomo Supplemental Water Project.

4. NCSD and Santa Maria shall employ their best efforts to timely implement the Nipomo Supplemental Water Project, subject to their quasi-judicial obligations specified for administrative actions and in the California Environmental Quality Act.

5. The enforcement of the provisions of Paragraph VI(D) below is conditioned upon the full implementation of the Nipomo Supplemental Water Project, including the Yearly use of at least 2,500 acre-feet of Nipomo Supplemental Water (subject to the provisions of Paragraph VI(A)(2) above) within the NMMA. In the event that Potentially Severe Water Shortage Conditions or Severe Water Shortage Conditions are triggered as referenced in Paragraph VI(D) before Nipomo Supplemental Water is used in the NMMA, NCSD, SCWC, Woodlands and RWC agree to develop a well management plan that is acceptable to the NMMA Technical Group, and which may include such steps as imposing conservation measures, seeking sources of supplemental water to serve new customers, and declaring or obtaining approval to declare a moratorium on the granting of further intent to serve or will serve letters. In the event that it becomes apparent that the Nipomo Supplemental Water will not be fully capable of being delivered, any Stipulating Party may apply to the Court, pursuant to a noticed motion, for appropriate modifications to this portion of the Stipulation and the judgment entered based upon the

terms and conditions of this Stipulation, including declaring this Paragraph VI to be null and void, and of no legal or binding effect.

6. Once the Nipomo Supplemental Water is capable of being delivered, those certain Stipulating Parties listed below shall purchase the following portions of the Nipomo Supplemental Water Yearly:

NCSD - 66.68%

Woodlands Mutual Water Company - 16.66%

SCWC - 8.33%

RWC - 8.33%

B. Rights to Use Groundwater

1. ConocoPhillips and its successors-in-interest shall have the right to the reasonable and beneficial use of Groundwater on the property it owns as of the date of this Stipulation located in the NMMA ("ConocoPhillips Property") without limitation, except in the event the mandatory action trigger point (Severe Water Shortage conditions) described in Paragraph VI(D) (2) below is reached. Further, any public water supplier which provides water service to the ConocoPhillips Property may exercise that right subject to the limitation described in Paragraph VI(D)(2).

2. Overlying Owners that are Stipulating Parties that own land located in the NMMA as of the date of this Stipulation shall have the right to the reasonable and beneficial use of Groundwater on their property within the NMMA without limitation, except in the event the mandatory action trigger point (Severe Water Shortage Conditions) described in Paragraph VI(D)(2) below is reached.

3. The Woodlands Mutual Water Company shall not be subject to restriction in its reasonable and beneficial use of Groundwater, provided it is concurrently using or has made arrangements for other NMMA parties to use within the NMMA, the Nipomo Supplemental Water allocated to the Woodlands in Paragraph VI(A)(5). Otherwise, the Woodlands Mutual Water Company shall be subject to reductions equivalent to those imposed on NCSD, RWC and SCWC, as provided in Paragraph VI(D)(1-2).

///

C. NMMA Technical Group

1. The NMMA Technical Group shall include representatives appointed by NCSD, SCWC, ConocoPhillips, Woodlands Mutual Water Company and an agricultural Overlying Owner who is also a Stipulating Party.

2. The NMMA Technical Group shall develop a Monitoring Program for the NMMA ("NMMA Monitoring Program"), which shall be consistent with the Monitoring Program described in Paragraph IV(D). The NMMA Monitoring Program shall also include the setting of well elevation and water quality criteria that trigger the responses set forth in Paragraph D below. The Stipulating Parties shall provide monitoring and other production data to the NMMA Technical Group at no charge, to the extent that such data has been generated and is readily available. The NMMA Technical Group shall adopt rules and regulations concerning measuring devices and production reports that are, to the extent feasible, consistent with the Monitoring Programs for other Management Areas. If the NMMA Technical Group is unable to agree on any aspect of the NMMA Monitoring Program, the matter may be resolved by the Court pursuant to a noticed motion.

3. The NMMA Technical Group meetings shall be open to any Stipulating Party. NMMA Technical Group files and records shall be available to any Stipulating Party upon written request. Notices of the NMMA Technical Group meetings, as well as all its final work product (documents) shall be posted to groups.yahoo.com/group/NipomoCommunity/

4. The NMMA Technical Group functions shall be funded by contribution levels to be negotiated by NCSD, SCWC, RWC, ConocoPhillips, and Woodlands Mutual Water Company. In-lieu contributions through engineering services may be provided, subject to agreement by those parties. The budget of the NMMA Technical Group shall not exceed $75,000 per year without prior approval of the Court pursuant to a noticed motion.

5. Any final NMMA Technical Group actions shall be subject to *de novo* Court review by motion.

///

///

D. Potentially Severe and Severe Water Shortage Conditions

1. Caution trigger point (Potentially Severe Water Shortage Conditions)

(a) Characteristics. The NMMA Technical Group shall develop criteria for declaring the existence of Potentially Severe Water Shortage Conditions. These criteria shall be approved by the Court and entered as a modification to this Stipulation or the judgment to be entered based upon this Stipulation. Such criteria shall be designed to reflect that water levels beneath the NMMA as a whole are at a point at which voluntary conservation measures, augmentation of supply, or other steps may be desirable or necessary to avoid further declines in water levels.

(b) Responses. If the NMMA Technical Group determines that Potentially Severe Water Shortage Conditions have been reached, the Stipulating Parties shall coordinate their efforts to implement voluntary conservation measures, adopt programs to increase the supply of Nipomo Supplemental Water if available, use within the NMMA other sources of Developed Water or New Developed Water, or implement other measures to reduce Groundwater use.

2. Mandatory action trigger point (Severe Water Shortage Conditions)

(a) Characteristics. The NMMA Technical Group shall develop the criteria for declaring that the lowest historic water levels beneath the NMMA as a whole have been reached or that conditions constituting seawater intrusion have been reached. These criteria shall be approved by the Court and entered as a modification to this Stipulation or the judgment to be entered based upon this Stipulation.

(b) Responses. As a first response, subparagraphs (i) through (iii) shall be imposed concurrently upon order of the Court. The Court may also order the Stipulating Parties to implement all or some portion of the additional responses provided in subparagraph (iv) below.

(i) For Overlying Owners other than Woodlands Mutual Water Company and ConocoPhillips, a reduction in the use of Groundwater to no more than 110% of

the highest pooled amount previously collectively used by those Stipulating Parties in a Year, prorated for any partial Year in which implementation shall occur, unless one or more of those Stipulating Parties agrees to forego production for consideration received. Such forbearance shall cause an equivalent reduction in the pooled allowance. The base Year from which the calculation of any reduction is to be made may include any prior single Year up to the Year in which the Nipomo Supplemental Water is transmitted. The method of reducing pooled production to 110% is to be prescribed by the NMMA Technical Group and approved by the Court. The quantification of the pooled amount pursuant to this subsection shall be determined at the time the mandatory action trigger point (Severe Water Shortage Conditions) described in Paragraph VI(D)(2) is reached. The NMMA Technical Group shall determine a technically responsible and consistent method to determine the pooled amount and any individual's contribution to the pooled amount. If the NMMA Technical Group cannot agree upon a technically responsible and consistent method to determine the pooled amount, the matter may be determined by the Court pursuant to a noticed motion.

(ii) ConocoPhillips shall reduce its Yearly Groundwater use to no more than 110% of the highest amount it previously used in a single Year, unless it agrees in writing to use less Groundwater for consideration received. The base Year from which the calculation of any reduction is to be made may include any prior single Year up to the Year in which the Nipomo Supplemental Water is transmitted. ConocoPhillips shall have discretion in determining how reduction of its Groundwater use is achieved.

(iii) NCSD, RWC, SCWC, and Woodlands (if applicable as provided in Paragraph VI(B)(3) above) shall implement those mandatory conservation measures prescribed by the NMMA Technical Group and approved by the Court.

(iv) If the Court finds that Management Area conditions have deteriorated since it first found Severe Water Shortage Conditions, the Court may impose further mandatory limitations on Groundwater use by NCSD, SCWC, RWC and the Woodlands. Mandatory measures designed to reduce water consumption, such as water reductions, water restrictions, and rate increases for the purveyors, shall be considered.

///

(v) During Severe Water Shortage Conditions, the Stipulating Parties may make agreements for temporary transfer of rights to pump Native Groundwater, voluntary fallowing, or the implementation of extraordinary conservation measures. Transfer of Native Groundwater must benefit the Management Area and be approved by the Court.

E. New Urban Uses

1. Within the sphere of influence or service area. New Urban Uses shall obtain water service from the local public water supplier. The local public water supplier shall provide water service on a reasonable and non-discriminatory basis.

2. Outside the sphere of influence or service area. New municipal and industrial uses on land adjacent to or within one quarter mile of the boundary line depicted in Exhibit D shall comply with any applicable Corporations Code provisions, including good faith negotiations with the local water purveyor(s), prior to forming a mutual water company to provide water service.

3. The ConocoPhillips property, owned as of the date of this Stipulation and located within the NMMA, is not in the sphere of influence or service area, nor is it in the process of being included in the sphere of influence, of a municipality or within the certificated service area of a publicly regulated utility as of the date of this Stipulation, nor is it adjacent to or in close proximity to the sphere of influence of a municipality or the certificated service area of a publicly regulated utility as of the date of this Stipulation, as those terms are used in Paragraphs VI(E)(1 and 2).

4. No modification of land use authority. This Stipulation does not modify the authority of the entity holding land use approval authority over the proposed New Urban Uses.

5. New Urban Uses as provided in Paragraph VI(E)(1) above and new municipal and industrial uses as provided in Paragraph VI(E)(2) above shall provide a source of supplemental water, or a water resource development fee, to offset the water demand associated with that development. For the purposes of this Paragraph, supplemental water shall include all sources of Developed Water or New Developed Water.

VII. PHYSICAL SOLUTION: PROVISIONS SPECIFIC TO NORTHERN CITIES MANAGEMENT AREA

These terms, supplemented by the provisions of this Stipulation that apply to all Management Areas, govern water rights and resources in the Northern Cities Management Area.

1. Groundwater Monitoring. Groundwater monitoring in the Northern Cities Management Area will be conducted by the Northern Cities in the manner described above.

2. Lopez Project. The Lopez Project will continue to be managed by the SLO District. The Northern Cities and Landowners will continue to bear costs of the Lopez Reservoir and no costs of the Twitchell Reservoir.

3. Independent Management Per Settlement Agreement.

(a) Existing Groundwater, SWP Water and Storage Space in the Northern Cities Management Area will continue to be allocated and independently managed by the Northern Parties in accordance with the Northern Cities and Northern Landowners' 2002 Settlement Agreement (Exhibit "E") for the purpose of preserving the long-term integrity of water supplies in the Northern Cities Management Area. That Settlement Agreement initially allocates 57% of the safe yield of groundwater in Zone 3 to the farmers and 43% to the cities; and it provides *inter alia* that any increase or decrease in the safe yield will be shared by the cities and landowners on a pro rata basis. That Settlement Agreement is reaffirmed as part of this Stipulation and its terms are incorporated into this Stipulation, except that the provisions regarding continuing jurisdiction (¶ 4), groundwater monitoring, reporting, and the Technical Oversight Committee (¶¶ 7-20) are canceled and superseded by the provisions of this Stipulation dealing with those issues.

(b) Without the written agreement of each of the Northern Cities, no party other than Northern Parties shall have any right to:

(i) pump, store, or use Groundwater or surface water within the Northern Cities Management Area; or

(ii) limit or interfere with the pumping, storage, management or usage of Groundwater or surface water by the Northern Parties within the Northern Cities

Management Area.

(c) For drought protection, conservation, or other management purposes, the Northern Parties may engage in contractual transfers, leases, licenses, or sales of any of their water rights, including voluntary fallowing programs. However, no Groundwater produced within the Northern Cities Management Area may be transported outside of the Northern Cities Management Area without the written agreement of each of the Northern Cities.

4. Current and future deliveries of water within the spheres of influence of the Northern Cities as they exist on January 1, 2005 shall be considered existing uses and within the Northern Cities Management Area.

VIII. INJUNCTION – ALL MANAGEMENT AREAS

A. Use Only Pursuant to Stipulation

Each and every Stipulating Party, their officers, agents, employees, successors and assigns, are enjoined and restrained from exercising the rights and obligations provided through this Stipulation in a manner inconsistent with the express provisions of this Stipulation.

B. Injunction Against Transportation From the Basin

Except upon further order of the Court, each and every Stipulating Party and its officers, agents, employees, successors and assigns, is enjoined and restrained from transporting Groundwater to areas outside the Basin, except for those uses in existence as of the date of this Stipulation; provided, however, that Groundwater may be delivered for use outside the Basin as long as the wastewater generated by that use of water is discharged within the Basin, or agricultural return flows resulting from that use return to the Basin.

C. No Third Party Beneficiaries

This Stipulation is intended to benefit the Stipulating Parties and no other Parties. Only a Stipulating Party may enforce the terms of this Stipulation or assert a right to any benefits of, or enforce any obligations contained in this Stipulation.

///

///

///

IX. RESERVED JURISDICTION – ALL MANAGEMENT AREAS

A. Reserved Jurisdiction; Modifications, Cancellations, Amendments

Jurisdiction, power and authority are retained by and reserved to the Court as set forth in this Paragraph. Nothing in the Court's reserved jurisdiction shall authorize modification, cancellation or amendment of the rights provided under Paragraphs III; V(A, E); VI(A, B, D); VII(2, 3); VIII(A); IX(A, C); and X(A, D) of this Stipulation. Subject to this limitation, the Court shall make such further or supplemental orders as may be necessary or appropriate regarding the following:

1. enforcement of this Stipulation;
2. claims regarding waste/unreasonable use of water;
3. disputes between Stipulating Parties across Management Area boundaries;
4. interpretation and enforcement of the judgment;
5. consider the content or implementation of a Monitoring Program;
6. consider the content, conclusions, or recommendations contained in an Annual Report;
7. consider Twitchell Project operations, including, but not limited to: i) the content of the Twitchell Project Manual; ii) TMA or District compliance with the Twitchell Project Manual; iii) decisions to implement Extraordinary Project Operations; or iv) the maintenance of Twitchell Yield;
8. claims of localized physical interference between the Stipulating Parties in exercising their rights pursuant to this Stipulation; provided, however, rights to use Groundwater under this Stipulation shall have equal status; and
9. modify, clarify, amend or amplify the judgment and the Northern Parties Settlement Agreement; Provided, however, that all of the foregoing shall be consistent with the spirit and intent of this Stipulation.

///

///

B. Noticed Motion

Any party that seeks the Court's exercise of reserved jurisdiction shall file a noticed motion with the Court. Any noticed motion shall be made pursuant to the Court's Order Concerning Electronic Service of Pleadings and Electronic Posting of Discovery Documents dated June 27, 2000, attached and incorporated as Exhibit "G". Any request for judicial review shall be filed within sixty days of the act or omission giving rise to the claim. Upon a showing of good cause, the Court may extend the sixty-day time limitation.

C. *De Novo* Nature of Proceeding

The Court shall exercise *de novo* review in all proceedings. The actions or decisions of any Party, the Monitoring Parties, the TMA, or the Management Area Engineer shall have no heightened evidentiary weight in any proceedings before the Court.

D. Filing and Notice

As long as the Court's electronic filing system remains available, all Court filings shall be made pursuant to Exhibit "G". If the Court's electronic filing system is eliminated and not replaced, the Stipulating Parties shall promptly establish a substitute electronic filing system and abide by the same rules as contained in the Court's Order.

X. MISCELLANEOUS PROVISIONS – ALL MANAGEMENT AREAS

A. Unenforceable Terms

The Stipulating Parties agree that if any provision of this Stipulation or the judgment entered based on this Stipulation is held to be invalid, void, or unenforceable, the remaining provisions shall nevertheless continue in full force and effect; provided, however, any order which invalidates, voids, deems unenforceable, or materially alters those Paragraphs enumerated in Paragraph IX(A) or any of them, shall render the entirety of the Stipulation and the judgment entered based on this Stipulation voidable and unenforceable, as to any Stipulating Party who files and serves a motion to be released from the Stipulation and the judgment based upon the Stipulation within sixty days of entry of that order, and whose motion is granted upon a showing of good cause.

/ / /

B. Water Quality

Nothing in the Stipulation shall be interpreted as relieving any Stipulating Party of its responsibilities to comply with state or federal laws for the protection of water quality or the provisions of any permits, standards, requirements, or orders promulgated thereunder.

C. Duty to Cooperate

The Stipulating Parties agree not to oppose, or in any way encourage or assist any other party in opposing or challenging, any action, approval, or proceeding necessary to obtain approval of or make effective this Stipulation or the judgment to be entered on terms consistent with this Stipulation.

D. Stipulating Parties Under Public Utilities Commission Regulation

1. To the extent allowed by law, SCWC and RWC shall comply with this Stipulation, prior to obtaining California Public Utilities Commission ("PUC") approval. If the PUC fails to approve SCWC's and RWC's participation or fails to provide approval of the necessary rate adjustments so that SCWC and RWC may meet their respective financial obligations, including the participation in Developed Water projects, Monitoring Programs, TMA and as otherwise provided in this Stipulation, shall render the entirety of the Stipulation and those terms of any judgment based on this Stipulation invalid, void and unenforceable, as to any Stipulating Party who files and serves a notice of rescission within sixty days of notice by SCWC or RWC of a final PUC Order.

2. Any Party, or its successors or assigns, agreeing to become a new customer of SCWC or RWC, or an existing customer proposing to increase its water use through a change in land use requiring a discretionary land use permit or other form of land use entitlement, that has not executed reservation contracts for supplemental water as specified in Exhibit F will provide the following, once approved by the PUC:

(a) If in the Santa Maria Valley Management Area, a water resource development fee as specified in Exhibit F or a source of supplemental water sufficient to offset the consumptive demand associated with the new use as provided in Paragraph V(E); or

///

(b) If in the NMMA, a water resource development fee, or a source of supplemental water sufficient to offset the consumptive demand associated with the new use.

3. Any Person who is not engaged in a New Urban Use and who agrees to become a customer of SCWC or RWC shall retain its right to contest the applicable water resource development fee, should that fee ever become applicable to that Person.

E. Designation of Address, for Notice and Service

Each Stipulating Party shall designate the name, address and e-mail address, if any, to be used for purposes of all subsequent notices and service, either by its endorsement on the Stipulation for entry of judgment or by a separate designation to be filed within thirty days after execution of this Stipulation. This designation may be changed from time to time by filing a written notice with the Court. Any Stipulating Party desiring to be relieved of receiving notices may file a waiver of notice on a form approved by the Court. The Court shall maintain at all times a current list of Parties to whom notices are to be sent and their addresses for purposes of service. The Court shall also maintain a full current list of names, addresses, and e-mail addresses of all Parties or their successors, as filed herein. Copies of such lists shall be available to any Person. If no designation is made, a Stipulating Party's designee shall be deemed to be, in order of priority: i) the Party's attorney of record; ii) if the Party does not have an attorney of record, the Party itself at the address specified.

F. No Loss of Rights

Nothing in this Stipulation shall be interpreted to require or encourage any Stipulating Party to use more water in any Year than is actually required. As between the Stipulating Parties, failure to use all of the water to which a Stipulating Party is entitled hereunder shall not, no matter how long continued, be deemed or constitute an abandonment or forfeiture of such Stipulating Party's rights, in whole or in part.

G. Intervention After Judgment

Any Person who is not a Party or successor to a Party, who proposes to use Groundwater or Storage Space, may seek to become a Party to the judgment through a petition for intervention. The Court will consider an order confirming intervention following thirty days notice to the

Parties. Thereafter, if approved by the Court, such intervenor shall then be a Party bound by the judgment as provided by the Court.

H. Stipulation and Judgment Binding on Successors, Assigns, etc.

The Stipulating Parties agree that all property owned by them within the Basin is subject to this Stipulation and the judgment to be entered based upon the terms and conditions of this Stipulation. This Stipulation and the judgment will be binding upon and inure to the benefit of each Stipulating Party and their respective heirs, executors, administrators, trustees, successors, assigns, and agents. This Stipulation and the judgment to be entered based the terms and conditions of this Stipulation shall not bind the Stipulating Parties that cease to own property within the Basin, or cease to use Groundwater. As soon as practical after the effective date of this Stipulation, a memorandum of agreement referencing this Stipulation shall be recorded in Santa Barbara and San Luis Obispo Counties by Santa Maria, in cooperation with the Northern Cities and SCWC. The document to be recorded shall be in the format provided in Exhibit "H".

I. Costs

No Stipulating Party shall recover any costs or attorneys fees from another Stipulating Party incurred prior to the entry of a judgment based on this Stipulation.

J. Non-Stipulating Parties

It is anticipated that the Court will enter a single judgment governing the rights of all Parties in this matter. The Stipulating Parties enter into this Stipulation with the expectation that the Court will enter, as a part of the judgment, the terms and conditions of this Stipulation. This Stipulation shall not compromise, in any way, the Court's legal and equitable powers to enter a single judgment that includes provisions applicable to the non-Stipulating Parties that may impose differing rights and obligations than those applicable to the Stipulating Parties. As against non-Stipulating Parties, each Stipulating Party expressly reserves and does not waive its right to appeal any prior or subsequent ruling or order of the Court, and assert any and all claims and defenses, including prescriptive claims. The Stipulating Parties agree they will not voluntarily enter into a further settlement or stipulation with non-Stipulating Parties that provides those non-Stipulating Parties with terms and conditions more beneficial than those provided to similarly

situated Stipulating Parties.

K. Counterparts

This Stipulation may be signed in any number of counterparts, including counterparts by facsimile signature, each of which shall be deemed an original, but all of which shall together constitute one and the same instrument. The original signature pages shall be filed with Court.

L. Effective Date

This Stipulation shall be effective when signed by the Stipulating Parties listed on Exhibit "A" and accepted by the Court.

Party	**Signature, title, and date**	**Parcels Subject to Stipulation**
Attorney of Record	**Approved as to form:** By:_____ Date:_____	

PROOF OF SERVICE

I am a resident of the State of California, over the age of eighteen years, and not a party to the within action. My business address is HATCH & PARENT, 21 E. Carrillo Street, Santa Barbara, California 93101.

Pursuant to the Court's Order dated June 28, 2000, I, Gina Lane, did the following:

- Posted the following document at approximately 4:30 p.m. on June 30, 2005.

  STIPULATION (JUNE 30, 2005 VERSION)

- Mailed a Notice of Availability to all parties (designating or defaulting to mail service) on the current website's service list.

I am readily familiar with the firm's practice of collection and processing correspondence for mailing. Under that practice it would be deposited with the U.S. Postal Service on that same day with postage thereon fully prepaid in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

I declare under penalty of perjury under the laws of the State of California that the above is true and correct.

Executed on June 30, 2005, at Santa Barbara, California.

GINA M. LANE

Appendix H – Board Resolution 2014-1335 Water Shortage Response and Management Plan

NIPOMO COMMUNITY SERVICES DISTRICT
RESOLUTION NO. 2014-1335

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE NIPOMO COMMUNITY SERVICES DISTRICT ADOPTING A WATER SHORTAGE RESPONSE AND MANAGEMENT PLAN PURSUANT TO WATER CODE § 375

WHEREAS, the Nipomo Community Services District ("District") provides water service within the District's water service area pursuant to § 61100 (a) of the Community Services District Law which provides:

> "(a) Supply water for any beneficial uses, in the same manner as a municipal water district, formed pursuant to the Municipal Water District Law of 1911, Division 20 (commencing with Section 71000) of the Water Code. In the case of any conflict between that division and this division, the provisions of this division shall prevail"; and

WHEREAS, § 61060 (b) of the Community Services District Law provides in relevant part:

> "A district shall have and may exercise all rights and powers, expressed and implied, necessary to carry out the purposes and intent of this division, including, but not limited to, the following powers:
>
> > (b) To adopt, by ordinance, and enforce rules and regulations for the administration, operation, and use and maintenance of the facilities and services listed in Part 3 (commencing with Section 61100)"; and

WHEREAS, California Water Code Section 375 States in pertinent part:

> (a) Notwithstanding any other provision of the law, any public entity which supplies water at retail or wholesale for the benefit of persons within the service area or area of jurisdiction of the public entity may, by ordinance or **resolution** adopted by a majority of the members of the governing body after holding a public hearing upon notice and making appropriate findings of necessity for the adoption of a water conservation program, adopt and enforce a water conservation program to reduce the quantity of water used by those persons for the purpose of conserving the water supplies of the public entity; and

WHEREAS, it is essential for the protection of the health, welfare, and safety of the residents of the District and the public benefit of the State of California ("State"), that the groundwater resources of the Nipomo Mesa be conserved; and

WHEREAS, Governor Jerry Brown on January 17, 2014 proclaimed that the entire State of California to be in a Drought State of Emergency; and

WHEREAS, the District's current water supply is limited to groundwater extracted from the Nipomo Mesa Management Area (NMMA) (also referred to as the Nipomo Mesa Water

Conservation Area (NMWCA) by the County of San Luis Obispo), of the Santa Maria Groundwater Basin; and

WHEREAS, the District is a party to a groundwater adjudication, Santa Maria Valley Water Conservation District v. City of Santa Maria, etc. et al., Case No. CV 770214 ("Groundwater Litigation"); and

WHEREAS, pursuant to Section VI D(1) of the June 2005 Stipulation as incorporated into the January 25, 2008 Final Judgment in the Groundwater Litigation the Nipomo Mesa Management Area Technical Group declared that a Potentially Severe water shortage condition has existed within the Nipomo Mesa Management Area since the spring of 2008 and during the intervening year, the drought continued and it is anticipated that in May of 2014 that the Nipomo Mesa Management Area Technical Group will declare a Severe water shortage condition; and

WHEREAS, the San Luis Obispo County Department of Planning and Building's 2004 Resource Capacity Study for the Water Supply in the Nipomo Mesa Area recommended a Level of Severity III (existing demand equals or exceeds dependable supply) be certified for the Nipomo Mesa Water Conservation Area (NMWCA) and that measures be implemented to lessen adverse impacts of future development (said Study and referenced documents are incorporated herein by reference); and

WHEREAS, on June 26, 2007, the San Luis Obispo County Board of Supervisors certified the waters underlying the NMWCA at a Severity Level III; and

WHEREAS, the resource protection goals of the San Luis Obispo County South County Area Plan include the following:

- Balance the capacity for growth allowed by the Land Use Element with the sustained availability of resources.

- Avoid the use of public resources, services and facilities beyond their renewable capacities, and monitor new development to ensure that its resource demands will not exceed existing and planned capacities or service levels; and

WHEREAS, District Code §3.28.020 provides:

"...all intent-to-serve letters shall be based on findings that sufficient excess water and sewer capacity exists to serve the project..."; and

WHEREAS, Water Code § 71640 of the Municipal Water Service District Law provides:

"A district may restrict the use of district water during any emergency caused by drought, or other threatened or existing water shortage, and may prohibit the wastage of district water or the use of district water during such periods for any

purpose other than household uses or such other restricted uses as the district determines to be necessary. A district may also prohibit use of district water during such periods for specific uses which it finds to be nonessential"; and

WHEREAS, the District Board of Directors has noticed this public meeting pursuant to Water Code § 375 and has considered the Staff Report and public testimony regarding the adoption of this Resolution; and

WHEREAS, The District Board of Directors wishes to set forth a Water Shortage Response and Management Plan that provides a range of alternative actions that allows for flexibility in responding to a water shortage emergency; and

WHEREAS, based on the Staff Report, staff presentation, the reports and studies referenced in this Resolution and public comment, the District Board of Directors finds that:

(a) That the Nipomo Mesa Management Area Technical Group has declared the Mesa to be in a Potentially Severe water shortage condition for the past six years; and

(b) That based upon the lack of rainfall during the winter of 2013/2014 and the increase pumping by District and other purveyors in response, it is anticipated that in the near future, Nipomo Mesa Management Area Technical Group will find that the Nipomo Mesa is in a Severe water shortage condition; and

(c) That it is necessary for the District to adopt a Water Shortage Response and Management Plan to be able to respond to the lack of available groundwater for the purpose of serving District residents.

WHEREAS, based on the Staff Report, staff presentation and public comment, the Board further finds:

A. That the purpose and intent of this Resolution is consistent with the purposes found in the Judgment and Stipulation in the Groundwater Litigation imposing a physical solution to assure long-term sustainability of the groundwater basin and the San Luis Obispo County's certification of a Severity Level III for the waters underlying the NMWCA; and

B. That adoption of the Water Shortage Response and Management Plan will provide greater assurances that there will be adequate groundwater to meet the present needs of District residents consistent with District Code §3.28.020 and the resource protection goals of the San Luis Obispo County South County Area Plan; and

C. That adopting this Resolution will further conserve the water supply for the greater public benefit, with particular regards to domestic use, sanitation and fire protection; and

D. That this Resolution adopts Rules and Regulations for the administration, operation and use of District services; and

NIPOMO COMMUNITY SERVICES DISTRICT
RESOLUTION NO. 2014-1335

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE NIPOMO COMMUNITY SERVICES DISTRICT ADOPTING A WATER SHORTAGE RESPONSE AND MANAGEMENT PLAN PURSUANT TO WATER CODE § 375

WHEREAS, by adopting this Resolution, the District does not intend to limit other means of managing, protecting and conserving the groundwater basin by the District. Further, the District intends to work cooperatively with the NMMA Technical Group and other agencies, such as the County of San Luis Obispo, to implement regional solutions such as groundwater management and the importation of Supplemental Water to the NMMA\NMWCA; and

WHEREAS, based on the Staff Report, staff presentation and public comment, the District Board of Directors further finds this Resolution is adopted for the protection of the health, safety and welfare of District water customers who depend on the underlying groundwater basin as their source of water supply.

NOW, THEREFORE BE IT RESOLVED, DETERMINED AND ORDERED by the Board of Directors of the Nipomo Community Services District, as follows:

1. That the above recitals are true and correct.

2. The Board adopts the Water Shortage Response and Management Plan attached as Exhibit "A" to this Resolution.

3. The Board of Directors reserves the right to order or not order all of the provisions within the Water Shortage Response and Management Plan based upon the circumstances at the time that this policy needs to be enforced.

Upon motion by Director Harrison, seconded by Director Gaddis, on the following roll call vote, to wit:

AYES: **Directors Harrison, Gaddis, Blair, Vierheilig and Armstrong**
NOES: **None**
ABSENT: **None**
ABSTAIN: **None**

the foregoing resolution is hereby passed and adopted this 9th day of April, 2014.

CRAIG ARMSTRONG,
President of the Board of Directors

ATTEST:

MICHAEL S. LEBRUN
General Manager and Secretary to the Board

APPROVED:

MICHAEL W. SEITZ
District Legal Counsel

NIPOMO COMMUNITY SERVICES DISTRICT
RESOLUTION NO. 2014-1335

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE
NIPOMO COMMUNITY SERVICES DISTRICT
REAPPROVING A WATER SHORTAGE RESPONSE AND MANAGEMENT PLAN
PURSUANT TO WATER CODE § 375

EXHIBIT "A"

NCSD WATER SHORTAGE RESPONSE AND MANAGEMENT PLAN

STAGE	GROUNDWATER CONDITION	RESPONSE ACTIONS	RELIEF OF RESTRICTIONS
I	All times	• Active outreach and education programs regarding water conservation best management practices. • Four Tier escalating water rates. • Recommended Customer Measures: o Fix all plumbing and irrigation leaks immediately. o Irrigate after 8PM and before 9AM. o Minimum to no irrigation in winter months. o Check all irrigation systems monthly. o Do not allow excessive run off. o Recirculate water in ornamental water features (fountains) • New applications for water service are accepted and processed. • Supplemental water is allocated to all new projects • New water service connections are made.	Not Applicable.
II	Potentially Severe Water Shortage Conditions exists	• More aggressive conservation outreach and education efforts. • Four-Tier escalating water rates. • Encourage customers to implement the following practices: o All Stage I Measures o Cover Swimming Pools and spas. o Do not use water to wash down exterior surfaces (e.g. driveway, deck, home) • New applications for water service are accepted and processed. • Supplemental water is allocated to new projects. • New water service connections are made.	Potentially Severe Water Shortage no longer exist.

STAGE	GROUNDWATER CONDITION	RESPONSE ACTIONS	RELIEF OF RESTRICTIONS
III	Severe Water Shortage conditions exists	• District targets a 30% reduction in production (Equating to a 752 acre foot or 245 million gallons of reduction in production on an annual basis). • Implement Stage III Drought Rates to encourage reduction in customer water demand. • Encourage customers to implement the following practices. o All Stage I and II measures. o Turn off all automated irrigation systems. o Provide minimum necessary irrigation to preserve trees and high-value landscape. o Do not drain or fill swimming pools or spas. o Do not use water for dust control or construction. o Do not use hoses to wash cars or equipment. o Turn off and drain ornamental fountains and water features • Suspend accepting applications for new water service. • Existing applications for new water service continue to be processed with allocations of supplemental water. • New water service connections are made.	Severe Water Shortage no longer exist.**
IV	Severe Water Shortage conditions exists for >1YEAR or is triggered by both the Key Wells Index and the Coastal Criterion.	• District targets a 50% reduction in production (Equating to a 1,254 acre foot reduction in production on an annual basis). • Implement Stage IV Drought Rates to encourage reduction in customer water demand. • Encourage customers to implement the following practices:	Severe Water Shortage conditions no longer exist.

STAGE	GROUNDWATER CONDITION	RESPONSE ACTIONS	RELIEF OF RESTRICTIONS
		○ All Stage I, II, and III measures. ○ Do not use District water for irrigation/outdoor uses of any sort. • New applications for water service are NOT accepted (Stage III) • Cease processing existing applications for new water service. No allocation of supplemental water is made. • New water service connections are made only to projects with preexisting service commitments.	
V	Severe Water Shortage conditions for >2 years with BOTH triggers (Key Wells Index and Coastal Area Criterion).	• District targets a 60% reduction in production. (Equating to a 1,504 acre foot reduction in production on an annual basis). • Implement Stage V Drought Rates to encourage additional reduction in customer water demand. • Declaration of a Water Shortage Emergency in accordance with CA Water Code Section 350. • Suspend all new water service connections. • Encourage customers to implement all Stage I-IV measures and to use only the absolute minimum water necessary for health and sanitation purposes. ○ All Stage I, II, and III measures. ○ Do not use District water for irrigation/outdoor uses of any sort. ○ Do not drain or fill swimming pools or spas. ○ All measures possible to reduce water use. • New applications for water service are NOT accepted (Stage III) • Existing applications for new water service are not processed (Stage IV)	Severe Water Shortage conditions no longer exist.

** The Nipomo Mesa Management Area (NMMA) Technical Group may determine Severe Water Shortage Conditions no longer exist when groundwater quality criteria threshold are no longer exceeded in a single measurement.

General Notes

1. The implementation of all rate increases and changes in the acceptance and processing of new services applications are subject to approval by the Board of Directors at the time each stage is triggered.
2. Potentially Severe and Severe Water Shortage conditions, Key Wells Index, and Coastal Criterion are as defined in the NMMA Technical Group, Water Shortage Conditions Response Plan, dated April 2009. Key criterion are as follows:

Potentially Severe Water Shortage Conditions	***Severe Water Shortage Conditions***
• *Key Wells Index less than 31.5 ft msl* • *Greater than 250 mg/l chloride in any NMMA coastal monitoring well*	• *Key Wells Index is less than 16.5 ft. msl* • *Greater than 500 mg/l chloride in any NMMA coastal monitoring well*

3. Reduction goals are a percentage of average annual production volumes for the five calendar years prior to the first year Nipomo Supplemental Water is delivered. NCSD's 2009-2013 average (2507 AFY) is used in the table above.

Appendix I- Consumer Confidence Report

JUNE 2020

Nipomo Community Services District

2019 CONSUMER CONFIDENCE REPORT

Annual Tests Show Nipomo's Water Meets Quality Standards

This report contains important information regarding your drinking water provided by the Nipomo Community Services District during 2019. If needed, you may choose to translate it or speak with someone who understands the report.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien. Favor de comunicarse con Nipomo Community Services District al (805) 929-1133 o 148 S. Wilson Street, Nipomo para asistirlo en español.

High Quality Water Delivered to Your Tap

Last year, Nipomo Community Services District (District) tap water met all USEPA and State drinking water health standards. The District vigilantly safeguards its water supplies and we are proud to report that our system did not violate a maximum contaminant level or any other water quality standard. This brochure is a snapshot of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards. We are committed to providing you with information because informed customers are our best allies.

Questions

For more information about this report, or for any questions relating to your drinking water, please call (805) 929-1133 and ask for General Manager, Mario Iglesias, or visit our website at www.ncsd.ca.gov.

Results of 2019 Drinking Water Quality Tests

The tables on the next page list all of the drinking water contaminants that were detected during the most recent sampling. The presence of contaminants in the water does not necessarily indicate the water poses a health risk. State and Federal regulations require us to monitor for certain contaminants less frequently than once per year because the concentrations of those contaminants are not expected to vary significantly from year to year.

TERMS AND ABBREVIATIONS

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health.

Primary Drinking Water Standards (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect health at the MCL levels.

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Unregulated: Unregulated contaminant monitoring helps U.S. EPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

LRAA: Locational Running Annual Average
NA: Not Applicable
ND: Not Detected
NL: Notification Level
NTU: Nephelometric Turbidity Units
ppm: parts per million or milligrams per liter (mg/L)
ppb: parts per billion or micrograms per liter (µg/L)
pCi/L: picocuries per liter
TON: Threshold Odor Number
µS/cm: microsiemens per centimeter (unit of specific conductance of water)

NOTES

(a) Aluminum also has a Secondary MCL of 200 ppb.

(b) Arsenic (10 ppb) is based on a running 1-year average. While your drinking water meets the federal and state standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. Environmental Protection Agency continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

(c) Hexavalent Chromium: There is currently no MCL for Hexavalent Chromium. The previous MCL of 10 ppb was withdrawn on September 11, 2017.

(d) Fluoride target levels are set by State Water Resources Control Board Division of Drinking Water. As of October 1, 2018 the City of Santa Maria discontinued adding fluoride to the water supply.

(e) Nitrate: Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

(f) City of Santa Maria - Total coliform MCL: No more than 5% of monthly samples may be Total Coliform positive.

NCSD - Total coliform MCL: No more than 1 monthly sample may be Total Coliform positive.

(g) Compliance based on the locational running annual average (LRAA) of distribution system samples.

(h) Turbidity: Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

(i) All samples were below action levels.

(j) Lead: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with the service lines and home plumbing. *Nipomo Community Services District* is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/lead.

In 2019, no schools requested lead sampling.

(k) Water quality information from individual wells includes samples collected from 2019 and previous years as noted.

PRIMARY DRINKING WATER STANDARDS - MANDATORY HEALTH-RELATED STANDARDS

Parameter	Units	State MCL	PHG (MCLG)	PURCHASED CITY OF SANTA MARIA WATER			LOCAL GROUNDWATER (k)			MAJOR SOURCES
				RANGE	AVERAGE	YEAR	RANGE	AVERAGE	YEAR	
Aluminum (a)	ppb	1000	600	ND-94	56	2019	ND	ND	2017	Residue from water treatment; erosion of natural deposits.
Arsenic (b)	ppb	10	0.004	NA	NA	2019	3-5	4.3	2017	Residue from water treatment; erosion of natural deposits.
Hexavalent Chromium (c)	ppb	10	0.02	NA	NA	2019	ND-1.2	0.88	2017	Erosion of natural deposits; industrial wastes.
Fluoride (d)	ppm	2	1	0.10-0.25	0.12	2019	ND	ND	2017	Erosion of natural deposits; additive to promote strong teeth.
Nitrate as N (e)	ppm	10	10	0.4-4.6	1.2	2019	1.8-9.3	5.3	2019	Leaching from fertilizers; erosion of natural deposits.
Selenium	ppb	50	30	NA	NA	2019	ND-11	5	2017	Erosion of natural deposits; industrial wastes.
Gross Alpha	pCi/L	15	(0)	3-11	6	2019	2.5-11.2	5.5	2017	Erosion of natural deposits.
Uranium	pCi/L	20	0.43	3.2-4.1	3.7	2019	1.71-4.8	3.3	2017	Erosion of natural deposits.

DISTRIBUTION SYSTEM MONITORING

Total Chlorine Residual	ppm	MRDL = 4.0	MRDLG = 4.0	1.2-3.2	2.5	2019	1.77-2.24	2	2019	Measure of the disinfection of the water.
Total Coliform Bacteria (f)	NA	See note (d)	(0)	NA	0.0%	2019	0	0	2019	Naturally present in the environment.
Total Trihalomethanes (g)	ppb	80	NA	31.1-41.4	34.5	2019	ND-28	13	2019	Byproduct of drinking water chlorination.
Haloacetic Acids (g)	ppb	60	NA	11.3-14.8	12.4	2019	ND-21	8.5	2019	Byproduct of drinking water chlorination.

SECONDARY DRINKING WATER STANDARDS - AESTHETIC STANDARDS

Chloride	ppm	500	NA	17-60	37	2019	48-57	53.5	2017	Runoff/leaching from natural deposits; seawater influence.
Iron	ppb	300	NA	100-220	120	2019	ND	ND	2019	Runoff/leaching from natural deposits; industrial wastes.
Odor Threshold	TON	3	NA	1-2	1.8	2019	ND	ND	2017	Naturally-occurring organic materials.
Specific Conductance	µS/cm	1600	NA	370-980	663	2019	662-1000	847.3	2017	Substances that form ions when in water; seawater influence.
Sulfate	ppm	500	NA	21-280	155	2019	139-283	212.3	2017	Runoff/leaching from natural deposits; industrial wastes.
Total Dissolved Solids	ppm	1000	NA	99-690	407	2019	420-680	557.5	2017	Runoff/leaching from natural deposits.
Turbidity (h)	NTU	5	NA	0.1-0.2	0.11	2019	0.3-0.8	0.5	2017	Soil runoff.

ADDITIONAL PARAMETERS (UNREGULATED)

Alkalinity (Total) as CaCO3	ppm	NA	NA	70-190	125	2019	100-160	133	2017	Runoff/leaching from natural deposits; seawater influence.
Boron	ppb	NL = 1000	NA	140-200	173	2019	ND-100	50	2017	Runoff/leaching from natural deposits; seawater influence.
Calcium	ppm	NA	NA	11-94	53	2019	51-90	71	2017	Runoff/leaching from natural deposits; seawater influence.
Hardness (Total) as CaCO3	ppm	NA	NA	42-420	235	2019	218-393	310	2017	Leaching from natural deposits.
Magnesium	ppm	NA	NA	9.8-24	24.9	2019	22-41	33	2017	Runoff/leaching from natural deposits; seawater influence.
pH	pH units	NA	NA	7.3-8.9	8.2	2019	7.0-7.7	7.4	2017	Runoff/leaching from natural deposits; seawater influence.
Potassium	ppm	NA	NA	1.4-3.2	2.4	2019	2-3	2.5	2017	Runoff/leaching from natural deposits; seawater influence.
Sodium	ppm	NA	NA	19-57	43	2019	46-60	54	2017	Runoff/leaching from natural deposits; seawater influence.
Vanadium	ppb	NL = 50	NA	3.2-4.1	3.5	2019	11-12	11.8	2017	Runoff/leaching from natural deposits; combustion of fossil fuels

LEAD AND COPPER SAMPLING PROGRAM - SAMPLING OCCURRED IN AUGUST 2018

Parameter	Units	Samples Collected	90th Percentile Level Detected	Number of Sites Exceeding AL	AL	PHG	MAJOR SOURCES
Copper (i)	ppm	36	ND	0	1.3	0.3	Plumbing system corrosion; erosion of natural deposits.
Lead (i)(j)	ppb	36	0.4	0	15	0.2	Plumbing system corrosion; erosion of natural deposits.

Our Water Quality Professionals Provide Around-the-Clock Service

Our water quality professionals maintain, treat, and test the water system ensuring quality water is delivered to your home or business. On-call personnel are available after hours 7 days a week.

GENERAL INFORMATION

Sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Pesticides and herbicides, that may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

Radioactive contaminants, that can be naturally-occurring or the result of oil and gas production and mining activities.

Organic chemical contaminants, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, agricultural application and septic systems.

ENSURING WATER SAFETY

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the California State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

PEOPLE WITH SPECIAL NEEDS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care provider. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline: (1-800-426-4791).

YOUR NCSD WATER

The Nipomo Community Services District is committed to producing the highest quality drinking water from two sources of supply: District water wells located in the Nipomo Mesa, and City of Santa Maria water delivered to the District via the Nipomo Supplemental Water Project interconnect. City of Santa Maria Water is a blend of groundwater and surface water. In 2019, the District received about 50 percent of its water from the City of Santa Maria.

All water is disinfected and introduced to the District water distribution system. The District's water distribution system includes over ninety miles of piping and 5 storage tanks with 4 million gallons of combined capacity. Ground elevation relative to the tanks controls the water pressure throughout the system.

WATER SOURCE ASSESSMENT AND SECURITY

An assessment of the drinking water sources for the Nipomo Community Services District was completed in 2001. The sources are considered most vulnerable to the following activities associated with contaminants detected in the water supply: historic gas stations, low and high density septic systems and wastewater treatment plants. A copy of the complete assessment is available at the District office or from SWRCB, DDW, 1180 Eugenia PL, Suite 200, Carpinteria, CA 93013, 1-805-566-1326.

The District has implemented security systems to protect the distribution and storage of the drinking water. These measures are part of our ongoing operation and ensure the safe treatment and delivery of your drinking water.

STAY CONNECTED

NCSD Regular Board meetings are open to the public. Meetings take place every second and fourth Wednesday of the month at 9:00 AM in the NCSD Board Room, 148 S. Wilson St, Nipomo.

If you have questions regarding the information in this report, please call the District at (805) 929-1133 Monday - Friday 8AM - 4:30PM or email info@ncsd.ca.gov

Nipomo Community Services District

148 S Wilson St, PO Box 326, Nipomo, CA 93444 | (805) 929-1133 | info@ncsd.ca.gov | www.ncsd.ca.gov

/NipomoCSD

Appendix J- Water Shortage Contingency Plan

NIPOMO COMMUNITY SERVICES DISTRICT

WATER SHORTAGE CONTINGENCY PLAN

DECEMBER 2021

THIS PAGE LEFT INTENTIONALLY BLANK

Nipomo Community Services District

Water Shortage Contingency Plan

December 2021

THIS PAGE LEFT INTENTIONALLY BLANK

Table of Contents

List of Tables

List of Figures

Appendices

Appendix A – Relevant Water Code Sections

Appendix B – Relevant Sections of San Luis Obispo County Local Hazard Mitigation Plan October 2019

Appendix C – Notification to Cities and Counties

Appendix D – WSCP Adoption Resolution

Appendix E – Electronic Submittal to DWR

Appendix F – Water Savings Estimates

Bibliography

The following reports, studies, and other material were reviewed during preparation of this Urban Water Management Plan update.

1) Nipomo Community Services District 2020 Urban Water Management Plan dated August 2021 and prepared by MKN & Associates.

2) 2020 Urban Water Management Plans Guidebook for Urban Water Suppliers dated March 2021 and prepared by the California Department of Water Resources.

3) Nipomo Management Area 13th Annual Report (NMMA TG Annual Report) Calendar Year 2020 dated April 2020 and prepared by NMMA Technical Group.

4) San Luis Obispo County Multi-Jurisdictional Hazard Mitigation Plan dated October 2019 and prepared by Wood.

List of Acronyms

AB - Assembly Bill
ADU – Accessory Dwelling Unit
AF – Acre-Foot
AFY – Acre-Feet per Year
AMI – Advanced Metering Infrastructure
AWIA – America's Water Infrastructure Act
AWWA – American Water Works Association
BMP – Best Management Practice
CASGEM – California Statewide Groundwater Elevation Monitoring Program
CA – California
CD – Compact Disc
CII – Commercial, Industrial, Institutional, water use sectors
CIMIS – California Irrigation Management Information System
City – City of Santa Maria
CUWCC – California Urban Water Conservation Council
CWC – California Water Code
DACs – Disadvantaged Communities
DMMs – Demand Management Measures
DOF – Department of Finance
DRA – Drought Risk Assessment
DU – Dwelling Unit
DWR – Department of Water Resources
eARDWP - Electronic Annual Reports to the Drinking Water Program (SWRCB)
ETo - Reference Evapotranspiration
GIS - Geographic Information System
GPCD - Gallons per Capita per Day
GSA - Groundwater Sustainability Agency
GSWC - Golden State Water Company
GSWCCR – Golden State Water Company Cypress Ridge
HECW - High-Efficiency Clothes Washer
HET/DFT - High-Efficiency Toilet
ID - Identifier
IRWMP - Integrated Regional Water Management Plans
KWI – Key Wells Index
MG – Million Gallons
MGY – Million Gallons per Year
NA – Not Applicable
NCMA - Northern Cities Management Area
NCSD - Nipomo Community Services District
NMMA – Nipomo Mesa Management Area
NMMA TG – Nipomo Mesa Management Area Technical Group
NMWCA – Nipomo Mesa Water Conservation Area
PWS – Public Water System
Report – NMMA-TG's Annual Report
RRA – Risk and Assessment
RUWMP – Regional Urban Water Management Plan
SB – Senate Bill
SWRCB – State Water Resources Control Board
SLOCOG – San Luis Obispo Council of Governments
SLO-PD - San Luis Obispo Planning and Development
SOI- Sphere of Influence
SQ FT – Square Feet
SMVMA - Santa Maria Valley Management Area
NSWP - Nipomo Supplemental Water Project
SB X7-7 – Senate Bill Seven of the Senate's Seventh Extraordinary Session of 2009
UMWP - Urban Water Management Plan
US EPA - United States Environmental Protection Agency
WMWC - Woodlands Mutual Water Company
WRF - Water Reclamation Facility
WSCP - Water Shortage Contingency Plan
WSS - WaterSense Specification
WUE - Water Use Efficiency
WWTP - Wastewater Treatment Plant

CHAPTER 1 INTRODUCTION

1.1 Law

This Water Shortage Contingency Plan (WSCP) for the Nipomo Community Services District (District) outlines a program for responding to water supply limitations. The intent of the water conservation measures, progressive restrictions on water use, and method of use identified in this WSCP is to enable the District to implement water management measures in a fair and orderly manner for the benefit of the public.

This WSCP describes measures to be implemented during times of declared water shortages, or declared water shortage emergencies by either the Nipomo Mesa Management Area Technical Group (NMMA-TG), the District, State or Federal government. It establishes six stages of drought response actions to be implemented in times of shortage, with increasing restrictions on water use in response to decreasing available supplies.

1.2 Nipomo Community Services District

The District was formed on January 28, 1965 to provide water and sewer services as allowed under the Community Service District Law of Government Code Section 61000 et. seq. The current service area boundary encompasses approximately 3,907 acres (parcel acreage only and excludes right-of-way) in the Nipomo area of southern San Luis Obispo County, and serves water to an estimated current year (2020) population of 13,771 people. The District service area consists primarily of residential land uses, with some light commercial and suburban residential. The District is comprised of one water system with three pressure zones; one zone serves the Blacklake Specific Plan area, one zone serves the Maria Vista Pressure Zone, and the third zone serves the core of the service area.

Groundwater was the sole source of the District's water supply until 2015, when the District began importing water from the City of Santa Maria (City) as part of the Nipomo Supplemental Water Project (NSWP), dictated by the Final Judgement of Santa Maria River Valley Groundwater Basin.

With respect to groundwater extraction from the Santa Maria River Valley Groundwater Basin, the District coordinates with the NMMA-TG, which is the court-assigned entity responsible for managing groundwater within the Santa Maria River Valley Groundwater Basin.

It should be noted that relevant sections of the water code as related to the WSCP are included in Appendix A.

THIS PAGE LEFT INTENTIONALLY BLANK

CHAPTER 2 WATER SUPPLY ANALYSIS

2.1 Water Supply Reliability Analysis

As described in Chapter 6 of the District's 2020 UWMP, the water supply portfolio consists of groundwater from the Santa Maria Valley Groundwater Basin with a maximum pumping limit of 2,533 AFY and imported water from the Nipomo Supplemental Water Project. The District executed the Wholesale Water Supply Agreement (Wholesale Agreement) with the City on May 7, 2013. Supplemental water consists of a "municipal mix" of both surface water from the State Water Project and groundwater from the City of Santa Maria. The Wholesale Agreement dictates a minimum water delivery to the District of 2,500 AFY by fiscal year 2025-26 with a maximum allowable delivery of 6,200 AFY. It should be noted that the existing Santa Maria River crossing, pump station and portion of transmission pipeline were designed to deliver 6,200 AFY. However, pump replacements and additional pipelines would be required to deliver the full 6,200 AFY to the District service area. Based on redundancy within the Joshua Road Pump Station, multiple wells sites throughout the system, and groundwater management practices under the NMMA, the District's water supply sources are considered 100% reliable and available during normal, single and multiple dry year conditions.

To identify potential water supply reliability concerns, the District completed a preliminary climate change vulnerability screening analysis (including impacts from extreme heat, water quality, sea level rise, flooding, and wildfire) for its supplies as shown in **Table 2-1**.

Table 2-1: Climate Change Vulnerability Screening

Preliminary Assessment	Groundwater	Imported Water
	Level of Risk	Level of Risk
I. Water Supply and Demand		
Are the water supply diversions sensitive to climate change?	3	2
Is the water supply source affected by urban or agricultural water demand that might be climate sensitive?	2	2
Is groundwater a major supply source?	5	3
Does the water supply source rely on or could it be affected by snowmelt?	Not applicable	3
Does the water supply source come from or could it be affected by coastal aquifers? Has saltwater intrusion been a problem in the past?	2	Not applicable
Does the water supply source rely on or could it be affected by changes in stored water supplies?	2	2
II. Extreme Heat		
Could extreme heat impact operations of the water supply project or diversions?	Not applicable	Not applicable
Does the supply source rely on equipment or infrastructure that could be impacted by extreme or prolonged heat?	Not applicable	Not applicable
III. Water Quality		
Could water quality issues, such as low dissolved oxygen, algal blooms, disinfectant biproducts affect the water supply source?	Not applicable	Not applicable
Could reduction in assimilative capacity of a receiving water body affect the water supply source?	Not applicable	1

Table 2-1: Climate Change Vulnerability Screening		
Preliminary Assessment	**Groundwater**	**Imported Water**
	Level of Risk	**Level of Risk**
Could the water supply source be affected by water quality shifts during rainfall/runoff events?	2	1
IV. Sea Level Rise		
Is any of the water supply source infrastructure located in area that could be exposed to rising tides?	Not applicable	Not applicable
Could coastal erosion affect the water supply source?	Not applicable	Not applicable
Is the water supply source dependent on coastal structures, such as levees or breakwaters, for protection from flooding?	Not applicable	Not applicable
V. Flooding		
Is the water supply or any of its associated infrastructure located within the 200-year floodplain? Does the water supply source rely on flood protection infrastructure such as levees or dams?	Not applicable	Not applicable
VI. Wildfire		
Is the water supply source located in an area that is expected to experience an increase in wildfire activity or severity? Would a wildfire result in damage to the water supply source infrastructure or interruption of its ability to perform as designed? Could the water supply source be affected by an increase in wildfire activity or severity in an upstream watershed or other adjacent area?	Not applicable	1
Notes: SMVGWB = Santa Maria River Valley Groundwater Basin NSWP = Nipomo Supplemental Water Project Level of Risk: 1 - low, 3-medium, 5-high		

Per **Table 2-1**, the District's existing water distribution system has a low vulnerability to potential extreme heat, water quality, sea level rise, flooding, and wildfire impacts.

2.2 Annual Water Supply and Demand Assessment Procedures

In accordance with California Water Code (CWC) 10632 the District will conduct an annual water supply and demand assessment by July 1st of each year.

A copy of the annual assessment will be submitted to the Board Members ahead of the meeting for review. The Board of Directors will listen to the findings and recommendations outlined in the report and vote to approve and implement the actions described in the annual report starting at the May 2022 Board meeting.

The WSCP team will consist of the District's General Manager and District Engineer. The team will draft and prepare the annual water supply reliability analysis report. The report will use the key data inputs and methodology described in **Table 2-2** to determine the unconstrained demand, available water supply, and reliability for the current year and one dry year.

Table 2-2: Key Data Inputs		
Data Inputs:		**Description:**
Current year Customer Demand and Available Supply	Public Water System Statistics Report	The water statistics sheet is prepared by the District's general manager in January for the previous year. The statistics sheet will be used to calculate water supply by source and show unconstrained water demand.
Projected Water Supply	Well Production History Worksheet, NMMA TG Annual Report	This worksheet is prepared by the District's general manager and is updated each year. This worksheet provides the monthly production totals for each well. This will be used to help determine water supply reliability. The NMMA TG Annual Report would identify drought conditions and groundwater pumping limitations.
Infrastructure Considerations	Annual Project List and Schedule	This list will be prepared by the general manager and describe all the planned District projects for the year. The annual project list will be used to assess infrastructure capabilities and any potential constraints to the water system.

2.2.1 Assessment Methodology

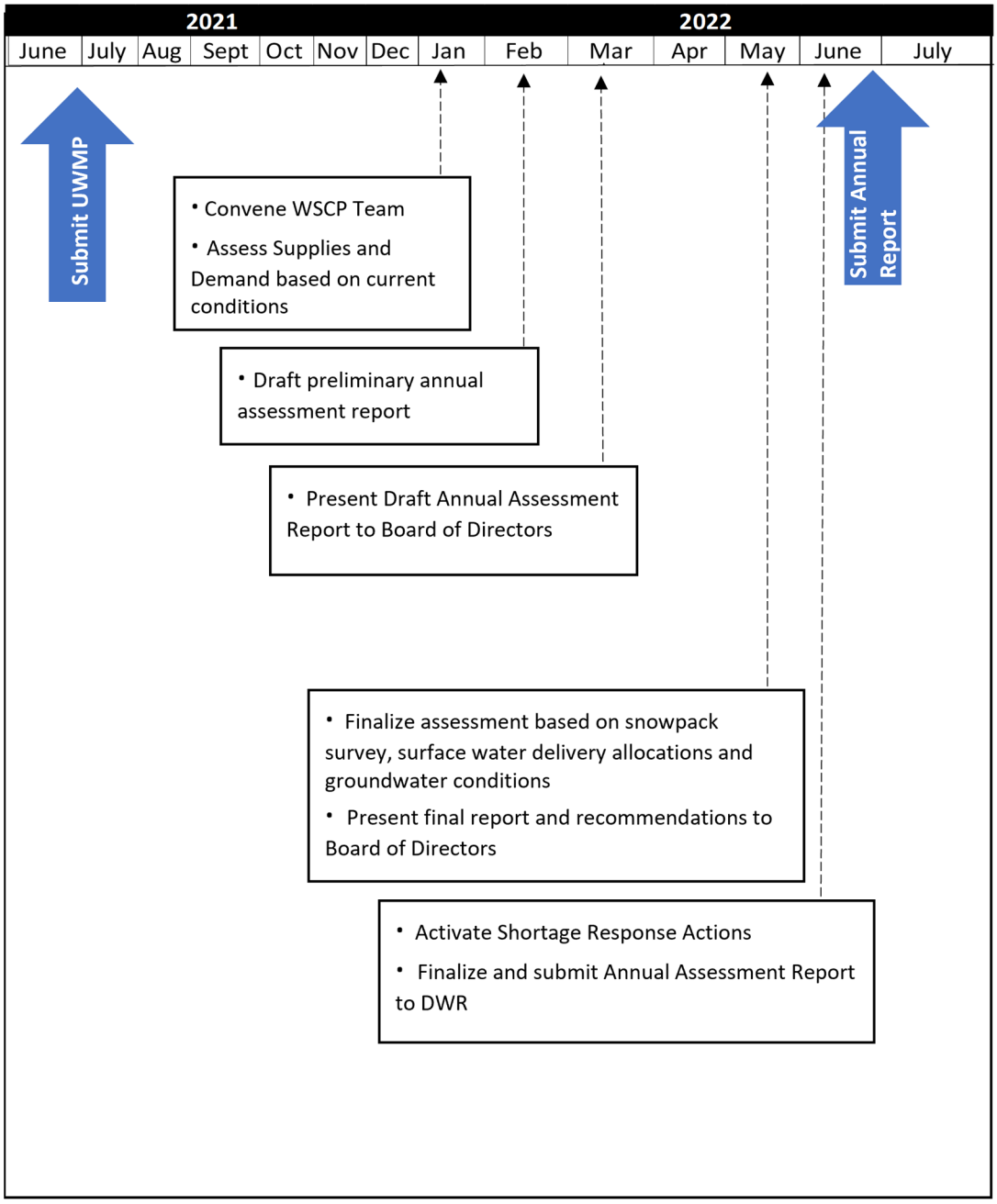
The District will enact water shortage response actions if Stage 2 or higher is in place, as defined by NMMA. The District will take the following steps to evaluate the water supply and demand:

1. Evaluate Water Supply: Using the current NMMA Annual Report, determine the available amount of water available to the District.
2. Calculate Unconstrained Customer Demand: Using the Public Water System Statistics Sheet calculate the total water delivered the previous year.
3. Planned Water Use for Current Year Considering Dry Year**:** Compare the available water supply and the customer demand and determine if there is an expected water shortage.
4. Infrastructure Considerations: Using relevant future project lists and schedule, determine if any projects will reduce or increase supply.
5. Compare supply and demand and decide on the level of water supply reliability for current year and one dry year, declare a water shortage level, and issue relevant communication, if necessary.

2.2.2 Water Supply Reliability Analysis Timeline

The District will start to evaluate the water supply availability in January and will submit the report to the DWR in June of each year as shown in **Figure 2-1**.

Figure 2-1: Water Supply Reliability Analysis Timeline



2.3 Six Standard Water Shortage Levels

This WSCP identifies water conservation measures and progressive restrictions on water use to enable the District to implement water management measures in a fair and orderly manner for the benefit of the public in accordance with CWC §10632(a)(3). This WSCP establishes six (6) stages of drought response actions that could be voluntarily implemented by the District in times of shortage, with increasing restrictions on water use in response to decreasing supplies. This WSCP includes both voluntary and mandatory water use reductions depending on the causes, severity, and anticipated duration of the water supply shortage. Water use reduction stages may be triggered by contamination in one water source, combination of sources, or during times that a shortage is declared by the NMMA-TG, District, State, or Federal government. Because shortages overlap stages, triggers automatically implement the more restrictive stage. Specific criteria for triggering the District's water use reduction stages are shown in **Table 2-3**.

Table 2-3: Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions
1	Up to 10%	Always in place with voluntary measures and outreach.
2	Up to 20%	Potentially Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan with goal of voluntary 20% reduction in groundwater production.
3	Up to 30%	Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan with goal of voluntary 30% reduction in groundwater production.
4	Up to 40%	Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan with goal of voluntary 30% reduction in groundwater production.
5	Up to 50%	Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan, lasting more than 1 year from the initial declaration; or Severe Water Shortage declaration pursuant to NMMA declaration triggered by both the Key Well Index and the Coastal Area Criterion with goal of voluntary 50% reduction in groundwater production.
6	>50%	Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan, lasting more than 2 years from the initial declaration, based on both the Key Well Index and Coastal Area Criterion with goal of voluntary 60% reduction in groundwater production.

Figure 2-2 provides a comparison that shows the District's water shortage levels (per NMMA defined drought levels) to those mandated by statute.

Figure 2-2: Comparison for the District's 2015 Shortage Levels and the 2020 WSCP Mandated Shortage Levels

Stages from 2015 UWMP			Crosswalk	2020 WSCP Mandated Shortage Levels			
Stage	**Percent Supply Red-uction**	**Water Supply Condition**		**Stage**	**Percent Supply Reduction**	**Water Supply Condition**	**Mandatory compliance with water savings measures**
1	0%	Always in place	→	1	0% to 10%	Normal	Voluntary, always in place
2	20%	Potentially Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan.	→	2	10% to 20%	Slightly Restricted	Mandatory compliance
3	30%	Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan.	→	3	20% to 30%	Moderately Restricted	Mandatory compliance
4	50%	Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan, lasting more than 1 year from the initial declaration; or Severe Water Shortage declaration pursuant to NMMA declaration triggered by both the Key Well Index and the Coastal Area Criterion	→	4	30% to 40%	Restricted	Mandatory compliance
5	60%	Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan, lasting more than 2 years from the initial declaration, based on both the Key Well Index and Coastal Area Criterion.	→	5	40% to 50%	Severely Restricted	Mandatory compliance
			→	6	50% and above	Extremely Restricted	Mandatory compliance

CHAPTER 3 WATER SHORTAGE RESPONSE ACTIONS

3.1 Shortage Response Actions

3.1.1 Demand Reduction

Table 3-1 summarizes the restrictions and prohibitions on end uses during each stage of water shortage response implemented by the District in accordance with CWC §10632(a)(4)(B). The shortage response actions are aligned to the six water shortage levels with the goal of reducing the gap between supply and demand by the required amount per level.

Table 3-1 Demand Reduction Actions

Stage	Demand Reduction Actions	Estimated Extent of Reducing the Water Shortage Gap	Penalty, Charge, or Other Enforcement?
1	Other - Education for water conservation methods.	Low	No
1	Other - Public outreach for voluntary reduction in water use by 15%	Low	No
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	High	Yes
1	Landscape - Limit landscape irrigation to specific times	High	Yes
1	Landscape - Restrict or prohibit runoff from landscape irrigation	Medium	Yes
1	Water Features - Restrict water use for decorative water features, such as fountains	High	Yes
1	Landscape- Check all irrigation systems periodically	Low	Yes
2	All Stage 1 reduction actions	Medium	Yes
2	Water Features- Cover swimming pools and spas when not in use	Low	Yes
2	Other - Prohibit use of potable water for washing hard surfaces	Low	Yes
3	All Stage 1 and 2 reduction actions	High	Yes
3	Landscape - Limit landscape irrigation to specific days	High	Yes
3	Other – Prohibit use of hoses without automatic shut-off devices	High	Yes
3	Landscape - Other landscape restriction or prohibition	High	Yes
3	Other – Prohibit use of potable water for construction and dust control	Low	Yes
3	Other - Turn off all automated irrigation systems	High	Yes
3	Water Features – Prohibit water use for decorative water features, such as fountains	High	Yes
4	All Stage 1,2 and 3 reduction actions	Medium	Yes
4	Landscape - Other landscape restriction or prohibition	High	Yes
5	All Stage 1,2,3 and 4 reduction actions	Medium	Yes
5	Landscape - Other landscape restriction or prohibition	High	Yes
6	All Stage 1,2,3,4 and 5 reduction actions	Medium	Yes

3.1.2 Supply Augmentation

Table 3-2 summarizes the restrictions and prohibitions on end uses during each stage of water shortage response implemented by the District in accordance with CWC §10632(a)(4)(B). The shortage response actions are aligned to the six water shortage levels with the goal of reducing the gap between supply and demand by the required amount per level.

Table 3-2: Supply Augmentation and Other Actions			
Stage	**Supply Augmentation Methods and Other Actions by Water Supplier**	**Estimated Extent of Reducing the Water Shortage Gap**	**Penalty, Charge, or Other Enforcement?**
All Stages	Expand Public Information Campaign	Medium	No
All Stages	Other - Demand Reduction Program	Medium	No
All Stages	Other - Use Prohibitions	Low	No
1 and 2	Other - Voluntary Water Use Reductions	Medium	No
3	Other - Flow Restriction	Medium	No
4	Other - Prohibit landscape irrigation	High	No
5 and 6	Other - Interrupt Irrigation Services	High	No

3.1.3 Operational Changes

In the event of an extreme water shortage the District will implement, if necessary, some or all of the following operational changes in accordance with CWC §10632(a)(4)(C) and §10632.5(a):

- ❑ The District shall provide prompt notice to customer whenever the District obtains information that indicates a leak may exist within the end-user's exclusive control. The customer must repair all leaks within twenty-four (24) hours of notification by the District.
- ❑ Restrict or prohibit the issuance of new water services.

3.1.4 Additional Mandatory Restrictions

District customers shall comply to the mandatory water shortage response actions listed in **Table 3-1** associated with a level 3 or higher water shortage event in accordance with §10632(a)(4)(D).

CHAPTER 4 EMERGENCY RESPONSE ACTIONS

4.1 Emergency Response Plan

A catastrophic event may result in a complete loss of water supplies for a temporary period lasting from a day to a week or more. Examples of catastrophic events include earthquakes, widespread power outage, contamination, long-term drought, or loss of imported supplies. Through information included in billing inserts, and information on its website, the District encourages its customers to be prepared for emergencies and potential interruption of water supply system. The District has an Emergency Response Plan which provides guidance for emergency situations. In the event of a catastrophic emergency the District will immediately declare and enact level six (6) water shortage level and response actions, shown in **Table 3-1.** The UWMP Act requires a catastrophic supply interruption plan. This plan looks at the vulnerability of each source and distribution system to events such as wildfires, flooding, earthquakes, landslides, rockslides, other natural disasters, and unforeseen emergencies. The actions taken to address each catastrophe are presented in **Table 4-1** below:

Table 4-1: Catastrophic Supply Interruption Actions

Possible Catastrophe	Summary of Actions
Wildfire Flooding	Notification of affected customers and implementation of voluntary and mandatory rationing, only if necessary, in the affected portions of the service area. Isolation, as needed, to minimize the area affected by flooding damage. Large scale system impact is not expected from flooding events.
Earthquake/ Fault Rupture/ Liquefaction	Emergency response plan procedures would go into effect. These procedures would insure any damaged sections of the distribution system were isolated; customers would be notified of the need to limit use; groundwater pumping would be established using backup generators if necessary; and water supply would be supplemented using water in storage.
Landslides/ Rockslides	Given the location and nature of District facilities, these events are not considered significant threats to the District water production or distribution system.

4.2 Seismic Risk Assessment and Mitigation Plan

The District provides water to its customers through a combination of groundwater wells and imported water from the City of Santa Maria. The distribution system is comprised of three pressure zones – Main, Blacklake, and Maria Vista Estates. Water to the Main Zone is delivered through the groundwater wells, Foothill Tanks, Standpipe Tank and the Joshua Road Pump Station, which conveys imported water from the City of Santa Maria. The District also operates two wastewater treatment facilities within the water service area.

With respect to the seismic risk assessment and mitigation plan, the District completed the America's Water infrastructure Act (AWIA) Risk and Resiliency Assessment (RRA) of the existing water distribution system in June 2021, which assessed seismic risk for the District's critical infrastructure. The District also has an existing Emergency Response Plan (ERP) that will be reviewed/updated as part of AWIA by December 31, 2021 and will include a mitigation plan to address seismic risk. The District has also developed catastrophic supply interruption actions, as stated in Section 4.1 of this chapter, that identifies the actions the District would implement following a seismic event.

In addition, the County of San Luis Obispo, in partnership with the District, developed a Multi-Jurisdictional Hazard Mitigation Plan (Hazard Plan), which evaluated seismic risk within District's service area. The following sections provide a summary of the general findings from the Hazard Plan with respect to potential impacts from earthquakes, faults, and liquefaction within the District's service area.

4.2.1 Faults, Earthquakes, and Liquefaction

Per the Hazard Plan, the following provides a description of major faults within the County of San Luis Obispo:

> *The California Geological Survey (CGS) is charged with recording and mapping faults throughout California. The Alquist-Priolo Earthquake Fault Zoning (AP) Act was passed into law following the destructive February 9, 1971 6.6 San Fernando earthquake. The AP Act provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the AP Act is to insure public safety by prohibiting the siting of most structures for human occupancy on or near active faults that constitute a potential hazard to structures from surface faulting or fault creep. Fault zoning is continually updated and reviewed by CGS and it is likely that other faults in addition to those currently listed by CGS will be added to the list in the future. The primary active faults identified by the AP Act in the County include the San Andreas, San Simeon-Hosgri, and Los Osos faults.*
>
> *San Andreas Fault: The San Andreas is a historically active fault thought to be capable of an earthquake up to and above the 8.0 magnitude range and generally runs along the eastern county border. It enters the County near the Cholame area, passes through the Carrizo Plain, and exits the county near Maricopa. As it passes through the County, three relatively distinct portions of the fault have separate potentials for causing a damaging earthquake. The portion of the fault that runs from Monterey County into San Luis Obispo County to an area near Cholame has commonly been known as the Parkfield segment of the San Andreas fault system. That portion of the fault system is the one that has an approximate 5.6 – 6.0 magnitude earthquake from time to time. A segment of the system that runs from approximately the Cholame area to about the northern edge of the Carrizo Plain area has been commonly known as the Cholame segment. The portion running from the northern Carrizo Plain area and out of the County into Kern County has been commonly known as the Carrizo segment.*
>
> *It is believed that in 1857 a large (possible 7.8 or larger) earthquake occurred on the San Andreas fault that possibly originated in the Parkfield area and stretched along the fault to the area near San Bernardino. This is perhaps an illustration of the potential for the San Andreas to cause a very powerful earthquake and the need to be prepared.*
>
> *A major earthquake along any section of the San Andreas Fault could result in serious damage within San Luis Obispo County. An earthquake of 8.0 or greater magnitude would result in severe ground motion and could cause damage throughout the County.*

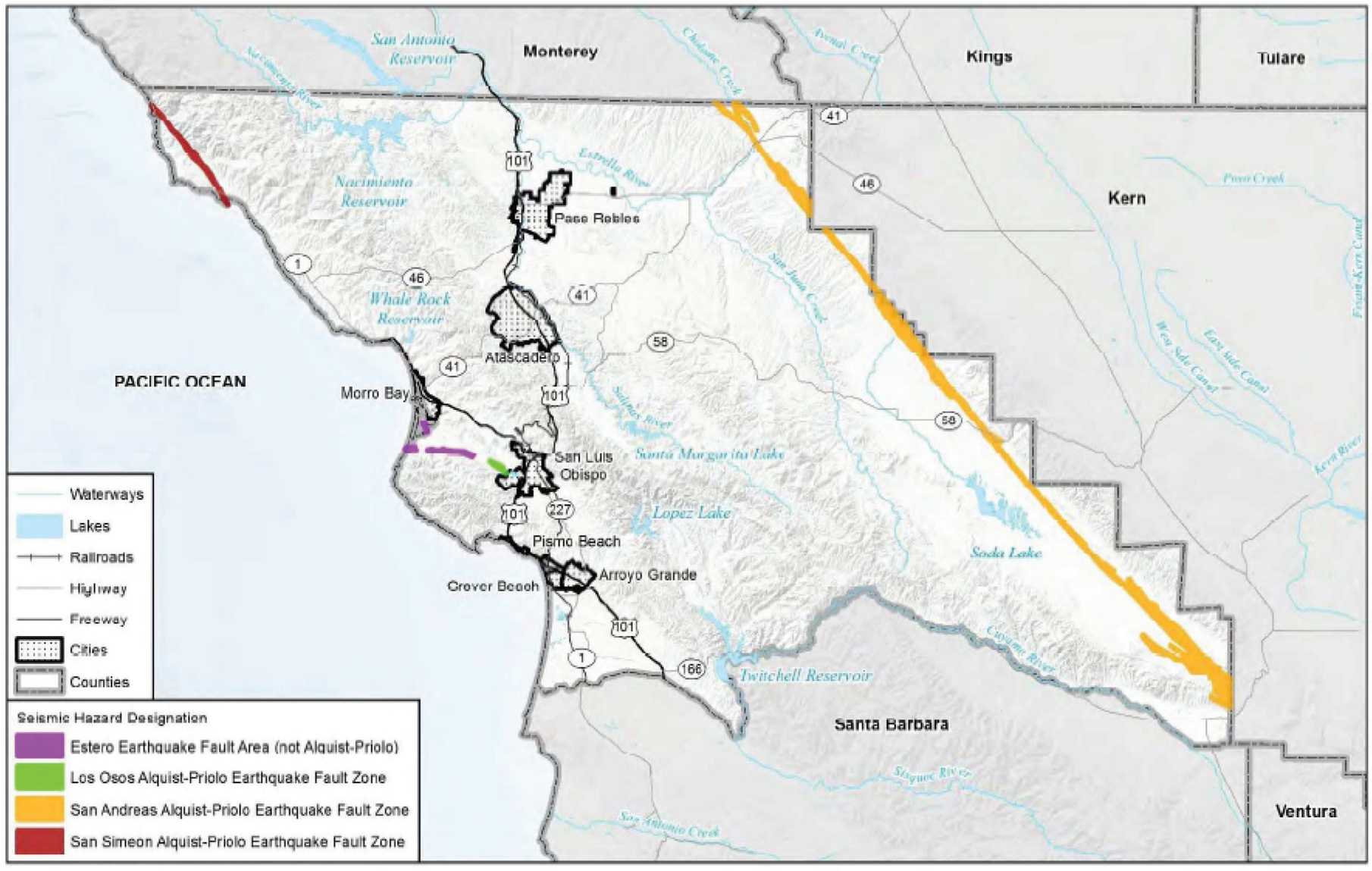
With respect to the District's service area, the Santa Maria River, Wilmer Avenue, Oceano and West Huasna faults are the closest in proximity and are described below based on the Hazard Plan:

> *The faults in the Nipomo area include the Santa Maria River, Wilmar Avenue, Oceano and West Huasna faults. The buried trace of the Santa Maria/Wilmar Avenue fault is inferred to parallel U.S. Highway 101 in the vicinity of Nipomo. The Oceano fault generally is trending northwest across the Nipomo Mesa and into the town of Oceano.*
>
> *The West Huasna fault is mapped along the eastern side of the valley. These faults generally have a subdued topographic expression and are considered to be potentially active by CSG. Review of the Oceano fault suggests that the fault is inactive. On the basis of that information, potentially active faults present moderate fault rupture hazard in the Nipomo area. The inactive Oceano fault presents a very low potential as a fault rupture hazard. Although the Oceano fault is inactive, it is often undesirable to site structures over any fault as a result of non-uniform foundation support conditions and the potential for co-seismic movement that could result from earthquakes on other nearby faults. Further studies to evaluate the activity of the Wilmar Avenue and West Huasna faults are warranted, prior to placing structures near the mapped fault traces.*

The Hazard Plan does not identify any specific risks of liquefaction in the District's service area.

Figure 4-1 provides an overview of the primary active earthquake fault lines described and **Figure 4-2** provides an overview of ground shaking potential across the County. Relevant sections of the Hazard Plan are included as Appendix B.

THIS PAGE LEFT INTENTIONALLY BLANK



Map compiled 2/2019,
intended for planning purposes only.
Data Source: San Luis Obispo County,
US Census TIGER Database, CA Open
Data Portal

Notes:
Map includes Figure 5-56 Earthquake Fault Zone Designations from San Luis Obispo County Local Hazard Mitigation Plan October 2019.

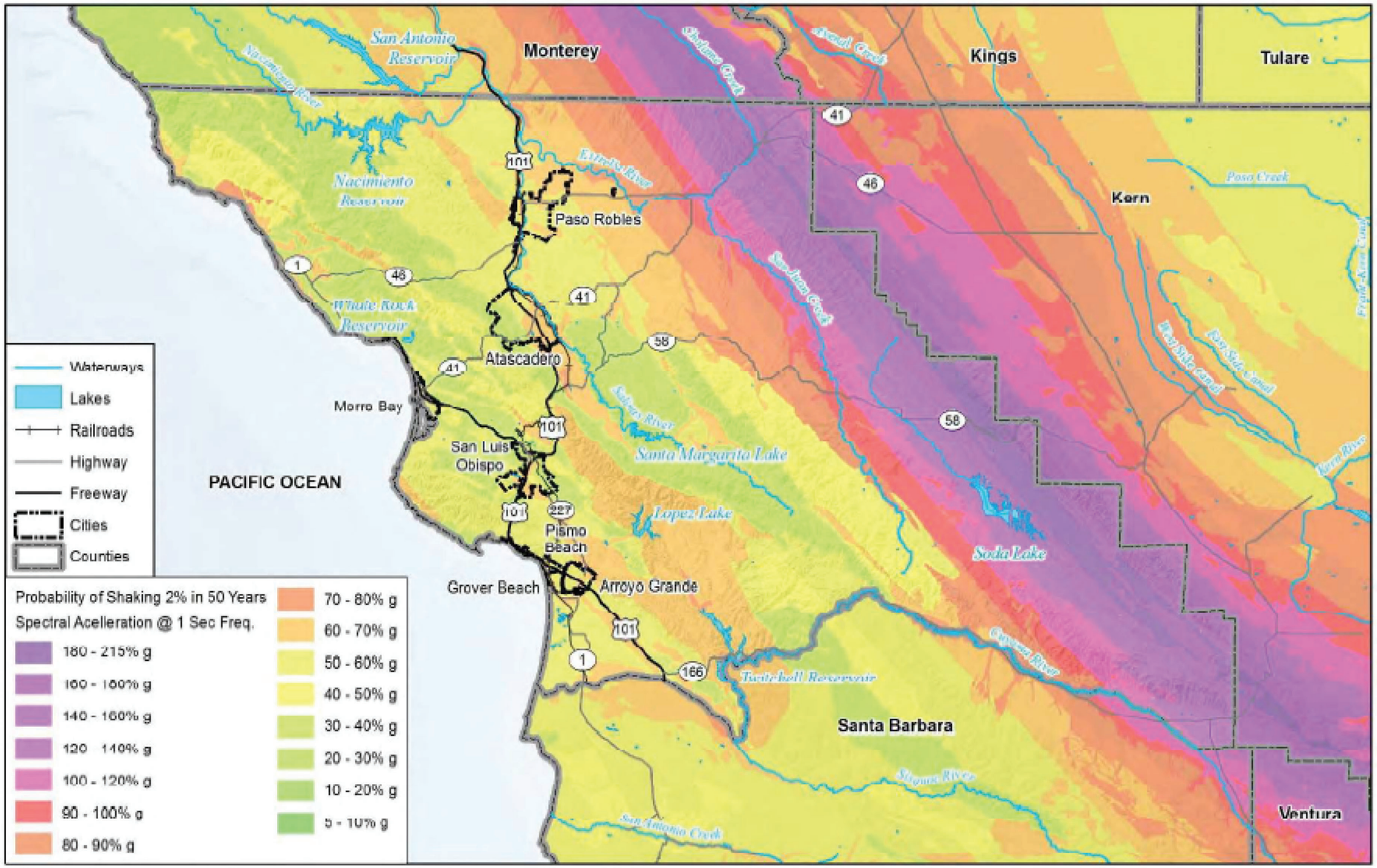
Nipomo Community Services District

2020 Urban Water Management Plan

Figure 4-1:

Earthquake Fault Line Map

THIS PAGE LEFT INTENTIONALLY BLANK



Map compiled 2/2019;
intended for planning purposes only.
Data Source: San Luis Obispo County, US Census TIGER Database, CA Open Data Portal, California Geological Survey, USGS

Notes:
Map includes Figure 5-54 Ground Shaking Potential From San Luis Obispo County Local Hazard Mitigation Plan October 2019.

Nipomo Community Services District

2020 Urban Water Management Plan

Figure 4-2:

Ground Shaking Potential Map

THIS PAGE LEFT INTENTIONALLY BLANK

4.2.2 Seismic Risk

Per the California Department of Conservation Earthquake Hazards Zone Application (EQ Zapp) and the area maps included in the Hazard Plan, the District's existing water distribution facilities were not identified to be within critical fault, liquefaction, or landslide hazard zones.

4.2.3 Mitigation

In the event of a system disruption to existing water supplies from an earthquake, fault rupture, or liquefaction response actions are described in the District's emergency response plan.

THIS PAGE LEFT INTENTIONALLY BLANK

CHAPTER 5 SHORTAGE RESPONSE EFFECTIVENESS

All water shortage response actions are intended to reduce the water demand below the available water supply, during a water shortage event. To ensure that all water response actions are effective in reducing the demand to the level necessary, the District will continue to routinely monitor water production levels monthly through the current in place meter system as described below in **Section 6.4** of this plan. If the shortage response actions are not effective in reducing water consumption to the required level the District will refine and update the water shortage response actions until effective.

5.1 Communication Protocols

The District will inform the public and the necessary local, regional, and state government entities regarding any current or predicted water shortages based on the results of the Annual Water Supply and Demand Assessment in accordance with CWC §10632(a)(5). The District will also notify all necessary entities of any shortage response actions mandated in response to the Annual Assessment. In the event of a water shortage due to an emergency, the District will follow emergency communication protocols outlined in the Emergency Response Plan as described by Section 4.1. **Table 5-1** summarizes communication protocols at each stage.

Table 5-1: Stages of Water Shortage Contingency Plan – Communication Protocols

Stage	Communication Protocol and Procedure	Recipient to be Notified
1	General conservation measures and resources will be posted on the District's website, published in the newsletter.	The public
2	Bill stuffers will be distributed to all customers that inform of the Potentially Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan with goal of voluntary 20% reduction in groundwater production. The Stage 2 water shortage response actions will be included in the newsletter and posted on the District's website.	The public
3	Bill stuffers will be distributed to all customers that inform of the Potentially Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan with goal of voluntary 30% reduction in groundwater production. The Stage 3 water shortage response actions will be included in the newsletter and posted on the District's website.	The public
4	Bill stuffers will be distributed to all customers that inform of the Potentially Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan with goal of voluntary 40% reduction in groundwater production. The Stage 4 water shortage response actions will be included in the newsletter and posted on the District's website.	The public
5	Bill stuffers will be distributed to all customers that inform of the Potentially Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan with goal of voluntary 50% reduction in groundwater production. The Stage 5 water shortage response actions will be included in the newsletter and posted on the District's website.	The public
6	Bill stuffers will be distributed to all customers that inform of the Potentially Severe Water Shortage Condition declaration pursuant to NMMA Water Shortage Condition and Response Plan with goal of voluntary 60% reduction in groundwater production. The Stage 6 water shortage response actions will be included in the newsletter and posted on the District's website.	The public

THIS PAGE LEFT INTENTIONALLY BLANK

CHAPTER 6 COMPLIANCE AND ENFORCEMENT

6.1 Compliance and Enforcement

The following compliance and enforcement actions to be taken by the District under a declared water shortage condition were developed in accordance with CWC §10632(a)(6).

The District's Board of Directors may impose a special water waste penalties against a customer's account and may temporarily or permanently discontinue or restrict, with a flow regulating device, water service to the affected property in the event that the customer or political entity is found by the Board to be in violation of any restrictions or prohibitions under a water shortage mandate declared by the Board.

Before taking such actions, the Board shall give any such customer thirty (30) days written notice and an opportunity to be heard and protest the finding of such violation and the imposition of such measure.

Table 6-1 summarizes the compliance measures that District may implement during a declared water shortage. The Board has determined that the surcharges listed below reasonably compensate District and its customers for all loss of water and other damages incurred and will foster water conservation within the service area. District will implement the following penalties and charges for excessive water use within its service areas:

Table 6-1: Excessive Water Use Penalties and Charges

Stage	Violation	Notices and Surcharges
1	1st	No person shall make, permit, approve or allow any water connections or extensions contrary to the provisions of this chapter. Any violations hereof shall constitute a misdemeanor punishable as provided by law.
1	2nd	Any violation of the provisions hereof shall also constitute a public nuisance. In addition to criminal prosecution or judicial abatement procedures otherwise authorized, the District shall have authority, after due not and public hearing, to abate any violations hereof terminating water service to all properties associated with or involved in the violation, and by assessing all costs of abatement against all property owners allowing, permitting or otherwise authorizing the illegal connection, water use or other violation.

6.2 Legal Authorities

The District is governed by a five (5) member Board of Directors who are elected every two years and serve a four-year term. The Board of Directors has the legal authority to implement and enforce any and all of the water shortage response actions of this WSCP.

In the event of a water shortage emergency where the ordinary demands and requirements of the District's cannot be satisfied without depleting District's water supply to the extent that there would be insufficient water for human consumption, sanitation, and fire protection the District Board of Directors will declare a water shortage condition in accordance with CWC Division 1, §350.

If the District's Board of Directors declares a water shortage emergency, the District shall coordinate with the City of Santa Maria and the County of San Luis Obispo to issue a proclamation of a local emergency in accordance with CWC §10632(a)(7)(D).

6.3 Financial Consequences of WSCP

The District recognizes that there are additional operating expenses associated with the various water shortage condition stages including, but not limited to: the hiring of a part-time water conservation technician; additional outreach and education; additional state reporting; additional monitoring of water use to gage the effectiveness of compliance efforts; responding to customers, inquiries and complaints; investigating and monitoring of violations of watering restrictions and prohibitions; and increased facilities, pumping, and utility costs. In addition, water sales revenues will decrease due to lower water use by the District's customers.

The District has established water rates that allow reasonable operating reserves to be maintained. These reserves are reviewed by the Board of Directors in a quarterly financial report. If projection indicate a depleting of these reserves, the Board of Director has sole discretion on adjusting water rates. To offset increased expenses, non-critical capital investments may be deferred.

6.4 Monitoring and Reporting

The District will monitor, analyze and report on water production and use data in accordance with CWC §10632(a)(9).

All District customer accounts are metered and meter classes include single-family residential, multi-family residential, mixed use, commercial, industrial, and landscape.

Under all water supply conditions, potable water production figures are recorded daily by Water Treatment Operators. Totals are reported monthly to the General Manager. The General Manager and District Engineer incorporates the information into a monthly water supply/demand report to the Board of Directors.

During a Stage 1 or Stage 2, water shortage, the General Manager compares the monthly production to the target monthly production to verify that the reduction goal is being met. The General Manager presents monthly reports to the Board of Directors. If reduction goals are not met, the General Manager will notify the Board of Directors so that corrective action can be taken.

During a Stage 3 water shortage or Stage 4, the procedures listed above are followed, with the addition of a bi-monthly production report to the Board of Directors.

During a Stage 5, 6, or an emergency event, reports may also be provided weekly to the Board of Directors. During emergency shortages, production figures are reported to the General Manager regularly or as needed.

CHAPTER 7 WSCP REFINEMENT, ADOPTION AND SUBMITTAL

7.1 WSCP Refinement Procedures

The WSCP is intended to implement water shortage mitigation strategies that can quickly and effectively reduce water demand during a water shortage event in accordance with CWC §10632(a)(10) . The water shortage response actions listed in Section 3.1 will be routinely monitored as outlined in Section 6.4. If shortage response actions are not effective in meeting the required water use reduction the District's Board of Directors will have the ability to amend the WSCP as deemed necessary.

7.1.1 Special Water Feature Distinction

The District specifically distinguishes between "Decorative Water Features" and all other water features in the WSCP. In the event of a water shortage potable water use for decorative water features such as fountains is prohibited, and only re-circulated water can be used to operate ornamental fountains or other decorative water features.

7.2 Plan Adoption, Submittal and Availability

The notice of the public hearing, held November 10, 2021 at the District's office, was sent to the City of Santa Maria and County of San Luis Obispo on September 10, 2021, in accordance with CWC §10632(a)(c). A copy of the letters from the District to the City and County are included in Appendix C of this WSCP.

Table 7-1: Notification to Cities and Counties

City Name	60 Day Notice	Notice of Public Hearing
City of Santa Maria	☑	☑
County Name	**60 Day Notice**	**Notice of Public Hearing**
San Luis Obispo	☑	☑

A public hearing was held on November 10, 2021 at the District's office. The public hearing provided opportunity for community input.

The WSCP update was adopted by the District on December 8, 2021 by approval of Resolution 2020-XXXX. A copy of the resolution can be viewed in Appendix D.

Within 30 days of adoption, the District will submit the WSCP update to the DWR for review. During the DWR review process the District will coordinate with DWR reviewers as necessary. The District will use the online submittal tool located at www.wuedata.water.ca.gov.secure/ developed by the DWR to electronically submit the WSCP update. Confirmation of the electronic submittal will be included in Appendix E.

Within 30 days of adoption, the District will submit a CD of the adopted WSCP to the California State Library at the following address:

California State Library
Government Publications Section
P.O. Box 942867
Sacramento, CA 94237-001
Attention: Coordinator, Urban Water Management Plans

A copy of the transmittal to the State Library will be included in Appendix E.

Within 30 days of adoption, the District will submit an electronic copy of the adopted WSCP update to the City of Santa Maria and the County of San Luis Obispo electronically in accordance with CWC Section 10632(a)(c). A copy of the transmittals to said agencies will be included in Appendix C.

Commencing no later than December 8, 2021, the District will have a copy of the WSCP update available for public review at the District Offices (see address below) during normal business hours and available on the District's website, https://ncsd.ca.gov/.

Nipomo Community Services District
148 S Wilson St.
Nipomo, CA 93444
Phone – 805.929.1133

Appendix K- 60 Day Notification to Cities and Counties

January 12, 2021

Mark Zimmer
Santa Maria CSA General Manager
Golden State Water Company
2330 A St Suite A
Santa Maria, CA 93455

SUBJECT: 2020 URBAN WATER MANAGEMENT PLAN UPDATE

Dear Mr. Zimmer,

The Nipomo Community Services District (District) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) for the 2020 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within the District's service area over a 20-year planning horizon.

The District encourages local agencies, the public, and other interested parties in its service area to participate in the update process. If necessary, a stakeholder workshop may be scheduled in February 2021 to review the administrative draft. The public draft of the UWMP is anticipated to be available for review in March 2021. The plan will be available for review on the District's website, https://ncsd.ca.gov/, or at its administrative office, 148 South Wilson Street, Nipomo, Monday through Friday, 8 a.m.-4:30 p.m.

Please send comments to:

Robert Lepore, GISP
MKN & Associates, Inc.
PO Box 1604
Arroyo Grande, CA 93421
(805) 904-6530
rlepore@mknassociates.us

The District will review and possibly take action on the updated UWMP at its June 2021 Board Meeting. Additional notice regarding the date and time of the June meeting will be published before the meeting.

Sincerely,

NIPOMO COMMUNITY SERVICES DISTRICT

Peter V. Sevcik

Peter Sevcik, P.E.
Director of Engineering and Operations

January 12, 2021

Shad Springer
Utilities Director
City of Santa Maria
110 E. Cook Street
Santa Maria, CA 93454

SUBJECT: 2020 URBAN WATER MANAGEMENT PLAN UPDATE

Dear Mr. Springer,

The Nipomo Community Services District (District) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) for the 2020 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within the District's service area over a 20-year planning horizon.

The District encourages local agencies, the public, and other interested parties in its service area to participate in the update process. If necessary, a stakeholder workshop may be scheduled in February 2021 to review the administrative draft. The public draft of the UWMP is anticipated to be available for review in March 2021. The plan will be available for review on the District's website, https://ncsd.ca.gov/, or at its administrative office, 148 South Wilson Street, Nipomo, Monday through Friday, 8 a.m.-4:30 p.m.

Please send comments to:

Robert Lepore, GISP
MKN & Associates, Inc.
PO Box 1604
Arroyo Grande, CA 93421
(805) 904-6530
rlepore@mknassociates.us

The District will review and possibly take action on the updated UWMP at its June 2021 Board Meeting. Additional notice regarding the date and time of the June meeting will be published before the meeting.

Sincerely,

NIPOMO COMMUNITY SERVICES DISTRICT

Peter V. Sevcik

Peter Sevcik, P.E.
Director of Engineering and Operations

January 12, 2021

Wade Horton
County Administrative Officer
County of San Luis Obispo
1055 Monterey Street
San Luis Obispo, CA 93408

SUBJECT: 2020 URBAN WATER MANAGEMENT PLAN UPDATE

Dear Mr. Horton,

The Nipomo Community Services District (District) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) for the 2020 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within the District's service area over a 20-year planning horizon.

The District encourages local agencies, the public, and other interested parties in its service area to participate in the update process. If necessary, a stakeholder workshop may be scheduled in February 2021 to review the administrative draft. The public draft of the UWMP is anticipated to be available for review in March 2021. The plan will be available for review on the District's website, https://ncsd.ca.gov/, or at its administrative office, 148 South Wilson Street, Nipomo, Monday through Friday, 8 a.m.-4:30 p.m.

Please send comments to:

Robert Lepore, GISP
MKN & Associates, Inc.
PO Box 1604
Arroyo Grande, CA 93421
(805) 904-6530
rlepore@mknassociates.us

The District will review and possibly take action on the updated UWMP at its June 2021 Board Meeting. Additional notice regarding the date and time of the June meeting will be published before the meeting.

Sincerely,

NIPOMO COMMUNITY SERVICES DISTRICT

Peter V. Sevcik

Peter Sevcik, P.E.
Director of Engineering and Operations

January 12, 2021

Robert Miller
General Manager
Woodlands Mutual Water Company
1775 Via Entrada Way
Nipomo, CA 93444

SUBJECT: 2020 URBAN WATER MANAGEMENT PLAN UPDATE

Dear Mr. Miller,

The Nipomo Community Services District (District) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) for the 2020 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within the District's service area over a 20-year planning horizon.

The District encourages local agencies, the public, and other interested parties in its service area to participate in the update process. If necessary, a stakeholder workshop may be scheduled in February 2021 to review the administrative draft. The public draft of the UWMP is anticipated to be available for review in March 2021. The plan will be available for review on the District's website, https://ncsd.ca.gov/, or at its administrative office, 148 South Wilson Street, Nipomo, Monday through Friday, 8 a.m.-4:30 p.m.

Please send comments to:

Robert Lepore, GISP
MKN & Associates, Inc.
PO Box 1604
Arroyo Grande, CA 93421
(805) 904-6530
rlepore@mknassociates.us

The District will review and possibly take action on the updated UWMP at its June 2021 Board Meeting. Additional notice regarding the date and time of the June meeting will be published before the meeting.

Sincerely,

NIPOMO COMMUNITY SERVICES DISTRICT

Peter V. Sevcik

Peter Sevcik, P.E.
Director of Engineering and Operations

Appendix L- Newspaper Notification

*** Proof of Publication ***

Proof of Publication
(2015.5 C.C.P)

State of California

SANTA MARIA TIMES

NIPOMO COMMUNITY SERV DISTRICT-LEGALS
LISA BOGNUDA
PO BOX 326
NIPOMO CA 93444
USA

ORDER NUMBER 49065

I am the principal clerk of the printer of the Santa Maria Times, newspaper of general circulation, printed and published in the city of Santa Maria, County of Santa Barbara, and which newspaper has been adjudged a newspaper of general circulation by the superior court of the County of Santa Barbara, State of California adjudication #463687.

That the notice of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Section: Legals
Category: 986 Legals
PUBLISHED ON: 10/08/2021 10/15/2021

TOTAL AD COST:	166.32
FILED ON:	10/15/2021

Dated at Santa Maria, CA

This 15th day of October, 2021

Teresa Ramirez

Signature

NOTICE OF PUBLIC HEARING

2020 URBAN WATER MANAGEMENT PLAN

NIPOMO COMMUNITY SERVICES DISTRICT

THE NIPOMO COMMUNITY SERVICES DISTRICT WILL HOLD A PUBLIC HEARING TO CONSIDER ADOPTION OF THE 2020 URBAN WATER MANAGEMENT PLAN (UWMP) AND WATER SHORTAGE CONTINGENCY PLAN (WSCP) ON NOVEMBER 10, 2021, AT 9:00 A.M. AT THE DISTRICTS JOHN S SEITZ BOARD ROOM 148 SOUTH WILSON STREET, NIPOMO, CALIFORNIA.

THE 2020 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN ARE AVAILABLE FOR REVIEW AT THE DISTRICT OFFICE AT 148 S WILSON STREET, BETWEEN THE HOURS OF 8:00 A.M. AND 4:00 P.M. MONDAY THROUGH FRIDAY AND ON THE DISTRICT'S WEBSITE AT NCSD.CA.GOV.

AFTER RECEIPT OF PUBLIC TESTIMONY, THE DISTRICT BOARD MAY APPROVE THE UWMP AND WSCP OR CONTINUE ITS APPROVAL OF THE UWMP AND WSCP TO ANOTHER DATE.

THE DISTRICT ENCOURAGES PUBLIC PARTICIPATION AND COMMENT.

Note: Publish on Friday, October 8 and October 15.

Legal #49065
Pub dates: Oct 8 & 15, 2021

McClatchy

Beaufort Gazette
Belleville News-Democrat
Bellingham Herald
Bradenton Herald
Centre Daily Times
Charlotte Observer
Columbus Ledger-Enquirer
Fresno Bee
The Herald - Rock Hill
Herald Sun - Durham
Idaho Statesman
Island Packet
Kansas City Star
Lexington Herald-Leader
Merced Sun-Star
Miami Herald
el Nuevo Herald - Miami
Modesto Bee
Raleigh News & Observer
The Olympian
Sacramento Bee
Fort Worth Star-Telegram
The State - Columbia
Sun Herald - Biloxi
Sun News - Myrtle Beach
The News Tribune Tacoma
The Telegraph - Macon
San Luis Obispo Tribune
Tri-City Herald
Wichita Eagle

AFFIDAVIT OF PUBLICATION

Account #	Order Number	Identification	Order PO	Amount	Cols	Depth
28444	147967	Print Legal Ad - IPL0043805	2020 Urban Water Manag	$153.36	1	35 L

Attention: Linda Bognuda

PO BOX 326
NIPOMO, CA 93444

NOTICE OF PUBLIC HEARING
2020 URBAN WATER
MANAGEMENT PLAN
NIPOMO COMMUNITY
SERVICES DISTRICT

THE NIPOMO COMMUNITY SERVICES DISTRICT WILL HOLD A PUBLIC HEARING TO CONSIDER ADOPTION OF THE 2020 URBAN WATER MANAGEMENT PLAN (UWMP) AND WATER SHORTAGE CONTINGENCY PLAN (WSCP) ON NOVEMBER 10, 2021, AT 9:00 A.M. AT THE DISTRICT'S JOHN S SEITZ BOARD ROOM 148 SOUTH WILSON STREET, NIPOMO, CALIFORNIA.

THE 2020 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN ARE AVAILABLE FOR REVIEW AT THE DISTRICT OFFICE AT 148 S WILSON STREET, BETWEEN THE HOURS OF 8:00 A.M. AND 4:00 P.M. MONDAY THROUGH FRIDAY AND ON THE DISTRICT'S WEBSITE AT NCSD.CA.GOV.

AFTER RECEIPT OF PUBLIC TESTIMONY, THE DISTRICT BOARD MAY APPROVE THE UWMP AND WSCP OR CONTINUE ITS APPROVAL OF THE UWMP AND WSCP TO ANOTHER DATE.

THE DISTRICT ENCOURAGES PUBLIC PARTICIPATION AND COMMENT.
IPL0043805
Oct 8,15 2021

In The Superior Court of The State of California
In and for the County of San Luis Obispo

No. of Insertions: 2
Beginning Issue of: 10/08/2021
Ending Issue of: 10/15/2021

Jane E. Durrand

Legals Clerk

STATE OF TEXAS)
SS
County of Dallas)

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen and not interested in the above entitled matter; I am now, and at all times embraced in the publication herein mentioned was, the principal clerk of the printers and publishers of The Tribune, a newspaper of general Circulation, printed and published daily at the City of San Luis Obispo in the above named county and state; that notice at which the annexed clippings is a true copy, was published in the above-named newspaper and not in any supplement thereof - on the following dates to wit; From 10/08/2021 To 10/15/2021 that said newspaper was duly and regularly ascertained and established a newspaper of general circulation by Decree entered in the Superior Court of San Luis Obispo County, State of California, on June 9, 1952, Case #19139 under the Government Code of the State of California.

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Amanda Grisham

Notary Public in and for the state of Texas, residing in Dallas County

AMANDA DAWN GRISHAM
My Notary ID # 132031326
Expires May 30, 2023

Extra charge for lost or duplicate affidavits.
Legal document please do not destroy!

Appendix M- Adoption Resolution

NIPOMO COMMUNITY SERVICES DISTRICT
RESOLUTION NO. 2021-1608

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE NIPOMO COMMUNITY SERVICES DISTRICT ADOPTING THE URBAN WATER MANAGEMENT PLAN 2020 UPDATE

WHEREAS, California Water Code Section 10621(a) requires each urban water supplier to update its urban water management plan at least once every five years on or before December 31, in years ending in five and zero; and

WHEREAS, pursuant to Water Code Section 10621(b), NCSD notified the County of San Luis Obispo on September 10, 2021, that it would be preparing its 2020 UWMP, and subsequently met with, or consulted with and obtained comments from the San Luis Obispo County, the City of Santa Maria, Golden State Water Company, and Woodlands Mutual Water Company; and

WHEREAS, Nipomo Community Services District (NCSD) began its public outreach and community involvement in the preparation of the Draft Urban Water Management Plan 2020 Update (UWMP) on August 20, 2021, with its scheduled agency coordination meeting to discuss the project; and

WHEREAS, on October 15, 2021, the Draft UWMP 2020 Update was posted to NCSD's website; and

WHEREAS, on November 10, 2021, NCSD held a public hearing properly noticed pursuant to Water Code Section 10642 and Government Code Section 6066, at which time NCSD's Board of Directors reviewed the Draft UWMP 2020 Update and, as part of that review, considered a presentation of the Draft UWMP 2020 Update by its staff and consultants, oral and written public comments; and

WHEREAS, pursuant to Water Code Section 10620(d)(2), NCSD coordinated the preparation of its Draft UWMP 2020 Update with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable; and

WHEREAS, pursuant to Water Code Section 10620(f), NCSD describes in the Draft UWMP 2020 Update water management tools and options used by NCSD that will maximize resources and minimize the need to import water from other regions; and

WHEREAS, pursuant to Water Code Section 10642, NCSD encouraged the active involvement of diverse social, cultural, and economic elements of the population within its service area prior to and during the preparation of the Draft UWMP 2020 Update, which included, but is not limited to, posting the Draft UWMP 2020 Update on NCSD's website; distributing the Notice of Availability of the Draft UWMP 2020 Update to the City of Santa Maria, the County of San Luis Obispo, and numerous other interested parties, holding a public meetings on November 10, 2021, regarding the Draft UWMP 2020 Update and coordinating the preparation of the Draft UWMP 2020 Update with the local retail water agencies; and

WHEREAS, to assure public participation in the process, NCSD has met the requirements of the UWMP Act, by holding at least one public hearing; and

WHEREAS, the NCSD Board of Directors has considered the public and Board comments made at the public hearing, as well as written public comments on the Draft UWMP 2020 Update distributed to the Board of Directors; and

RESOLUTION NO. 2021-1608

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE NIPOMO COMMUNITY SERVICES DISTRICT ADOPT THE URBAN WATER MANAGEMENT PLAN 2020 UPDATE

WHEREAS, the NCSD Board of Directors has carefully reviewed the Draft UWMP 2020 Update, the erratas and any modifications made at the hearing; and

WHEREAS, NCSD Board of Directors finds that the Revised Final Draft UWMP 2020 Update is fully adequate and complete in its compliance with the requirements of the UWMP Act, and further finds that the conclusions reached in the Revised Final Draft UWMP 2020 Update are supported by substantial evidence.

NOW, THEREFORE, BE IT RESOLVED, DETERMINED AND ORDERED BY THE BOARD OF DIRECTORS OF THE NIPOMO COMMUNITY SERVICES DISTRICT does hereby adopt the Final Draft UWMP 2020 Update attached hereto as Exhibit "A" and incorporated herein by this reference, including the erratas and modifications made at the December 8, 2021 adoption meeting as NCSD's Urban Water Management Plan 2021 Update;

1. RESOLVED FURTHER that NCSD shall implement the UWMP 2020 Update in accordance with the schedule set forth therein;
2. RESOLVED FURTHER that NCSD shall submit to the Department of Water resources, the California State Library, and the City of Santa Maria and San Luis Obispo County a copy of the UWMP 2020 Update;
3. RESOLVED FURTHER that NCSD shall make the UWMP 2020 Update available for public review at NCSD administrative offices at 148 South Wilson Street, Nipomo, California during normal business hours.
4. RESOLVED FURTHER that the above Recitals are incorporated herein and support the adoption of the Final Draft UWMP 2020 Update.

On the motion by Director Armstrong, seconded by Director Woodson, and on the following roll call vote, to wit:

AYES: Director Armstrong, Woodson, Malvarose, Gaddis, and Eby
NOES: NONE
ABSENT: NONE
ABSTAIN: NONE

The foregoing resolution is hereby adopted this 8th day of December, 2021.

Ed Eby, President
Nipomo Community Services District

ATTEST:

Mario E. Iglesias
General Manager and Secretary to the Board

APPROVED AS TO FORM:

Craig A. Steele
General Counsel

RESOLUTION NO. 2021-1608

**A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE NIPOMO COMMUNITY SERVICES DISTRICT
ADOPT THE URBAN WATER MANAGEMENT PLAN 2020 UPDATE**

EXHIBIT "A"

UWMP 2020 UPDATE

(Attached hereto)

Appendix N- 2020 UWMP Checklist

Appendix F: UWMP Checklist

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	
x	x	Chapter 1	10630.5	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	
x	x	Section 2.2	10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	2-1
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 2.6	10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	2-2
x	x	Section 2.6.2	10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan Preparation	2-3
x		Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	2-3, 6-1
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)

	x	Section 2.6	10631(h)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	
x	x	Section 3.1	10631(a)	Describe the water supplier service area.	System Description	3-1
x	x	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	3-2
x	x	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	3-6
x	x	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	3-7
x	x	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	3-6
x	x	Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	3-7
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	4-1
x	x	Section 4.2.4	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	4-3
x	x	Section 4.2.6	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws.	System Water Use	4-4
x	x	Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	4-4
x	optional	Section 4.3.2.4	10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	
x	optional	Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	4-7
x	x	Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	4-7
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)

x		Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	5-1
x		Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	5-1
	x	Section 5.1	10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	5-1
x		Section 5.2	10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	5-3
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5-year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	
x		Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	5-3
x	x	Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.	System Supplies	6-1
x	x	Sections 6.1	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, *including changes in supply due to climate change.*	System Supplies	6-1
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	6-1

x	x	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	6-1
x	x	Section 6.2.8	10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.	System Supplies	6-11
x	x	Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	6-3
x	x	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	6-3
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	6-3
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	6-3
x	x	Section 6.2.2.1	10631(b)(4)(B)	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	6-3
x	x	Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	6-3
x	x	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	6-3
x	x	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long- term basis.	System Supplies	6-11
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	6-6
x	x	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	6-6

x	x	Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	6-6
x	x	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	6-7
x	x	Section 6.2.5	10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	6-7
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	6-7
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	6-10
x	x	Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area with quantified amount of collection and treatment and the disposal methods.	System Supplies (Recycled Water)	6-6
x	x	Section 6.2.8, Section 6.3.7	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.	System Supplies	6-11
x	x	Section 6.4 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Suppliers, Energy Intensity	6-13
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 7.2	10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	
x	x	Section 7.2.4	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	7-7

x	x	Section 7.3	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	7-1
x	x	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	7-7
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.	Water Supply Reliability Assessment	7-7
x	x	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	7-7
x	x	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	7-7
x	x	Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	7-7
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	8-1
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Water Shortage Contingency Planning	8-1
x	x	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	8-8
x	x	Section 8.2	10632(a)(2)(A)	Provide the written decision- making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	8-1

x	x	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	8-1
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water Shortage Contingency Planning	8-2
x	x	Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	8-2
x	x	Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	8-5
x	x	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	8-5
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	8-5
x	x	Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	8-5
x	x	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	8-5
x	x	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	8-6
x	x	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	8-6

x	x	Section 8.5 and 8.6	10632(a)(5)(B) 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	8-6
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 8.6	10632(a)(6)	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	8-7
x	x	Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	8-7
x	x	Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	8-7
x	x	Section 8.7	10632(a)(7)(C)	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	8-7
x	x	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	8-7
x	x	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	8-7
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 8.8	10632(a)(8)(C)	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought	Water Shortage Contingency Planning	8-7
x		Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	8-7
x		Section 8.11	10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water Shortage Contingency Planning	8-8

x	x	Sections 8.12 and 10.4	10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	8-8
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 8.14	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan.	Water Shortage Contingency Planning	8-8
	x	Sections 9.1 and 9.3	10631(e)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	9-1
x		Sections 9.2 and 9.3	10631(e)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	9-3
x		Chapter 10	10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	10-2
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	10-1
x	x	Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	10-3
x	x	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	10-1, 10-2
x	x	Section 10.2.2	10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	10-1

x	x	Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	10-2
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	10-3
x	x	Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	10-3
x	x	Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	10-3
x	x	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	10-4
x	x	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	10-4
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 10.6	10621(c)	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	10-4
x	x	Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	

Appendix O- UWMP Water Code

CHAPTER 1 INTRODUCTION AND OVERVIEW

1.1 UWMP Organization

1.2 UWMP in Relation to Other Efforts

1.3 UWMPs and Grant or Loan Eligibility

Law

CWC 10608.56
(a) On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

(c) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for achieving the per capita reductions. The supplier may request grant or loan funds to achieve the per capita reductions to the extent the request is consistent with the eligibility requirements applicable to the water funds.

(e) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval documentation demonstrating that its entire service area qualifies as a disadvantaged community.

(f) The department shall not deny eligibility to an urban retail water supplier or agricultural water supplier in compliance with the requirements of this part and Part 2.8 (commencing with Section 10800), that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).

CWC 10608.56
An urban water supplier is not eligible for a water grant or loan awarded or administered by the state unless the urban water supplier complies with this part.

California Code of Regulations Section 596.1 (b)(2) "disadvantaged community" means a community with a median household income that is less than 80 percent of the statewide annual median household income.

CHAPTER 2 PLAN PREPARATION

2.1 Plan Preparation

2.2 Basis for Preparing a Plan

Law

CWC 10617
"Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems.

CWC 10620
(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

CWC 10621
(a) Each urban water supplier shall update its plan at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update.

(d) Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.

2.2.1 Public Water Systems

Law

CWC 10644
(a)(2) The plan, or amendments to the plan, submitted to the department … shall include any standardized forms, tables, or displays specified by the department.

(h) "Public Water System" means a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year

2.2.2 Suppliers Serving Multiple Service Areas/Public Water Systems

2.3 Regional Planning

2.4 Individual or Regional Planning and Compliance

2.4.1 Regional UWMP

Law

CWC 10620

(d)(1) An urban water supplier may satisfy the requirements of this part by participation in area wide, regional, watershed, or basin wide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.

2.4.2 Regional Alliance

Law

CWC 10608.20

(a)(1) …Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis as provided in subdivision (a) of Section 10608.28…

CWC 10608.28
(a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement by any of the following:
(1) Through an urban wholesale water supplier.
(2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 (commencing with Section 81300)).
(3) Through a regional water management group as defined in Section 10537.
(4) By an integrated regional water management funding area.
(5) By hydrologic region.
(6) Through other appropriate geographic scales for which computation methods have been developed by the department.

(b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.

2.5 Fiscal or Calendar Year and Units of Measure

2.5.1 Fiscal or Calendar Year

Law

CWC 1608.20
(a)(1) Urban retail water suppliers…may determine the targets on a fiscal year or calendar year basis

2.5.2 Reporting Complete 2020 Data

The 2020 UWMP includes water use and planning data for the entire calendar year of 2020.

2.5.3 Units of Measure

Water volumes presented in this 2020 UWMP are measured in acre-feet (AF) as identified in **Table 2-3**.

2.6 Coordination and Outreach

2.6.1 Wholesale and Retail Coordination

Law

CWC 10631
(j) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).

2.6.2 Coordination with Other Agencies and the Community

Law

CWC 10620
(d)(3) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

CWC 10642
Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.

2.6.3 Notice to Cities and Counties

Law

CWC 10621 (b)
Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

CHAPTER 3 SYSTEM DESCRIPTION

New Requirements for 2020 Update

Law

CWC Section 10631
Describe the service area of the supplier, including current and projected population, climate, and other social, economic, and demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available. The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

3.1 General Description

3.2 Service Area Boundary Maps

3.3 Service Area Climate

Law

CWC Section 10631(a)
Describe the service area of the supplier, including climate.

CWC Section 10630
It is the intention of the Legislature, in enacting this part, to permit levels of water management planning… while accounting for impacts of climate change.M

3.4 Service Area Population and Demographics

3.4.1 Service Area Population

Law

CWC Section 10631(a)
Describe the service area of the supplier, including current and projected population …The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

3.4.2 Other Social, Economic, and Demographic Factors

3.4.2.1 Relevant County of San Luis Obispo Land Use Ordinances

3.4.2.2 Nipomo Mesa Management Area

3.4.2.3 Accessory Dwelling Unit (ADU) Ordinance

Law

CWC Section 10631
Describe the service area of the supplier, including… other social, economic and demographic factors affecting the supplier's water management planning.

3.5 Land Uses within Service Area

Law

CWC Section 10631(a)
The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities…

CHAPTER 4 WATER USE CHARACTERIZATION

4.1 Non-Potable Versus Potable Water Use

4.2 Past, Current, and Projected Water Use by Sector

Law

CWC 10635

(a) Every urban water Supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

CWC 10631 (d)

(1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following…

(2). The water use projections shall be in the same five-year increments described in subdivision (a).

(4)(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following: (i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections. (ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

4.2.1 Water Use Sectors Listed in Water Code

Law

CWC 10631(d)

(1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural

(J) Distribution system water loss

4.2.2 Water Use Sectors in Addition to Those Listed in Water Code

4.2.3 Past Water Use

4.2.4 Distribution System Water Loss

Law

CWC 10631(d)(1)
For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following…

(J) Distribution system water loss….

CWC 10631(d)(3)
(A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34
(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.
(C) In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.

4.2.5 Current Water Use

4.2.6 Projected Water Use

Law

CWC 10635
(a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

CWC 10631
(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available… The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

CWC 10631(d)(4)

(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following:

(i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.

(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

4.2.7 Characteristic Five-Year Water Use

Law

CWC 10635(b)

Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following…

(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period. [Emphasis added]

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

4.3 Worksheets and Reporting Tables

4.4 Water Use for Lower Income Households

Law

CWC 10631.1

(a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

California Health and Safety Code Section 50079.5 (a)

"Lower income households" means persons and families whose income does not exceed the qualifying limits for lower income families… In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.

4.5 Climate Change Considerations

4.6 Guidance for Wholesale Suppliers

Law

CWC 10608.12. (w)

"Urban wholesale water supplier," means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

4.7 SB X7-7 Forms and Summary Tables

4.7.1 SB X7-7 Verification Form (Baselines and Targets)

4.7.2 SB X7-7 2020 Compliance Form

4.7.3 Submittal Tables 5-1 and 5-2

4.7.4 Regional UWMP/Regional Alliance

4.8 Baseline and Target Calculations for 2020 UWMPs

4.8.1 Supplier Submitted 2015 UMWP, No Change to Service Area

4.8.2 Supplier Did Not Submit 2015 UWMP

4.8.3 Supplier Newly Subject to UWMP Requirements

4.8.4 Distribution Area Expansion

4.8.5 Distribution Area Contraction

4.8.6 Large Partial Customers Become Whole Customers

4.9 Methods for Calculating Population and Gross Water Use

4.9.1 Service Area Population

Law

CWC 10608.20
(e) An urban retail water supplier shall include in its urban water management plan due in 2010… the baseline per capita water use… along with the bases for determining those estimates, including references to supporting data.

(f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.

CWC 10644
(a)(2) The plan…shall include any standardized forms, tables or displays specified by the department.

4.9.2 Gross Water Use

Law

CWC 10608.12
(g) "Gross Water Use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

(1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier

(2) The net volume of water that the urban retail water supplier places into long term storage

(3) The volume of water the urban retail water supplier conveys for use by another urban water supplier

(4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.

California Code of Regulations Title 23 Division 2 Chapter 5.1 Article
Section 596 (a) An urban retail water supplier that has a substantial percentage of industrial water use in its service area is eligible to exclude the process water use of existing industrial water customers from the calculation of its gross water use to avoid a disproportionate burden on another customer sector.

4.10 2020 Compliance Daily Per-Capita Water Use (GPCD)

Law

CWC 10608.12
(f) "Compliance daily per-capita water use" means the gross water use during the final year of the reporting period…

CWC 10608.20
(e) An urban retail water supplier shall include in its urban water management plan due in 2010 . . . compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

4.10.1 2020 Adjustments for Factors Outside of Supplier's Control

Law

CWC 10608.24
(d)(1) When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:

(A) Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.

(B) Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.

(C) Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.

(2) If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.

Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use, Methodology 4
This section discusses adjustments to compliance-year GPCD because of changes in distribution area caused by mergers, annexation, and other scenarios that occur between the baseline and compliance years.

4.10.2 Special Situations

4.10.3 If Supplier Does Not Meet 2020 Target

4.11 Regional Alliance

CHAPTER 5 WATER SUPPLY CHARACTERIZATION

5.1 Water Supply Analysis Overview

Law

CWC 10631 (b)
Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier [in five-year increments to 20 years or as far as data is available]1 providing supporting and related information, including all of the following:

(1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.
(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.
(3) For any planned sources of water supply, a description of the measures that are being undertaken to acquire and develop those water supplies.

CWC 10631 (h)
An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

5.2 Water Supply Characterization

5.2.1 Purchased or Imported Water

5.2.2 Groundwater

Law

CWC 10631 (b)(4)
If groundwater is identified as an existing or planned source of water available to the supplier, all the following information shall be included in the plan:

(A) The current version of any groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720), any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management for basins underlying the urban water supplier's service area.

(B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For a basin that has not been adjudicated, information as to whether the department has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to coordinate with groundwater sustainability agencies or groundwater management agencies listed in subdivision (c) of Section 10723 to maintain or achieve sustainable groundwater conditions in accordance with a groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720).

(C) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(D) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

5.2.2.1 Basin Description

5.2.2.2 Groundwater Management

5.2.2.3 Overdraft Conditions

Law

CWC 10631
(b) ...If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

5.2.2.4 Past Five Years

5.2.3 Surface Water

5.2.4 Stormwater

5.2.5 Wastewater and Recycled Water

Law

CWC 10633
The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.
(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

5.2.5.1 Recycled Water Coordination

Law

CWC 10633
The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area…

5.2.5.2 Wastewater Collection, Treatment, and Disposal

Law

CWC 10633 (a)
A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

5.2.5.3 Recycled Water System Description

Law

CWC 10633 (c)
A description of the quantity of recycled water currently being used in the supplier's service area, including but not limited to, the type, place, and quantity of use.

5.2.5.4 Potential, Current, and Projected Recycle Water Uses

Law

CWC 10633
(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

5.2.5.5 Actions to Encourage and Optimize Future Recycled Water Use

Law

CWC 10633
The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier… and shall include the following:

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

5.2.6 Desalinated Water Opportunities

Law

CWC 10631
(g) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

5.2.7 Water Exchanges and Transfers

Law

CWC 10631 (c)
Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

5.2.8 Future Water Projects

Law

CWC 10631 (f)
Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs… that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

5.2.9 Summary of Existing and Planned Sources of Water

Law

CWC 10631
(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision 10631(a), providing supporting and related information, including all of the following…

(b)(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.

(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

5.2.9.1 Description of Supplies

5.2.9.2 Quantification of Supplies

5.2.10 Special Conditions

5.2.10.1 Climate Change Effects

5.2.10.2 Regulatory Conditions and Project Development

5.2.10.3 Other Locally Applicable Criteria

5.3 Submittal Tables

5.4 Energy Intensity

Law

CWC 10631.2. (a)
In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:

(1) An estimate of the amount of energy used to extract or divert water supplies.

(2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.

(3) An estimate of the amount of energy used to treat water supplies.

(4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.

(5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.

(6) An estimate of the amount of energy used to place water into or withdraw from storage.

(7) Any other energy-related information the urban water supplier deems appropriate.

CHAPTER 6 WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

6.1 Introduction

6.2 Water Service Reliability Assessment

Law

CWC 10635

(a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional or local agency population projections within the service area of the urban water supplier.

6.2.1 Service Reliability - Constraints on Water Sources

Law

CWC 10631

(b)(1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

6.2.2 Service Reliability - Year Type Characterization

6.2.3 Water Service Reliability

Law

CWC 10631

(a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

6.2.3.1 Water Service Reliability – Normal Year Supply

6.2.3.2 Water Service Reliability – Single Dry Year

6.2.3.3 Water Service Reliability – Five Consecutive Dry Year Supply and Demand Comparison

6.2.4 Description of Management Tools and Options

Law

CWC 10620 (f)
An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

6.3 Drought Risk Assessment

Law

CWC 10635(b)

Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following:

(1) A description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive water years, starting from the year following when the assessment is conducted.

(2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.

(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria..

6.3.1 Data, Methods, and Basis for Water Shortage Condition

6.3.2 DRA Individual Water Source Reliability

6.3.3 Total Water Supply and Use Comparison

CHAPTER 7 WATER SHORTAGE CONTINGENCY PLAN

Law

CWC 10632
(a) The plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier.

7.1 Water Supply Reliability Analysis

Law

CWC 10632(a)(1)
The analysis of water supply reliability conducted pursuant to Section 10635.

7.2 Annual Water Supply and Demand Assessment Procedures

Law

CWC 10632(a)(2)
The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:

(A) The written decision-making process that an urban water supplier will use each year to determine its water supply reliability.

(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:

- *(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.*
- *(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.*
- *(iii) Existing infrastructure capabilities and plausible constraints.*
- *(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.*
- *(v) A description and quantification of each source of water supply.*

CWC 10632.1.
An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before July 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan. An urban water supplier that relies on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by July 1 of each year, whichever is later.

7.2.1 Decision- Making Process

7.2.2 Data and Methodologies

7.3 Six Standard Water Shortage Levels

Law

CWC 10632(a)(3)

(A) Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers'

water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.
(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and including a cross-reference relating its existing categories to the six standard water shortage levels.

7.4 Shortage Response Actions

Law

CWC 10632
(a)(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

(a)(4) Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:

(A) Locally appropriate supply augmentation actions.

(B) Locally appropriate demand reduction actions to adequately respond to shortages.

(C) Locally appropriate operational changes.

(D) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.

(E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

7.4.1 Demand Reduction

7.4.2 Supply Augmentation

7.4.3 Operational Changes

7.4.4 Additional Mandatory Restrictions

7.4.5 Emergency Response Plan

7.4.6 Seismic Risk Assessment and Mitigation Plan

Law

CWC 10632.5. (a)
In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.

(b) An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.

(c) An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multihazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multihazard mitigation plan addresses seismic risk.

7.4.7 Shortage Response Action Effectiveness

7.5 Communication Protocols

Law

CWC 10632 (a)(5)
Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, all of the following:

(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.
(B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1.

7.6 Compliance and Enforcement

Law

CWC 10632 (a)(6)
For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined pursuant to Section 10632.2.

7.7 Legal Authorities

Law

CWC 10632 (a)(7)
(A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.
(B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1. [see below]
(C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

CWC Division 1, Section 350
Declaration of water shortage emergency condition. The governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, shall declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

7.8 Financial Consequences of WSCP

Law

CWC 10632 (a)(8)
A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:

(A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.

7.9 Monitoring and Reporting

Law

CWC 10632 (a)(9)

For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

7.10 WSCP Refinement Procedures

Law

CWC 10632 (a)(10)

Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.

7.11 Special Water Feature Distinction

Law

CWC 10632 (b)

For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

7.12 Plan Adoption, Submittal and Availability

CHAPTER 8 DEMAND MANAGEMENT MEASURES

New Requirements for 2020 Update

8.1 Demand Management Measures for Wholesale Suppliers

8.2 Existing Demand Management Measures for Retail Suppliers

Law

CWC 10631
(e)Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1)(A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.
(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:

(i) Water waste prevention ordinances.

(ii) Metering.

(iii) Conservation pricing.

(iv) Public education and outreach.

(v) Programs to assess and manage distribution system real loss.

(vi) Water conservation program coordination and staffing support.

(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented

8.2.1 Water Waste Prevention Ordinances

8.2.2 Metering

Law

CWC 526
(a) Notwithstanding any other provisions of law, an urban water supplier that, on or after January 1, 2004, receives water from the federal Central Valley Project under a water service contract or subcontract... shall do both of the following:

(1) On or before January 1, 2013, install water meters on all service connections to residential and nonagricultural commercial buildings... located within its service area.

CWC 527
(a) An urban water supplier that is not subject to Section 526 shall do both the following:

(1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.

CHAPTER 9 PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

9.1 Inclusion of all 2015 Data

9.2 Notice of Public Hearing

9.2.1 Notice to Cities and Counties

Law

CWC 10621
(b) Every urban water supplier required to prepare a plan shall… at least 60 days prior to the public hearing on the plan … notify any city or county within which the supplier provides waters supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

CWC 10642
…The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area…

9.2.1.1 60 Day Notification

9.2.1.2 Notice of Public Hearing

9.2.1.3 Submittal TABLES

9.2.2 Notice to the Public

Law

CWC 10642
…Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection…Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code…

Government Code 6066
Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.

9.3 Public Hearing and Adoption

Law

CWC 10642
…Prior to adopting either, the [plan or water shortage contingency plan], the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon.

CWC 10608.26
(a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:

(1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.

(2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.

(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20 for determining its urban water use target.

9.3.1 Public Hearing

9.3.2 Adoption

Law

CWC 10642
…After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing.

9.4 Plan Submittal

Law

CWC 10621
(e) Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021…

CWC 10644
(a)(1) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption.

(a)(2) The plan, or amendments to the plan, submitted to the department… shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.

CWC 10635
(c) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

9.4.1 Submitting a UWMP and Water Shortage Contingency Plan to DWR

9.4.2 Electronic Data Submittal

Law

CWC 10644
(a)(2) The plan, or amendments to the plan, submitted to the department… shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.

9.4.3 Submitting a UWMP to the California State Library

9.4.4 Submitting a UWMP to Cities and Counties

9.5 Public Availability

Law

CWC 10645
(a) Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.
(b) Not later than 30 days after filing a copy of its water shortage contingency plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

9.6 Notification to Public Utilities Commission

Law

CWC 10621(c)
An urban water supplier regulated by the Public Utilities Commission shall include its most recent plan and water shortage contingency plan as part of the supplier's general rate case filings.

9.7 Amending an Adopted UWMP or Water Shortage Contingency Plan

Law

CWC 10621
(d) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

(a)(1) Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

9.7.1 Amending a UWMP

9.7.2 Amending a Water Shortage Contingency Plan