SCV GSA

MEMBER AGENCIES

SCV WATER

CITY OF SANTA CLARITA

LOS ANGELES COUNTY DEPARTMENT of REGIONAL PLANNING

LACWD

Discussion of Sustainable Management Criteria

Groundwater Surface Water Interactions and Triggers for Groundwater Dependent Ecosystems

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Jeff Barry/GSI Water Solutions

November 23, 2021

Today's Objectives Include

- Discuss and Review
  - Use of GDE Evaluation Process
  - Timing Considerations for Evaluating GDEs
  - Implementation of Management Actions
  - Resulting Changes in Groundwater Elevations
- Discussion
- Board Direction

Recognition of Habitat Value

- Regulations require GSAs consider Surface Water Depletion in developing Sustainable Management Criteria
  - Also require other factors be “considered”
  - Specialized GDE monitoring, evaluation, and approach to implement management actions if needed
- Future surface water budgets are similar to the past, but have some differences
  - Dry weather (non-storm) surface water flows will be a little less, but not significantly so
  - Wet weather (storm) flows may be slightly reduced due to climate change

Modeled *Monthly* Non-Storm Streamflow at Western Basin Boundary

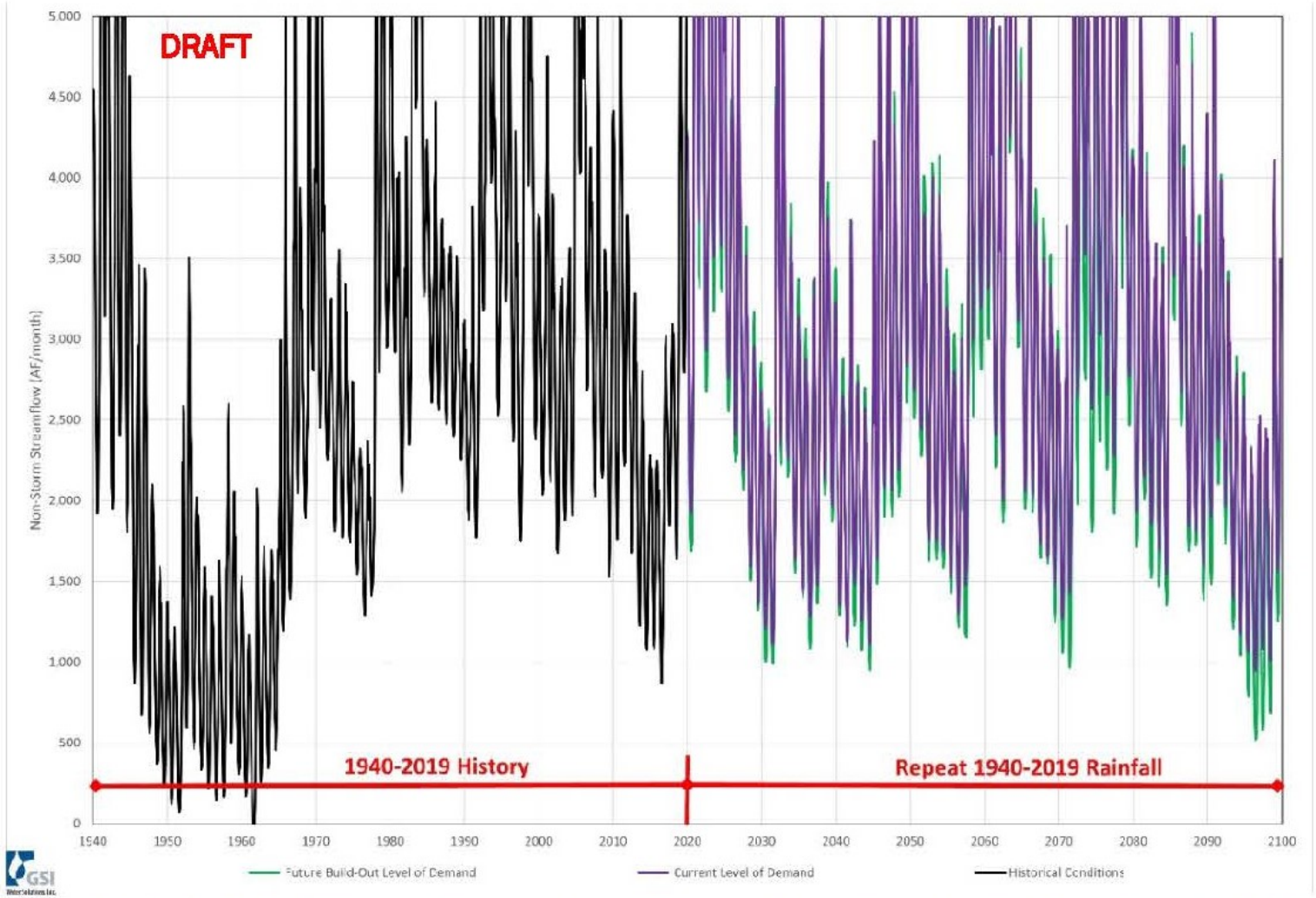


Figure 8-3. Modeled Monthly Non-Storm Streamflows at Western Basin Boundary for Historical, Current, and Projected Levels of Groundwater Use

Modeled *Annual* Non-Storm Streamflow at Western Basin Boundary

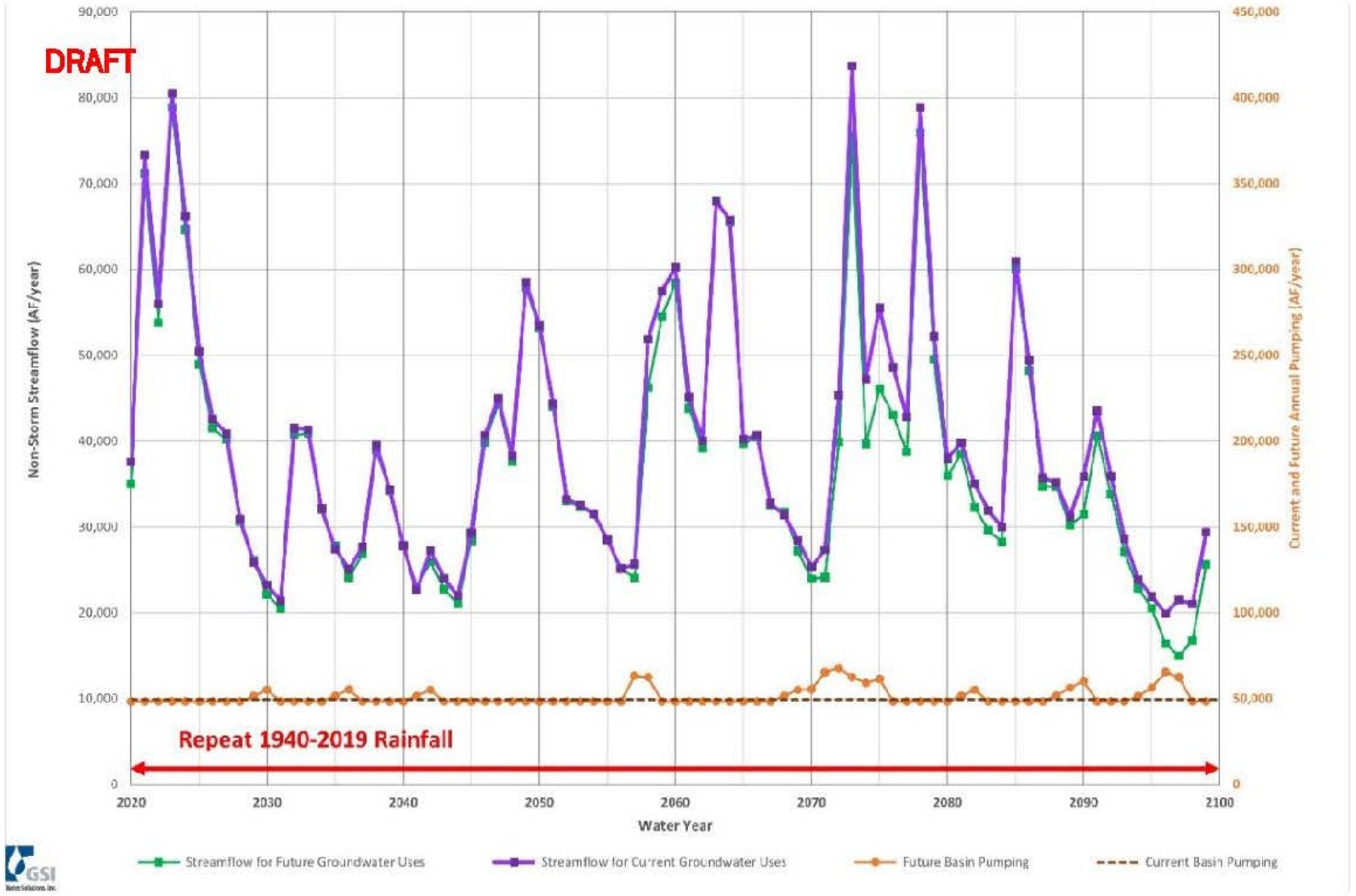


Figure 8-4. Modeled Annual Non-Storm Streamflows at Western Basin Boundary for Current and Projected Levels of Groundwater Use

Process to Evaluate Groundwater Dependent Ecosystems

- Inventory Groundwater Dependent Ecosystems
- Evaluate the Potential for Undesirable Results
- Special Monitoring Wells and Triggers
- GDE Evaluation Process
- Development of Management Actions

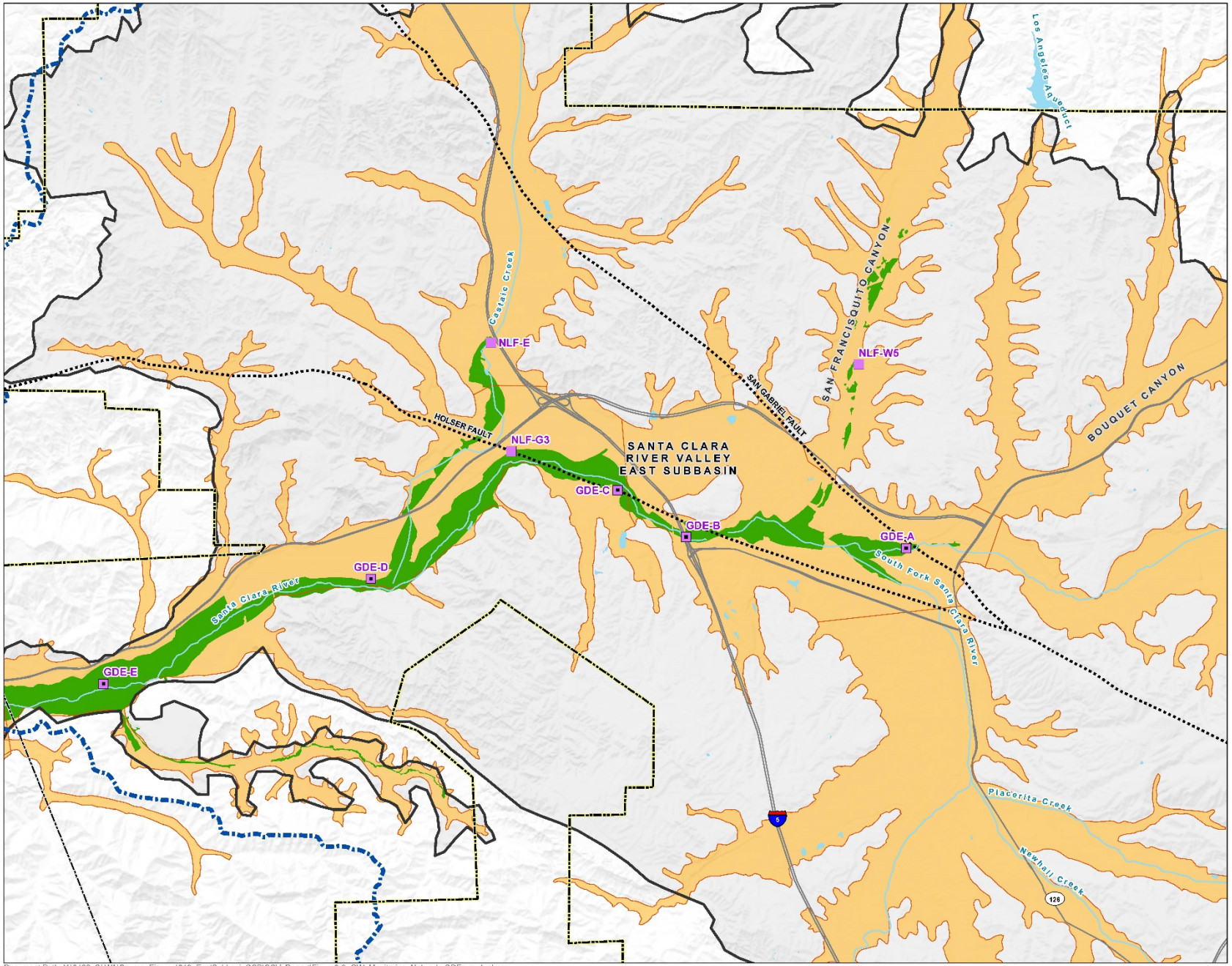


FIGURE 7-14

Groundwater Monitoring Network for GDEs

Santa Clara River Valley
East Groundwater Basin
Groundwater Sustainability Plan

LEGEND

GDE Monitoring Well in the Alluvial Aquifer

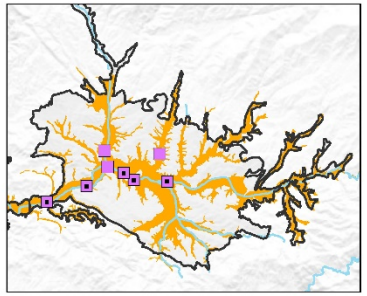
- Existing Observation Well
- New Observation Well (to be constructed)

Phreatophyte Locations

- Riparian Mixed Hardwood

All Other Features

- Santa Clara River Valley Groundwater Basin
- Alluvium
- Watershed Boundary
- Service Area Boundary for SCV Water
- Major Road
- Watercourse
- Waterbody



NOTE:
SCV Water: Santa Clarita Valley Water Agency

N

0 2,000 4,000 6,000
Feet

DRAFT

Date: April 1, 2021
Data Sources: USGS, DWR Bulletin 118, ESA

GSI Water Solutions, Inc.

Document Path: Y:\0420_CLWA\Source_Figures\019_EastSubbasinGSP\SCV_Report\Figure8-2_GW_Monitoring_Network_GDEs.mxd, abarry

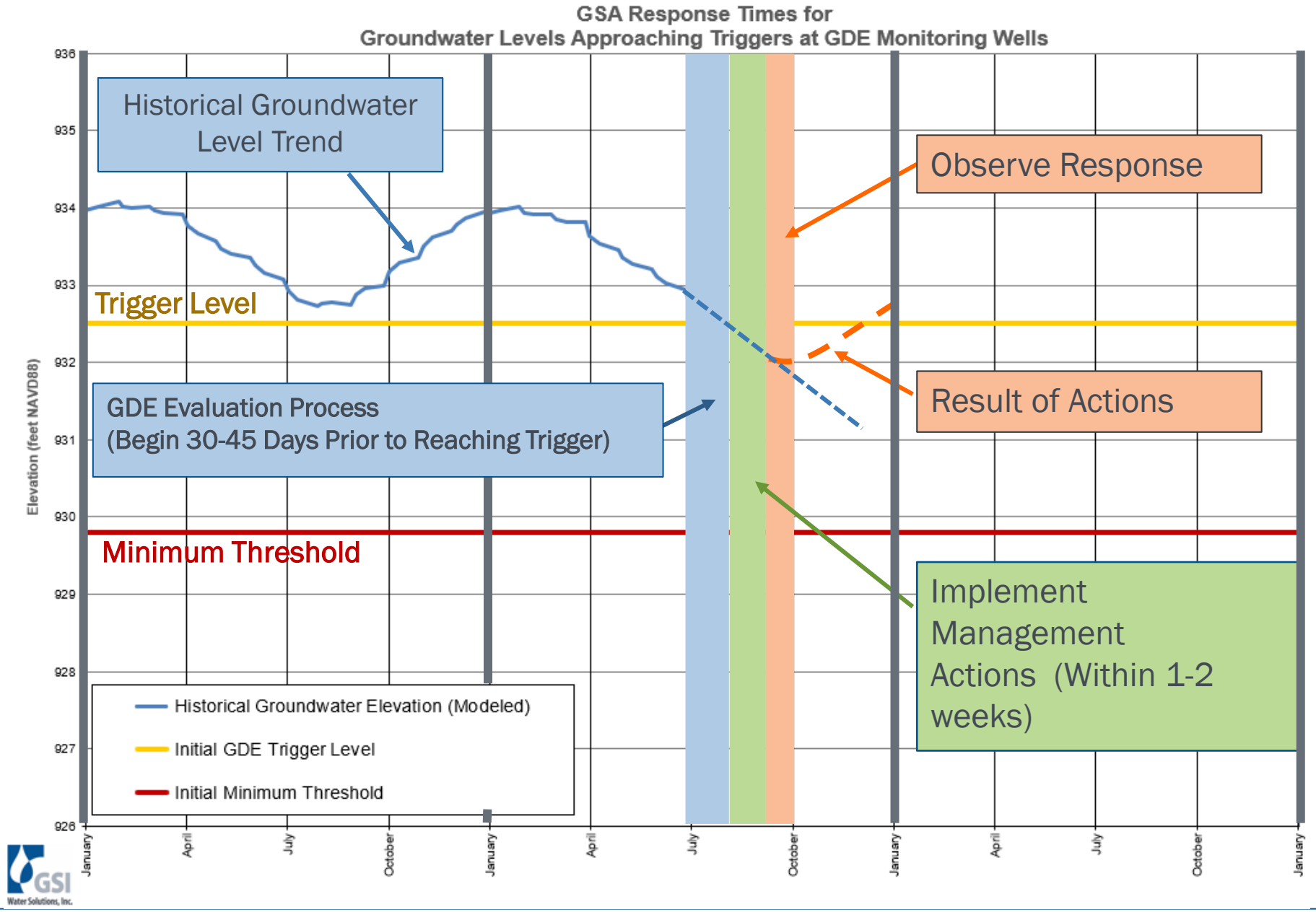
GDE Evaluation Process

- If it appears the GDE trigger will be reached, or it is reached, an evaluation process will take place.
- Six Questions in Evaluation Process
- Consultation with land owners
- Evaluation Report Prepared and Presented
  - Recommendations for ongoing monitoring, and or implementation of management actions
  - Presented quarterly or more frequently if necessary

GDE Evaluation and Management Action Process Example

- Trend Observance-mid June
- GDE Evaluation Process-mid July
  - Groundwater elevation trend suggests reaching trigger in 30-45 days
  - Evaluation report is prepared and finds
    - Undesirable results not anticipated- continue monitoring - or
    - Undesirable results anticipated
- Implementation of Management Actions
  - Selection of management actions takes place, then implemented

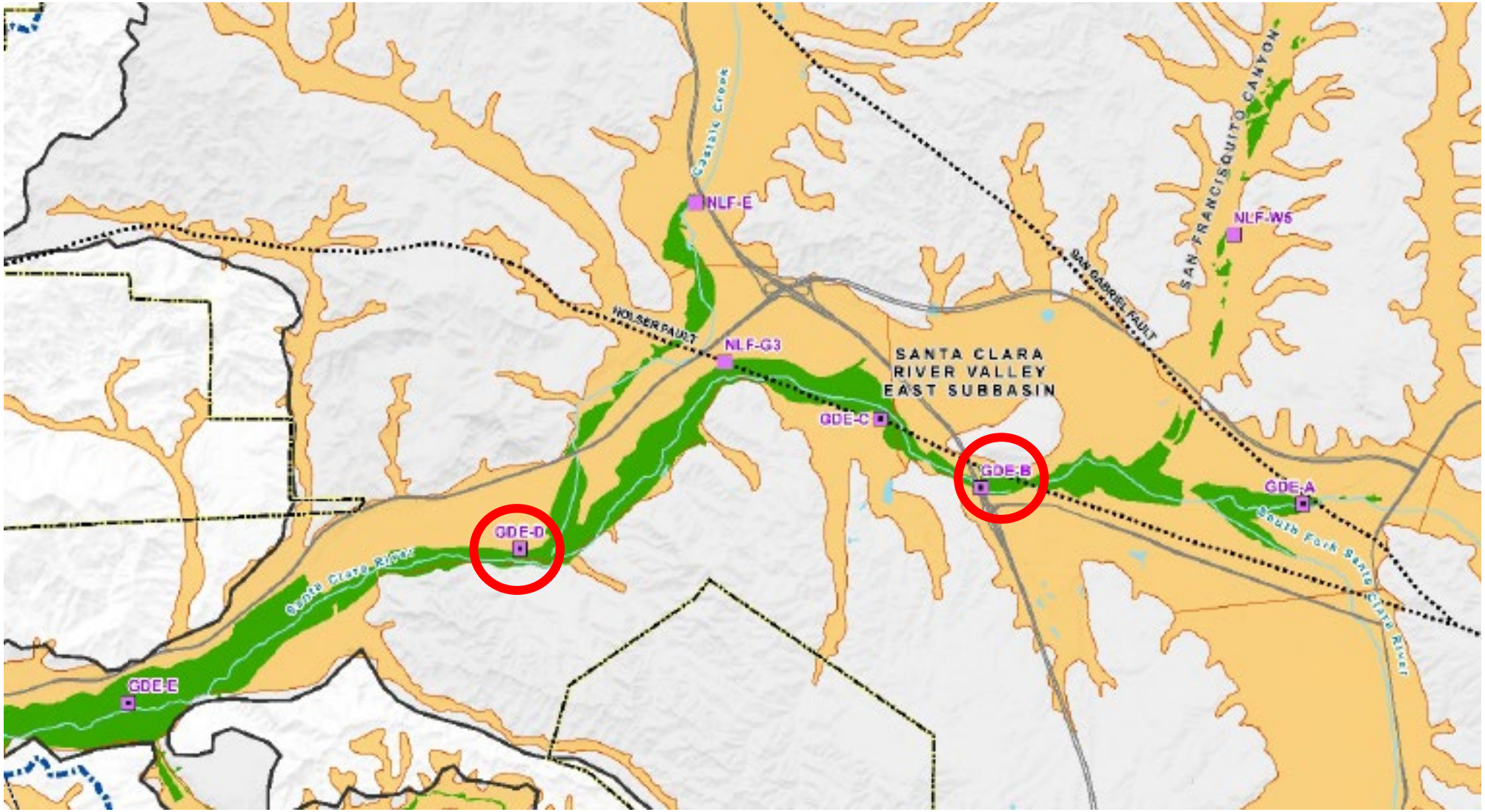
Process Example



Proof of Concept

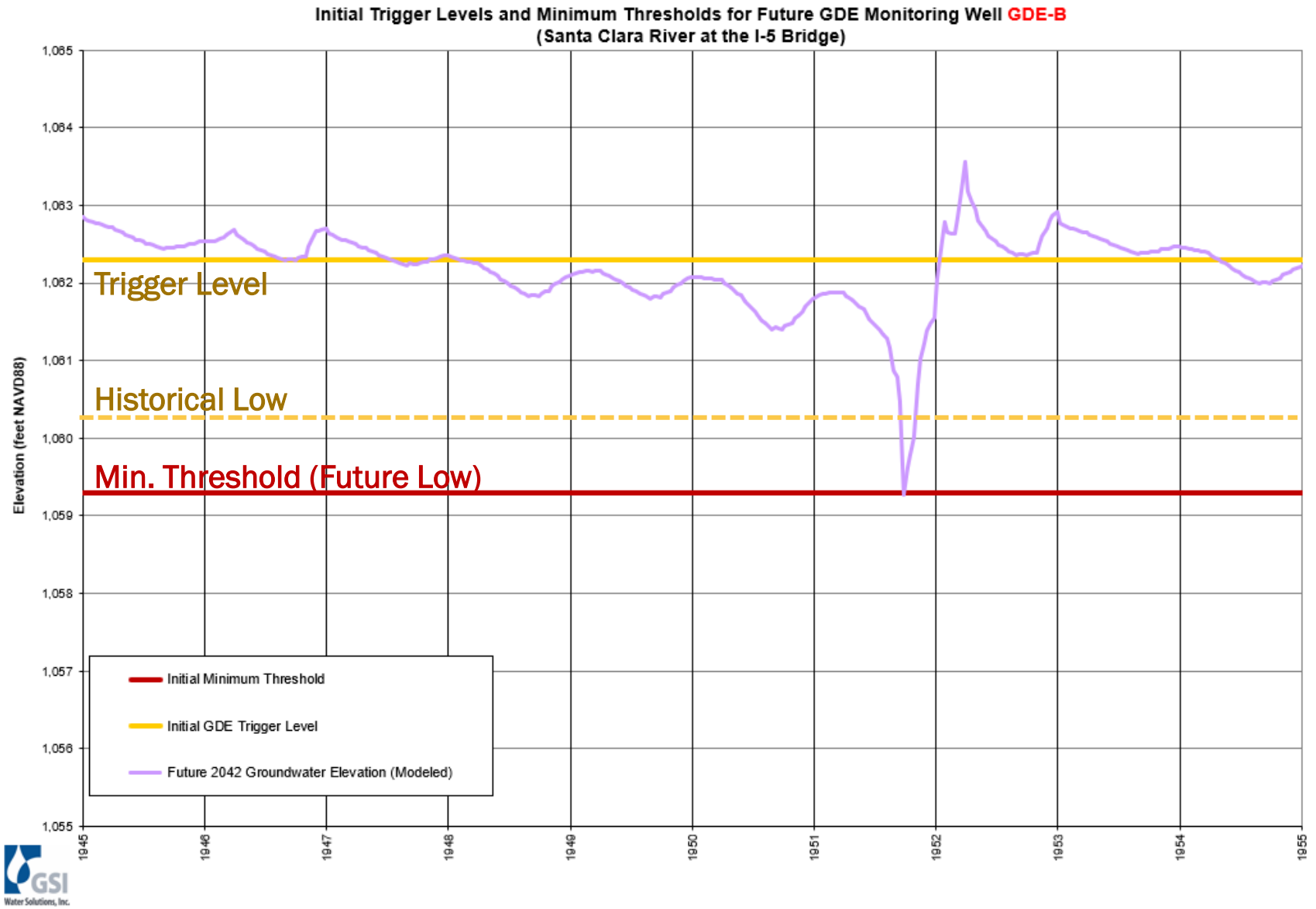
- GSP Team has conducted a range of modeling scenarios to assess water level responses
- Two modeling scenarios will be shown
- Pumping reductions cause groundwater elevations to increase
- Pumping reductions do not eliminate all drought effects
- Climate and reduced rainfall play a dominant role in water levels and both must be considered when implementing management actions

Locations of GDEs and GDE Monitoring Wells



Santa Clara River At I-5 Bridge

Vertical Scale: 10 Feet
Horizontal Scale: 10 Years



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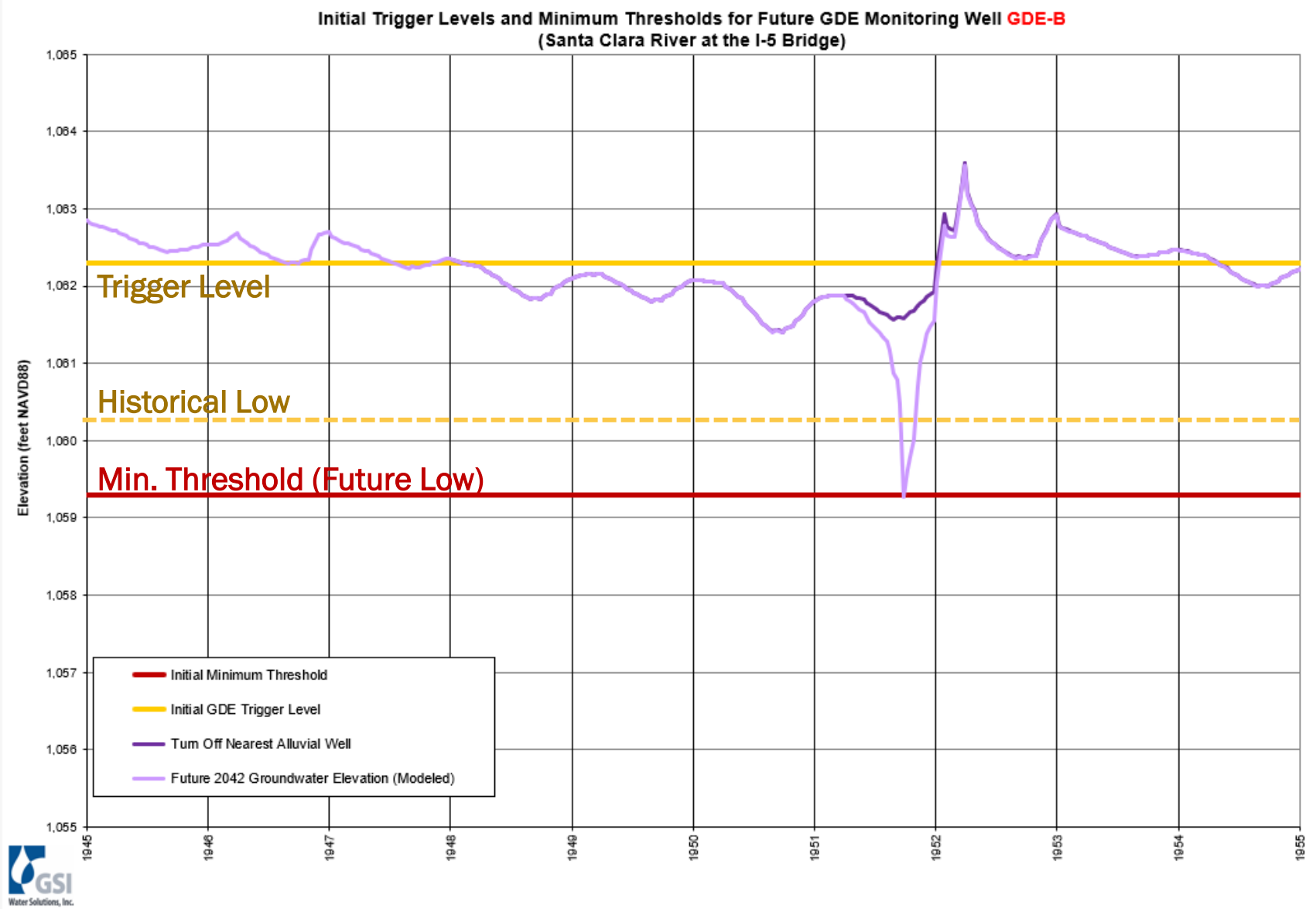
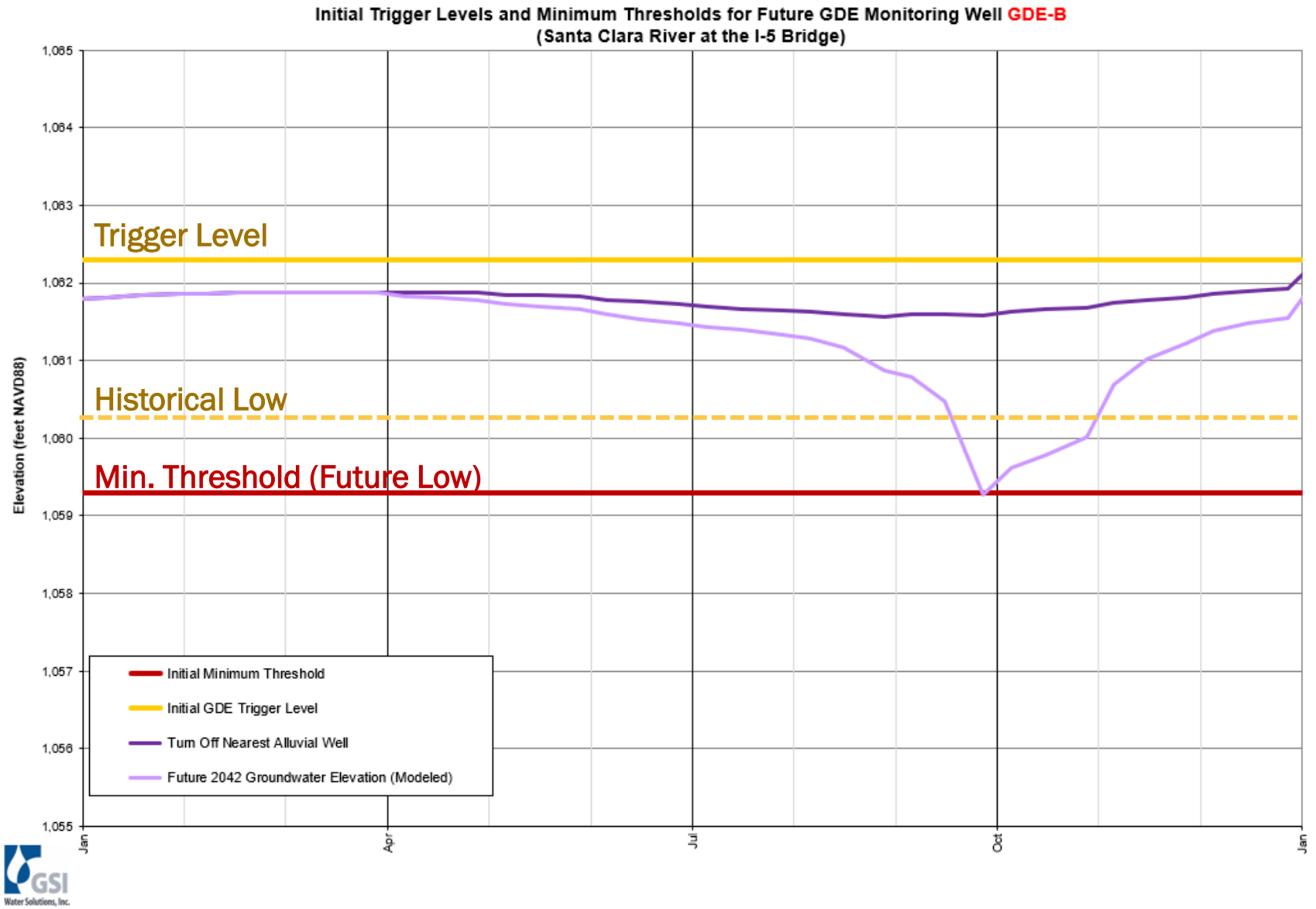


Santa Clara River At I-5 Bridge

Vertical Scale: 10 Feet
Horizontal Scale: 1 Year



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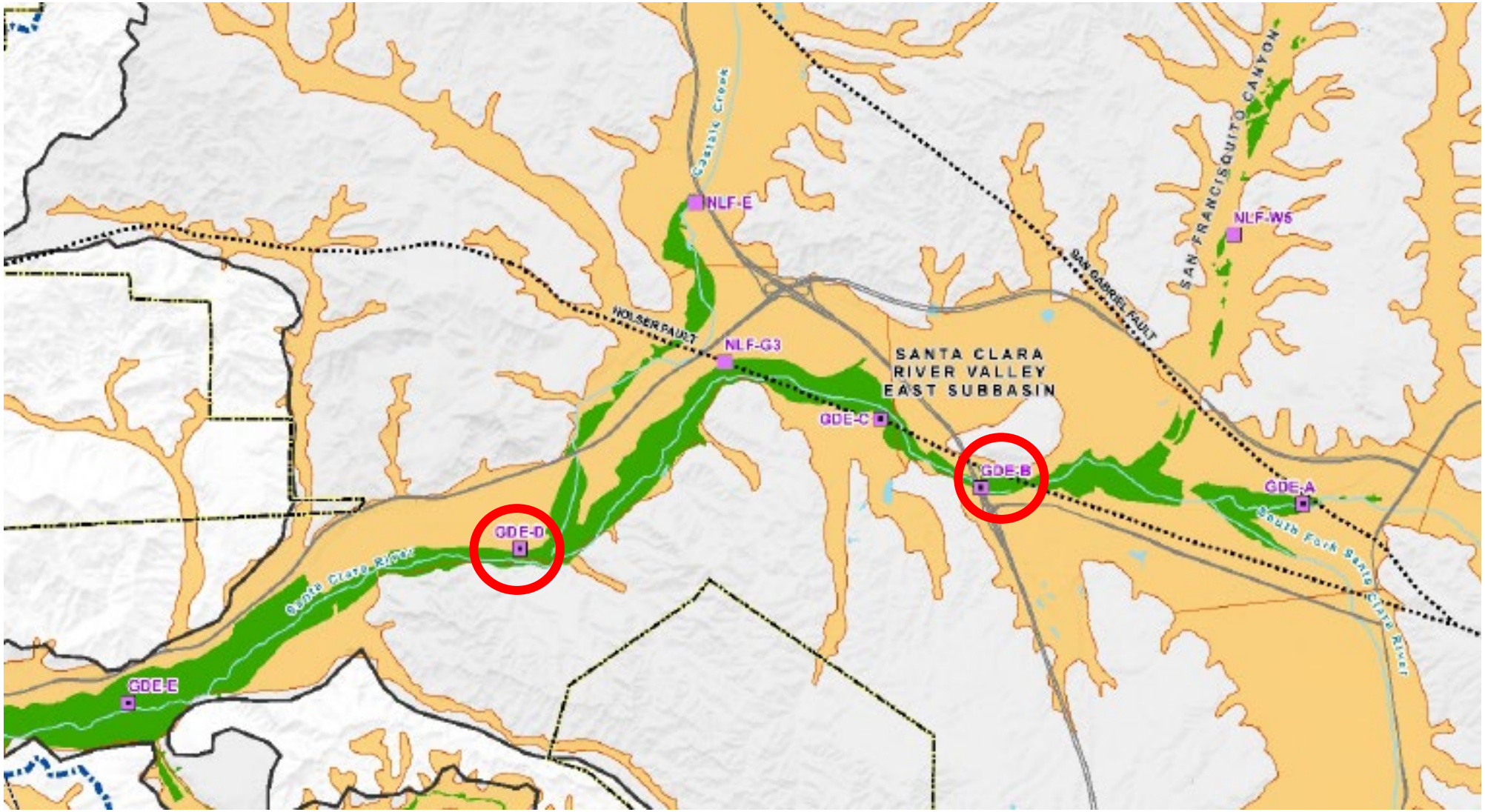
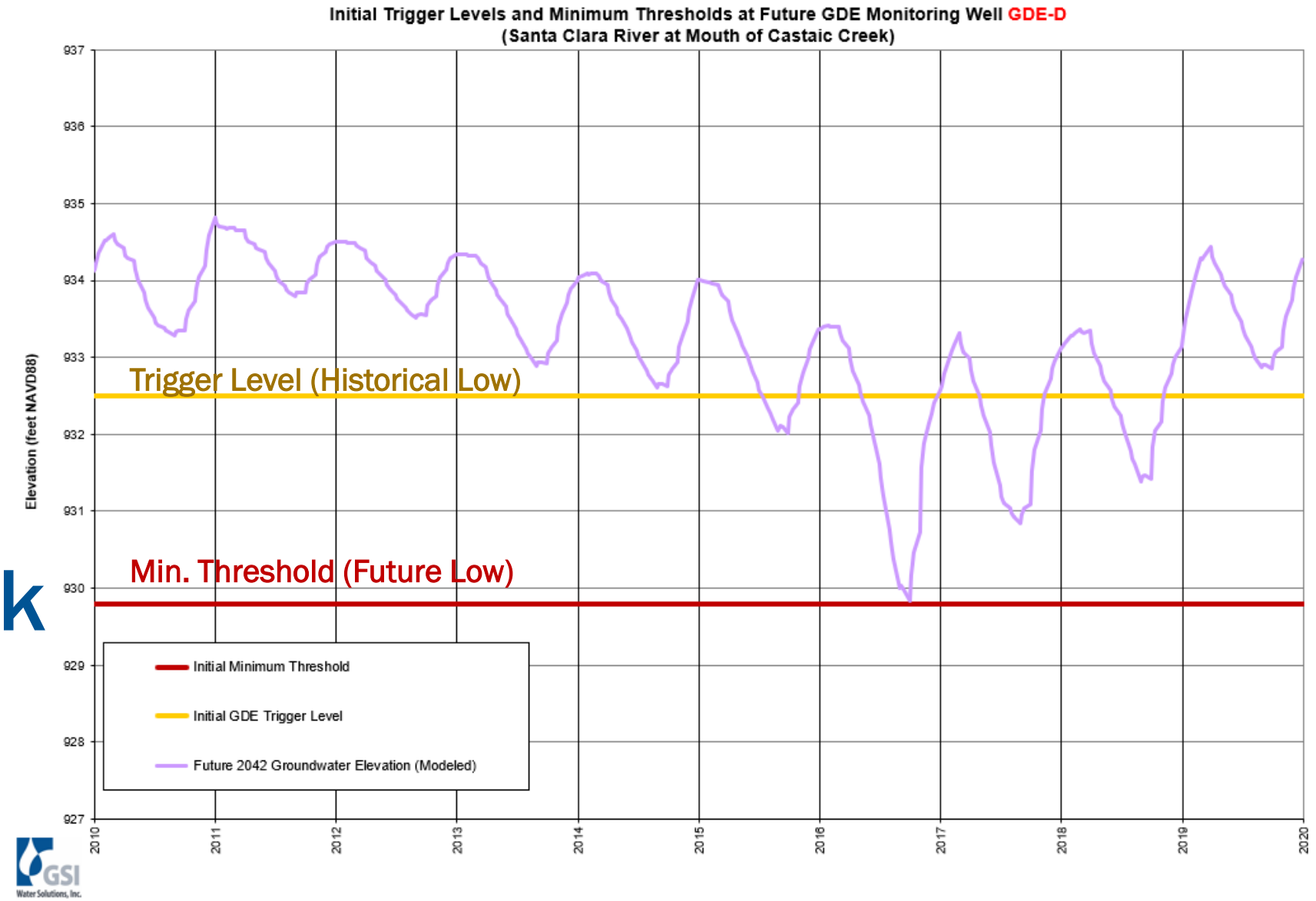


Santa Clara River At Mouth of Castaic Creek

Vertical Scale: 10 Feet
Horizontal Scale: 10 Years



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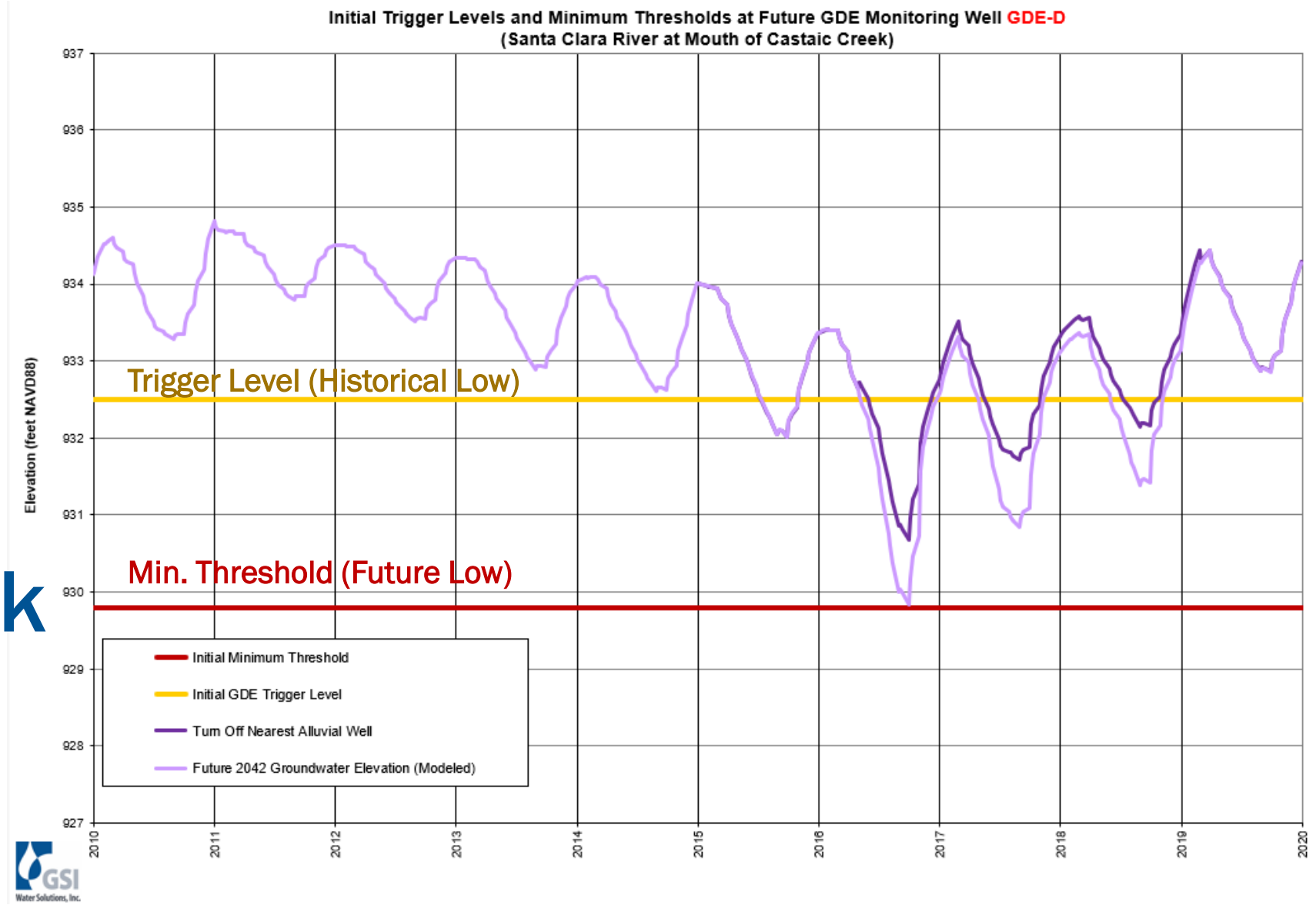

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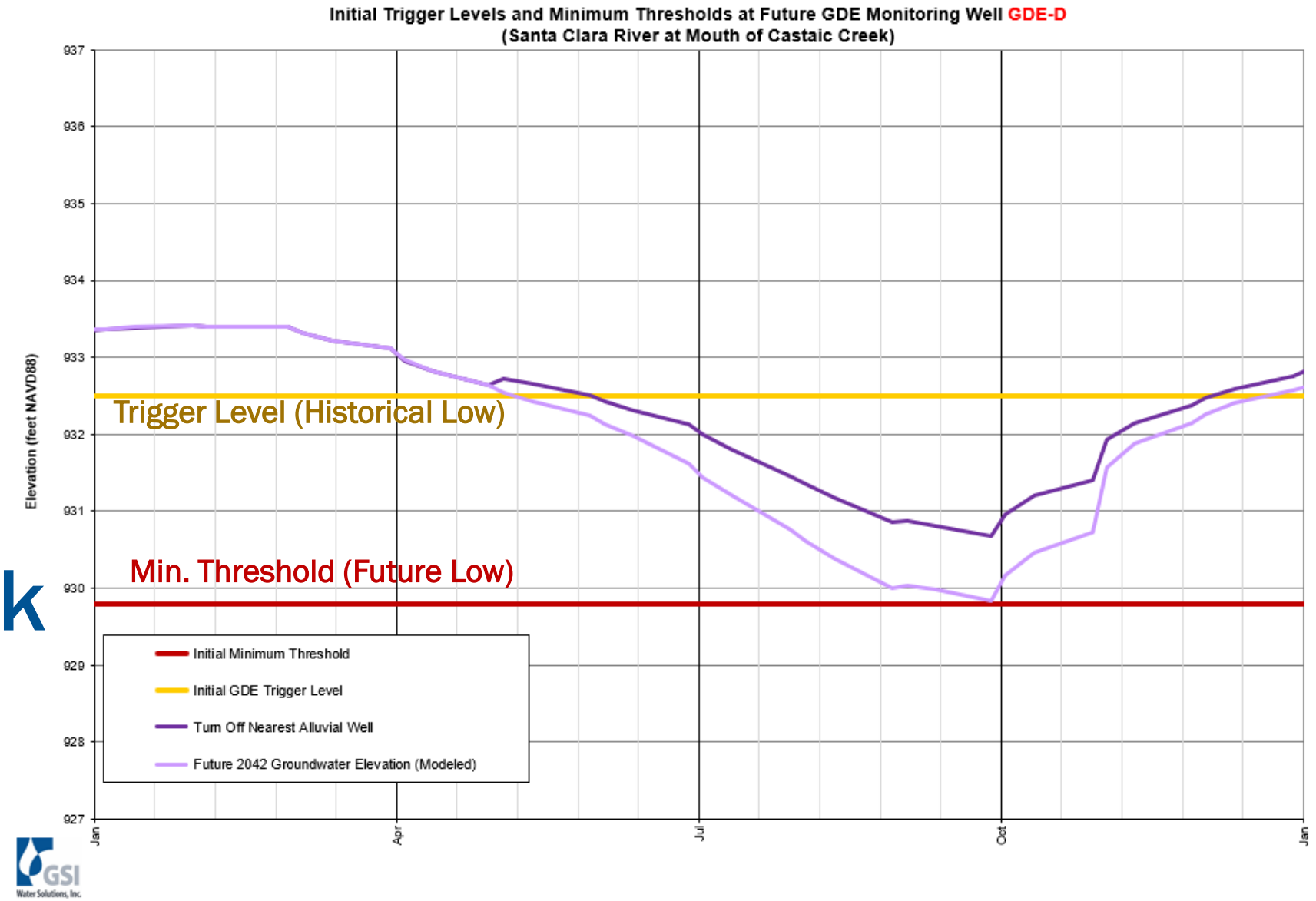

Recommendation

- That the Board of Directors consider the material provided by staff in this report and provide staff direction in preparation of the final draft to be considered for adoption at the January 3, 2022 Board meeting.