



Technical Memorandum

To Core Team

Subject Technical Peer Review Meeting Handout #3, Outline, Checklist, Bibliography, and Call for Data

Project San Pasqual Valley Groundwater Basin
Groundwater Sustainability Plan

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Date November 7, 2019

Introduction

This technical memorandum (TM) has been prepared to help guide reviewers during review of handout materials from the first Technical Peer Review (TPR) meeting. There are five handouts (attached) as follows:

- **Attachment A:** Updated Preliminary Outline of *Groundwater Sustainability Plan (GSP)* Section 2—Plan Area, Section 3—Hydrogeologic Conceptual Model, and Section 4—Groundwater Conditions
- **Attachment B:** California Department of Water Resources’ (DWR’s) *Preparation Checklist for GSP Submittal (DWR Checklist)* – This is the guidance document DWR provides to help Groundwater Sustainability Agencies (GSAs) verify that a GSP is complete and ready for submission. This DWR checklist is partially completed to show which portions of the checklist are covered by Sections 2, 3, and 4.
- **Attachment C:** Initial Bibliography—This initial bibliography is a master list of works that will either be directly cited in the GSP, or are documents that will be used to develop the GSP. Woodard & Curran has obtained digital copies of the documents on this list.
- **Attachment D:** Call for Data

Preliminary Outline

This TM section is intended to help reviewers understand how the provided preliminary outline fits into a GSP, and why GSP sections are presented in this sequence. The preliminary outline included with this TM was developed to provide an opportunity for TPR members to comment on GSP structure and content.

As stated the outlines are preliminary, and GSP sections are not yet fully developed. There are several placeholders in the outline that will be completed/revised as data and references are evaluated and used for GSP development. The preliminary outline shows the GSP’s



structure, which is based on information in DWR's Emergency GSP Regulations (regulations), which were adopted by the California Water Commission on May 18, 2016.¹

Regulation-Driven Structure

The regulations require many analyses, statements, justifications, and figures for a GSP, and they require that these elements are presented in a prescriptive manner. The regulations also identify required content by GSP section. DWR's published best management practices (BMPs) and guidance documents² help clarify GSP structure and required content.

It is important to note that DWR's BMP describing how to create a GSP outline contains certain omissions about required GSP content, and is organized in a way that prevents chronological reporting; as a result, a GSP outline must be modified during development.

Because GSPs will be reviewed by a regulator, the GSP has been laid out in a way that makes it easier for a reviewer to find GSP content. In some cases, this results in some stilted structure, such as discussing groundwater recharge potential in the GSP's Plan Area section instead of in the Hydrogeologic Conceptual Model section. The regulations also specify many required GSP components as listed on the DWR checklist.³ The DWR checklist provided with this outline also indicates where the DWR checklist requirements are addressed in GSP sections.

Order and Content of GSP Sections

The regulations list GSP requirements by regulation section. These regulation sections provide a loose outline for development of GSPs. They do not however, create a report structure that is comprehensible for a reader. As a result, GSP structure has been modified to accommodate review. Modifications to the preliminary outline were made to increase readability and to cover gaps noted above in DWR's GSP outline BMP. These modifications achieve the following:

- Provide a structure and order allowing for efficient review by DWR that more closely matched the DWR checklist
- Provide adequate information and context for future readers in each GSP section

¹ <https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Sustainable-Groundwater-Management/Groundwater-Sustainability-Plans/Files/GSP/Final-GSP-Emergency-Regulations.pdf>

² <https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents>

³ <https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Sustainable-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents/Files/Preparation-Checklist-for-GSP-Submittal.pdf>



- Help readers by creating better references and cross-references to information, avoiding extensive re-review multiple GSP sections

This GSP has 12 main sections, which are described below. Note that the attached preliminary outline addresses Sections 2, 3, and 4 only.

Executive Summary

The GSP's Executive Summary has two goals: the first is to make sure the first page provides an "an elevator speech" of the effort for busy reviewers who need crucial information to make decisions. The second goal is to provide a high-level overview of key GSP messages. For example, in this GSP a key message might be "...this GSP shows coordination between the City of San Diego and the County of San Diego, and has support from stakeholders in the basin." The Executive Summary will then also summarize categories of information from the GSP.

DWR's checklist is also referenced in the Executive Summary.

Section 1—Introduction, Agency Description, and Notice and Communication

This section will provide "who-what-where" types of information, and will include an introduction to the GSP, information about the GSA and member agencies. Section 1 will also document notice and communication and outreach activities. The DWR checklist will be included in this section.

Section 2—Plan Area

Information in the Plan Area section will describe surface conditions in the basin, from crop types to existing groundwater management programs. It will also describe surficial and jurisdictional conditions in the GSA, including districts, nearby basins, land use, well densities, existing monitoring programs, and existing management programs.

Section 3—Basin Settings: Hydrogeologic Conceptual Model

Section 3's hydrogeologic conceptual model (HCM) will describe the physical geology of the GSP area, including what formations are present, regional structural settings, basin boundaries, and physical barriers to flow like faults and folds. The HCM will be used to help interpret groundwater conditions and develop the water budgets.

Section 4—Basin Settings: Groundwater Conditions

Section 4 will describe the amount and movement of groundwater through the basin, and will include changes in historical levels, contour maps, and similar information. It will also



describe groundwater quality, including anthropogenic components, and land subsidence. Section 4 will include an evaluation of the interconnection of rivers and streams to groundwater, and will identify of groundwater dependent ecosystems.

Section 5—Basin Settings: Water Budgets

Section 5 will provide information about the amount of water moving through the basin historically, currently, and in the future. Inflows, outflows, and consumptive uses such as evapotranspiration, groundwater pumping, and similar will be estimated in this section. Water budgets will be developed using a numerical model, which will be described in an appendix.

Section 6—Undesirable Results

Section 6 will describe the GSP sustainability goal, and describe undesirable results. The sustainability goal is a statement about the ultimate goal of the GSP, which is to avoid undesirable results and to benefit beneficial water users in ways that are relevant to the San Pasqual Valley Groundwater Basin. The undesirable results narratives in Section 6 are statements about what is undesirable to the basin. These statements are general, and are used to guide establishment of the monitoring network and sustainability thresholds. Information about how an undesirable result is detected, how it could occur in the basin, and whether the undesirable result is already occurring in the basin or not will also be included in this section. These narratives and descriptions describe the specific ways an undesirable result can occur, and how they might be addressed by establishing minimum thresholds in the monitoring network. Minimum thresholds for each locally driven issue will be categorized according to six SGMA sustainability indicators listed below.

- Groundwater levels
- Groundwater storage
- Sea water intrusion
- Degraded water quality
- Subsidence
- Depletions of interconnected surface water

Section 7—Monitoring Networks

This section will describe monitoring networks needed by the GSP to monitor for undesirable results. Monitoring must be discussed for each of the above sustainability indicators. This section will also include information about the monitoring network's objective, the network's rationales that show how the proposed network could detect undesirable results,



and will describe a network for each appropriate sustainability indicator. If proxy monitoring will be used (i.e., using levels to detect results for other sustainability indicators), the reasoning must be justified in this section.

Section 8—Sustainability Thresholds

Section 8 will establish the criteria for thresholds that communicate monitoring results and their relationship with undesirable results, and will include the following:

- **Minimum thresholds**—minimum thresholds are a level set that, if monitoring results go below that established level, indicate conditions in that location have the potential to become an undesirable result. After a certain percentage (determined locally) measured points are below the minimum threshold, the basin is considered to have an undesirable result occurring.
- **Margin of operational flexibility (MoOF)**—the MoOF is a buffer between the minimum threshold and the measurable objective. It is used to establish where the measurable objective is by creating a buffer that allows a basin to operate for a number of years without reaching minimum thresholds.
- **Measurable objective**—the measurable object is a target level for each monitoring point that provides an adequate MoOF for operating during dry years.
- **Interim milestone**—an interim milestone is a check point. If conditions must improve to reach a measurable objective, an interim milestones provides a checkpoints every 5 years until the measurable objective is reached.

Section 9—Projects and Management Actions

Section 9 will describe the GSP-related projects and actions considered by the GSA, will identify which projects and actions are selected for implementation, and will analyze those selected for implementation. Each project or management action will be described in this section, and will cover outreach, permitting, benefits, source of water if used, legal authority, and costs, and funding. The benefits of each project or management action will also described, along with how selected projects and management actions will prevent undesirable results.

Section 10—Plan Implementation

Section 10 will provide a schedule for implementation of the GSP as a whole. The schedule will cover both GSP operational activities and development of projects and management actions. This section will also describe estimated costs of implementing the GSP, and how those estimated costs will be met by funding sources. It will also describe the GSP's cycle of annual reports and 5-year updates.



References

Each GSP section will contain a set of references unique to its subject matter. An initial master bibliography for the project is below.

Appendices

Appending information to the GSP will include material that supports the analysis and development steps of the GSP. Appendices may include items like public notices, information about data sets, extensive analysis figures, or other reference materials.

DWR Checklist Handout

This handout (attached) includes DWR's checklist, and identifies which components from the checklist are covered in which areas of Sections 2,3 and 4.

Initial Master Bibliography

This is a preliminary list of works that will be used to develop the San Pasqual Valley Groundwater Basin GSP. Digital copies of these documents are stored on the Woodard & Curran local area network. This master bibliography will be expanded as the GSP is developed; works listed here may also be updated. Style for GSP references is *Chicago Manual of Style* 16th Edition modified author-date.



Attachment A – Updated Preliminary Outline

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Attachment A

Draft Groundwater Sustainability Plan Preliminary Outline

Prepared for:



DRAFT

Prepared by:



November 2019

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Acronyms and Abbreviations (Example)

Term	Abbreviation
AF	acre-feet
AFY	acre-feet per year
bgs	below ground surface
BMP	best management practice
CASGEM Program	California Statewide Groundwater Elevation Monitoring Program
CDPR	California Department of Pesticide Regulation
CNRA	California Natural Resources Agency
CVC	Cross Valley Canal
CVP	Central Valley Project
CWC	California Water Code
Delta	Sacramento-San Joaquin Bay Delta
DWR	California Department of Water Resources

Acronyms and Abbreviations (Example)

Term	Abbreviation
EIR	Environmental Impact Report
GAMA Program	GeoTracker Groundwater Ambient Monitoring and Assessment Program
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GWE	groundwater elevation
HCM	hydrogeological conceptual model
ID4	Improvement District 4
IM	interim milestone
InSAR	interferometric synthetic aperture radar
IRWMP	Integrated Regional Water Management Plan
JOC	Joint Operations Committee

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Attachment B – DWR’s Preparation Checklist for GSP Submittal

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DWR's Preparation Checklist for GSP Submittal**



GSP Regulations Section	Water Code	Requirement	Description	Anticipated GSP Section
Article 3. Technical and Reporting Standards				
352.2		Monitoring Protocols	Monitoring protocols adopted by the GSA for data collection and management	Section 7.6.7 Monitoring Protocols (Groundwater Level Monitoring Network)
352.2		Monitoring Protocols	Monitoring protocols that are designed to detect changes in groundwater levels, groundwater quality, inelastic surface subsidence for basins for which subsidence has been identified as a potential problem, and flow and quality of surface water that directly affect groundwater levels or quality or are caused by groundwater extraction in the basin	Section 7.9.7 Monitoring Protocols (Degraded groundwater Quality Monitoring Network) Section 7.10.7 Monitoring Protocols (Land Subsidence Monitoring) Section 7.11.7 Monitoring Protocols (Depletions of Interconnected Surface Water Monitoring Network) Chapter 4, Appendix A and B
Article 5. Plan Contents, Subarticle 1. Administrative Information				
354.4		General Information	Executive Summary	Executive Summary
354.4		General Information	List of references and technical studies	Section 1.6, 5.13, 6.5, 7.12, 8.9, 10.8, and 11.6
354.6		Agency Information	GSA mailing address	Section 1.3, Agency Information
354.6		Agency Information	Organization and management structure	Section 1.3-4
354.6		Agency Information	Contact information of Plan Manager	Section 1.4 Notice and Communication
354.6		Agency Information	Legal authority of GSA	Section 1.3, Legal Authority
354.6		Agency Information	Estimate of implementation costs	Section 11, Plan Implementation
354.8(a)	10727.2(a)(4)	Map(s)	Area covered by GSP	Section 2, Plan Area
354.8(a)	10727.2(a)(4)	Map(s)	Adjudicated areas, other agencies within the basin, and areas covered by an Alternative	Section 2.3, Plan Area Setting
354.8(a)	10727.2(a)(4)	Map(s)	Jurisdictional boundaries of federal or State land	Section 2.3, Plan Area Setting
354.8(a)	10727.2(a)(4)	Map(s)	Existing land use designations	Section 2.3, Plan Area Setting
354.8(a)	10727.2(a)(4)	Map(s)	Density of wells per square mile	Chapter 7, Monitoring Network
354.8(b)		Description of the Plan Area	Summary of jurisdictional areas and other features	Section 2.3, Plan Area Setting
354.8(c)354.8(d)354.8(e)	10727.2(g)	Water Resource Monitoring and Management Programs	Description of water resources monitoring and management programs	Section 2.5-7 abd 7.4
354.8(c)354.8(d)354.8(e)	10727.2(g)	Water Resource Monitoring and Management Programs	Description of how the monitoring networks of those plans will be incorporated into the GSP	Section 2.5-7 abd 7.4
354.8(c)354.8(d)354.8(e)	10727.2(g)	Water Resource Monitoring and Management Programs	Description of how those plans may limit operational flexibility in the basin	Section 2.5-7 abd 7.4
354.8(c)354.8(d)354.8(e)	10727.2(g)	Water Resource Monitoring and Management Programs	Description of conjunctive use programs	Section 2.3, Plan Area Setting
354.8(c)354.8(d)354.8(e)	10727.2(g)	Water Resource Monitoring and Management Programs		Section 2.3, Plan Area Setting
354.8(f)	10727.2(g)	Land Use Elements or Topic Categories of Applicable General Plans	Summary of general plans and other land use plans	Section 2.8, General Plans in Plan Area
354.8(f)	10727.2(g)	Land Use Elements or Topic Categories of Applicable General Plans	Description of how implementation of the GSP may change water demands or affect achievement of sustainability and how the GSP addresses those effects	Section 2.8, General Plans in Plan Area
354.8(f)	10727.2(g)	Land Use Elements or Topic Categories of Applicable General Plans	Description of how implementation of the GSP may affect the water supply assumptions of relevant land use plans	Section 2.8, General Plans in Plan Area
354.8(f)	10727.2(g)	Land Use Elements or Topic Categories of Applicable General Plans	Summary of the process for permitting new or replacement wells in the basin	Chapter 11, Implementation
354.8(f)	10727.2(g)	Land Use Elements or Topic Categories of Applicable General Plans	Information regarding the implementation of land use plans outside the basin that could affect the ability of the Agency to achieve sustainable groundwater management	Section 2.8, General Plans in Plan Area
354.8(g)	10727.4	Additional GSP Contents	Description of Actions related to:	Section 2.1.6, Plan Area and Basin Setting (Additional GSP Elements)
354.8(g)	10727.4	Additional GSP Contents	Control of saline water intrusion	Section 2.1.6, Plan Area and Basin Setting (Additional GSP Elements)

**November 7, 2019 Technical Peer Review Meeting
Handout #3, Attachment B
DWR's Preparation Checklist for GSP Submittal**



GSP Regulations Section	Water Code	Requirement	Description	Anticipated GSP Section
354.8(g)	10727.4	Additional GSP Contents	Wellhead protection	Section 2.1.6, Plan Area and Basin Setting (Additional GSP Elements)
354.8(g)	10727.4	Additional GSP Contents	Migration of contaminated groundwater	Section 2.1.6, Plan Area and Basin Setting (Additional GSP Elements)
354.8(g)	10727.4	Additional GSP Contents	Well abandonment and well destruction program	Section 2.1.6, Plan Area and Basin Setting (Additional GSP Elements)
354.8(g)	10727.4	Additional GSP Contents	Replenishment of groundwater extractions	Section 2.1.6, Plan Area and Basin Setting (Additional GSP Elements)
354.8(g)	10727.4	Additional GSP Contents	☑ Conjunctive use and underground storage	Section 2.1.6, Plan Area and Basin Setting (Additional GSP Elements)
354.8(g)	10727.4	Additional GSP Contents	Well construction policies	Section 2.1.6, Plan Area and Basin Setting (Additional GSP Elements)
354.8(g)	10727.4	Additional GSP Contents	Addressing groundwater contamination cleanup, recharge, diversions to storage, conservation, water recycling, conveyance, and extraction projects	Section 2.1.6, Plan Area and Basin Setting (Additional GSP Elements)
354.8(g)	10727.4	Additional GSP Contents	Efficient water management practices	Section 2.1.6, Plan Area and Basin Setting (Additional GSP Elements)
354.8(g)	10727.4	Additional GSP Contents	Relationships with State and federal regulatory agencies	Section 2.1.6, Plan Area and Basin Setting (Additional GSP Elements)
354.8(g)	10727.4	Additional GSP Contents	Review of land use plans and efforts to coordinate with land use planning agencies to assess activities that potentially create risks to groundwater quality or quantity	Section 2.1.6, Plan Area and Basin Setting (Additional GSP Elements)
354.8(g)	10727.4	Additional GSP Contents	Impacts on groundwater dependent ecosystems	Section 2.1.6, Plan Area and Basin Setting (Additional GSP Elements)
354.1		Notice and Communication	Description of beneficial uses and users	Section 2.4, Description of Beneficial Uses and Users of Groundwater
354.1		Notice and Communication	List of public meetings	Section 1.4, Notice and Communication
354.1		Notice and Communication	GSP comments and responses	Section 1.4.7, Comments Regarding the GSP Received and Response Summary
354.1		Notice and Communication	Decision-making process	Section 1.4.2, GSA Decision-Making Process
354.1		Notice and Communication	Public engagement	Section 1.4.3, Opportunities for Public Engagement and how Public Input was Used Section 1.4.6, List of Public Meeting Where the GSP was Discussed
354.1		Notice and Communication	Encouraging active involvement	Section 1.4.3, Opportunities for Public Engagement and how Public Input was Used Section 1.4.6, List of Public Meeting Where the GSP was Discussed
354.1		Notice and Communication	Informing the public on GSP implementation progress	Section 1.4.3, Opportunities for Public Engagement and how Public Input was Used Section 1.4.6, List of Public Meeting Where the GSP was Discussed
Article 5. Plan Contents, Subarticle 2. Basin Setting				
354.14		Hydrogeologic Conceptual Model	Description of the hydrogeologic conceptual model	Chapter 3, Basin Setting: Hydrogeologic Conceptual Model
354.14		Hydrogeologic Conceptual Model	Two scaled cross sections	Section 3.5, Geologic Formations/Stratigraphy
354.14		Hydrogeologic Conceptual Model	Map(s) of physical characteristics: topographic information, surficial geology, soil characteristics, surface water bodies, source, and point of delivery for imported water supplies	Chapter 3, Basin Setting: Hydrogeologic Conceptual Model
354.14(c)(4)	10727.2(a)(5)	Map of Recharge Areas	Map delineating existing recharge areas that substantially contribute to the replenishment of the basin, potential recharge areas, and discharge areas	Section 3.10.3, Areas of Recharge, Potential Recharge, and Groundwater discharge Areas
354.14(c)(4)	10727.2(d)(4)	Recharge Areas	Description of how recharge areas identified in the plan substantially contribute to the replenishment of the basin	Section 3.10.3, Areas of Recharge, Potential Recharge, and Groundwater discharge Areas
354.16	10727.2(a)(1)	Current and Historical Groundwater Conditions	Groundwater elevation data	Section 4.3, Description of Current and Historical Groundwater Conditions
354.16	10727.2(a)(2)	Current and Historical Groundwater Conditions	Estimate of groundwater storage	Section 4.3, Description of Current and Historical Groundwater Conditions
		Current and Historical Groundwater Conditions	Seawater intrusion conditions	Section 4.7, Seawater Intrusion
		Current and Historical Groundwater Conditions	Groundwater quality issues	Section 4.8, Groundwater Quality
		Current and Historical Groundwater Conditions	Land subsidence conditions	Section 4.9, Land Subsidence

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GSP Regulations Section	Water Code	Requirement	Description	Anticipated GSP Section
		Current and Historical Groundwater Conditions	Identification of interconnected surface water systems	Section 4.10, Interconnected Surface Water Systems
		Current and Historical Groundwater Conditions	Identification of groundwater-dependent ecosystems	Section 4.11, Groundwater Dependent Ecosystems
354.18	10727.2(a)(3)	Water Budget Information	Description of inflows, outflows, and change in storage	Chapter 5, Water Budget
354.18	10727.2(a)(3)	Water Budget Information	Quantification of overdraft	Chapter 5, Water Budget
354.18	10727.2(a)(3)	Water Budget Information	Estimate of sustainable yield	Chapter 5, Water Budget
354.18	10727.2(a)(3)	Water Budget Information	Quantification of current, historical, and projected water budgets	Chapter 5, Water Budget
10727.2(d)(5)		Surface Water Supply	Description of surface water supply used or available for use for groundwater recharge or in-lieu use	Section 3.10.2, Surface Water Bodies
354.2		Management Areas	Reason for creation of each management area	Chapter 7, Monitoring Network
354.2		Management Areas	Minimum thresholds and measurable objectives for each management area	Chapter 8, Minimum Thresholds, Measurable Objectives, and Interim Milestones
354.2		Management Areas	Level of monitoring and analysis	Chapter 7, Monitoring Network
354.2		Management Areas	Explanation of how management of management areas will not cause undesirable results outside the management area	Chapter 7, Monitoring Network
354.2		Management Areas	Description of management areas	Chapter 7, Monitoring Network
Article 5. Plan Contents, Subarticle 3. Sustainable Management Criteria				
354.24		Sustainability Goal	Description of the sustainability goal	Section 6.2, Sustainability Goal
354.26		Undesirable Results	Description of undesirable results	Section 6.3, Undesireable Results Statements
354.26		Undesirable Results	Cause of groundwater conditions that would lead to undesirable results	Section 6.3, Undesireable Results Statements
354.26		Undesirable Results	Criteria used to define undesirable results for each sustainability indicator	Section 6.3, Undesireable Results Statements
354.26		Undesirable Results	Potential effects of undesirable results on beneficial uses and users of groundwater	Section 6.3, Undesireable Results Statements
354.28	10727.2(d)(1) 10727.2(d)(2)	Minimum Thresholds	Description of each minimum threshold and how they were established for each sustainability indicator	Chapter 8, Minimum Thresholds, Measurable Objectives, and Interim Milestones
354.28	10727.2(d)(1) 10727.2(d)(2)	Minimum Thresholds	Relationship for each sustainability indicator	Chapter 8, Minimum Thresholds, Measurable Objectives, and Interim Milestones
354.28	10727.2(d)(1) 10727.2(d)(2)	Minimum Thresholds	Description of how selection of the minimum threshold may affect beneficial uses and users of groundwater	Chapter 8, Minimum Thresholds, Measurable Objectives, and Interim Milestones
354.28	10727.2(d)(1) 10727.2(d)(2)	Minimum Thresholds	Standards related to sustainability indicators	Chapter 8, Minimum Thresholds, Measurable Objectives, and Interim Milestones
354.28	10727.2(d)(1) 10727.2(d)(2)	Minimum Thresholds	How each minimum threshold will be quantitatively measured	Chapter 8, Minimum Thresholds, Measurable Objectives, and Interim Milestones
354.3	10727.2(b)(1) 10727.2(b)(2) 10727.2(d)(1) 10727.2(d)(2)	Measurable Objectives	Description of establishment of the measurable objectives for each sustainability indicator	Chapter 8, Minimum Thresholds, Measurable Objectives, and Interim Milestones
354.3	10727.2(b)(1) 10727.2(b)(2) 10727.2(d)(1) 10727.2(d)(2)	Measurable Objectives		Chapter 8, Minimum Thresholds, Measurable Objectives, and Interim Milestones
354.3	10727.2(b)(1) 10727.2(d)(1) 10727.2(d)(2)	Measurable Objectives		Chapter 8, Minimum Thresholds, Measurable Objectives, and Interim Milestones



GSP Regulations Section	Water Code	Requirement	Description	Anticipated GSP Section
354.3	10727.2(b)(1) 10727.2(b)(2) 10727.2(d)(1) 10727.2(d)(2)	Measurable Objectives	Description of how a reasonable margin of safety was established for each measurable objective	Chapter 8, Minimum Thresholds, Measurable Objectives, and Interim Milestones
354.3	10727.2(b)(1) 10727.2(b)(2) 10727.2(d)(1) 10727.2(d)(2)	Measurable Objectives	Description of a reasonable path to achieve and maintain the sustainability goal, including a description of interim milestones	Chapter 8, Minimum Thresholds, Measurable Objectives, and Interim Milestones
Article 5. Plan Contents, Subarticle 4. Monitoring Networks				
354.34	10727.2(d)(1) 10727.2(d)(2) 10727.2(e) 10727.2(f)	Monitoring Networks	Description of monitoring network	Chapter 7, Monitoring Network
354.34	10727.2(d)(1) 10727.2(d)(2) 10727.2(e) 10727.2(f)	Monitoring Networks	Description of monitoring network objectives	Section 7.3, Monitoring Network Objectives
354.34	10727.2(d)(1) 10727.2(d)(2) 10727.2(e) 10727.2(f)	Monitoring Networks	Description of how the monitoring network is designed to: demonstrate groundwater occurrence, flow directions, and hydraulic gradients between principal aquifers and surface water features; estimate the change in annual groundwater in storage; monitor seawater intrusion; determine groundwater quality trends; identify the rate and extent of land subsidence; and calculate depletions of surface water caused by groundwater extractions	Chapter 7, Monitoring Network
354.34	10727.2(d)(1) 10727.2(d)(2) 10727.2(e) 10727.2(f)	Monitoring Networks	Description of how the monitoring network provides adequate coverage of Sustainability Indicators	Chapter 7, Monitoring Network
354.34	10727.2(d)(1) 10727.2(d)(2) 10727.2(e) 10727.2(f)	Monitoring Networks	Density of monitoring sites and frequency of measurements required to demonstrate short-term, seasonal, and long-term trends	Chapter 7, Monitoring Network
354.34	10727.2(d)(1) 10727.2(d)(2) 10727.2(e) 10727.2(f)	Monitoring Networks	Scientific rationale (or reason) for site selection	Chapter 7, Monitoring Network
354.34	10727.2(d)(1) 10727.2(d)(2) 10727.2(e) 10727.2(f)	Monitoring Networks	Consistency with data and reporting standards	Chapter 7, Monitoring Network
354.34	10727.2(d)(1) 10727.2(d)(2) 10727.2(e) 10727.2(f)	Monitoring Networks	Corresponding sustainability indicator, minimum threshold, measurable objective, and interim milestone	Chapter 7, Monitoring Network
354.34	10727.2(d)(1) 10727.2(d)(2) 10727.2(e) 10727.2(f)	Monitoring Networks	Location and type of each monitoring site within the basin displayed on a map, and reported in tabular format, including information regarding the monitoring site type, frequency of measurement, and the purposes for which the monitoring site is being used	Chapter 7, Monitoring Network
354.34	10727.2(d)(1) 10727.2(d)(2) 10727.2(e) 10727.2(f)	Monitoring Networks	Description of technical standards, data collection methods, and other procedures or protocols to ensure comparable data and methodologies	Chapter 7, Monitoring Network

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GSP Regulations Section	Water Code	Requirement	Description	Anticipated GSP Section
354.36		Representative Monitoring	Description of representative sites	Chapter 7, Monitoring Network
354.36		Representative Monitoring	Demonstration of adequacy of using groundwater elevations as proxy for other sustainability indicators	Chapter 7, Monitoring Network
354.36		Representative Monitoring	Adequate evidence demonstrating site reflects general conditions in the area	Chapter 7, Monitoring Network
354.38		Assessment and Improvement of Monitoring Network	Review and evaluation of the monitoring network	Chapter 7, Monitoring Network
354.38		Assessment and Improvement of Monitoring Network	Identification and description of data gaps	Chapter 7, Monitoring Network
354.38		Assessment and Improvement of Monitoring Network	Description of steps to fill data gaps	Chapter 7, Monitoring Network
354.38		Assessment and Improvement of Monitoring Network	Description of monitoring frequency and density of sites	Chapter 7, Monitoring Network
Article 5. Plan Contents, Subarticle 5. Projects and Management Actions				
354.44		Projects and Management Actions	Description of projects and management actions that will help achieve the basin's sustainability goal	Chapter 10, Projects and Management Actions
354.44		Projects and Management Actions	Measurable objective that is expected to benefit from each project and management action	Sections 10.4-6
354.44		Projects and Management Actions	Circumstances for implementation	Sections 10.4-6
354.44		Projects and Management Actions	Public noticing	Sections 10.4-6
354.44		Projects and Management Actions	Permitting and regulatory process	Sections 10.4-6
354.44		Projects and Management Actions	Timetable for initiation and completion, and the accrual of expected benefits	Sections 10.4-6
354.44		Projects and Management Actions	Expected benefits and how they will be evaluated	Sections 10.4-6
354.44		Projects and Management Actions	How the project or management action will be accomplished. If the projects or management actions rely on water from outside the jurisdiction of the agency, an explanation of the source and reliability of that water shall be included.	Sections 10.4-6
354.44		Projects and Management Actions	Legal authority required	Sections 10.4-6
354.44		Projects and Management Actions	Estimated costs and plans to meet those costs	Sections 10.4-6
354.44		Projects and Management Actions	Management of groundwater extractions and recharge	Sections 10.4-6
354.44(b)(2)	10727.2(d)(3)	-	Overdraft mitigation projects and management actions	Sections 10.4-6
Article 8. Interagency Agreements				
357.4	10727.6	Coordination Agreements	Coordination Agreements shall describe the following:	Section 1.3, Agency Information. San Pasqual Valley GSP will be submitted under a single GSA and thus does not require a coordination agreement.
357.4	10727.6	Coordination Agreements	A point of contact	
357.4	10727.6	Coordination Agreements	Responsibilities of each agency	
357.4	10727.6	Coordination Agreements	Procedures for the timely exchange of information between agencies	
357.4	10727.6	Coordination Agreements	Procedures for resolving conflicts between agencies	
357.4	10727.6	Coordination Agreements	How the agencies have used the same data and methodologies to coordinate GSPs	
357.4	10727.6	Coordination Agreements	How the GSPs implemented together satisfy the requirements of SGMA	
357.4	10727.6	Coordination Agreements	Process for submitting all GSPs, GSP amendments, supporting information, all monitoring data and other pertinent information, along with annual reports and periodic evaluations	
357.4	10727.6	Coordination Agreements	A coordinated data management system for the basin	
357.4	10727.6	Coordination Agreements	Coordination agreements shall identify adjudicated areas within the basin, and any local agencies that have adopted an alternative that has been accepted by DWR	



Attachment C – Initial Bibliography

Below is a preliminary list of works that will be used to develop the San Pasqual Valley Groundwater Basin GSP. Digital copies of these documents are stored on the Woodard & Curran local area network. This master bibliography will be expanded as the GSP is developed; works listed here may also be updated. Style for GSP references is *Chicago Manual of Style* 16th Edition modified author-date.

- A & N Technical Services, Inc. 2010. *San Pasqual Basin Rate Study, Attachment 1*. June.
- California Department of Water Resources. 2003. *California's Groundwater, Bulletin 118—Update 2003*. October.
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- California Department of Water Resources. 2011. *San Pasqual Valley Groundwater Basin Groundwater Monitoring Network Assessment and Recommendations, Progress Report to the City of San Diego for Contract 317416*. August.
- California Department of Water Resources. 2012. *Installation of Transducers in Monitoring Wells in San Pasqual Valley, Final Task Order II Report to the City of San Diego for Contract 317416*. August.
- California Department of Water Resources. 2013. *Evaluation of Groundwater Monitoring Program in San Pasqual Valley, Final Report to the City of San Diego for Contract 317416*. August.
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- CDM. 2010. *City of San Diego San Pasqual Groundwater Conjunctive Use Study, Final Study Report*. May.
- CH2MHILL. 2014. *Final San Pasqual Valley Groundwater Basin Salt and Nutrient Management Plan*. May.
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- City of San Diego Public Utilities Department. 2013. *USGS San Pasqual Monitoring Well, San Diego Santa Isabel (SDSY) California Department of Water Resources Grant Project Report—Final*. January.
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- City of San Diego Water Department. 2007. *San Pasqual Basin Groundwater Management Plan. Adopted November 2007*. Prepared by MWH Americas, Inc. and Katz and Associates. November.
- Dudek. 2013. *Draft Memorandum, Lake Hodges BMP Construction and Maintenance Costs*. September.
- Dudek. 2013. *Draft Memorandum, Lake Hodges Natural Treatment System Options*. November.
- Dudek. 2013. *Lake Hodges Natural Treatment System Project*. PowerPoint Presentation. August.
- H₂O Futures. 2012. *Final Report to the City of San Diego, Project H125597, Sustainable Water Supply Alternatives, San Pasqual Basin*. September.
- Kleinfelder. 2019. *Technical Memorandum, Preliminary Assessment of Groundwater Levels, San Pasqual Valley Groundwater Basin, Kleinfelder Project 20182085.006A*. April.
- MWH Americas, Inc. 2007. *San Pasqual Basin Groundwater Management Plan, Public Review Draft*. August.
- MWH Americas, Inc. 2010. *MWH Salinity Study Memorandum, San Pasqual Agricultural Water and Salinity Budget*. June.
- MWH Americas, Inc. 2011. *Final Report, San Pasqual Basin 2010 Groundwater Management State of the Basin Report*. Prepared for the City of San Diego Public Utilities Department. June.
- MWH Americas, Inc. 2011. *Memorandum, San Pasqual Surface Water Monitoring*. September.
- San Diego Association of Governments. 2018. *2018 San Pasqual Wells Wall Map*.
- San Diego City Council. 2004. *San Pasqual Vision Plan Presented by Councilmember Brian Maienschein*. May.
- San Diego County and City of San Diego. 2017. *Memorandum of Understanding, Development of a Groundwater Sustainability Plan for the San Pasqual Valley Groundwater Basin*. June.



Attachment D – Call for Data

DRAFT



San Pasqual Valley Groundwater Data Request

The San Pasqual Groundwater Sustainability Agency (GSA), a collaboration of the City and County of San Diego is preparing a Groundwater Sustainability Plan (GSP). To develop the GSP, we need to collect data sets and information. We are requesting any data that you may have for the San Pasqual Groundwater Basin that is not publicly available, and are interested in data or reports you have on the following subjects:

Hydrologic Data

- Stream Flow (Daily)

Groundwater Well Information

- Monitoring Well Locations
- Production Well Locations
- Well Construction Records (logs, and e-logs)

Groundwater Elevations and Pumping

- Groundwater Pumped – Urban and Agricultural (Monthly)
- Groundwater Elevation (Fall and Spring, Annual) and/or Depth to Groundwater Data/Measurements
- Private Well Use

Land Use and Cropping Information

- Land Use and Cropping Acreage (Annual)
- Crop Evapotranspiration (Daily, Monthly)
- Irrigation Methods and Acreage

Other Data

- Water Quality Data/Results
- Subsidence/land surface elevation data
- Mapped wetlands, streams, vernal pools, groundwater-dependent ecosystems

Documents/Reports Request

The following documents and reports are requested:

- Monitoring plans (surface water, groundwater, others)
- Agricultural Water Management Plans
- Water Management Plans
- Information regarding any existing water management/conjunctive use programs
- Monitoring schedules and constituents/Parameters monitored
- Any studies on groundwater basin characterization (e.g. geology, hydrogeology, groundwater quality, percolation testing, feasibility studies)
- Please assume we already have copies of any City or County reports from 2000 to the present and there is no need for you to send us those reports

All submitted data will be screened by the GSA Team to determine if appropriate for inclusion in the GSP. Your local information is valuable to the development of this GSP. Digital data is preferred; however, we realize that isn't going to be feasible for some stakeholders, so we will accept any data form you have available. You can mail, email or hand deliver at meetings and we can make copies.

Please provide data by November 7, 2019. Data provided after December 31, 2019 may not be included in the GSP. Please contact Sandra Carlson (CarlsonS@san Diego.gov or (619) 533-4235) to send data or to ask questions.