EASTERN TULE GSA

WELL MITIGATION PROGRAM

A. Applicability

Pursuant to the Tule Subbasin Coordination Agreement, amended on [date], the Tule Subbasin GSAs agreed to implement a well mitigation program to mitigate for impacts caused by lowering groundwater levels, land subsidence or water quality. The Tule Subbasin GSAs agreed to mitigate for impacts to domestic and municipal use no later than December 31, 2022. This Program will be amended from time to time to expand mitigation as set forth in the Tule Subbasin Coordination Agreement. The Program shall comply and be inclusive of all requirements in the Tule Subbasin Technical Memorandum, which is attached hereto and incorporated by reference as Exhibit A.

B. Establishment of ETGSA Well Mitigation Program

The ETGSA hereby establishes a Well Mitigation Program ("Program") to mitigate impacts associated with GSP-allowed activities, subject to the terms and conditions herein, the attached Technical Memorandums prepared by Thomas Harder & Associates, the ETGSA GSP, and the Tule Subbasin Coordination Agreement.

C. Domestic Well Permit

The County will provide all new or replacement domestic well permit applications to the ETGSA. The ETGSA will make certain recommendations based on the application, including but not limited to well depth.

D. Eligibility

Only Owners in "good standing" with the ETGSA shall be eligible for the Program. An Owner participating in the transitional pumping program using Tier 1 or Tier 2 allocations shall not be eligible for the Program. Owners shall only be eligible for potential mitigation if it can be demonstrated that adverse impacts are associated with approved GSP-related activities, such as the transitional pumping program. Owners shall not be eligible if well permit application recommendations were not followed. Only wells 25 years or newer will be eligible from the date the well was developed and built.

E. Mitigation Application Process

Application. A Program Applicant must satisfactorily complete and submit the applicable mitigation claim form to the ETGSA staff before being considered eligible to receive mitigation.

Priority. A request for mitigation in the Program will be processed on a first-come, first-serve basis as of the date a completed and submitted mitigation request form is received by the

ETGSA, with priority determined as of the date the completed application is received by ETGSA staff.

Submission of Mitigation Form Not a Final Determination. Receipt and acceptance of a mitigation claim form does not constitute or indicate a commitment of the ETGSA to provide mitigation, and shall not be construed as such until issuance of final written determination.

Denials. Letters of denial will be issued to Applicants whose individual circumstances do not satisfy the requirements of the Program.

Application is not Guarantee. Consideration of a Program Applicant's request for mitigation shall not be construed to require or obligate the ETGSA to provide mitigation pursuant to the Mitigation Program or to provide any other relief, equitable or legal.

Appeal. Applicant may file an appeal to the ETGSA Board of Directors.

F. Types of Mitigation Available for Domestic Use

Where the ETGSA determines the Applicant to be eligible, the following are potential mitigation measures. All types of mitigation availability are dependent on the ETGSA's current ability to fund such options. Nothing herein shall be construed that each mitigation option below is equally available to an Applicant.

a. Service Connections

ETGSA staff will evaluate the Applicant's ability to connect to a municipal or other domestic water service provider. If feasible, the ETGSA will assist the applicant in the process of connecting.

No further mitigation is permitted if a service connection is available and the Applicant refuses such service.

b. Replacement Water

The GSA shall coordinate with the Tule Basin Water Foundation, and/or other existing programs, to supply short term replacement water for drinking purposes to the Applicant.

c. Reimbursement for Deepening or Drilling a New Well.

Reimbursement may be provided to Applicant for certain costs associated with the need to deepen or drill a new well.

d. Other

With the consent of the Applicant, providing other acceptable means of mitigation.

G. Mitigation Award Limitations

No single eligible Applicant shall be entitled to a more than one mitigation award. In addition, individual wells shall only be eligible for one mitigation award, irrespective of changes in Applicant or Owner.

H. Funding

The ETGSA shall develop a budget of anticipated costs associated with the Program and various mitigation options. The ETGSA shall seek and apply for all available grant funding through federal, state and local programs to fund the Program. The Board shall determine in an annual basis the amount of Penalty Revenue available to contribute to the Program. Once the board has determined the available annual funds, reimbursements shall be made on a pro rata basis for approved applications.

ETGSA
Well Mitigation Program
Exhibit A

Technical Memorandum

To: Tule Subbasin Technical Advisory Committee

From: Thomas Harder, P.G., C.HG.
Thomas Harder & Co.

Date: 13-Dec-22

Re: Technical Requirements for Addressing Impact Claims from Groundwater Levels for Tule Subbasin Groundwater Sustainability Agencies

1 Background and Purpose

In response to California Department of Water Resources (CDWR) comments to the Tule Subbasin draft Groundwater Sustainability Plans (GSPs) and Coordination Agreement, the Groundwater Sustainability Agencies (GSAs) each agreed to develop mitigation plans to address significant and unreasonable impacts to beneficial uses of groundwater during the sustainability transition period between 2020 and 2040. The revised Tule Subbasin Coordination Agreement submitted in July 2022 included a Mitigation Program Framework as Attachment 7, which outlined the general standards that each GSA would commit to in developing their respective Mitigation Programs. The GSAs further committed to completing the mitigation claims process for domestic and municipal wells by December 31, 2022 and all other aspects of the Mitigation Programs by June 30, 2023.

The purpose of this document is to provide the minimum technical requirements for use by each Tule Subbasin GSA to address claims of impact from lowered groundwater levels associated with GSP-/GSA-approved or authorized activities or unmanaged pumping. In consideration of the technical information provided herein, and in accordance with the Mitigation Framework in Attachment 7 of the Coordination Agreement, each GSA Mitigation Program will identify the specific criteria and processes for mitigating claims of impact caused by pumping within their respective GSA boundaries. Each Mitigation Program must provide a claim process to address impacts to:

(i) domestic and municipal wells,
(ii) agricultural wells, and
(iii) critical infrastructure.

Impacts may be related to one or more of the three sustainability indicators related to GSP-/GSA-approved or authorized activities:

1. Groundwater level declines
2. Land subsidence, and
3. Groundwater quality.

This TM addresses impacts related to groundwater levels.[1] Decisions to include or exclude impacted users from participation in a GSA's Mitigation Program shall be supported by appropriate written technical data and analysis, as described herein. In addition, this TM includes additional considerations, outside the technical requirements, for developing Mitigation Programs.

Each Mitigation Program will document:

1. Types of Impacts to be Addressed by the Mitigation Program
2. A Process for Responding to Claims of Impact
3. A Process for Investigating Claims
4. Qualifications for Mitigation
5. Types of Mitigation to Address Claims
6. An Outreach Program Prior To and During Mitigation Program Development
7. The Program Adoption Schedule
8. Mitigation Program Funding Source(s)

Mitigation will be applied only to those claims that are shown to be attributable to GSP-/GSA-approved or authorized activities.

2 Process Overview for Claims of Groundwater Level Impacts

The Mitigation Program framework outlined in the Tule Subbasin Coordination Agreement allows for domestic, industrial, municipal, and certain agricultural beneficial users of groundwater suffering from significant and unreasonable impacts (as defined in the Tule Subbasin Coordination Agreement and Mitigation Program Framework) to file a claim with the GSA in which the well is located. The overall process for receiving and investigating claims of groundwater level impact is shown on Figure 1. For groundwater levels, a significant and unreasonable "impact" is defined as the inability of a beneficial user to pump groundwater of sufficient quantity to meet their water supply needs due to lowered groundwater levels resulting from Tule Subbasin GSP-/GSA-approved or authorized activities. The GSAs are not required to address impacts that occurred prior to January 2015. Responsibilities of the claimant are shown in green and responsibilities of the GSA are shown in blue on Figure 1. Decision points are shown in orange. All claims will be investigated and evaluated within 45 days of receipt of the claim.

[1] Technical requirements for mitigation of impacts associated with land subsidence and groundwater quality will be addressed in separate Technical Memoranda.

2.1 Filing a Claim

The claim process starts with the affected party ("Claimant") filing a claim with the GSA in which the party's well is located. The claim will be filed using a form like that provided in Attachment 1. To process a claim, the Claimant must provide some basic information to enable further investigation of the claim, including (but not limited to):

- The Claimant's name and contact information,
- The type and location of the well,
- Request for interim water supply,
- Well construction information,
- Pump information,
- Historical operating and groundwater conditions for the well,
- A description of the issue with the well, and
- The applicant's signature.

GSAs may determine whether to provide full or partial mitigation based on a user's compliance with the GSA's GSP, Rules & Regulations, and other laws or regulations. Further, mitigation will be applied only to those claims that are shown to be attributable to GSP-/GSA-approved or authorized activities. If the Claimant is pumping groundwater under a transitional pumping allocation, or otherwise contributing to transitional overdraft, a GSA may consider this fact in determining whether to accept or reject the claim.

2.2 Provision for Interim Water Supply

For claims not denied in Section 2.1, the claim process allows for the provision of an interim water supply should the Claimant request it. The interim water supply is meant to provide water to the applicant while the claim is investigated and prior to arranging a more permanent mitigation. Potential sources of interim water supply include (but are not limited to):

- Trucking water
- Utilizing filling stations
- Connecting to the water supply of a neighboring landowner
- Obtaining a temporary/permanent connection to the municipal water supply system

Considerations for each GSA Mitigation Program include:

- Funding
- If the GSA funds it, is the cost subject to reimbursement by the Claimant if the investigation finds that the issue is not associated with GSA activities or post-2015 overdraft?

2.3 Evaluation of Potential for Municipal Water Supply Connection

In some urban areas of the Tule Subbasin (e.g. Porterville), impacted domestic or industrial wells may be in close proximity to existing municipal water supply infrastructure. If so, the GSA will contact the local municipality, on behalf of the Claimant, to determine the feasibility of connecting the Claimant to the existing municipal water supply system. If a connection is feasible, the Claimant will be provided a contact person at the municipality to arrange the connection to the municipal system. For those claims that can be satisfied through a municipal water supply connection, the GSA may waive well inspection requirements. However, the Claimant must agree to allow the GSA to destroy or properly abandon the impacted well, in accordance with California Department of Water Resources requirements and County of Tulare regulations, if it is in the GSA's interest to do so.

Considerations for each GSA Mitigation Program include:

- Will the GSA continue the interim water supply to the Claimant, free of cost, until the connection to the municipal system is complete?
- Who will fund the cost to connect the Claimant to the municipal water system (GSA, municipality, Claimant)?
- Who will fund the cost to destroy the impacted well?

If the Claimant refuses to connect to the municipal water system, the Claimant will be required to allow the GSA to inspect the well in accordance with Sections 2.4, 2.5, and 2.6, herein.

2.4 Provision of Access to the Well for Inspection by the GSA

Mitigation of any claim of impact not rejected in Section 2.1 and not mitigated in Section 2.3 herein, will require that the Claimant provide access to the well to verify the claim. In signing the impact claim form (Attachment 1), the Claimant agrees to release all data associated with the well and provide access to the well for inspection by a GSA technical representative. Denial of access to the well for inspection by the GSA will result in denial of mitigation.

2.5 Preliminary Well Assessment Based on Existing Data

A GSA technical representative will review all available information provided by the Claimant for the affected well prior to inspection in the field. Data to be reviewed will include (but not necessarily be limited to):

- The CDWR driller's log,
- Information on date the well was constructed,
- Well construction information (casing diameter, casing depth, perforation interval),
- Available downhole video surveys,

- Historical groundwater levels,
- Pump type and intake depth,
- Motor size,
- Pump age,
- Typical discharge rate,
- Historical electrical use,
- Historical production,
- End use of the water (e.g. agricultural irrigation, domestic supply, etc.),
- Land IQ satellite consumptive use data (if agricultural),
- Last pump test date,
- Last service date,
- Last static and pumping groundwater levels, and
- Information on the nature of the problem.

Based on a review of the available data provided by the Claimant, the GSA will determine whether the claim can be verified based on the data. Criteria for the determination will include:

- Completeness of the dataset relative to the requested information,
- Reliability of the data provided,
- Nature and status of the issue,
- Evidence of well impact due to GSP-/GSA-approved or authorized activities.

If the claim can be verified based on available information from the Claimant or the Tule Subbasin Data Management System, then the GSA technical representative will issue a recommendation for appropriate mitigation. If not, the GSA will conduct additional investigation to verify the claim as described in Section 2.6.

2.6 As-Needed Supplemental Well Inspection and Data Collection

To verify a claim that cannot be confirmed from existing information provided by the Claimant, a GSA technical representative will need to inspect the well and collect supplemental information. The types of information to be collected will depend on the data available from the Claimant. Determination of the extent of additional data collection necessary to verify the claim will be at the sole discretion of the GSA.

In general, the minimum data to be collected in the field will include:

- Well name
- Pump size (horsepower)
- Casing type and diameter
- Static groundwater level

- Discharge rate
- Pumping groundwater level

The owner or owner's representative authorized to operate the pump will be asked to be onsite at the time of inspection to operate the pump. The GSA technical representative will record observations from the inspection on a form like that provided in Attachment 2.

If a CDWR driller's log or other information is not available to confirm the total depth and condition of the well and if the pump intake depth cannot be confirmed from available information, it may be necessary to have the pump removed from the well and conduct a downhole video survey. Removing the pump will enable the GSA technical representative to measure the column pipe and thus confirm the pump intake depth and inspect the condition of the pump. The video log will enable inspection of the condition of the casing and perforations and confirm the perforation interval, total depth, and static groundwater level of the well. Upon completion of the investigation, the contractor will be required to reinstall the pump and reestablish all connections. If the pump was operating prior to removal, the contractor will be required to demonstrate that the pump is functioning properly after reinstallation. A sounding port or flow meter may also be installed to collect pumping water level data or discharge rate data, respectively.

Considerations for each GSA Mitigation Program include:

- Who will fund the contractor to remove the pump and conduct the video survey?
- If the GSA funds it, is the cost subject to reimbursement by the Claimant if the investigation finds that the issue is not associated with transitional overdraft pumping.
- Will the GSA require the well owner to sign a release of liability for any damage to the pump, pump column, or well resulting from removal of the pump and conducting the video log?

3 Evaluation of Claims of Groundwater Level Impacts

The foundational premise of the Mitigation Program, as it relates to groundwater levels, is to address significant and unreasonable impacts to domestic, municipal, industrial and agricultural wells from GSP-/GSA-approved or authorized activities.

The graphic on Figure 2 provides illustrated examples of groundwater level conditions that could be cause to approve or deny claims based on the data provided by the Claimant or collected by the GSA. It is noted that the examples shown on Figure 2 are not exhaustive and are provided for guidance only. Further, as SGMA does not require the GSAs to address impacts prior to January 2015, the examples assume that impacts prior to this time will not be considered for mitigation. In practice, it will be up to each GSA to determine if impacts that occurred prior to January 2015 will be evaluated and factored into considerations of mitigation. As shown, Examples 1 and 2 illustrate groundwater level impacts that would qualify for mitigation. Example 1 is a case where the static

groundwater level is below the 2015 groundwater level and the pumping groundwater level, at the historical discharge rate, is within 10 feet of the bottom of the well. In Example 2, the static groundwater level is measured below the 2015 groundwater level and the pumping groundwater level, at the historical discharge rate, has dropped to within 20 feet of the pump intake. In both cases, the lowered groundwater levels can be attributed to overdraft and there is no option to restore the water supply without mitigation. The evaluation should consider whether there is adequate separation between the pump intake and the bottom of the well (e.g., 10 feet) and whether there is adequate pump submergence (e.g., 20 feet).

Examples 3 through 6 on Figure 2 illustrate cases where the well impact is not associated with lowered groundwater levels from GSP-/GSA-approved or authorized activities. In these cases:

- The pumping groundwater level would have already been below the bottom of the well before January 2015 (Example 3),
- The pumping groundwater level would have already been below the bottom of the pump intake before January 2015 (Example 4),
- The static groundwater level would have been below the pump intake prior to January 2015 (Example 5),
- The pump is not functioning for reasons other than groundwater level decline (e.g. mechanical failure)(Example 6).

In many cases, it is anticipated that a static groundwater level measured in the impacted well from January 2015 will not be available. For those cases, the reference January 2015 static groundwater level will be inferred from a groundwater level contour map generated based on available data from other wells measured at that time. Separate groundwater contour maps will be generated for the Upper and Lower Aquifers. The reference static groundwater level will be assigned from the contour map of the aquifer in which the well is predominantly perforated.

There are other factors, independent of lowered groundwater levels, that can cause a well to stop functioning, such as pump mechanical failure due to age or malfunction, holes in the well casing allowing sand into the pump intake, holes in the pump column associated with corrosion and wear, excessive plugging of screens due to lack of maintenance (e.g. well rehabilitation), and others. All these factors will need to be taken into consideration when assessing the need for mitigation.

Based on the analysis of data for the impacted well, the GSA technical representative will provide a recommendation to the GSA Board of Directors whether the well qualifies for mitigation.

A consideration for each GSA Mitigation Program includes:

- Will there be an appeal process available to the Claimant and, if so, what will that process consist of?

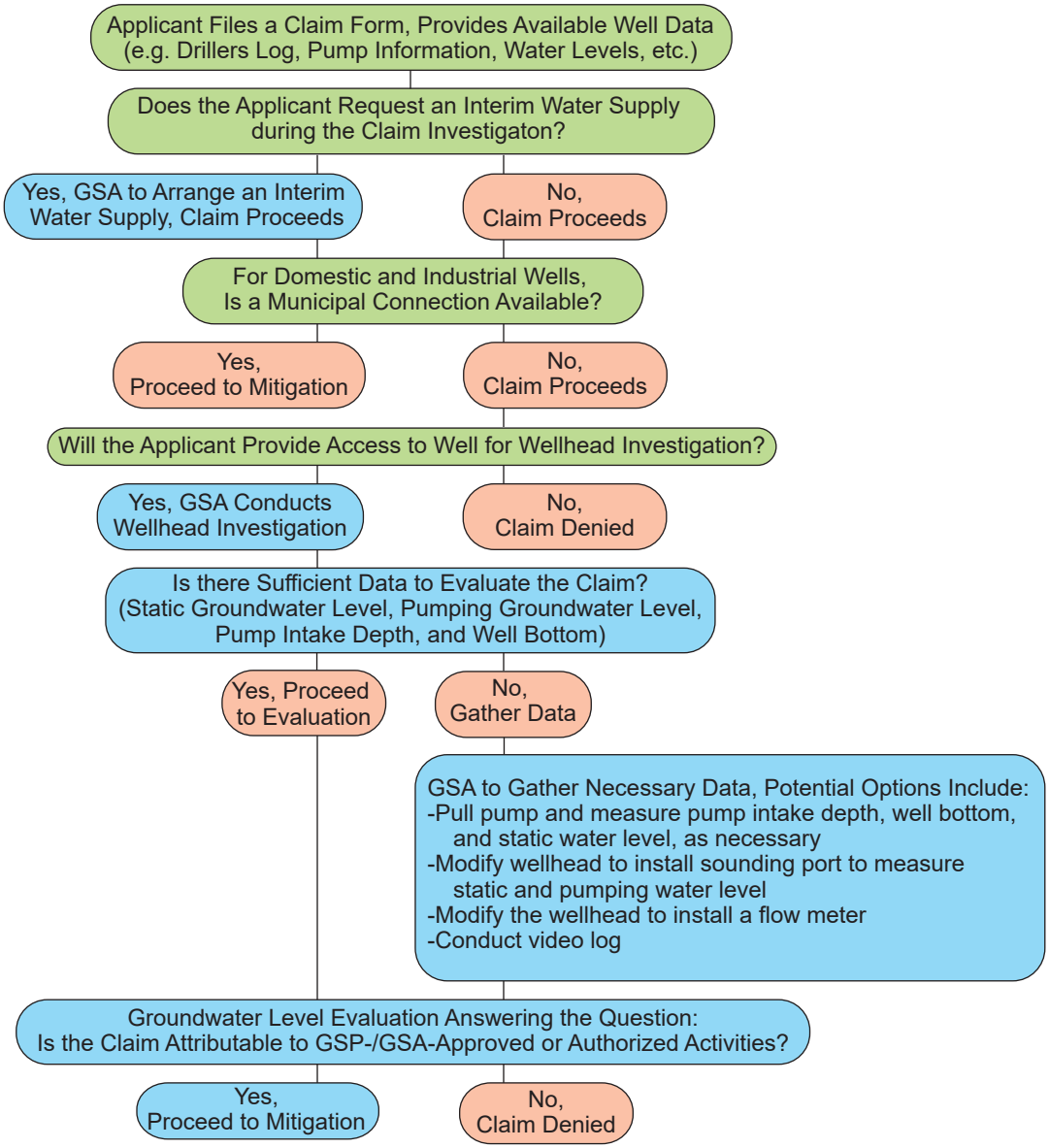
4 Potential Options for Mitigation

Mitigation measures, if approved, could include (but are not necessarily limited to) one or more of the following:

- Providing a short-term emergency water supply to domestic and municipal well owners. Short-term emergency supplies shall be provided as soon as reasonably possible, but in all cases within 14 days of notification to the GSA of such needs;
- Providing funds to lower a well pump;
- Providing funds to complete a connection to an M&I water provider;
- Supplying an equivalent water supply from an alternate source;
- Providing funds to replace the affected well with a deeper well that meets state and local requirements; or
- With the consent of the affected landowner, providing other acceptable mitigation.

Figure 1

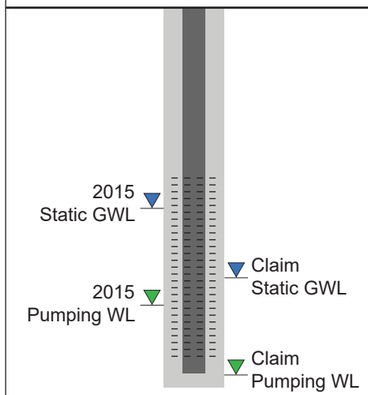
Groundwater Level Impact Claim Process - Investigation Phase



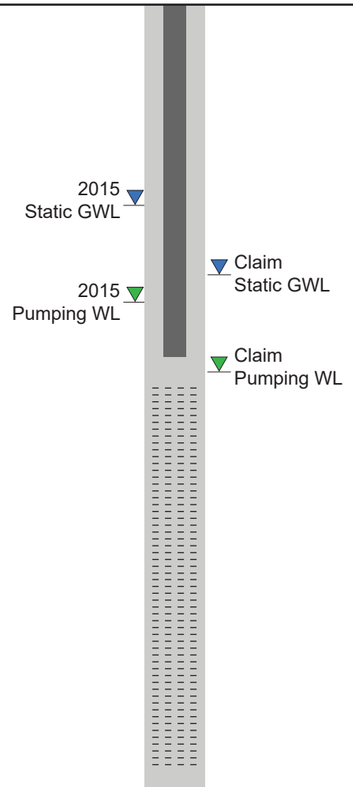
Groundwater Level Impact
Claim Process - Evaluation Examples

Attributable to GSP-/GSA-Approved or Authorized Activity

Example 1 - Well and pump was operational in 2015. Pumping Water Level is currently at or below the bottom of the well

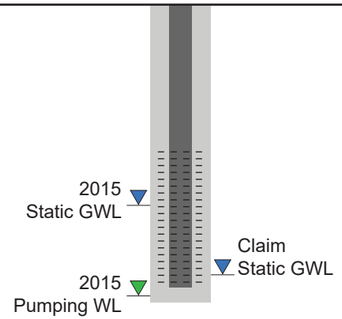


Example 2 - Well and pump was operational in 2015. Pumping Water Level is currently at or below the pump intake

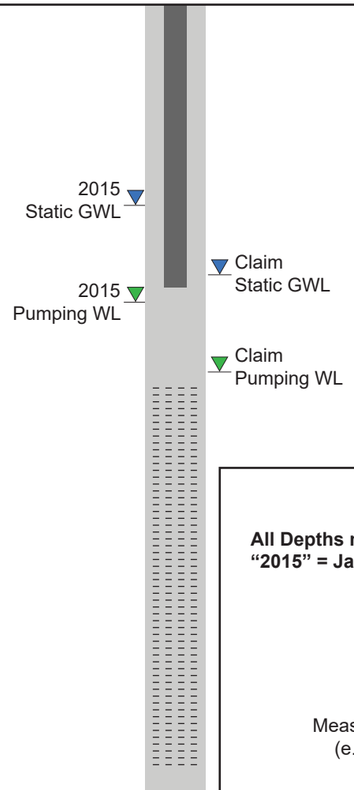


Not Attributable to GSP-/GSA-Approved or Authorized Activity

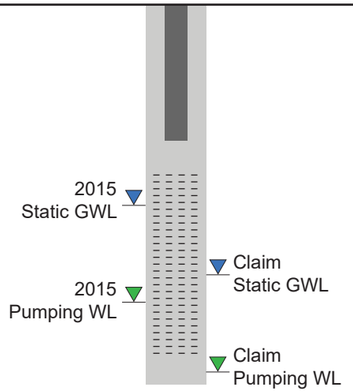
Example 3 - Static Groundwater Level was above the pump intake, but the Pumping Water Level was at or below the bottom of the well before 2015



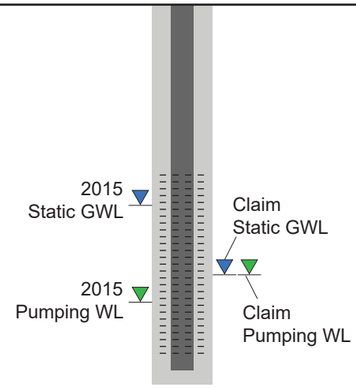
Example 4 - Static Groundwater Level was above the pump intake, but the Pumping Water Level was at or below the pump intake before 2015



Example 5 - Static Groundwater Level was at or below the pump intake before 2015



Example 6 - Pumping Water Level may be at or below the bottom of the Pump or Well but the Pump is Not Functioning



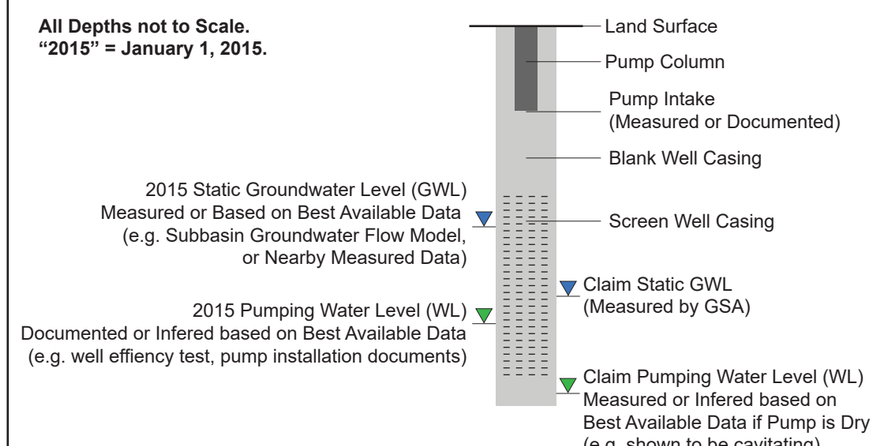
Note: Examples provided are for illustrative purposes only and do not constitue a decision. Groundwater level evaluations will be conducted on a case-by-case basis using the best available data. Additional data and analysis may be required.

Other Potential Issues Not Arributable to GSP-/GSA-Approved or Authorized Activity:

Pump damage
Well casing damage
Sanding
Staining
Odor
Mechanical Failure/Issues

Legend and Notes

All Depths not to Scale.
"2015" = January 1, 2015.



Tule Subbasin Technical Advisory Committee
Example Groundwater Sustainability Agency
Groundwater Level Impact Claim Form

Claimant Information	
Contact Name:	**Well Location Sketch:**
Phone Number:	
Mailing Address:	
Well Name:	
Well Location (Address/Description):	
Well Type: ☐ **Domestic** ☐ **Industrial** ☐ **Agricultural** ☐ **Other (Specify):**	

Interim Water Supply	
Does the Claimant Request an Interim Water Supply?	☐ **Yes** ☐ **No**
Number of Residences/Business Served (If Applicable):	
Number of Cropped Acres and Crop Type (If Applicable):	
Estimated Daily Water Use (Gallons, Cubic Feet, or Acre-Ft):	

Well Construction Information		
Is a Department of Water Resources Well Completion Report (i.e. Driller's Log) Available?	☐ **Yes (Attach if Available)** ☐ **No**	
Casing/Well Depth (ft):		
Perforation Interval(s) (ft):		
Casing Material:	**Casing Diameter (inches):**	
Date Constructed (If Known) and/or Well Age (Estimated):		
Date of Last Video Survey (If Available):		
Well Photos Attached:	☐ **Yes**	☐ **No**

Tule Subbasin Technical Advisory Committee
Example Groundwater Sustainability Agency
Groundwater Level Impact Claim Form

Pump Information	
Type: ☐ **Submersible**	☐ **Vertical Turbine**
Intake Depth (ft):	**Motor Size (horsepower):**
Age (Known or Estimated):	**Typical Discharge Rate (gpm):**
Last Pump Test Date (Attach Record if Available):	
Last Service Date (Attach Record if Available):	

Issue Status				
Date Issue Arose:				
Issue:	☐ **No flow**	☐ **Reduced Flow**	☐ **Breaking Suction**	☐ **Future Concern**
Comments/Description:				
Static Water Level (ft):		**Pumping Water Level (ft):**		
Status: ☐ **Not Resolved, Contractor not Contacted (Note: Contacting a Contractor Not Required)** ☐ **Not Resolved, Contractor Provided Estimate (attach estimate if applicable)** ☐ **Resolved (attached records if applicable)**				
Contractor Company Name:				
Contractor Contact Name:		**Contact Phone Number:**		
Contractor Address:				

Applicant	
By signing this Groundwater Level Impact Claim Form, the applicant agrees to provide the GSA with access to the well for the Wellhead Investigation.	
Print Name:	**Date:**
Signature:	

GSA Use Only	
Received By:	**Date:**

Tule Subbasin Technical Advisory Committee
Example Groundwater Sustainability Agency
Groundwater Level Impact Well Inspection Form

Inspector	
Inspector Name:	**Date:**
Representing (e.g. Irrigation District, Consultant, etc.):	

Owner Information
Owner's Name:
Field Contact Name (If Different):
Address:
Phone Number:

Well Information
Well Name:
Date Constructed:
Casing/Well Depth:
Casing Material:
Casing Diameter (inches):
Perforation Interval(s):

Pump Information:	
Type: ☐ **Submersible** ☐ **Vertical Turbine**	
Electrical Power (kW):	**Motor Size (horsepower):**
Intake Depth (ft):	
Equipped with Flow Meter: ☐ **Yes** ☐ **No**	
Flow Meter Description (Attach Photo):	
Discharge Rate (gpm) and Source:	
Discharge Line Diameter (Inches):	

Tule Subbasin Technical Advisory Committee
Example Groundwater Sustainability Agency
Groundwater Level Impact Well Inspection Form

Site Inspection	
Sounder Access Port Description and Opening Diameter (in):	
Reference Point Description and Stick Up (ft):	
Time Since Last Pumped:	**Time Since Pumping Started:**
Measured Static Water Level (ft):	**Measured Pumping Water Level (ft):**
Observed Pumping Description (e.g., working, won't turn on, dry after 5 minutes, pumping air, cavitating, etc.):	
Observed Pumping Rate (gpm) and Description (e.g., flow meter, bucket test, etc.):	
Distribution System Description (e.g., pressure tank, storage tank, residence, etc.)	

Location Sketch		
Well Coordinates:		
Survey Method:	**Latitude:**	**Longitude:**