APPENDIX 6b

2023 Storage Framework Investigation

FINAL REPORT | MAY 2023

2023 Storage Framework Investigation

PREPARED FOR

Chino Basin Watermaster

PREPARED BY

2023 Storage Framework Investigation

Prepared for

Chino Basin Watermaster

Project No. 941-80-22-11

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FINAL REPORT | MAY 2023

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LIST OF ACRONYMS AND ABBREVIATIONS

af	Acre-Feet
afy	Acre-Feet Per Year
CBP	Chino Basin Program
CVM	Chino Valley Model
desalters	Chino Basin Desalters
DYYP	Dry-Year Yield Program
FY	Fiscal Year
IEUA	Inland Empire Utilities Agency
LSLS	Local Storage Limitation Solution
MPI	Material Physical Injury
OBMP	Optimum Basin Management Program
OSR	Operational Storage Requirement
PEIR	Programmatic Environmental Impact Report
SEIR	Supplemental Environmental Impact Report
SSC	Safe Storage Capacity

1.0 BACKGROUND AND OBJECTIVES

1.1 Chino Basin Judgment, 2000 OBMP, and Peace Agreements

This section describes the Chino Basin Judgment, 2000 Optimum Basin Management Program (OBMP), the Peace Agreement, and the Peace II Agreement that called for and supported the initial storage management efforts in the Chino Basin.

1.1.1 Chino Basin Judgment

Groundwater pumping and storage rights in the Chino Basin were adjudicated in 1978. Figure 1-1 shows the location of the Chino Basin, the hydrologic boundary of the Basin, and the defined OBMP groundwater management zones.

The Chino Basin Judgment[1] included an acknowledgement that there was a significant amount of unused storage space in the Chino Basin, and that use of this space be undertaken only under Watermaster control and regulation. Specifically, Judgment paragraphs 11 and 12 state:

> "11. Available Ground Water Storage Capacity. There exists in Chino Basin a substantial amount of available ground water storage capacity which is not utilized for storage or regulation of Basin Waters[2]. Said reservoir capacity can appropriately be utilized for storage and conjunctive use of Supplemental Water[3] with Basin Waters. It is essential that said reservoir capacity utilization for storage and conjunctive use of Supplemental Water be undertaken only under Watermaster control and regulation, in order to protect the integrity of both such Stored Water[4] and Basin Water in storage and the Safe Yield[5] of Chino Basin.

[1] Original judgment in Chino Basin Municipal Water District vs. City of Chino, et al., signed by Judge Howard B. Weiner, Case No. 164327. File transferred August 1989, by order of the Court and assigned new case number RCV51010. The restated Judgment can be found here:

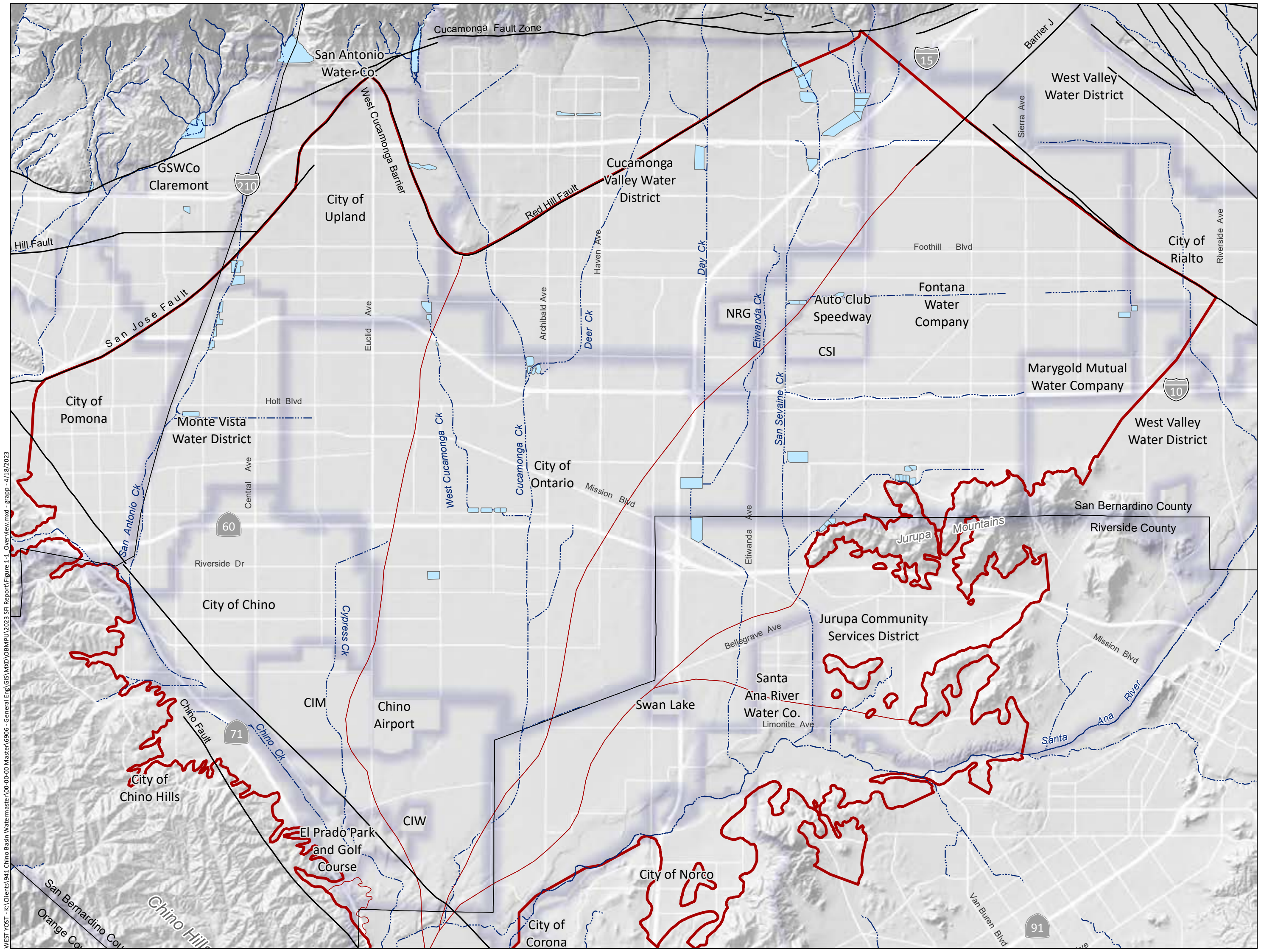
http://www.cbwm.org/docs/WatermasterCourtFilings/2012%20Watermaster%20Restated%20Judgment.pdf

[2] "Basin Water" means Groundwater within the Chino Basin which is part of the Safe Yield, Operating Safe Yield, New Yield), or Replenishment Water in the Basin as a result of operations under the Physical Solution decreed in the Judgment. Basin Water does not include "Stored Water" under the Judgment and the Peace Agreement. [Judgment 4(d).]

[3] "Supplemental Water" means water imported to Chino Basin from outside the Chino Basin Watershed and Recycled Water. [Judgment ¶ 4(bb) and Peace Agreement § 1.1(ww).]

[4] "Stored Water" means Supplemental Water held in storage, as a result of direct spreading, injection or in-lieu delivery, for subsequent withdrawal and use pursuant to a Groundwater Storage Agreement with Watermaster. [Judgment ¶ 4(aa) and Peace Agreement § 1.1(vv).]

[5] "Safe Yield" means the long-term average annual quantity of groundwater (excluding Replenishment Water or Stored Water but including return flow to the Basin from use of Replenishment or Stored Water) which can be Produced from the Basin under cultural conditions of a particular year without causing an undesirable result. [Judgment ¶ 4(x) and Peace Agreement § 1.1(qq).]



Chino Basin Hydrologic Boundary

OBMP Management Zones

Streams & Flood Control Channels

Flood Control & Conservation Basins

Water Service Area

Faults

Location Certain

Location Approximate

Approximate Location of Groundwater Barrier

Location Concealed

Location Uncertain

Prepared by:

WEST YOST

0 2 4 Miles

0 3 6 Km

Prepared for:

Chino Basin Watermaster

2023 Storage Framework Investigation

Chino Basin

Figure 1-1

> 12. Utilization of Available Ground Water Capacity. Any person or public entity, whether a Party to this action or not, may make reasonable beneficial use of the available ground water storage capacity of Chino Basin for storage of Supplemental Water; provided that no such use shall be made except pursuant to written agreement with Watermaster, as authorized by Paragraph 28. In the allocation of such storage capacity, the needs and requirements of lands overlying Chino Basin and the owners of rights in the Safe Yield or Operating Safe Yield[6] of the Basin shall have priority and preference over storage for export."

These paragraphs establish Watermaster's control over the use of the storage space in the Basin that is not used to regulate Basin Waters for Safe Yield, require the accounting of Stored Water and Basin Water in storage, require accounting for the impacts of Managed Storage on Safe Yield and the prevention of unauthorized overdraft, require storing entities to obtain a storage agreement from Watermaster, and prioritize the use of storage space to meet the needs and requirements of the lands overlying the Chino Basin, and of the Parties over the storage space used to store water for export.

Judgment paragraphs 28 and 29 state:

> "28. Ground Water Storage Agreements. Watermaster shall adopt, with the approval of the Advisory Committee, uniformly applicable rules and a standard form of agreement for storage of Supplemental Water, pursuant to criteria therefore set forth in Exhibit "I". Upon appropriate application by any person, Watermaster shall enter into such a storage agreement; provided that all such storage agreements shall first be approved by written order of the Court, and shall by their terms preclude operations which will have a substantial adverse impact on other producers.
>
> 29. Accounting for Stored Water. Watermaster shall calculate additions, extractions and losses and maintain an annual account of all Stored Water in Chino Basin, and any losses of water supplies or Safe Yield of Chino Basin resulting from such Stored Water."

These paragraphs require that Watermaster develop storage agreements for entities (Parties and others) to store water in the Basin, have the storage agreements approved by the Court, include terms in the storage agreements to ensure that storage "operations" do not cause "substantial adverse impact on other producers," and collect information to enable it to account for "all Stored Water in Chino Basin, and any losses of water supplies or Safe Yield of Chino Basin resulting from such Stored Water." Losses of water supplies or Safe Yield refer to storage losses and changes in Safe Yield caused by the management of storage.

[6] "Operating Safe Yield" means the annual amount of Groundwater which Watermaster shall determine, pursuant to criteria specified in Exhibit "I" to the Judgment, can be Produced from Chino Basin by the Appropriative Pool parties free of Replenishment obligation under the Physical Solution. [Judgment ¶ 4(1) and Peace Agreement § 1.1(ee).]

1.1.2 2000 OBMP and Peace Agreement

The OBMP[7] and the Peace Agreement[8] were completed in 1999 and 2000, respectively. The operable features of the OBMP were incorporated into the OBMP Implementation Plan.[9] The OBMP Implementation Plan is Exhibit B to the Peace Agreement. The Peace Agreement was reviewed in a programmatic environmental impact report (PEIR) completed by the Inland Empire Utilities Agency (IEUA) in July 2000. The OBMP Implementation Plan contains a storage management plan that was developed to allow the Parties and other entities to utilize the unused storage space in the Chino Basin and mitigate Material Physical Injury[10] (MPI) from its use.

The OBMP storage management plan consisted of managing groundwater production, replenishment, recharge, and storage such that total storage within the Basin ranged from a low of 5,300,000 acre-feet (af) to a high of 5,800,000 af. The following definitions were included in the OBMP Implementation Plan:

- Operational Storage Requirement (OSR) is the storage or volume in the Chino Basin that is necessary to maintain Safe Yield. The OSR was estimated in the development of the OBMP to be about 5.3 million af. This storage value was set at the estimated storage in the Basin in 1997.[11]
- Safe Storage is an estimate of the maximum amount of storage space in the Basin that can be used and not cause significant water-quality and/or high-groundwater related problems. The Safe Storage was estimated in the development of the OBMP to be about 5.8 million af.

Safe Storage Capacity (SSC) is the difference between Safe Storage and the OSR (500,000 af). The storage management plan stated that the allocation and use of storage space in excess of the SSC will preemptively require mitigation; that is, mitigation must be defined, and resources committed to mitigation, prior to its allocation and use.

The SSC was estimated during the development of the OBMP to be equal to the calculated decline in storage (400,000 af) during the base period (1965 through 1974) used to estimate the Safe Yield[12] in the Judgment plus an assumed additional decline in storage (100,000 af) in the intervening period up to the filing of the Judgment (1974 to 1978). The assumption underlying SSC was that it would be safe to store water in storage space that was recently used in the past.

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[7] OBMP Phase I Report

[8] Peace Agreement

[9] The OBMP Implementation Plan is Appendix B to the Peace Agreement, and it is located here: http://www.cbwm.org/docs/legaldocs/Implementation_Plan.pdf

[10] "Material Physical Injury" means material injury that is attributable to the Recharge, Transfer, Storage and Recovery, management, movement or Production of water, or implementation of the OBMP, including, but not limited to, degradation of water quality, liquefaction, land subsidence, increases in pump lift (lower water levels) and adverse impacts associated with rising Groundwater. Material Physical Injury does not include "economic injury" that results from other than physical causes. Once fully mitigated, physical injury shall no longer be considered to be material. [Peace Agreement § 1.1(y).]

[11] Page 2-11, OBMP Phase I Report.

[12] Ibid, page 2-28 and Table 2-13.

Water occupying the SSC includes all Carryover,[13] Local Storage[14] (including Excess Carryover[15] and the Parties' stored Supplemental Waters) and Supplemental Waters stored for Storage and Recovery Programs.[16] Carryover, Excess Carryover, Local Storage, and Supplemental Waters, including Supplemental Waters used in Storage and Recovery Programs, are referred to herein collectively as Managed Storage.

1.1.3 Peace II Agreement and Related Work

Understanding of storage in the Chino Basin advanced through the initial implementation of the OBMP and the development of the Peace II Agreement to facilitate the expansion of the Chino Basin Desalters (desalters) to the 40,000 acre-feet per year (afy). The Peace II Agreement included provisions for desalter expansion, the dedication of 400,000 af of groundwater in storage to desalter replenishment, and changes in the Judgment to implement the Peace II Agreement. However, there was no change to the storage management plan in the OBMP Implementation Plan even though the total storage estimated for 2001 was greater than the SSC and that the implementation of the Peace II Agreement would result in 400,000 af of new controlled overdraft.

The IEUA completed and subsequently adopted a supplemental environmental impact report (SEIR) for the Peace II Agreement in 2010. The technical investigations conducted to support the expansion of desalter groundwater production to 40,000 afy, and the use of 400,000 af of groundwater to partially meet the Replenishment Obligation for desalter production, also indicated that the Safe Yield of the Chino Basin at that time was likely less than that stated in the Chino Basin Judgment and that it was projected to decline further in the future due to changes in cultural conditions in the watersheds overlying and tributary to the Chino Basin.

Starting in 2011, Watermaster began the technical effort to recalculate the Safe Yield (WEI, 2015a).[17] This work involved updating the hydrogeologic conceptual model of the Basin, updating the historical hydrology, updating and recalibrating numerical models that simulate the surface and ground water hydrology of the Chino Basin area, and projecting the surface and groundwater response of the Basin to future management plans that included storage management. The projected Managed Storage based on the updated management plans resulted in Managed Storage being projected to increase up to about

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[13] "Carry-Over Water" means the un-Produced water in any year that may accrue to a member of the Non-Agricultural Pool or the Appropriative Pool and that is Produced first each subsequent Fiscal Year or stored as Excess Carry-Over. (Judgment Exhibit H ¶ 12.)

[14] "Local Storage" means water held in a storage account pursuant to a Local Storage Agreement between a party to the Judgment and Watermaster. "Local Storage Agreement" means a Groundwater Storage Agreement for Local Storage.

[15] "Excess Carry-Over Water" means Carry-Over Water which in aggregate quantities exceeds a party's share of Safe Yield in the case of the Non-Agricultural Pool, or the assigned share of Operating Safe Yield in the case of the Appropriative Pool, in any year.

[16] "Storage and Recovery Program" means the use of the available storage capacity of the Basin by any person under the direction and control of Watermaster pursuant to a Court approved Groundwater Storage Agreement but excluding "Local Storage," including the right to export water for use outside the Chino Basin and typically of broad and mutual benefit to the parties to the Judgment. [Peace Agreement §1.1(uu).]

[17] 2013 Chino Basin Groundwater Model Update and Recalculation of the Safe Yield Pursuant to the Peace Agreement Final Report

663,000 af in 2030, which was greater than the then-current SSC. This work resulted in the reset of the Safe Yield to 135,000 afy for the period of 2011 through 2020.

Partially in response to the findings from the 2015 Safe Yield recalculation, the IEUA adopted an addendum to the Peace II SEIR in 2017 to increase the SSC to 600,000 af through June 30, 2021. The IEUA intended for Watermaster to update the OBMP storage management plan by that time to account for the predicted future exceedance of the SSC.

1.2 The 2018 Storage Framework Investigation, the 2020 OBMPU, and the Local Storage Limitation Solution

1.2.1 2018 Storage Framework Investigation

To support Watermaster's update of the OBMP storage management plan, the initial Storage Framework Investigation was initiated in 2017 and completed in 2018 (2018 SFI).[18] Watermaster conducted the 2018 SFI to provide it the tools and technical information necessary to enable an update to the storage management plan. The goals of the 2018 SFI were to describe how the Basin will respond to the use of storage space, the potential MPI and adverse impacts (if any) from the future use of storage space, and to develop descriptions of various approaches to mitigate MPI and adverse impacts. Watermaster completed the Storage Framework Investigation in October 2018. Watermaster conducted a robust stakeholder process to facilitate development of the 2018 SFI. A total of eight (8) stakeholder workshops were conducted over 15 months and offered multiple opportunities for the Parties and others to review interim products and provide input in the 2018 SFI. Watermaster used the 2015 version of its Chino Basin groundwater model to evaluate the Basin response from the use of increasing volumes of storage space. The amount of storage space to be used by the Parties was projected to be about 700,000 af. The 2018 SFI evaluated the Basin response from the use of storage by the Parties and others ranging from 700,000 af to 1,000,000 af.

1.2.2 2020 OBMP Update

After the completion of the 2018 SFI, Watermaster initiated stakeholder and technical processes to formally update the 2000 OBMP, completed that effort in 2020, and documented it in the 2020 OBMP Update report (2020 OBMPU; WEI, 2020a).[19] Included in the 2020 OBMPU is a storage management plan that is based on the results of the 2018 SFI. In October 2020, the Watermaster Board approved Resolution 20-06, whereby it adopted the 2020 OBMPU report in its entirety. The Watermaster Board encouraged the Parties to timely develop an implementation plan and an implementation agreement and support the necessary environmental review to commence the proposed activities in the 2020 OBMPU.

In 2020, the Parties recommended postponing efforts to develop an implementation plan, implementation agreement, and any necessary environmental review. The environmental review process for the 2020 OBMPU was reinitiated in 2022. Activities in 2022 included updating the project description that characterizes the potential implementation actions of the 2020 OBMPU and developing the environmental documentation pursuant to the CEQA.

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[18] 2018 Storage Framework Investigation Final Report

[19] 2020 OBMP Update Report

1.2.3 2020 Safe Yield Recalculation

In parallel with the development of the 2020 OBMPU, Watermaster initiated an investigation to recalculate the Chino Basin Safe Yield, completed it in May 2020 (WEI, 2020b),[20] and obtained Court approval of the new Safe Yield in July 2020. The recalculation of the Safe Yield involved major updates to and a recalibration of Watermaster's groundwater model, resulting in the development of the 2020 Chino Valley Model (CVM). Watermaster collected updated planning information to develop the projection scenario to calculate the Safe Yield, which included an update of the projected Managed Storage used by the Parties. The updated projection of the maximum storage space used by the Parties was about 612,000 af in 2030, which is about 85,000 af less than what was projected in the 2018 SFI.

1.2.4 Local Storage Limitation Solution

During 2020, the Parties recommended that Watermaster reevaluate the Basin response to the use of storage space in a manner like that done in the 2018 SFI, but with the new CVM. This reevaluation was planned to be completed in two efforts: (i) a narrower investigation to increase the SSC above 600,000 af beyond the then-current deadline of June 30, 2021[21] and (ii) an investigation like the 2018 SFI to support the eventual CEQA documentation for the 2020 OBMPU. The first of these efforts is called the Local Storage Limitation Solution (LSLS).

For the LSLS, the Parties requested that Watermaster evaluate the use of storage space for Metropolitan Water District's current Storage and Recovery Program called the Dry-Year Yield Program (DYYP). The DYYP can store up 100,000 af. The DYYP is set to terminate in 2028, and no plans exist to use storage space for any Storage and Recovery Programs after the DYYP terminates. The LSLS comprises the Parties' projected use of storage through 2035 and the assumed operations of the DYYP through 2028. The Parties recommended that the evaluation of the Basin response for the use of storage space above this amount be deferred. Based on these assumptions and the results of the evaluation, the LSLS definition includes using Managed Storage up to 700,000 af until June 30, 2030, and up to 620,000 af from July 1, 2030 through June 30, 2035. Watermaster and IEUA developed this definition based on the projected use of Managed Storage, accounting for the uncertainty in future projections of the DYYP operations and the Parties' future groundwater pumping plans to recover their water in Managed Storage.

The report evaluating the LSLS (WY, 2021a)[22] included an assessment of potential MPI and adverse impacts resulting from the combined use of storage space by the Parties and the DYYP. IEUA used this report to support the development of a second addendum to the Peace II SEIR to increase the SSC to 700,000 af until June 30, 2030, and then decreasing to 620,000 af from July 1, 2030 through June 30, 2035. The second addendum was certified in 2021, and the Court ordered the implementation of the LSLS and the increase of the SSC in July 2021.[23]

[20] 2020 Safe Yield Recalculation Final Report

[21] IEUA adopted an addendum to the Peace II SEIR in 2017 to increase the SSC to 600,000 af through June 30, 2021. After June 30, 2021, in the absence of another addendum to increase the SSC, the SSC would decline to 500,000 af.

[22] Evaluation of the Local Storage Limitation Solution Final Report

[23] Notice of Order Re: Motion Regarding Implementation of the Local Storage Limitation Solution

1.3 Scope of Work to Develop 2023 SFI and Expected Use of this Report

The 2023 SFI is meant to provide a technical analysis of the hydrologic impacts of Storage and Recovery Programs that are contemplated in the 2020 OBMPU project description. Pursuant to this objective, the scope of work to develop the 2023 SFI is to (i) define Storage and Recovery Program scenarios based on the 2020 OBMPU project description and (ii) evaluate the response of the Chino Basin to the scenarios for MPI and adverse impacts.

The projected response of the Chino Basin to the Storage and Recovery Program scenarios will be simulated using the 2020 CVM over the period of FY 2019 through FY 2060. By using the 2020 CVM as the basis for this analysis, this report reflects the most up to date understanding of the effects of the contemplated Storage and Recovery Programs on the Chino Basin. The information included in the 2023 SFI will be used by IEUA to prepare the SEIR for the 2020 OBMPU.

1.4 Outline of Report

This report consists of the following chapters other than Chapter 1 (this chapter):

- **Chapter 2. Description of Storage and Recovery Program Scenarios.** Chapter 2 describes the Baseline Scenario and the three scenarios developed for the 2023 SFI.
- **Chapter 3. Evaluation of Storage and Recovery Program Scenarios.** Chapter 3 describes the methodology to evaluate the model results of the Storage and Recovery Program Scenarios for MPI and adverse impacts, the simulation results of the three Storage and Recovery Program Scenarios described in Chapter 2, and the evaluation of the results.
- **Chapter 4. Summary and Conclusions.** Chapter 4 summarizes the evaluation of the three Storage and Recovery Program Scenarios and describes the conclusions of the 2023 SFI.

2.0 DESCRIPTION OF STORAGE AND RECOVERY PROGRAM SCENARIOS

2.1 Description of Scenarios

This section describes the Baseline Scenario and the three Storage and Recovery Program Scenarios evaluated in the 2023 SFI.

2.1.1 Operational Bands and Scenario Design

The 2018 SFI defined scenarios using the concept of "Operational Bands," which defined the range in marginal volume of cumulative Managed Storage that occurs through the Parties' use of local storage and the implementation of any Storage and Recovery Program(s). Describing the Basin responses to various Operational Bands can provide an understanding of the relative impacts of using various volumes of storage and the mitigation measures that may be necessary to address MPI or adverse impacts (See Chapter 3).

Figure 2-1 shows the projected end-of-year Managed Storage balances for the Baseline Scenario and the Storage and Recovery Program Scenarios, along with brief summaries of each scenario. The following sections include more detail on each of the scenarios.

The objectives of the 2023 SFI are to document the projected impacts to Storage and Recovery Programs of various sizes and not to define precise impacts related to a specific Storage and Recovery Program. Therefore, the scenarios described in the 2023 SFI are meant to be plausible scenarios to facilitate the use of various Operational Bands using the range of facilities and constraints identified in the project description of the 2020 OBMPU.

2.1.2 Baseline Scenario

The Baseline Scenario for the 2023 SFI is the planning scenario simulated in the evaluation of the LSLS with two minor changes: (i) updated locations of three planned wells operated by the Cucamonga Valley Water District (CVWD) and (ii) increased discharge at the Western Riverside County Recycled Water Treatment Plant (WRCRWTP) from zero to 2,500 afy to accommodate the proposed diversions due to the potential operations of the Chino Basin Program (CBP; see Section 2.1.3). This scenario comprises the Parties' projected use of storage and the assumed operations of the DYYP from Fiscal Year (FY) 2019 through FY 2028. The projection scenario is based on planning data starting in FY 2019 and does not reflect historical data. As shown in the black line on Figure 2-1, the maximum volume of Managed Storage that is projected to be used in the Baseline Scenario is about 700,000 af, which occurs in FY 2025. Therefore, Operational Band 1 is defined by using Managed Storage up to 700,000 af.

2.1.3 Storage and Recovery Program Scenarios

The Storage and Recovery Program Scenarios are assumed to begin after the DYYP contract expires in FY 2028. Each of the scenarios includes the most conservative assumptions for the operations of the CBP, a planned Storage and Recovery Program contemplated by the IEUA. A detailed assessment of the potential hydrologic impacts of the CBP can be found in the Technical Appendices of the Final PEIR of the CBP.[24]

[24] Final Programmatic Environmental Impact Report for the CBP

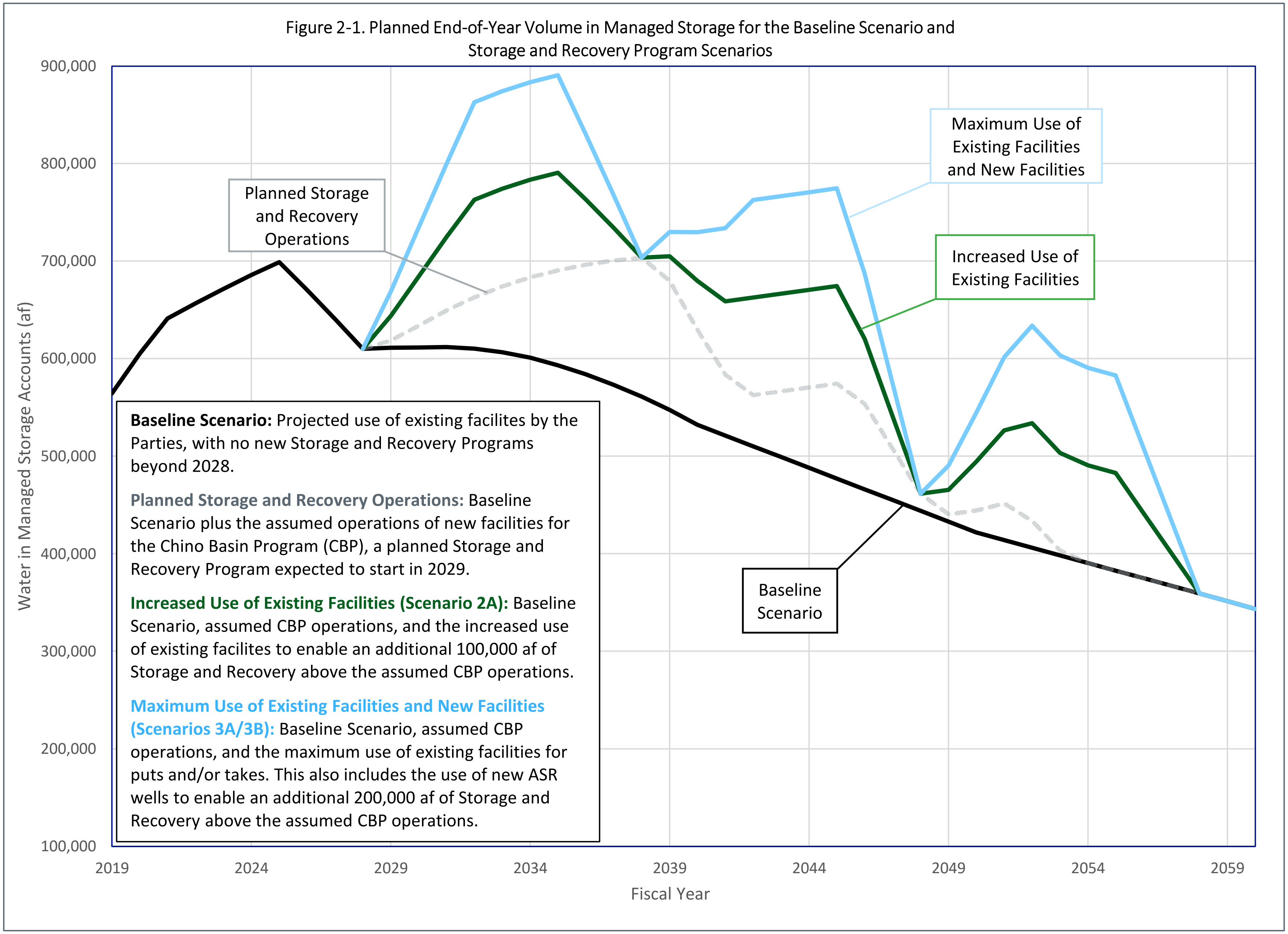


Figure 2-1. Planned End-of-Year Volume in Managed Storage for the Baseline Scenario and Storage and Recovery Program Scenarios
Water in Managed Storage Accounts (af)
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
2019
2024
2029
2034
2039
2044
2049
2054
2059
Fiscal Year
Planned Storage and Recovery Operations
Maximum Use of Existing Facilities and New Facilities
Increased Use of Existing Facilities
Baseline Scenario
Baseline Scenario: Projected use of existing facilites by the Parties, with no new Storage and Recovery Programs beyond 2028.
Planned Storage and Recovery Operations: Baseline Scenario plus the assumed operations of new facilities for the Chino Basin Program (CBP), a planned Storage and Recovery Program expected to start in 2029.
Increased Use of Existing Facilities (Scenario 2A): Baseline Scenario, assumed CBP operations, and the increased use of existing facilites to enable an additional 100,000 af of Storage and Recovery above the assumed CBP operations.
Maximum Use of Existing Facilities and New Facilities (Scenarios 3A/3B): Baseline Scenario, assumed CBP operations, and the maximum use of existing facilities for puts and/or takes. This also includes the use of new ASR wells to enable an additional 200,000 af of Storage and Recovery above the assumed CBP operations.

The Storage and Recovery Program Scenarios simulated for the 2023 SFI include the most conservative scenario of the CBP, which simulates the accrual of Managed Storage up to 150,000 af above the Managed Storage in the Baseline Scenario, which occurs in FY 2038.[25] The CBP is assumed to operate from January 2029 through December 2053, during which injection will occur at a rate of 15,000 afy via planned injection wells in northern MZ-2 and MZ-3. As simulated in the 2023 SFI, takes from storage occur at a rate of 50,000 afy for two three-year cycles (January 2039 to January 2042 and January 2045 to January 2048) followed by two years of 50,000 af and 25,000 af of takes in 2053 and 2054, respectively, via planned extraction wells. Over the 25-year period the CBP is expected to be active, the total volume of the Storage and Recovery Program is 375,000 af. Planned operations of the CBP beyond the end of the program period in 2054 are speculative but are expected to have a near net-zero balance every two years (i.e., puts in one year will equal takes in the next year); therefore, no operations for the CBP are simulated beyond 2054. The cumulative storage space used by the Parties and the CBP operational scenario remains within Operational Band 1, as shown in the grey dashed line on Figure 2-1.

To provide the source water for the puts of the CBP, the CBP operations include the advanced treatment of about 16,000 to 17,000 afy of water that is currently being discharged to the Santa Ana River or its tributaries. These diversions are reflected in the Storage and Recovery Program Scenarios.

Table 2-1 summarizes the volumes of puts and takes from each of the Storage and Recovery Program Scenarios, including the puts and takes for the CBP. Table 2-2 summarizes the operational cycles and the associated puts and takes among existing facilities for the Storage and Recovery Program scenarios in addition to the CBP.

Puts are achieved through a combination of in-lieu recharge, recharge at spreading basins, and recharge via ASR facilities. Imported water is assumed to be the source of water used for Storage and Recovery Program puts that are not associated with the assumed CBP operations described above. Takes are achieved through a combination of existing and planned extraction wells. The details of each of the Storage and Recovery Program scenarios are in the following sections.

2.1.4 Scenario 2A

Scenario 2A is the Storage and Recovery Program Scenario designed to exercise Operational Band 2, which includes the range of Managed Storage from 700,000 to 800,000 af. The projected use of Managed Storage for Scenario 2A is shown in the green line on Figure 2-1. Scenario 2A assumes three 10-year put/hold/take cycles using Managed Storage of up to 100,000 af above the Managed Storage assumed to be used by the CBP. These cycles are assumed to begin in FY 2029 and end in FY 2058.

[25] This scenario of projected CBP operations is described as Scenario D7 in the TM *Second Addendum to the Evaluation of the Chino Basin Program/Water Storage Investment Program*, found in Attachment 5 to the responses to comments of the Final Programmatic Environmental Impact Report for the CBP (starting on page 1865 of the PDF).

Table 2-1. Summary of Put/Take Cycles for the 2023 SFI Scenarios
values in 1,000 afy

Fiscal Year	Assumed CBP Operations		Scenario 2A[a]		Scenario 3A/3B[a]	
	Put	Take	Put	Take	Put	Take
2019	-	-	-	-	-	-
2020	-	-	-	-	-	-
2021	-	-	-	-	-	-
2022	-	-	-	-	-	-
2023	-	-	-	-	-	-
2024	-	-	-	-	-	-
2025	-	-	-	-	-	-
2026	-	-	-	-	-	-
2027	-	-	-	-	-	-
2028	-	-	-	-	-	-
2029	7.5	-	25	-	50	-
2030	15	-	25	-	50	-
2031	15	-	25	-	50	-
2032	15	-	25	-	50	-
2033	15	-	-	-	-	-
2034	15	-	-	-	-	-
2035	15	-	-	-	-	-
2036	15	-	-	33.3	-	66.7
2037	15	-	-	33.3	-	66.7
2038	15	-	-	33.3	-	66.7
2039	15	25	25	-	50	-
2040	15	50	25	-	50	-
2041	15	50	25	-	50	-
2042	15	25	25	-	50	-
2043	15	-	-	-	-	-
2044	15	-	-	-	-	-
2045	15	-	-	-	-	-
2046	15	25	-	33.3	-	66.7
2047	15	50	-	33.3	-	66.7
2048	15	50	-	33.3	-	66.7
2049	15	25	25	-	50	-
2050	15	-	25	-	50	-
2051	15	-	25	-	50	-
2052	15	25	25	-	50	-
2053	15	37.5	-	-	-	-
2054	7.5	12.5	-	-	-	-
2055	-	-	-	-	-	-
2056	-	-	-	33.3	-	66.7
2057	-	-	-	33.3	-	66.7
2058	-	-	-	33.3	-	66.7
2059	-	-	-	-	-	-
2060	-	-	-	-	-	-
Total	**375**	**375**	**300**	**300**	**600**	**600**

(a) Scenarios 2A, 3A, and 3B also include the Storage and Recovery contemplated in the CBP.

Table 2-2. Allocation of Puts and Takes Among Existing and New Facilities for Storage and Recovery Program Scenarios 2 and 3

	Operating Bands and Scenarios[a]		
	Operational Band 2 *(700 to 800 kaf)*	Operational Band 3 *(800 to 900 kaf)*	
	2A	3A	3B
Cumulative storage above Operational Band 1 used in each scenario (af)	100,000	200,000	200,000
Annual put	25,000	50,000	50,000
Existing in-lieu capacity used	12,500	12,500	12,500
Existing spreading basin recharge capacity used	9,760	19,520	9,760
Existing ASR capacity used	2,740	5,480	2,740
Total existing put capacity used	**25,000**	**37,500**	**25,000**
New ASR well capacity used	0	12,500	25,000
Annual take	33,333	66,667	66,667
Take through existing facilities	33,333	50,000	50,000
Take through new wells	0	16,667	16,667

(a) Volumes listed in this table do not include assumed CBP operations.

2.1.4.1 Facility and Operating Assumptions for Puts

The facility and operational assumptions for Scenario 2A are based on the assumptions used in the put and take operations facilitating the use of Operational Band 2 in the 2018 SFI.[26] Puts for Scenario 2A were assumed to be conducted half by wet-water recharge and half by in-lieu recharge which is identical to the assumption used in the 2018 SFI for the first 100,000 af of storage space used in excess of that projected to be used by the Parties. Table 2-2 shows the assumed allocation of the puts. Each Party's annual in-lieu recharge was assumed to be identical to the assumptions used for the Storage and Recovery operations in the 2018 SFI. About 2,740 afy of puts were assumed to occur at the MVWD's ASR wells and about 9,760 afy of puts were assumed to be recharged in existing spreading basins (see Figure 2-2 for locations). Wet-water recharge in spreading basins was conducted using the following schedule: recharge occurs in MZ-1 first up to its spreading capacity, then in MZ-3 up to its spreading capacity, and finally in MZ-2.

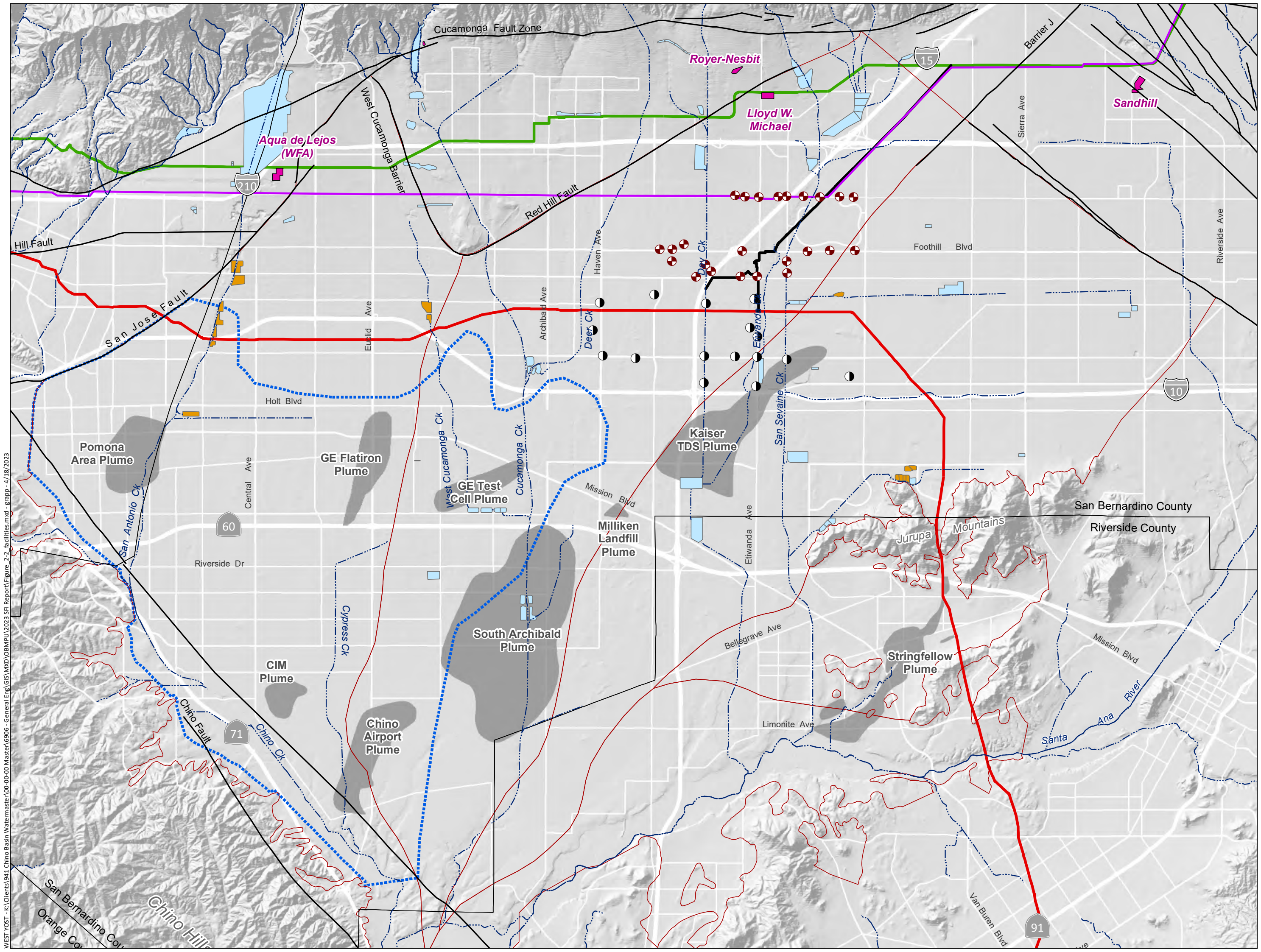
2.1.4.2 Facility and Operating Assumptions for Takes

All takes for Scenario 2A are assumed to occur through existing wells. Pumping is distributed based on the IEUA's and the Appropriative Pool Parties' contractual obligations for the DYYP. Scenario 2A assumes maximum annual takes of 33,333 afy, consistent with the takes specified in the DYYP contract. Table 2-3 shows the allocation of takes by Appropriative Pool Party for Scenarios 2A, 3A, and 3B. All takes are assumed to occur through the respective Parties' existing facilities.

Table 2-3. Total Volume of Takes from Existing Wells, afy

Party	Scenario 2A	Scenario 3A/3B
Chino	0	1,756
Chino Hills	1,462	2,194
Pomona	1,402	1,402
Monte Vista Water District	5,174	6,005
Upland	3,031	3,626
Ontario	8,158	12,236
Cucamonga Valley Water District	11,468	17,202
Fontana Water Company	2,638	5,579
Total	**33,333**	**50,000**

[26] See Scenario 2C of the 2018 SFI (WEI, 2018).



New Wells Used to Facilitate Storage and Recovery Program Scenarios

Planned ASR Wells

Planned Extraction Wells

Recharge Basins Used to Facilitate Puts for Storage and Recovery Program Scenarios

Other Flood Control & Conservation Basins

Devil Canyon/Azusa Pipeline

Upper Feeder

Rialto Pipeline

Etiwanda Pipeline

Imported Water Treatment Plant

Groundwater Contamination Plumes

Area of Subsidence Concern

Streams & Flood Control Channels

OBMP Management Zones

Faults

Location Certain

Location Approximate

Approximate Location of Groundwater Barrier

Location Concealed

Location Uncertain

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0 2 4 Miles

0 3 6 Km

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Siting of Spreading Basin Recharge and New Wells to Facilitate Use of Operational Bands 2 and 3

Figure 2-2

2.1.5 Scenarios 3A and 3B

Scenarios 3A and 3B are the Storage and Recovery Program Scenarios designed to exercise Operational Bands 2 and 3, which includes the range of Managed Storage from 800,000 to 900,000 af. The projected use of Managed Storage for Scenarios 3A and 3B are shown in the blue line on Figure 2-1. Scenarios 3A and 3B assume three 10-year put/hold/take cycles using Managed Storage of up to 100,000 af above the Managed Storage assumed to be used by Scenario 2A. Relative to the Baseline Scenario and the assumed CBP operations, the cumulative operating cycles (inclusive of Scenario 2A and Scenarios 3A or 3B) consist of three operating cycles of four put years of 50,000 afy, three hold years, and three take years of 66,667 afy (see Table 2-1).

2.1.5.1 Facility and Operating Assumptions for Puts

The 25,000 afy of puts in the third Managed Storage band were assumed to occur through a combination of existing and new facilities:

- In Scenario 3A, half of the put capacity required (12,500 afy) was assumed to occur at existing facilities, and the remaining puts would occur at new facilities. 2,740 afy of puts were assumed to occur at the MVWD's ASR wells and 9,760 afy of puts were assumed to be recharged in existing spreading basins. The remaining 12,500 afy of puts were assumed to occur at new ASR wells.
- In Scenario 3B, 25,000 afy of puts were assumed to occur at new ASR wells.

The criteria used to site new ASR and new extraction wells is identical to the criteria used in the 2018 SFI (WEI, 2018).[27] The only changed conditions since the 2018 SFI that affect the siting of new wells are the anticipated locations of the wells used to facilitate the CBP operations, which are planned to be in northern MZ-2 and MZ-3. Precise locations of the wells anticipated to be used for the CBP operations are not known at this time. Figure 2-2 shows the locations of the planned wells for the assumed CBP operations as well as the proposed locations for the new ASR and extraction wells to facilitate Scenarios 3A and 3B.

2.1.5.2 Facility and Operating Assumptions for Takes

The additional 33,333 afy of takes occurring in Scenario 3A and 3B are assumed to be achieved by 16,667 afy of pumping from existing wells and 16,667 afy of pumping from new ASR/extraction wells. The pumping from existing wells is assumed to be executed by the Parties participating in the DYYP. The allocations of pumping to each Party, which are shown in Table 2-3, are identical to the assumptions used to exercise Operational Band 3 in the 2018 SFI.

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[27] See Section 6.1.4.1 of the 2018 SFI.

3.0 EVALUATION OF STORAGE AND RECOVERY PROGRAM SCENARIOS

3.1 Methodology for Evaluation

This section describes the different types of MPI, adverse impacts, and performance metrics used to evaluate the response of the Chino Basin to the Storage and Recovery Program scenarios.

Pursuant to the Peace Agreement, MPI means material injury that is attributable to the Recharge, Transfer, storage and recovery, management, movement or Production of water, or implementation of the OBMP, including, but not limited to, degradation of water quality, liquefaction, land subsidence, increases in pump lift (lower water levels) and adverse impacts associated with rising groundwater. Material Physical Injury does not include "economic injury" that results from other than physical causes. Once fully mitigated, physical injury shall no longer be considered to be material. [Peace Agreement § 1.1(y).]

Adverse impacts as used the 2020 OBMP storage management plan include but are not limited to reductions in net recharge and Safe Yield and increases in the groundwater discharge from the Chino North Groundwater Management Zone to the Santa Ana River contributing to a loss of Hydraulic Control.

Since the Judgment came into effect, Watermaster developed rules and regulations, standard storage agreements and related forms, and the Peace Agreements that implement the OBMP. In evaluating applications for storage agreements, Watermaster must conduct an investigation to determine if the water stored and recovered under a proposed storage agreement will cause MPI to a Party or the Basin. If Watermaster determines that implementation of the proposed storage agreement will cause MPI, then the applicant must revise its application so there is no MPI or Watermaster must impose conditions in the storage agreement to ensure there is no MPI. Watermaster cannot approve a storage agreement that will result in MPI. In addition to MPI assessment, the storage management plan in the 2020 OBMP requires Watermaster to identify the potential adverse impacts and that they be mitigated. Watermaster uses the following performance metrics to evaluate MPI and adverse impacts for the use of Managed Storage.

- Change in net recharge and Safe Yield – adverse impact
- Change in groundwater levels – MPI
- Change in pumping sustainability – MPI
- Change in new land subsidence – MPI
- Change in the state of Hydraulic Control (change in groundwater discharge from the Chino North GMZ to the Santa Ana River) – adverse impact
- Change in the direction and speed of known plumes – MPI

These performance metrics are used in the 2018 SFI, the 2020 Safe Yield Recalculation, and the Evaluation of the LSLS. Each of these metrics are described in Section 3.2.

3.2 Results

This section describes the results of the simulated Storage and Recovery Program Scenarios and an evaluation compared to the Baseline Scenario based on the metrics described above.

3.2.1 Net Recharge, Managed Storage, and Safe Yield

Net recharge, as used herein, is the exploitable inflow to a groundwater basin over a specified base period, either under historical conditions or in a future projection under prescribed operating conditions, and is a result of the hydrology, cultural conditions, and water management practices of the period. Net recharge is equal to recharge minus uncontrolled discharge and excludes the recharge of supplemental water. Algebraically:

$$Net\ recharge = \Delta S/\Delta t + O_p - I_{ar}$$

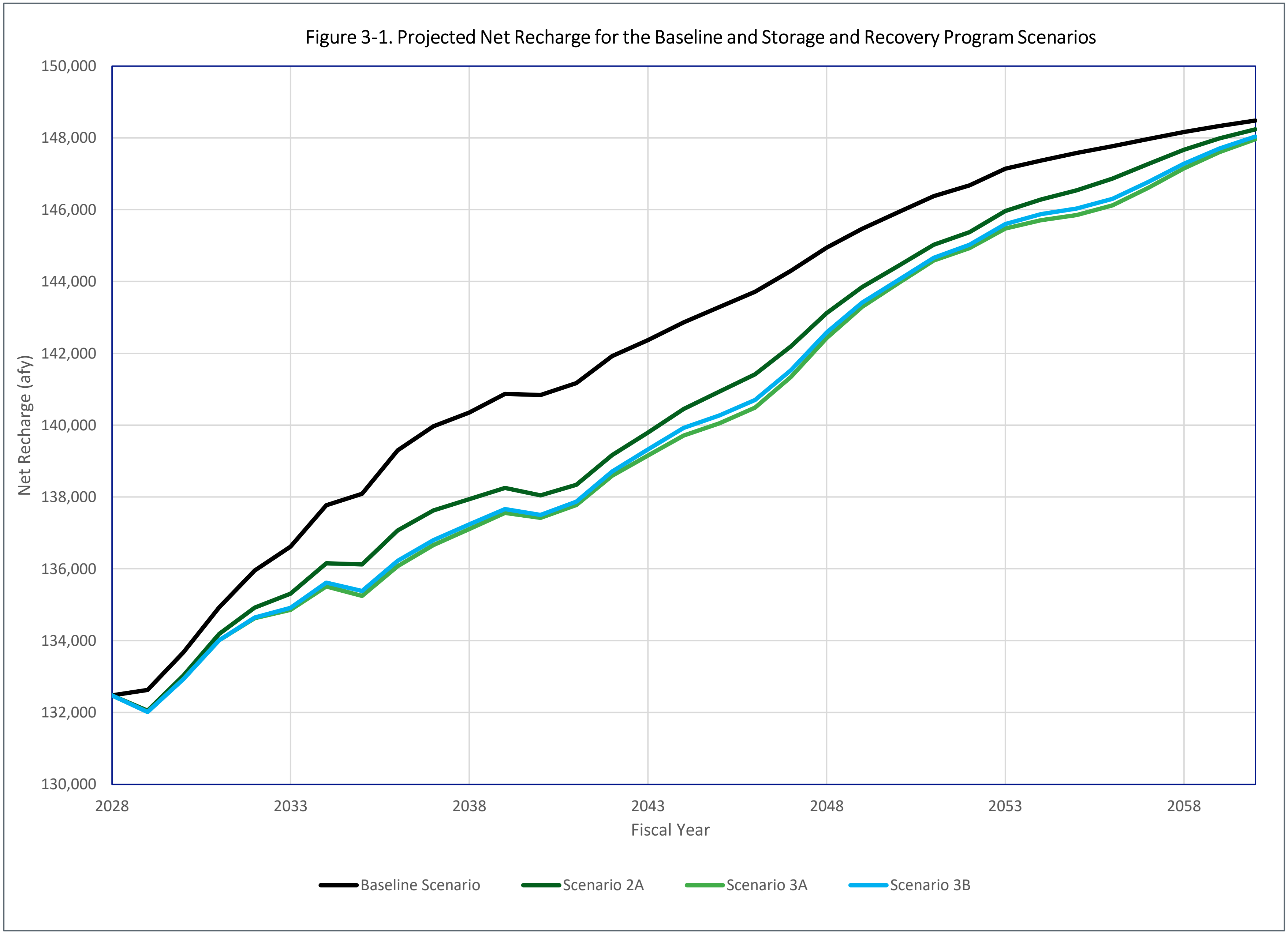
Where ΔS is change in storage over a base period, Δt is the duration of a base period and O_p and I_{ar} are the average groundwater pumping and average supplemental water recharge over the base period, respectively.

Figure 3-1 shows the time series of net recharge for the Baseline Scenario and the Storage and Recovery Program Scenarios for the period of FY 2029 through 2060. All Storage and Recovery Program scenarios result in an initial decrease in net recharge compared to the Baseline Scenario due to the initial increase in storage of supplemental water which displaces native groundwater in the Chino Basin. However, as the third cycle of the Storage and Recovery Programs ends and the total volume in Managed Storage declines, the net recharge for the Storage and Recovery Program scenarios approaches the net recharge of the Baseline Scenario. The impact of the Storage and Recovery Program scenarios on net recharge is summarized in Table 3-1 below.

Table 3-1. Summary of Net Recharge in Baseline and Storage and Recovery Program Scenarios

Time Period, FY	Annual Average Net Recharge, afy				Total Difference in Net Recharge Compared to Baseline Scenario, af		
	Baseline	Scenario 2A	Scenario 3A	Scenario 3B	Scenario 2A	Scenario 3A	Scenario 3B
2031-2040	138,500	136,600	135,900	136,000	-19,100	-25,600	-24,700
2041-2050	143,600	141,400	140,700	140,800	-22,300	-29,200	-27,600
2051-2060	147,600	146,700	146,200	146,300	-8,600	-13,900	-12,600
2029-2058	142,200	140,500	139,900	140,000	-50,600	-68,800	-65,200

Over the 30-year period of the Storage and Recovery Program cycles, the total differences in net recharge compared to the Baseline Scenario are -50,600 af, -68,800 af, and -65,200 af for Scenarios 2A, 3A, and 3B, respectively.



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2023 SFI
Last Revised: 03-28-2023

The temporary reduction in net recharge due to the operations of the Storage and Recovery Programs is an adverse economic impact, as it would result in a temporary reduction in the Safe Yield if it were not mitigated. Adverse impacts of reductions in net recharge and Safe Yield due to Storage and Recovery Programs can be mitigated by: (i) modifying put and take cycles to minimize reductions in net recharge, such as executing takes prior to puts,[28] (ii) reducing the total volume of takes compared to puts (i.e., "Leave Behind" water),[29] (iii) recharge of additional water to mitigate reductions in net recharge, (iv) constructing facilities in the southern part of the basin to increase pumping and mitigate the reduction of net recharge, and/or (v) a combination of (i) through (iv). In addition to these physical mitigation actions, monetary or other compensation to the affected Parties for the reduced net recharge could be considered. A monitoring program should be implemented to verify the effectiveness of the mitigation actions.

3.2.1.1 Managed Storage

The changes in net recharge shown in Figure 3-1 affect the Safe Yield, which will affect future pumping rights in the Chino Basin if these changes are not mitigated. Based on the projected net recharge and the updated Safe Yield computed for the Storage and Recovery Program Scenarios, the simulated end-of-year Managed Storage was recalculated. Figure 3-2 shows the simulated end-of-year Managed Storage account balances for the Baseline Scenario and the Storage and Recovery Program Scenarios from FY 2019 through 2060.

At the end of FY 2060, the simulated Managed Storage in the Storage and Recovery Program Scenarios is less than the Managed Storage in the Baseline Scenario by 40,000 af, 55,000 af, and 52,000 af for Scenarios 2A, 3A, and 3B, respectively.

3.2.2 Groundwater Levels

To evaluate the impacts of the Storage and Recovery Scenarios on groundwater levels, we show maps of the difference in groundwater levels between each of the Storage and Recovery Scenarios and the Baseline Scenario for three different years:

1. July 1, 2035: The point where the Storage and Recovery Program Scenarios are projected to reach the peak balance of Managed Storage (see Figure 2-1).
2. July 1, 2048: The end of the second 10-year cycle of the Storage and Recovery Program Scenarios.
3. July 1, 2058: The end of the third 10-year cycle of the Storage and Recovery Program Scenarios.

[28] Executing takes before puts would have the opposite effect on the Basin compared to the simulated Storage and Recovery Program Scenarios, temporarily increasing net recharge and resulting in higher groundwater levels by 2058.

[29] "Leave Behind" means a contribution to the Basin from water held in storage within the Basin under a Storage and Recovery Agreement, that may be established by Watermaster from time to time that may reflect any or all of the following: (i) actual losses; (ii) equitable considerations associated with Watermaster's management of storage agreements; and (iii) protection of the long-term health of the Basin against the cumulative impacts of simultaneous recovery of groundwater under all storage agreements. [Peace II Agreement § 1.1(c).]

Figure 3-2. Simulated End-of-Year Volume in Managed Storage for the Baseline Scenario and Storage and Recovery Program Scenarios

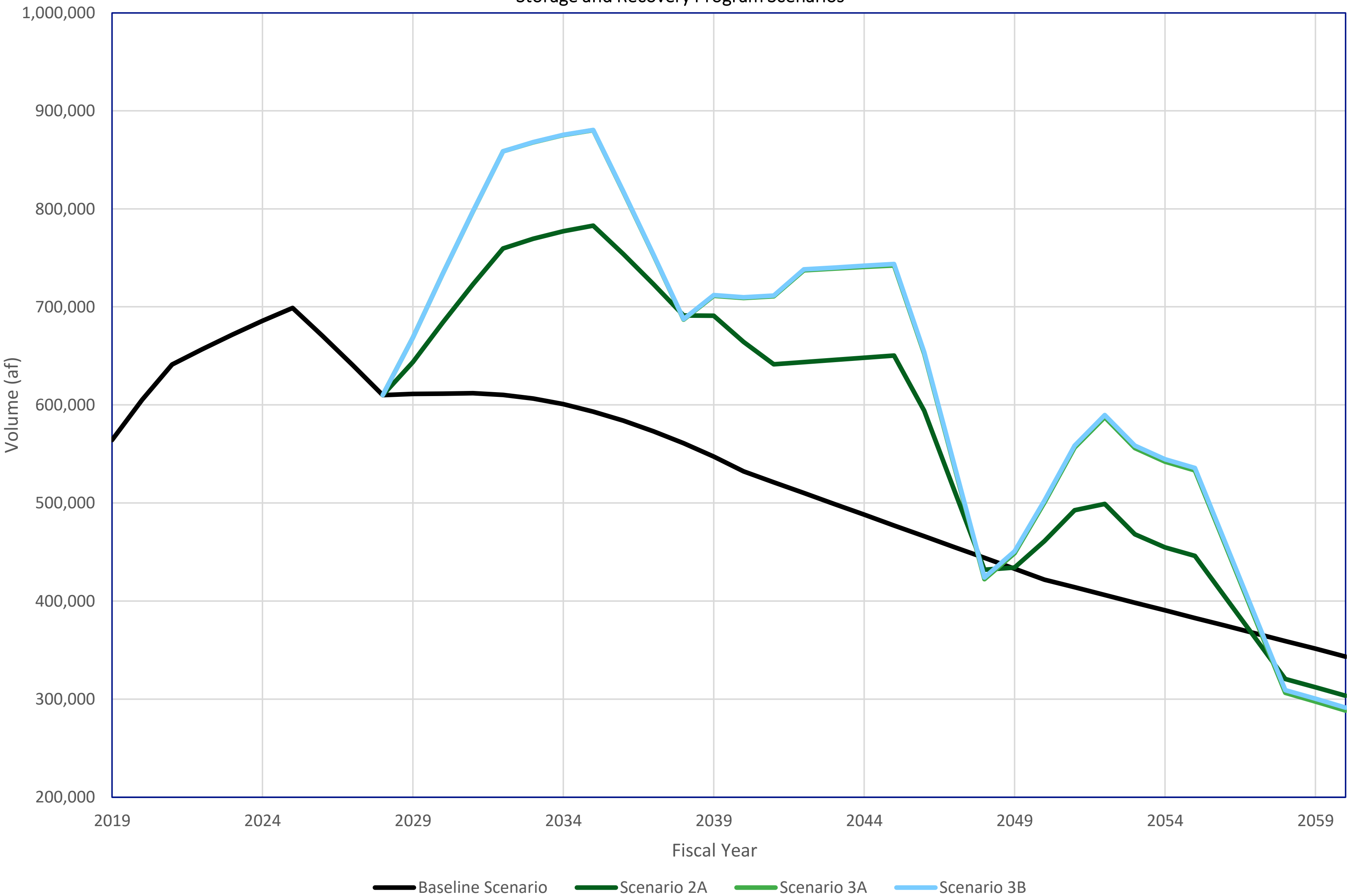


Table 3-2 summarizes, for each of the Storage and Recovery Program Scenarios, the groundwater level differences compared to the Baseline Scenario for the three years specified above in Layer 1. For each of the three years, Table 3-2 shows the greatest groundwater-level difference at any point in the Chino Basin and the average groundwater-level difference across the Chino Basin. Figures 3-3 through 3-11 are maps that show the differences in groundwater levels for each of the combinations of scenarios and years as indicated in Table 3-2. A review of Table 3-2 and the groundwater-level difference maps shows the following:

- Scenario 3B results in the greatest positive difference in average groundwater levels compared to the Baseline Scenario when Managed Storage peaks in July 2035 (+13.5 feet). Figure 3-9 shows that positive differences of over 45 feet occur near the injection wells where the puts are assumed to occur.
- Scenario 3A results in the greatest negative difference in average groundwater levels compared to the Baseline Scenario at the end of the second 10-year cycle of the Storage and Recovery Program in July 2048 (-1.9 feet). Figure 3-7 shows that negative differences of over -50 feet occur near the extraction wells where the takes are assumed to occur.
- By the end of the program period (July 2058) in all three scenarios, the average differences in groundwater levels compared to the Baseline Scenario range from -2.3 to -3.4 feet.

MPI due to groundwater level declines can be measured in two ways: (i) increased risk of pumping sustainability challenges and (ii) increased risk of new land subsidence.

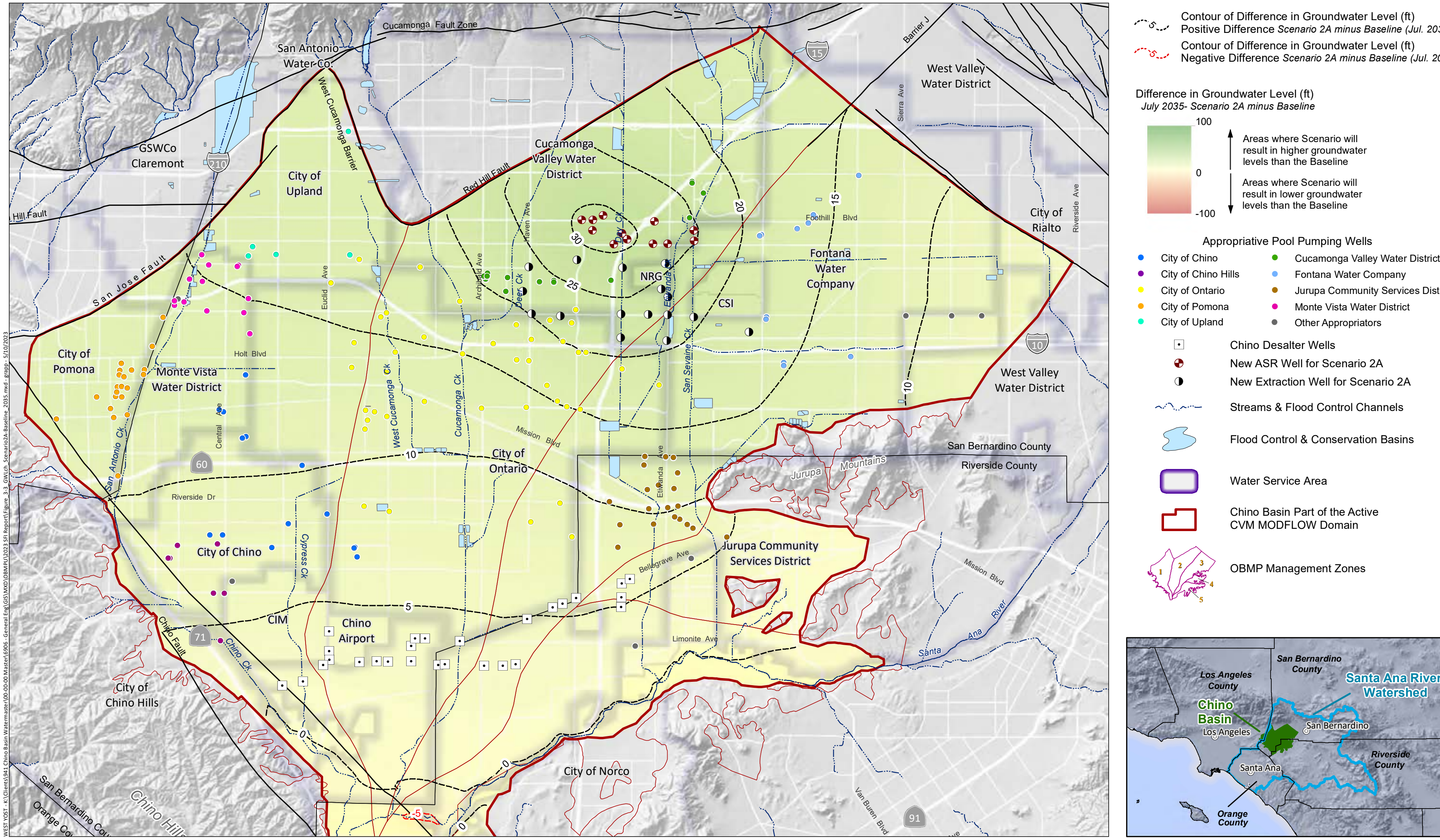
3.2.2.1 Pumping Sustainability

The term *pumping sustainability*, as used herein, refers to the ability to produce water from a specific well at a desired production rate, given the groundwater level at that well and its well construction and current pumping equipment details. The projected groundwater-elevation time-series charts at individual wells (Appendix A) includes a pumping sustainability metric if provided by the Appropriator. Pumping sustainability metrics are defined by each well owner. Groundwater pumping at a well is assumed to be sustainable if the groundwater elevation at that well remains above the pumping sustainability metric. If the projected groundwater elevation declines below the sustainability metric, the owner will either lower the pumping equipment in their well, reduce pumping, or a combination of the two.

Figure 3-12 shows the wells that have pumping sustainability metrics. Table 3-3 shows a subset of these wells with projected groundwater levels that decline below the sustainability metric under the Baseline Scenario or any Storage and Recovery Program Scenario during the program period. These wells are labeled in red on Figure 3-12. The wells in Table 3-3 are sorted in order of magnitude of groundwater-level impact of the Storage and Recovery Program Scenarios. As shown in Table 3-3, there are 19 wells that are projected to experience pumping sustainability challenges under the Baseline Scenario. At 10 of these wells (City of Ontario Wells 31, 37, 38, and 39, CVWD Well CB-5, FWC Wells F23A, F24A, F26A, and F44B, and JCSD Well 13), one or more Storage and Recovery Program Scenarios are projected to exacerbate the existing pumping sustainability challenges by 10 feet or more. These wells are all near the planned ASR or extraction wells assumed to facilitate the Storage and Recovery Program Scenarios. One or more Storage and Recovery Program Scenarios cause five additional wells (CVWD Well CB-39, Ontario Well 24, JCSD Wells 17, 15, and 12) to experience pumping sustainability challenges that were not projected to experience pumping sustainability challenges under the Baseline Scenario. One well (Chino Desalter Authority [CDA] I-10) that is projected to experience pumping sustainability challenges under the Baseline Scenario remained above the sustainability metric under the Storage and Recovery Program Scenarios.

Table 3-2. Summary of Differences in Groundwater Levels between the Storage and Recovery Program Scenarios and the Baseline Scenario[a]												
	Difference in Groundwater Levels at Maximum Managed Storage				Difference in Groundwater Levels at the End of Second Storage and Recovery Cycle				Difference in Groundwater Levels at the End of Final Storage and Recovery Program Cycle			
Scenario	Figure	Year	Maximum Groundwater Level Change Compared to Baseline (ft)	Average Difference in Groundwater Levels Compared to the Baseline Scenario (ft)	Figure	Year	Maximum Groundwater Level Change Compared to Baseline (ft)	Average Difference in Groundwater Levels Compared to the Baseline Scenario (ft)	Figure	Year	Maximum Groundwater Level Change Compared to Baseline (ft)	Average Difference in Groundwater Levels Compared to the Baseline Scenario (ft)
2A	3-3	2035	33.9	8.8	3-4	2048	-68.3	-1.1	3-5	2058	-20.4	-2.3
3A	3-6	2035	53.8	13.3	3-7	2048	-82.2	-1.9	3-8	2058	-45.2	-3.4
3B	3-9	2035	58.2	13.5	3-10	2048	-77.6	-1.6	3-11	2058	-42.8	-3.0

(a) Groundwater level changes are calculated as the difference from the groundwater level in the Baseline Scenario on July 1st of each year specified (Layer 1 only).



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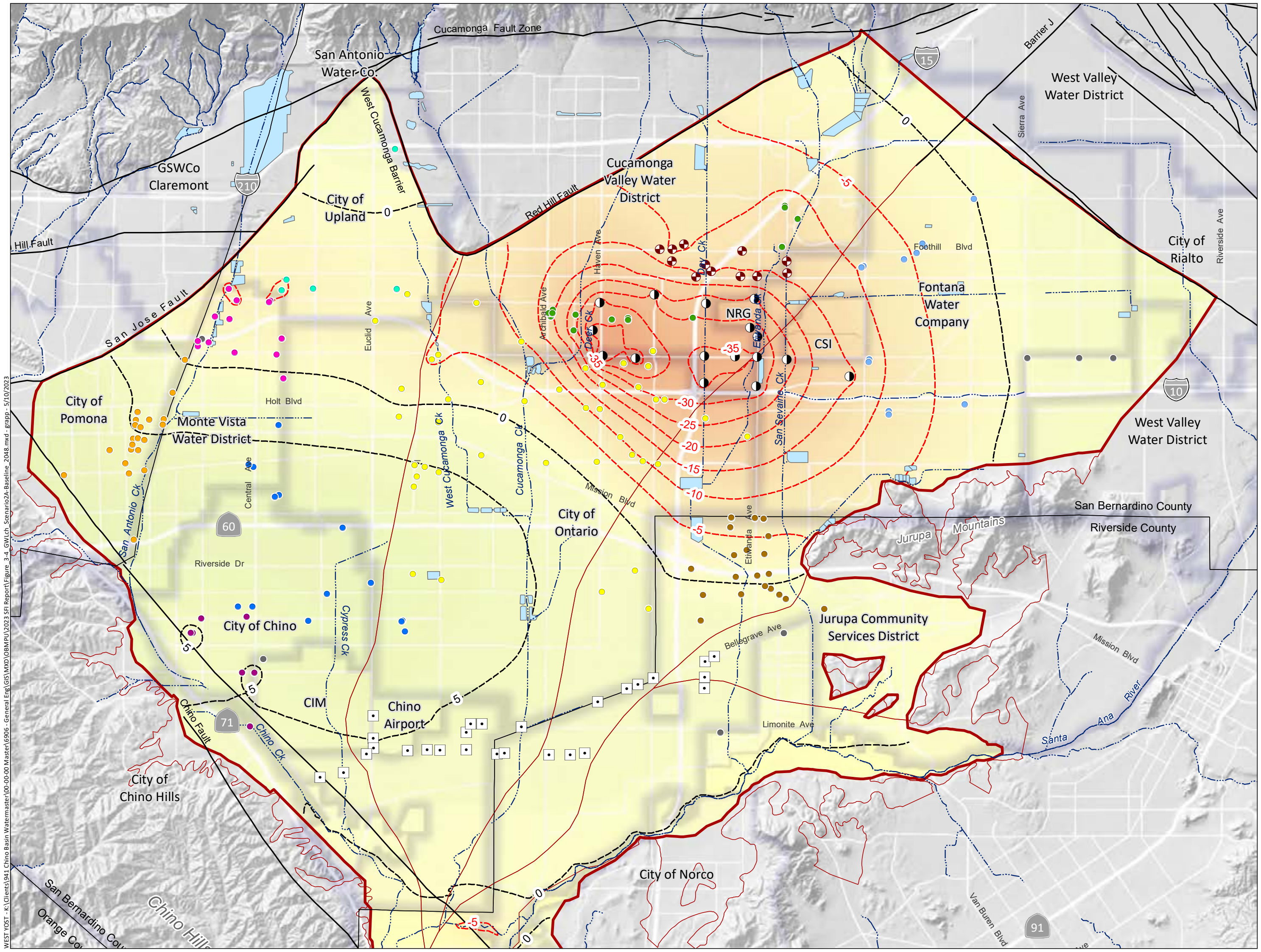
Projected Difference in Groundwater Levels for Layer 1
Scenario 2A minus Baseline (July 2035)

Figure 3-3



Contour of Difference in Groundwater Level (ft)
Positive Difference *Scenario 2A minus Baseline (Jul. 2048)*

Contour of Difference in Groundwater Level (ft)
Negative Difference *Scenario 2A minus Baseline (Jul. 2048)*

Difference in Groundwater Level (ft)
July 2048- Scenario 2A minus Baseline

100 — Areas where Scenario will result in higher groundwater levels than the Baseline
0
-100 — Areas where Scenario will result in lower groundwater levels than the Baseline

Appropriative Pool Pumping Wells

- City of Chino
- City of Chino Hills
- City of Ontario
- City of Pomona
- City of Upland
- Cucamonga Valley Water District
- Fontana Water Company
- Jurupa Community Services District
- Monte Vista Water District
- Other Appropriators

- Chino Desalter Wells
- New ASR Well for Scenario 2A
- New Extraction Well for Scenario 2A
- Streams & Flood Control Channels
- Flood Control & Conservation Basins
- Water Service Area
- Chino Basin Part of the Active CVM MODFLOW Domain
- OBMP Management Zones

Projected Difference in Groundwater Levels for Layer 1
Scenario 2A minus Baseline (July 2048)

Figure 3-4

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0 2 4 Miles
0 3 6 Km

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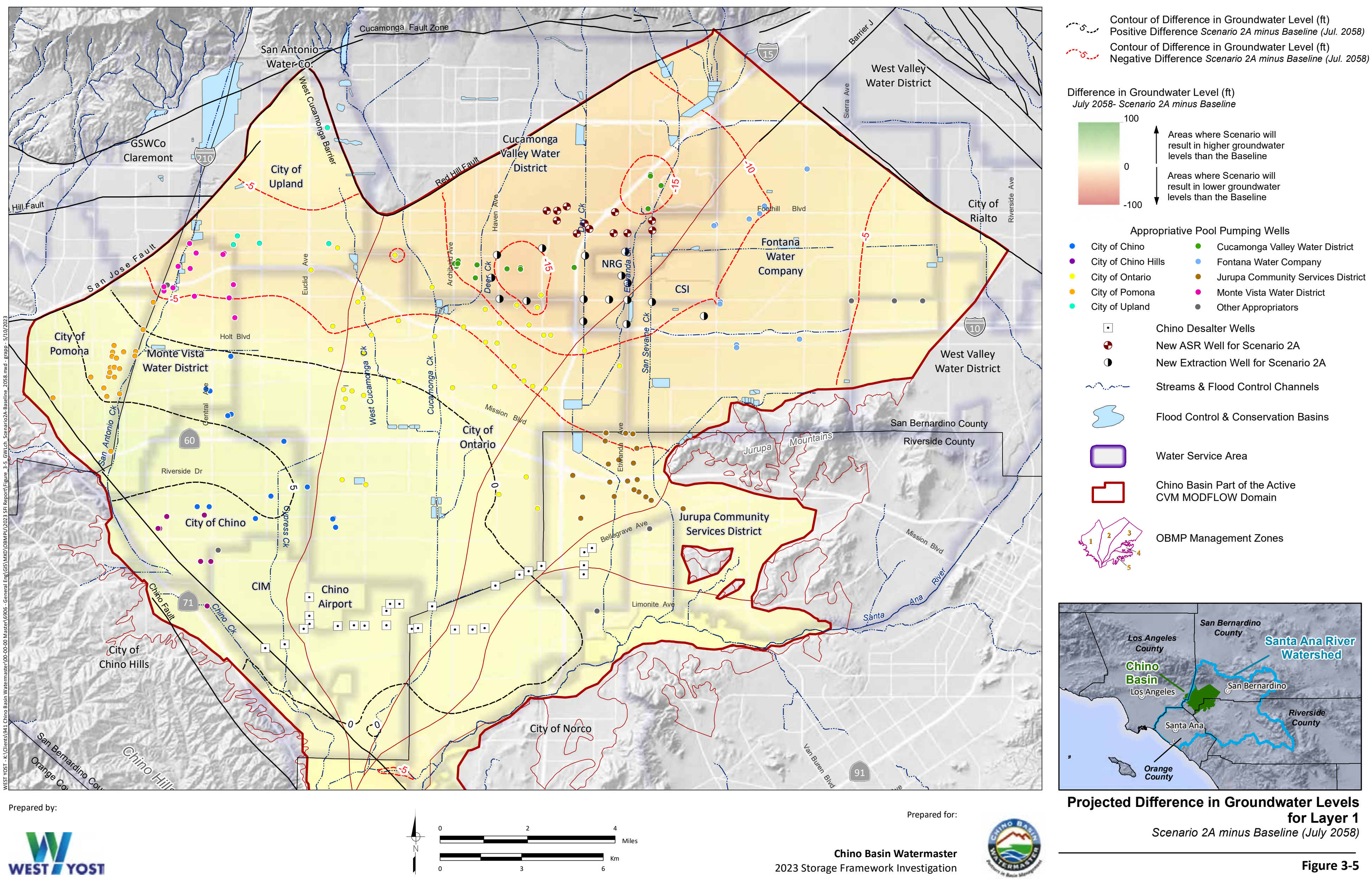

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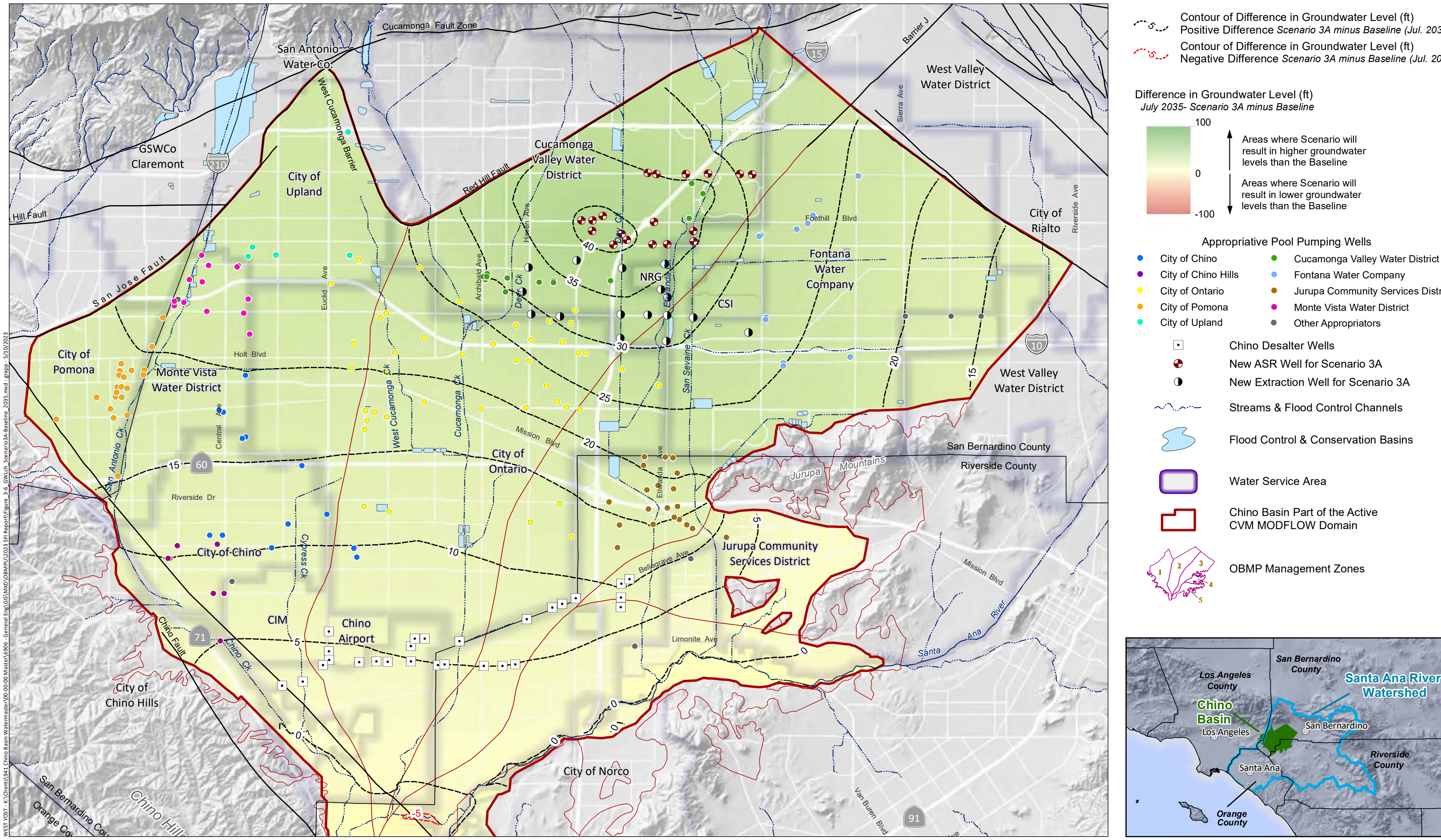
Projected Difference in Groundwater Levels for Layer 1
Scenario 2A minus Baseline (July 2058)

Figure 3-5



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0 2 4 Miles

0 3 6 Km

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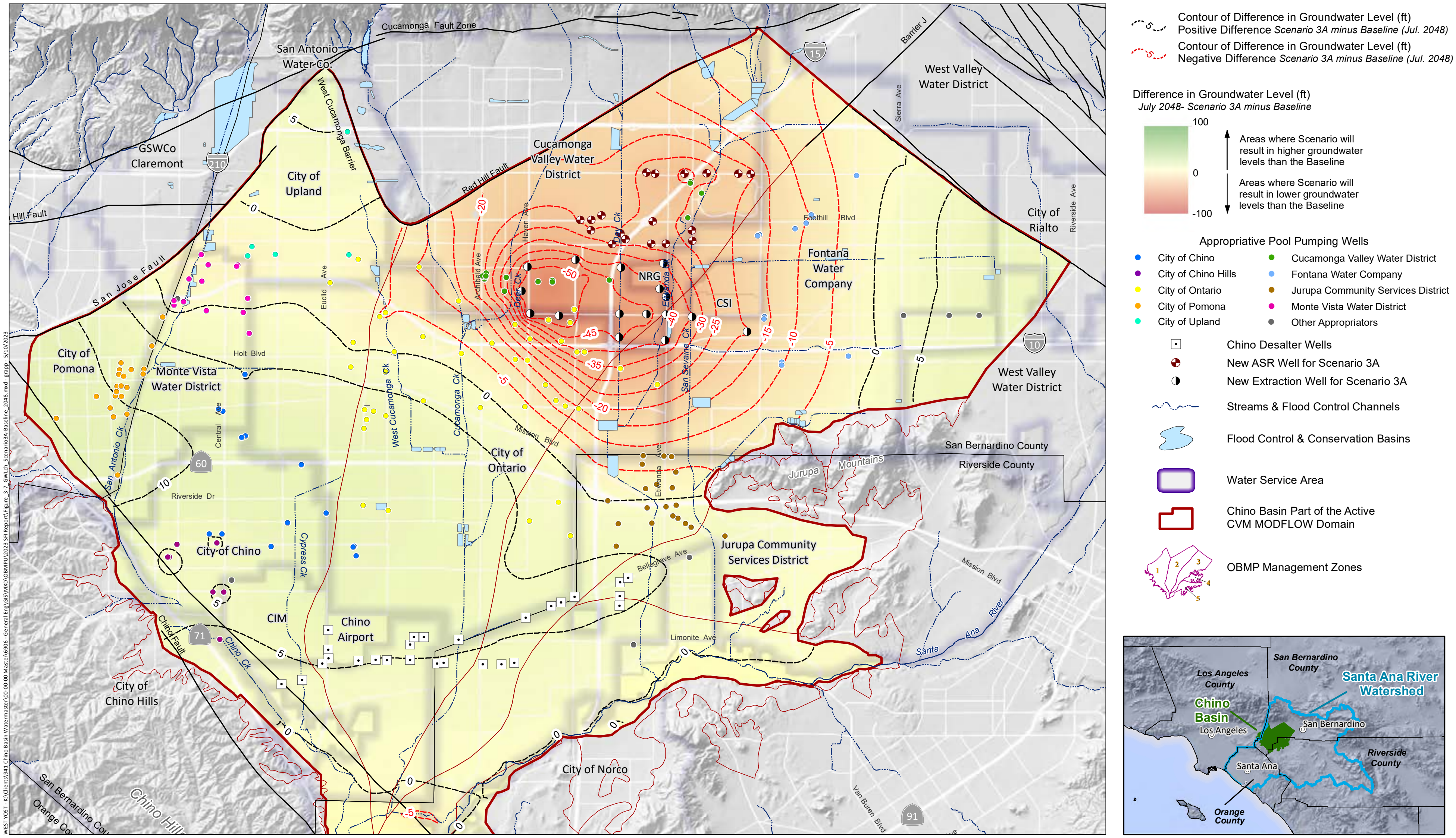
Projected Difference in Groundwater Levels for Layer 1
Scenario 3A minus Baseline (July 2035)

Figure 3-6



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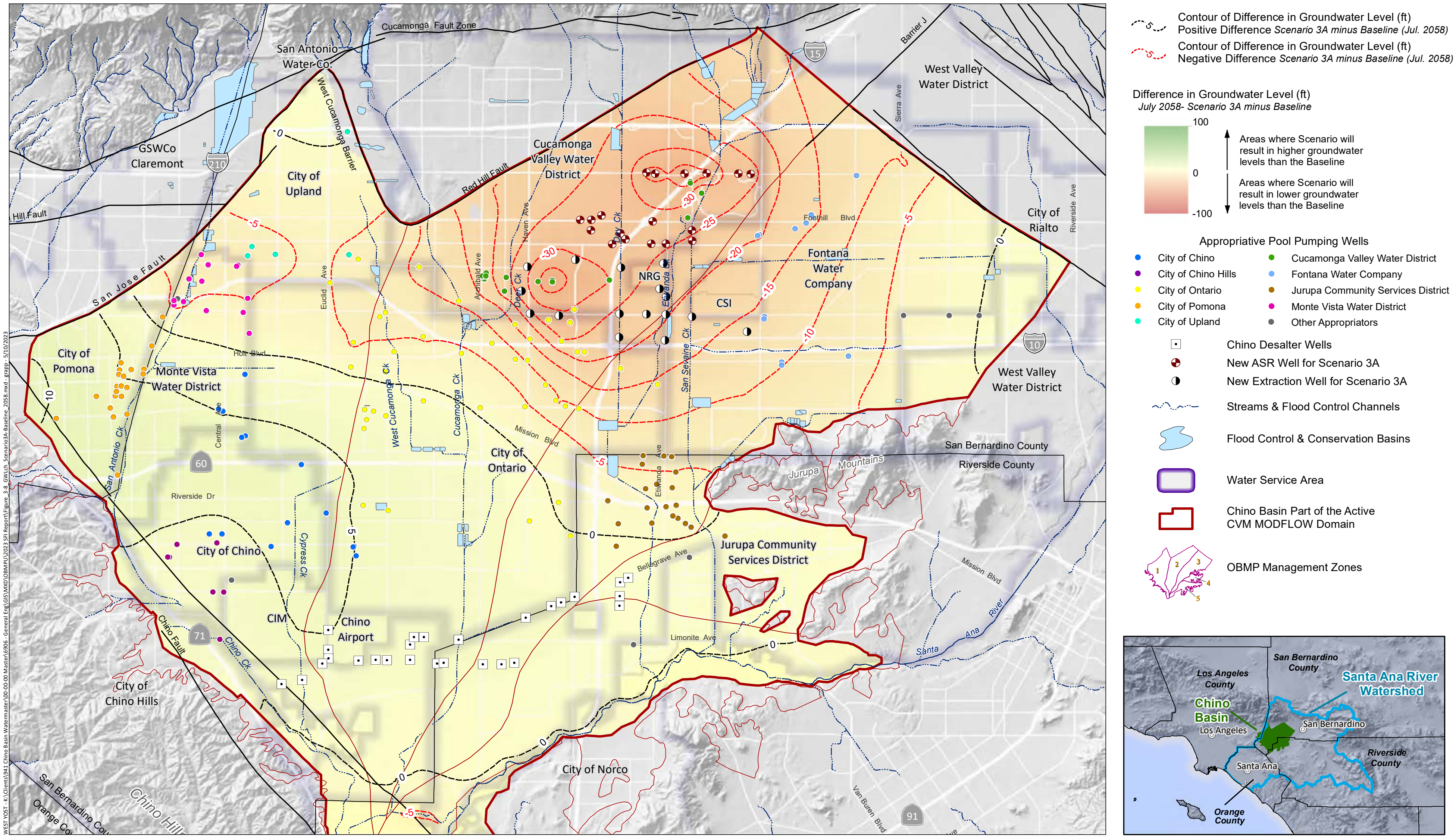
Projected Difference in Groundwater Levels for Layer 1
Scenario 3A minus Baseline (July 2048)

Figure 3-7



Projected Difference in Groundwater Levels for Layer 1

Scenario 3A minus Baseline (July 2058)

Figure 3-8

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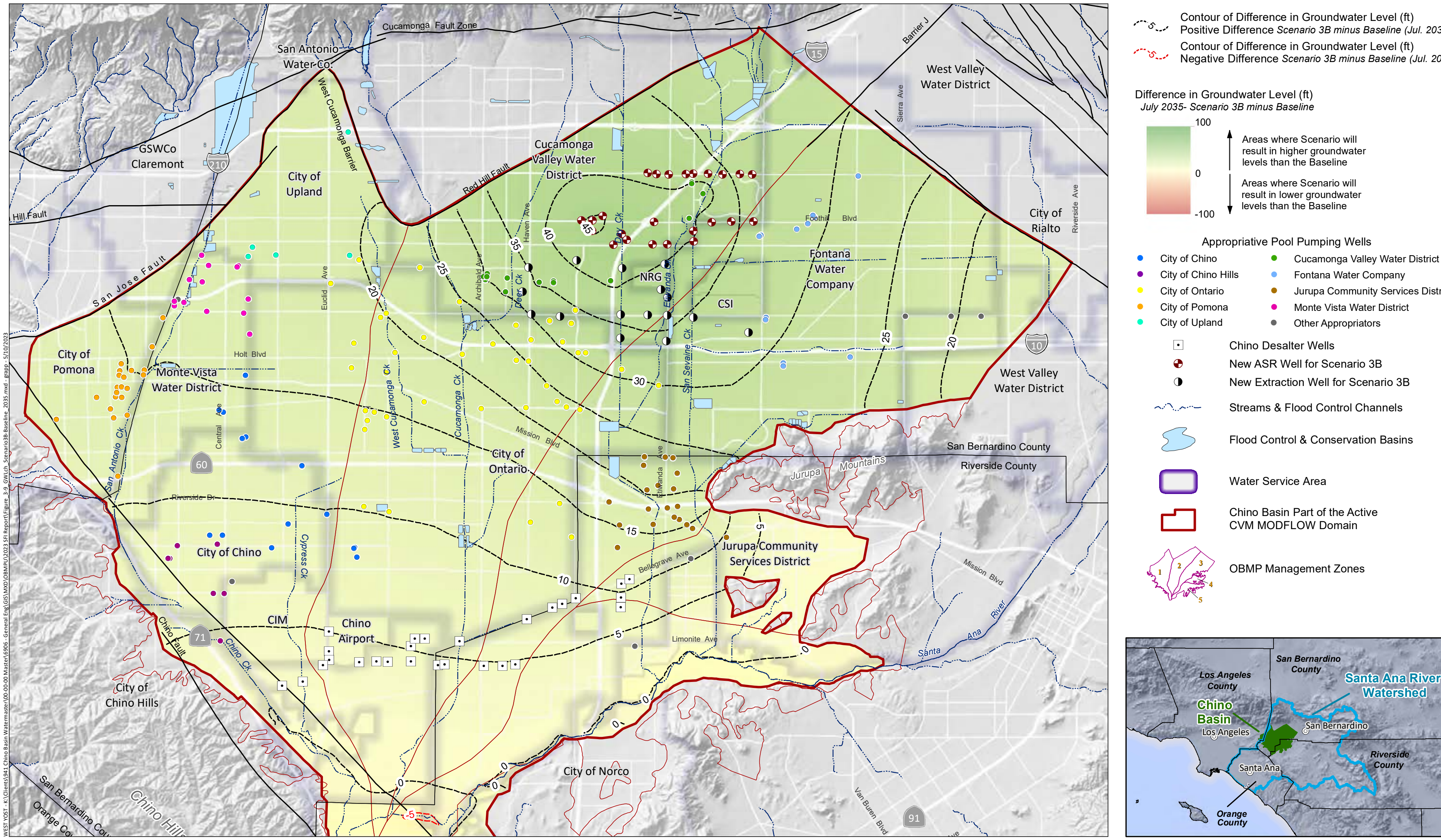

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0 2 4 Miles

0 3 6 Km

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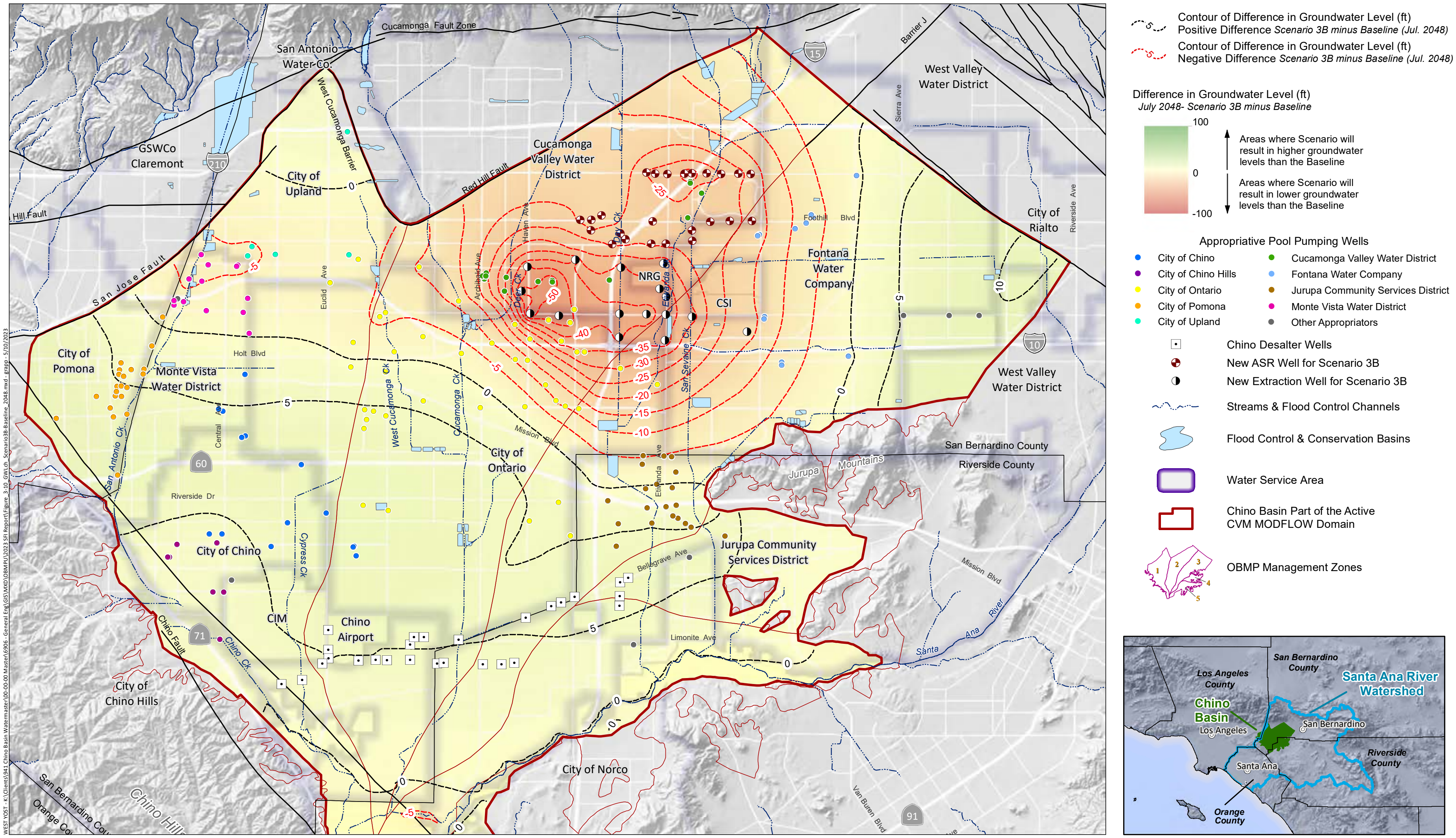
Projected Difference in Groundwater Levels for Layer 1
Scenario 3B minus Baseline (July 2035)

Figure 3-9



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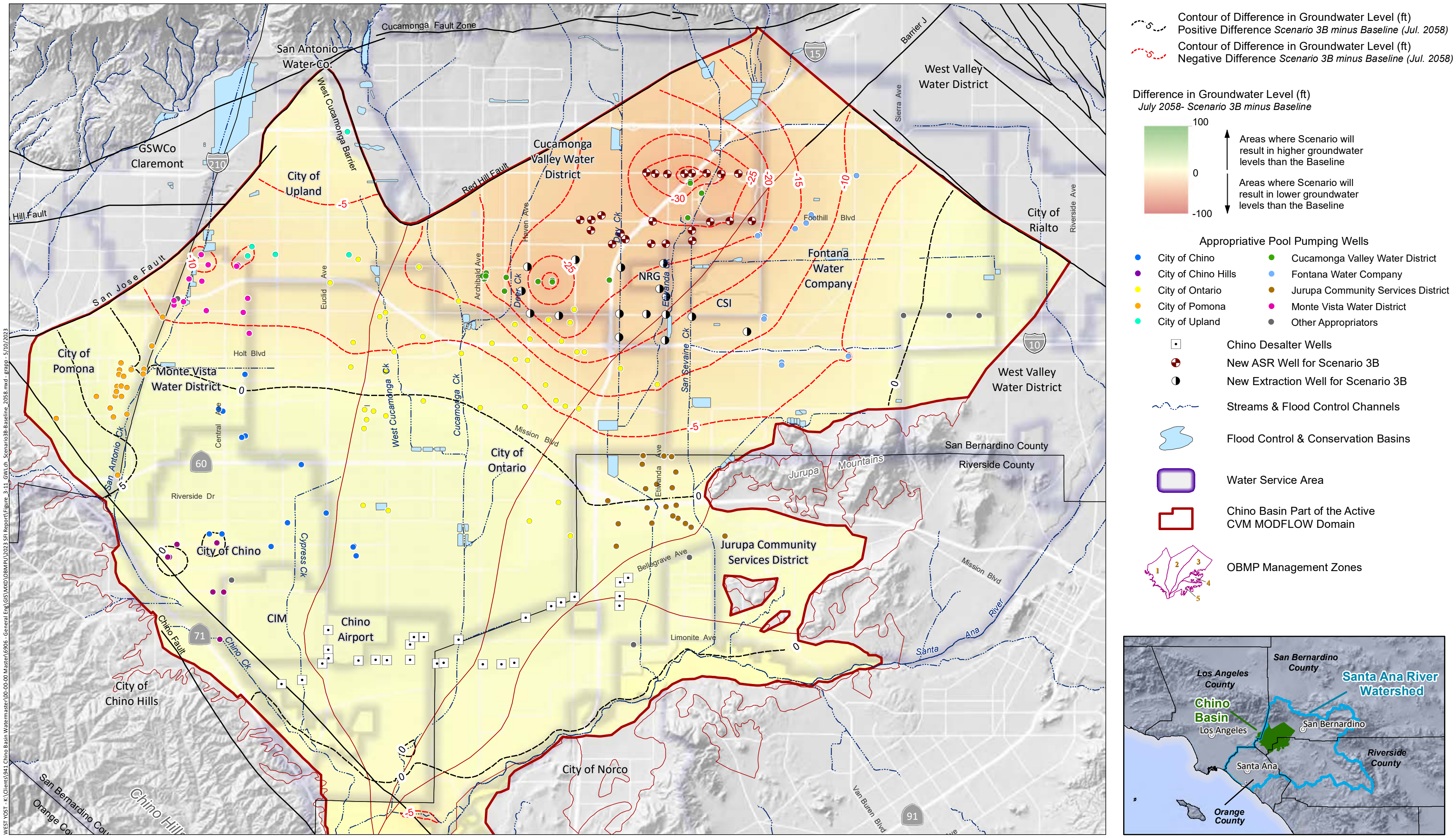
Projected Difference in Groundwater Levels for Layer 1
Scenario 3B minus Baseline (July 2048)

Figure 3-10



Projected Difference in Groundwater Levels for Layer 1

Scenario 3B minus Baseline (July 2058)

Figure 3-11

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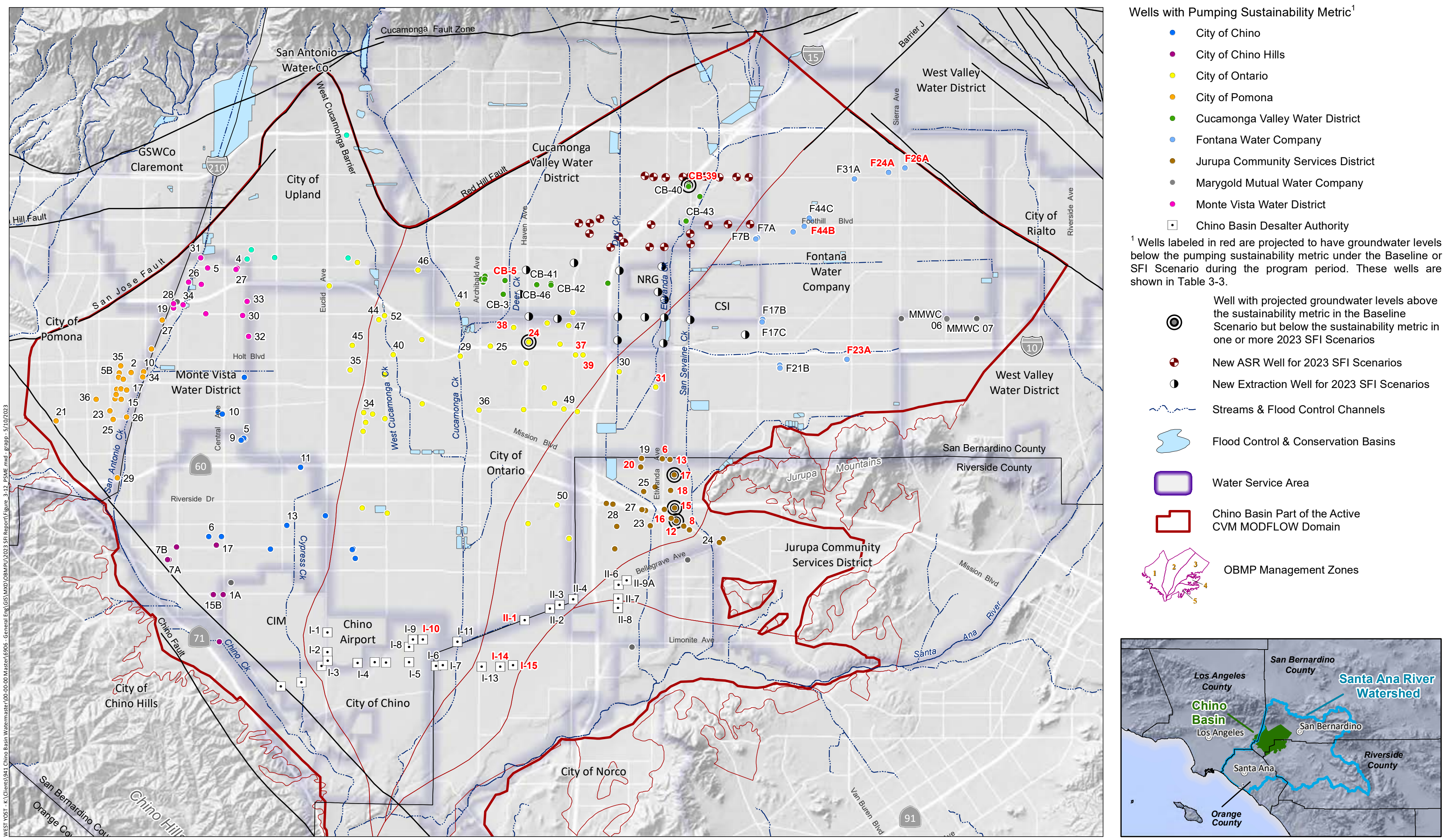

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Wells with Projected Pumping Sustainability Challenges
Storage and Recovery Program Scenarios

Figure 3-12

Table 3-3. Projected Pumping Sustainability Challenges at Wells in the Chino Basin[(a)]									
Well Owner	Well Name	Pumping Sustainability Metric (ft-amsl)	Minimum Water Level Minus Pumping Sustainability Metric (ft)[(b)]				Difference between the minimum water level in Storage and Recovery Scenarios and the Baseline[(c)]		New pumping sustainability challenges due to one or more Storage and Recovery Scenarios
			Baseline	Scenario 2A	Scenario 3A	Scenario 3B	Maximum	Minimum	
Cucamonga Valley Water District	CB-39	655	3	-22	-43	-43	-47	-26	x
City of Ontario	39	609	-1	-25	-33	-29	-32	-24	
City of Ontario	37	609	-4	-27	-35	-31	-32	-23	
City of Ontario	38	589	-6	-27	-36	-33	-31	-21	
City of Ontario	24	581	16	-4	-11	-8	-27	-20	x
Cucamonga Valley Water District	CB-5	613	-20	-35	-44	-40	-24	-16	
City of Ontario	31	635	-7	-25	-30	-27	-23	-18	
Fontana Water Company	F44B	703	-16	-26	-31	-28	-14	-9	
Fontana Water Company	F24A	769	-60	-68	-71	-68	-11	-8	
Fontana Water Company	F26A	765	-75	-83	-86	-83	-11	-8	
Fontana Water Company	F23A	723	-20	-27	-30	-27	-10	-7	
Jurupa Community Services District	13	627	-44	-51	-54	-51	-10	-7	
Jurupa Community Services District	17	566	3	-4	-6	-3	-9	-6	x
Jurupa Community Services District	20	580	-5	-11	-14	-11	-9	-6	
Jurupa Community Services District	18	580	-8	-14	-16	-13	-8	-5	
Jurupa Community Services District	14	560	-9	-14	-15	-12	-6	-3	
Jurupa Community Services District	15	565	0	-5	-5	-3	-6	-3	x
Jurupa Community Services District	16	552	-1	-6	-6	-4	-5	-3	
Jurupa Community Services District	12	557	2	-2	-3	-1	-5	-2	x
Jurupa Community Services District	8	581	-4	-7	-7	-5	-3	-1	
Chino Basin Desalter Authority	II-1	574	-66	-66	-66	-65	-0.5	0.3	
Chino Basin Desalter Authority	I-10	511	-0.4	0.1	0.7	0.5	1.0	0.5	
Chino Basin Desalter Authority	I-15	528	-19	-19	-19	-19	0.7	0.0	
Chino Basin Desalter Authority	I-14	533	-28	-27	-27	-27	0.7	0.1	

(a) Wells are sorted in order of magnitude of groundwater-level impact of the Storage and Recovery Program Scenarios.

(b) Determined over the period from FY 2029 through FY 2058. Positive values indicate water levels above the pumping sustainability metric and vice versa.

(c) Negative values indicate that the minimum water level in the Storage and Recovery Scenario is less than the Baseline Scenario and vice versa.

These projected effects on pumping sustainability are localized and temporary. As shown in the hydrographs in Appendix A, the minimum groundwater levels that occur at the end of the Storage and Recovery Programs (FY 2058) begin to recover and approach the groundwater levels in the Baseline Scenario by FY 2060. Potential actions to mitigate these pumping sustainability challenges include but are not limited to: (i) modifying the put and take cycles, (ii) strategically increasing supplemental water recharge near the affected wells, (iii) modifying a Party's affected well (lowering pump bowls), (iv) providing an alternate supply to the affected Party to ensure it can meet its demands, and (v) a combination of (i) through (iv). A monitoring program should be implemented to verify the effectiveness of the mitigation actions.

3.2.2.2 Risk of New Land Subsidence

To evaluate the risk of the occurrence of new land subsidence across MZ-1 in the *Evaluation of the LSLS* (WY, 2021a), the minimum historical groundwater elevations at wells were used to develop a groundwater elevation "control surface" across MZ-1. This control surface was used as metric to detect the likelihood of initiating new subsidence: if projected groundwater levels are higher than the control surface, then new land subsidence should not occur; if projected groundwater levels decline below the control surface, then new land subsidence could occur.

To determine the risk of new land subsidence, projected minimum groundwater levels for the Storage and Recovery Program Scenarios and the Baseline Scenario were compared at each of the locations in MZ-1 that were used to develop the control surface in the *Evaluation of the LSLS* (WY, 2021a).

Under the Baseline Scenario, 14 of the 90 wells used to develop the control surface have simulated water levels that drop below the control surface during the Storage and Recovery Program period (FY 2029 through FY 2058). The minimum projected water level at each of these 14 wells ranges from 7 to 32 feet below the control surface. At these wells, the Storage and Recovery Program Scenarios affected the minimum water levels by a range of +6 feet (increasing the water level relative to the Baseline Scenario) to -2 feet (decreasing the water level relative to the Baseline Scenario).

All Storage and Recovery Program Scenarios result in more wells with projected groundwater levels that fall below the control surface. Scenarios 2A, 3A, and 3B result in four, three, and four additional wells with projected water levels below the control surface, respectively. The greatest negative difference between the projected water level and the control surface in these wells is -6 feet, which occurs in Scenario 3B. The increase in the number of wells with projected water levels below the control surface indicates that the Storage and Recovery Program Scenarios may increase the risk of new land subsidence.

Mitigating increased risk of land subsidence in MZ-1 should be informed by Watermaster's ongoing subsidence management efforts. Based on the findings and recommendations in the current Chino Basin Subsidence Management Plan (WEI, 2015b)[30] and recent annual reports of the Ground-Level Monitoring Committee (WY, 2022),[31] actions to mitigate increased risk of land subsidence include, but are not limited to: (i) limiting facilities and operations of the Storage and Recovery Programs to MZ-2 and MZ-3; (ii) modifying the put and take cycles to ensure the Storage and Recovery Programs do not contribute to the lowering of water levels below the new land subsidence metric; (iii) strategically increasing

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[30] 2015 Chino Basin Subsidence Management Plan Final Report

[31] 2021/22 Annual Report of the Ground-Level Monitoring Committee

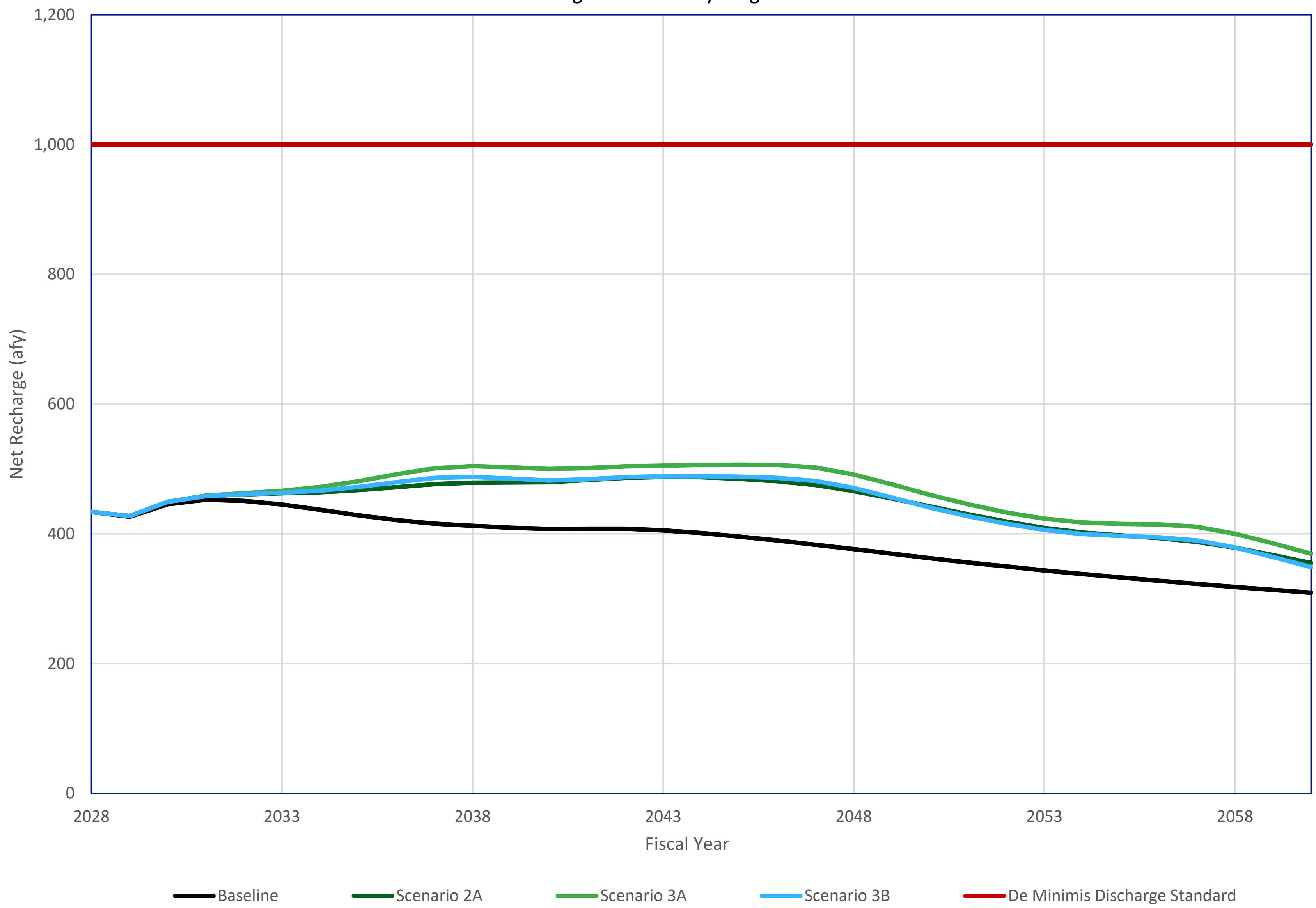
supplemental water recharge near the affected area (especially within the deep aquifer system); (iv) reducing pumping (especially within the deep aquifer system) and providing an alternate supply to the affected Parties to ensure Parties can meet their demands in response to any pumping reductions; (v) reallocating pumping from deeper to shallower layers; and/or (vi) a combination of (i) through (v). A monitoring program should be implemented to verify the effectiveness of the mitigation actions.

3.2.3 State of Hydraulic Control

The projected state of Hydraulic Control was estimated with the CVM by simulating the Chino Basin response to the baseline and Storage and Recovery Program Scenarios. The attainment of Hydraulic Control is measured by demonstrating either that groundwater elevation data indicate that all groundwater north of the CDA well field cannot pass through the CDA well field (total hydraulic containment standard) or that groundwater discharge through the CDA well field is, in aggregate, less than 1,000 afy (the de minimis discharge standard). The Regional Board has agreed that compliance with the de minimis discharge standard will be determined from groundwater monitoring data and the results of periodic calibration of the Watermaster groundwater model (currently the CVM) and interpretations of the calibration results. The modeling results indicate that the CDA well field is a complete barrier to all groundwater flow towards the Santa Ana River except in the Chino Creek Well Field (CCWF) where some discharge past the CDA wells is projected to occur.

Figure 3-13 shows the time series of groundwater discharge through the CCWF for the between each of the Storage and Recovery Scenarios and the Baseline Scenario and compares them to the de minimis discharge standard of 1,000 afy. The discharge through the CCWF in the Storage and Recovery Scenarios and the Baseline Scenario declines over time and is always less than 510 afy during the Storage and Recovery Program period, around half of the de minimis standard. Throughout the Storage and Recovery Program period (FY 2029 through FY 2058), the average difference between the discharge through the CCWF in the Storage and Recovery Program Scenario and the Baseline Scenario is 55 afy, 75 afy, and 60 afy for Scenarios 2A, 3A, and 3B, respectively.

Figure 3-13. Projected Discharge through the Chino Creek Wellfield for the Baseline and Storage and Recovery Program Scenarios



3.2.4 Direction of Speed of Known Plumes (Water Quality Anomalies)

The Chino Basin has seven major volatile organic compound (VOC) plumes which have been documented in recent Watermaster reports (WY, 2021b).[32] To assess the impact of the Storage and Recovery Program Scenarios on the movement of these plumes, MT3D-USGS (Bedekar, 2016)[33] was used to simulate their movement over time compared to the Baseline Scenario. Figure 3-14 shows the projected locations of the plumes at the end of FY 2058 for the Baseline Scenario compared to the Storage and Recovery Program Scenarios.

Figure 3-14 shows that the additional storage in the Storage and Recovery Program Scenarios are projected to result in accelerated movement of the GE Flatiron, GE Test Cell, and Chino Airport plumes compared to the Baseline Scenario. The southern edge of the GE Flatiron and GE Test Cell plumes is projected to migrate southward about 0.3 miles further in Scenario 3A than under the Baseline Scenario, which is the largest effect of the Storage and Recovery Program Scenarios. No Storage and Recovery Program Scenarios are projected to result in any plume impacting a well operated by an Appropriative Pool Party that is not already projected to be impacted under the Baseline Scenario, although the southern edge of the GE Flatiron plume is projected reach City of Chino Well 18 several years earlier under the Storage and Recovery Program Scenarios. The plume displacements due to the Storage and Recovery Program Scenarios are minor compared to the magnitude of the projected movement of the plumes in the Baseline Scenario.

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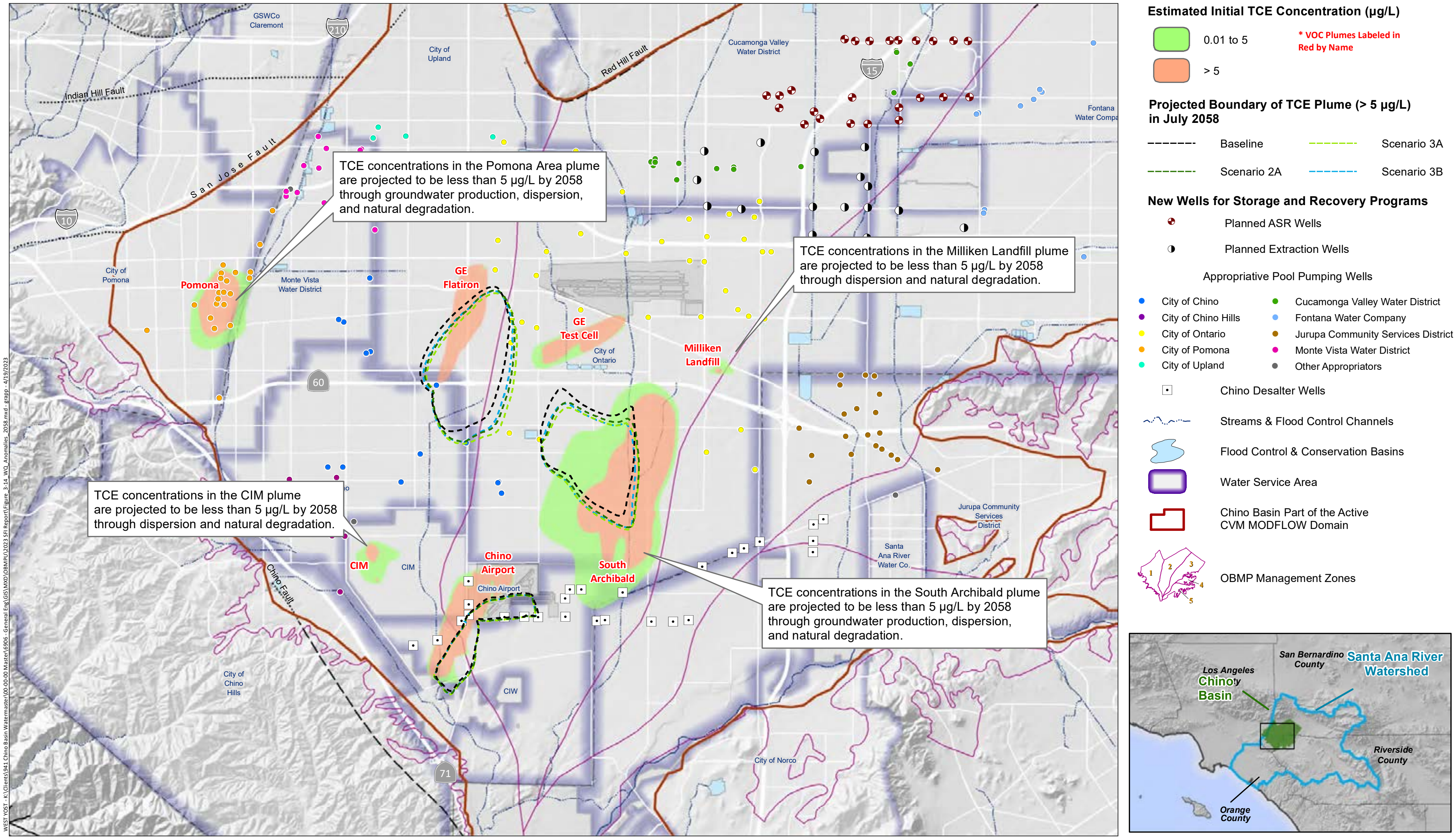
[32] Chino Basin OBMP 2020 State of the Basin Report

[33] Bedekar, V., Morway, E.D., Langevin, C.D., and Tonkin, M. (2016). *MT3D-USGS version 1: A U.S. Geological Survey release of MT3DMS updated with new and expanded transport capabilities for use with MODFLOW: U.S. Geological Survey Techniques and Methods* 6-A53, 69 p.



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Prepared for:

Chino Basin Watermaster
2023 Storage Framework Investigation

Estimated Location of Water Quality Anomalies
Baseline and Storage and Recovery Scenarios
July 2058

Figure 3-14

4.0 SUMMARY AND CONCLUSIONS

4.1 Summary

The 2023 SFI provides a technical analysis of the hydrologic impacts of Storage and Recovery Programs that are contemplated in the 2020 OBMPU project description. Pursuant to this objective, the scope of work to develop the 2023 SFI is to (i) define Storage and Recovery Program scenarios based on the 2020 OBMPU project description; (ii) simulate the response of the Chino Basin to the scenarios using the 2020 CVM, and (iii) evaluate the simulation results for potential MPI and adverse impacts.

The projected response of the Chino Basin to the Storage and Recovery Program Scenarios was simulated using the 2020 CVM over the period of FY 2019 through FY 2060. By using the 2020 CVM for this analysis, this report reflects the most up to date understanding of the effects of the potential Storage and Recovery Programs on the Chino Basin. The information included in the 2023 SFI will be used by IEUA to prepare the SEIR for the 2020 OBMPU.

The 2023 SFI includes the simulation of a Baseline Scenario and three Storage and Recovery Program Scenarios. The Baseline Scenario is based on the project scenario simulated in the recent *Evaluation of the LSLS* (WY, 2021a). The three Storage and Recovery Program Scenarios simulate assumed operations of the CBP and other conceptual Storage and Recovery Programs of various sizes and use of facilities. Storage and Recovery Programs are implemented in 10-year cycles comprising 4 years of puts, 3 years of holds, and 3 years of takes. Three 10-year cycles were simulated over the 30-year period from FY 2029 through FY 2058.

A summary of the Storage and Recovery Program Scenarios is as follows:

- Scenario 2A: Assumed operations of the CBP plus a 100,000 af Storage and Recovery Program comprising 4 years of 25,000 afy of puts and 33,333 afy of takes. Managed Storage is projected to peak in FY 2035 at just under 800,000 af (the upper limit of Operational Band 2). Puts are assumed to occur in equal portions between wet-water recharge (spreading basins and existing ASR wells) and in-lieu recharge using existing facilites. Takes are assumed to occur via existing wells.
- Scenario 3A: All operations in Scenario 2A plus an additional 100,000 af Storage and Recovery Program comprising 4 years of 25,000 afy of puts and 33,333 afy of takes. Managed Storage is projected to peak in FY 2035 at just under 900,000 af (the upper limit of Operational Band 3). Puts are assumed to occur in equal portions between wet-water recharge (spreading basins and existing ASR wells) and new ASR wells. Takes are assumed to occur in equal portions between new wells and existing wells.
- Scenario 3A: Identical to Scenario 3A, except that the 25,000 afy of puts are assumed to occur entirely via new ASR wells.

New ASR and extraction wells were assumed to be located in northern MZ-2 and MZ-3. Each of the Storage and Recovery Program Scenarios were compared to the Baseline Scenario and evaluated based on the metrics to quantify the potential for MPI and adverse impacts including: changes in net recharge/Safe Yield, groundwater levels, pumping sustainability challenges, risk of new land subsidence, loss of Hydraulic Control, and changes in the direction and speed of known contaminant plumes. A summary of the evaluation is in Table 4-1 below.

Table 4-1. Summary of Evaluation of Operational Bands 2 and 3, and Scenarios 2A, 3A, and 3B

Criteria	Scenario		
	2A	3A	3B
Operational Bands	2	2 and 3	
Range in Managed Storage Used for Storage and Recovery Programs	700,000 to 800,000 af	700,000 to 900,000 af	
Average Reduction in Net Recharge over Storage and Recovery Program (afy)	-1,700	-2,300	-2,200
Risk of New Pumping Sustainability Challenges	Potential new pumping sustainability challenges at wells near the assumed wells that will facilitate Storage and Recovery. These challenges are expected to be localized and temporary and could be mitigated.		
Risk of New Land Subsidence	Potential risk of new land subsidence may occur due to Storage and Recovery Scenarios. This potential risk could be mitigated.		
Hydraulic Control	Maintained through FY 2060		
Movement of Water Quality Anomalies	No scenario is projected to result in any known plume impacting a well operated by an Appropriative Pool Party that is not already projected to be impacted under the Baseline Scenario. Storage and Recovery Program operations may accelerate the arrival of a plume to a downgradient well.		

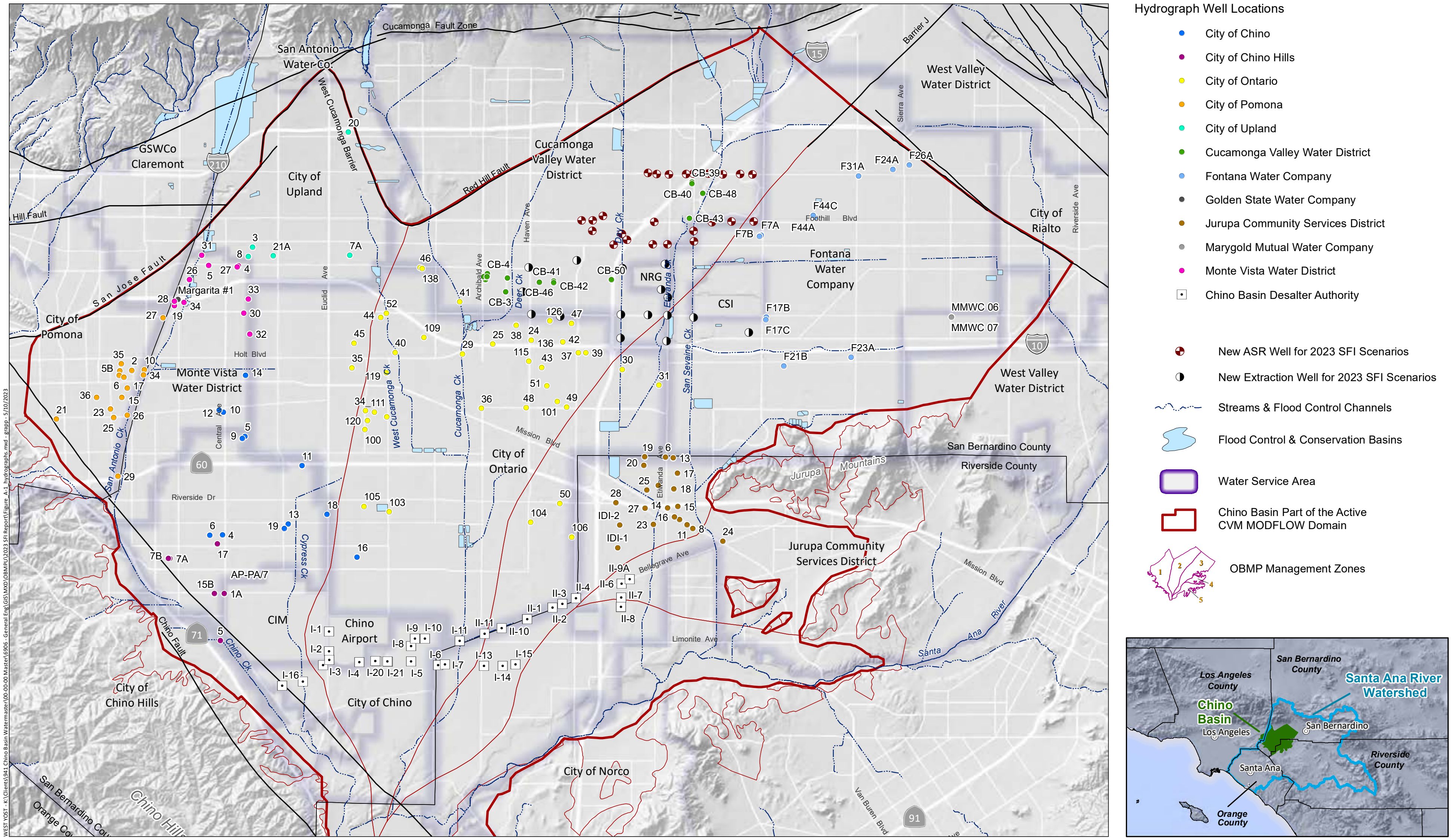
4.2 Conclusions

The following conclusions were derived from the evaluation documented in Chapter 3:

- Exercise of the Operational Bands 2 and 3 result in a simulated reduction in net recharge of one to two percent compared to the Baseline Scenario. The magnitude of the reduction in net recharge increases with the size of the Storage and Recovery Program but varies based on the location of puts and takes.
- Due to the displacement of native groundwater by puts and resulting reductions in net recharge, all Storage and Recovery Programs resulted in lower groundwater levels than the Baseline Scenario by the end of the Storage and Recovery Program (FY 2058). This can be mitigated by (i) reducing the total volume of takes compared to puts (i.e., “Leave Behind” water) or (ii) implementing a Storage and Recovery Program that includes takes prior to puts. Executing takes before puts would have the opposite effect on the Basin, temporarily increasing net recharge and resulting in higher groundwater levels by 2058.
- Temporary and localized pumping sustainability challenges can occur at wells that are near the assumed take facilities (i.e., extraction wells). The potential actions that can be taken to mitigate these pumping sustainability challenges include (i) modifying the put and take cycles, (ii) strategically increasing supplemental water recharge near the affected wells, (iii) modifying a Party’s affected well (lowering pump bowls), (iv) providing an alternate supply to the affected Party to ensure it can meet its demands, and (v) a combination of (i) through (iv). A monitoring program should be implemented to verify the effectiveness of the mitigation actions.
- Compared to Scenario 3B, Scenario 3A resulted in (i) less net recharge by about 100 afy; (ii) an increase in flow through the CCWF of about 15 afy; and (iii) higher groundwater levels in MZ-1. Therefore, increasing the proportion of puts that occur in MZ-1 (e.g., the puts in Scenario 3A compared to Scenario 3B) can mitigate the risk of new land subsidence but may result in less net recharge.
- When facilities to execute Storage and Recovery Programs are located upgradient of known groundwater contaminant plumes, the CVM results suggest that known plumes will not impact a well operated by an Appropriative Pool Party that is not already projected to be impacted under the Baseline Scenario. However, Storage and Recovery Program operations may accelerate the arrival of a plume to a downgradient well. The effects of this acceleration could be mitigated by installing wellhead or other treatment options earlier than would have been planned otherwise.

Appendix A

Hydrographs for the Baseline Scenario and the Storage and Recovery Program Scenarios



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Chino Basin Watermaster
2023 Storage Framework Investigation

Hydrograph Well Locations

Figure A-1

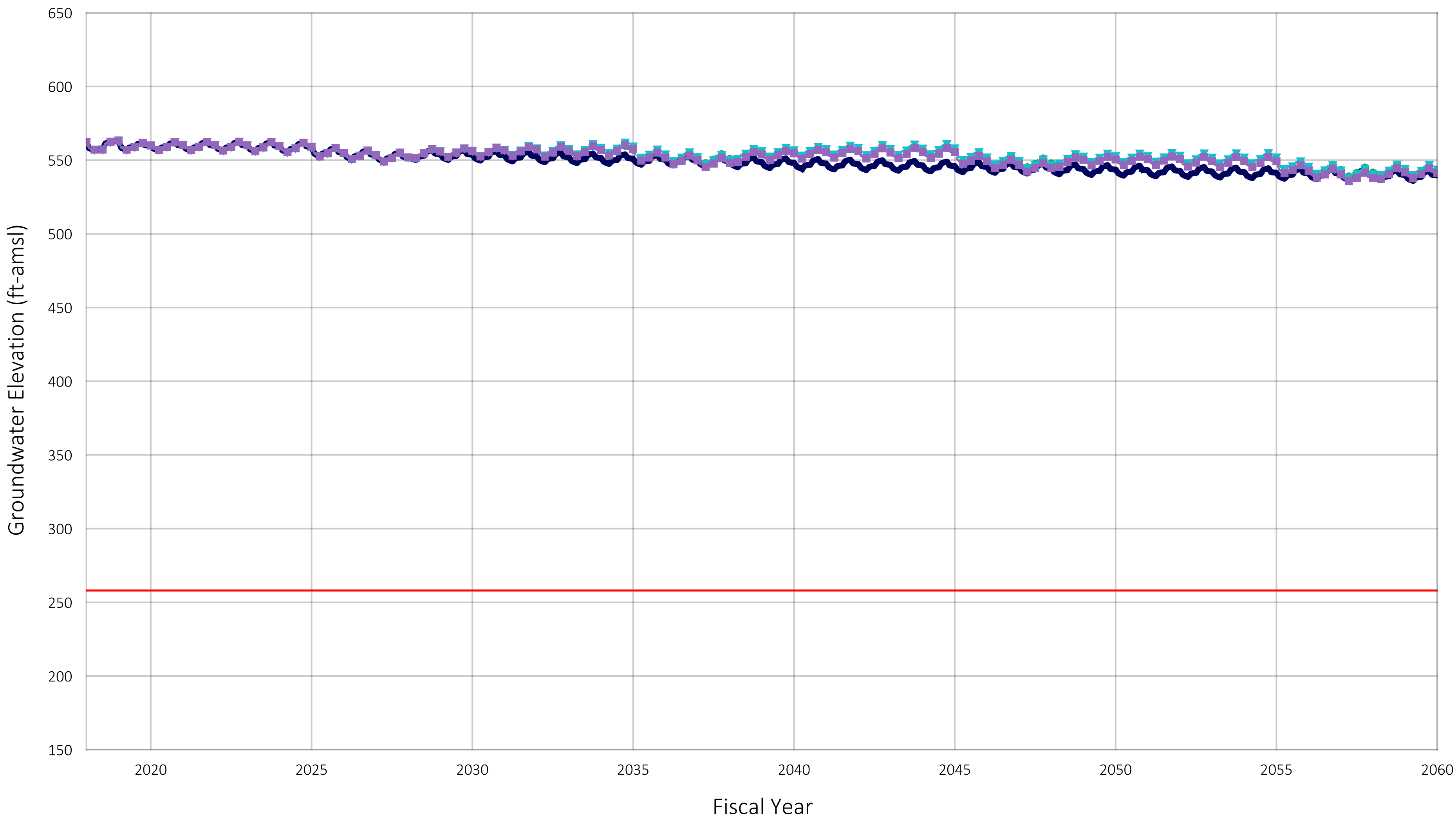
Table A-1. List of Wells with Hydrographs					
Well ID	**Well_name**	**Well Owner**	**Latitude**	**Longitude**	**Pumping Sustainability Metric Elevation (ft-amsl)**
1004280	1A	City of Chino Hills	33.9899	-117.6894	258
1207336	5	City of Chino Hills	33.9752	-117.6908	-
1004215	7A	City of Chino Hills	34.0007	-117.7098	241
1004216	7B	City of Chino Hills	34.0008	-117.7105	241
1203214	15B	City of Chino Hills	33.9898	-117.6932	471
1004179	17	City of Chino Hills	34.0053	-117.6922	394
1004178	4	City of Chino	34.0081	-117.6903	-
1002741	5	City of Chino	34.0389	-117.6821	545
1004176	6	City of Chino	34.0081	-117.6950	489
1002743	9	City of Chino	34.0382	-117.6831	493
1203283	10	City of Chino	34.0464	-117.6902	475
1003741	11	City of Chino	34.0299	-117.6607	455
1002739	12	City of Chino	34.0471	-117.6919	-
1004185	13	City of Chino	34.0117	-117.6657	348
1002645	14	City of Chino	34.0580	-117.6820	-
1208673	16	City of Chino	34.0015	-117.6399	-
1234063	19	City of Chino	34.0103	-117.6671	-
1224773	18	City of Chino	34.0147	-117.6513	-
1002309	CB-1	Cucamonga Valley Water District	34.0882	-117.5924	543
1002312	CB-3	Cucamonga Valley Water District	34.0845	-117.5849	553
1002307	CB-4	Cucamonga Valley Water District	34.0901	-117.5918	493
1002311	CB-5	Cucamonga Valley Water District	34.0888	-117.5843	613
1002308	CB-30	Cucamonga Valley Water District	34.0891	-117.5931	489
1206753	CB-38	Cucamonga Valley Water District	34.0891	-117.5918	509
1207928	CB-39	Cucamonga Valley Water District	34.1189	-117.5154	655
1207929	CB-40	Cucamonga Valley Water District	34.1185	-117.5153	441
1207936	CB-41	Cucamonga Valley Water District	34.0879	-117.5669	475
1207937	CB-42	Cucamonga Valley Water District	34.0874	-117.5668	511
1220079	CB-43	Cucamonga Valley Water District	34.1077	-117.5162	434
1220080	CB-46	Cucamonga Valley Water District	34.0875	-117.5722	501
Projected	CB-48	Cucamonga Valley Water District	34.1155	-117.5113	-
Projected	CB-50	Cucamonga Valley Water District	34.0884	-117.5453	-
1002211	F7A	Fontana Water Company	34.1026	-117.4892	646.7
1221726	F7B	Fontana Water Company	34.1022	-117.4899	646.37
1002237	F17B	Fontana Water Company	34.0770	-117.4872	639.1
1201069	F17C	Fontana Water Company	34.0762	-117.4875	551.8
1232847	F21B	Fontana Water Company	34.0619	-117.4806	675.43
1002239	F23A	Fontana Water Company	34.0646	-117.4554	722.8
1200218	F24A	Fontana Water Company	34.1232	-117.4402	768.9
1200219	F26A	Fontana Water Company	34.1247	-117.4340	765.3
1002081	F31A	Fontana Water Company	34.1212	-117.4529	684.4
1206933	F44A	Fontana Water Company	34.1083	-117.4691	652.8
1207340	F44B	Fontana Water Company	34.1082	-117.4692	702.8
1207341	F44C	Fontana Water Company	34.1088	-117.4699	662.8

Well ID	Well_name	Well Owner	Latitude	Longitude	Pumping Sustainability Metric Elevation (ft-amsl)
1002554	Margarita #1	Golden State Water Company	34.0814	-117.7075	-
1003470	6	Jurupa Community Services District	34.0332	-117.5247	610
1003507	8	Jurupa Community Services District	34.0110	-117.5144	581
1003506	11	Jurupa Community Services District	34.0122	-117.5165	559
1003505	12	Jurupa Community Services District	34.0137	-117.5193	557
1003466	13	Jurupa Community Services District	34.0330	-117.5218	627
1003501	14	Jurupa Community Services District	34.0174	-117.5239	560
1003498	15	Jurupa Community Services District	34.0179	-117.5200	565
1003502	16	Jurupa Community Services District	34.0146	-117.5213	552
1003467	17	Jurupa Community Services District	34.0282	-117.5202	566
1003469	18	Jurupa Community Services District	34.0233	-117.5215	580
1003471	19	Jurupa Community Services District	34.0332	-117.5325	546
1003472	20	Jurupa Community Services District	34.0306	-117.5328	580
1220154	22	Jurupa Community Services District	34.0244	-117.5274	537
1220155	23	Jurupa Community Services District	34.0122	-117.5291	492
1003515	24	Jurupa Community Services District	34.0071	-117.5031	547
1220158	25	Jurupa Community Services District	34.0229	-117.5317	525
1233787	27	Jurupa Community Services District	34.0172	-117.5322	490
1233788	28	Jurupa Community Services District	34.0189	-117.5432	496
1207942	IDI-1	Jurupa Community Services District	34.0049	-117.5424	-
999902	IDI-2	Jurupa Community Services District	34.0120	-117.5417	-
1221751	MMWC 06	Marygold Mutual Water Company	34.0774	-117.4179	563.9
1221752	MMWC 07	Marygold Mutual Water Company	34.0773	-117.4179	656.4
1002541	4	Monte Vista Water District	34.0921	-117.6850	511
1002544	5	Monte Vista Water District	34.0922	-117.6962	442
1002563	19	Monte Vista Water District	34.0795	-117.7088	433
1206744	26	Monte Vista Water District	34.0876	-117.7032	444
1206745	27	Monte Vista Water District	34.0917	-117.6854	498
1206746	28	Monte Vista Water District	34.0808	-117.7088	303
1208781	30	Monte Vista Water District	34.0774	-117.6829	499
1208782	31	Monte Vista Water District	34.0953	-117.6988	326
1208771	32	Monte Vista Water District	34.0708	-117.6806	442
1220173	33	Monte Vista Water District	34.0818	-117.6812	489
1224765	34	Monte Vista Water District	34.0804	-117.7053	372
1002339	24	City of Ontario	34.0695	-117.5752	581
1002337	25	City of Ontario	34.0682	-117.5896	517
1002333	29	City of Ontario	34.0650	-117.6009	541
1002253	30	City of Ontario	34.0605	-117.5411	558
1002254	31	City of Ontario	34.0556	-117.5274	635
1002367	34	City of Ontario	34.0471	-117.6371	451
1002350	35	City of Ontario	34.0605	-117.6423	498
1002372	36	City of Ontario	34.0481	-117.5937	517
1002230	37	City of Ontario	34.0656	-117.5576	609
1006998	38	City of Ontario	34.0741	-117.5809	589
1206945	39	City of Ontario	34.0657	-117.5548	609
1207502	40	City of Ontario	34.0654	-117.6261	492

Well ID	Well_name	Well Owner	Latitude	Longitude	Pumping Sustainability Metric Elevation (ft-amsl)
1207503	41	City of Ontario	34.0813	-117.6021	483
1220168	42	City of Ontario	34.0689	-117.5634	-
1220169	43	City of Ontario	34.0610	-117.5713	-
1220170	44	City of Ontario	34.0763	-117.6316	573
1207950	45	City of Ontario	34.0682	-117.6415	500
1207946	46	City of Ontario	34.0919	-117.6169	541
1207948	47	City of Ontario	34.0747	-117.5602	559
1220171	48	City of Ontario	34.0484	-117.5770	-
1207952	49	City of Ontario	34.0486	-117.5618	538
1208387	50	City of Ontario	34.0186	-117.5642	519
1220172	51	City of Ontario	34.0553	-117.5692	-
1221753	52	City of Ontario	34.0775	-117.6294	485
Projected	100	City of Ontario	34.0413	-117.6373	-
Projected	101	City of Ontario	34.0503	-117.5653	-
Projected	103	City of Ontario	34.0157	-117.6280	-
Projected	104	City of Ontario	34.0127	-117.5750	-
Projected	105	City of Ontario	34.0173	-117.6375	-
Projected	106	City of Ontario	34.0081	-117.5596	-
Projected	109	City of Ontario	34.0701	-117.6153	-
Projected	111	City of Ontario	34.0467	-117.6338	-
Projected	119	City of Ontario	34.0590	-117.6293	-
Projected	115	City of Ontario	34.0629	-117.5760	-
Projected	120	City of Ontario	34.0441	-117.6363	-
Projected	126	City of Ontario	34.0755	-117.5682	-
Projected	134	City of Ontario	34.0452	-117.6291	-
Projected	136	City of Ontario	34.0695	-117.5752	-
Projected	138	City of Ontario	34.0916	-117.6162	-
1002653	2	City of Pomona	34.0592	-117.7247	465.7
1205314	5B	City of Pomona	34.0591	-117.7292	460.3
1002650	6	City of Pomona	34.0577	-117.7293	424
1002656	10	City of Pomona	34.0594	-117.7199	525.8
1002664	15	City of Pomona	34.0508	-117.7282	494
1002654	16	City of Pomona	34.0571	-117.7275	494.6
1002659	17	City of Pomona	34.0537	-117.7263	491
1002678	21	City of Pomona	34.0439	-117.7527	612.8
1002704	23	City of Pomona	34.0472	-117.7326	472.2
1002706	25	City of Pomona	34.0445	-117.7313	509
1002703	26	City of Pomona	34.0453	-117.7262	543.6
1201236	27	City of Pomona	34.0757	-117.7131	466
1203062	29	City of Pomona	34.0262	-117.7296	497.9
1201247	34	City of Pomona	34.0579	-117.7203	494.1
1201246	35	City of Pomona	34.0612	-117.7286	464
1205309	36	City of Pomona	34.0507	-117.7377	467.2
1002535	3	City of Upland	34.0979	-117.6798	-
1006997	7A	City of Upland	34.0956	-117.6433	-
1002531	8	City of Upland	34.0950	-117.6813	-

Well ID	Well_name	Well Owner	Latitude	Longitude	Pumping Sustainability Metric Elevation (ft-amsl)
1206654	20	City of Upland	34.1339	-117.6441	-
1207956	21A	City of Upland	34.0952	-117.6720	-
1206675	I-1	Chino Basin Desalter Authority	33.9782	-117.6502	402
1206676	I-2	Chino Basin Desalter Authority	33.9721	-117.6501	304
1206677	I-3	Chino Basin Desalter Authority	33.9693	-117.6500	353
1206678	I-4	Chino Basin Desalter Authority	33.9688	-117.6387	356
1206679	I-5	Chino Basin Desalter Authority	33.9690	-117.6195	410
1206684	I-6	Chino Basin Desalter Authority	33.9680	-117.6094	496
1206685	I-7	Chino Basin Desalter Authority	33.9682	-117.6068	491
1206680	I-8	Chino Basin Desalter Authority	33.9739	-117.6195	390
1206681	I-9	Chino Basin Desalter Authority	33.9762	-117.6180	499
1206682	I-10	Chino Basin Desalter Authority	33.9762	-117.6143	511
1206683	I-11	Chino Basin Desalter Authority	33.9756	-117.6013	409
1206958	I-13	Chino Basin Desalter Authority	33.9679	-117.5921	476
1206959	I-14	Chino Basin Desalter Authority	33.9679	-117.5852	533
1206960	I-15	Chino Basin Desalter Authority	33.9684	-117.5803	528
1222970	I-16	Chino Basin Desalter Authority	33.9612	-117.6675	-
1224801	I-20	Chino Basin Desalter Authority	33.9692	-117.6328	-
1224812	I-21	Chino Basin Desalter Authority	33.9691	-117.6283	-
1206961	II-1	Chino Basin Desalter Authority	33.9825	-117.5761	574
1206962	II-2	Chino Basin Desalter Authority	33.9861	-117.5666	458
1206963	II-3	Chino Basin Desalter Authority	33.9873	-117.5629	457
1206964	II-4	Chino Basin Desalter Authority	33.9891	-117.5580	468
1206966	II-6	Chino Basin Desalter Authority	33.9937	-117.5409	477
1206967	II-7	Chino Basin Desalter Authority	33.9894	-117.5410	461
1206968	II-8	Chino Basin Desalter Authority	33.9864	-117.5411	472
1206969	II-9A	Chino Basin Desalter Authority	33.9952	-117.5378	510
1234064	II-10	Chino Basin Desalter Authority	33.9796	-117.5856	-
1234065	II-11	Chino Basin Desalter Authority	33.9779	-117.5920	-
1206952	AP-PA/7	Chino Basin Water Master	33.9938	-117.6869	400[1]

[1] Well AP-PA/7 is a monitoring well. The value of 400 ft represents a minimum water level regarding subsidence not pumping.



Location of Well in Chino Basin

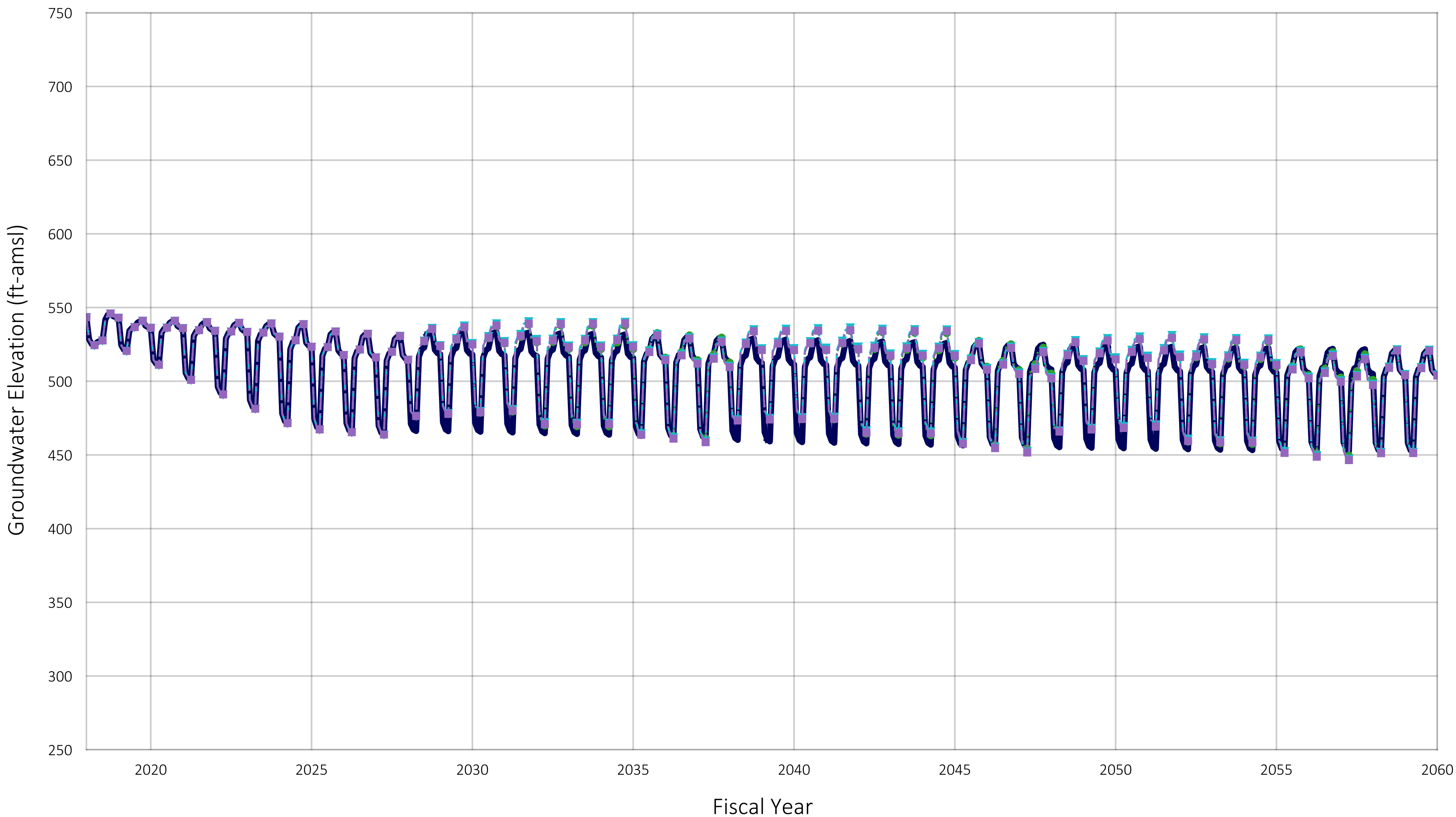
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1004280
Owner: City of Chino Hills
Well Name: 1A

Figure A-2



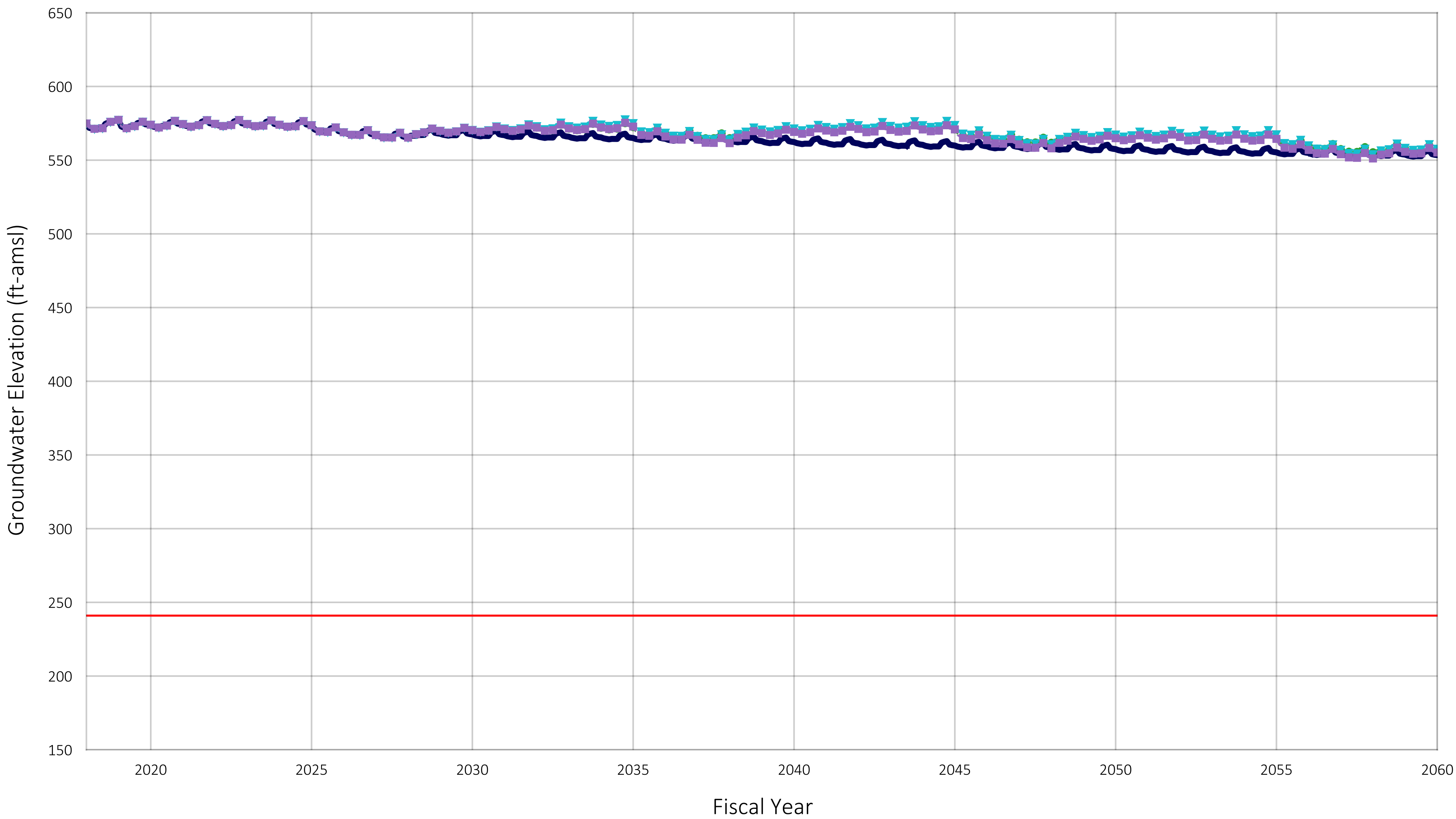
Location of Well in Chino Basin

Prepared by:

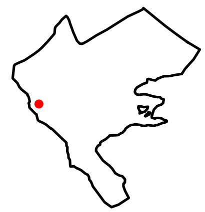
WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1207336
Owner: City of Chino Hills
Well Name: 5

Figure A-3



Location of Well in Chino Basin



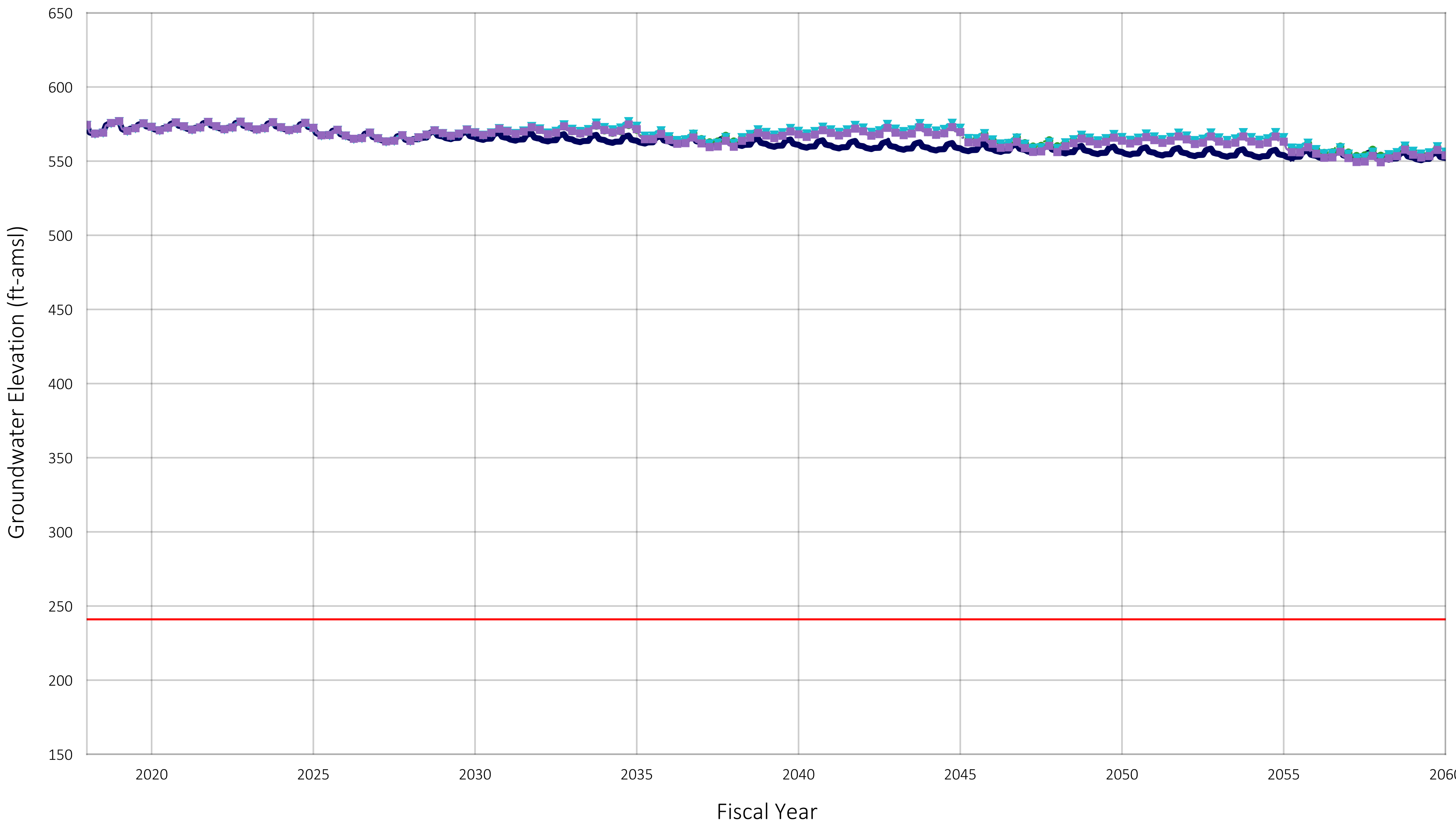
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1004215
Owner: City of Chino Hills
Well Name: 7A

Figure A-4



Location of Well in Chino Basin

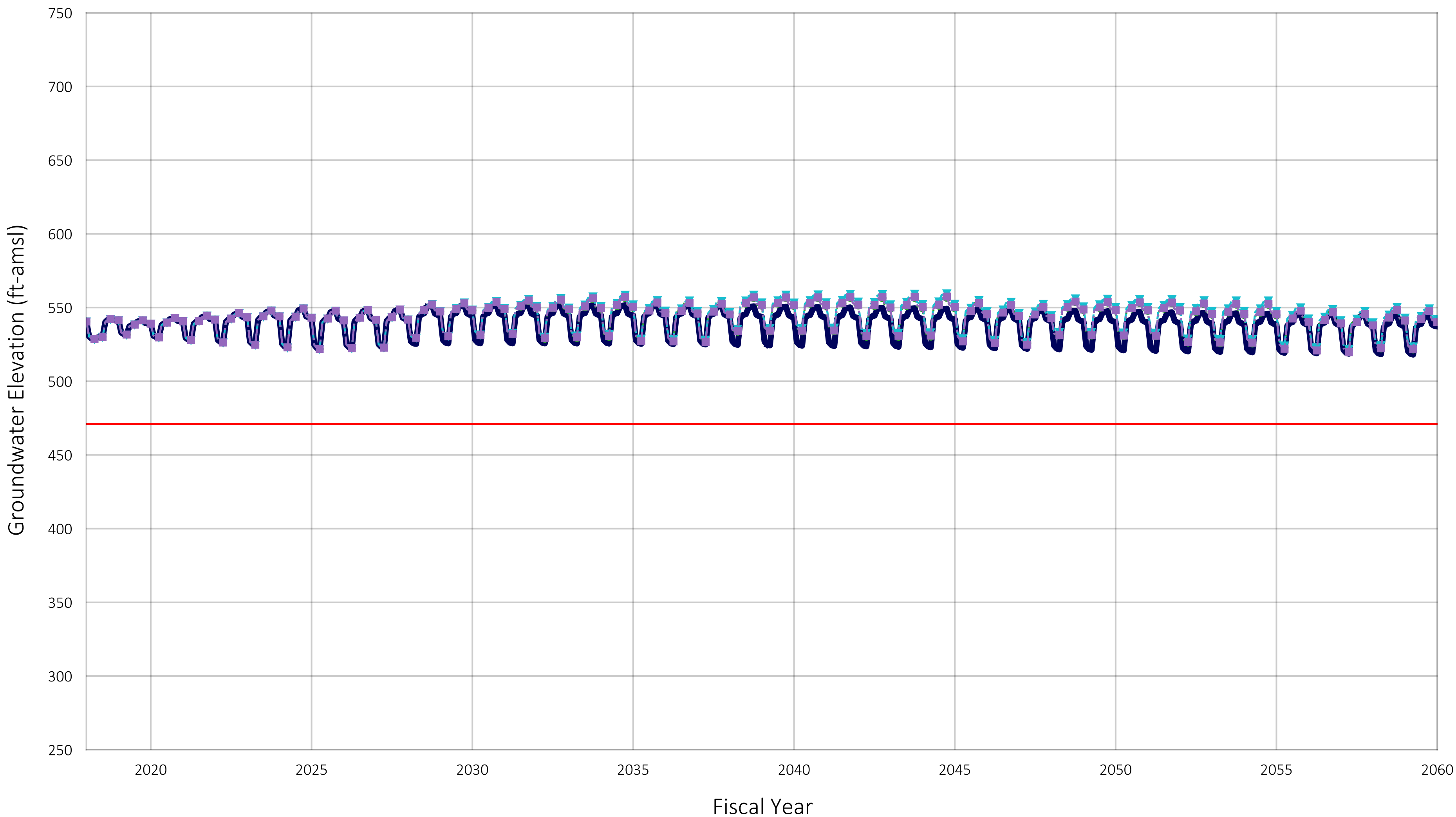
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

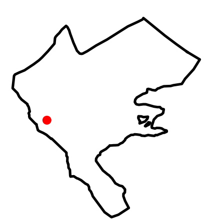
WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1004216
Owner: City of Chino Hills
Well Name: 7B

Figure A-5



Location of Well in Chino Basin



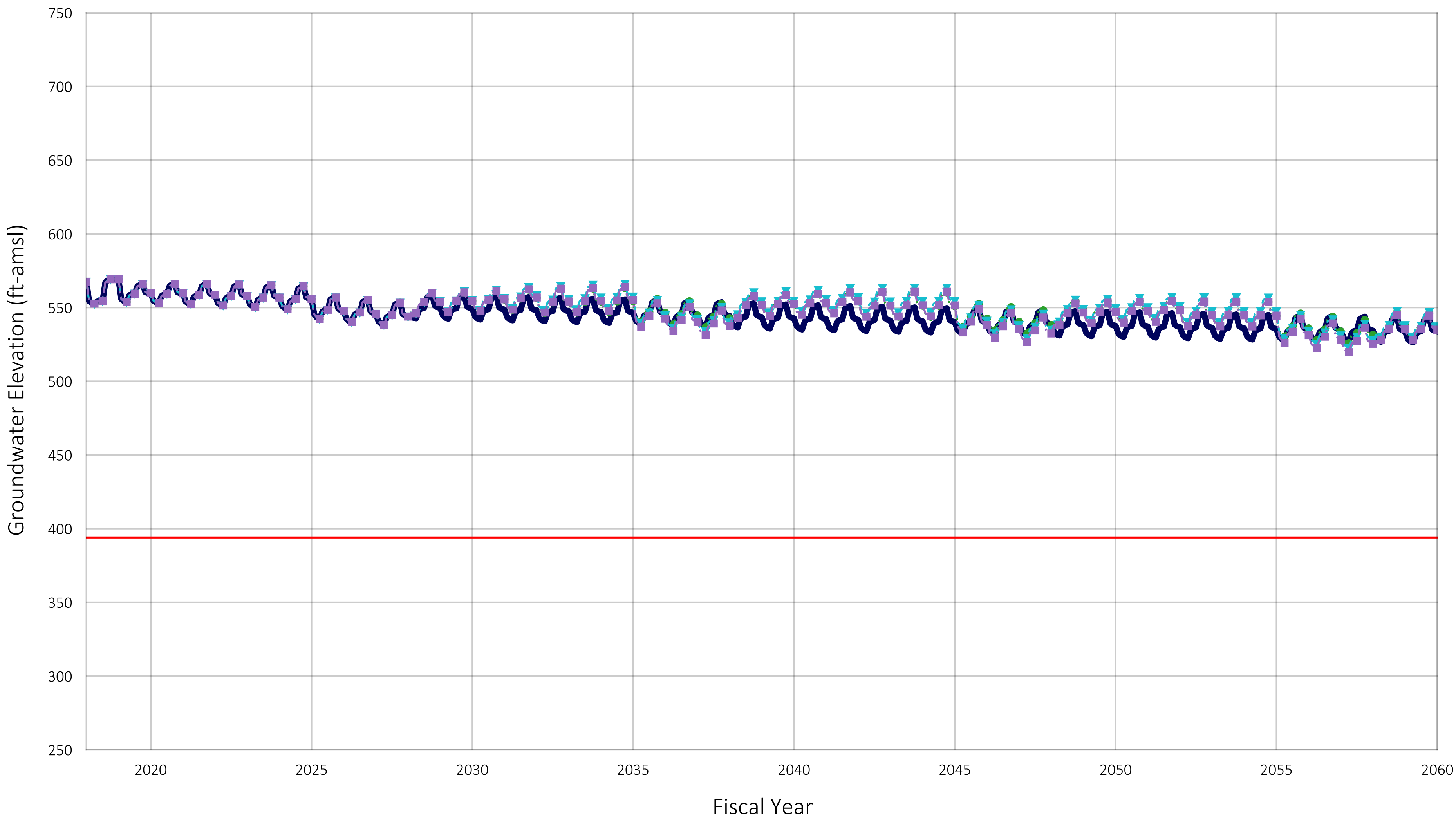
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1203214
Owner: City of Chino Hills
Well Name: 15B

Figure A-6



Location of Well in Chino Basin

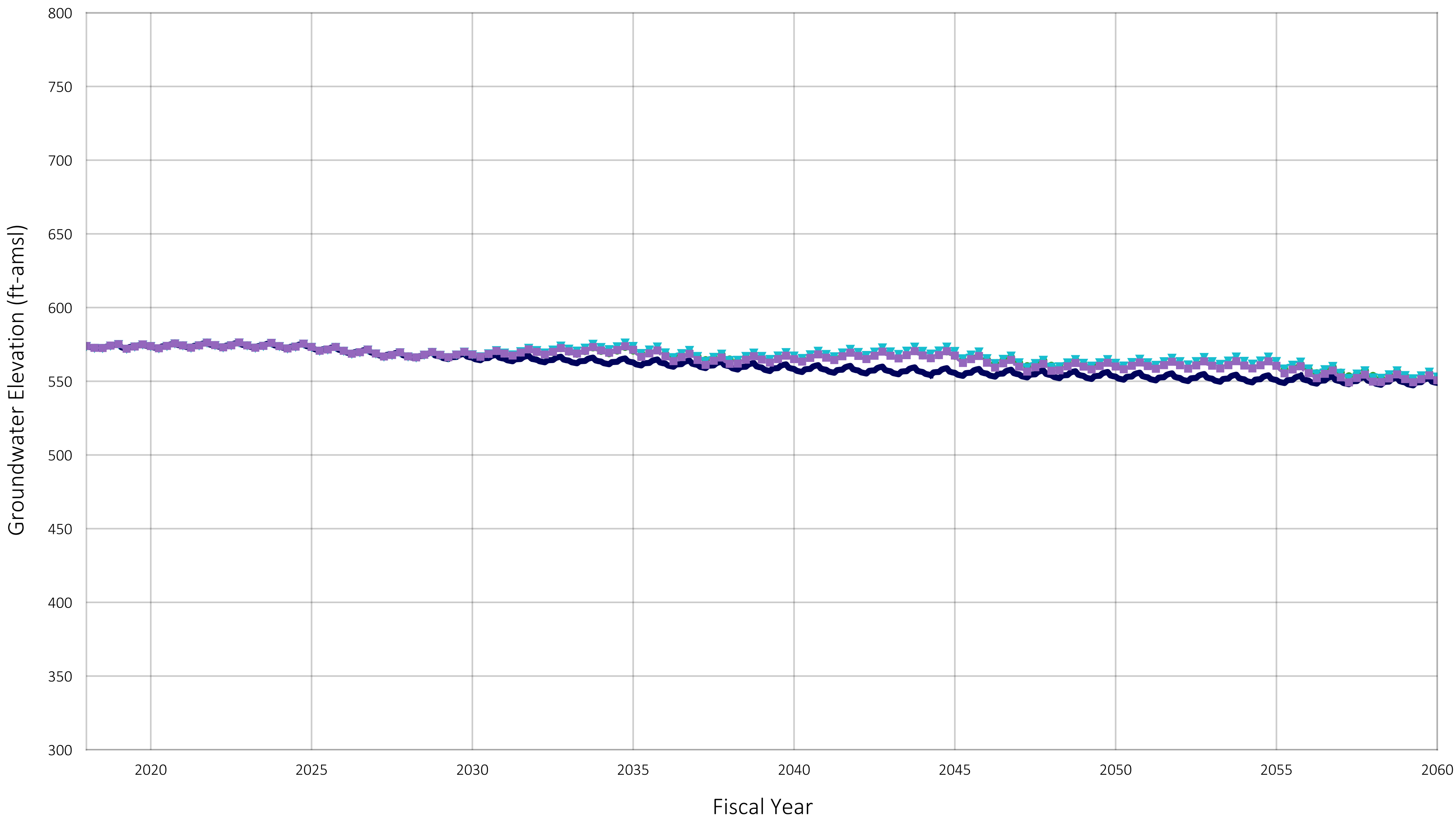
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1004179
Owner: City of Chino Hills
Well Name: 17

Figure A-7



Location of Well in Chino Basin

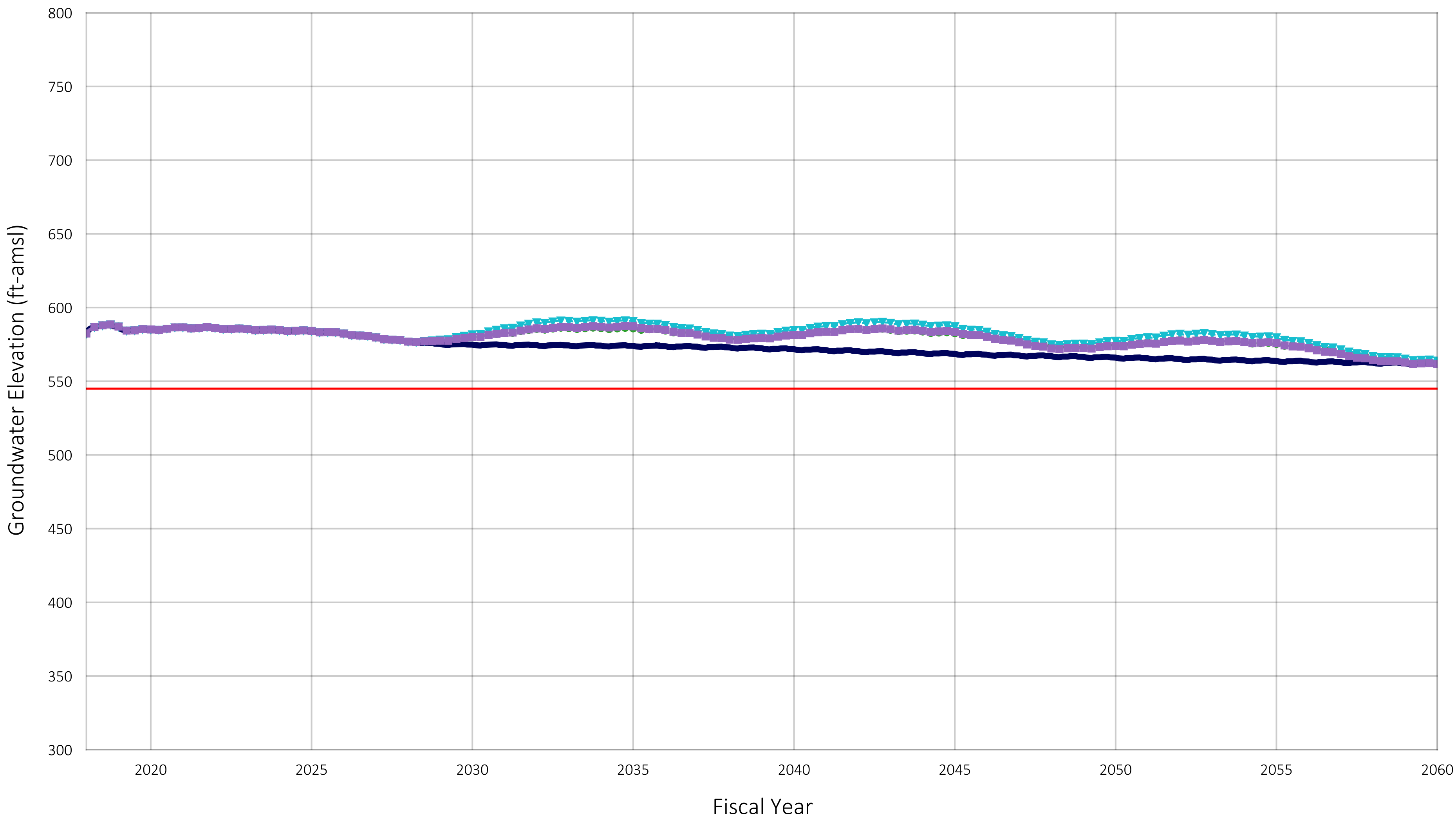
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1004178
Owner: City of Chino
Well Name: 4

Figure A-8



Location of Well in Chino Basin

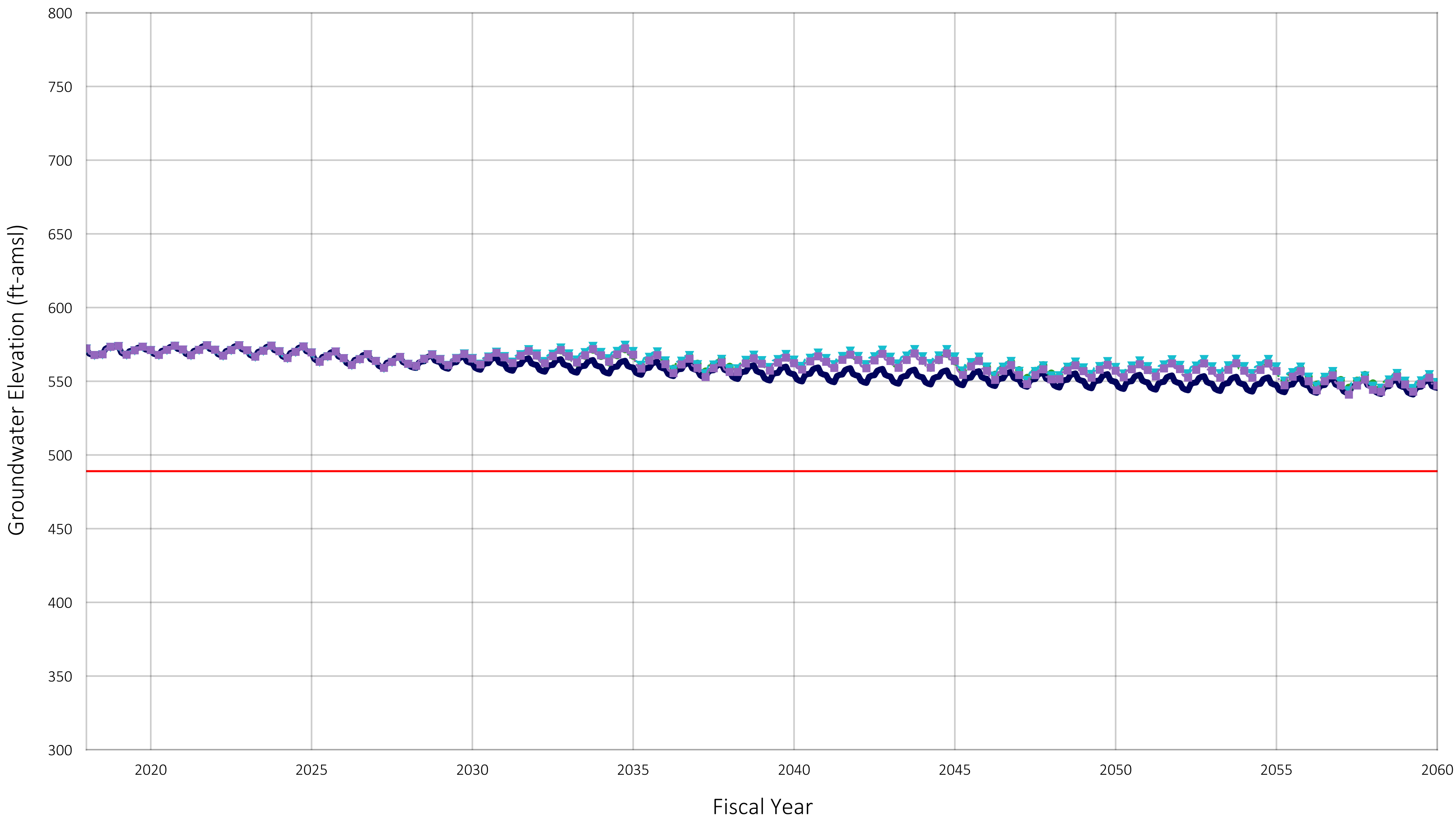
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002741
Owner: City of Chino
Well Name: 5

Figure A-9



Location of Well in Chino Basin

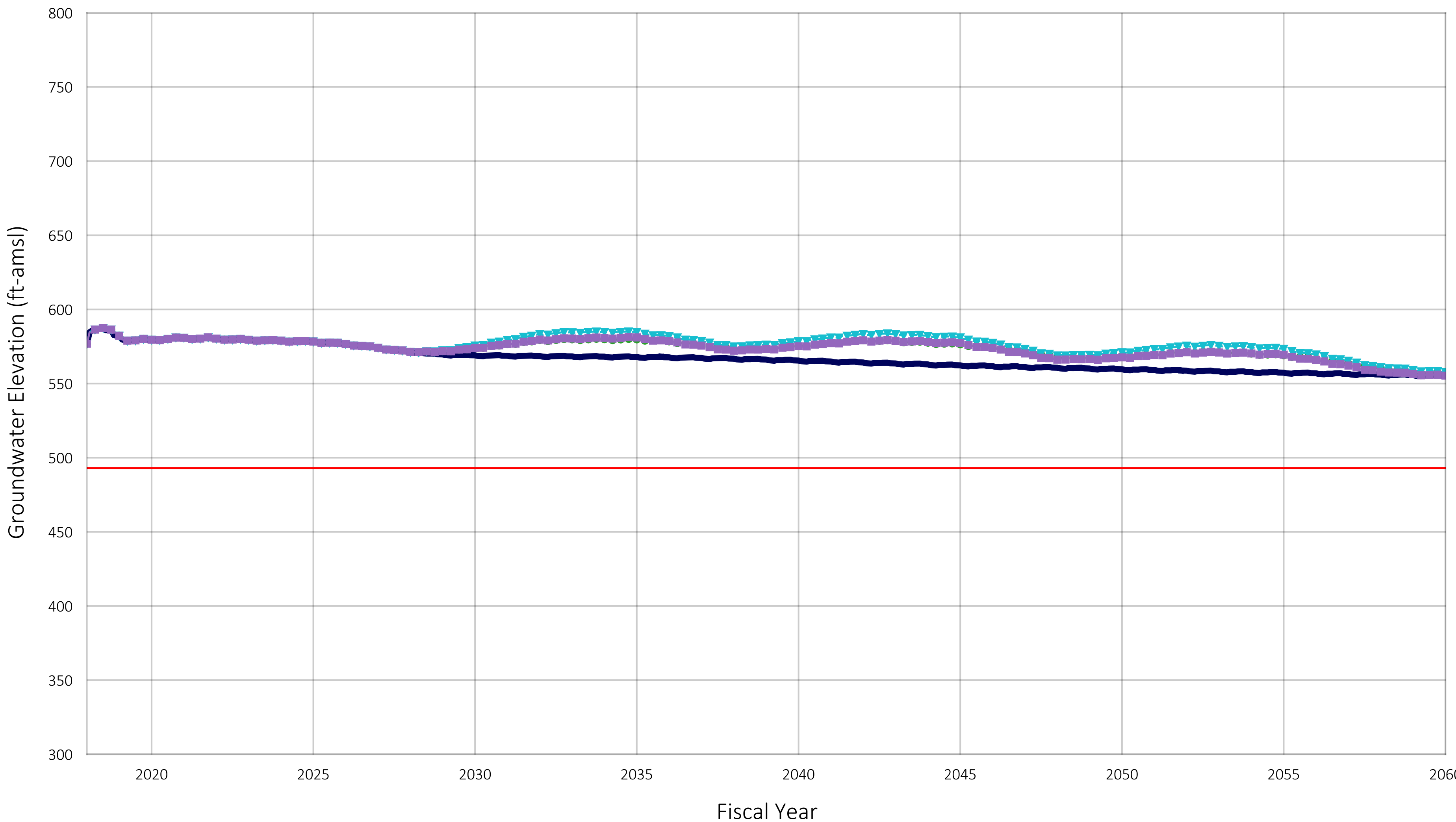
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1004176
Owner: City of Chino
Well Name: 6

Figure A-10



Location of Well in Chino Basin

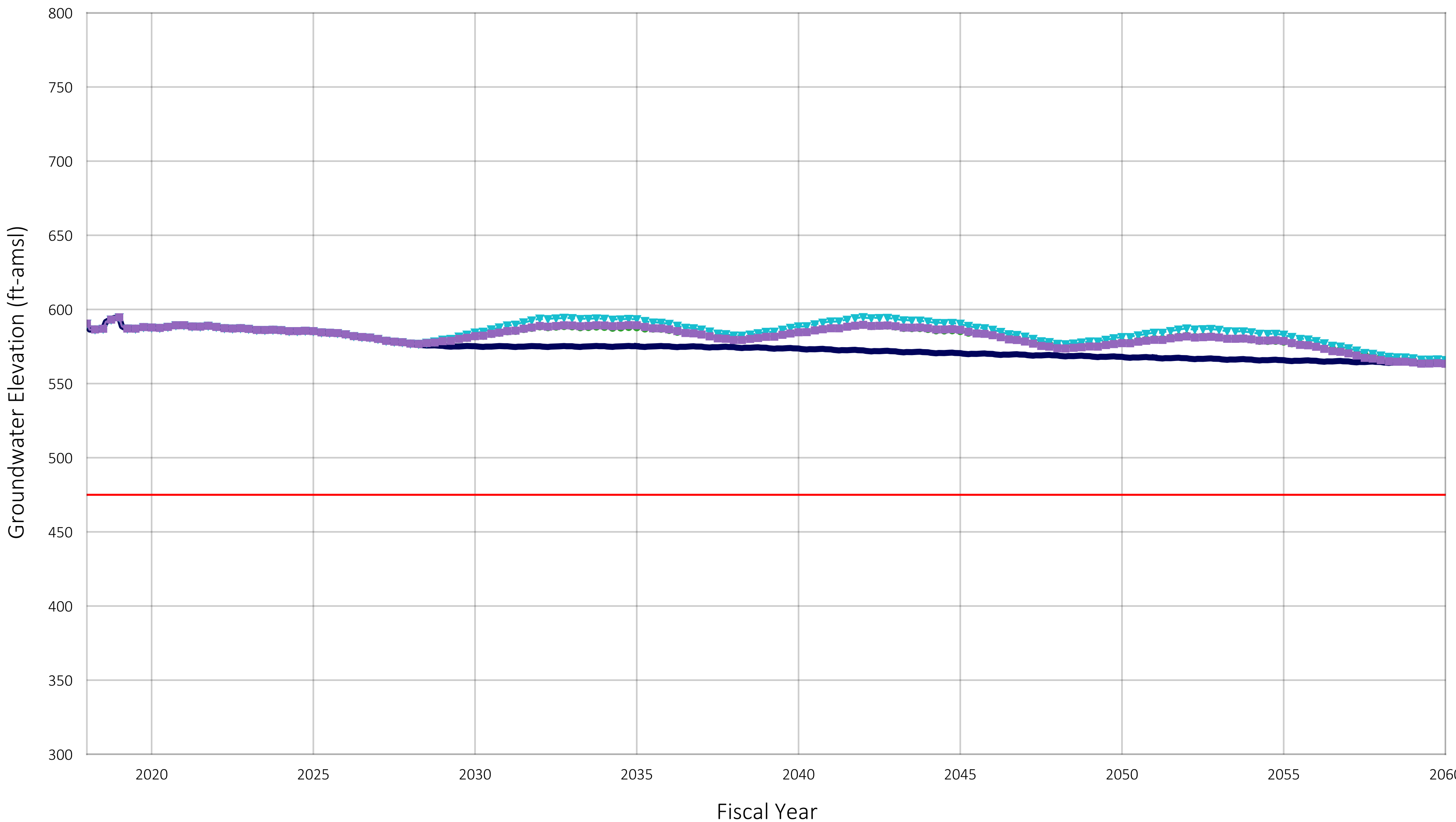
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002743
Owner: City of Chino
Well Name: 9

Figure A-11



Location of Well in Chino Basin

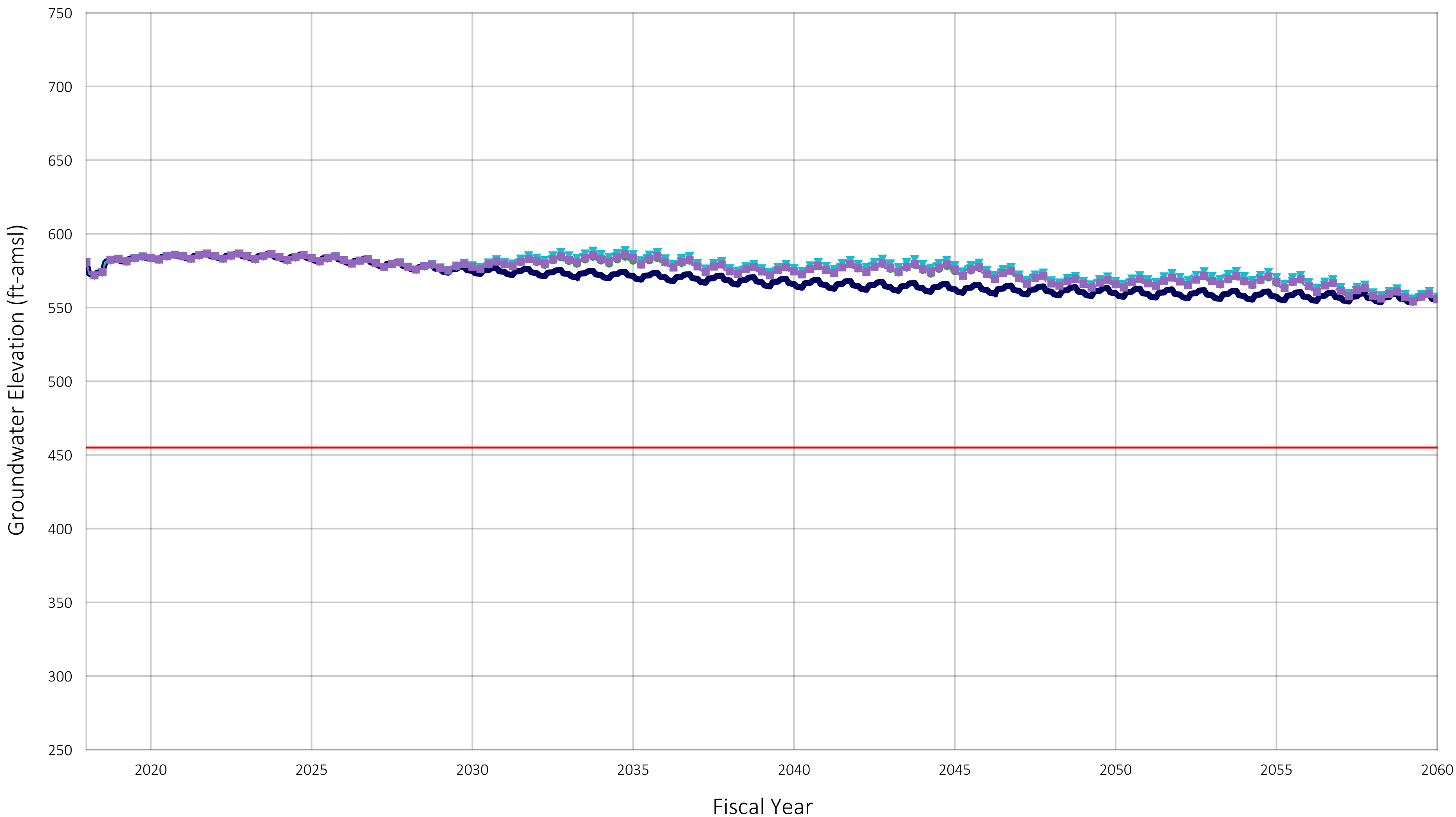
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1203283
Owner: City of Chino
Well Name: 10

Figure A-12



Location of Well in Chino Basin

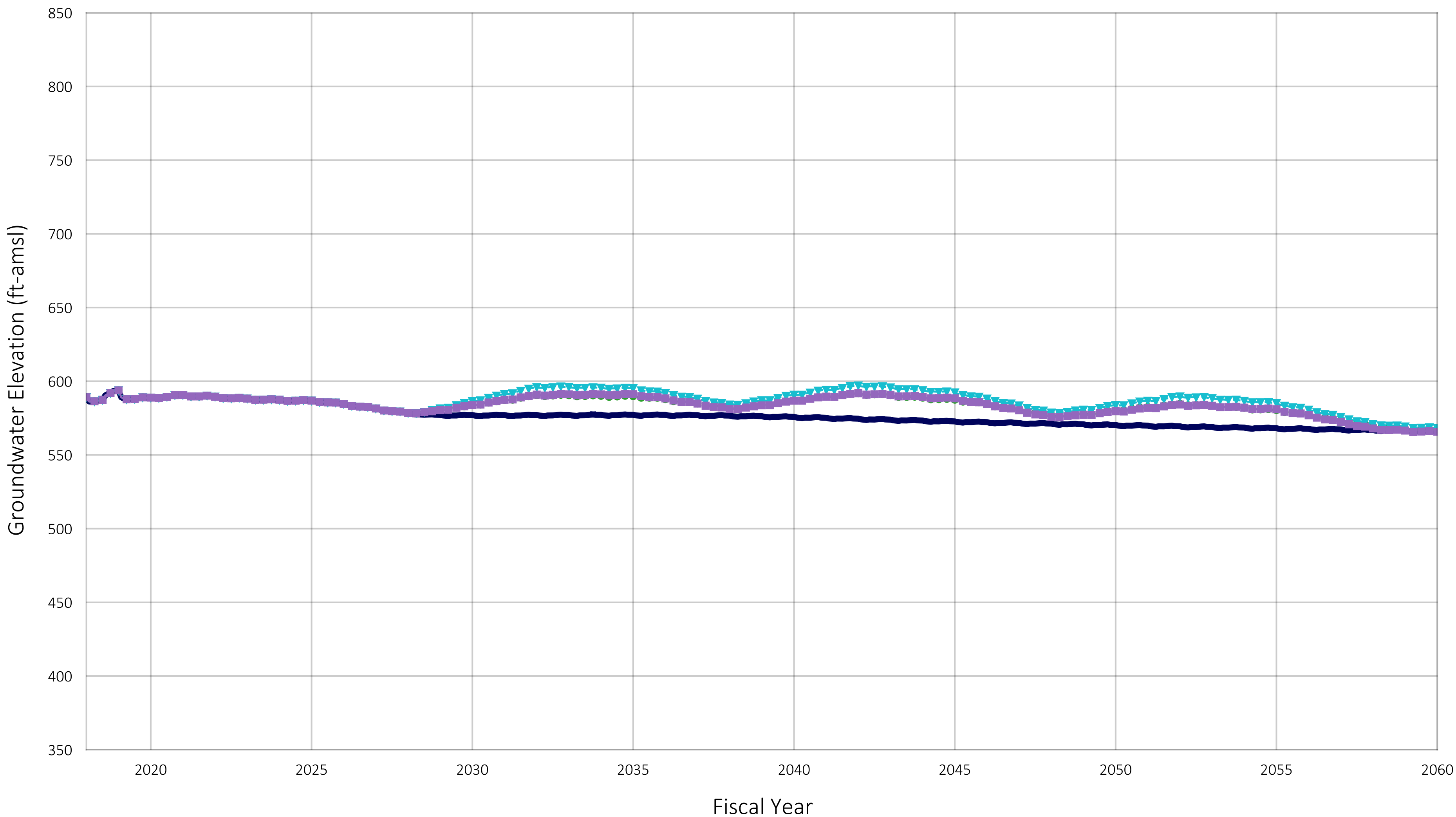
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

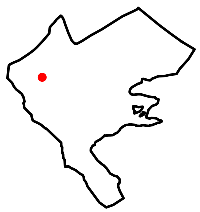
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1003741
Owner: City of Chino
Well Name: 11

Figure A-13



Location of Well in Chino Basin



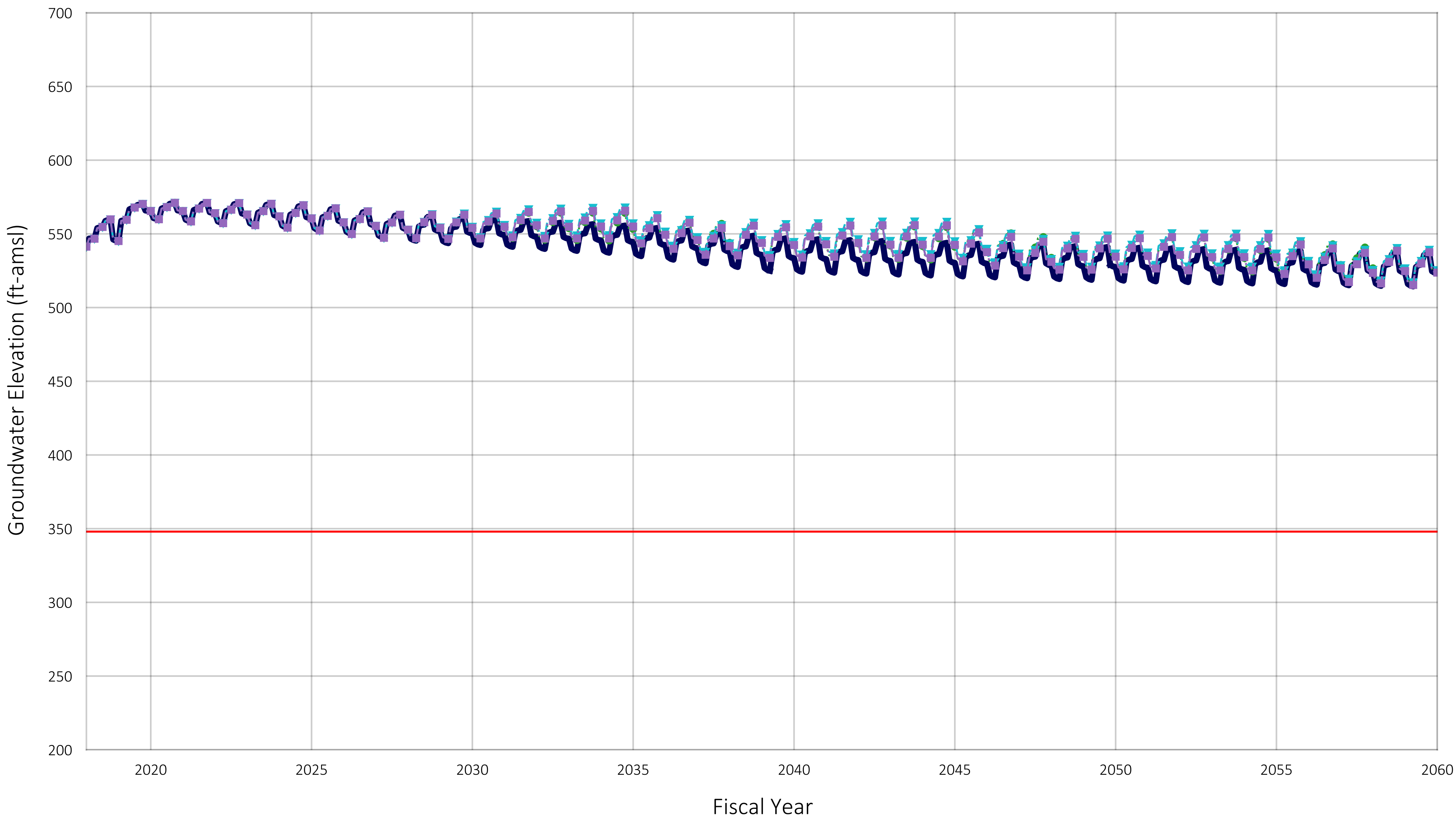
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002739
Owner: City of Chino
Well Name: 12

Figure A-14



Location of Well in Chino Basin

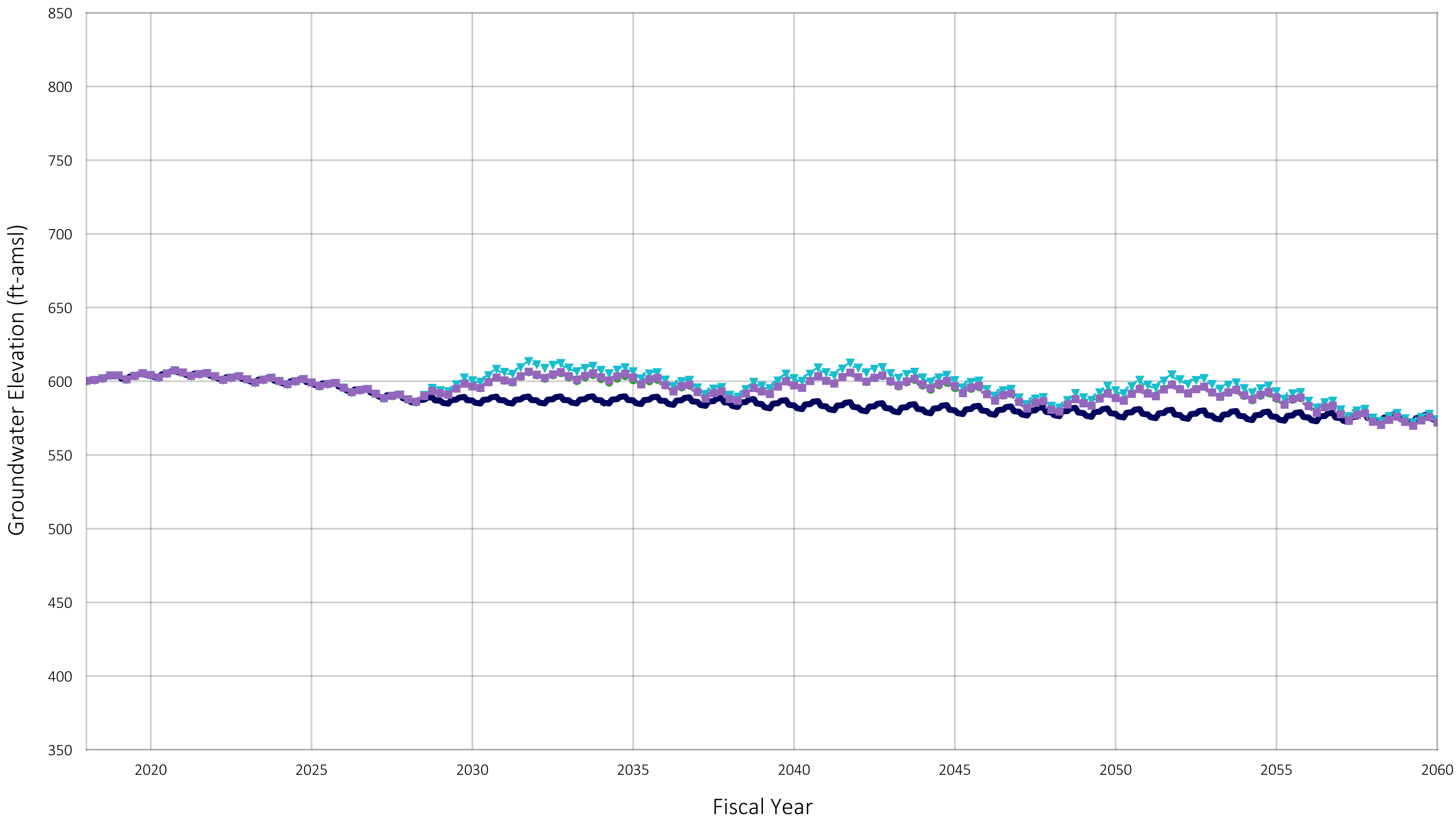
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1004185
Owner: City of Chino
Well Name: 13

Figure A-15



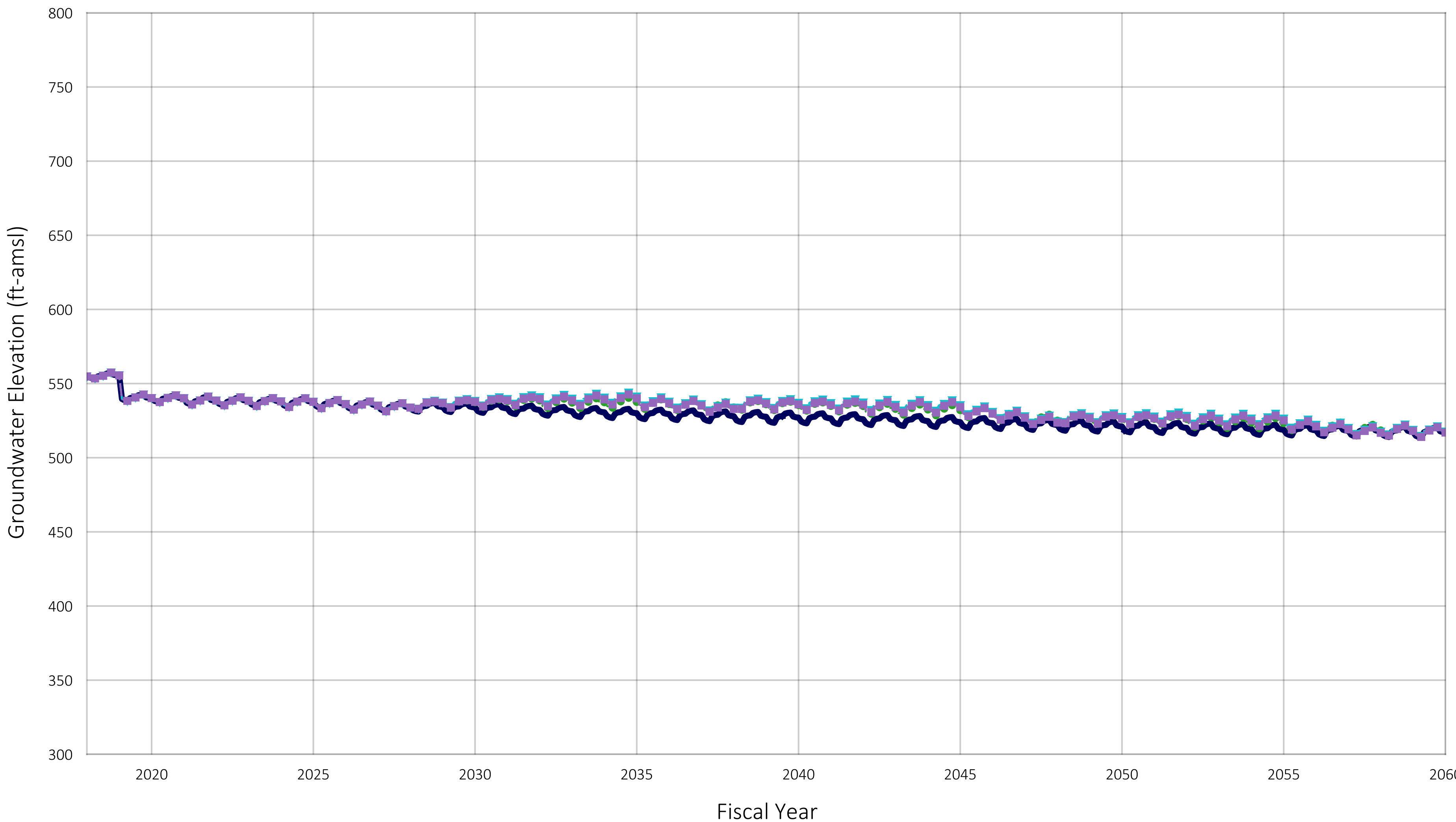
Location of Well in Chino Basin

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002645
Owner: City of Chino
Well Name: 14

Figure A-16



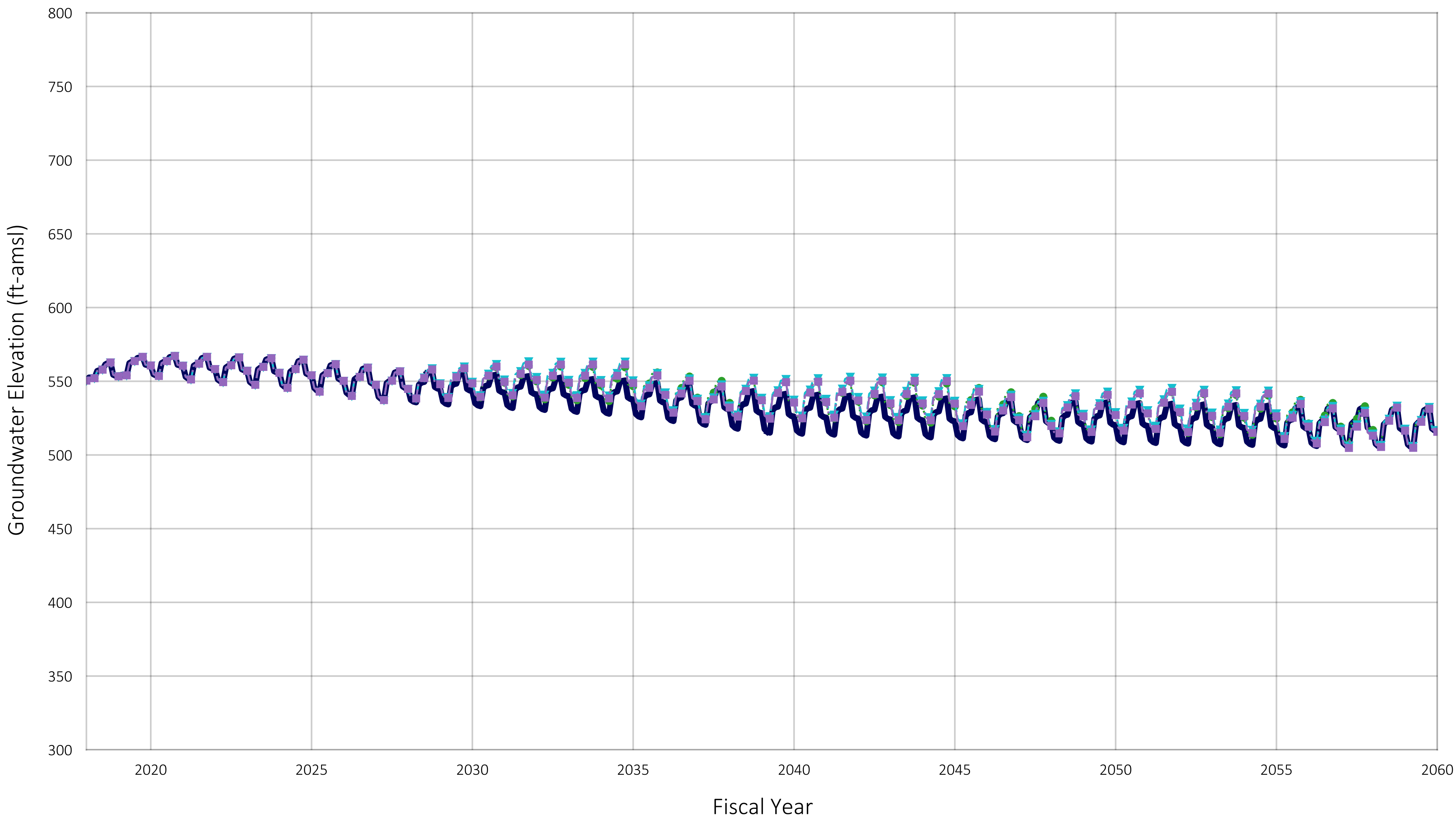
Location of Well in Chino Basin

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1208673
Owner: City of Chino
Well Name: 16

Figure A-17



Location of Well in Chino Basin

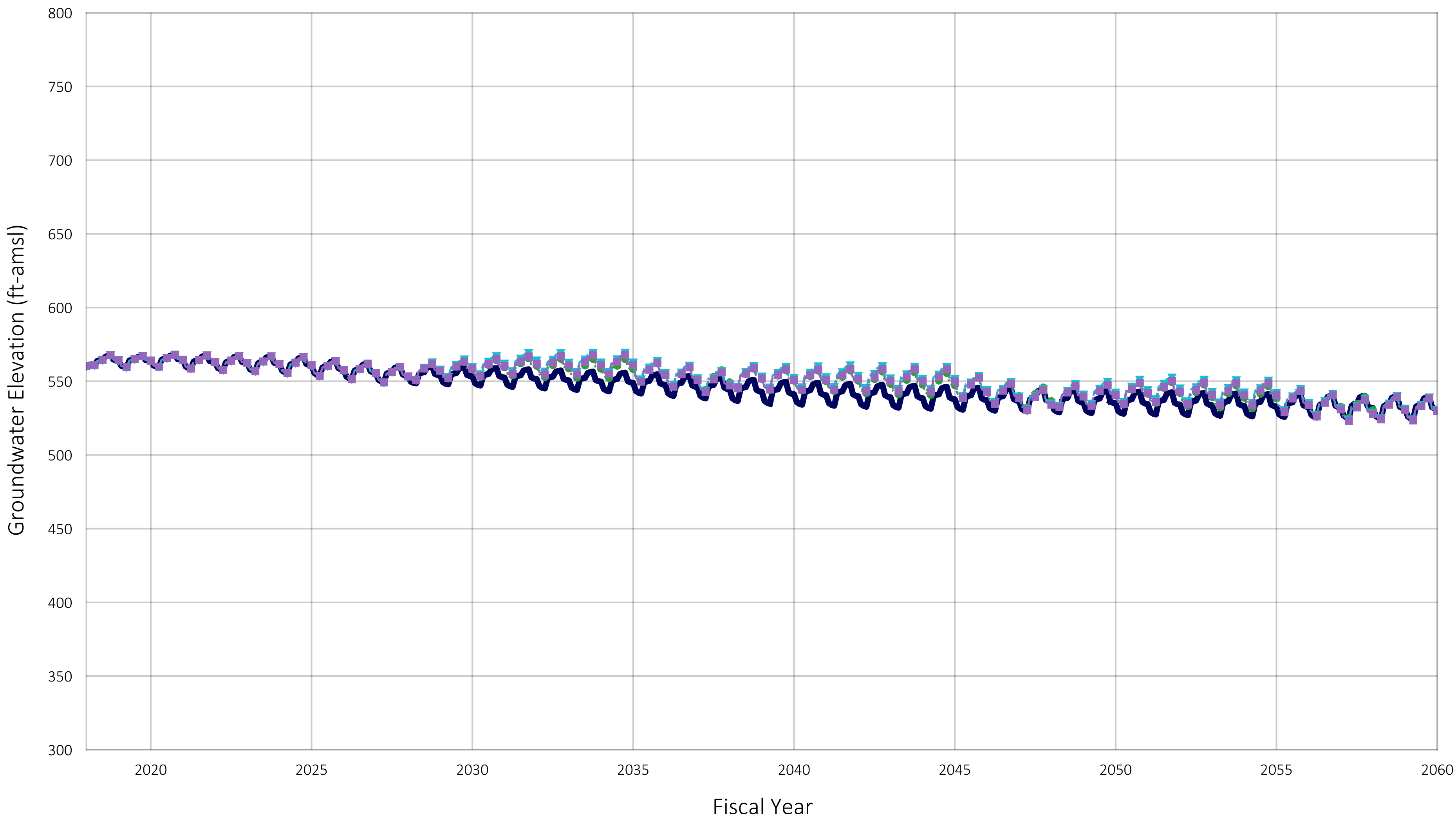
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1234063
Owner: City of Chino
Well Name: 19

Figure A-18



Location of Well in Chino Basin

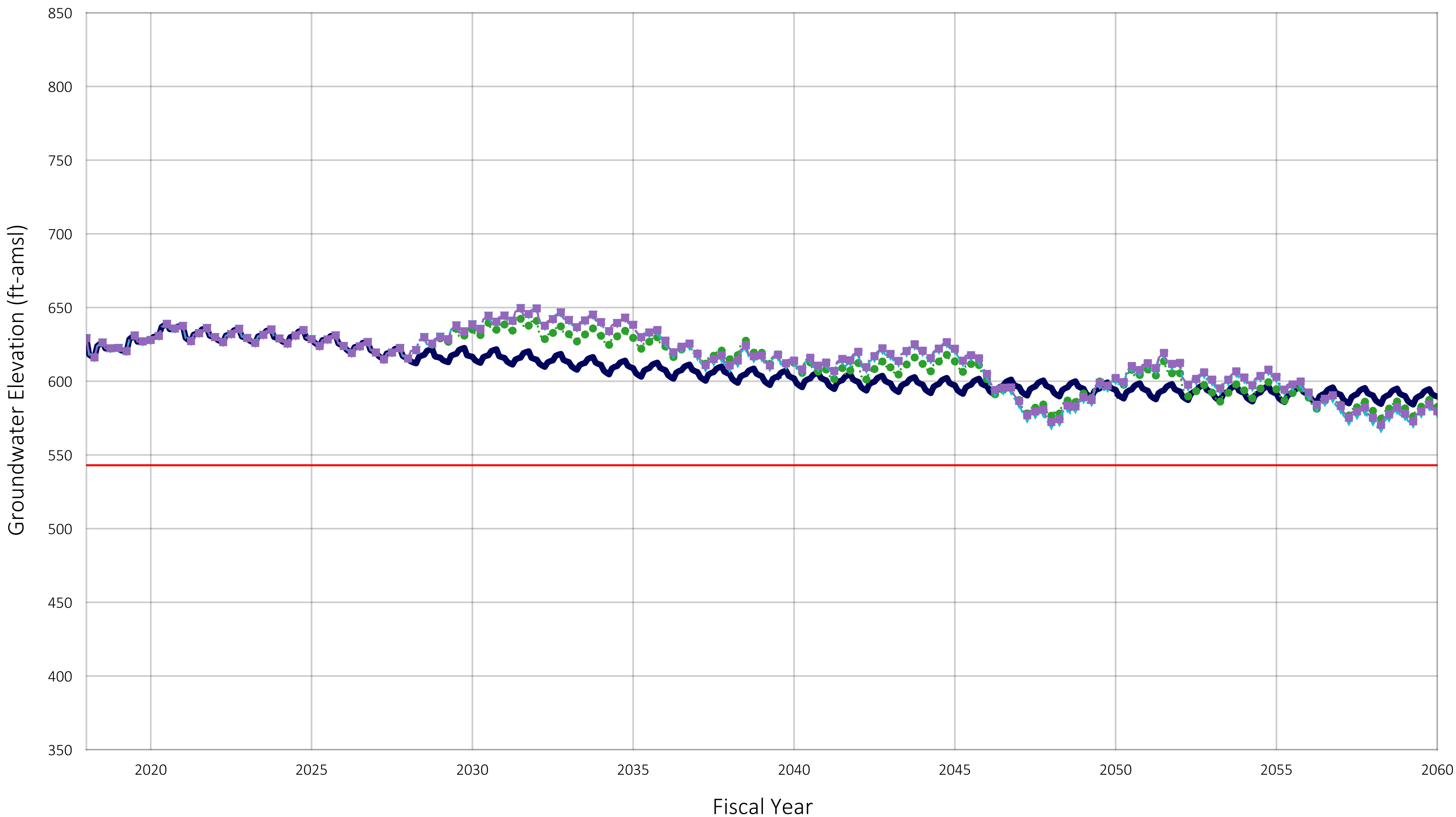
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1224773
Owner: City of Chino
Well Name: 18

Figure A-19



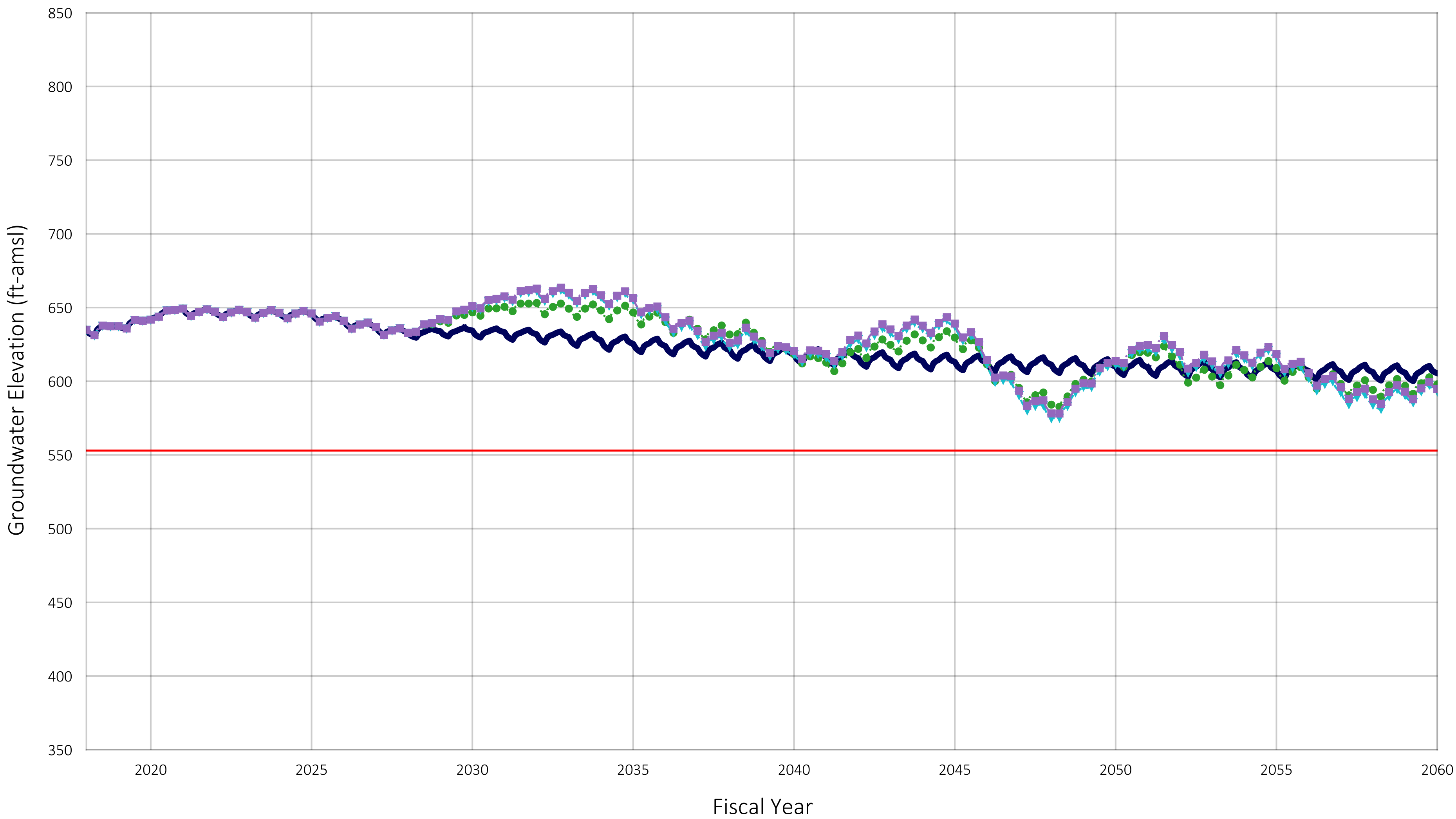
Location of Well in Chino Basin

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002309
Owner: Cucamonga Valley Water District
Well Name: CB-1

Figure A-20



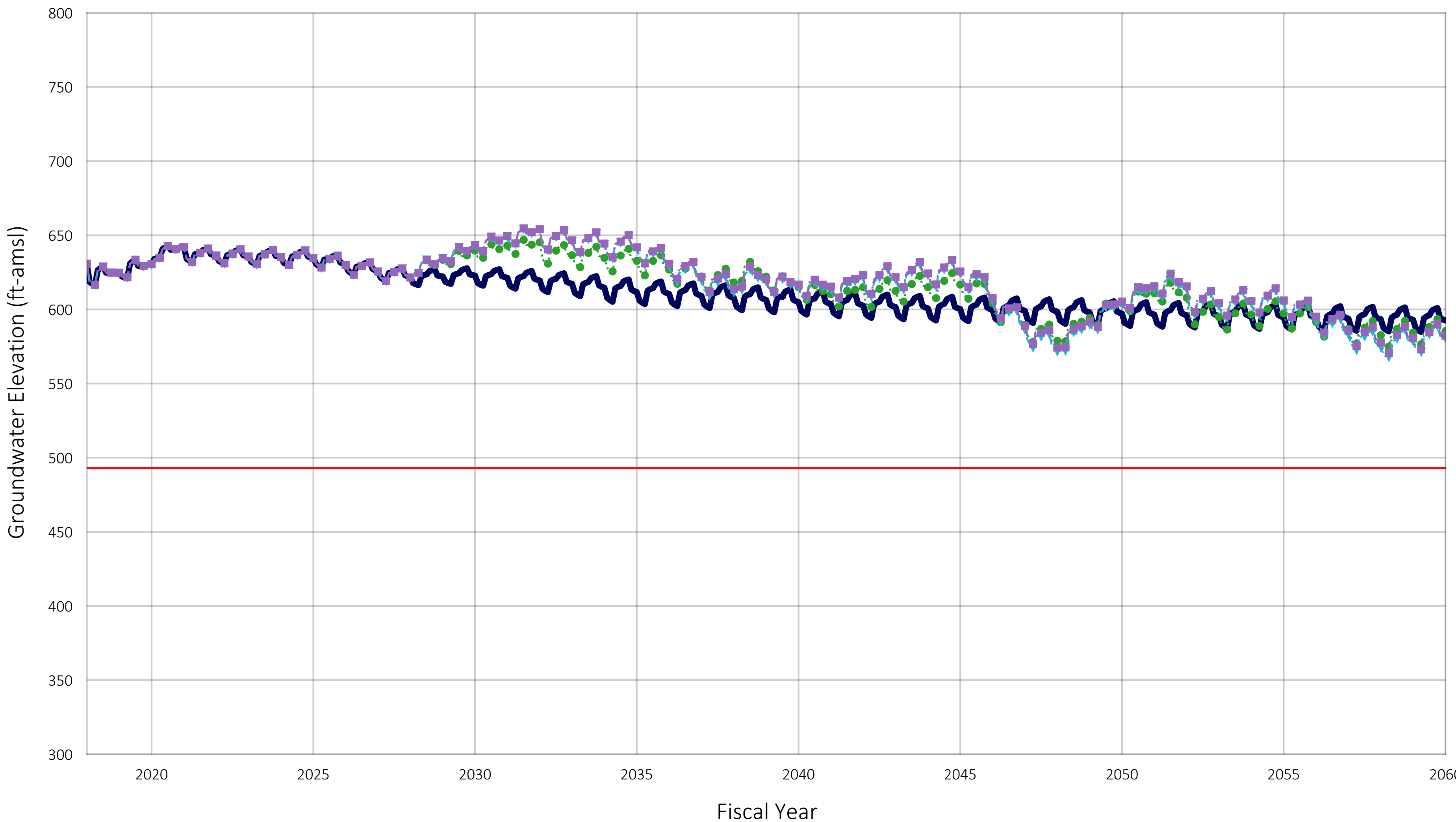
Location of Well in Chino Basin

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002312
Owner: Cucamonga Valley Water District
Well Name: CB-3

Figure A-21



Location of Well in Chino Basin

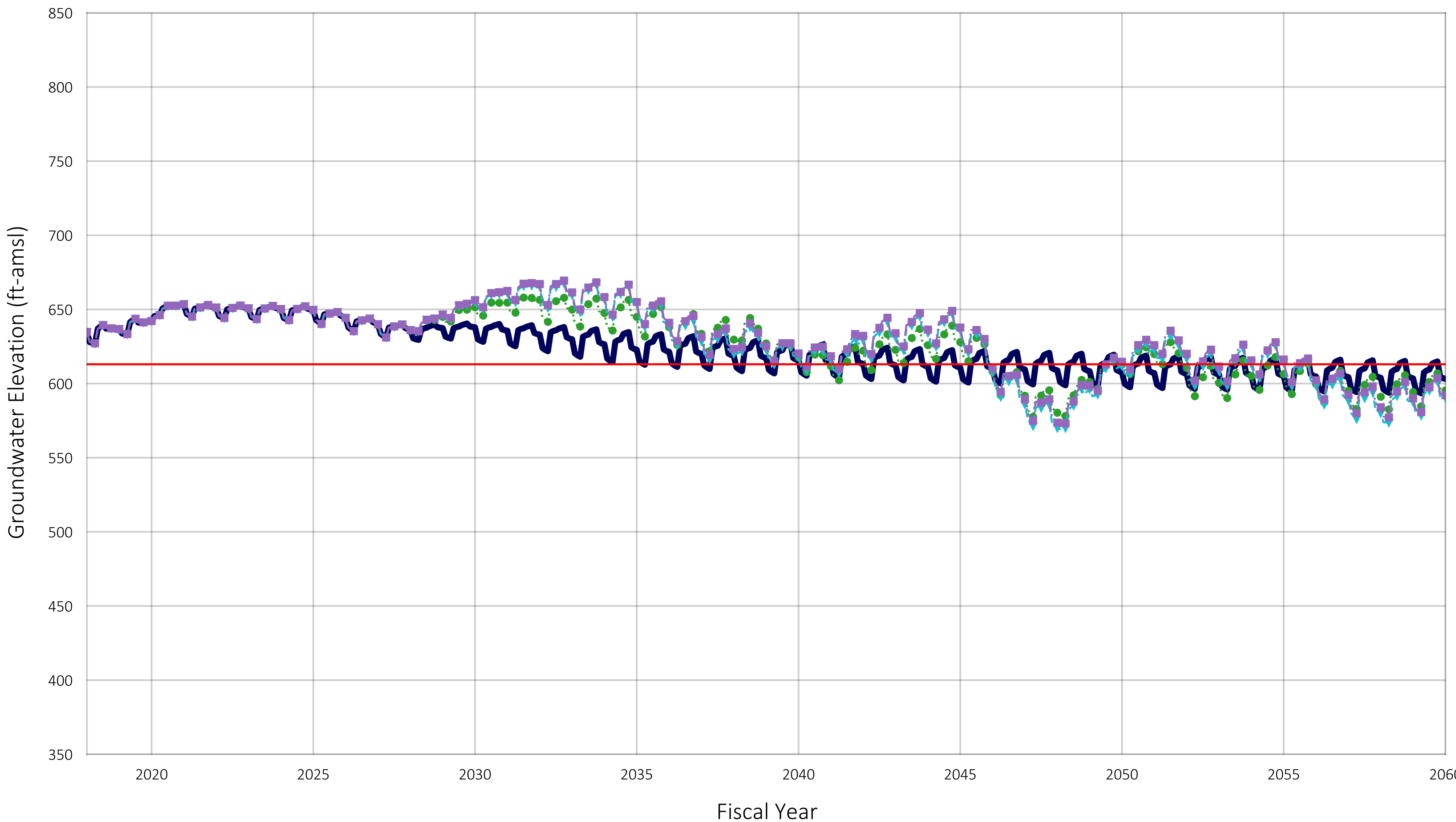
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002307
Owner: Cucamonga Valley Water District
Well Name: CB-4

Figure A-22



Location of Well in Chino Basin

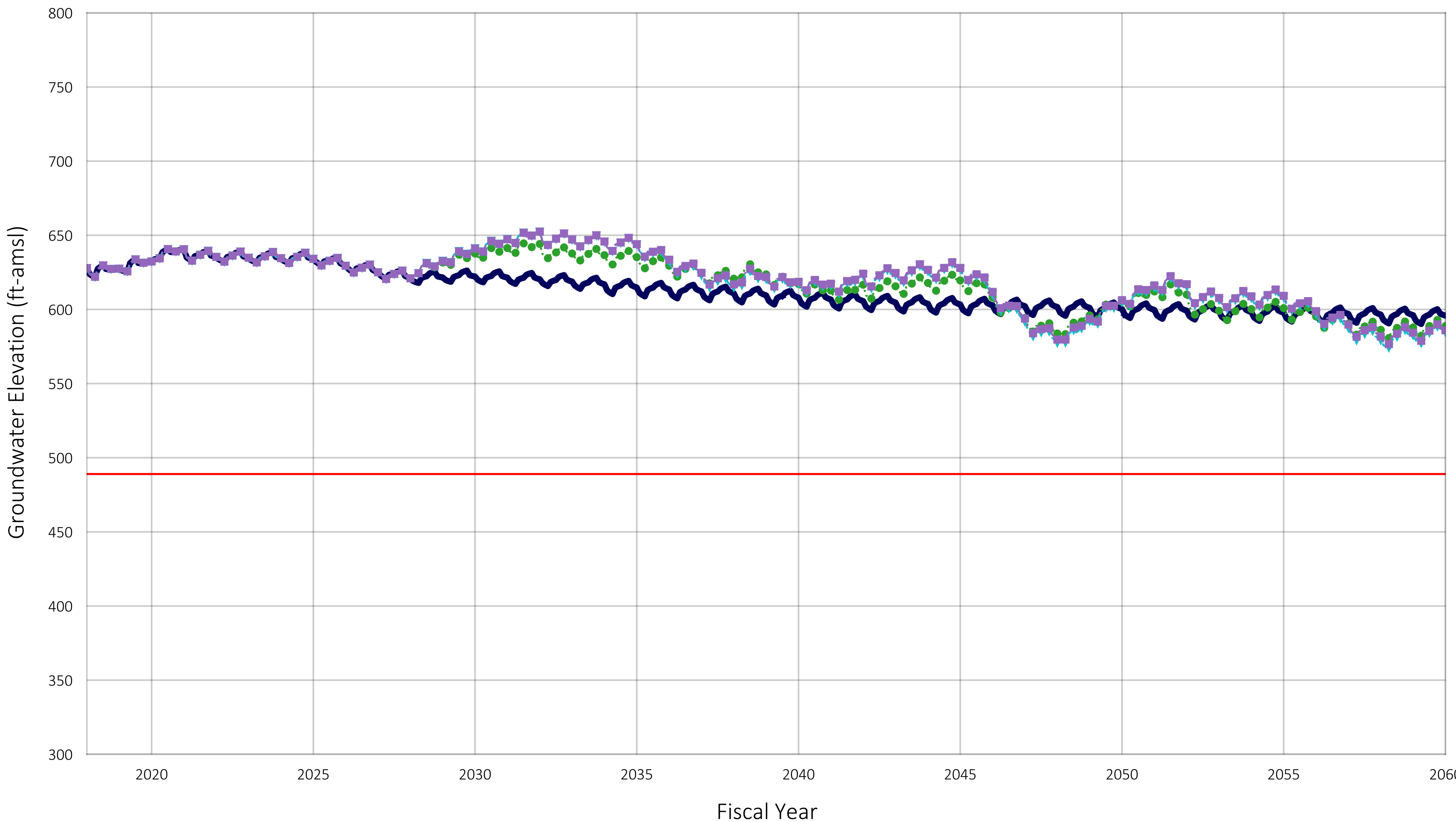
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

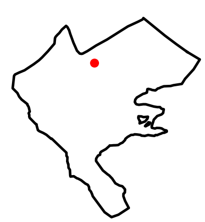
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002311
Owner: Cucamonga Valley Water District
Well Name: CB-5

Figure A-23



Location of Well in Chino Basin



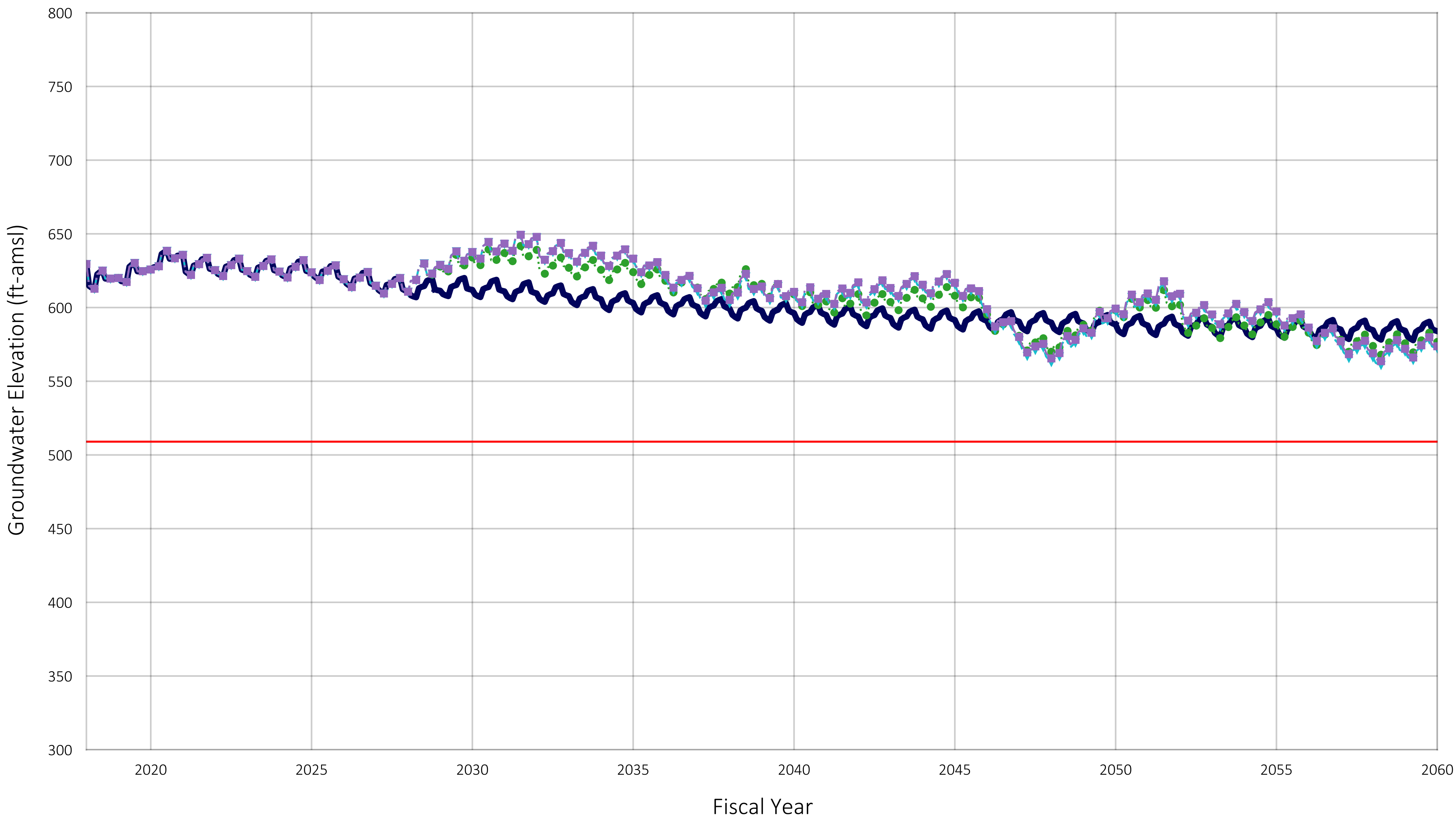
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

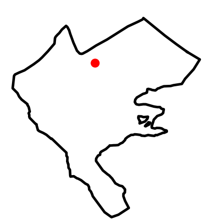
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002308
Owner: Cucamonga Valley Water District
Well Name: CB-30

Figure A-24



Location of Well in Chino Basin



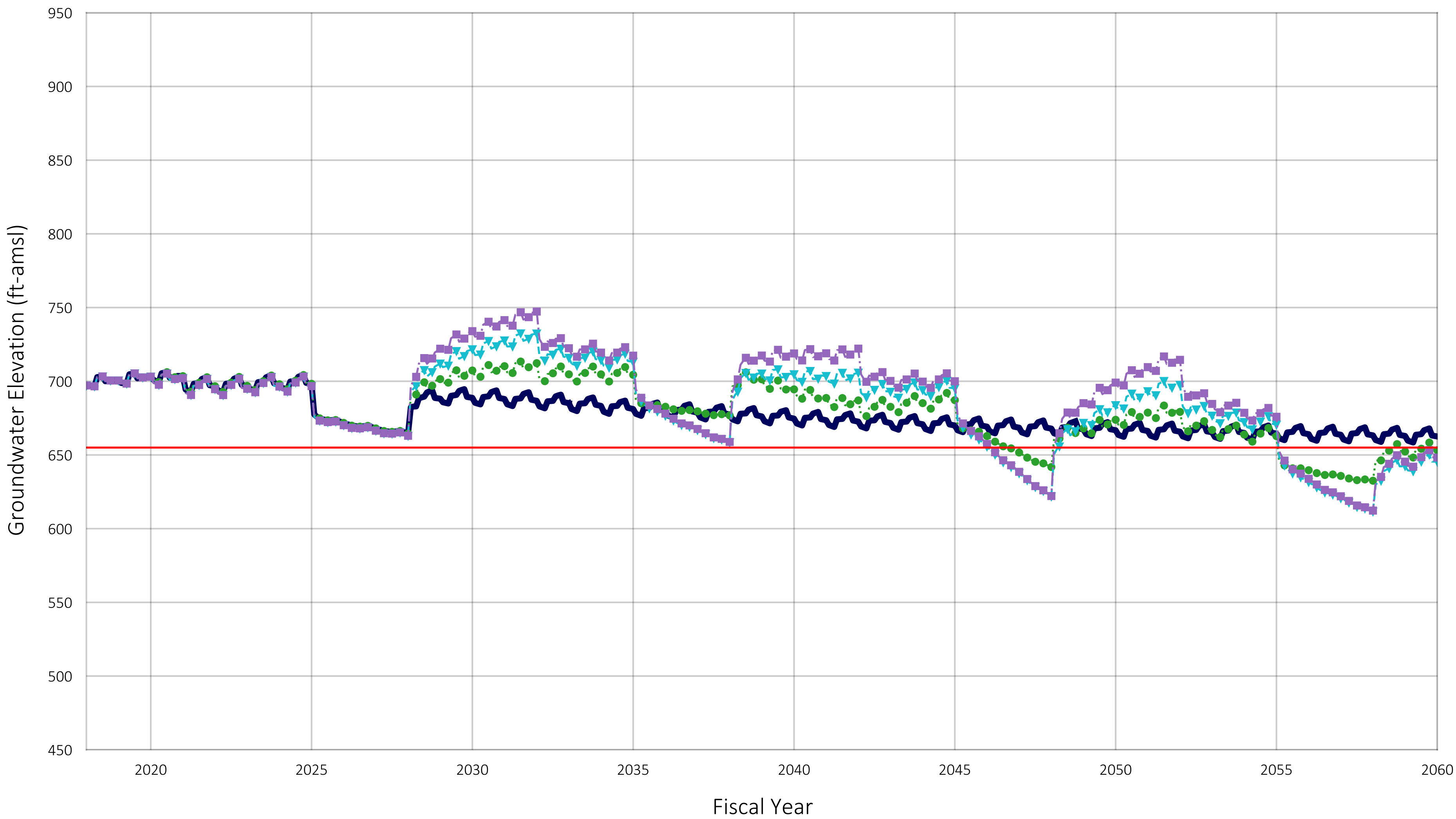
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

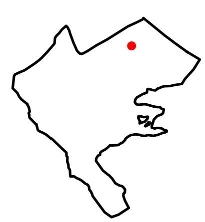
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206753
Owner: Cucamonga Valley Water District
Well Name: CB-38

Figure A-25



Location of Well in Chino Basin



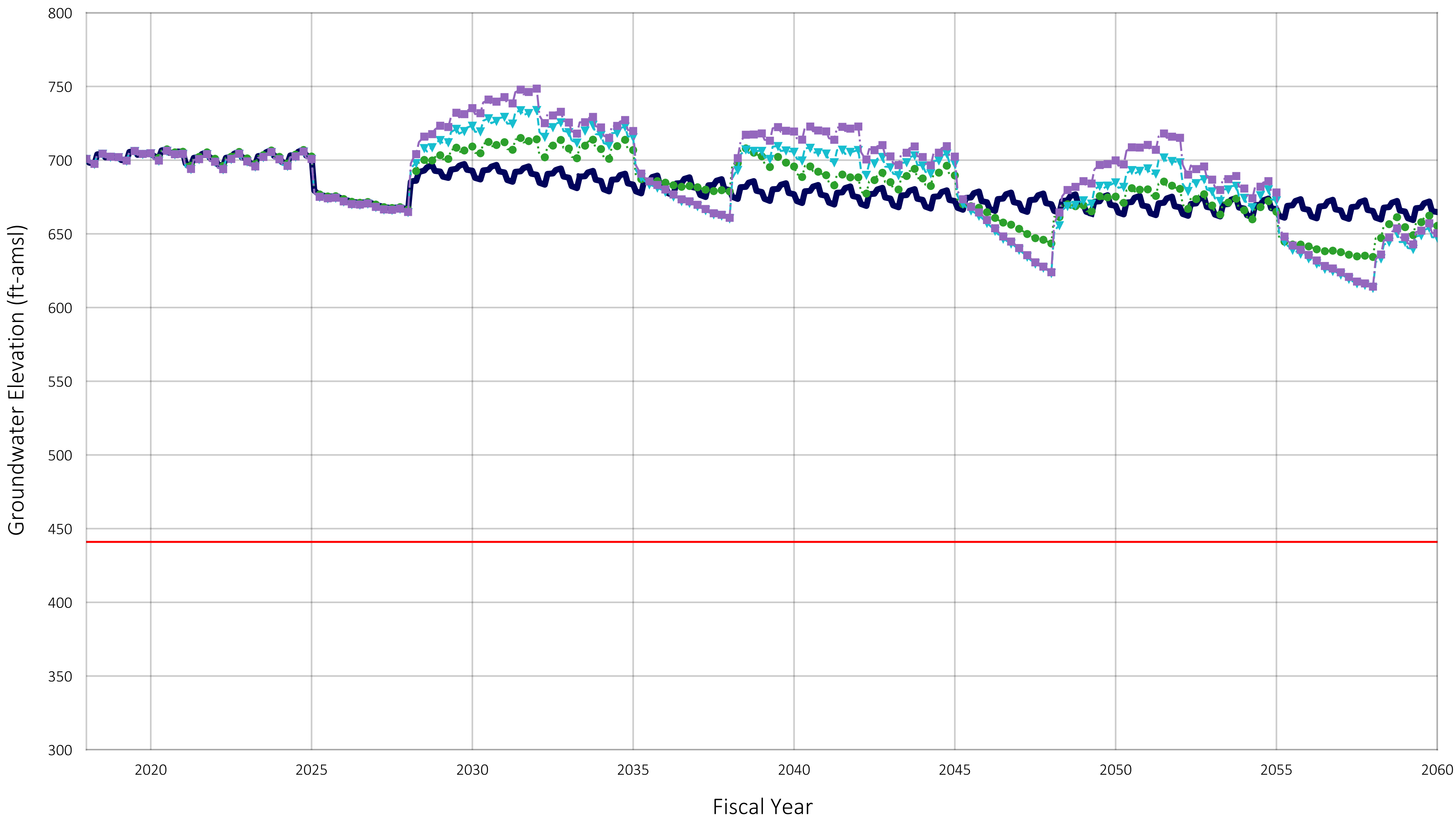
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

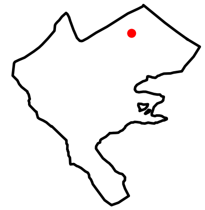
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1207928
Owner: Cucamonga Valley Water District
Well Name: CB-39

Figure A-26



Location of Well in Chino Basin



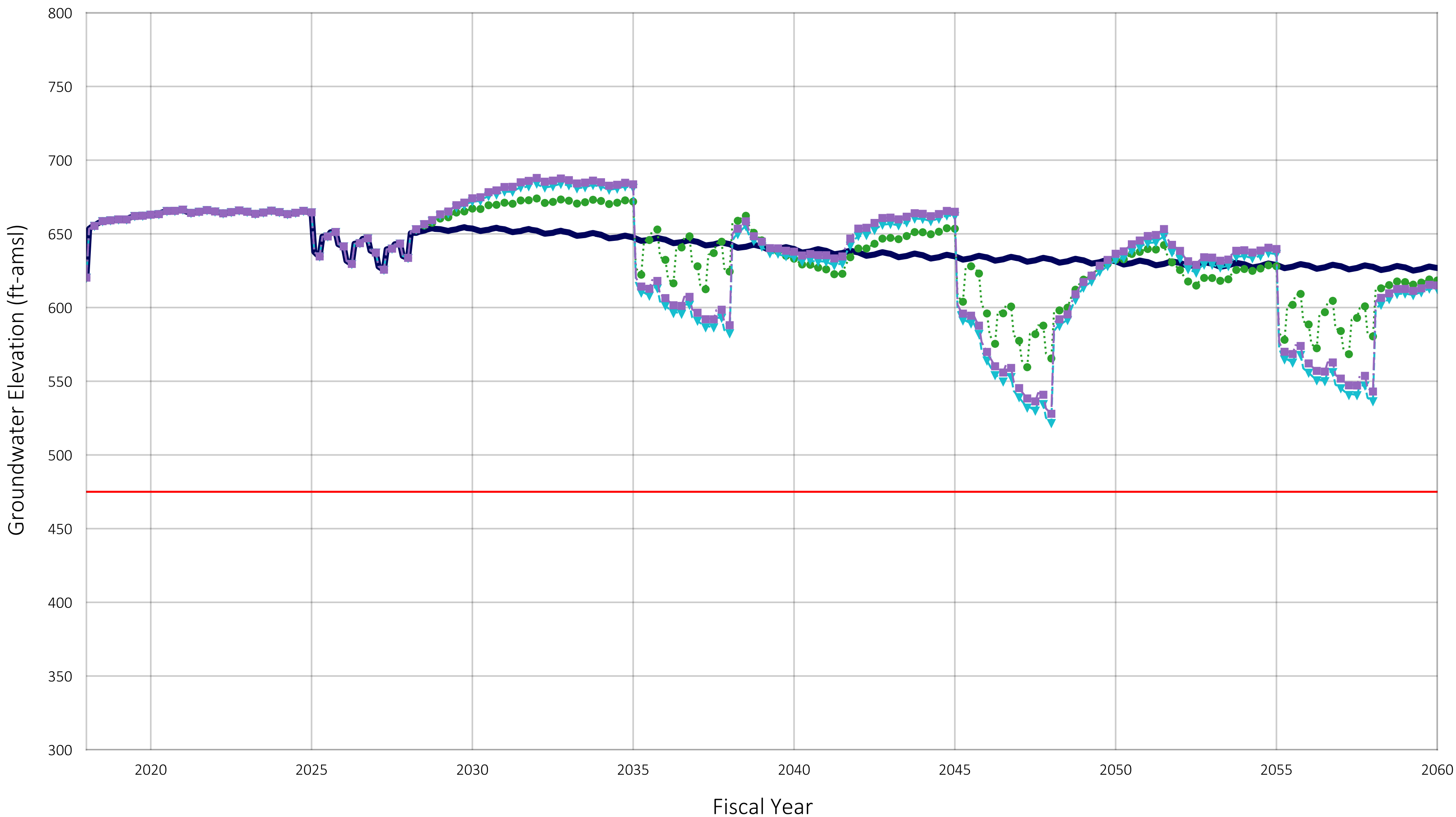
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1207929
Owner: Cucamonga Valley Water District
Well Name: CB-40

Figure A-27



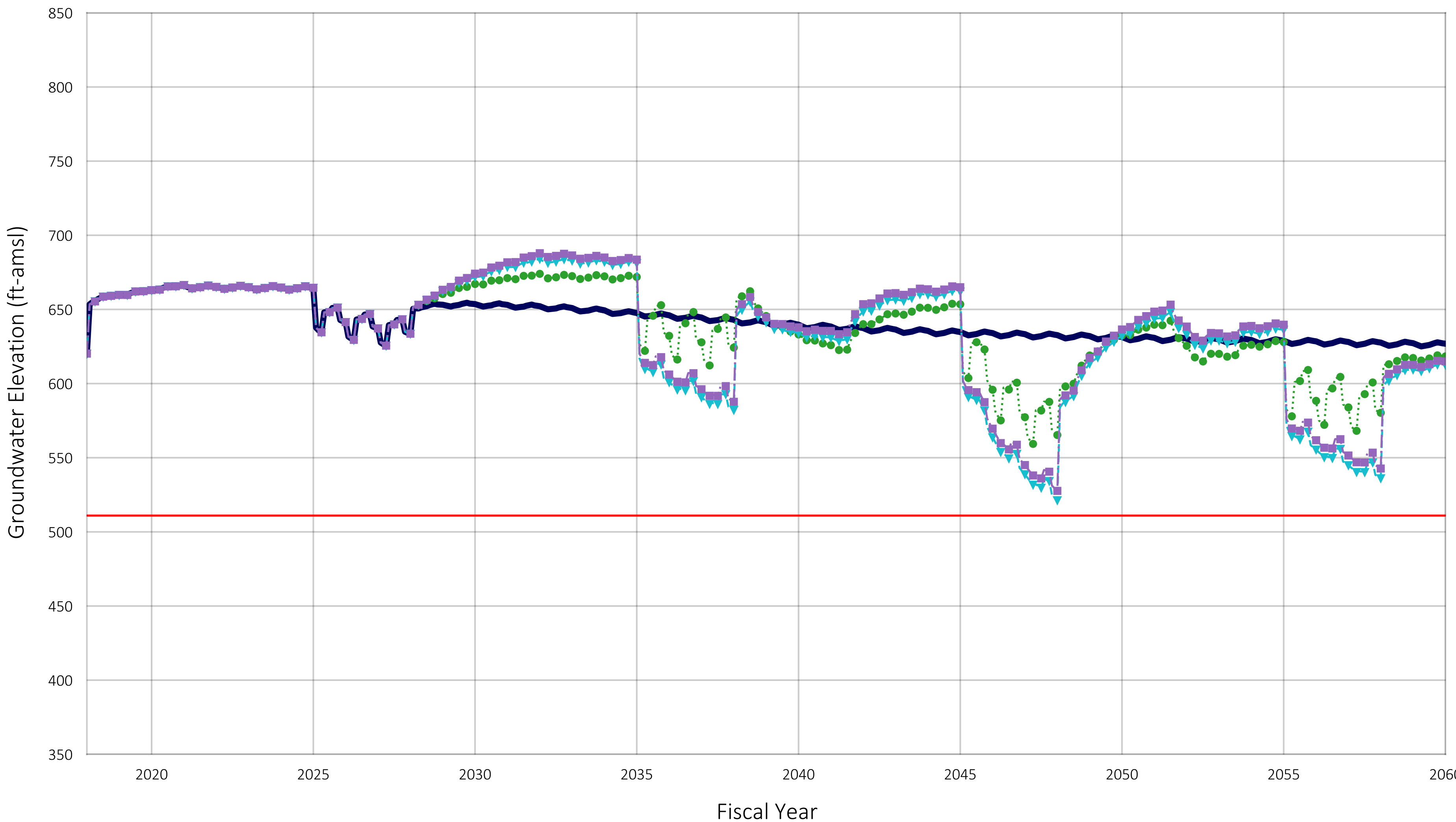
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1207936
Owner: Cucamonga Valley Water District
Well Name: CB-41

Figure A-28



Location of Well in Chino Basin

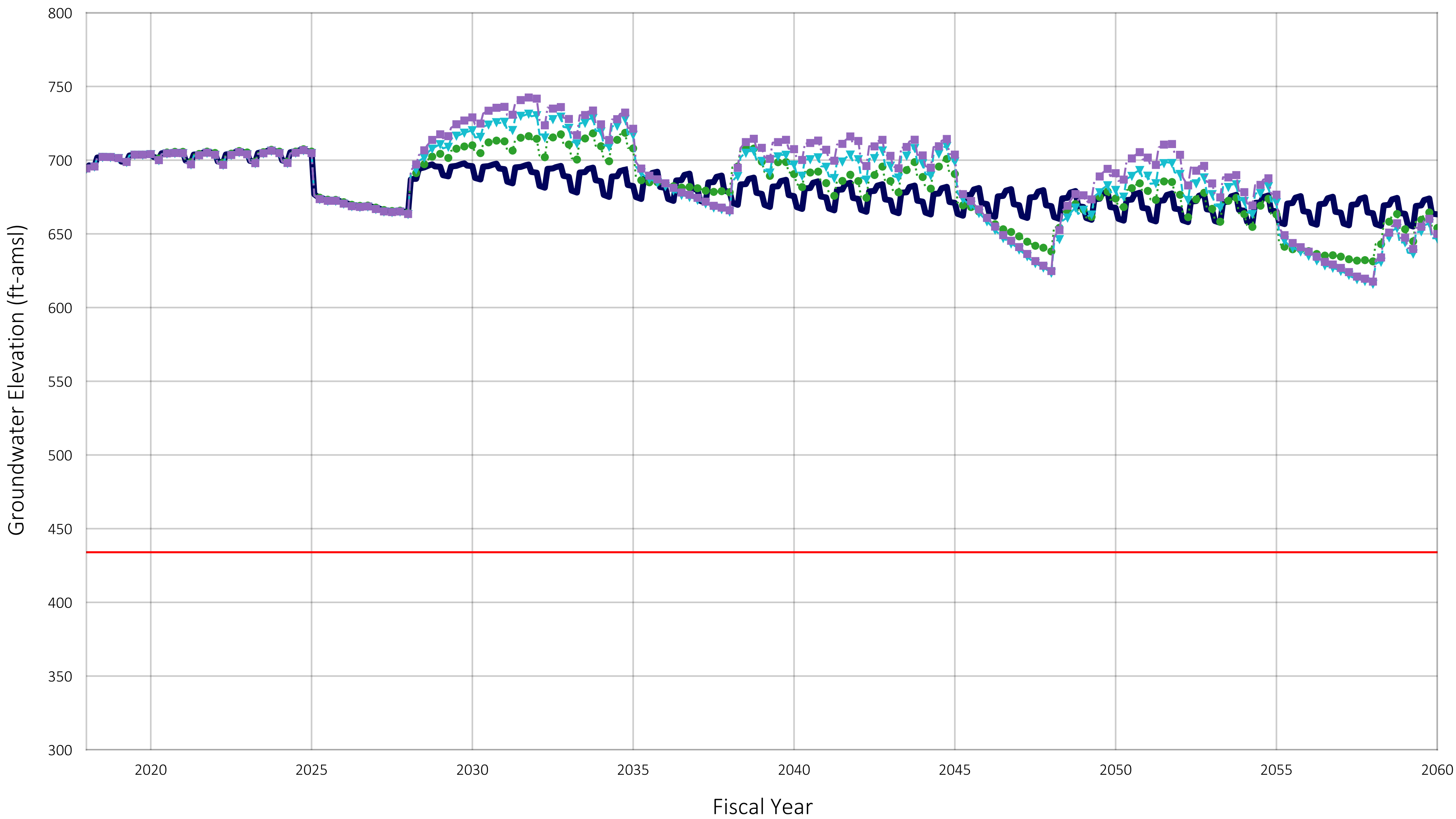
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

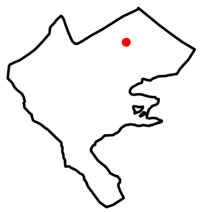
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1207937
Owner: Cucamonga Valley Water District
Well Name: CB-42

Figure A-29



Location of Well in Chino Basin



Baseline

Scenario 2A

Scenario 3A

Scenario 3B

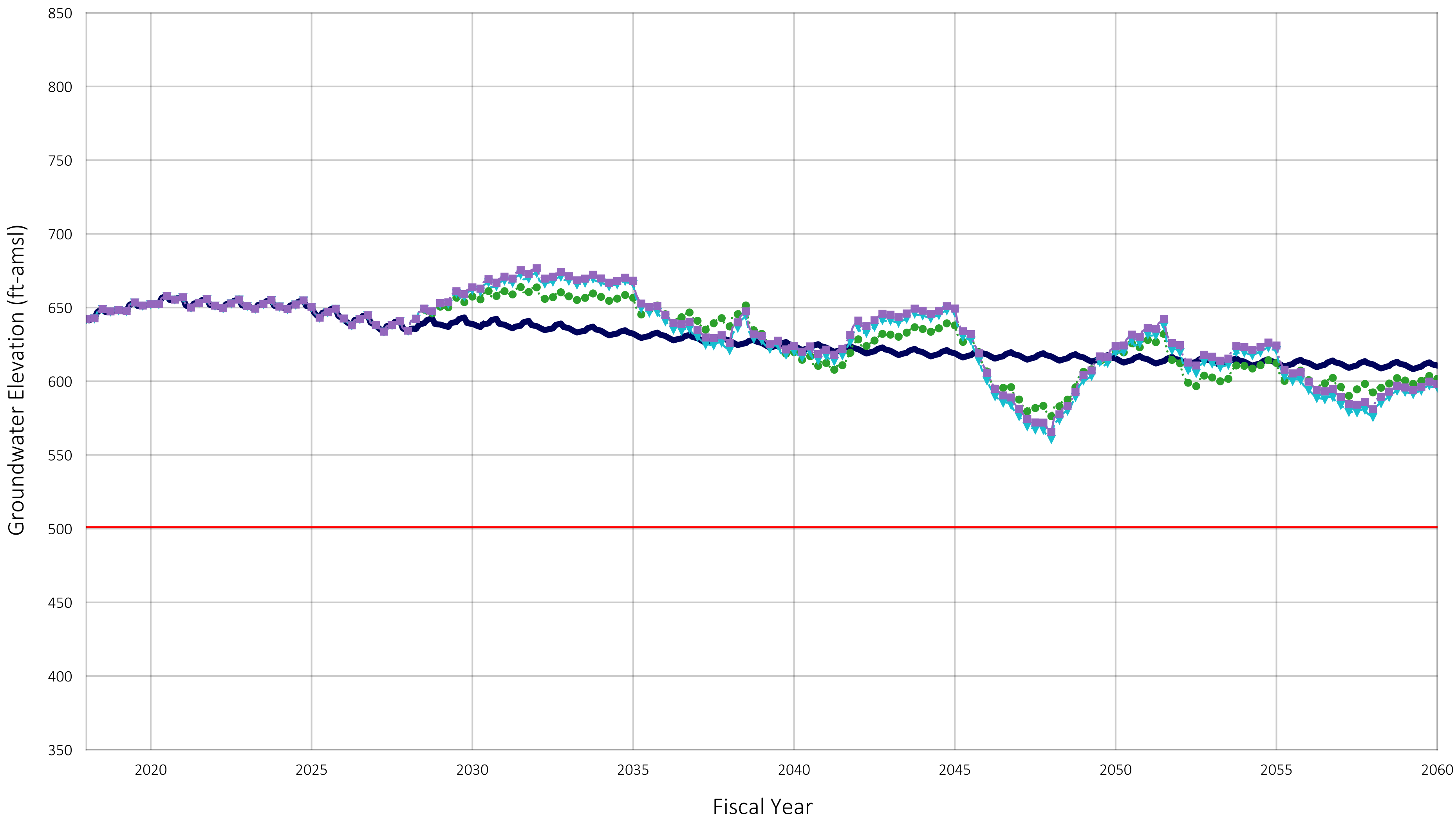
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1220079
Owner: Cucamonga Valley Water District
Well Name: CB-43

Figure A-30

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

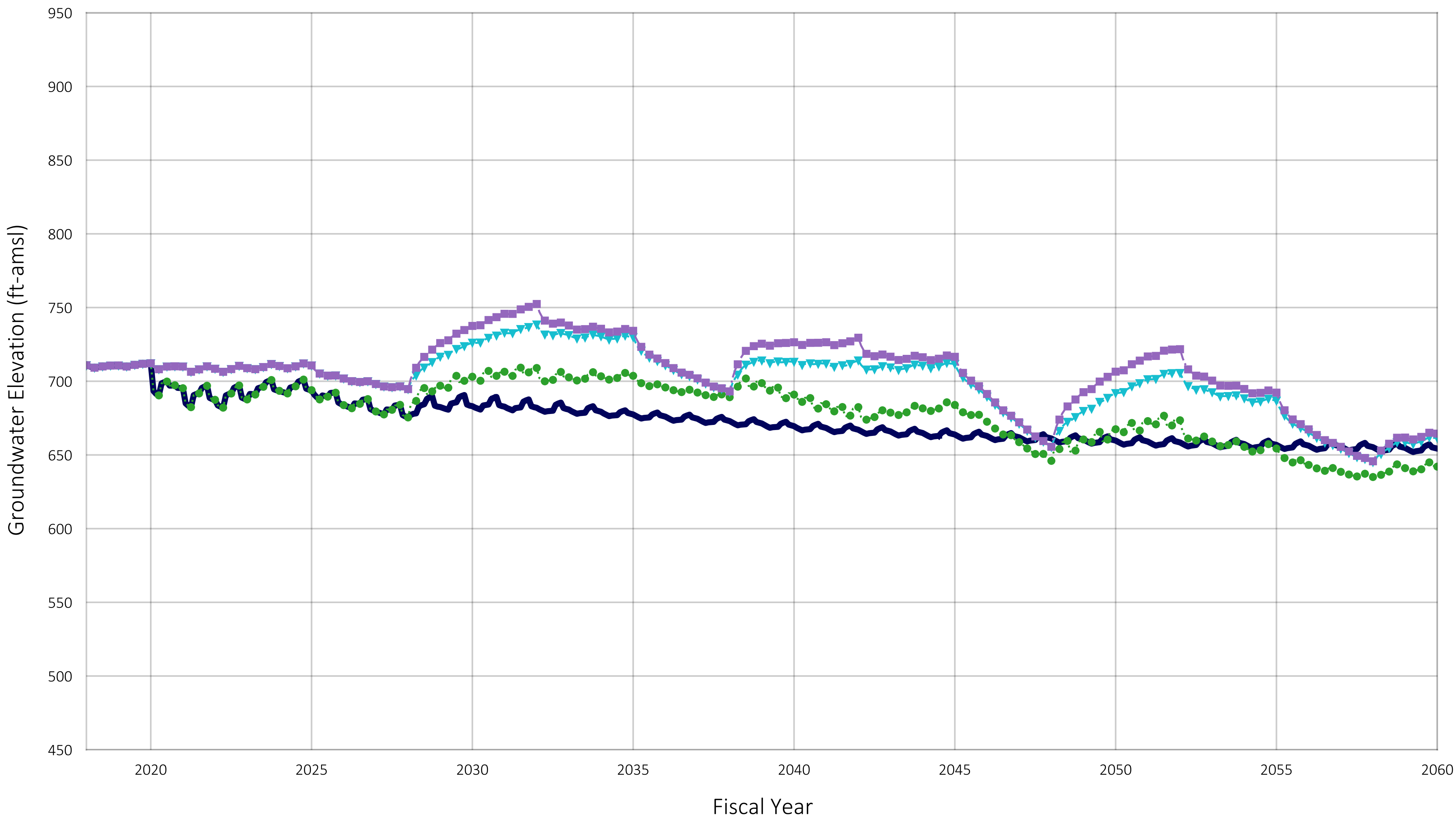
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1220080
Owner: Cucamonga Valley Water District
Well Name: CB-46

Figure A-31



Location of Well in Chino Basin

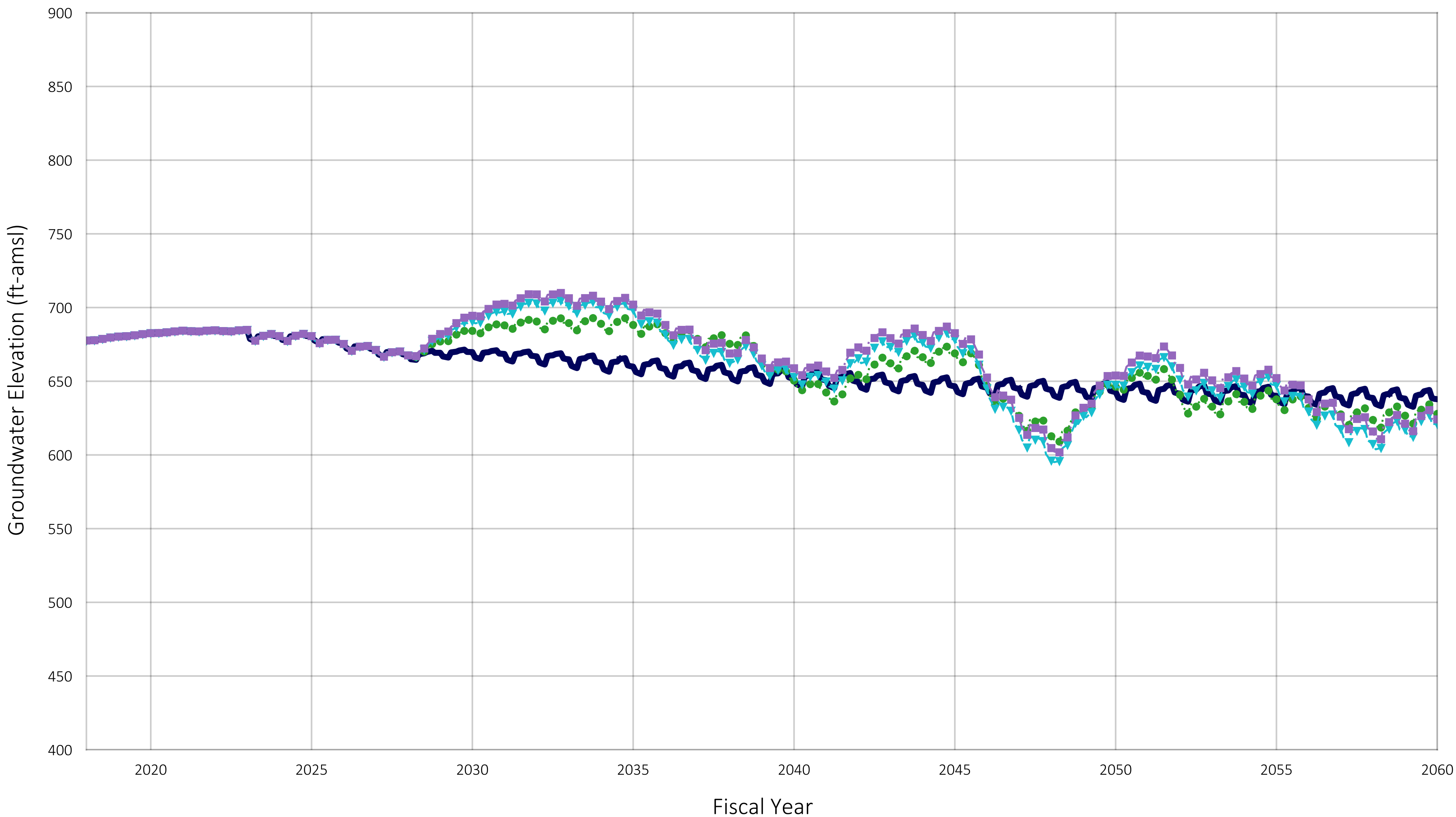
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 999948
Owner: Cucamonga Valley Water District
Well Name: CB-48

Figure A-32



Location of Well in Chino Basin

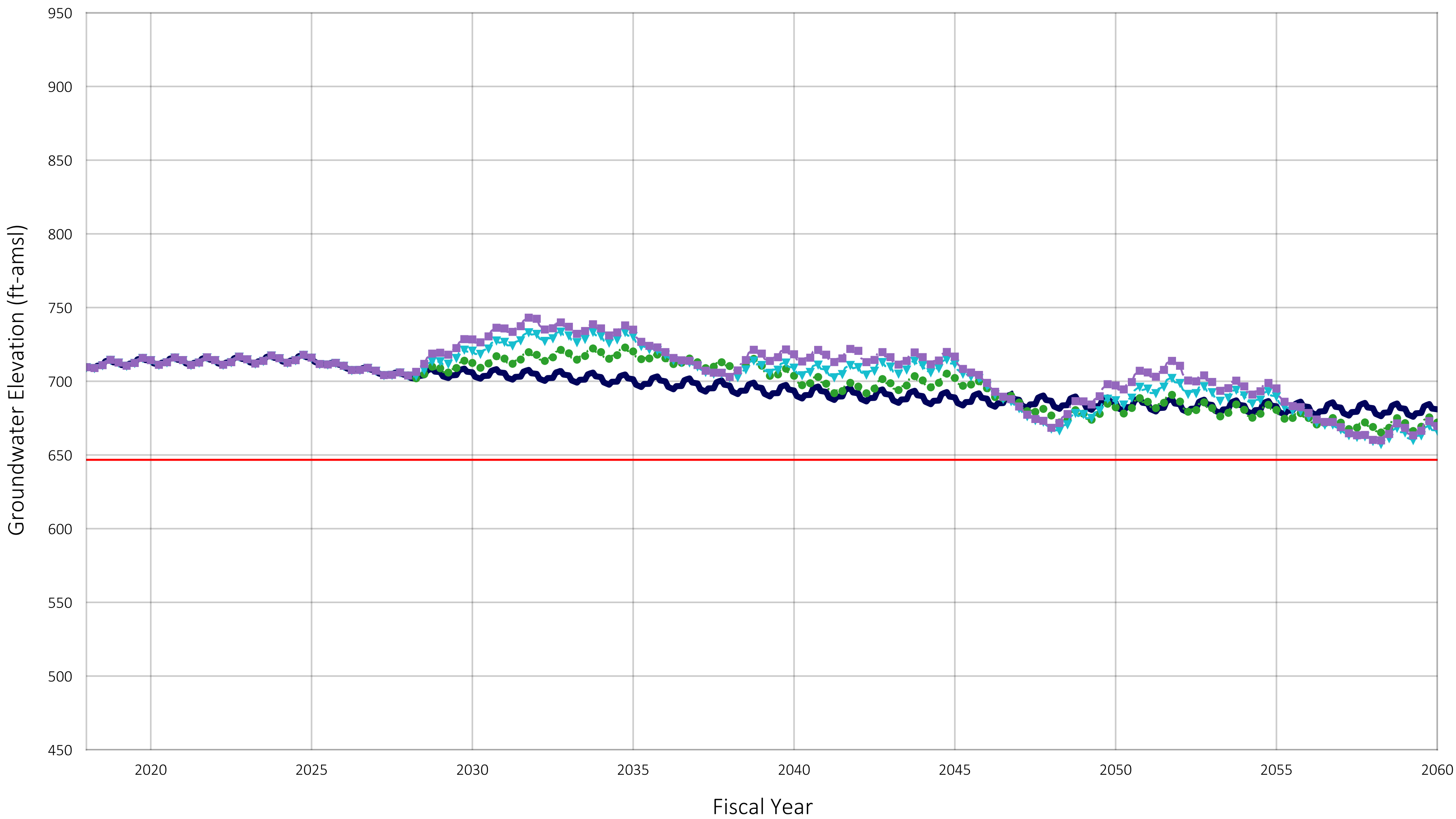
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

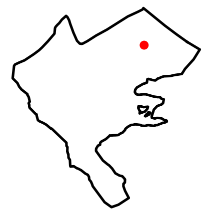
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 999950
Owner: Cucamonga Valley Water District
Well Name: CB-50

Figure A-33



Location of Well in Chino Basin



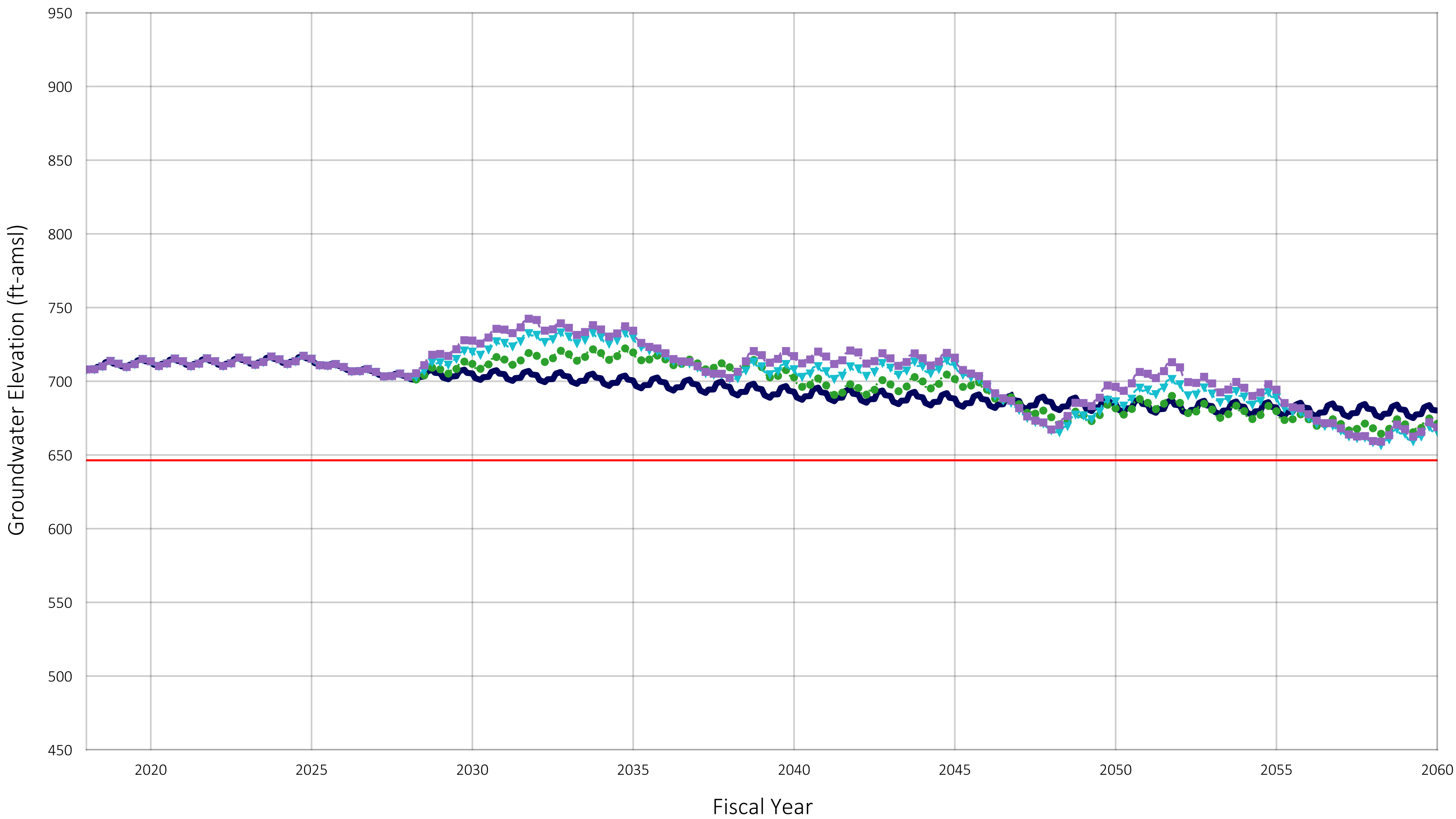
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

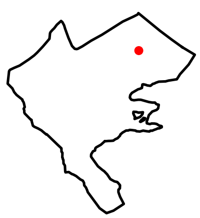
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002211
Owner: Fontana Water Company
Well Name: F7A

Figure A-34



Location of Well in Chino Basin



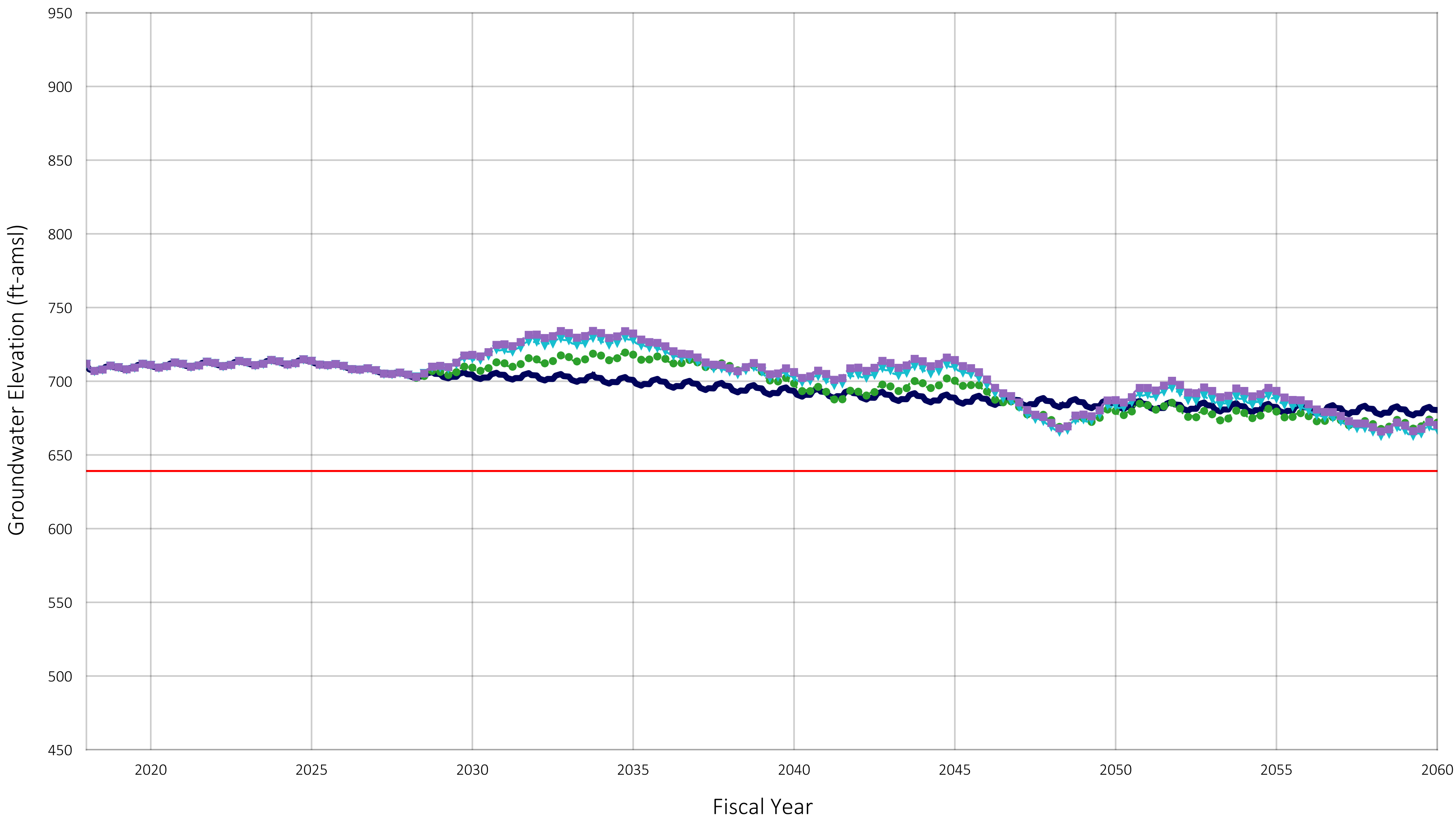
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1221726
Owner: Fontana Water Company
Well Name: F7B

Figure A-35



Location of Well in Chino Basin

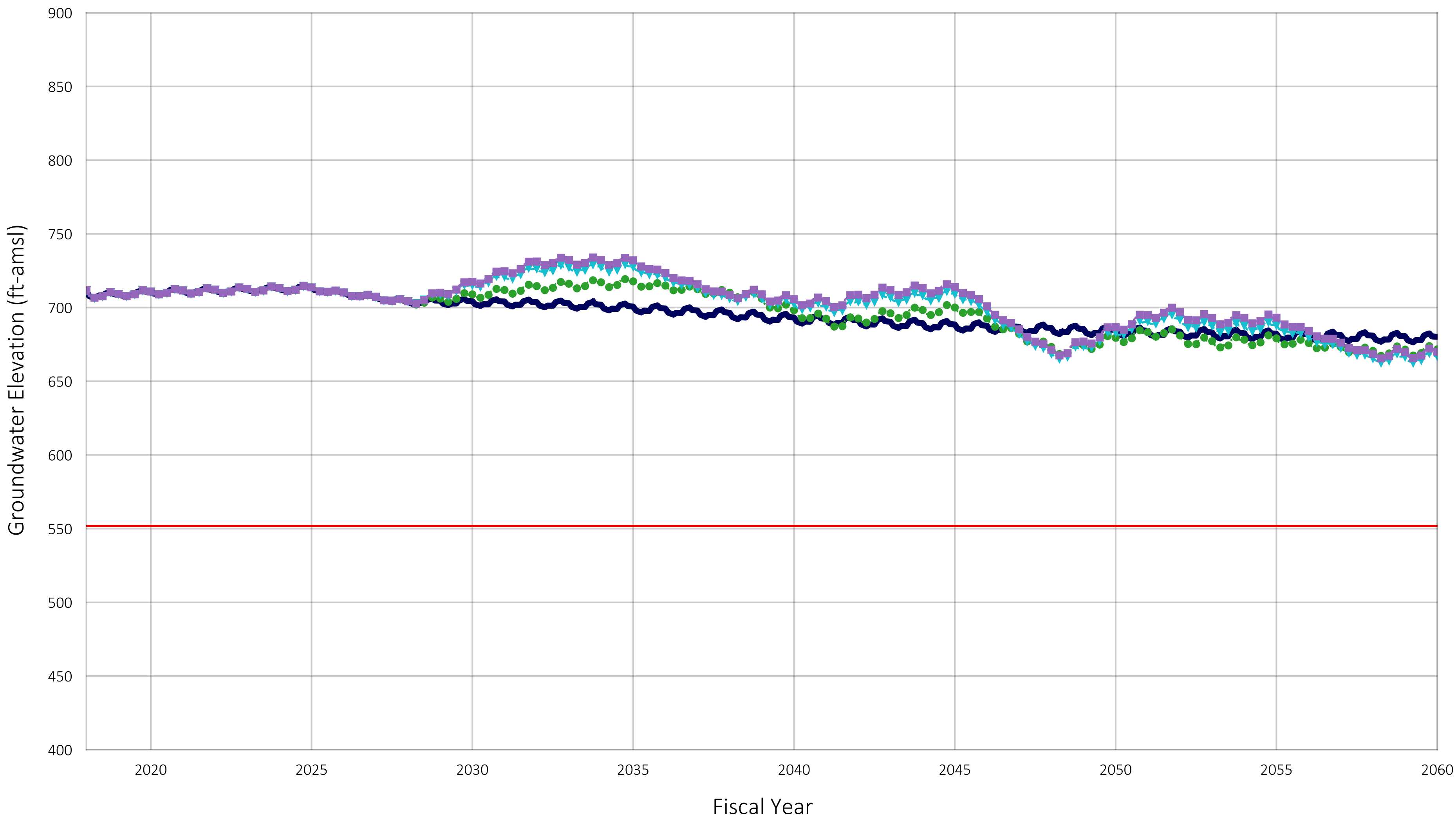
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002237
Owner: Fontana Water Company
Well Name: F17B

Figure A-36



Location of Well in Chino Basin

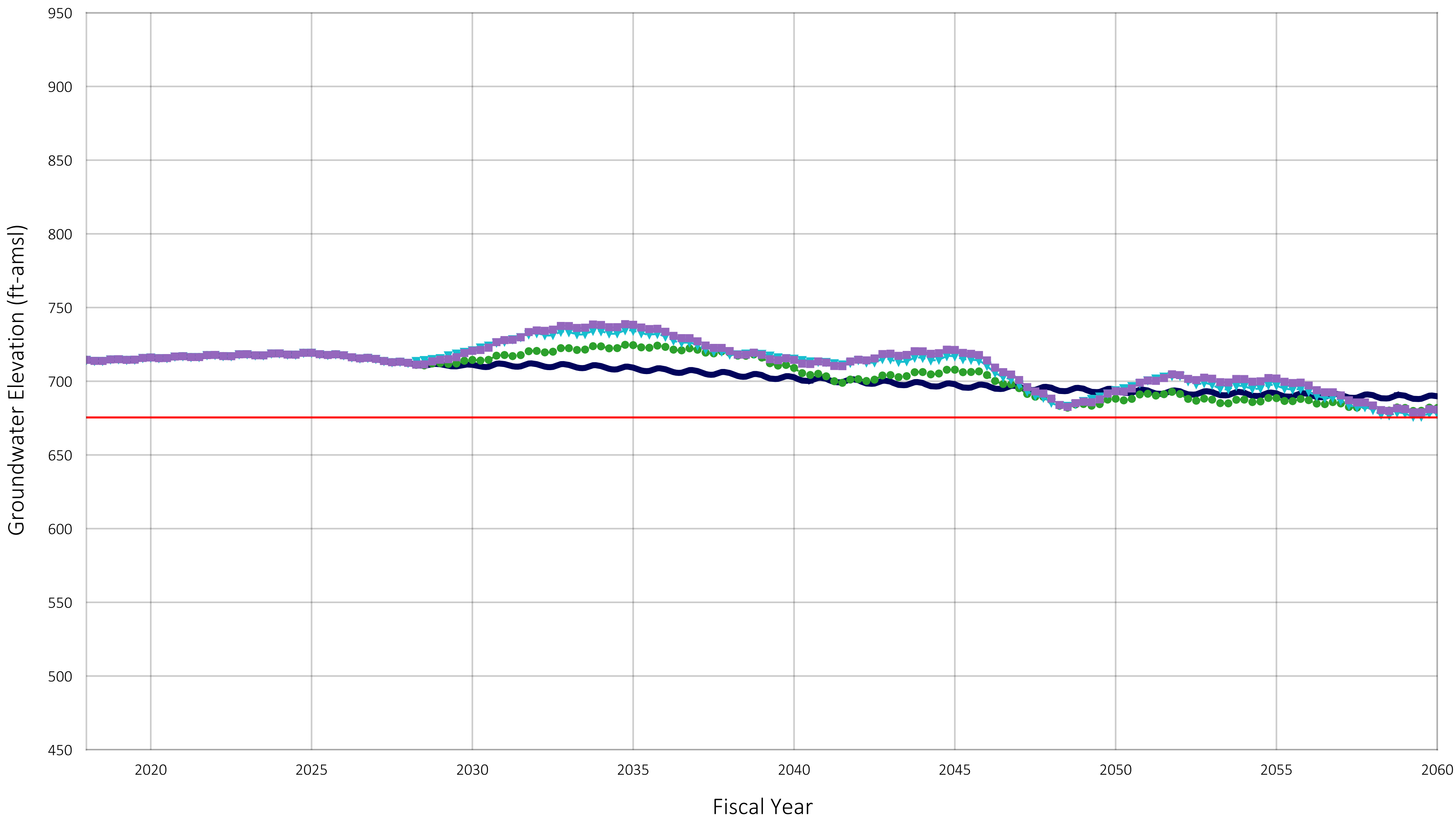
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

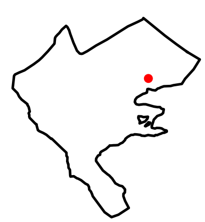
WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1201069
Owner: Fontana Water Company
Well Name: F17C

Figure A-37



Location of Well in Chino Basin



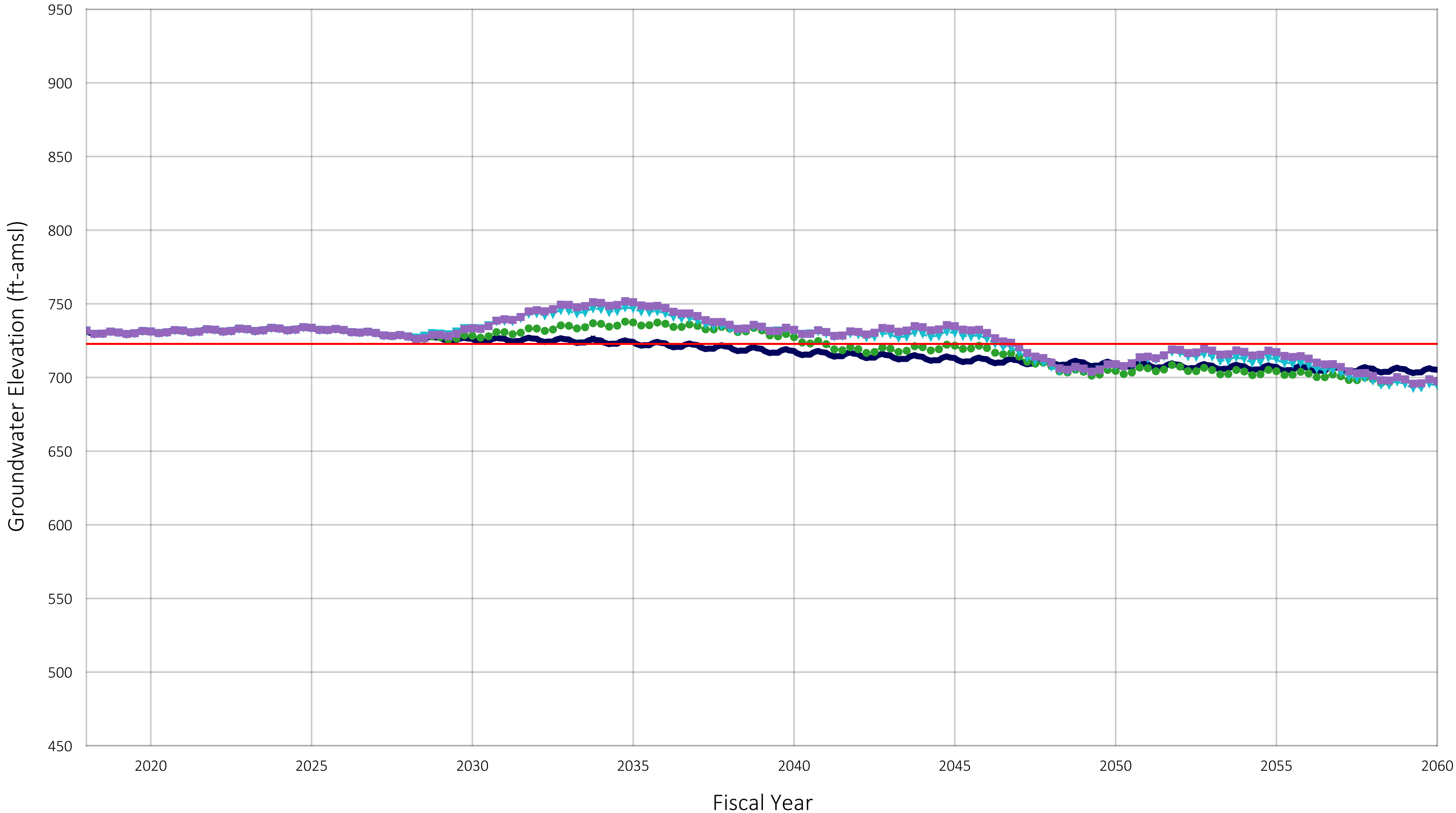
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1232847
Owner: Fontana Water Company
Well Name: F21B

Figure A-38



Location of Well in Chino Basin

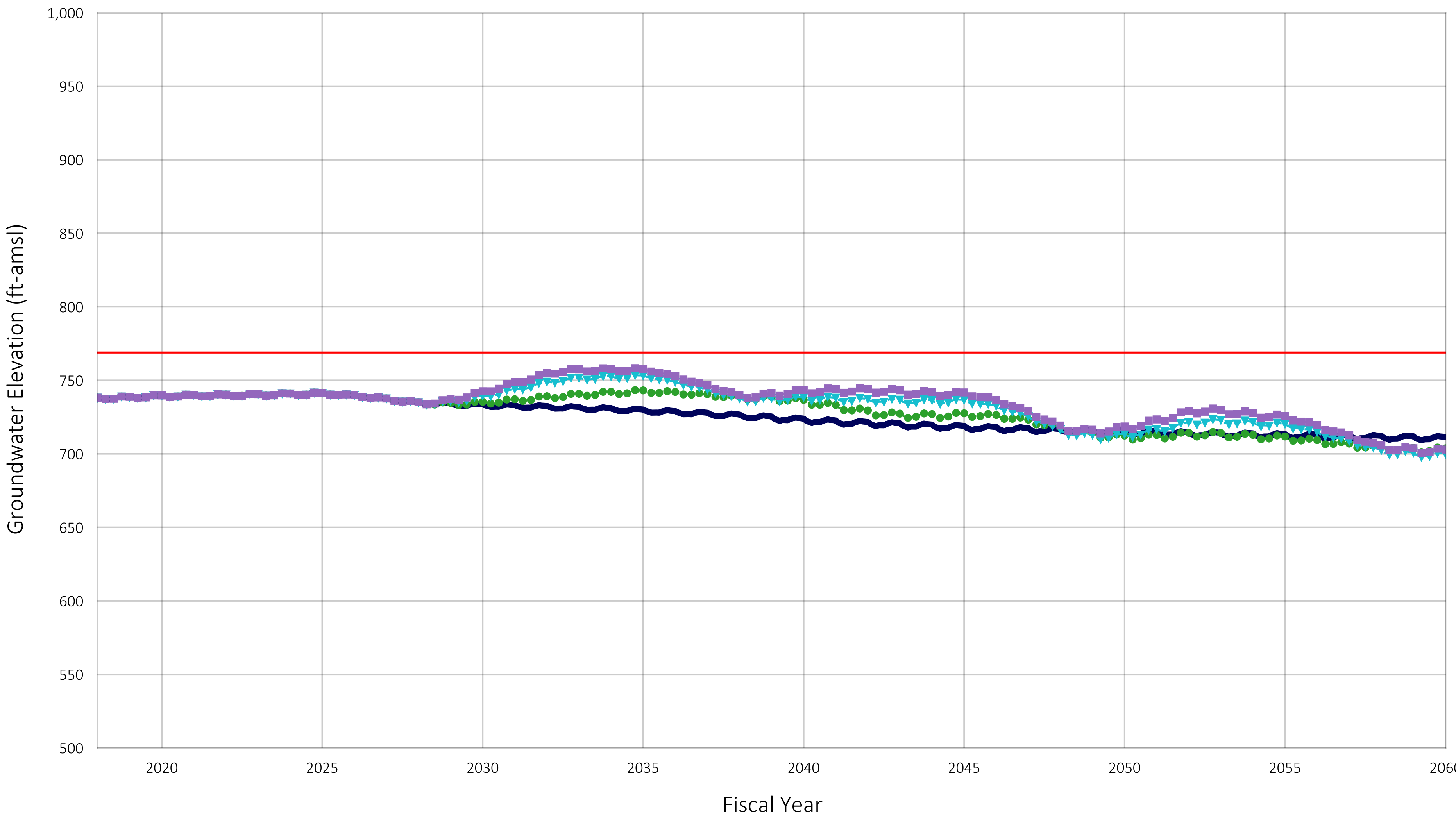
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002239
Owner: Fontana Water Company
Well Name: F23A

Figure A-39



Location of Well in Chino Basin

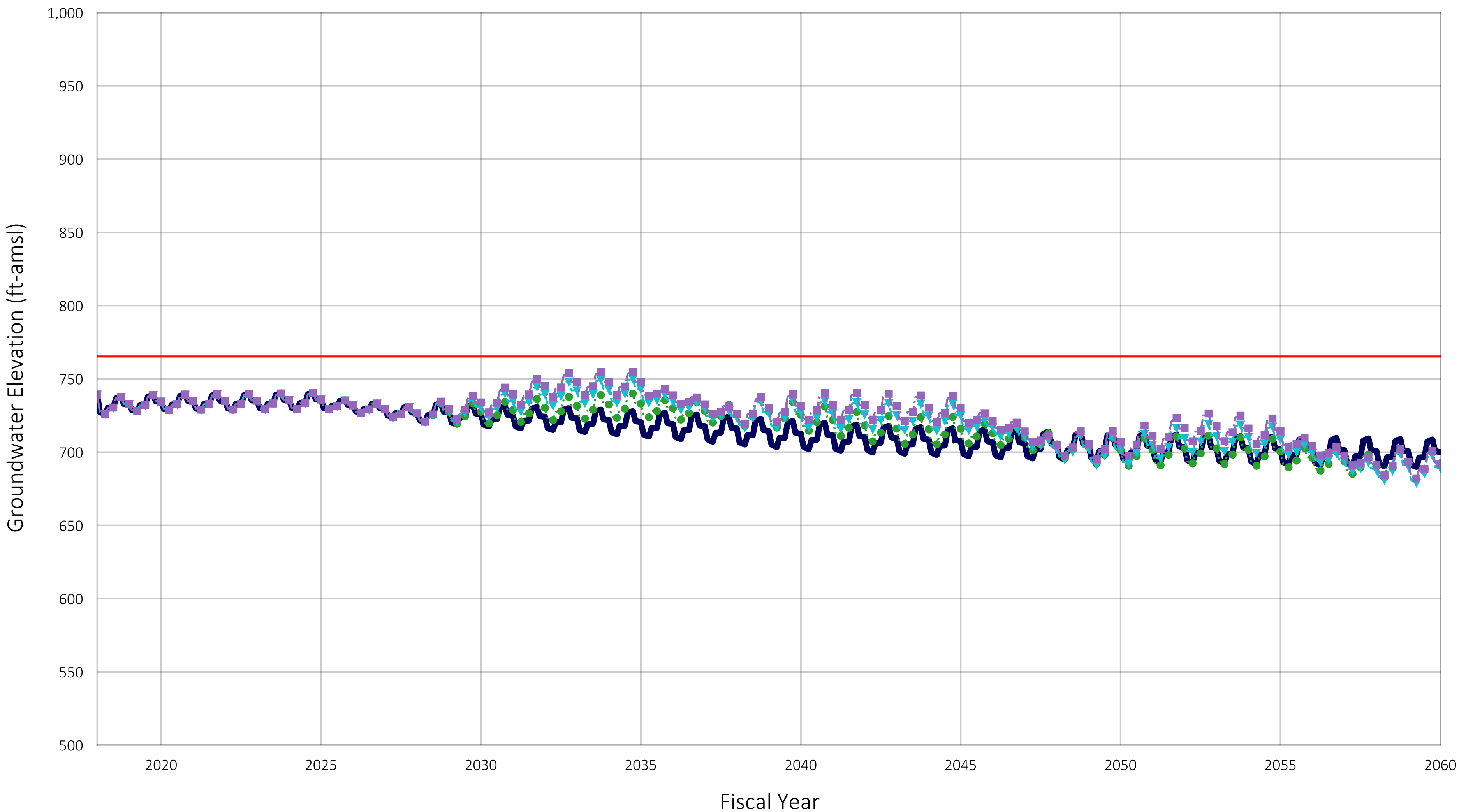
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1200218
Owner: Fontana Water Company
Well Name: F24A

Figure A-40



Location of Well in Chino Basin

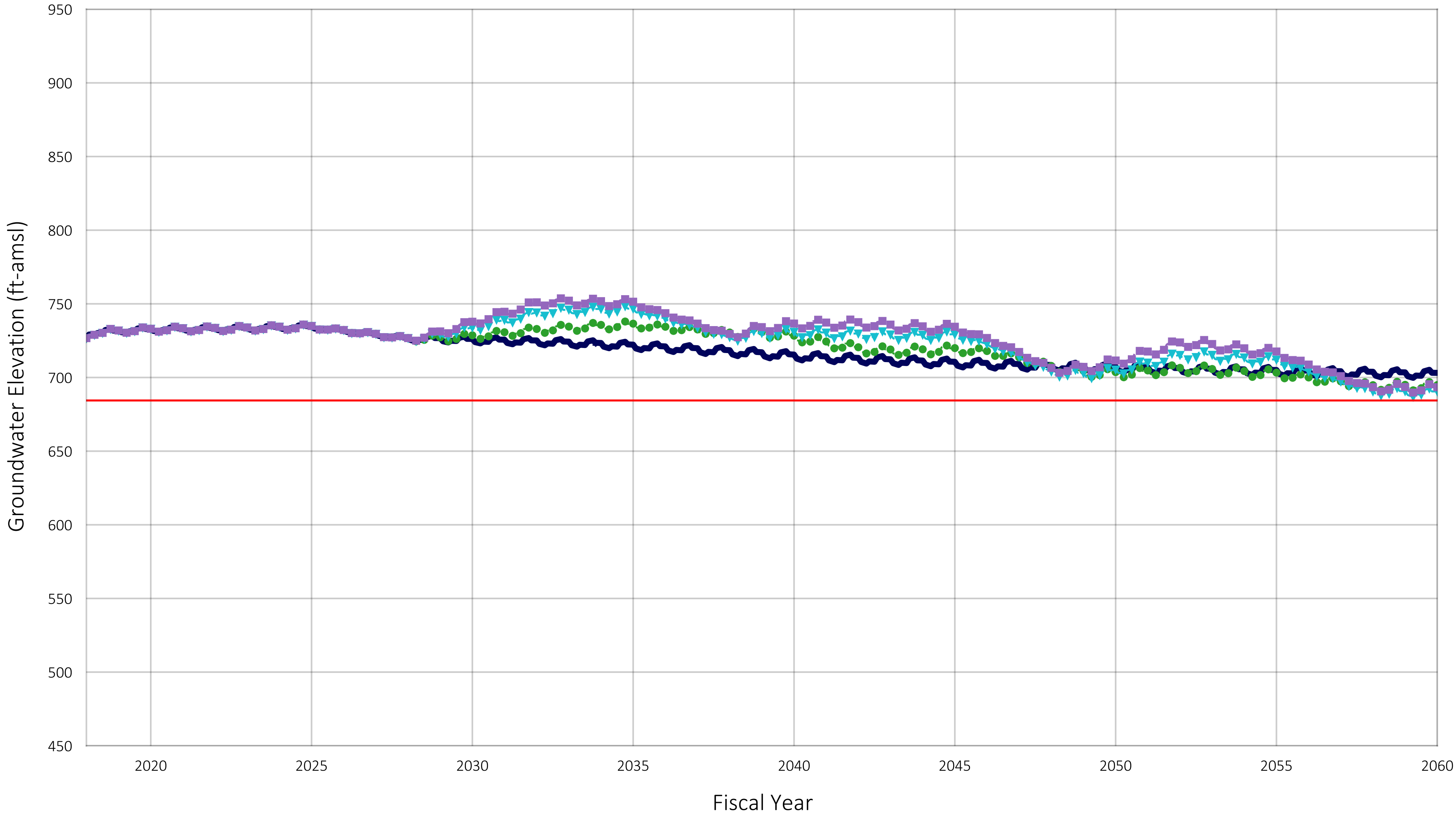
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

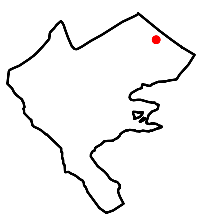
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1200219
Owner: Fontana Water Company
Well Name: F26A

Figure A-41



Location of Well in Chino Basin

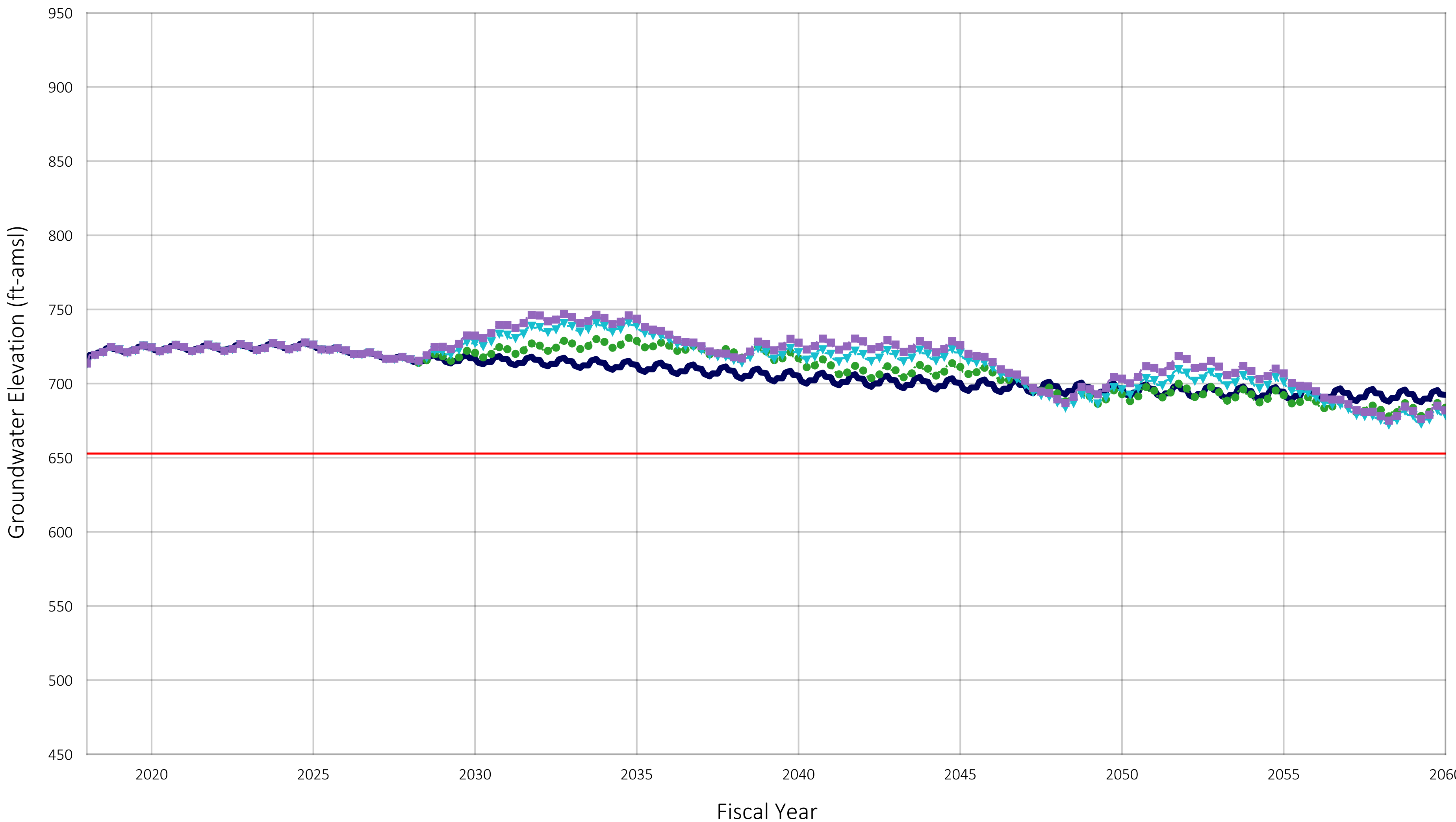


Prepared by:

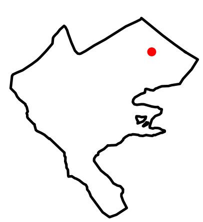
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002081
Owner: Fontana Water Company
Well Name: F31A

Figure A-42



Location of Well in Chino Basin



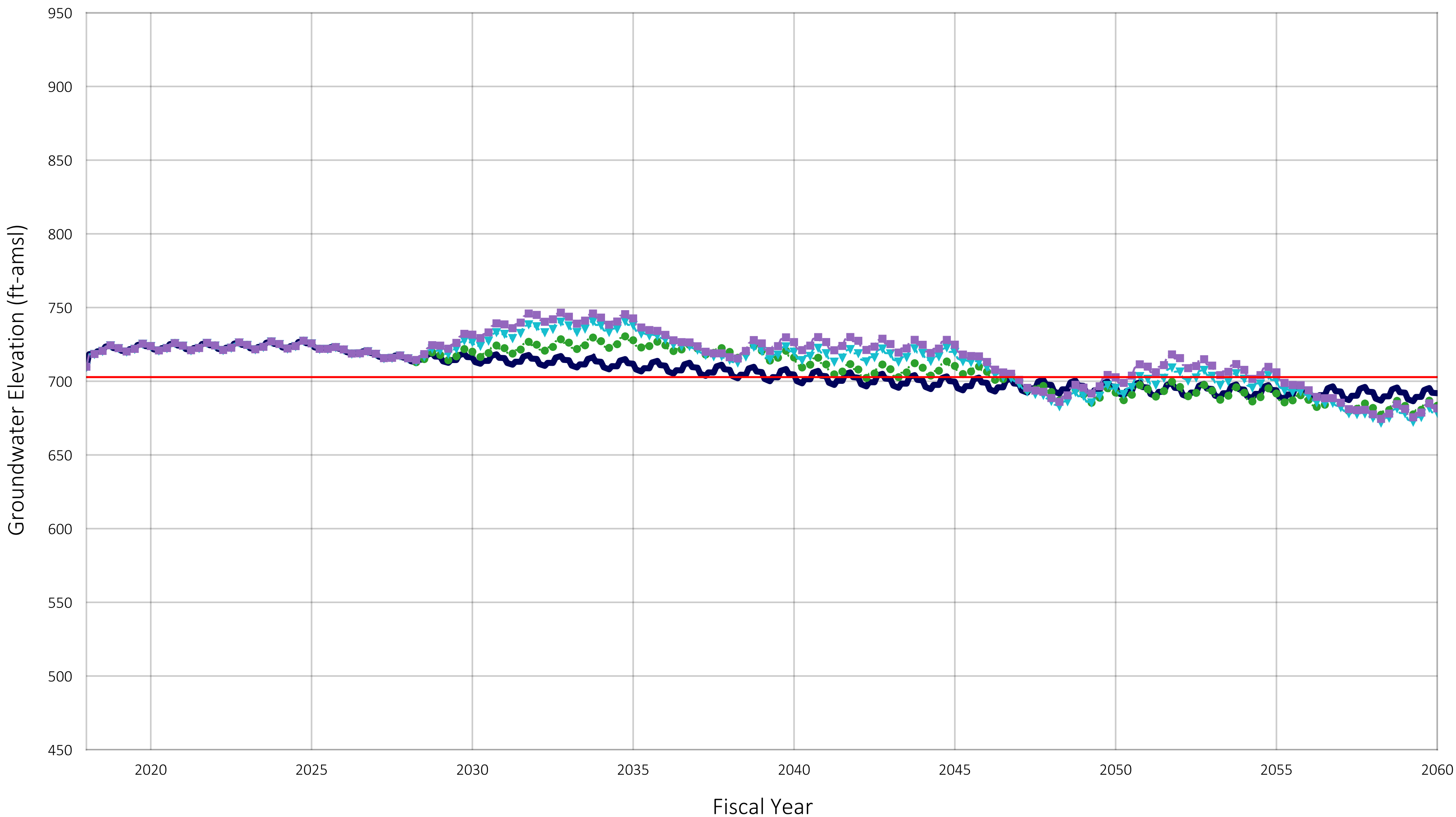
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

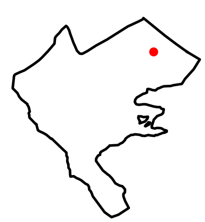
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206933
Owner: Fontana Water Company
Well Name: F44A

Figure A-43



Location of Well in Chino Basin



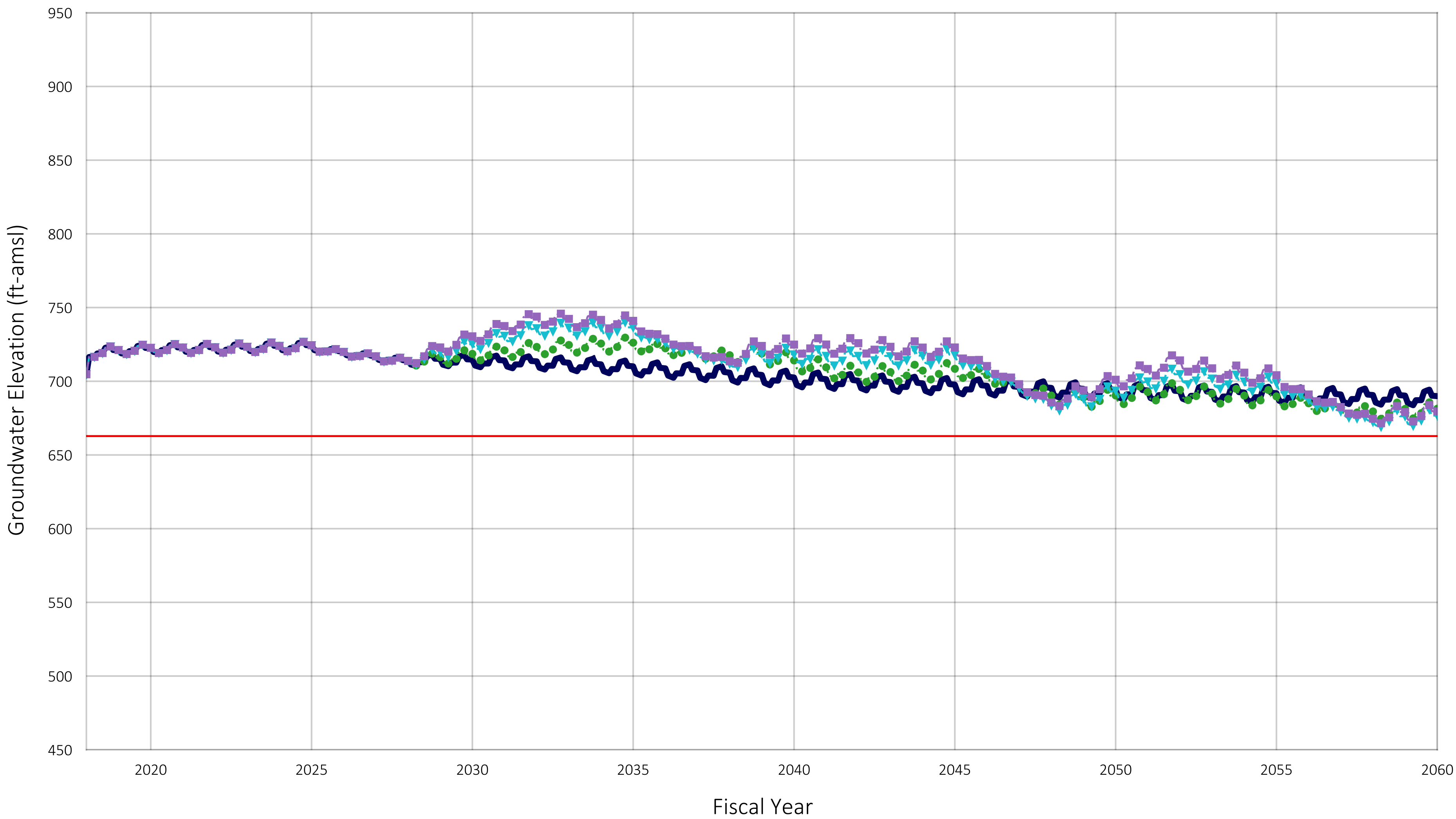
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

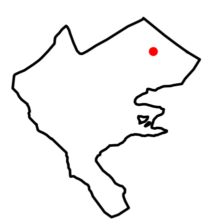
WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1207340
Owner: Fontana Water Company
Well Name: F44B

Figure A-44



Location of Well in Chino Basin



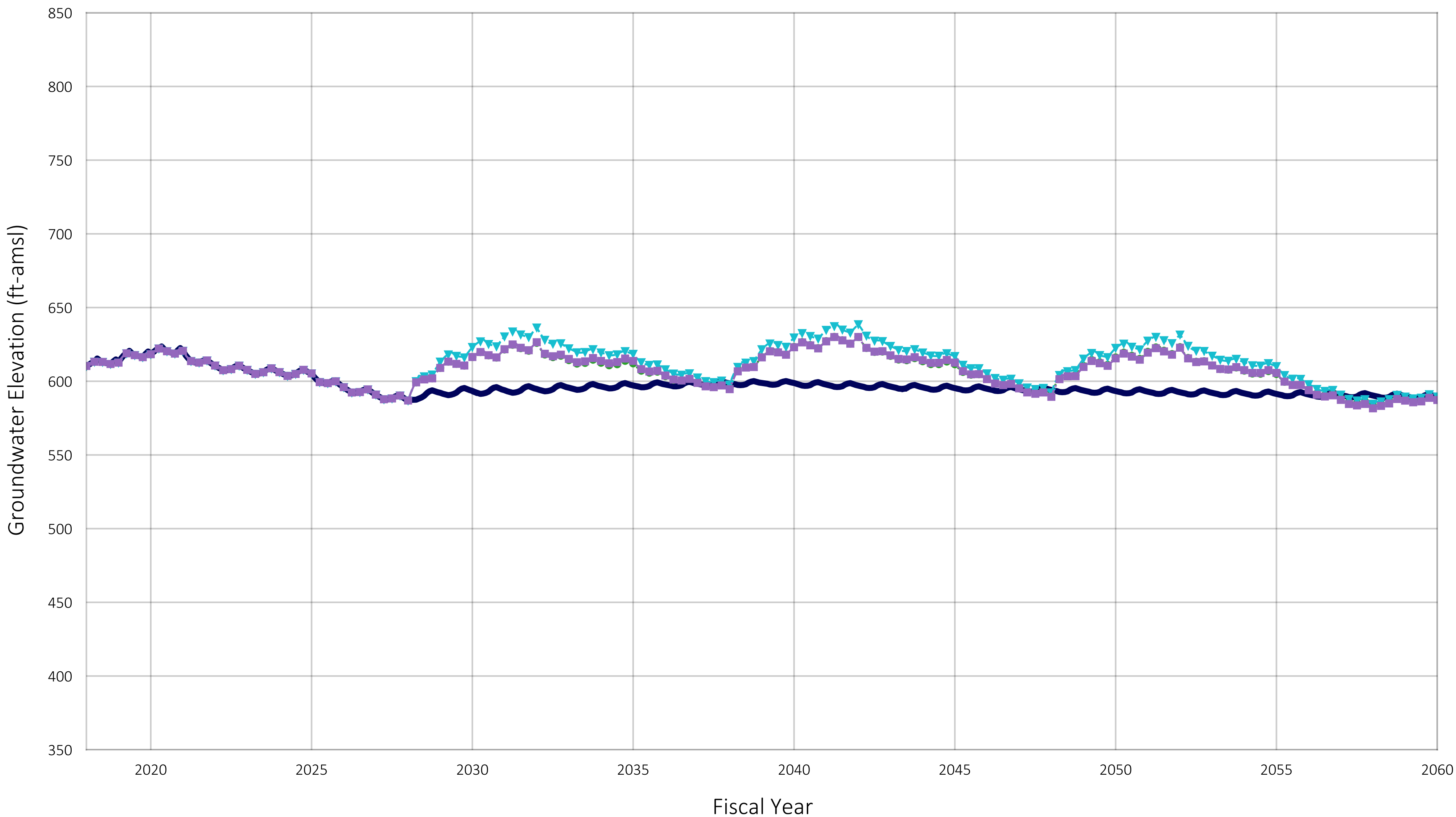
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

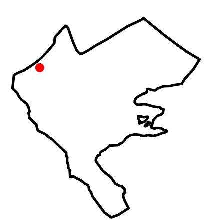
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1207341
Owner: Fontana Water Company
Well Name: F44C

Figure A-45



Location of Well in Chino Basin



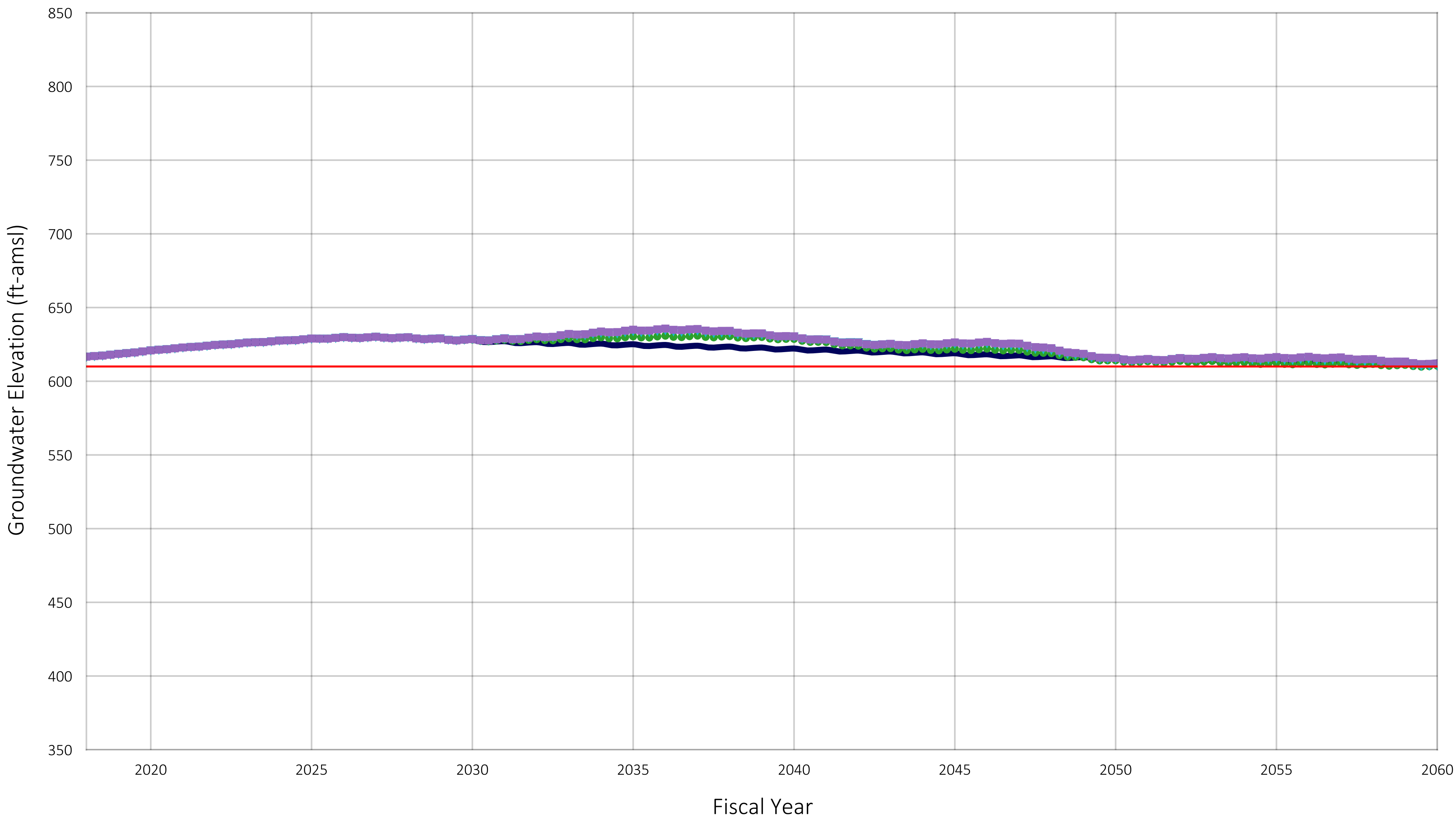
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002554
Owner: Golden State Water Company
Well Name: Margarita #1

Figure A-46



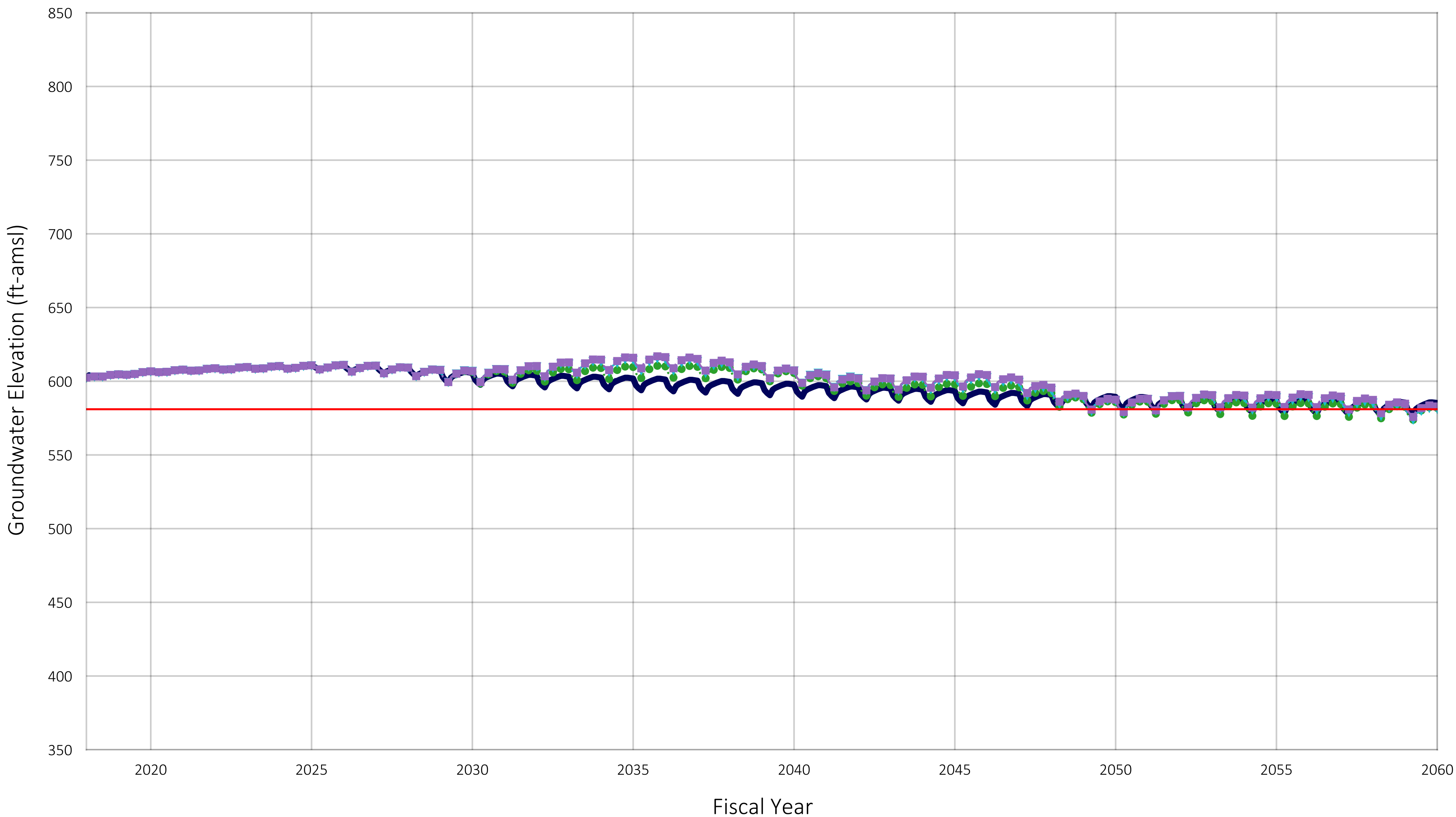
Location of Well in Chino Basin

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1003470
Owner: Jurupa Community Services District
Well Name: 6

Figure A-47



Location of Well in Chino Basin

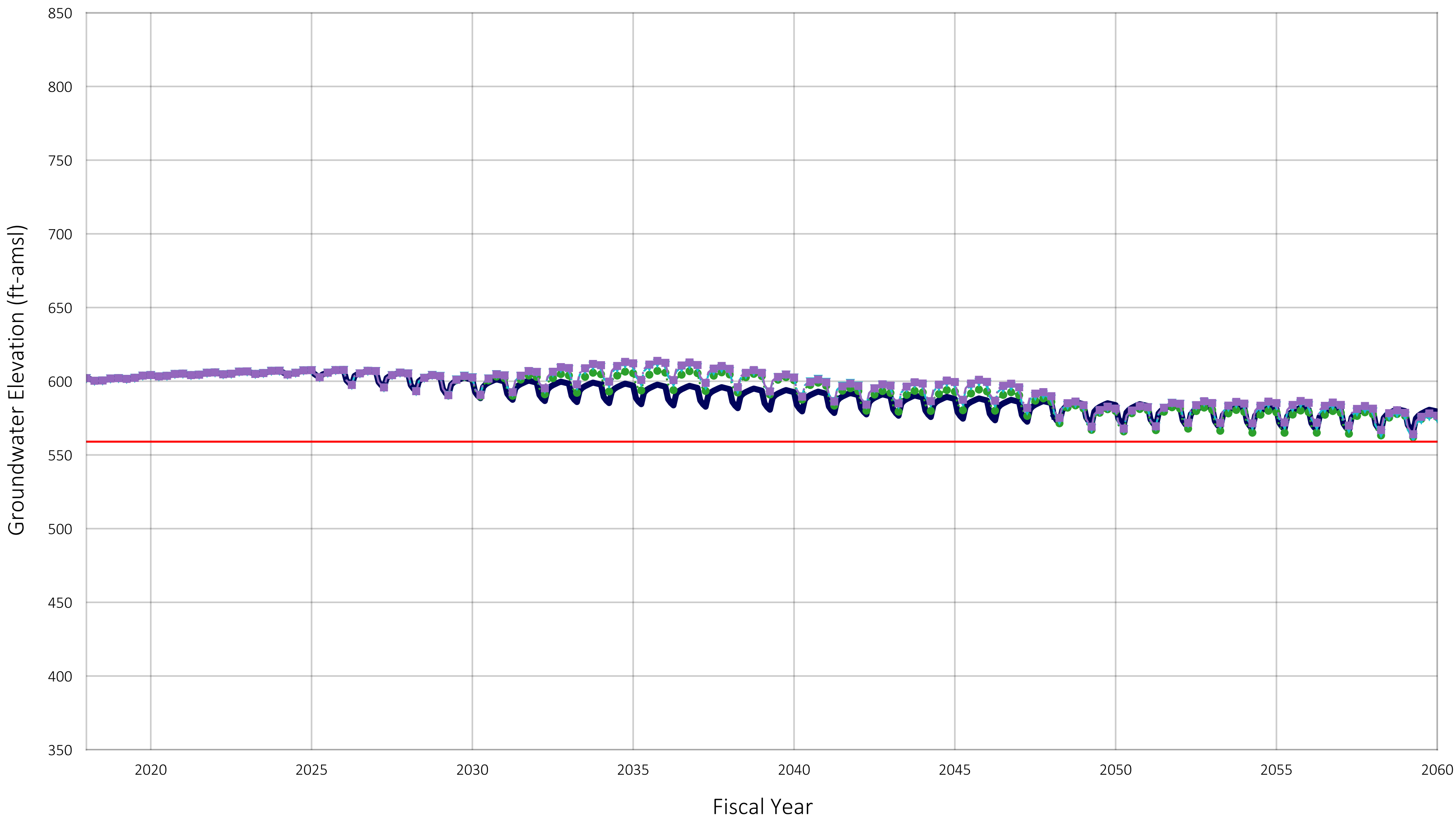
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1003507
Owner: Jurupa Community Services District
Well Name: 8

Figure A-48



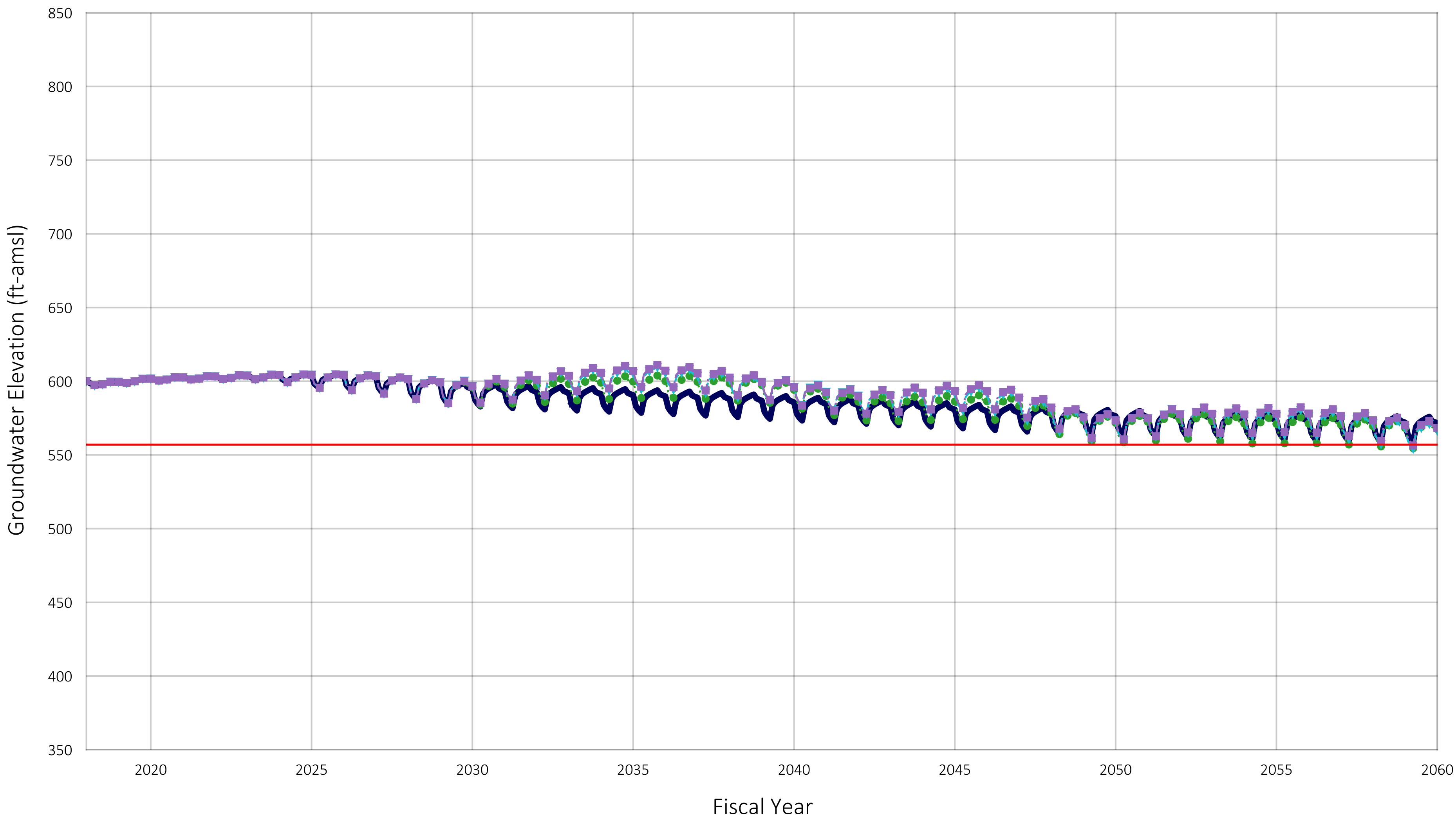
Location of Well in Chino Basin

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1003506
Owner: Jurupa Community Services District
Well Name: 11

Figure A-49



Location of Well in Chino Basin

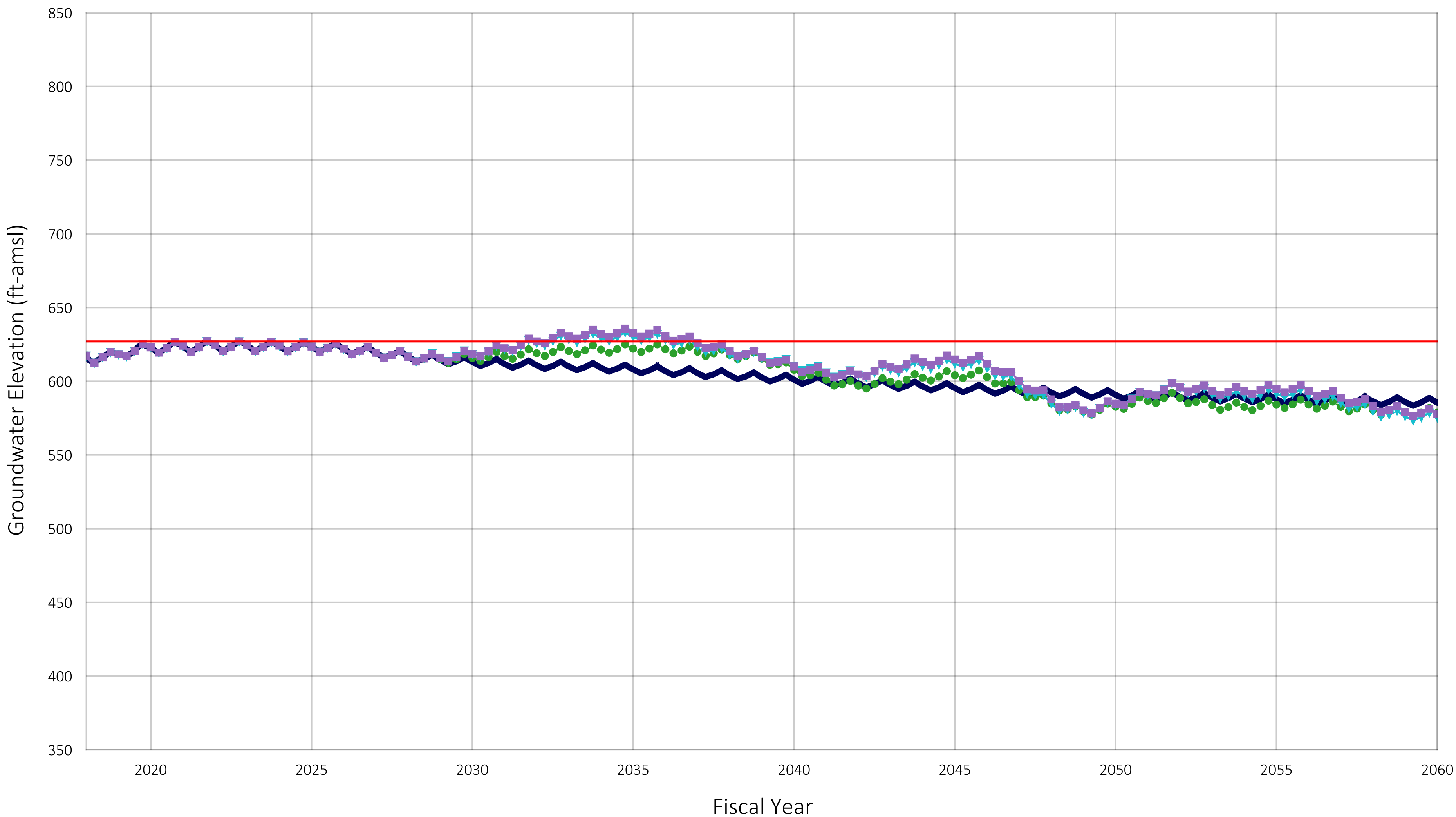
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1003505
Owner: Jurupa Community Services District
Well Name: 12

Figure A-50



Location of Well in Chino Basin

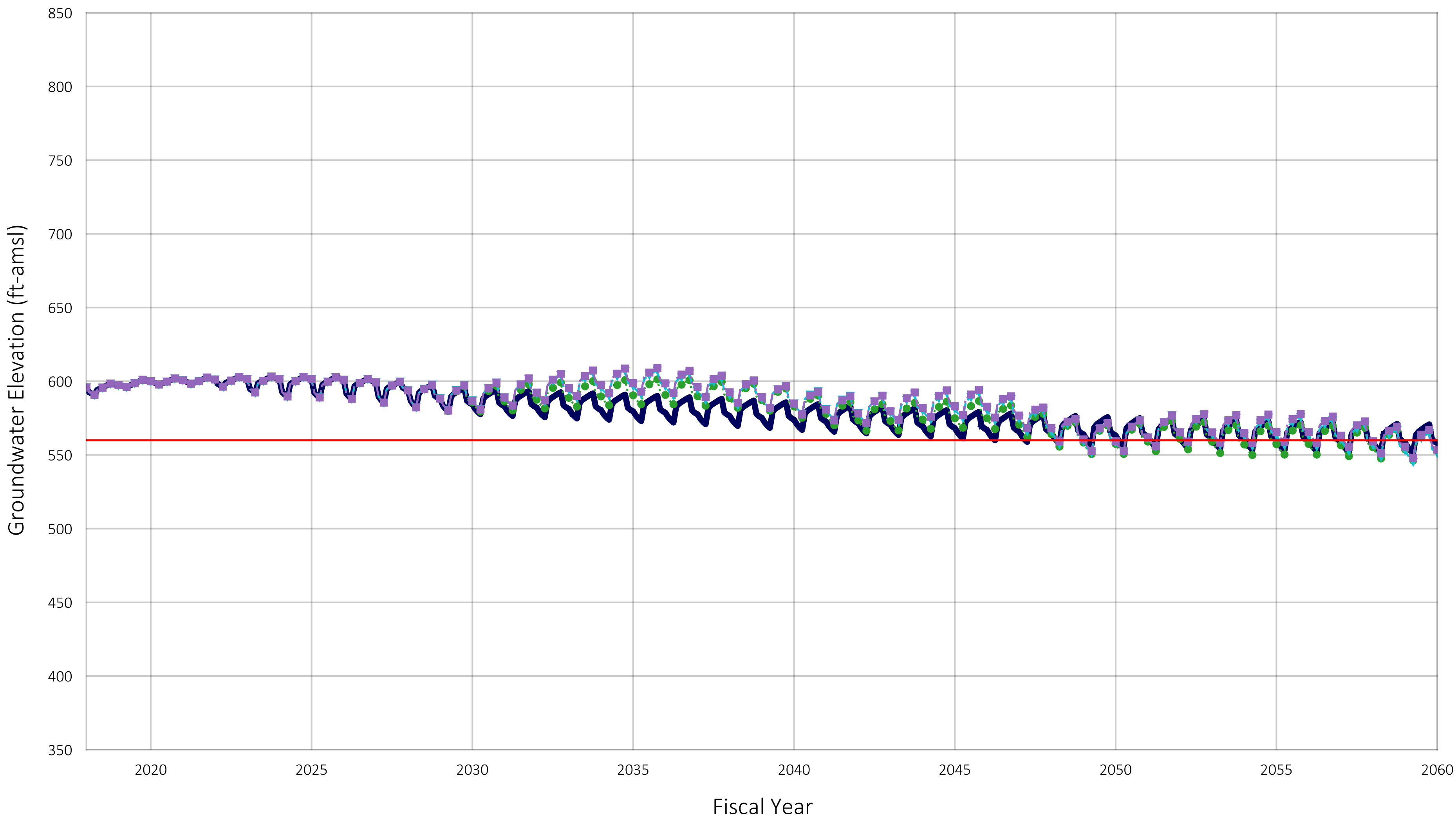
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1003466
Owner: Jurupa Community Services District
Well Name: 13

Figure A-51



Location of Well in Chino Basin

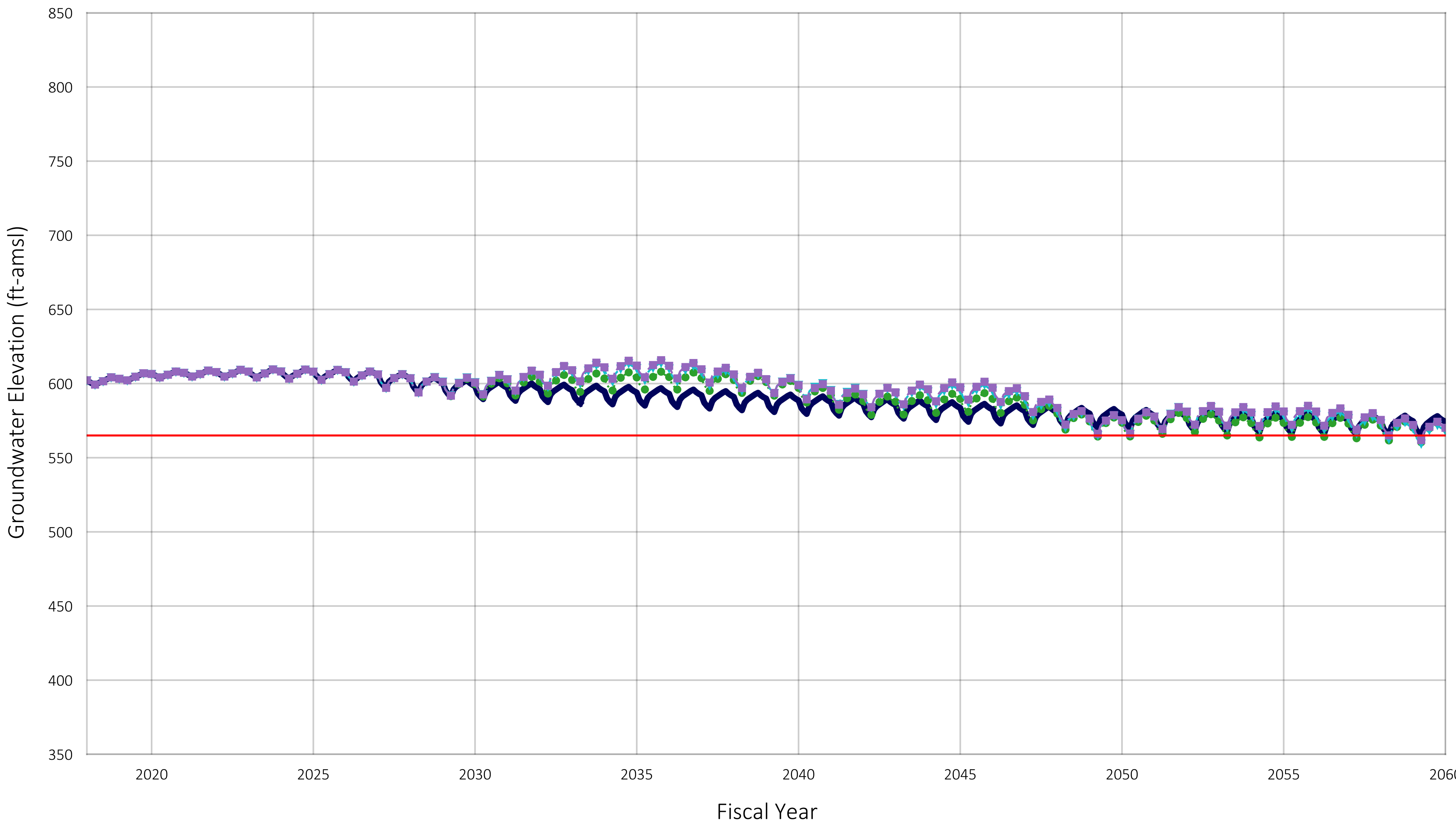
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1003501
Owner: Jurupa Community Services District
Well Name: 14

Figure A-52



Location of Well in Chino Basin

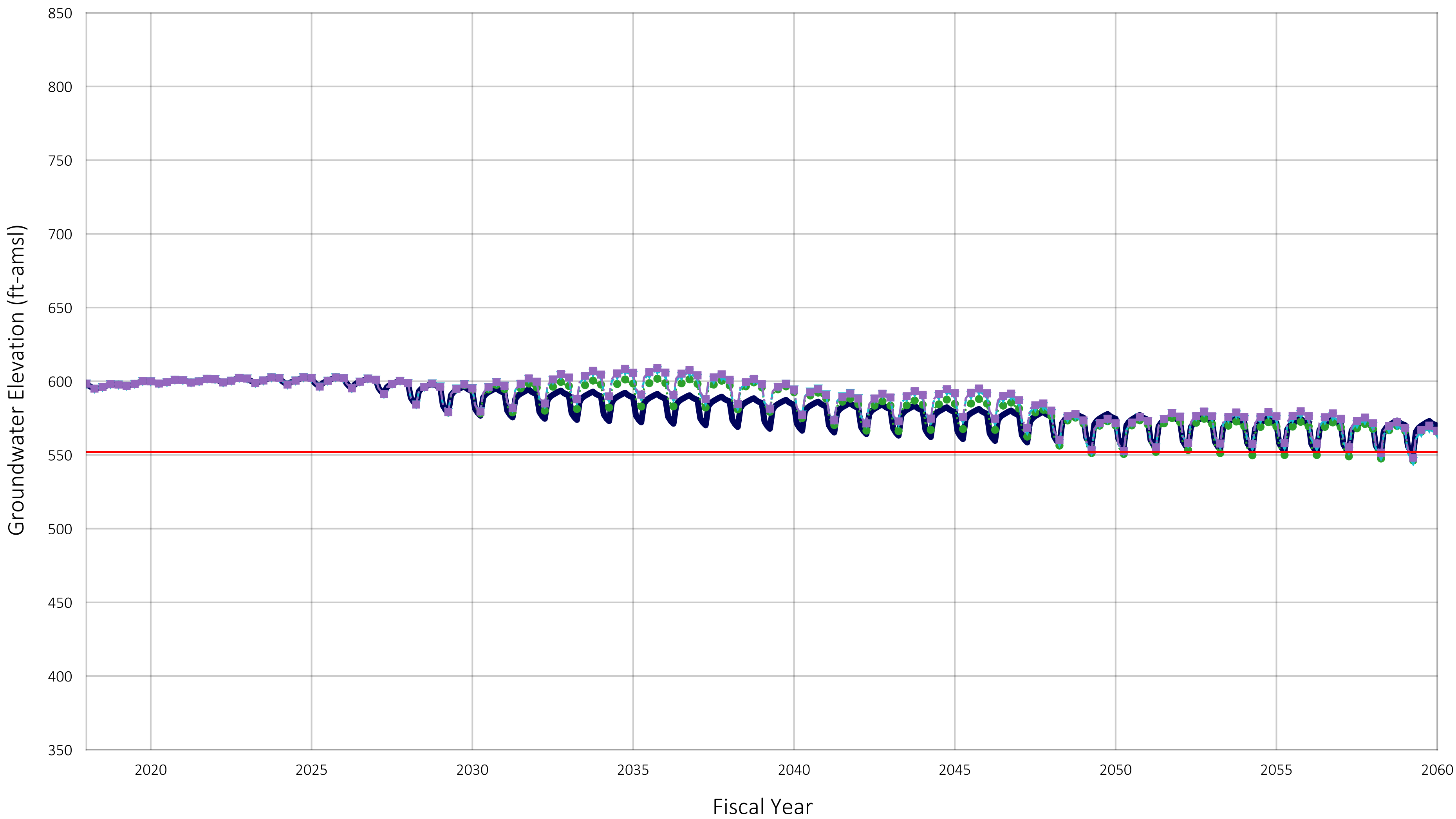
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1003498
Owner: Jurupa Community Services District
Well Name: 15

Figure A-53



Location of Well in Chino Basin

Baseline

Scenario 2A

Scenario 3A

Scenario 3B

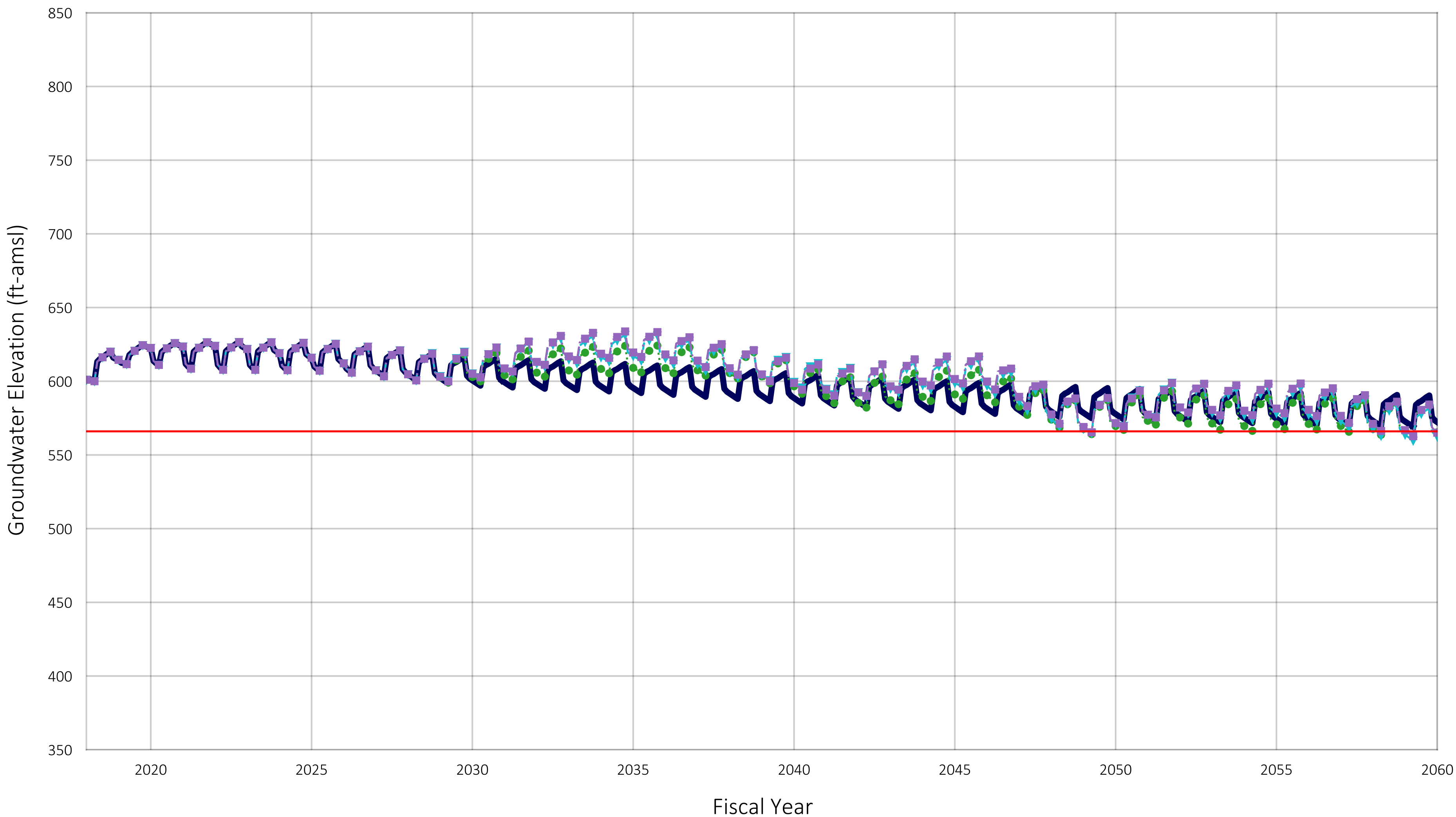
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1003502
Owner: Jurupa Community Services District
Well Name: 16

Figure A-54



Location of Well in Chino Basin

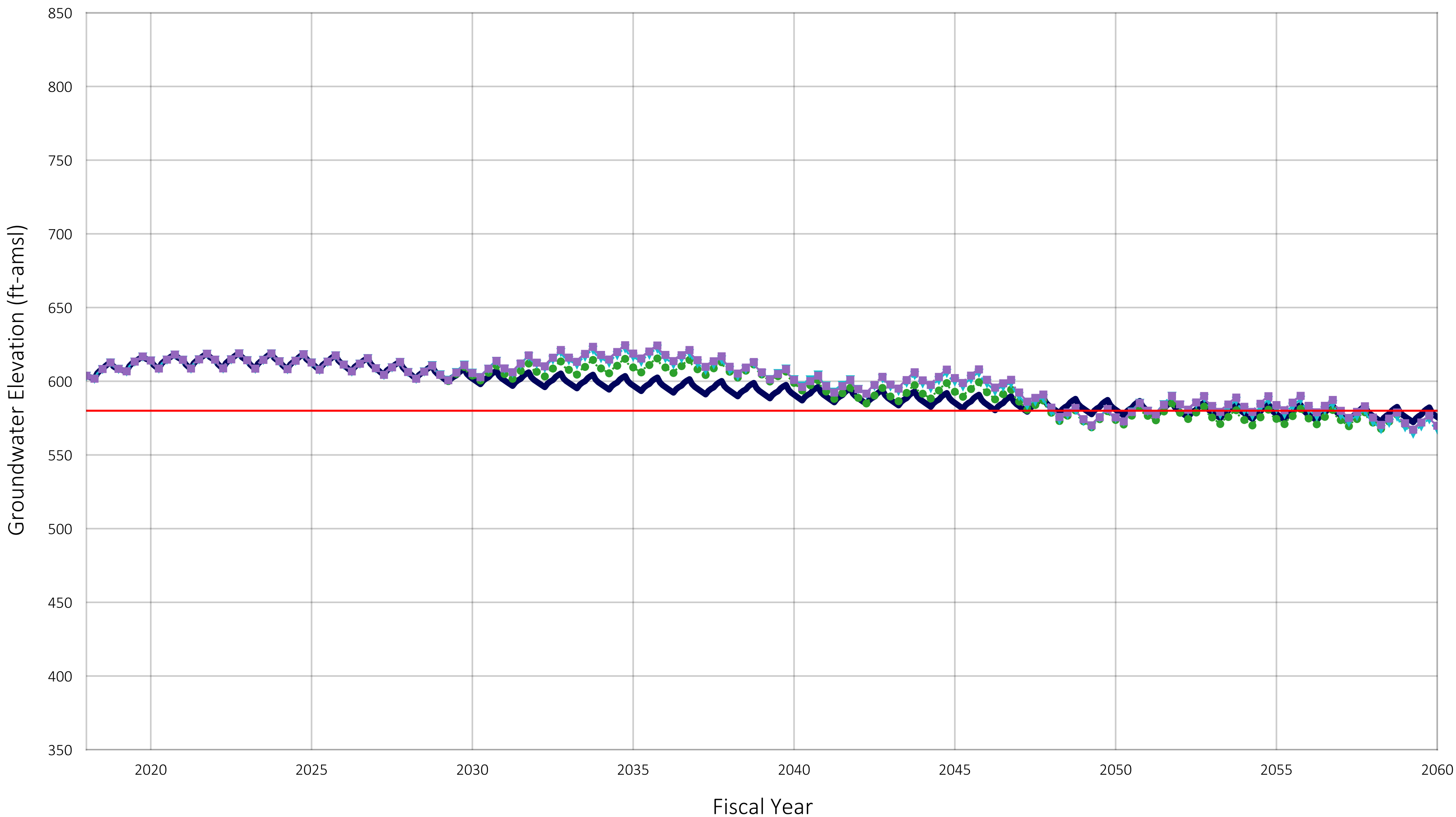
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1003467
Owner: Jurupa Community Services District
Well Name: 17

Figure A-55



Location of Well in Chino Basin

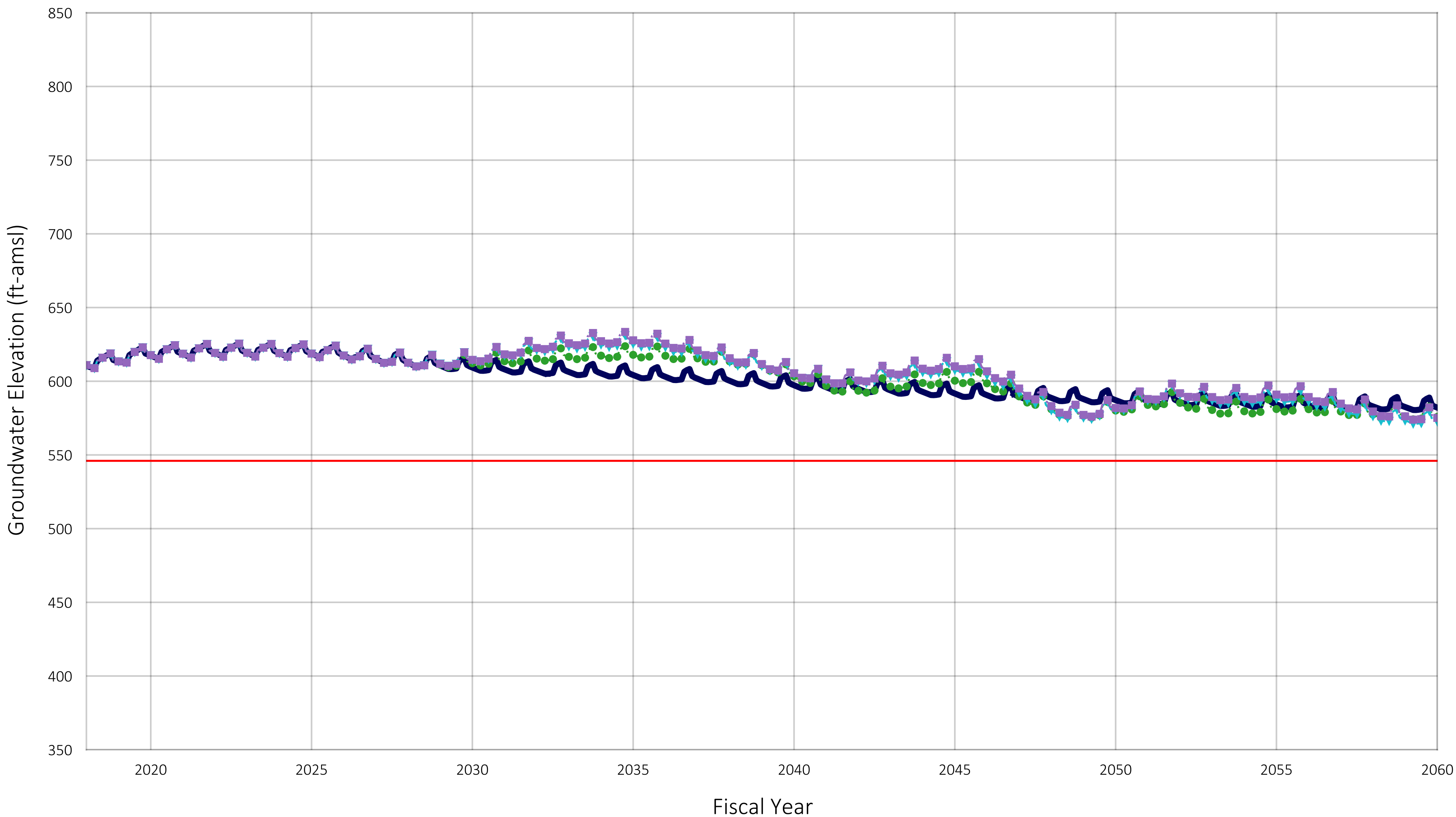
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1003469
Owner: Jurupa Community Services District
Well Name: 18

Figure A-56



Location of Well in Chino Basin

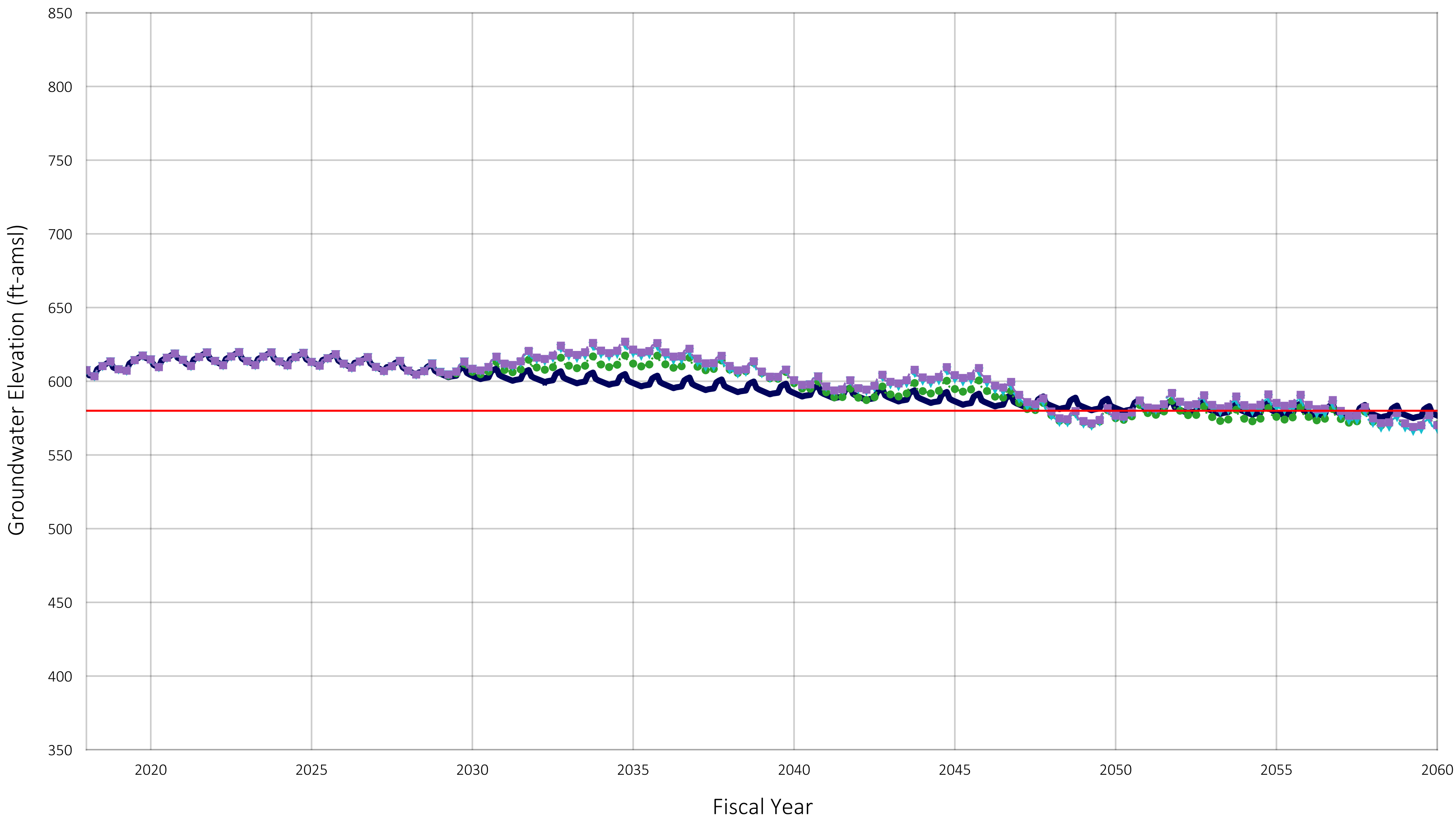
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1003471
Owner: Jurupa Community Services District
Well Name: 19

Figure A-57



Location of Well in Chino Basin

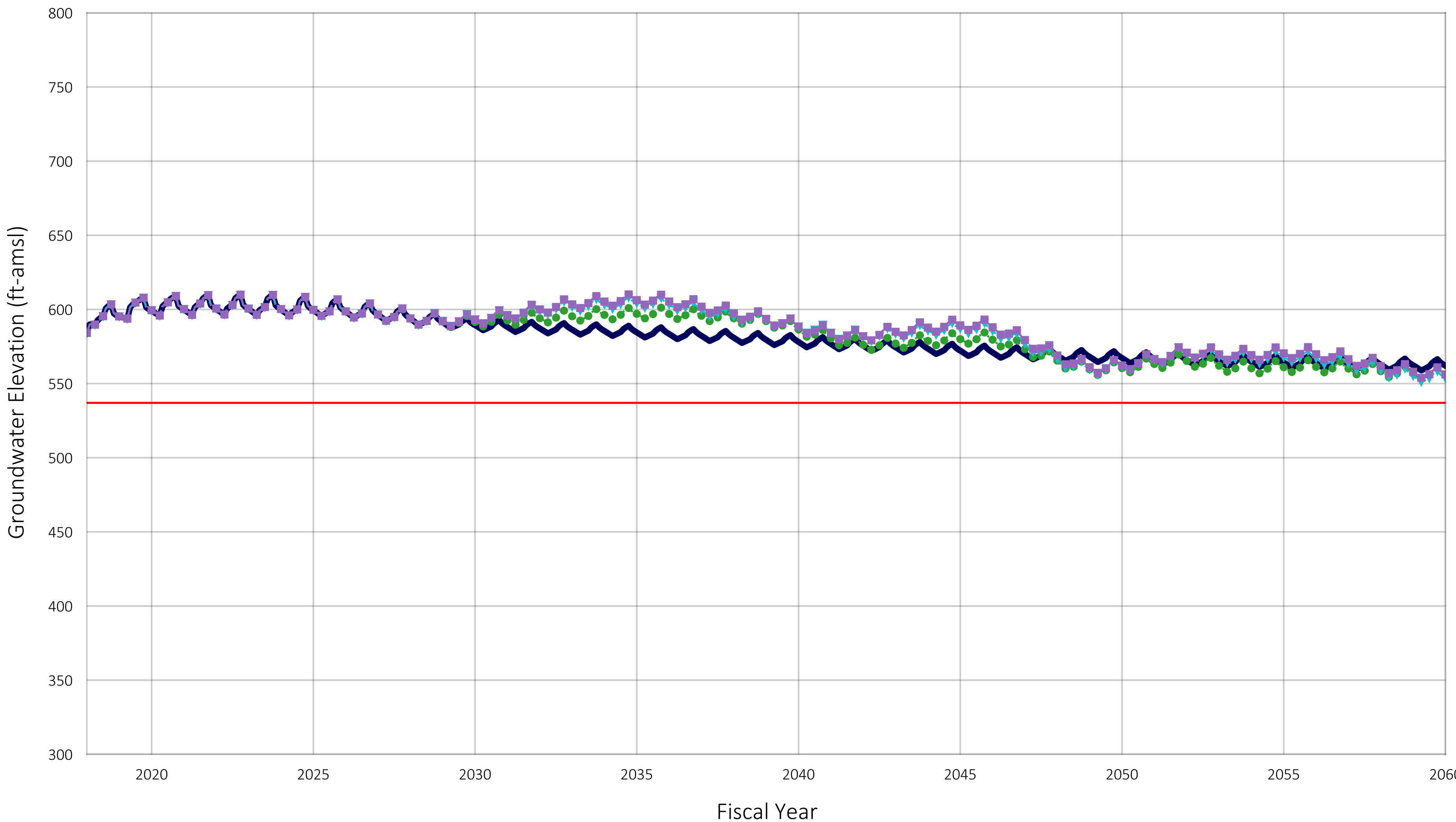
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1003472
Owner: Jurupa Community Services District
Well Name: 20

Figure A-58



Location of Well in Chino Basin

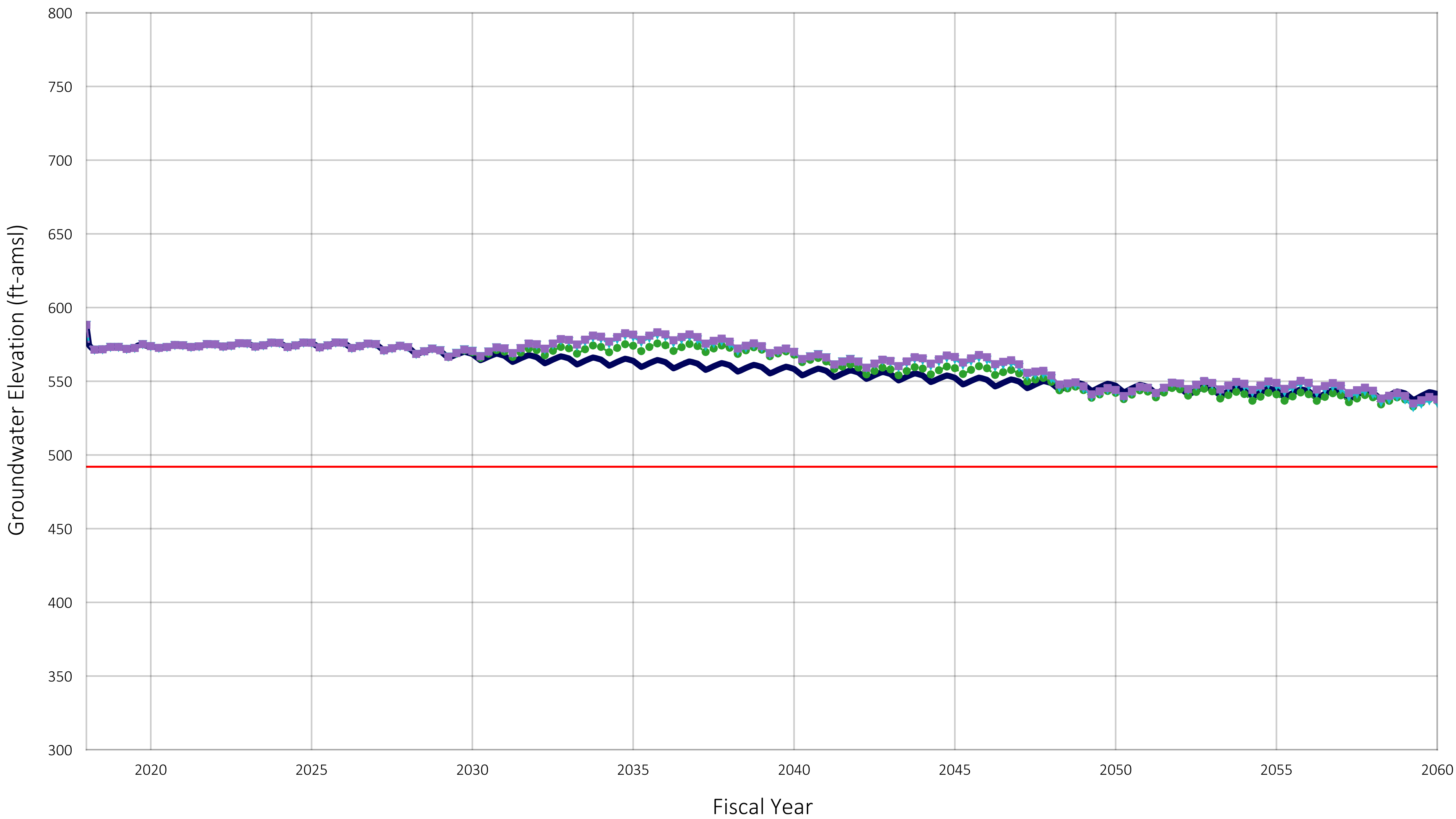
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1220154
Owner: Jurupa Community Services District
Well Name: 22

Figure A-59



Location of Well in Chino Basin

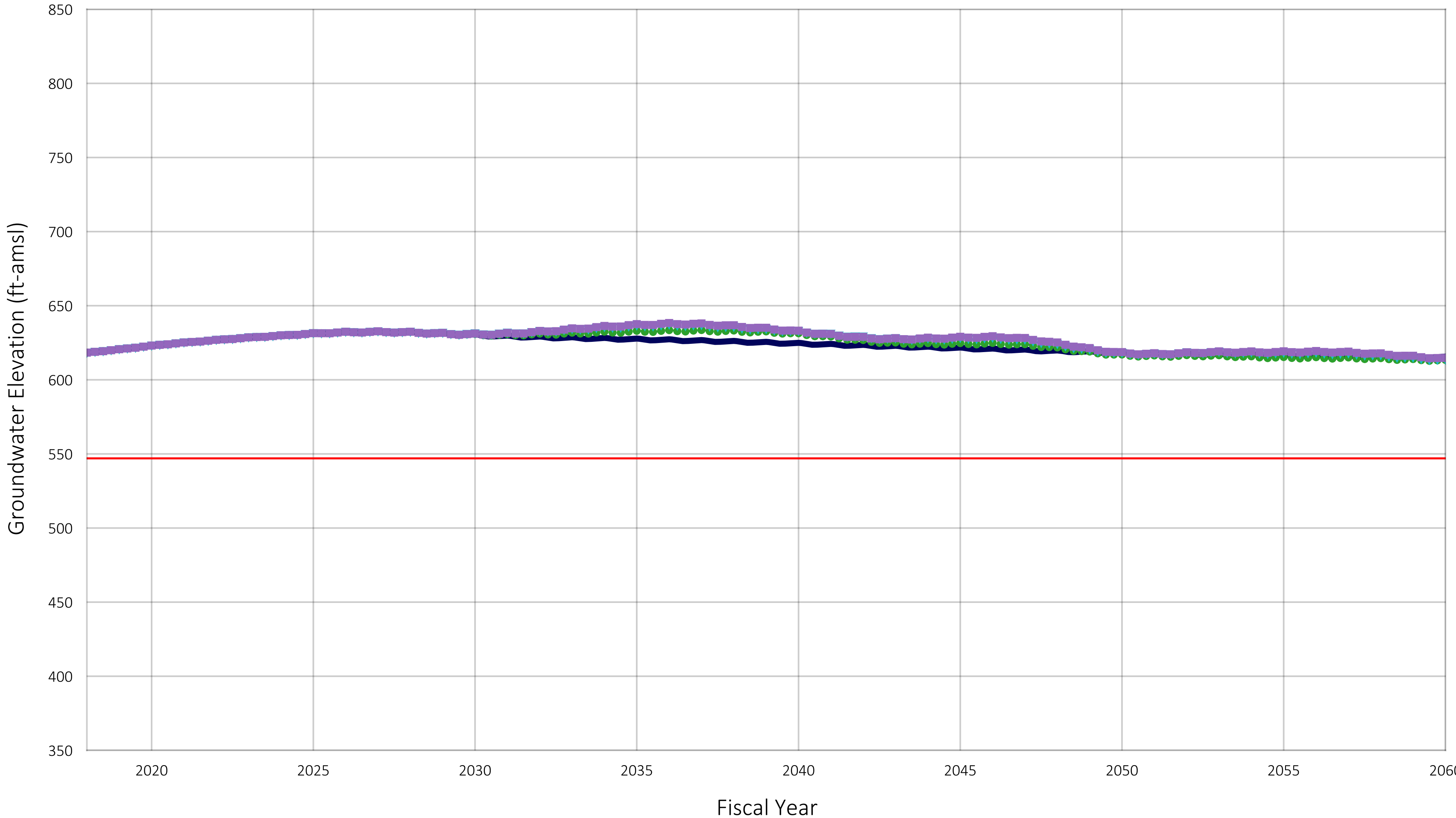
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1220155
Owner: Jurupa Community Services District
Well Name: 23

Figure A-60



Location of Well in Chino Basin

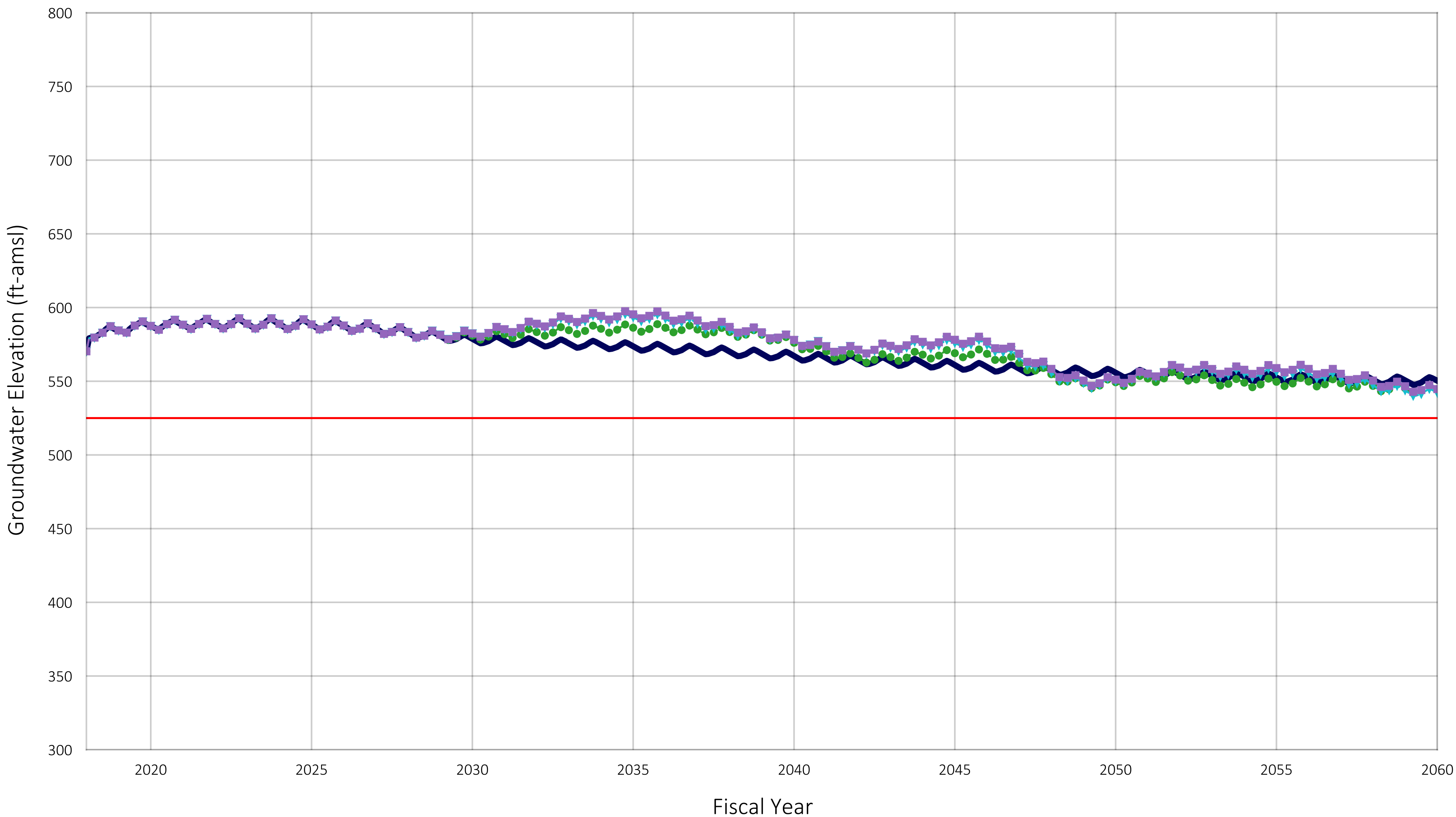
Prepared by:

WEST YOST
Water. Engineered.

Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1003515
Owner: Jurupa Community Services District
Well Name: 24

Figure A-61



Location of Well in Chino Basin

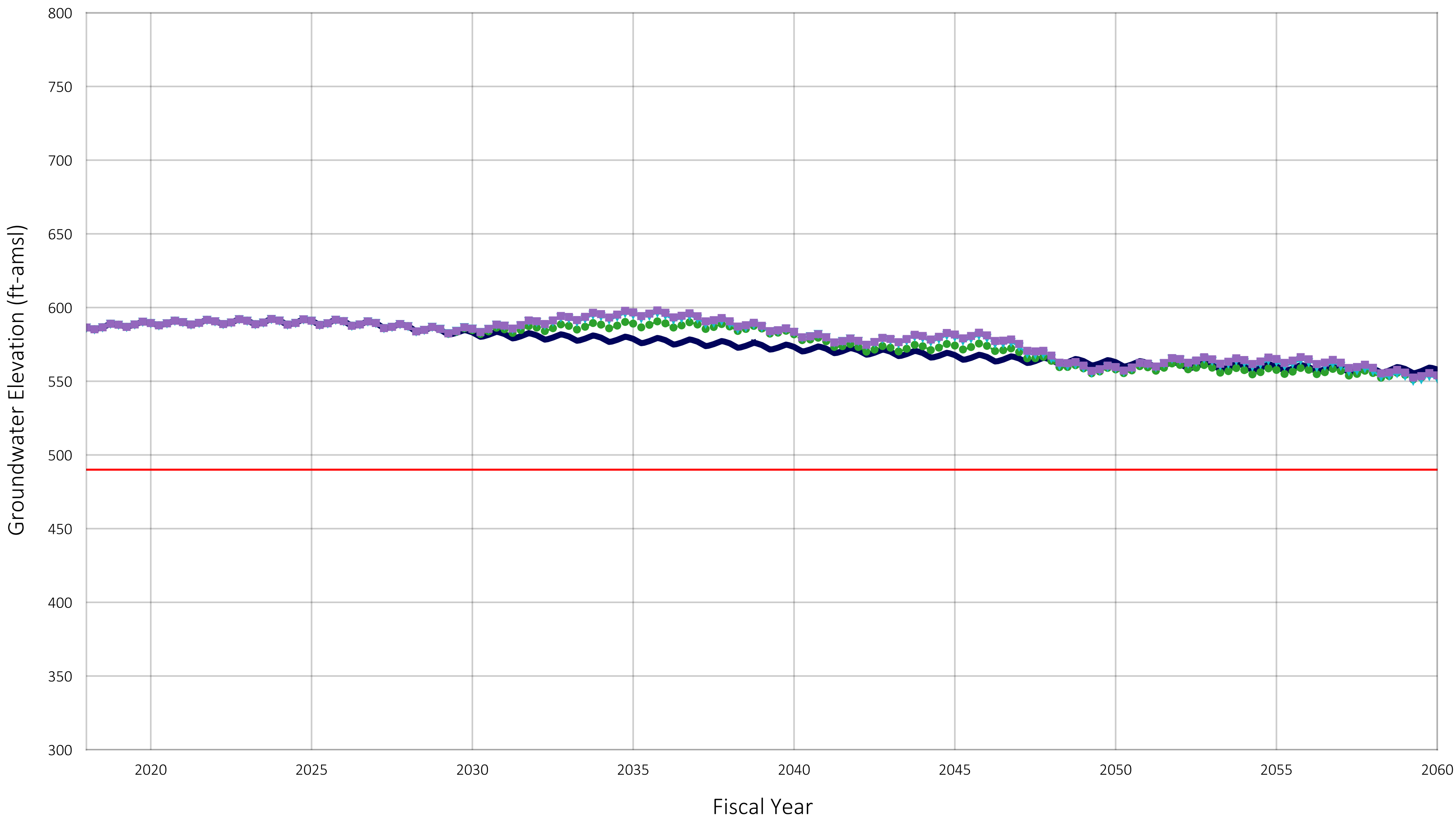
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1220158
Owner: Jurupa Community Services District
Well Name: 25

Figure A-62



Location of Well in Chino Basin

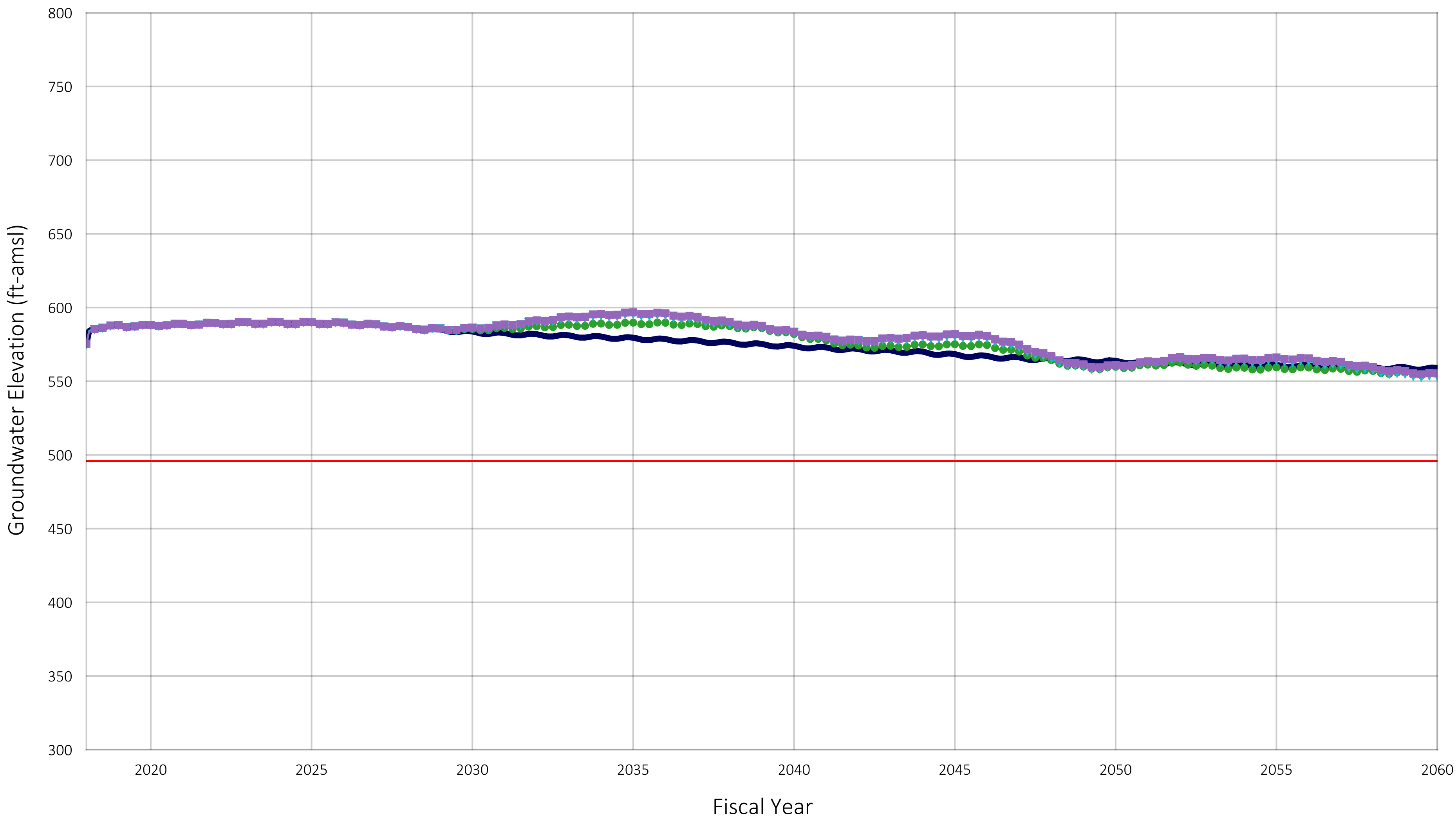
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1233787
Owner: Jurupa Community Services District
Well Name: 27

Figure A-63



Location of Well in Chino Basin

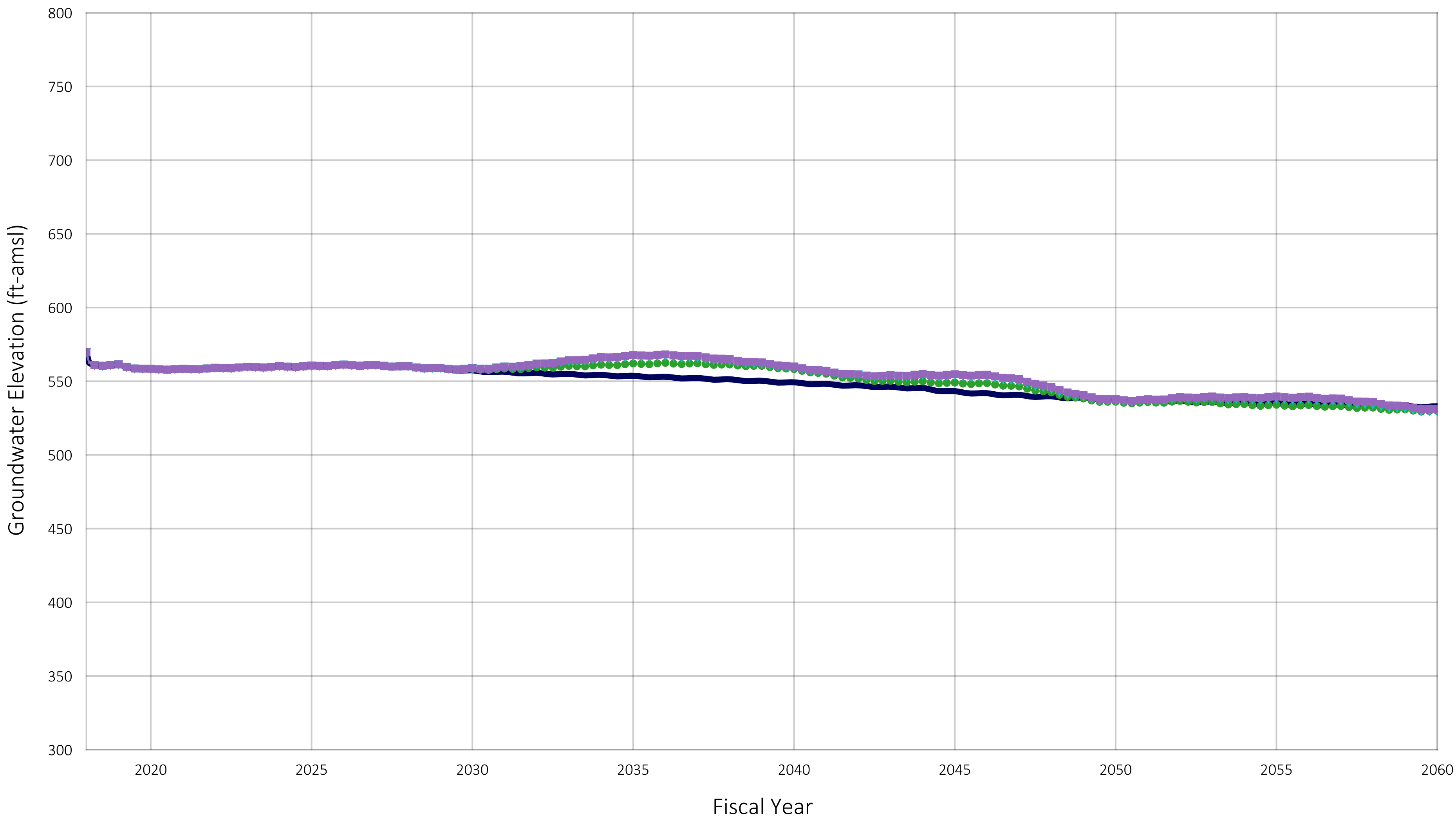
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1233788
Owner: Jurupa Community Services District
Well Name: 28

Figure A-64



Location of Well in Chino Basin

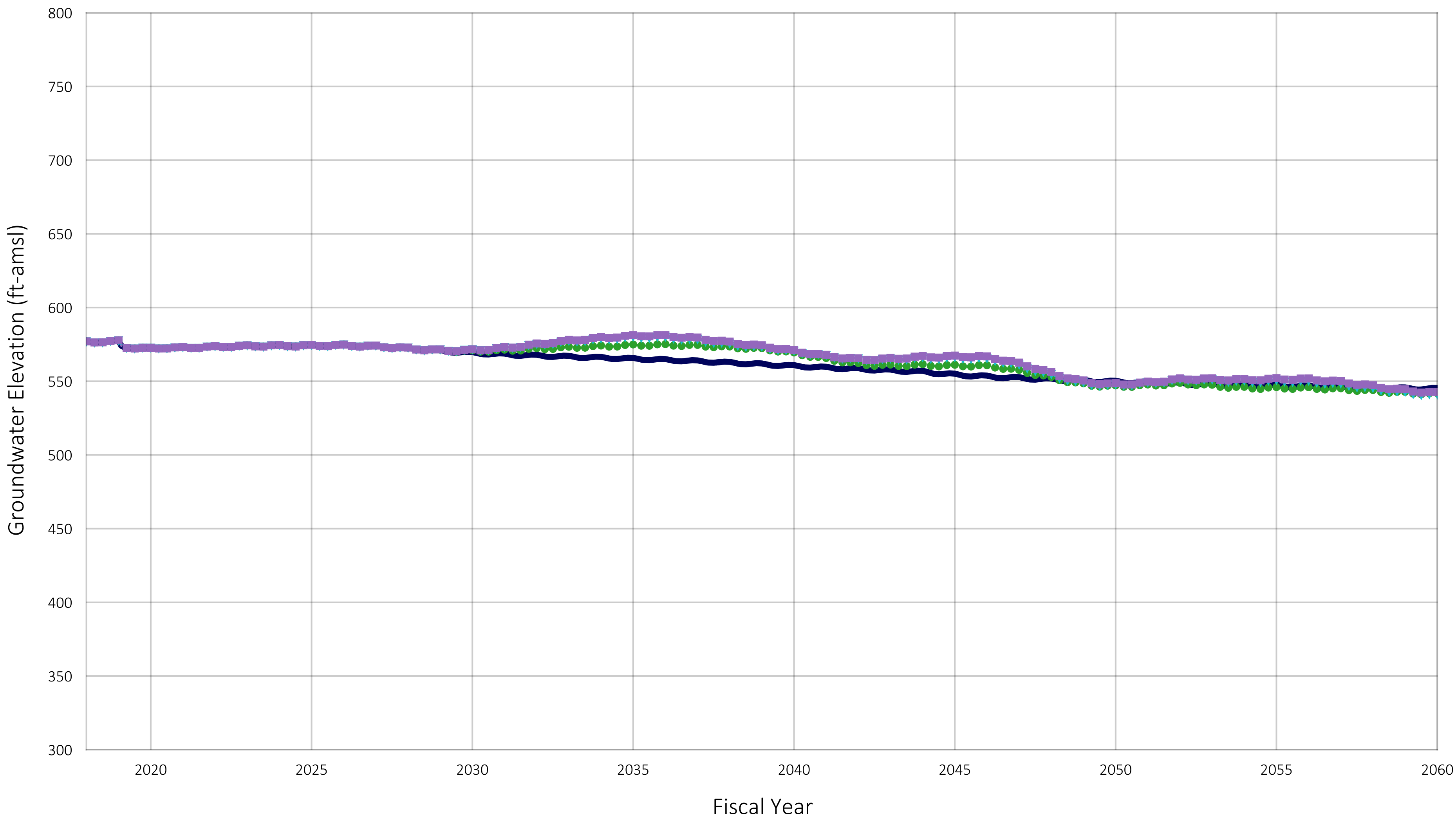
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1207942
Owner: Jurupa Community Services District
Well Name: IDI-1

Figure A-65



Location of Well in Chino Basin

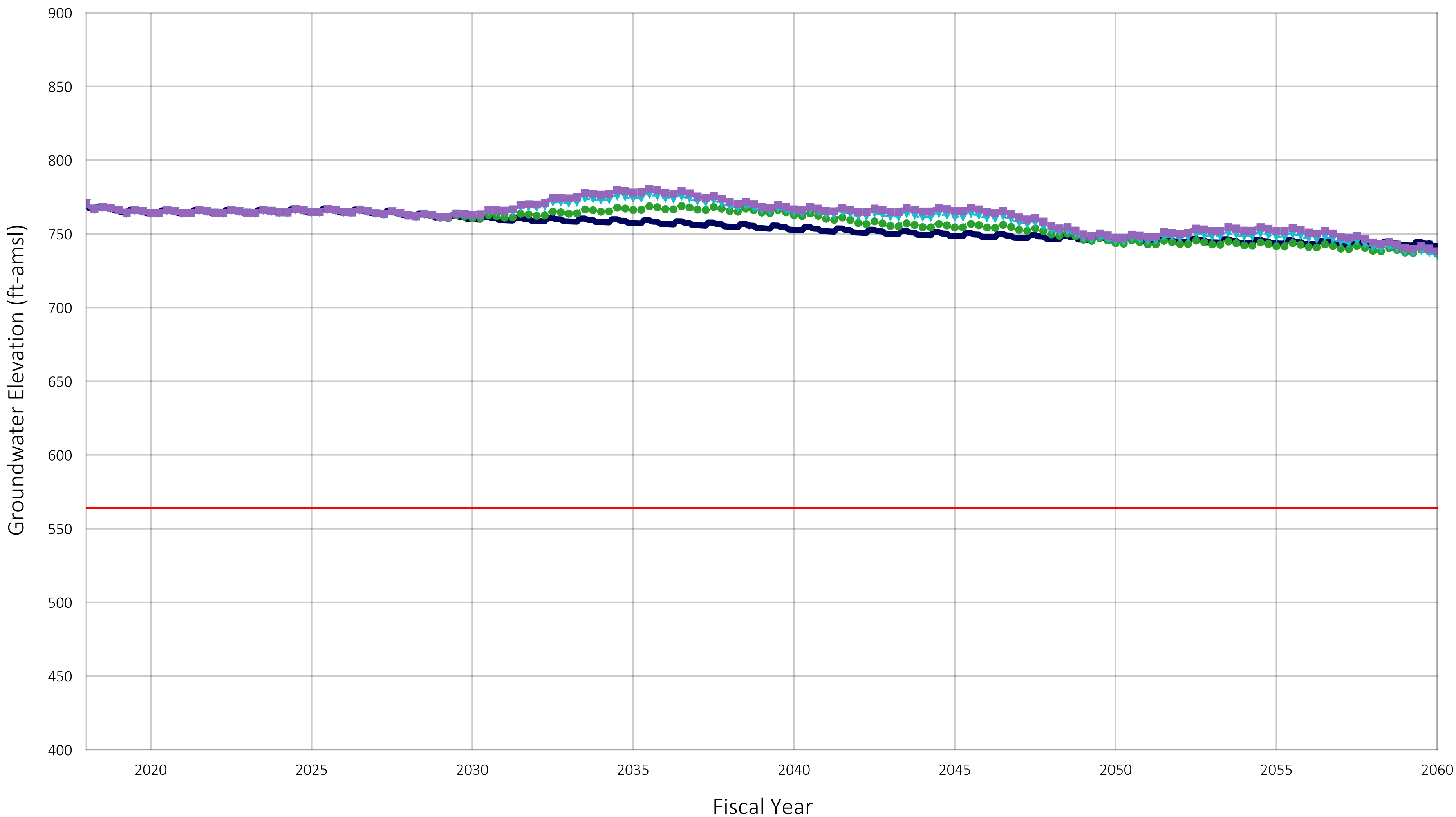
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 999902
Owner: Jurupa Community Services District
Well Name: IDI-2

Figure A-66



Location of Well in Chino Basin

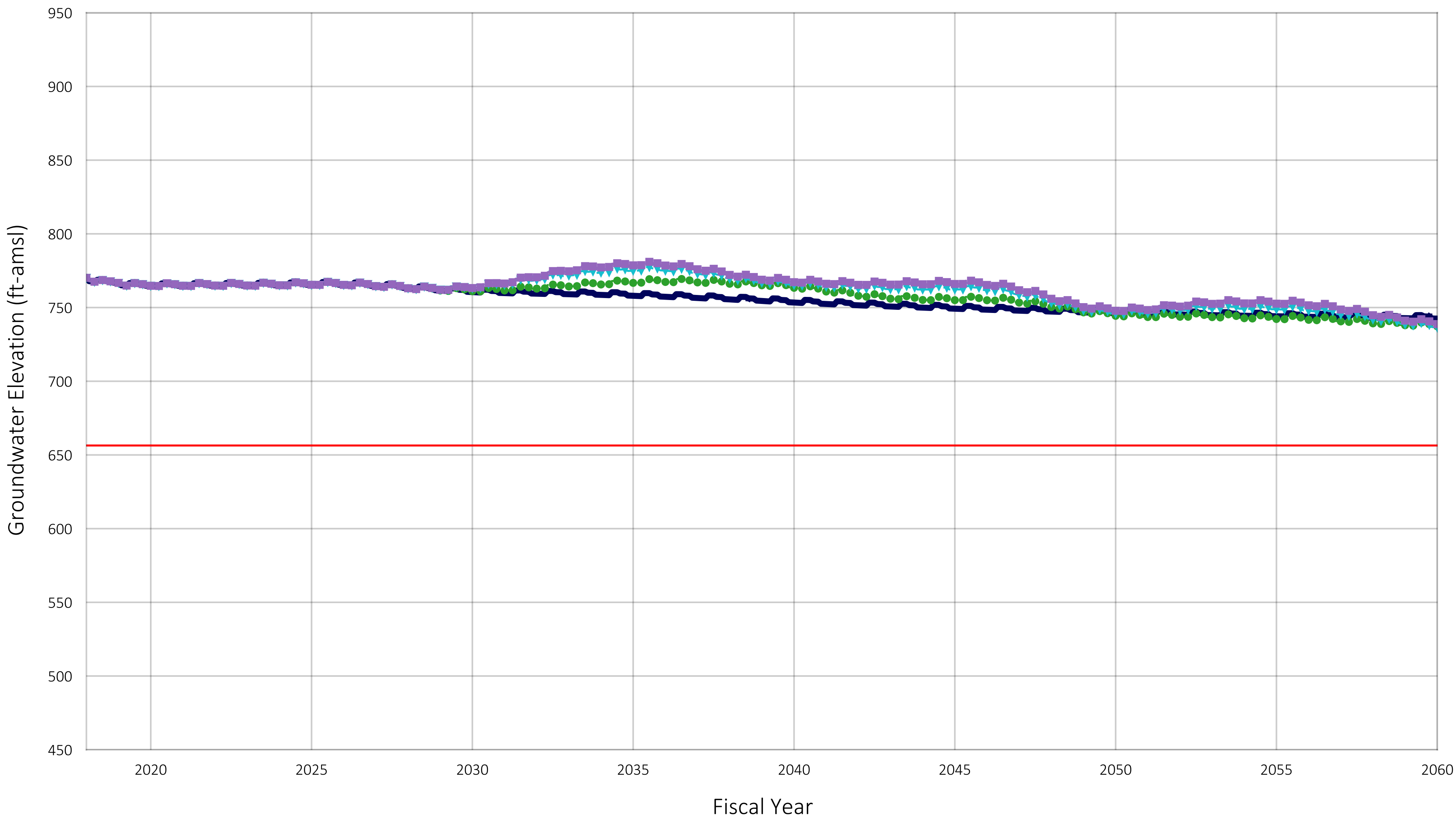
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1221751
Owner: Marygold Mutual Water Company
Well Name: MMWC 06

Figure A-67



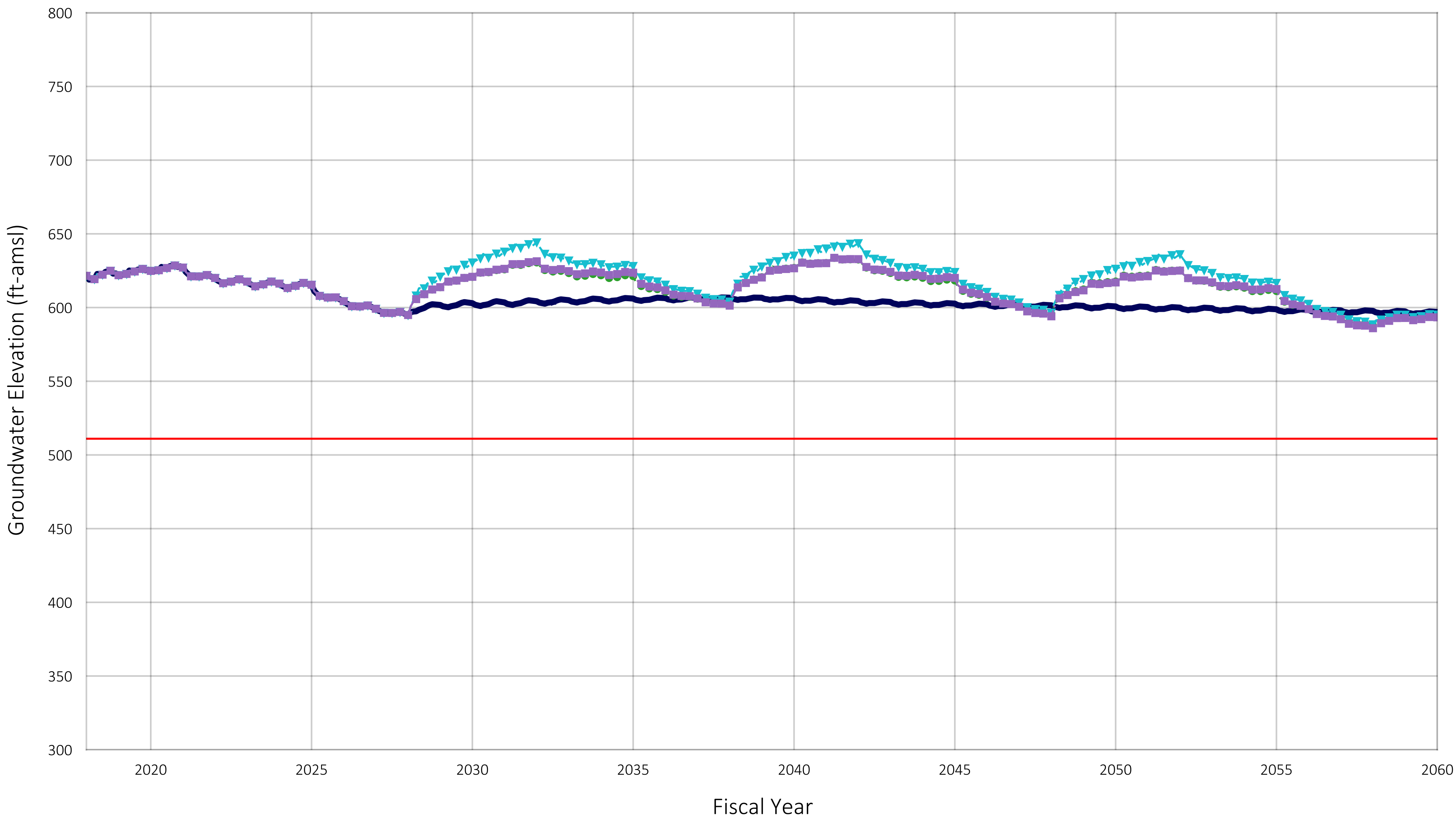
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

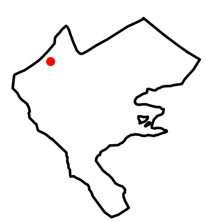
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1221752
Owner: Marygold Mutual Water Company
Well Name: MMWC 07

Figure A-68



Location of Well in Chino Basin

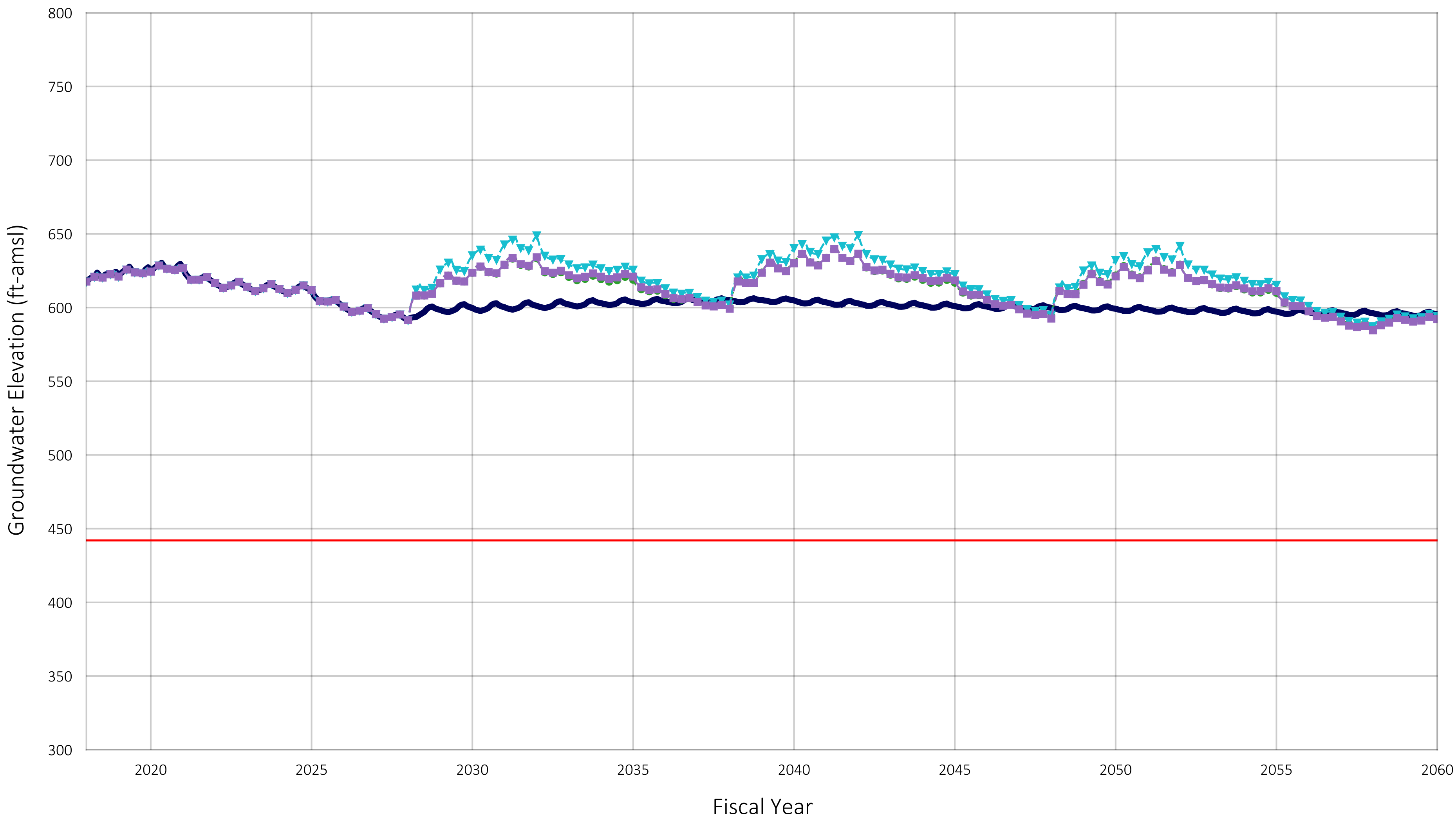


Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

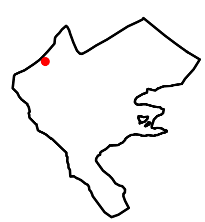
Projected Groundwater Elevation
Well ID#: 1002541
Owner: Monte Vista Water District
Well Name: 4

Figure A-69

Prepared by:



Location of Well in Chino Basin



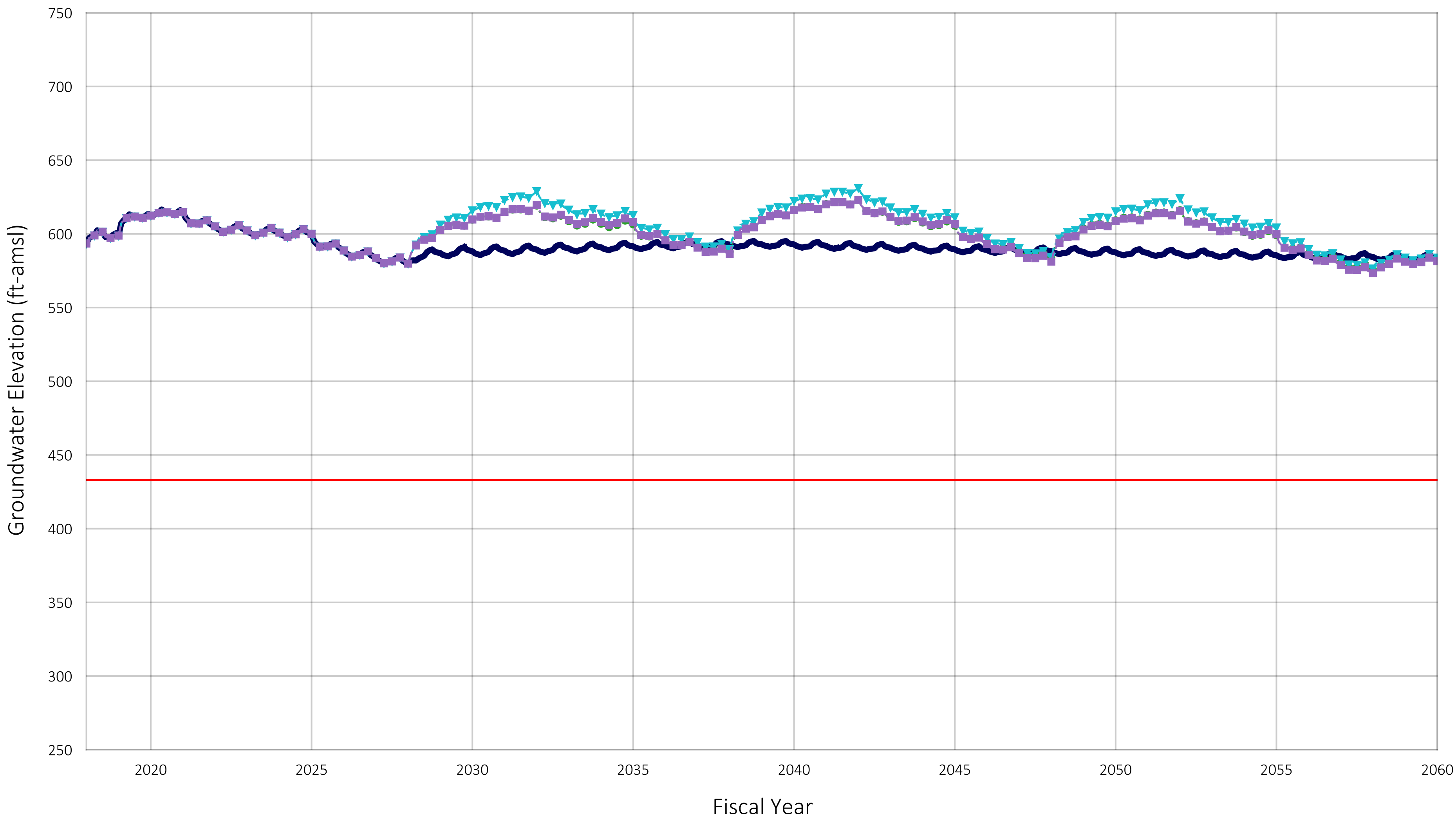
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002544
Owner: Monte Vista Water District
Well Name: 5

Figure A-70



Location of Well in Chino Basin

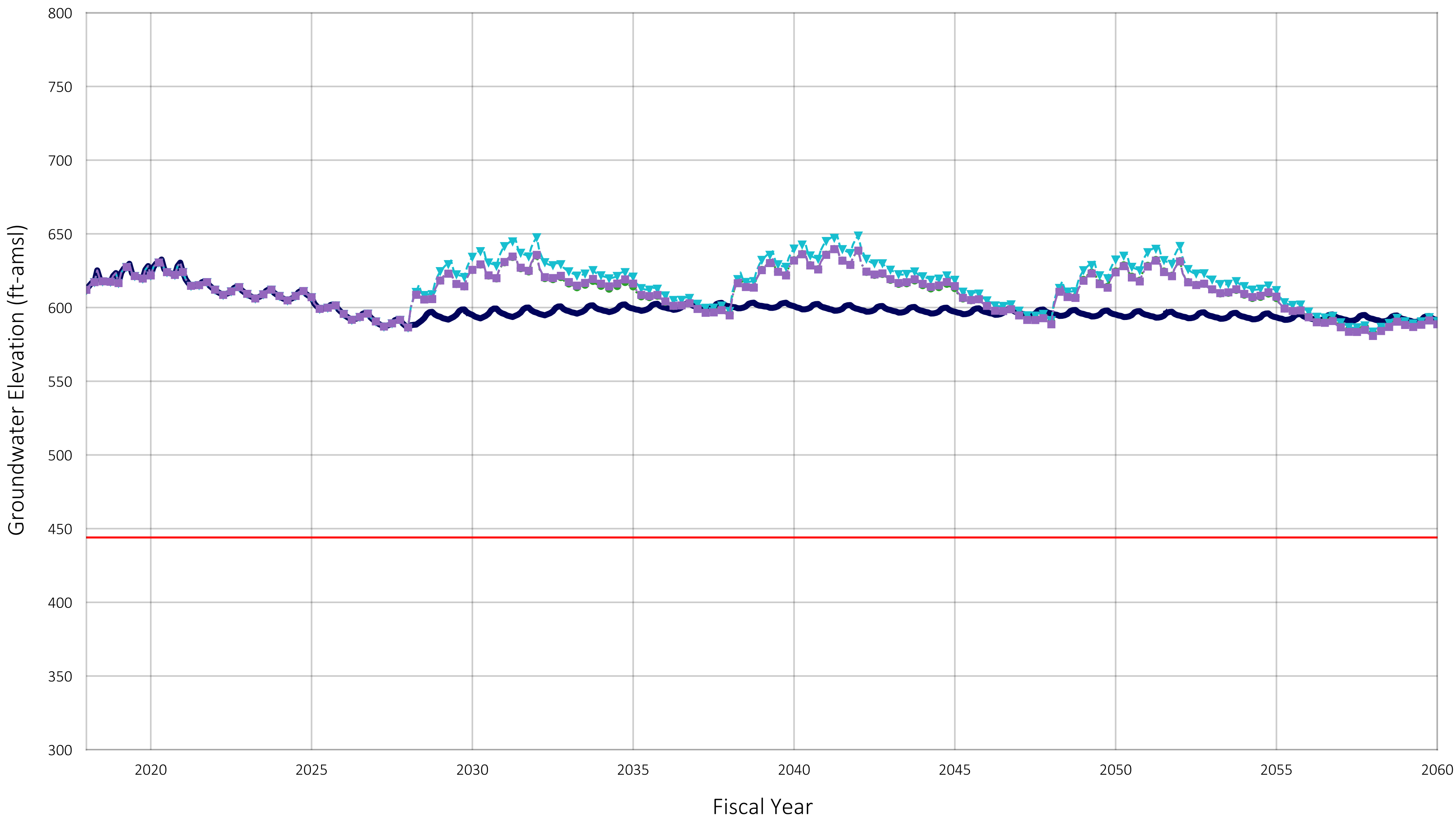
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

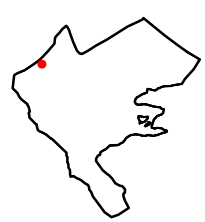
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002563
Owner: Monte Vista Water District
Well Name: 19

Figure A-71



Location of Well in Chino Basin



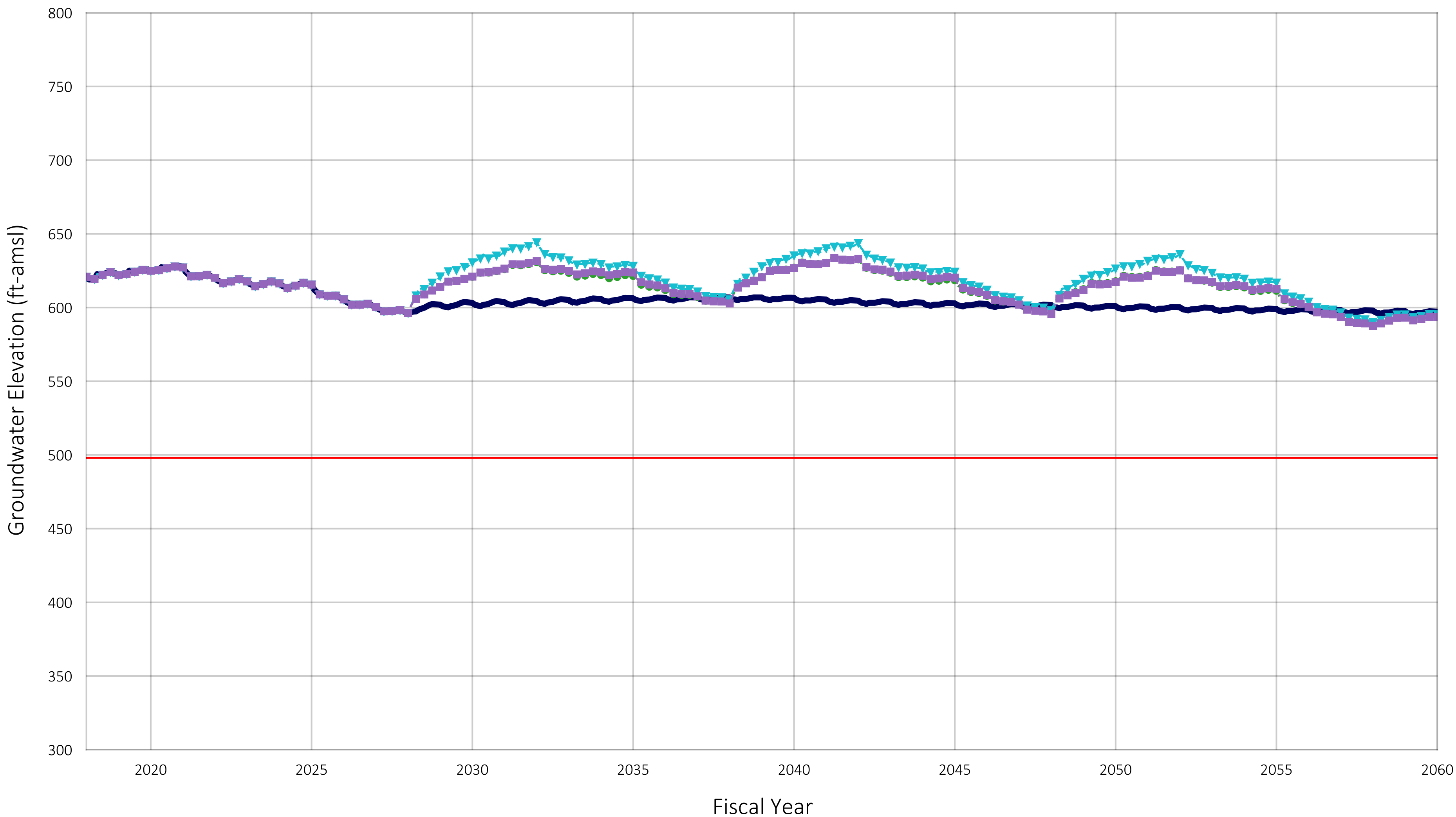
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206744
Owner: Monte Vista Water District
Well Name: 26

Figure A-72



Location of Well in Chino Basin

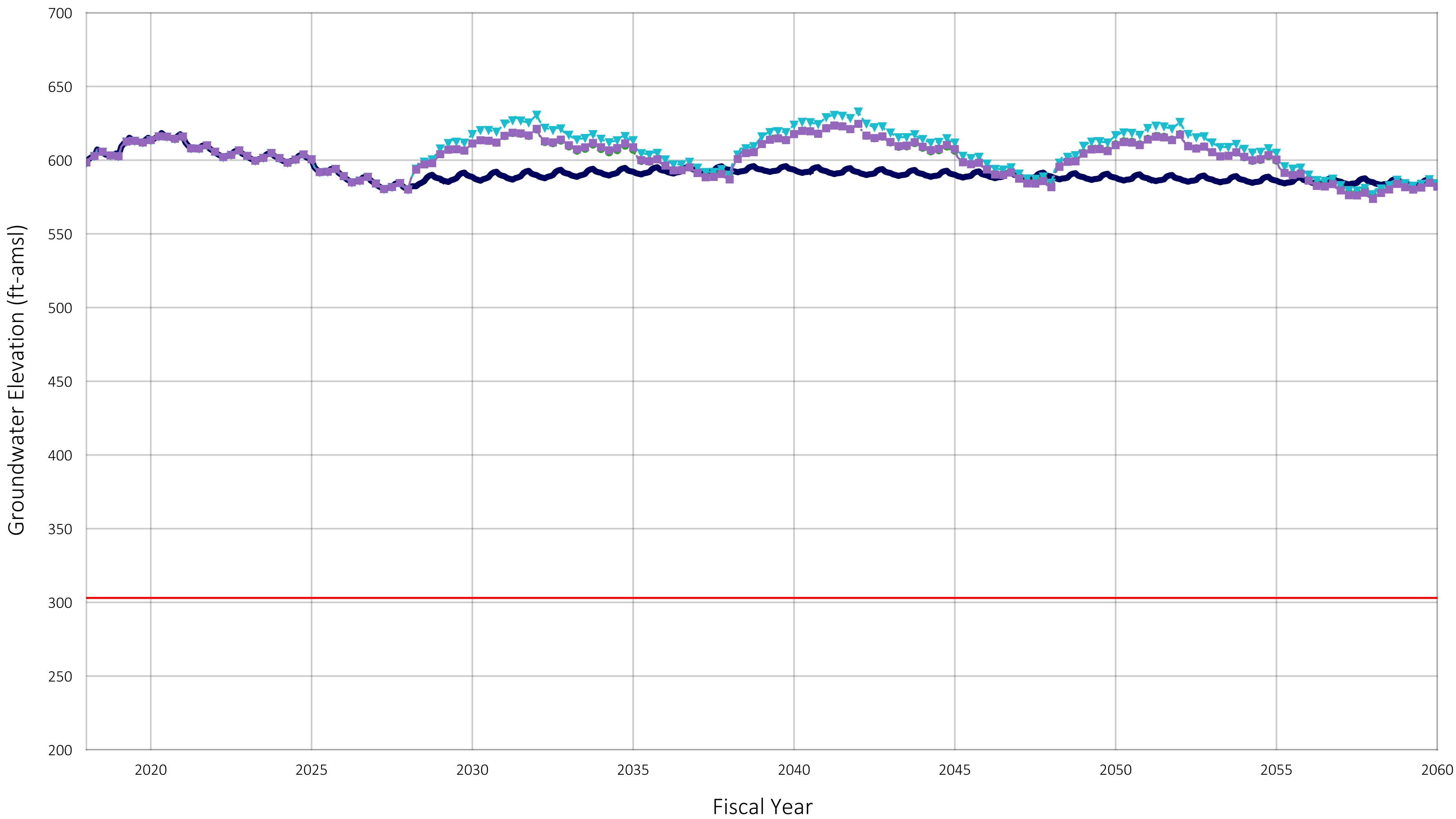
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206745
Owner: Monte Vista Water District
Well Name: 27

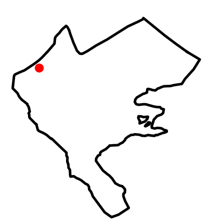
Figure A-73

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin



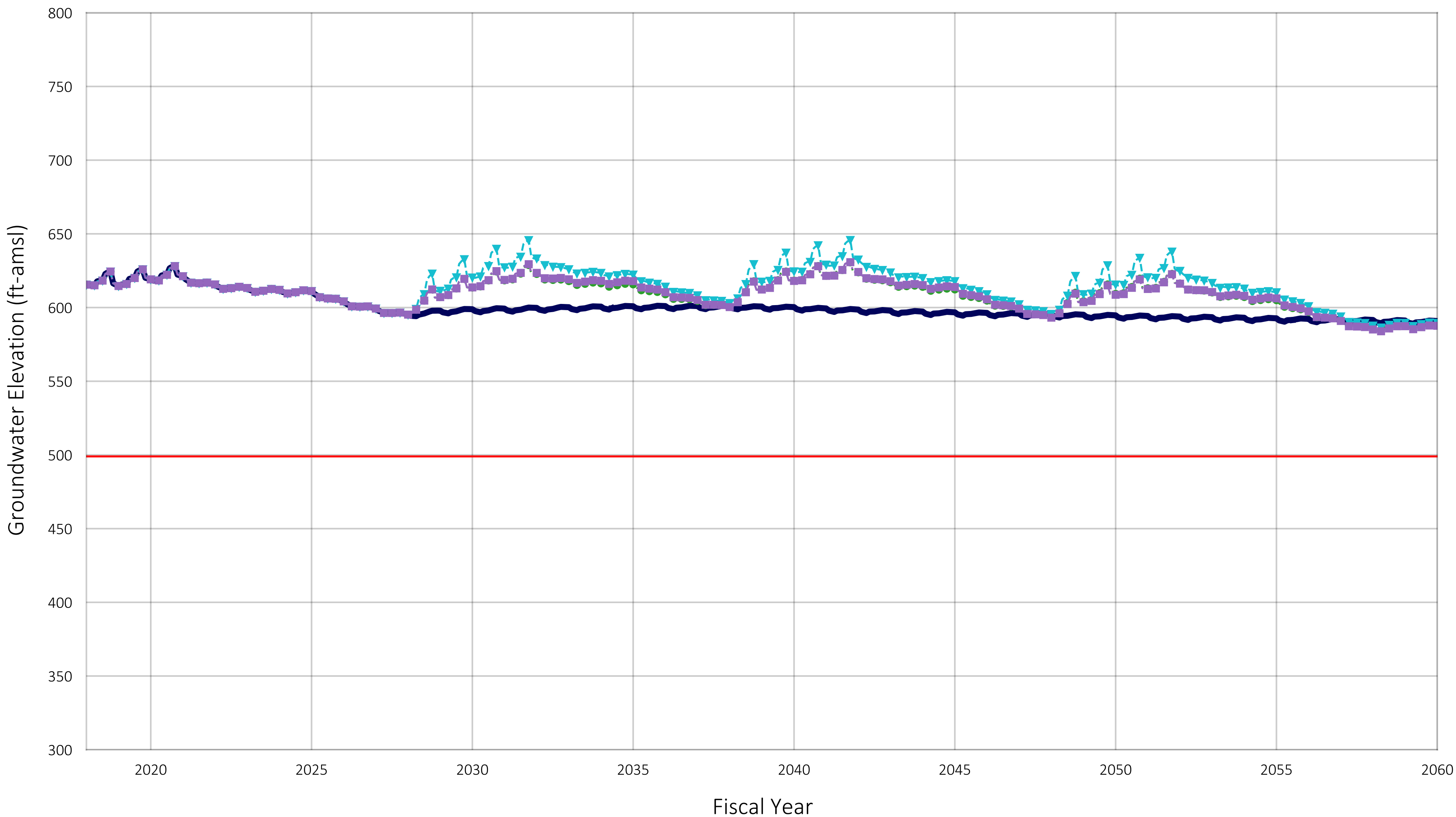
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206746
Owner: Monte Vista Water District
Well Name: 28

Figure A-74



Location of Well in Chino Basin

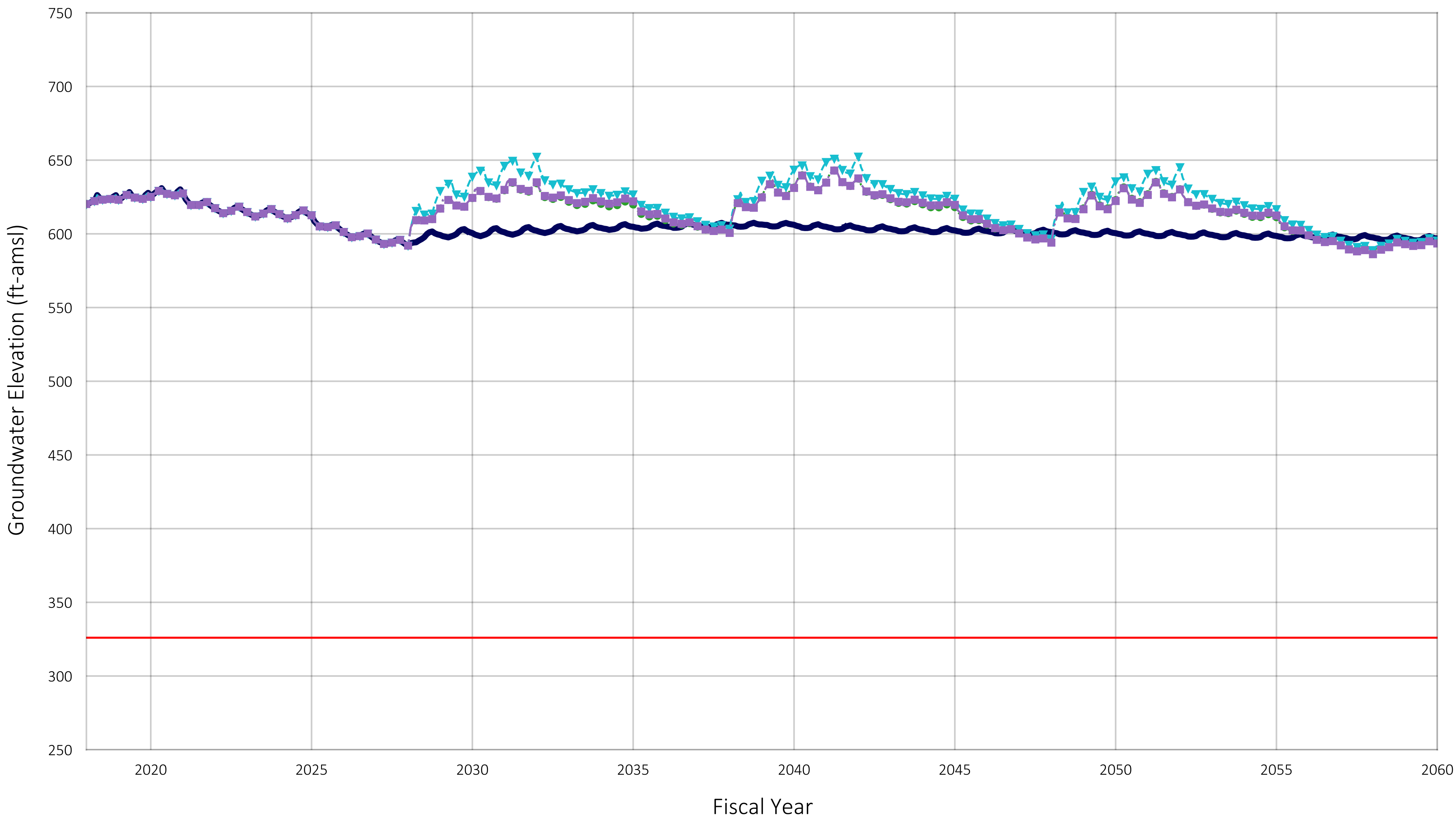
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1208781
Owner: Monte Vista Water District
Well Name: 30

Figure A-75



Location of Well in Chino Basin

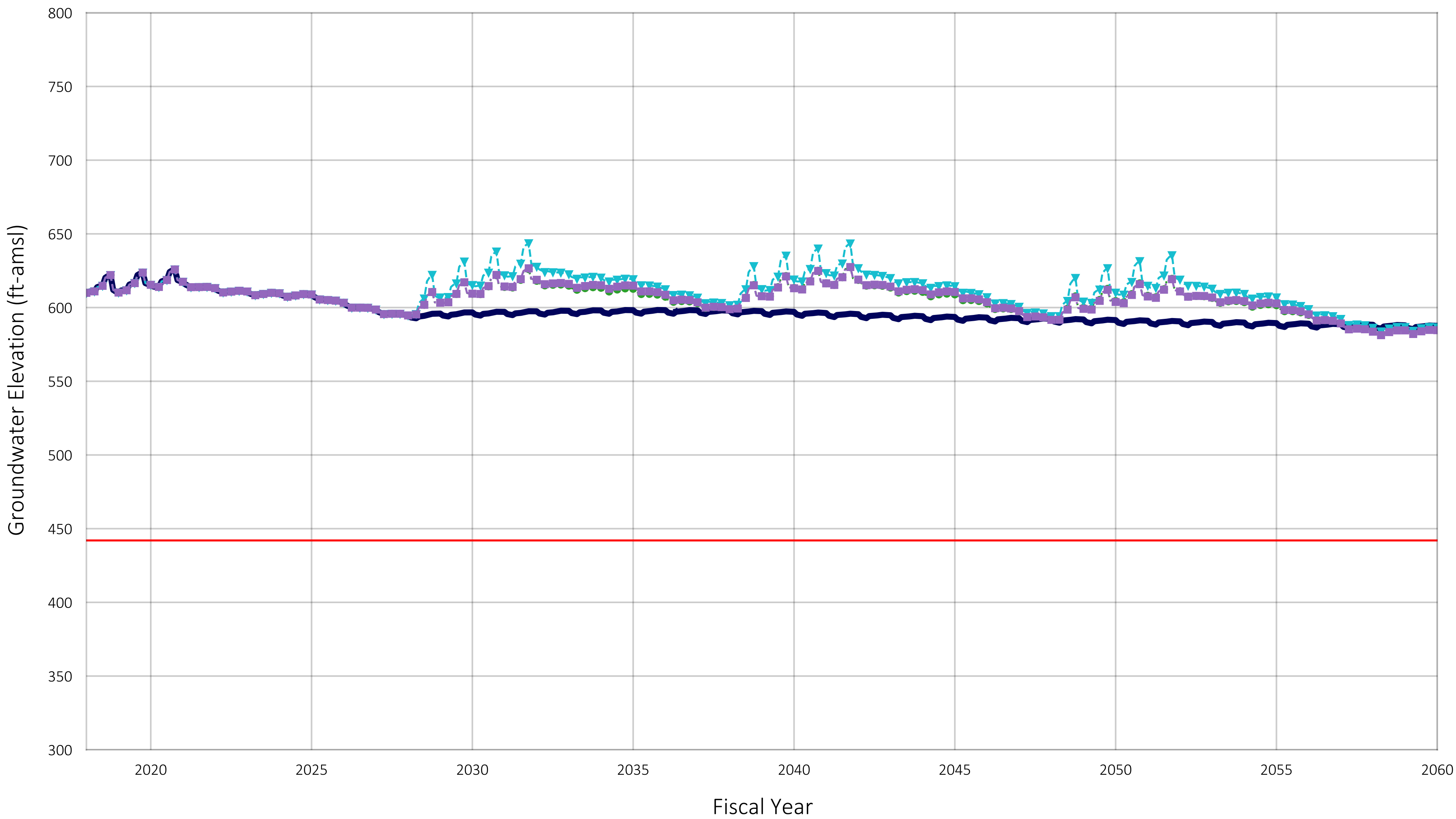
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1208782
Owner: Monte Vista Water District
Well Name: 31

Figure A-76



Location of Well in Chino Basin

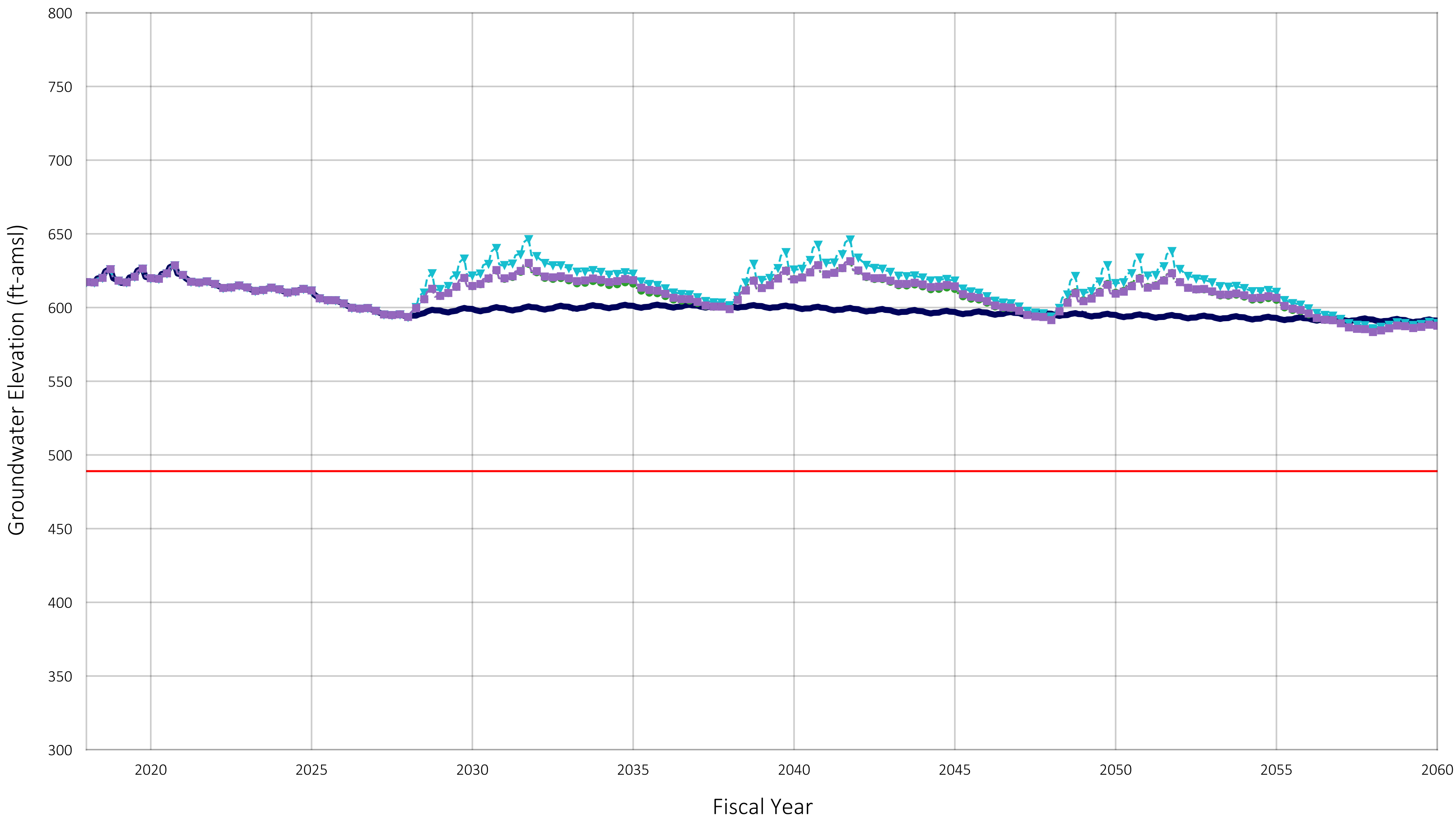
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1208771
Owner: Monte Vista Water District
Well Name: 32

Figure A-77



Location of Well in Chino Basin

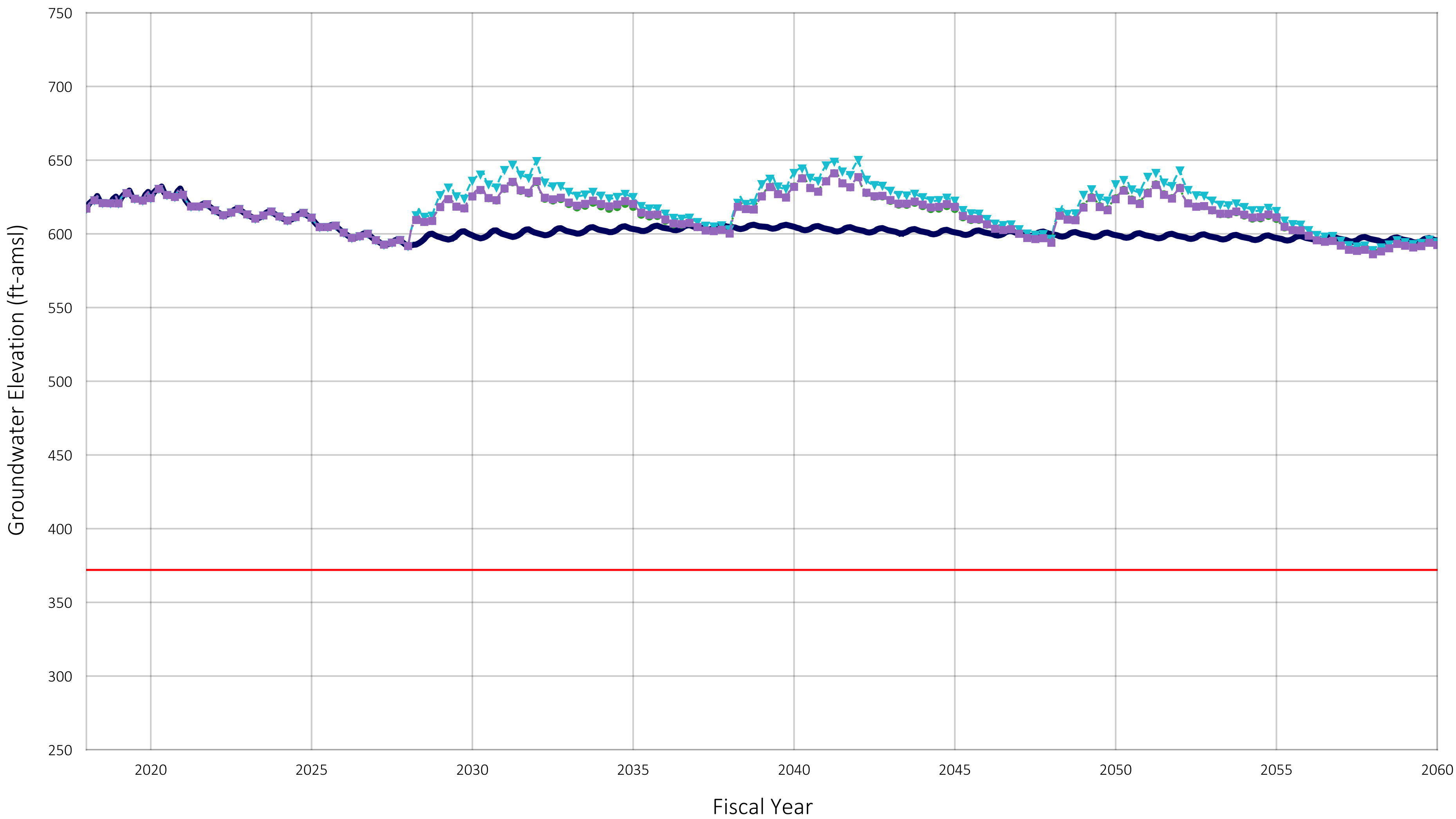
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1220173
Owner: Monte Vista Water District
Well Name: 33

Figure A-78



Location of Well in Chino Basin

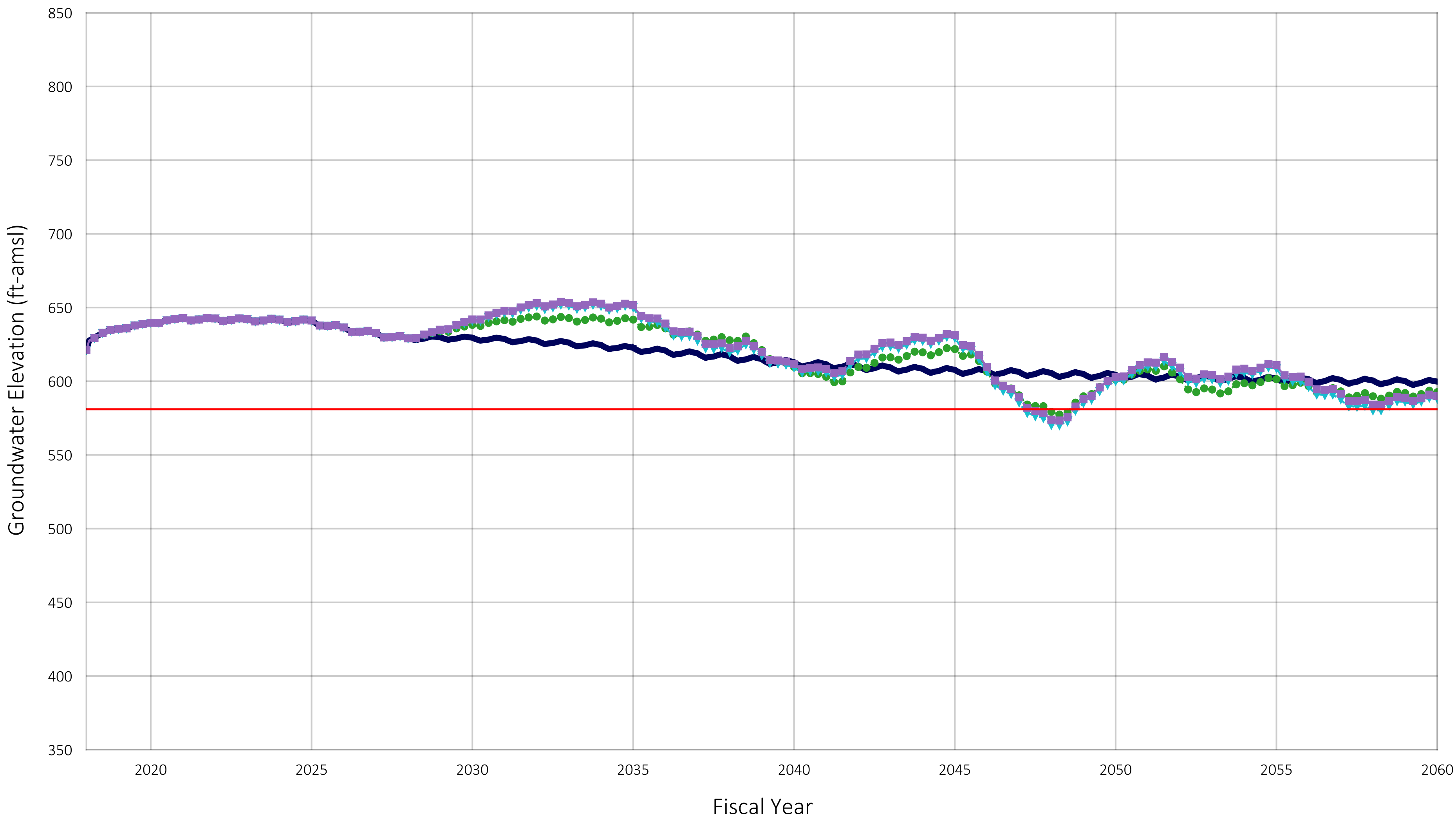
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1224765
Owner: Monte Vista Water District
Well Name: 34

Figure A-79



Location of Well in Chino Basin

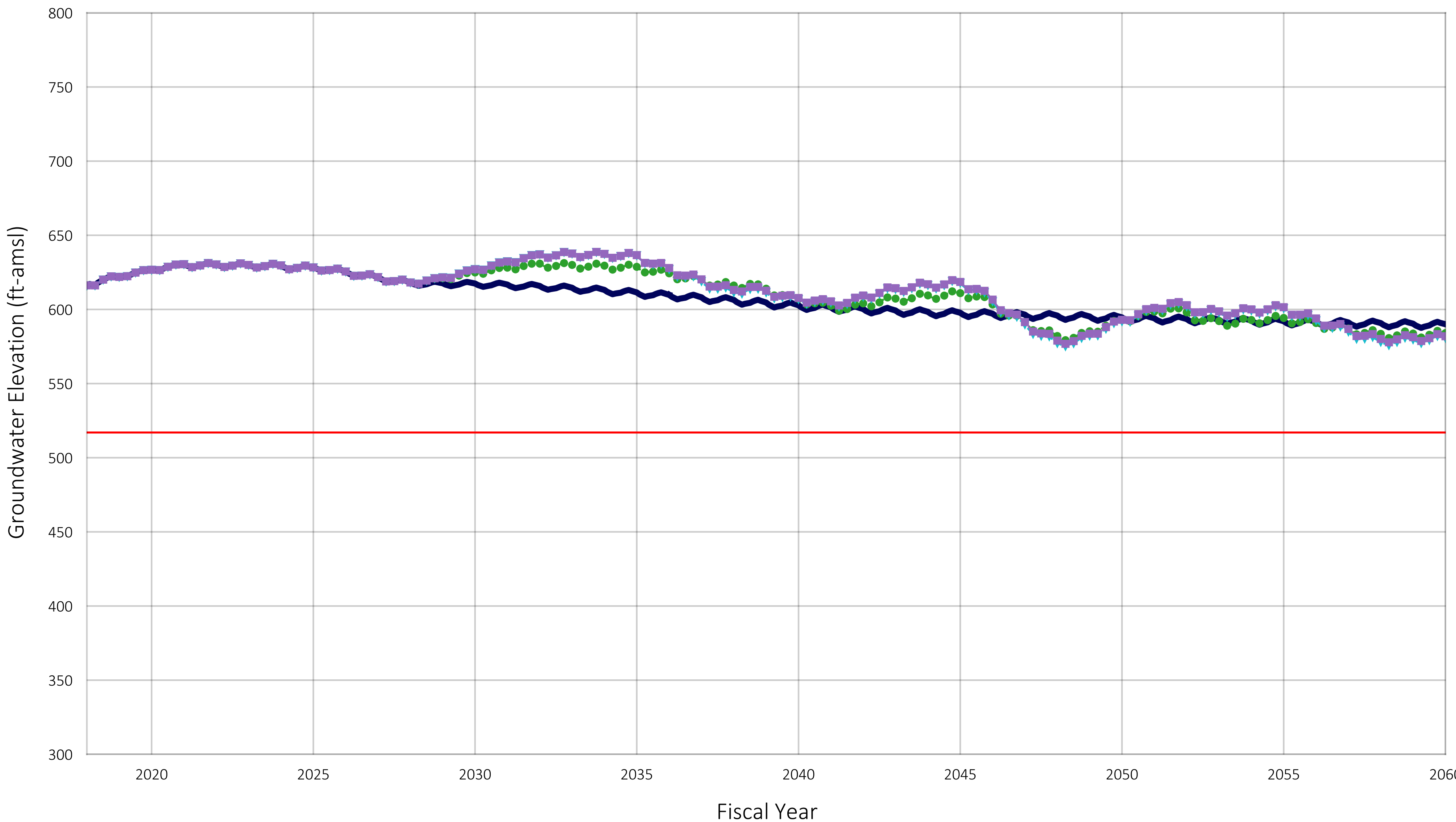
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002339
Owner: City of Ontario
Well Name: 24

Figure A-80



Location of Well in Chino Basin

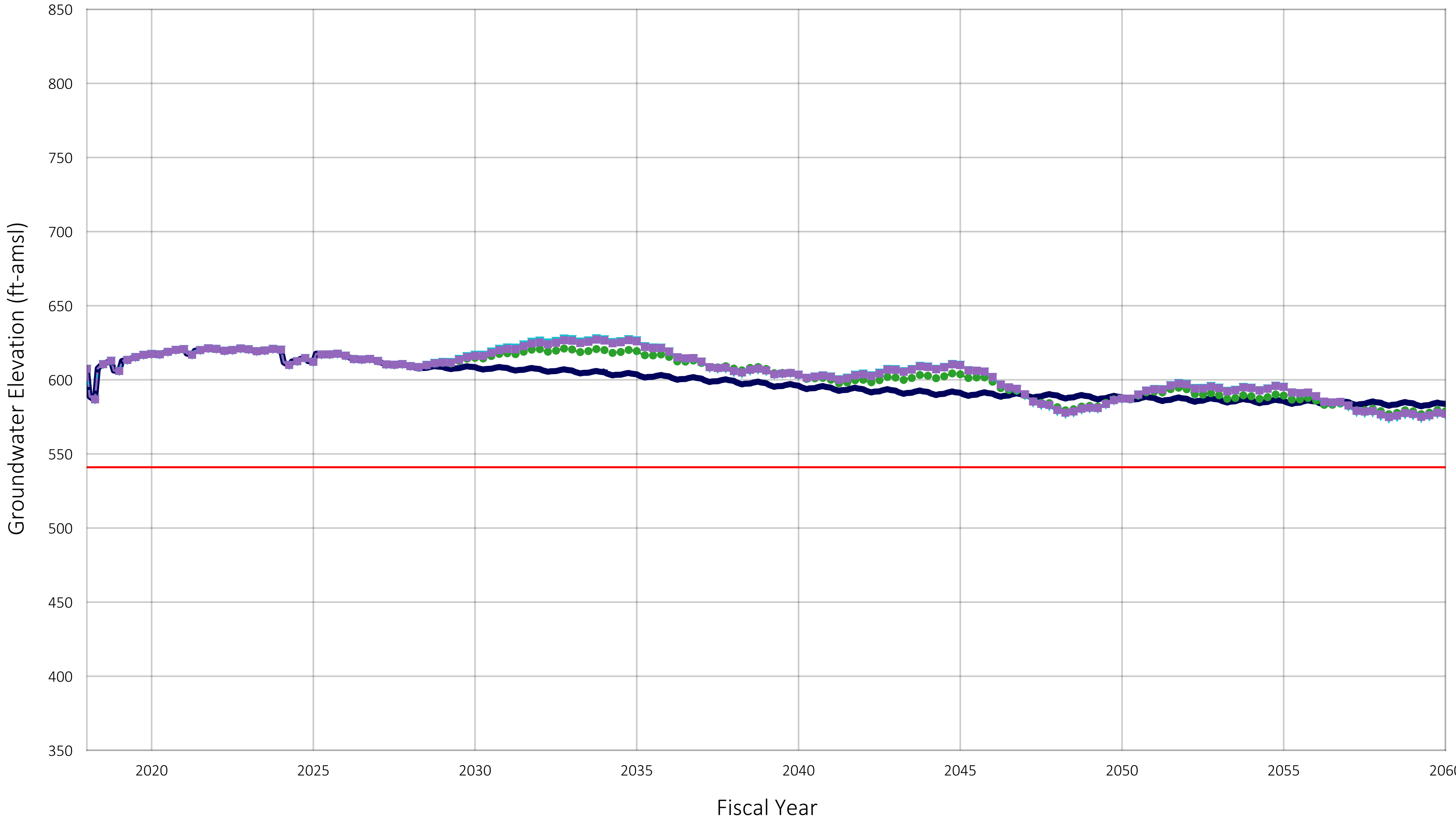
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002337
Owner: City of Ontario
Well Name: 25

Figure A-81



Location of Well in Chino Basin

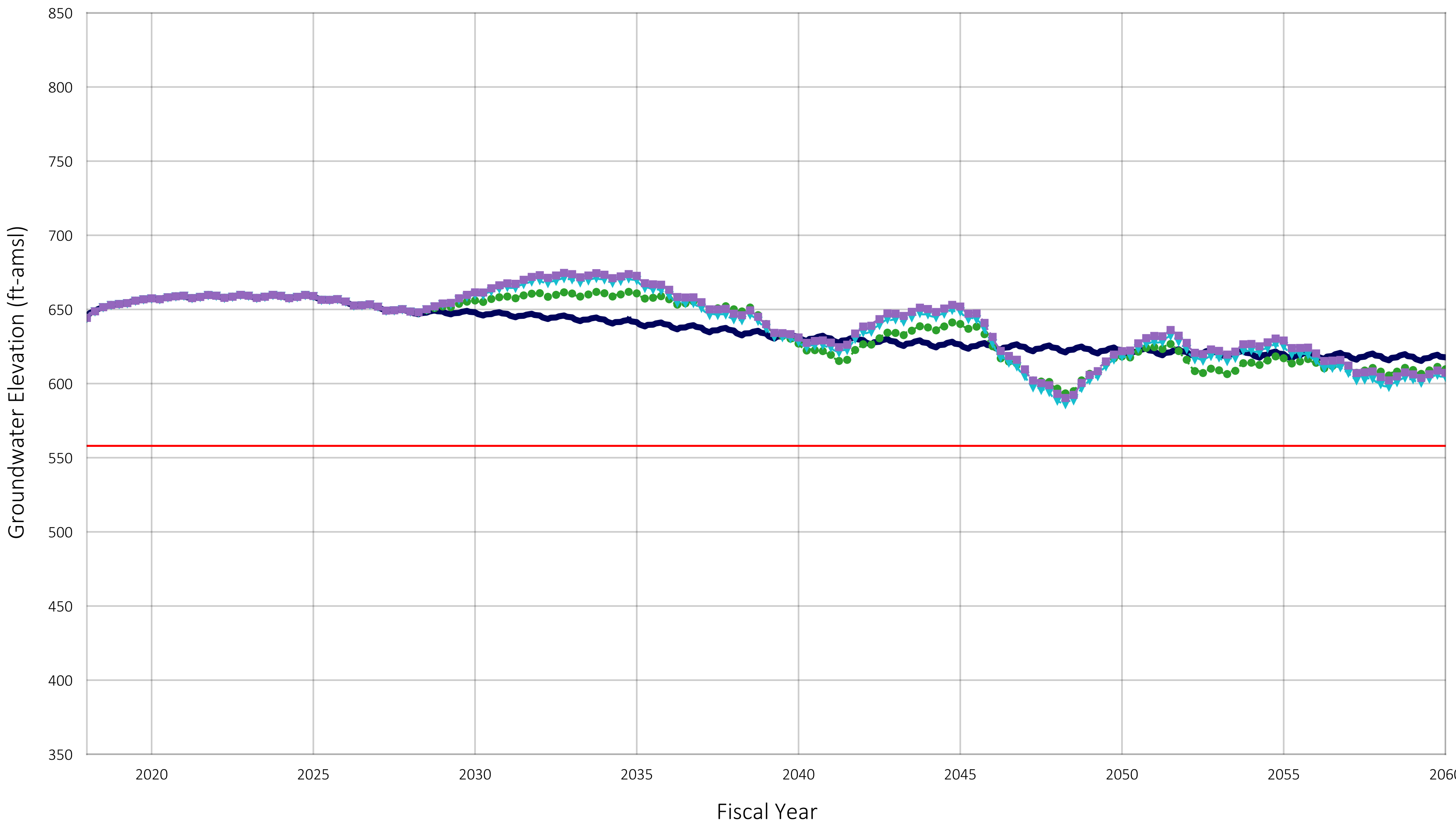
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002333
Owner: City of Ontario
Well Name: 29

Figure A-82



Location of Well in Chino Basin

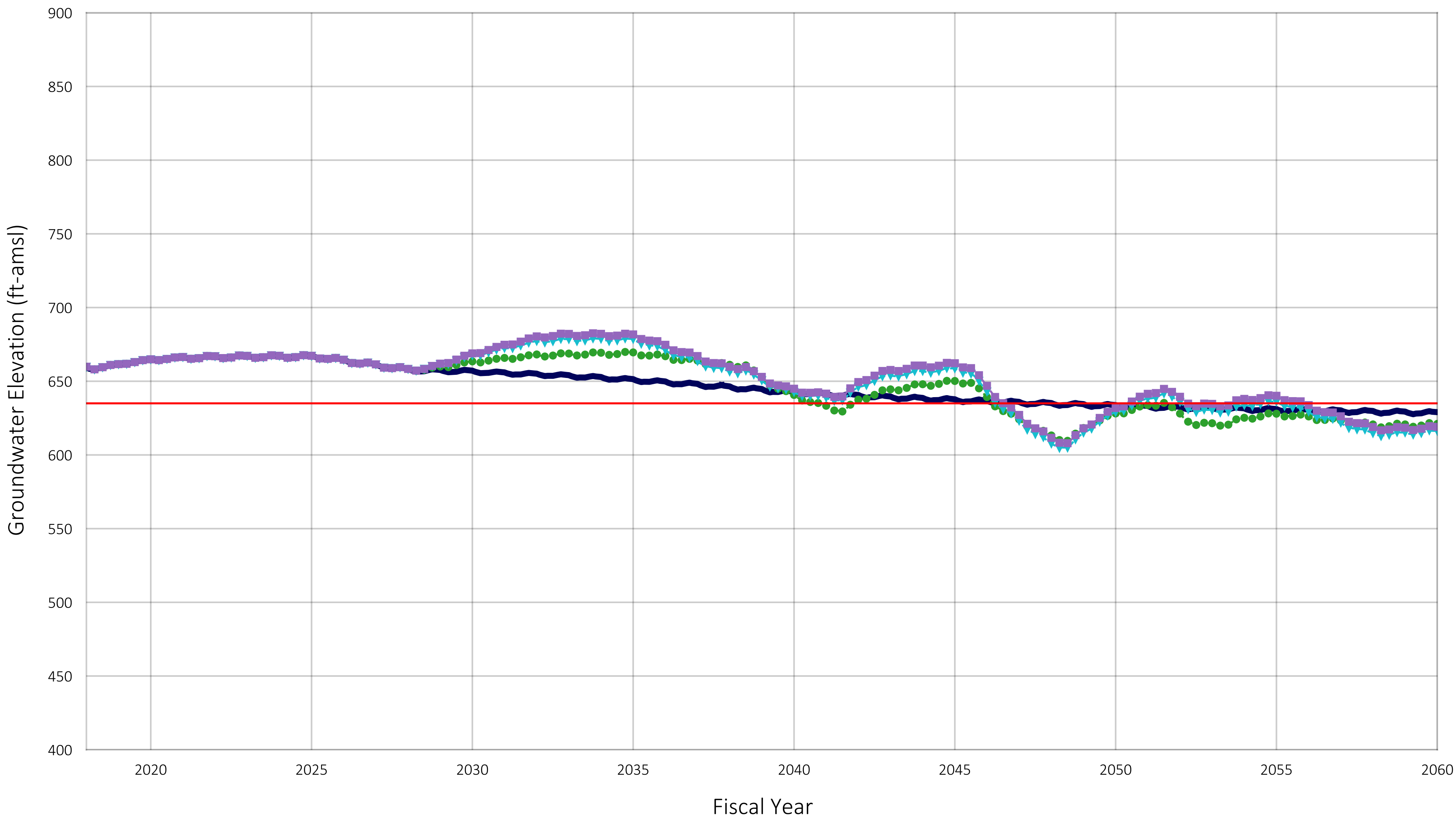
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002253
Owner: City of Ontario
Well Name: 30

Figure A-83



Location of Well in Chino Basin

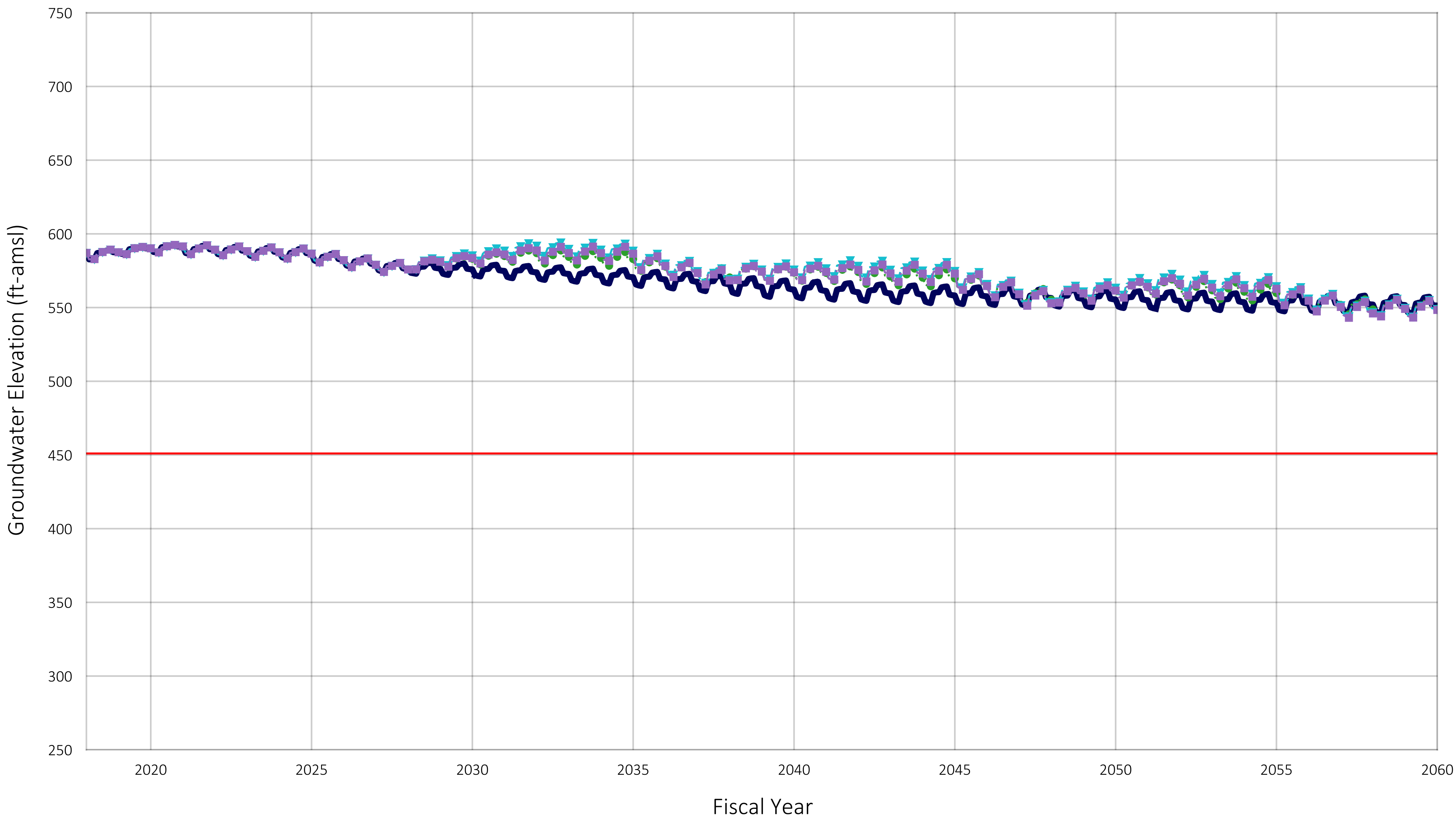
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002254
Owner: City of Ontario
Well Name: 31

Figure A-84

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

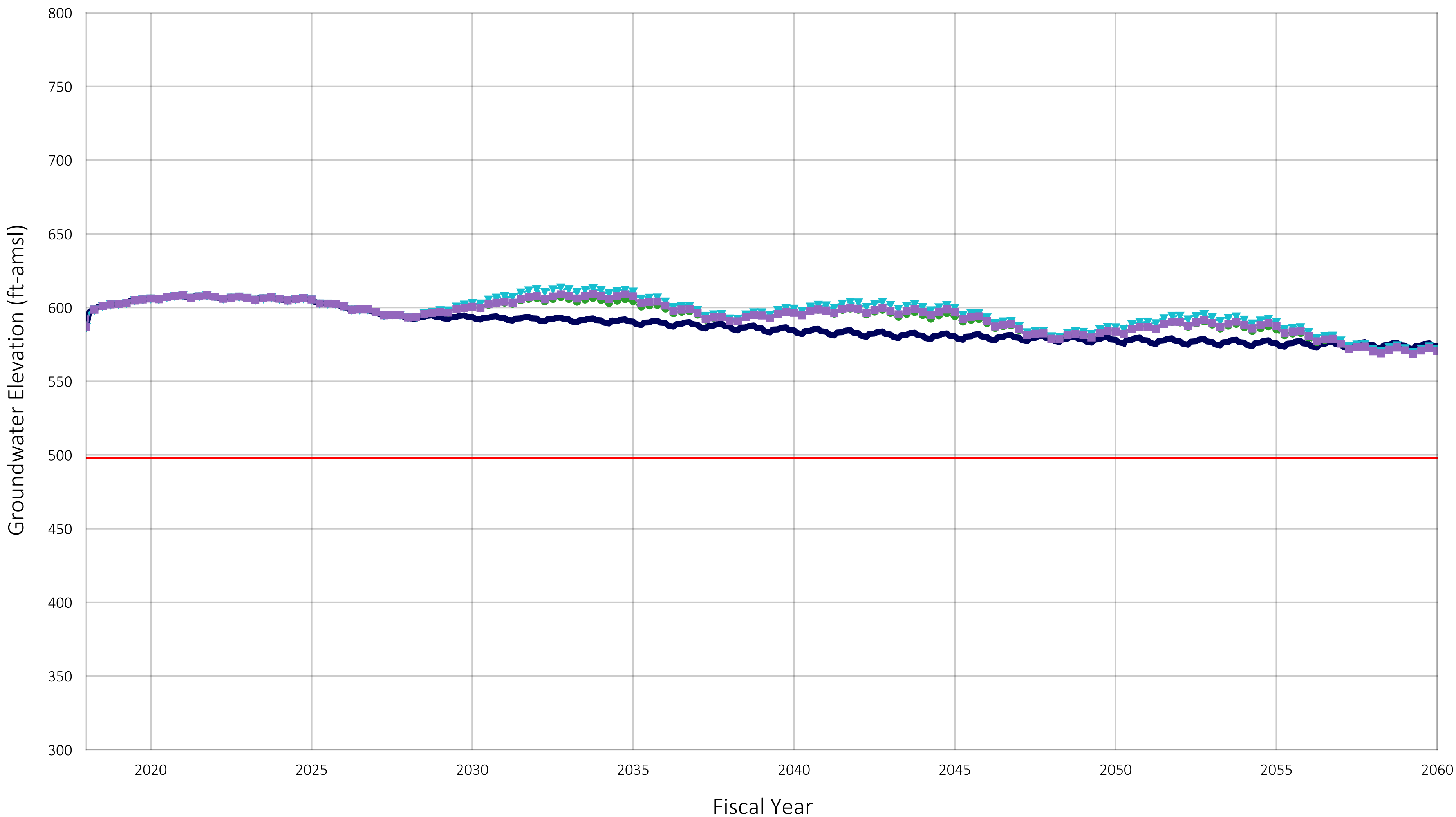
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002367
Owner: City of Ontario
Well Name: 34

Figure A-85



Location of Well in Chino Basin

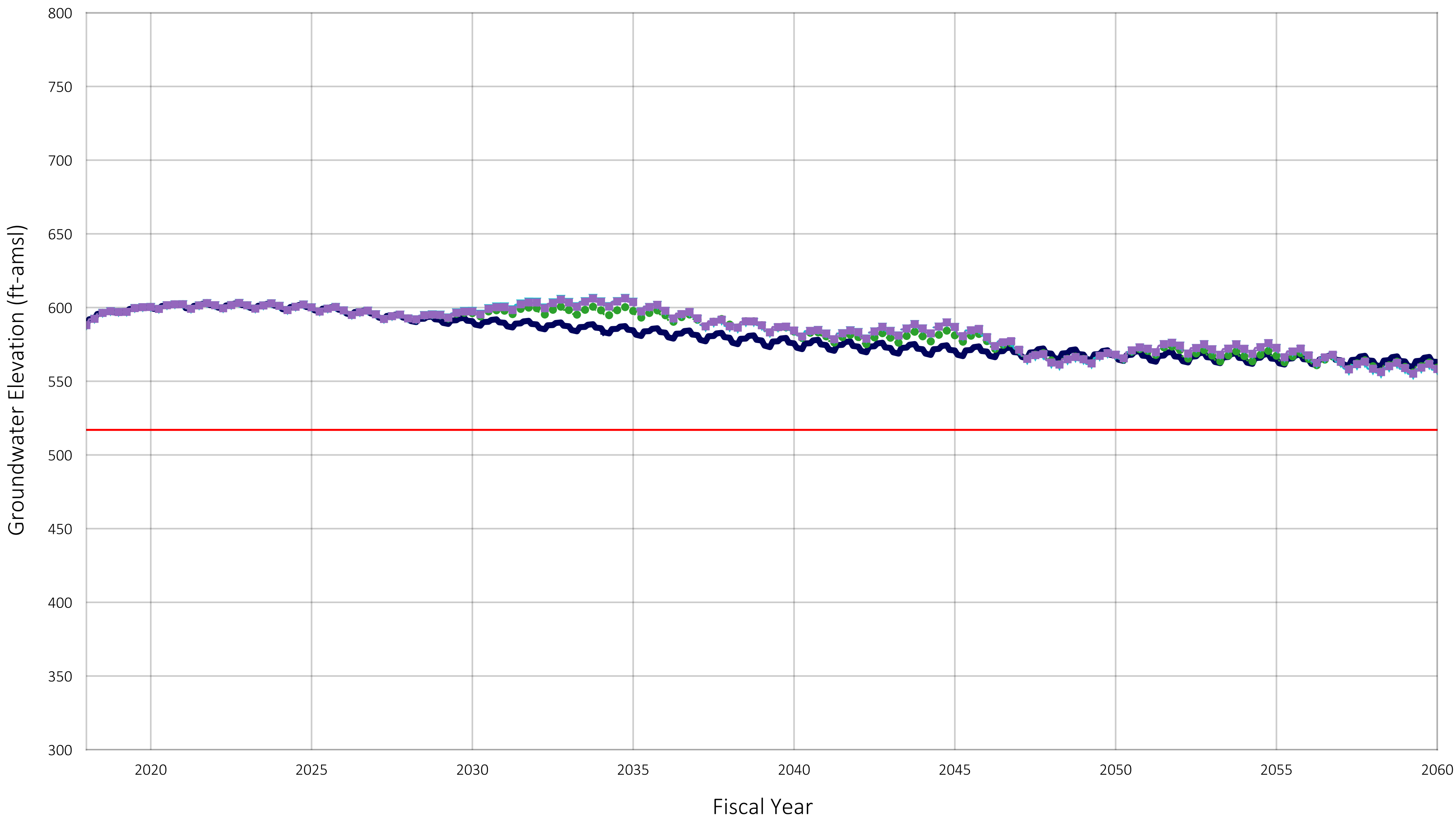
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002350
Owner: City of Ontario
Well Name: 35

Figure A-86



Location of Well in Chino Basin

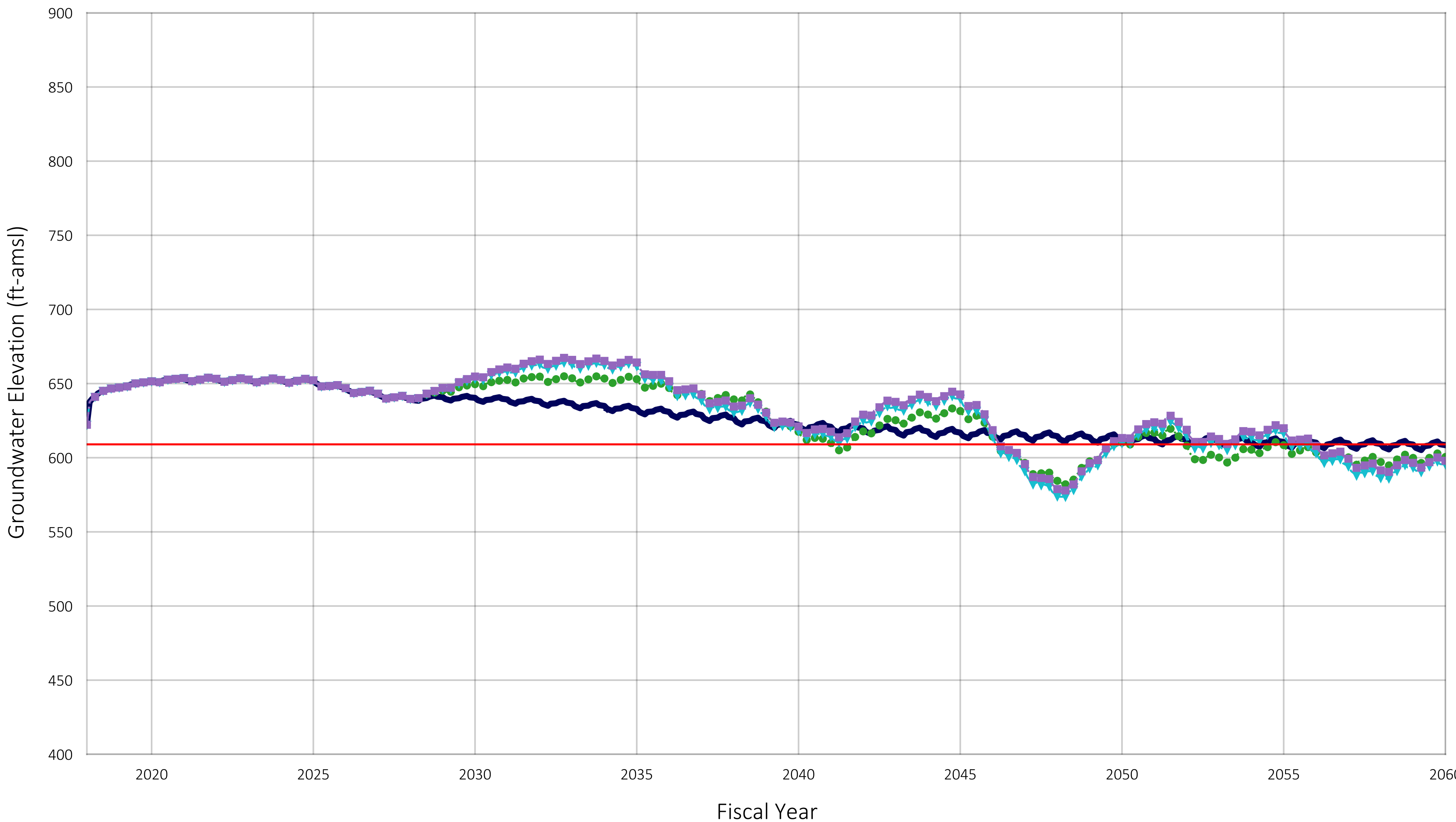
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002372
Owner: City of Ontario
Well Name: 36

Figure A-87



Location of Well in Chino Basin

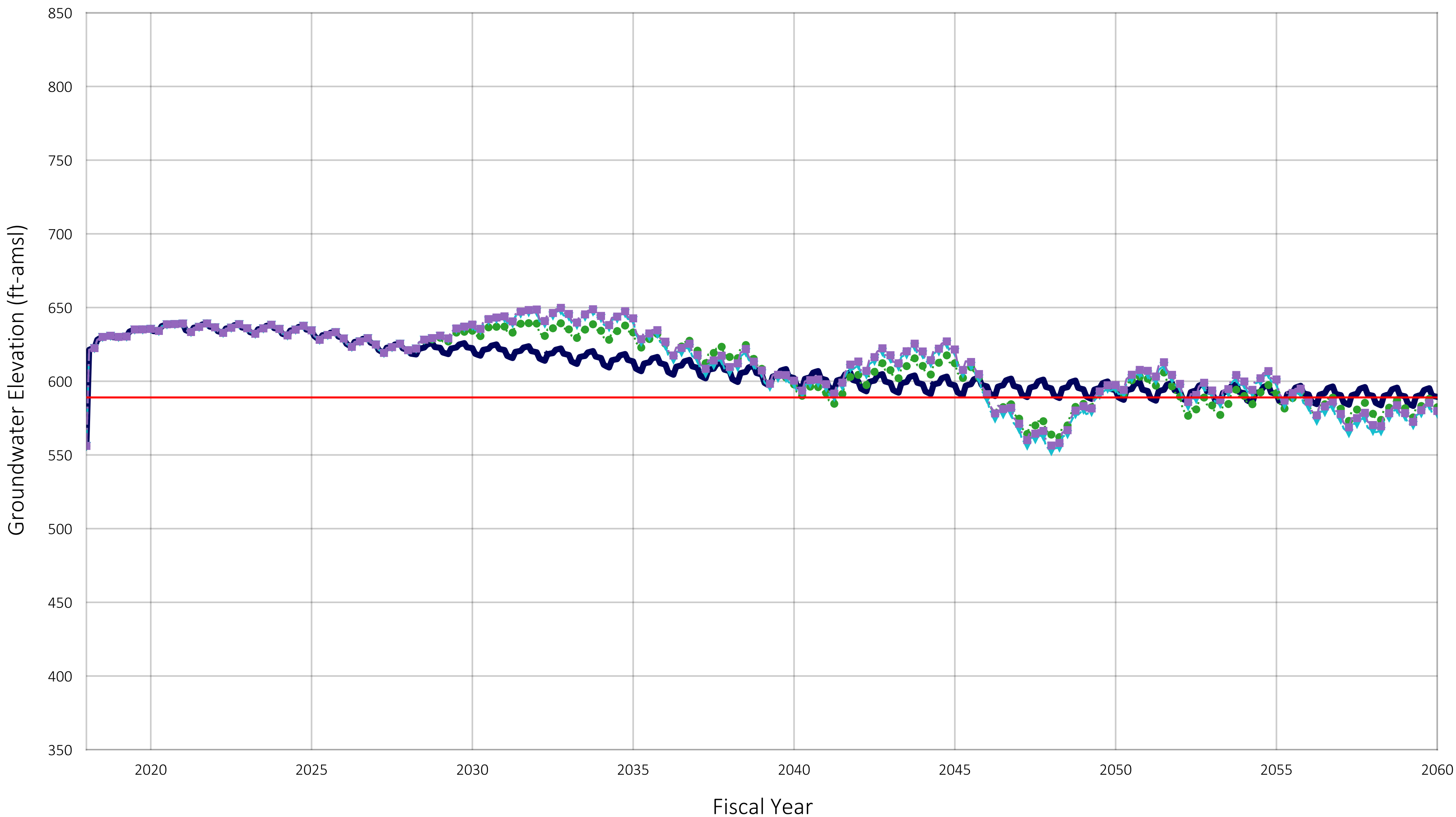
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002230
Owner: City of Ontario
Well Name: 37

Figure A-88



Location of Well in Chino Basin

Baseline

Scenario 2A

Scenario 3A

Scenario 3B

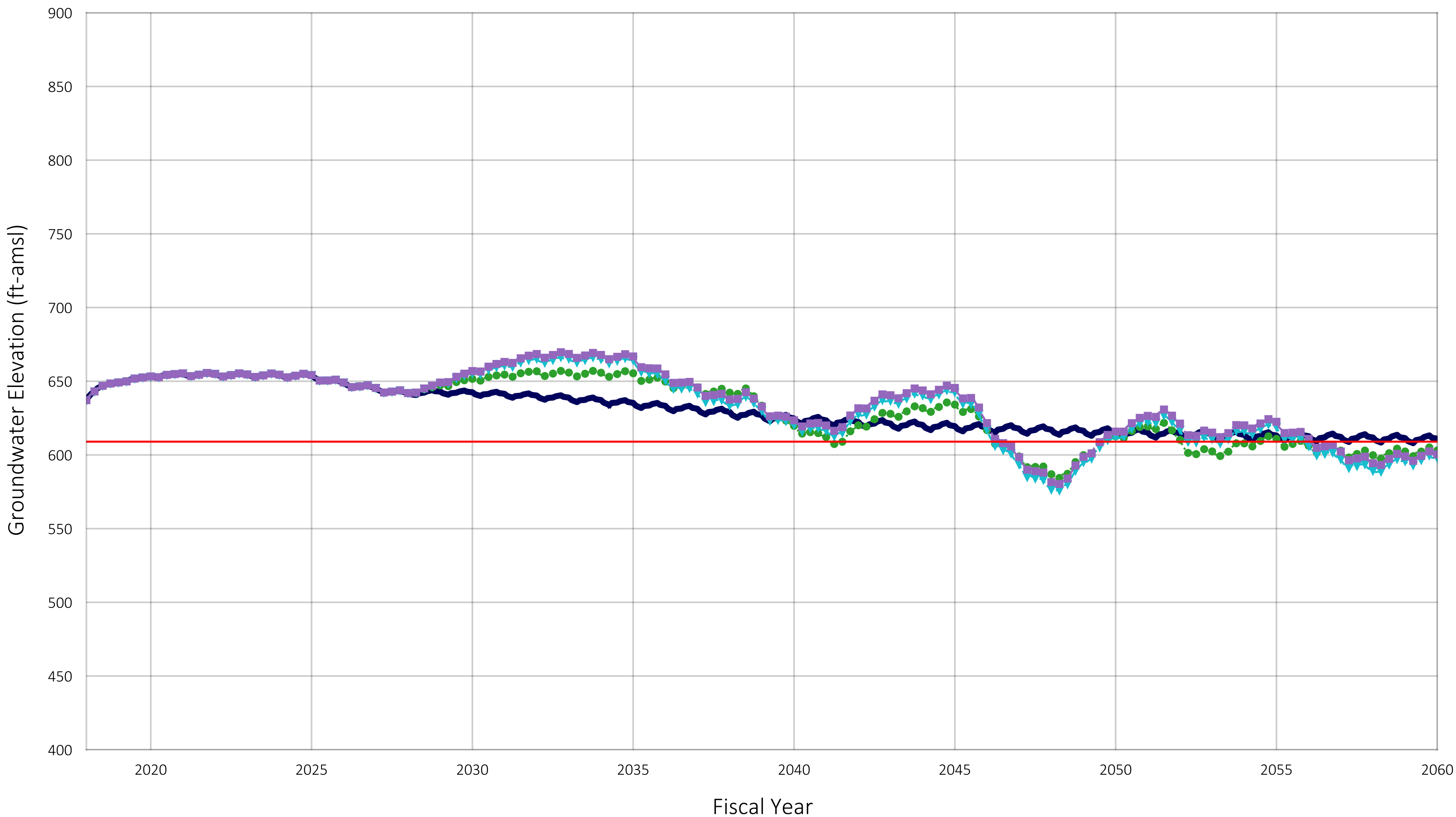
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1006998
Owner: City of Ontario
Well Name: 38

Figure A-89



Location of Well in Chino Basin

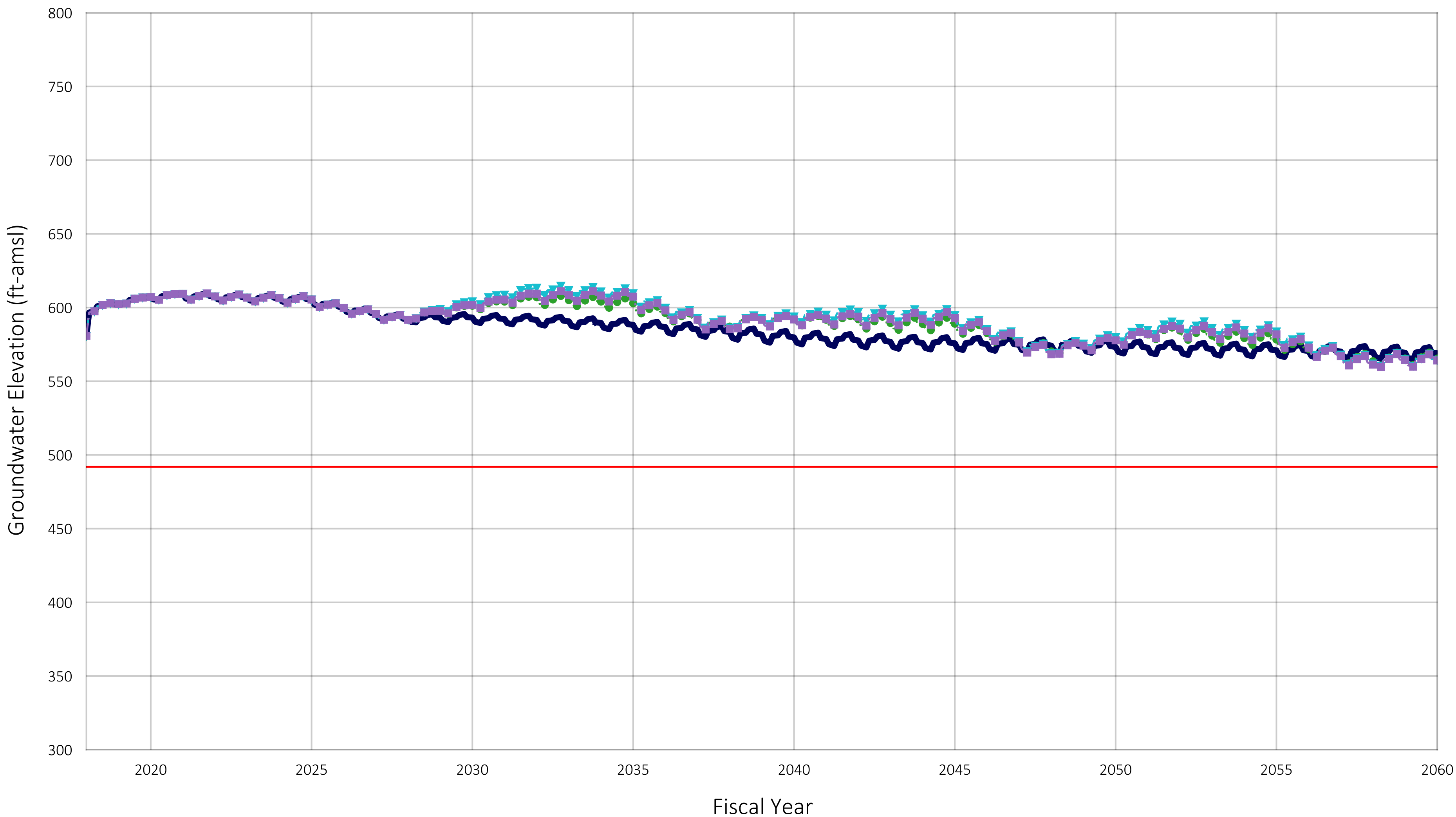
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206945
Owner: City of Ontario
Well Name: 39

Figure A-90



Location of Well in Chino Basin

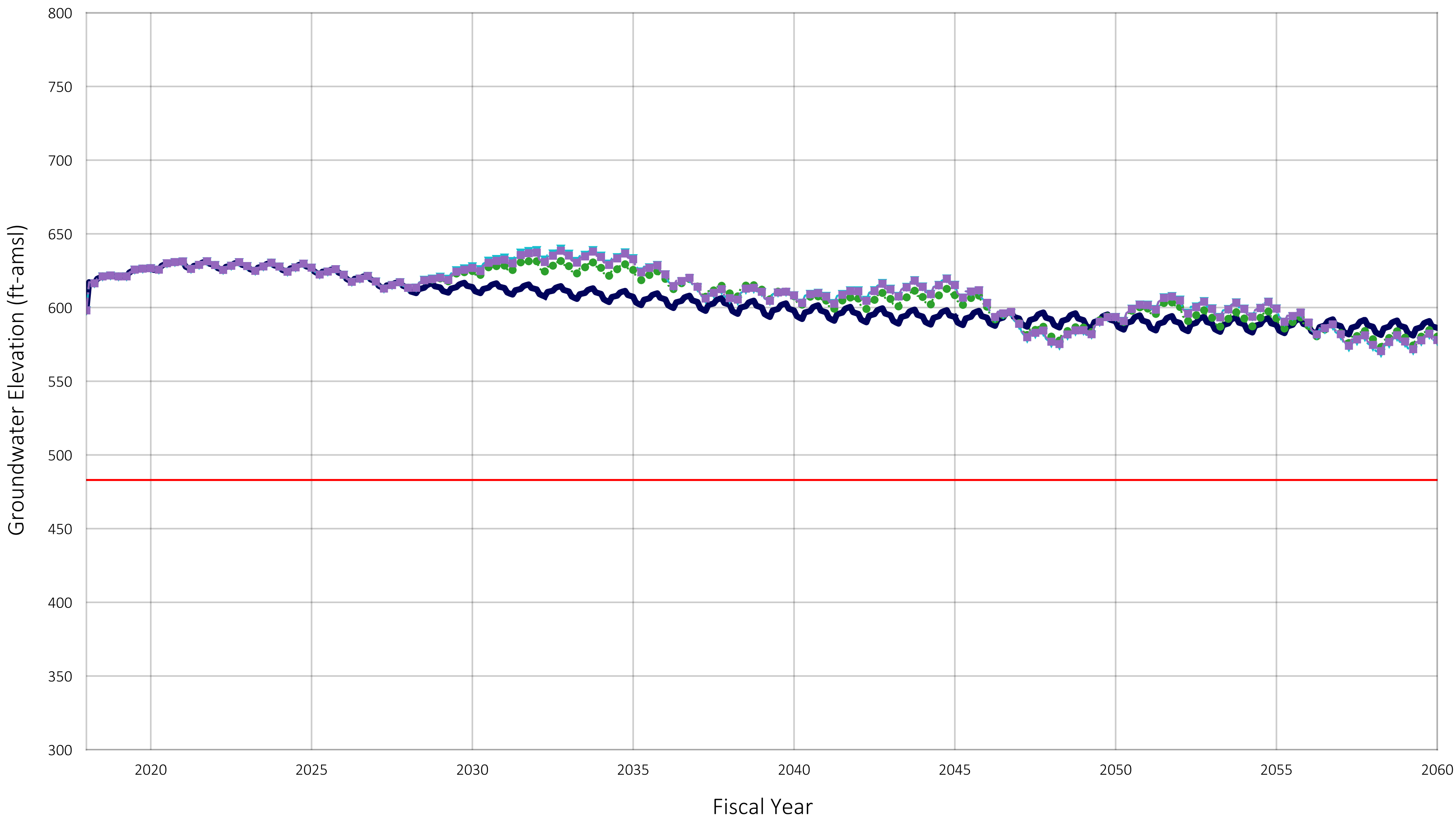
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1207502
Owner: City of Ontario
Well Name: 40

Figure A-91



Location of Well in Chino Basin

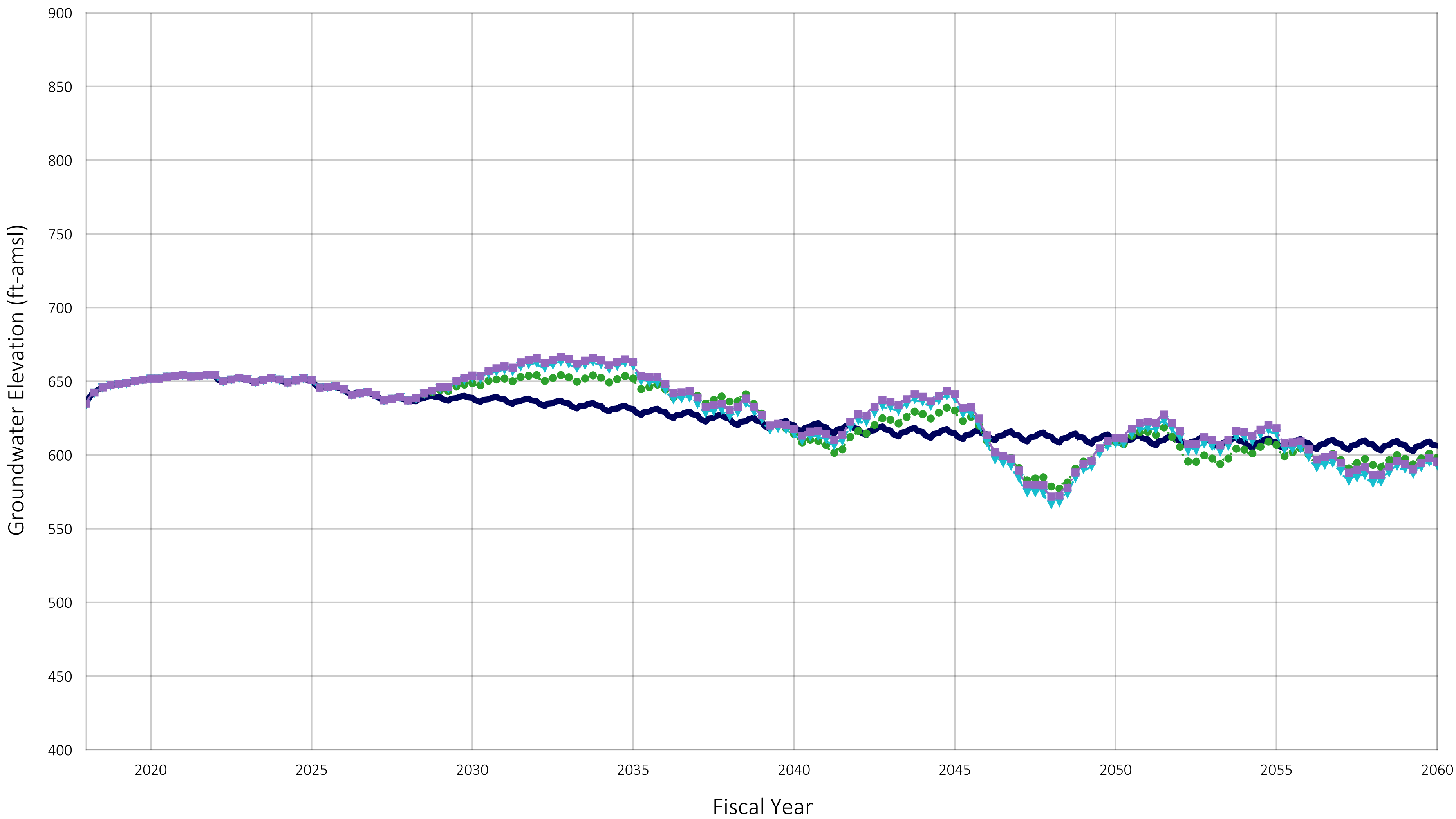
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1207503
Owner: City of Ontario
Well Name: 41

Figure A-92



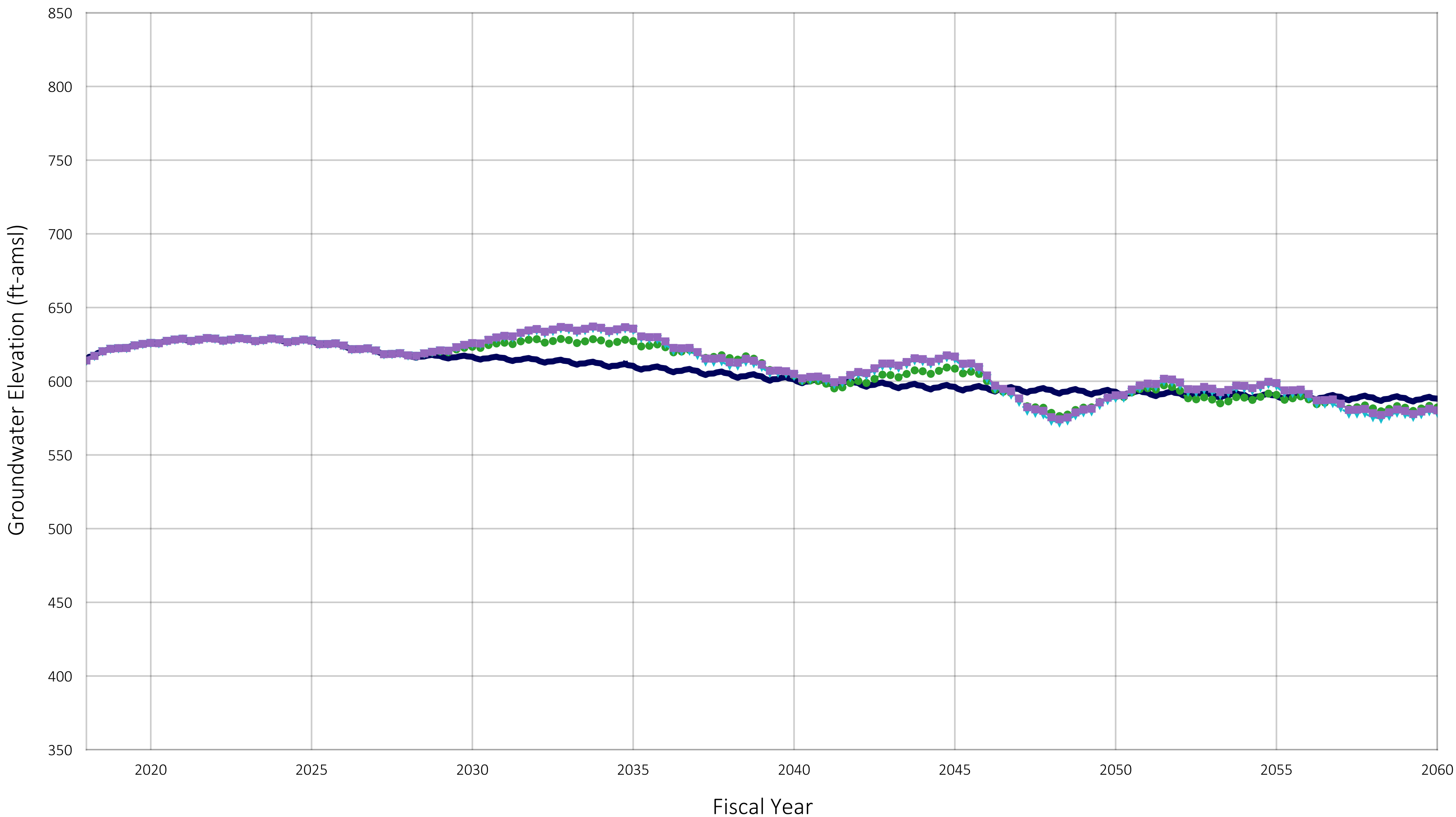
Location of Well in Chino Basin

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1220168
Owner: City of Ontario
Well Name: 42

Figure A-93



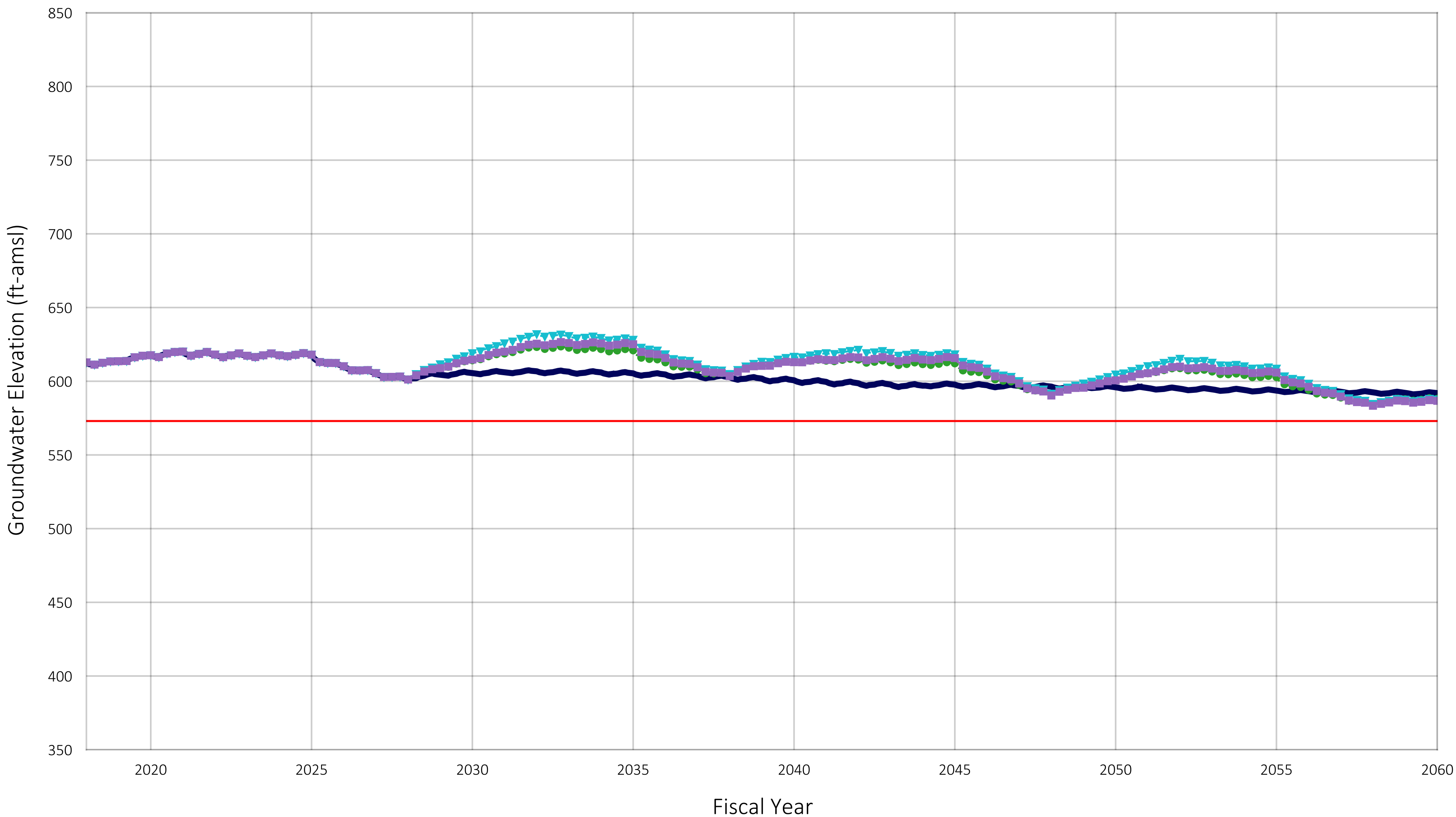
Location of Well in Chino Basin

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1220169
Owner: City of Ontario
Well Name: 43

Figure A-94



Location of Well in Chino Basin

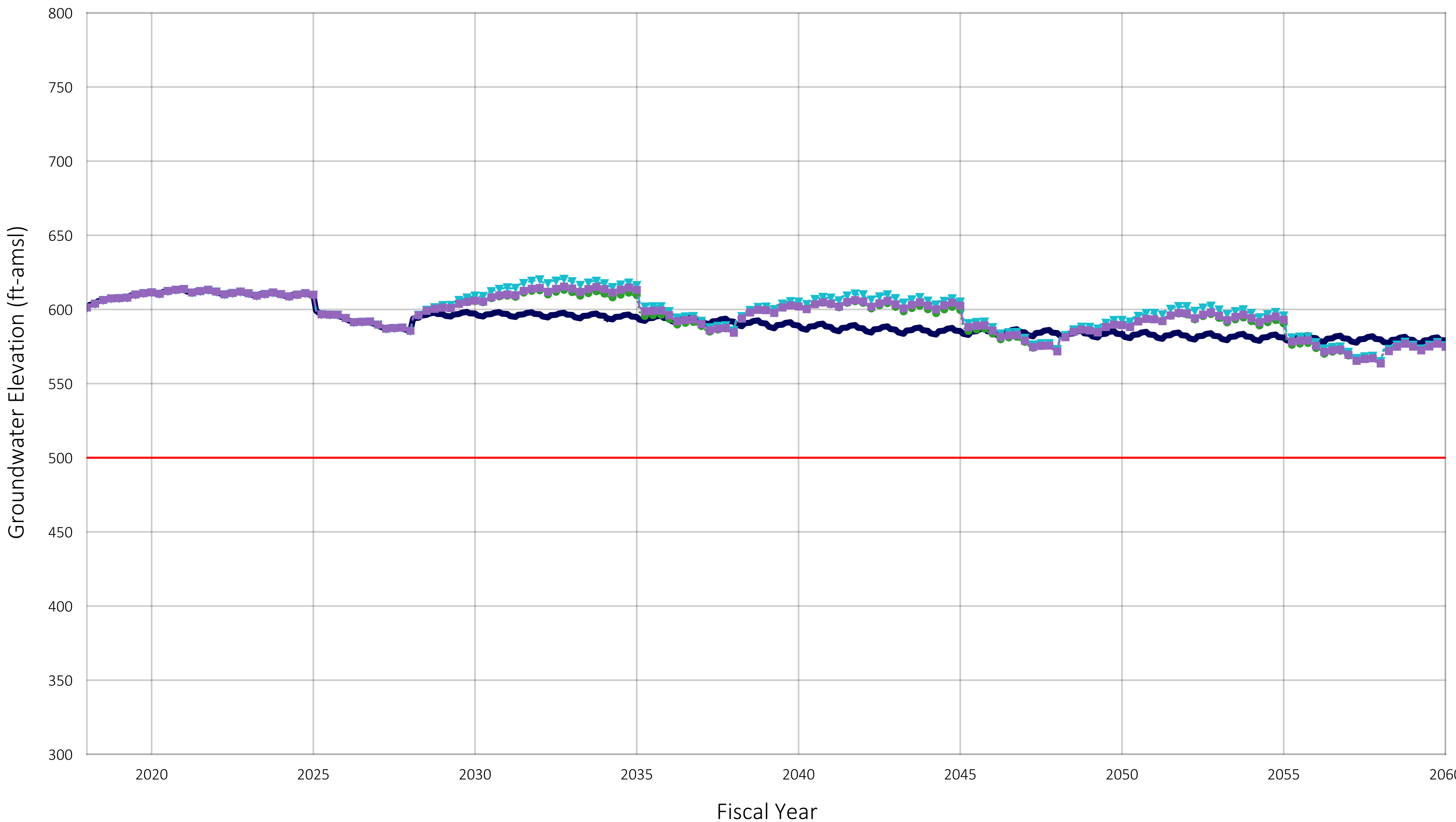
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1220170
Owner: City of Ontario
Well Name: 44

Figure A-95



Location of Well in Chino Basin

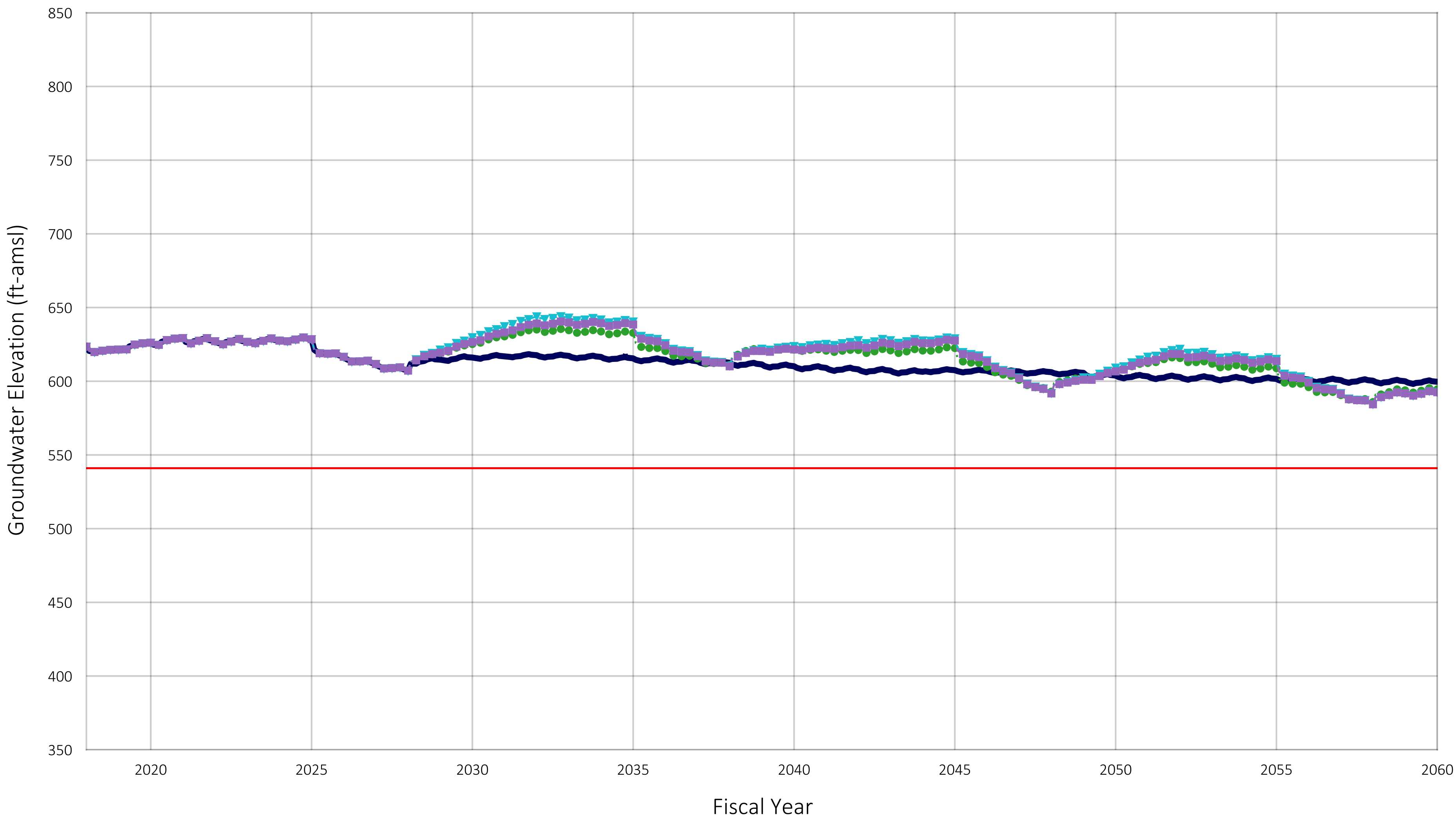
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1207950
Owner: City of Ontario
Well Name: 45

Figure A-96



Location of Well in Chino Basin

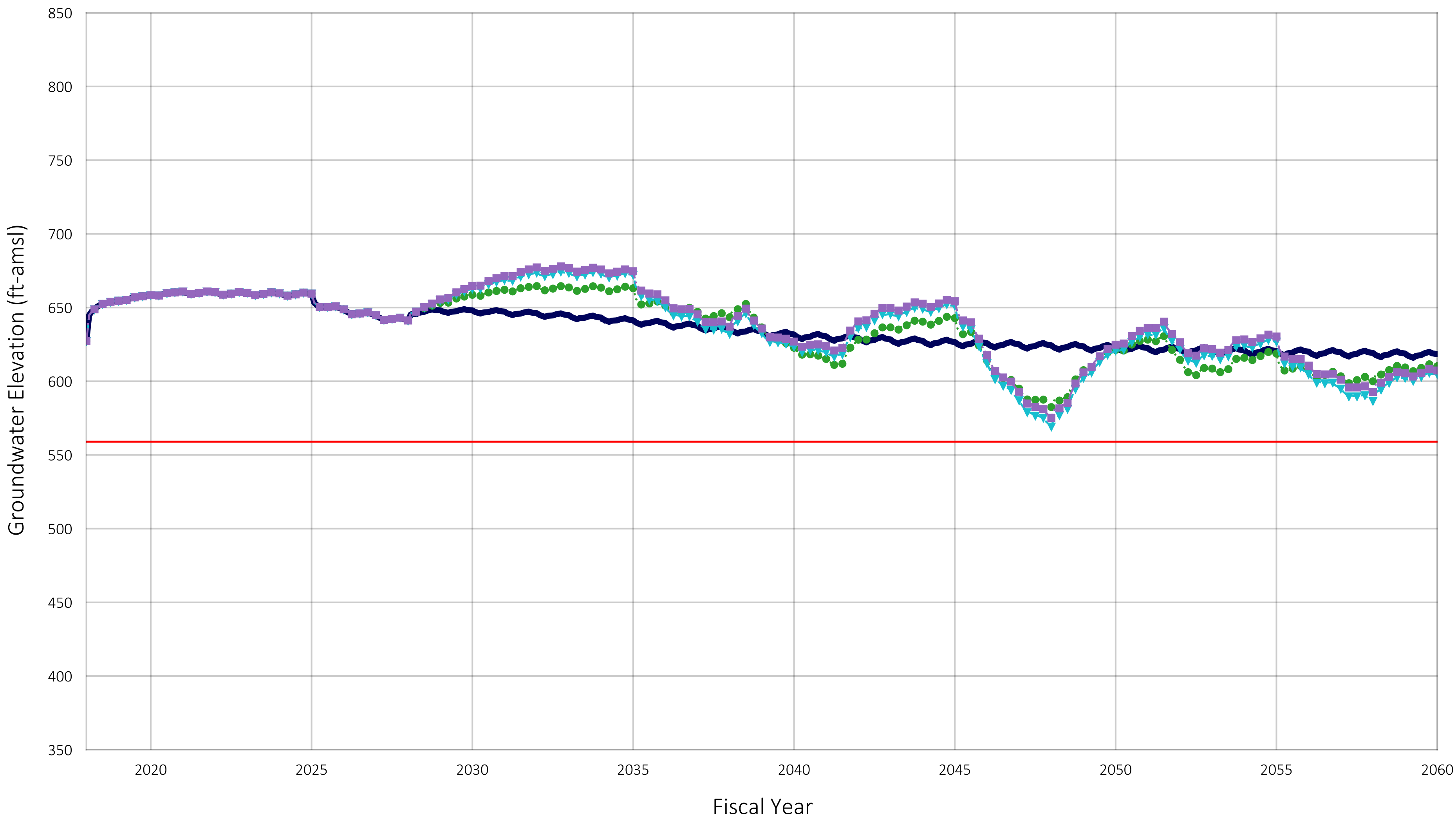
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1207946
Owner: City of Ontario
Well Name: 46

Figure A-97



Location of Well in Chino Basin

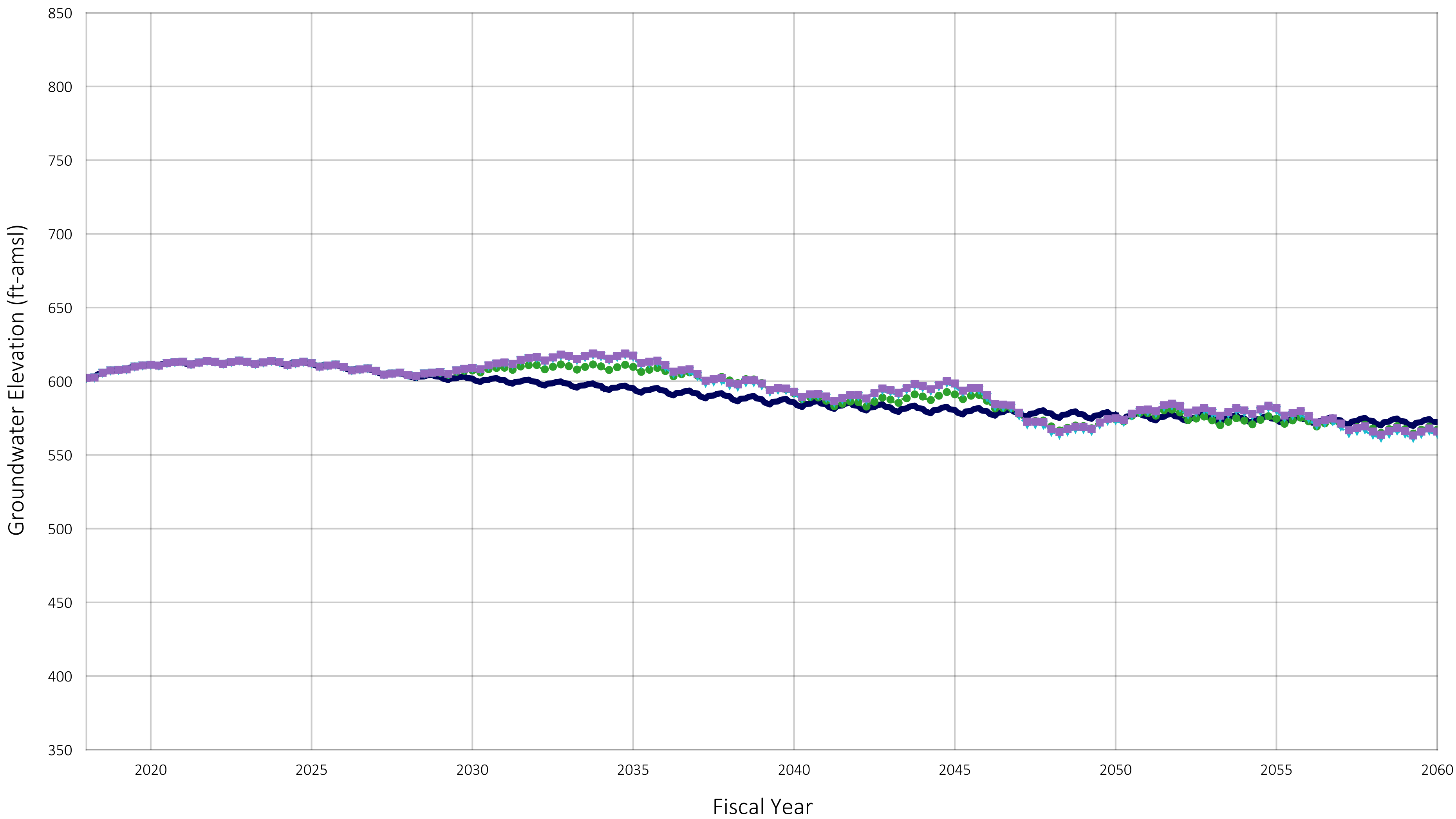
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1207948
Owner: City of Ontario
Well Name: 47

Figure A-98



Location of Well in Chino Basin

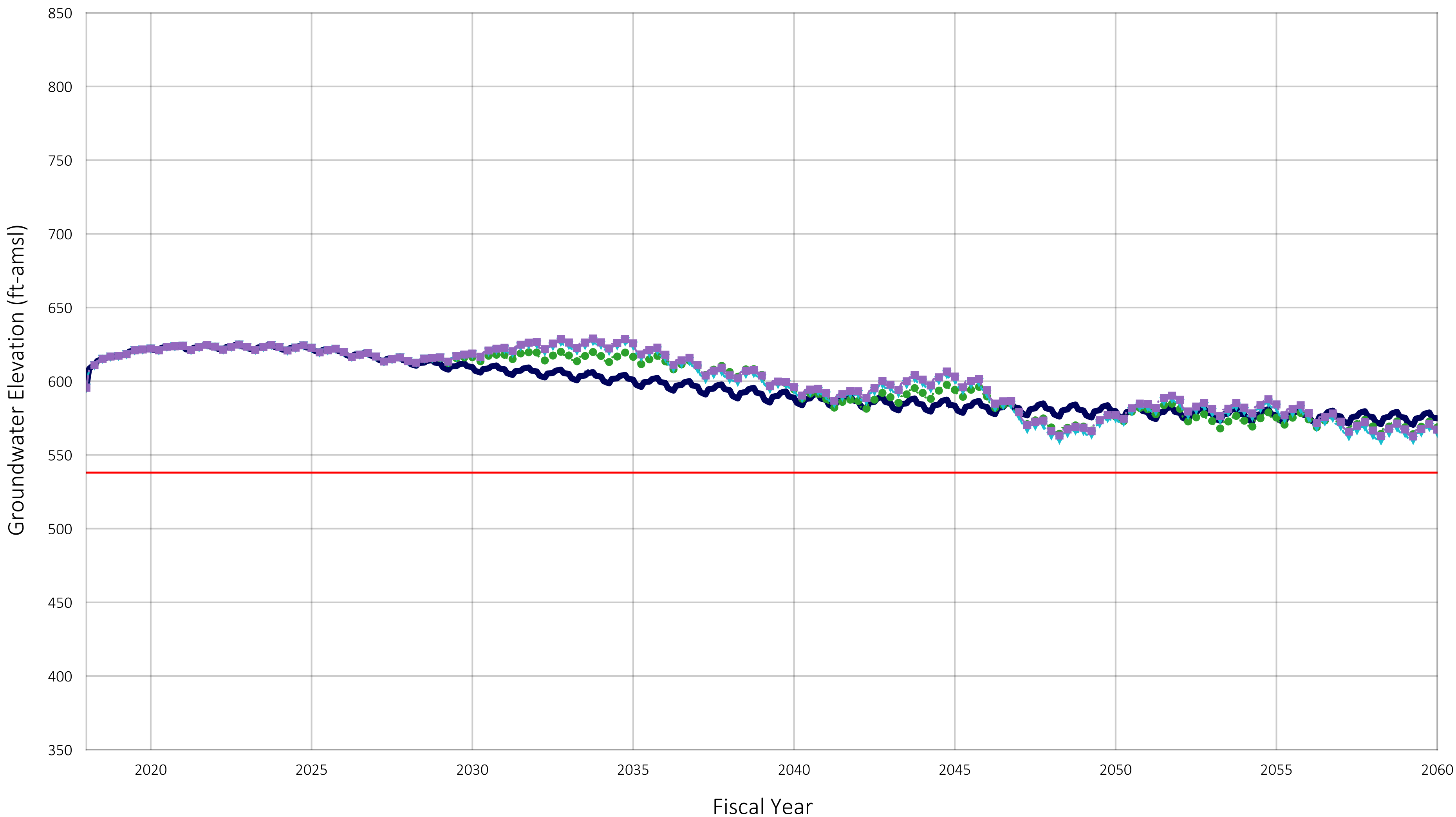
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1220171
Owner: City of Ontario
Well Name: 48

Figure A-99



Location of Well in Chino Basin

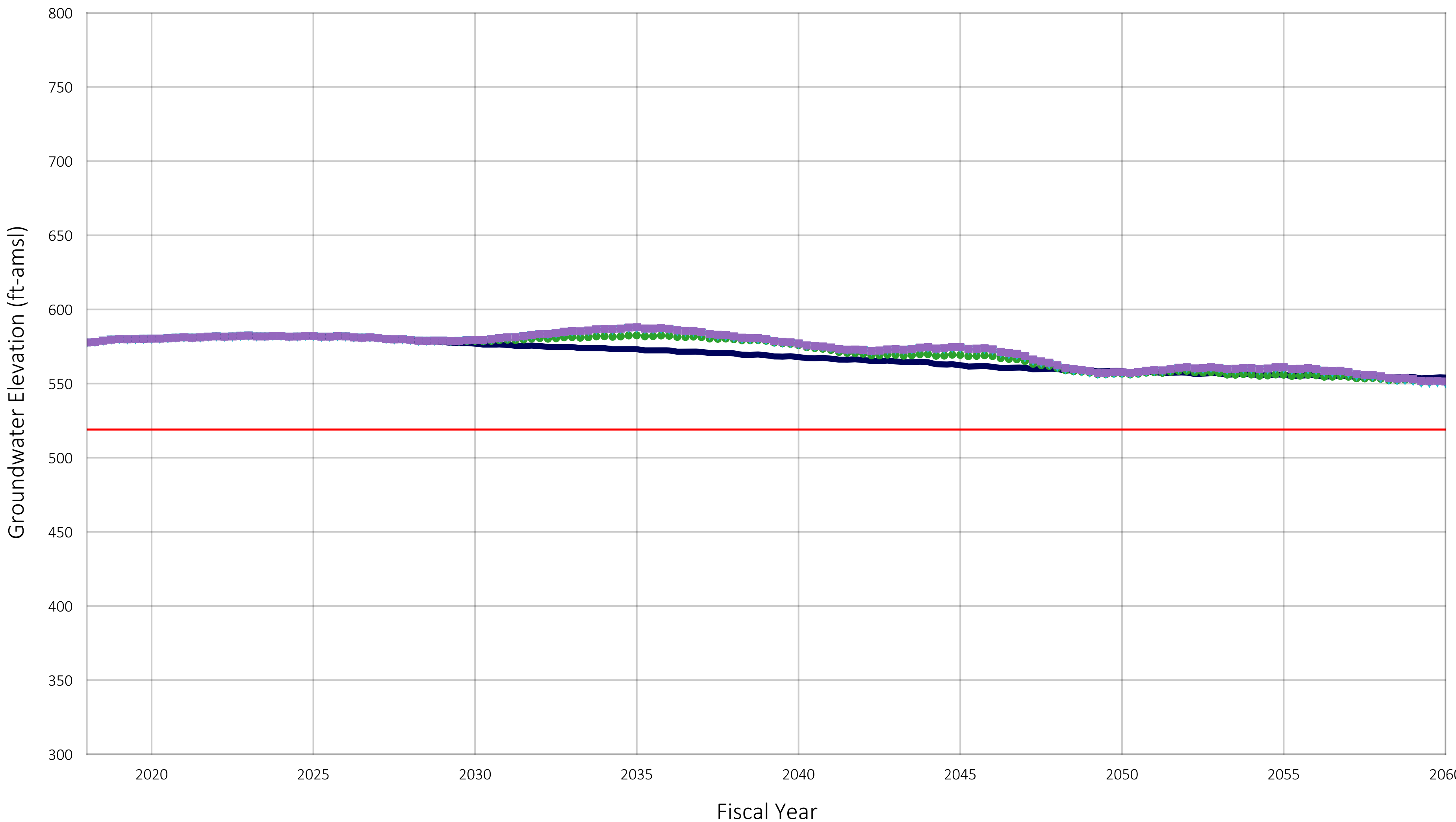
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1207952
Owner: City of Ontario
Well Name: 49

Figure A-100



Location of Well in Chino Basin

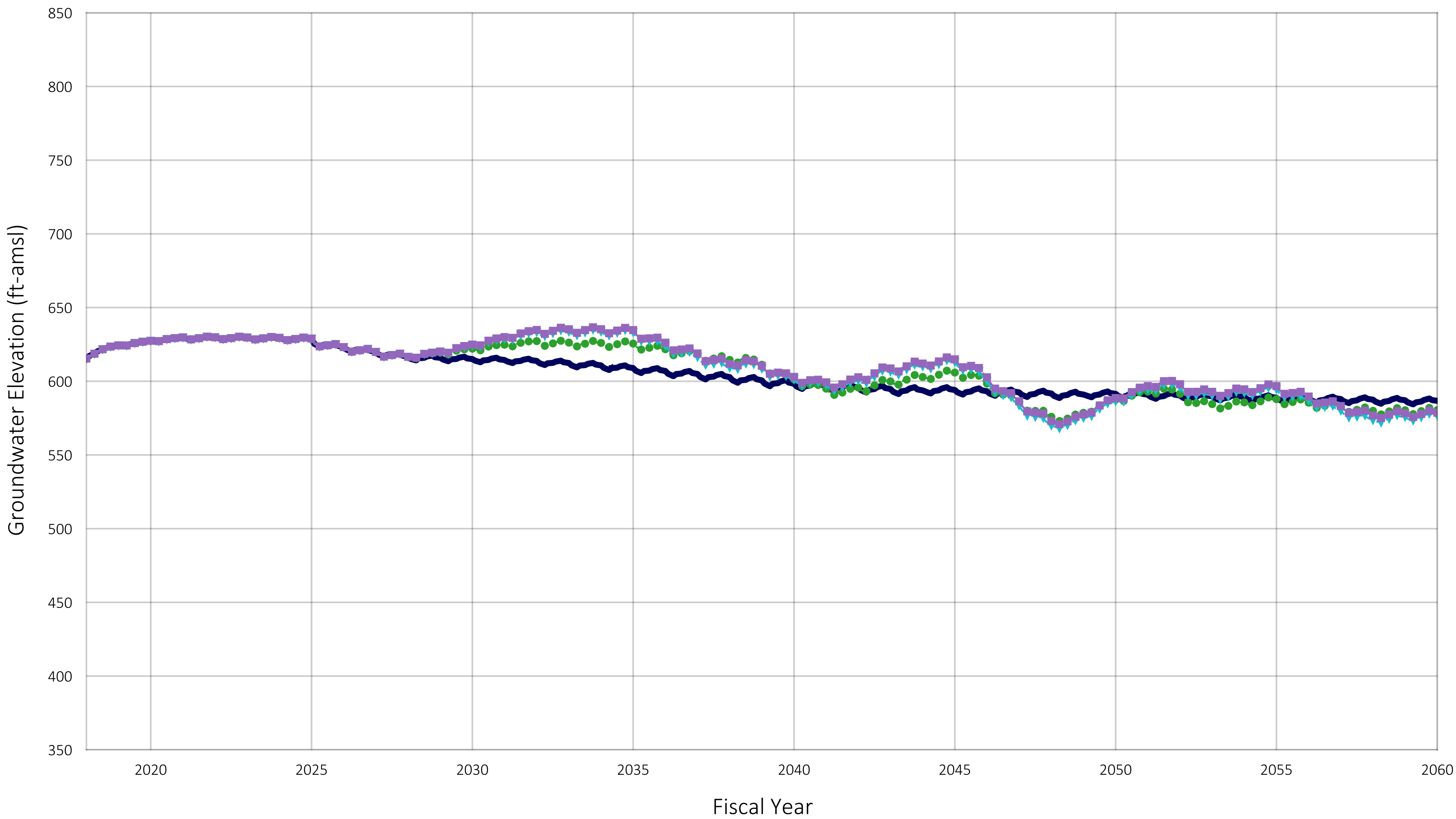
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1208387
Owner: City of Ontario
Well Name: 50

Figure A-101



Location of Well in Chino Basin

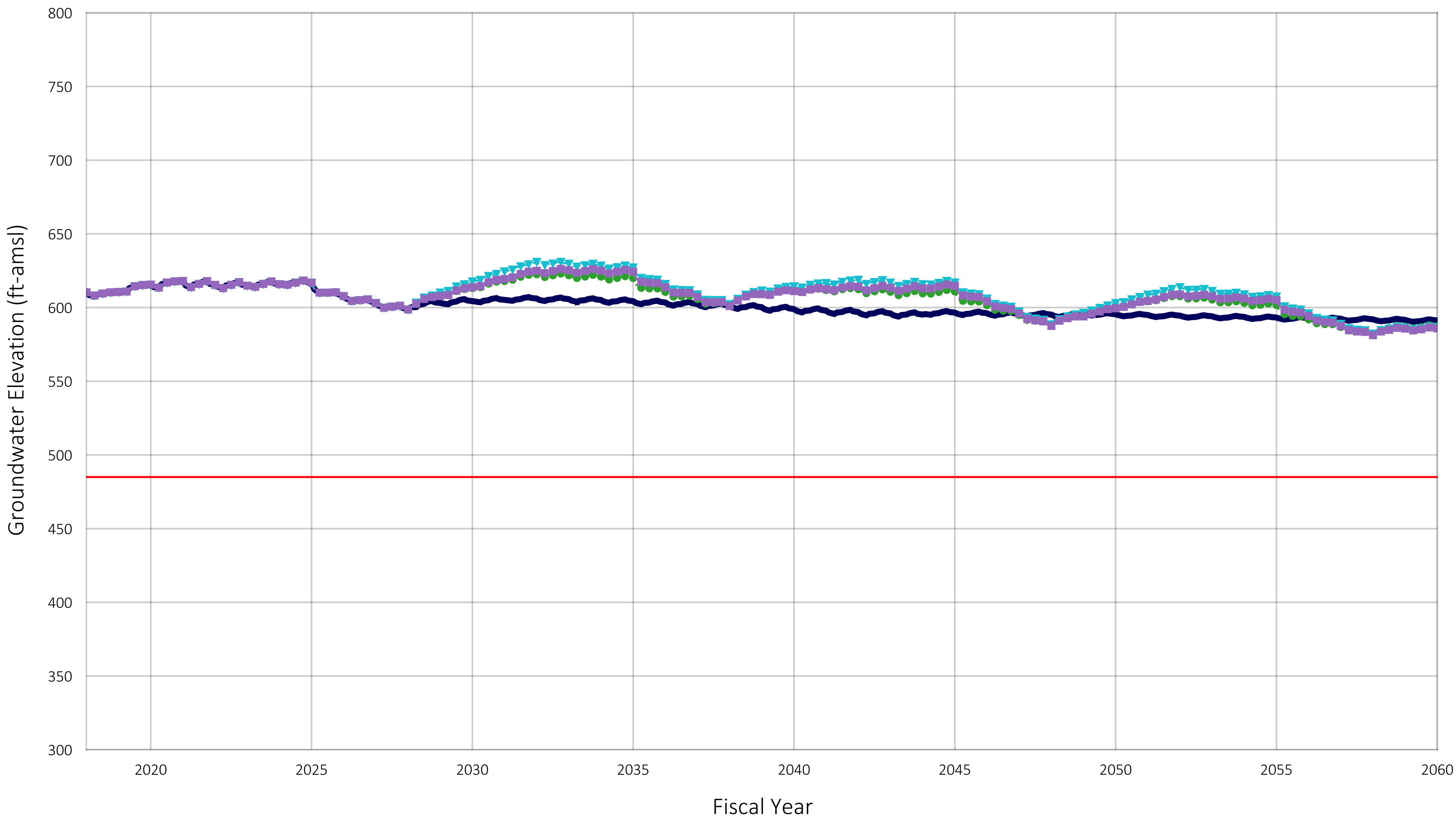
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1220172
Owner: City of Ontario
Well Name: 51

Figure A-102



Location of Well in Chino Basin

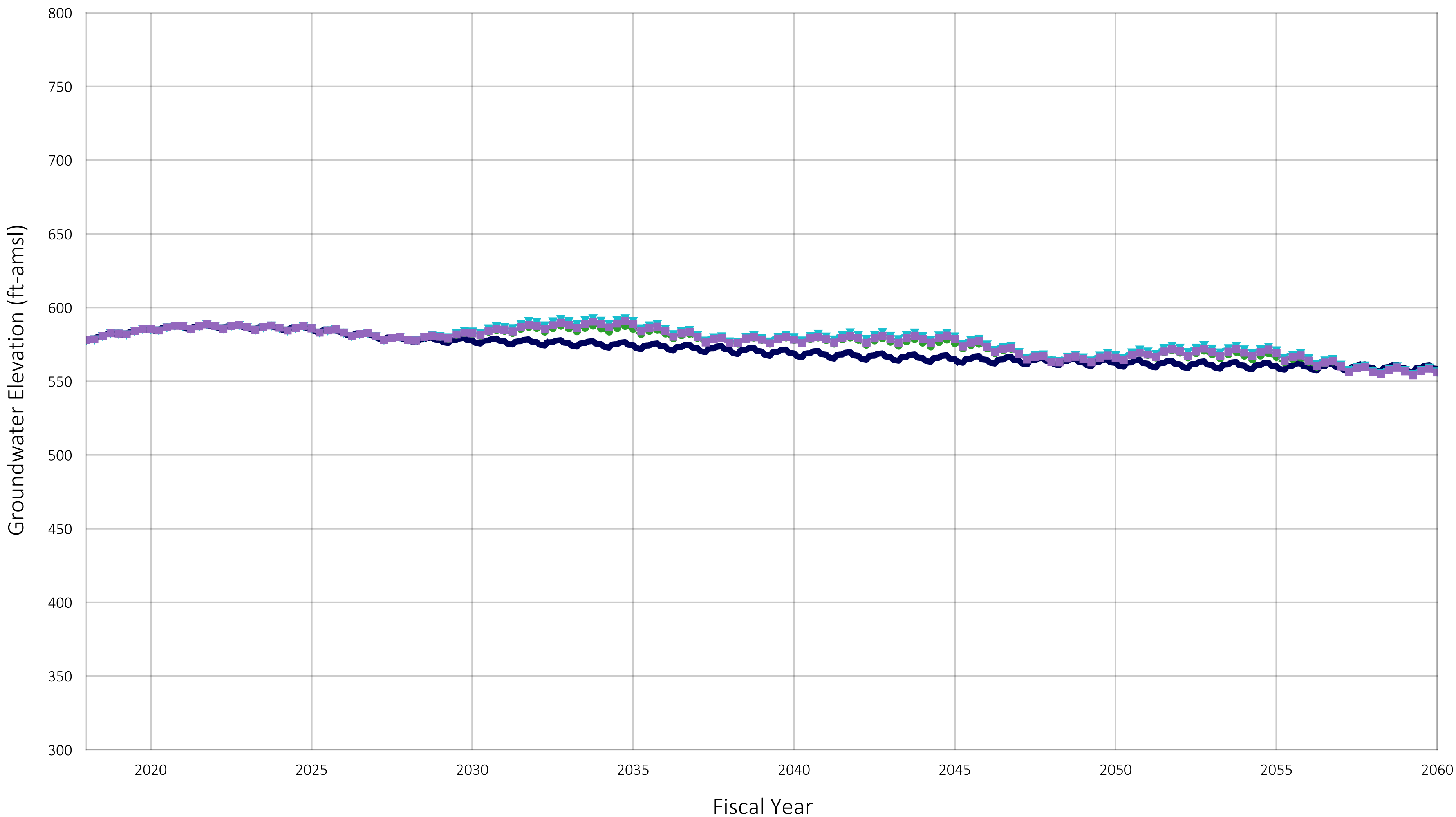
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1221753
Owner: City of Ontario
Well Name: 52

Figure A-103



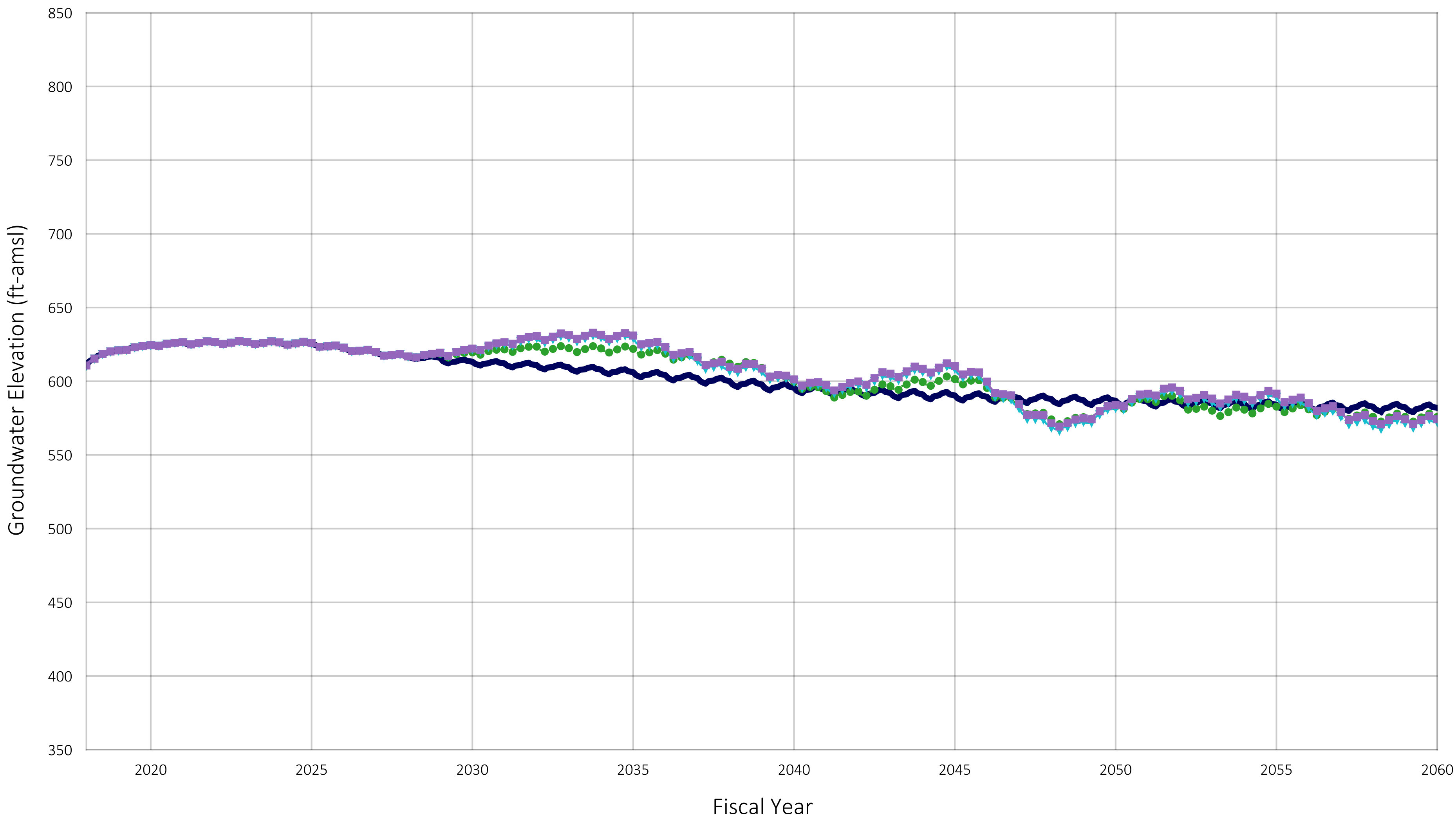
Location of Well in Chino Basin

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 100
Owner: City of Ontario
Well Name: 100

Figure A-104



Location of Well in Chino Basin

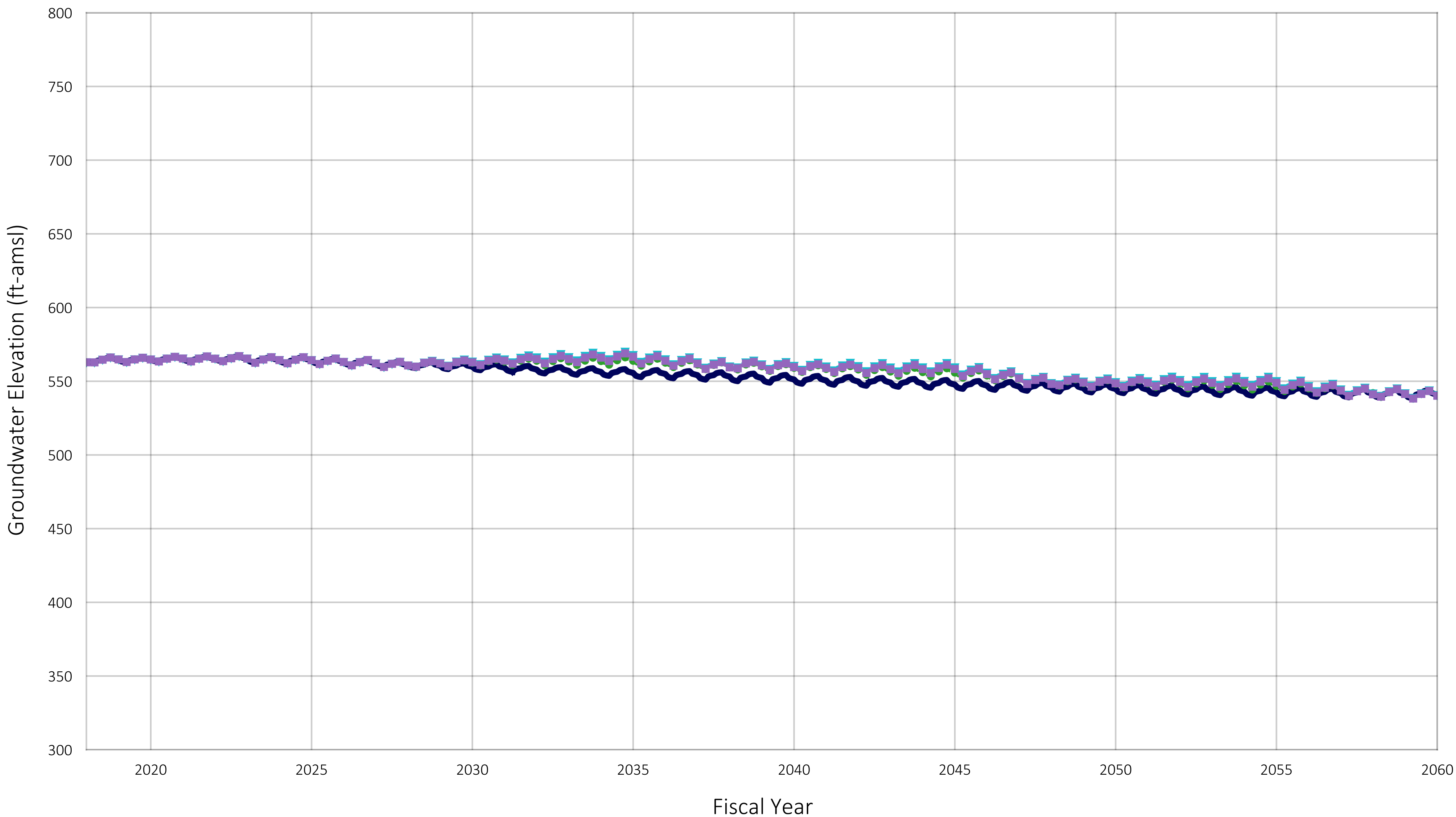
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 101
Owner: City of Ontario
Well Name: 101

Figure A-105



Location of Well in Chino Basin

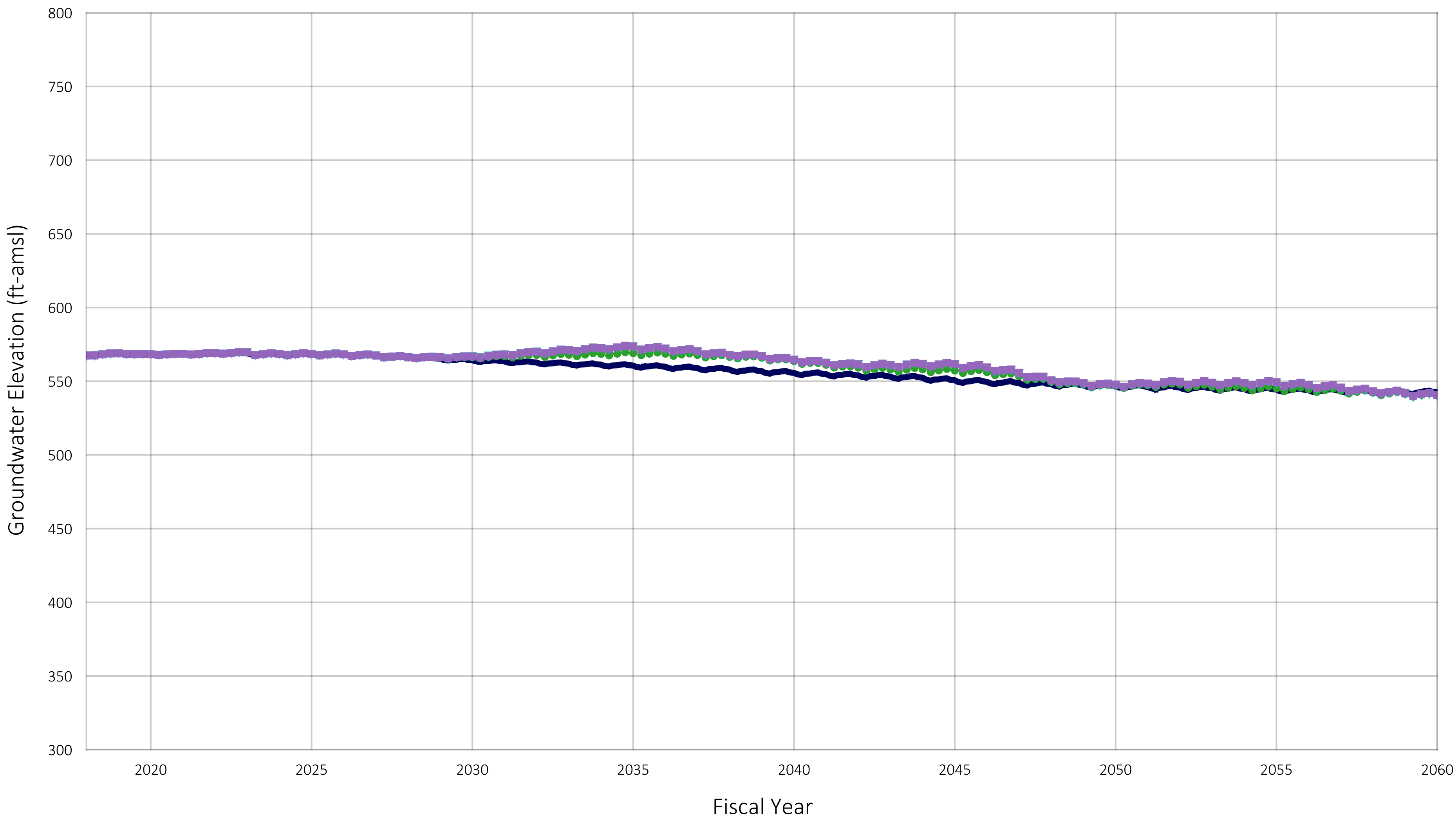
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 103
Owner: City of Ontario
Well Name: 103

Figure A-106



Location of Well in Chino Basin

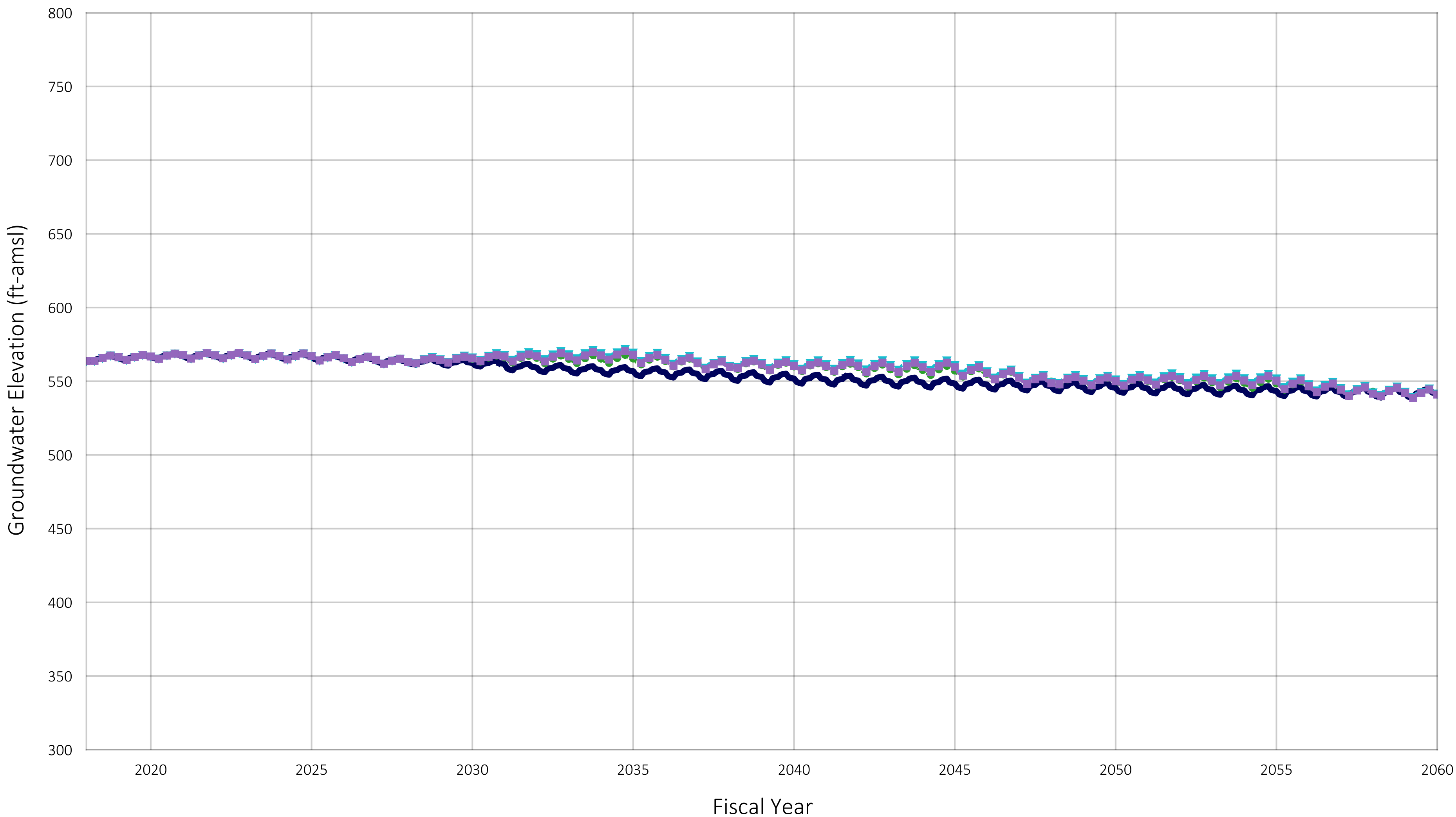
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 104
Owner: City of Ontario
Well Name: 104

Figure A-107



Location of Well in Chino Basin

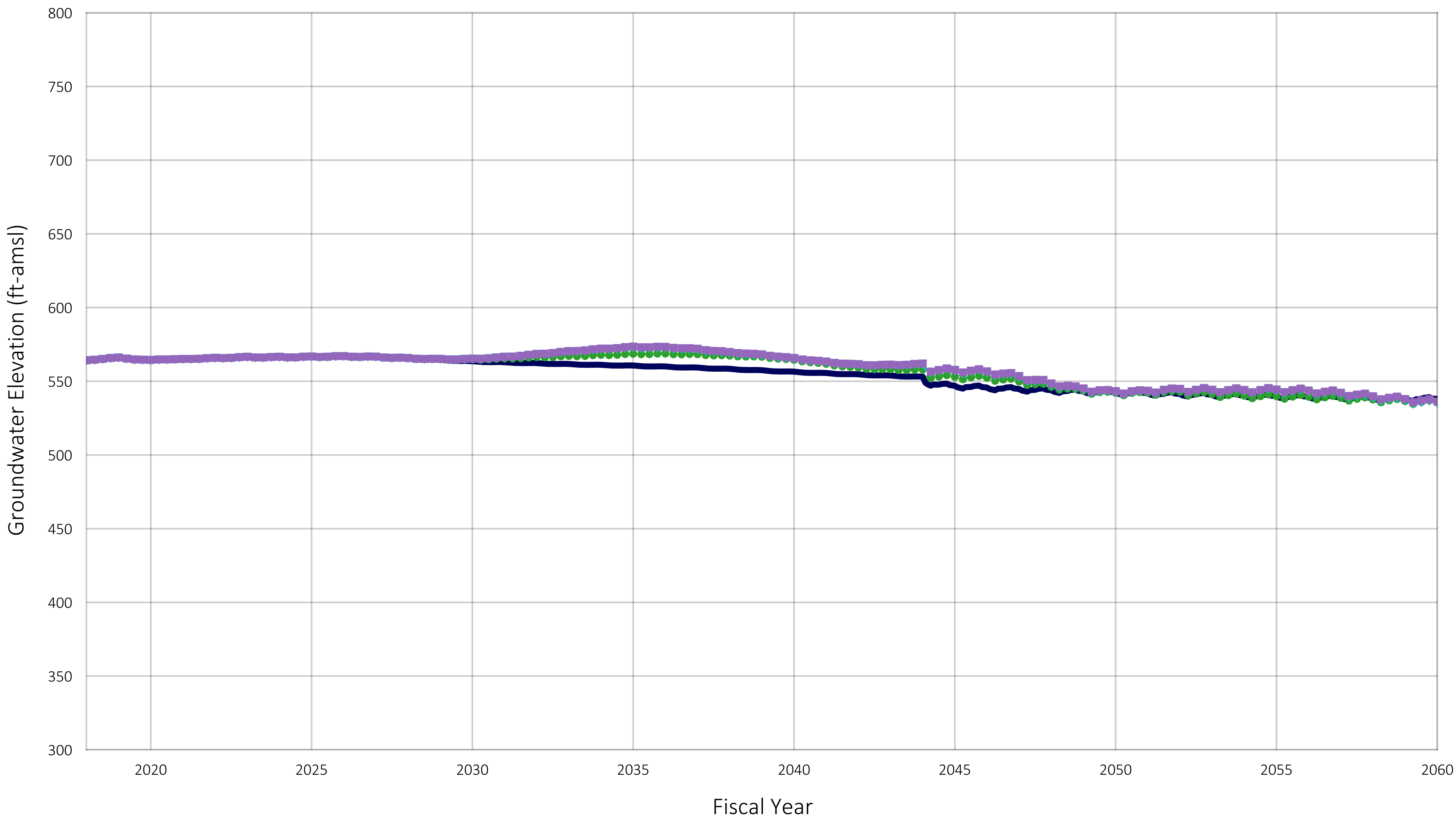
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 105
Owner: City of Ontario
Well Name: 105

Figure A-108



Location of Well in Chino Basin

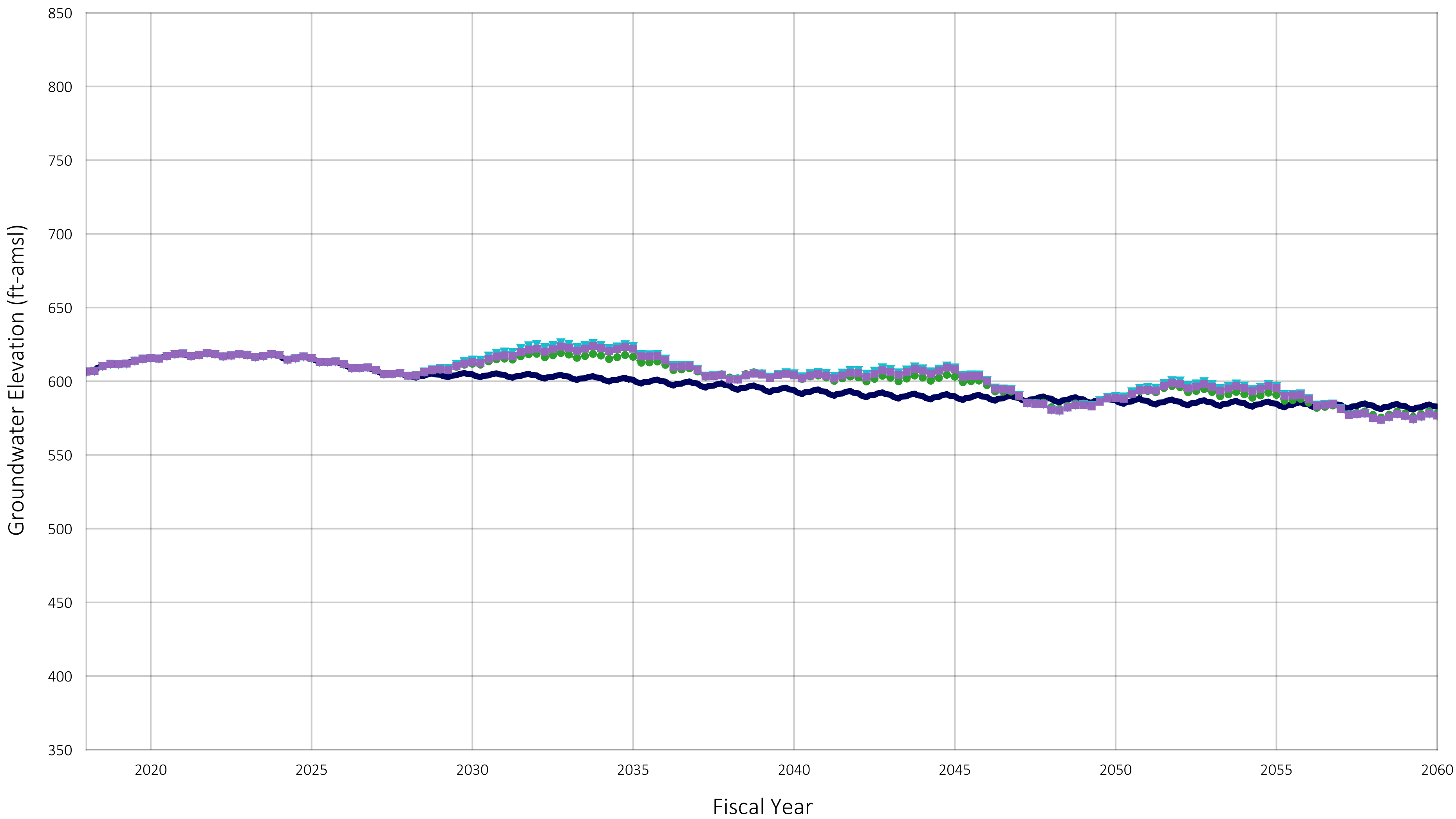
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 106
Owner: City of Ontario
Well Name: 106

Figure A-109



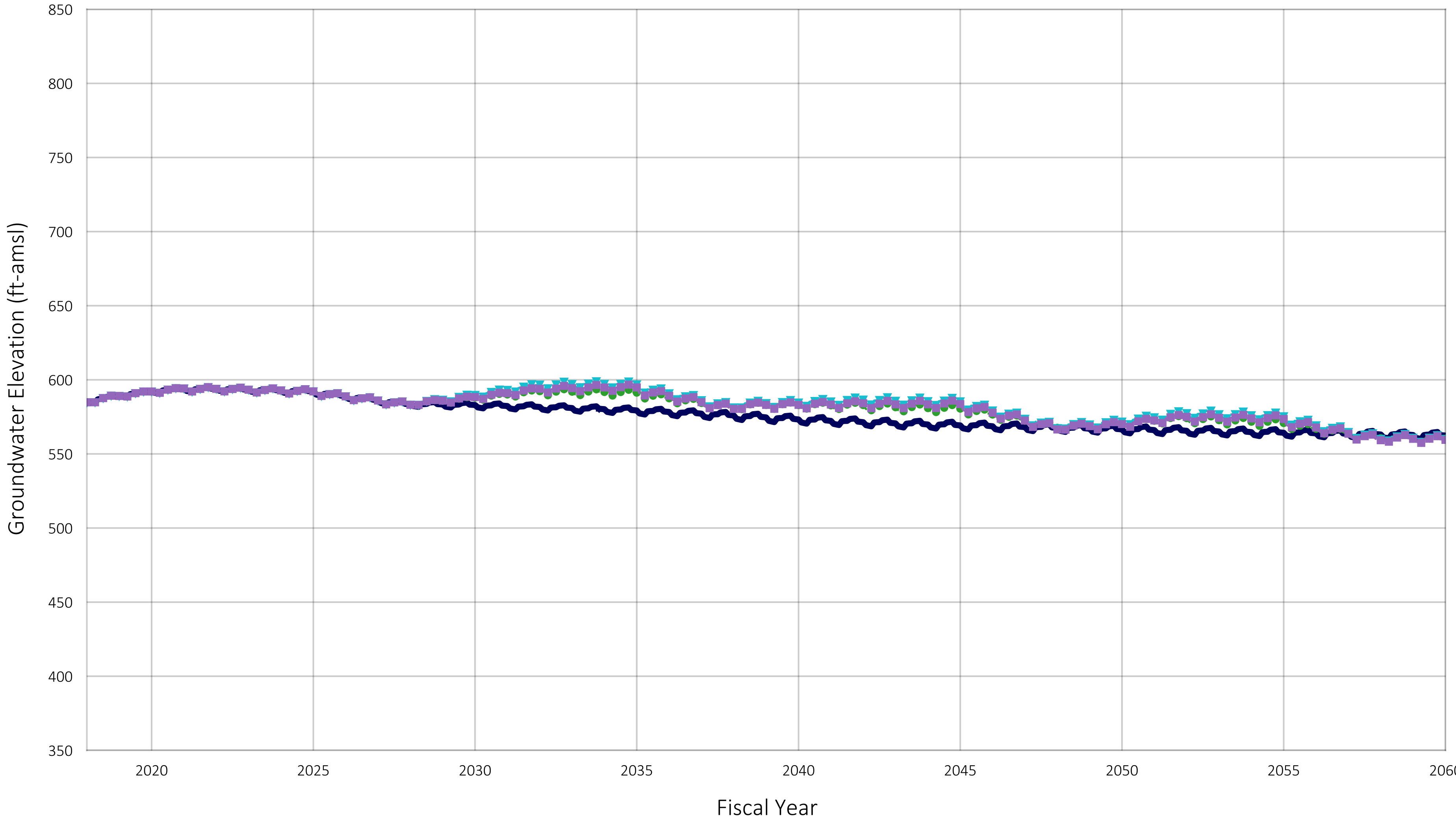
Location of Well in Chino Basin

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 109
Owner: City of Ontario
Well Name: 109

Figure A-110



Location of Well in Chino Basin

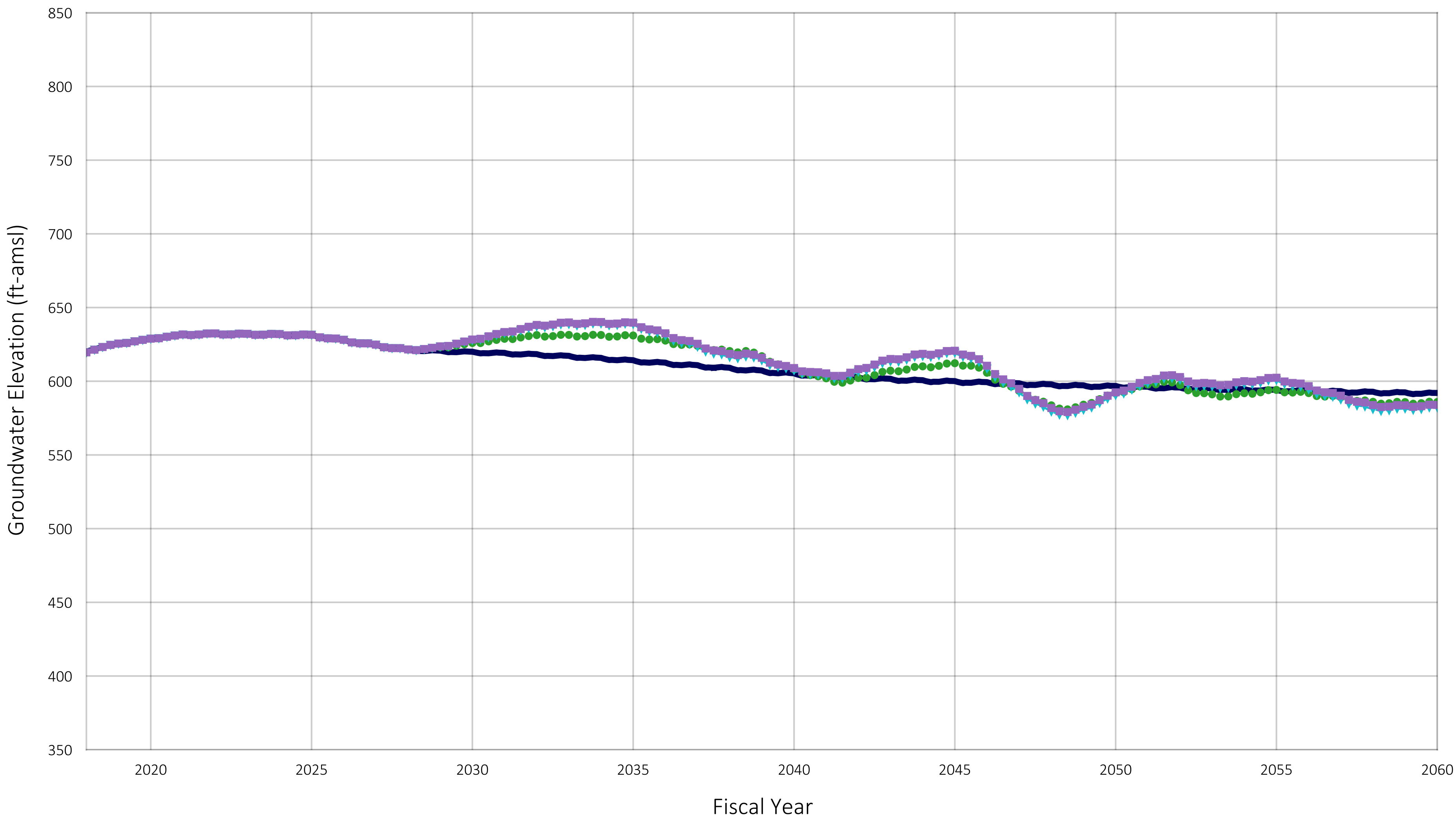
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 111
Owner: City of Ontario
Well Name: 111

Figure A-111



Location of Well in Chino Basin

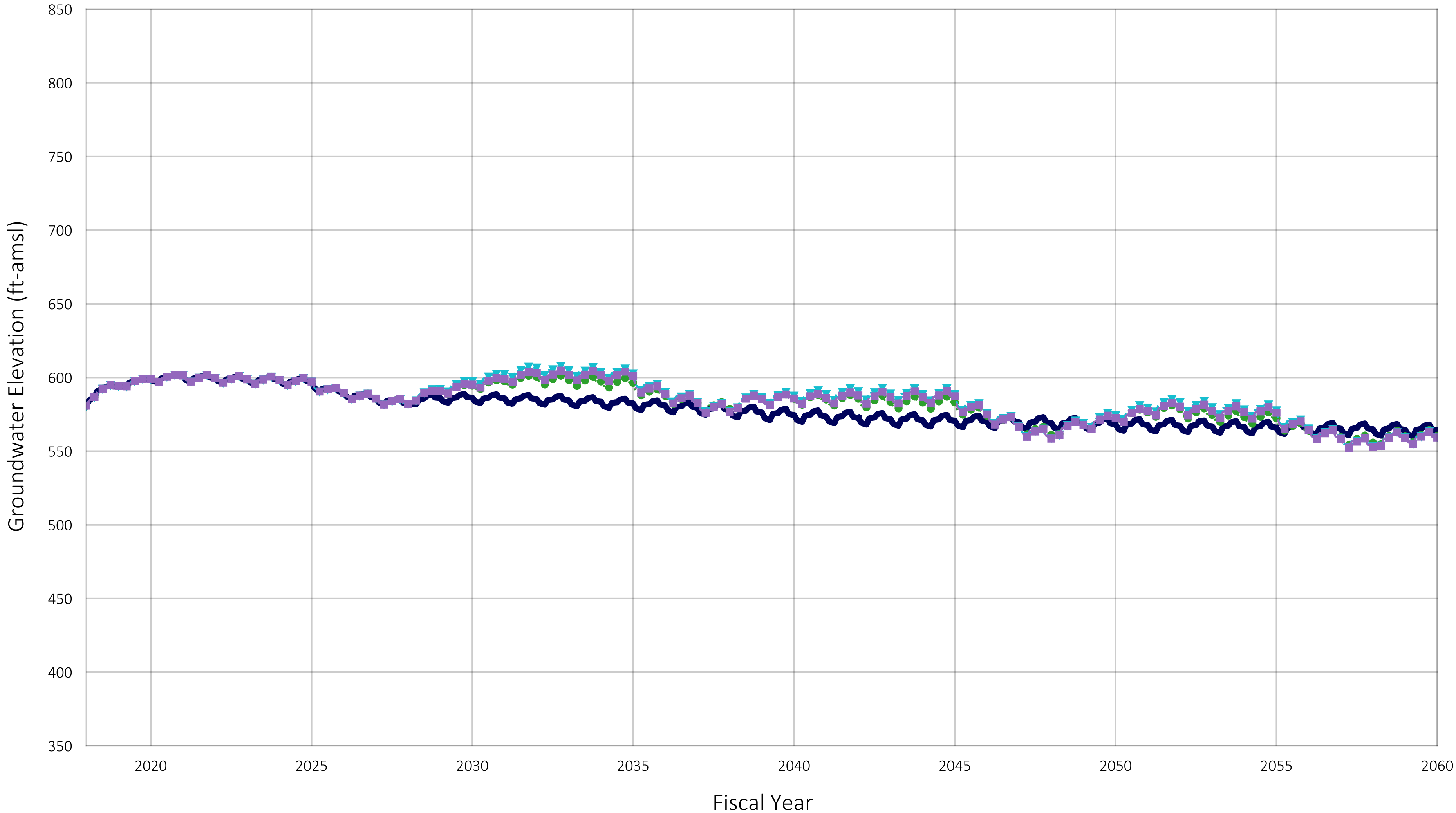
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 119
Owner: City of Ontario
Well Name: 119

Figure A-112



Location of Well in Chino Basin

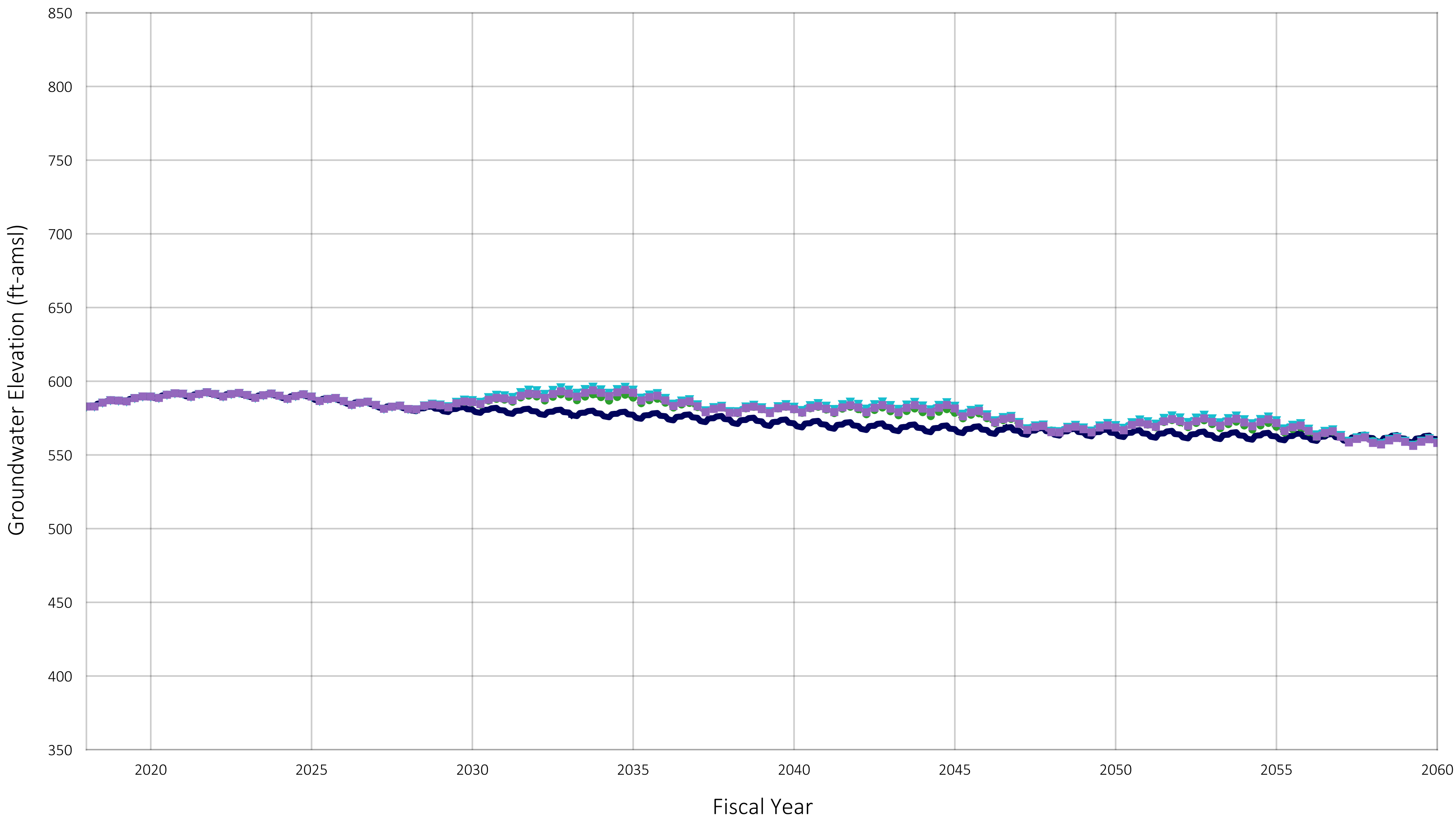
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 115
Owner: City of Ontario
Well Name: 115

Figure A-113



Location of Well in Chino Basin

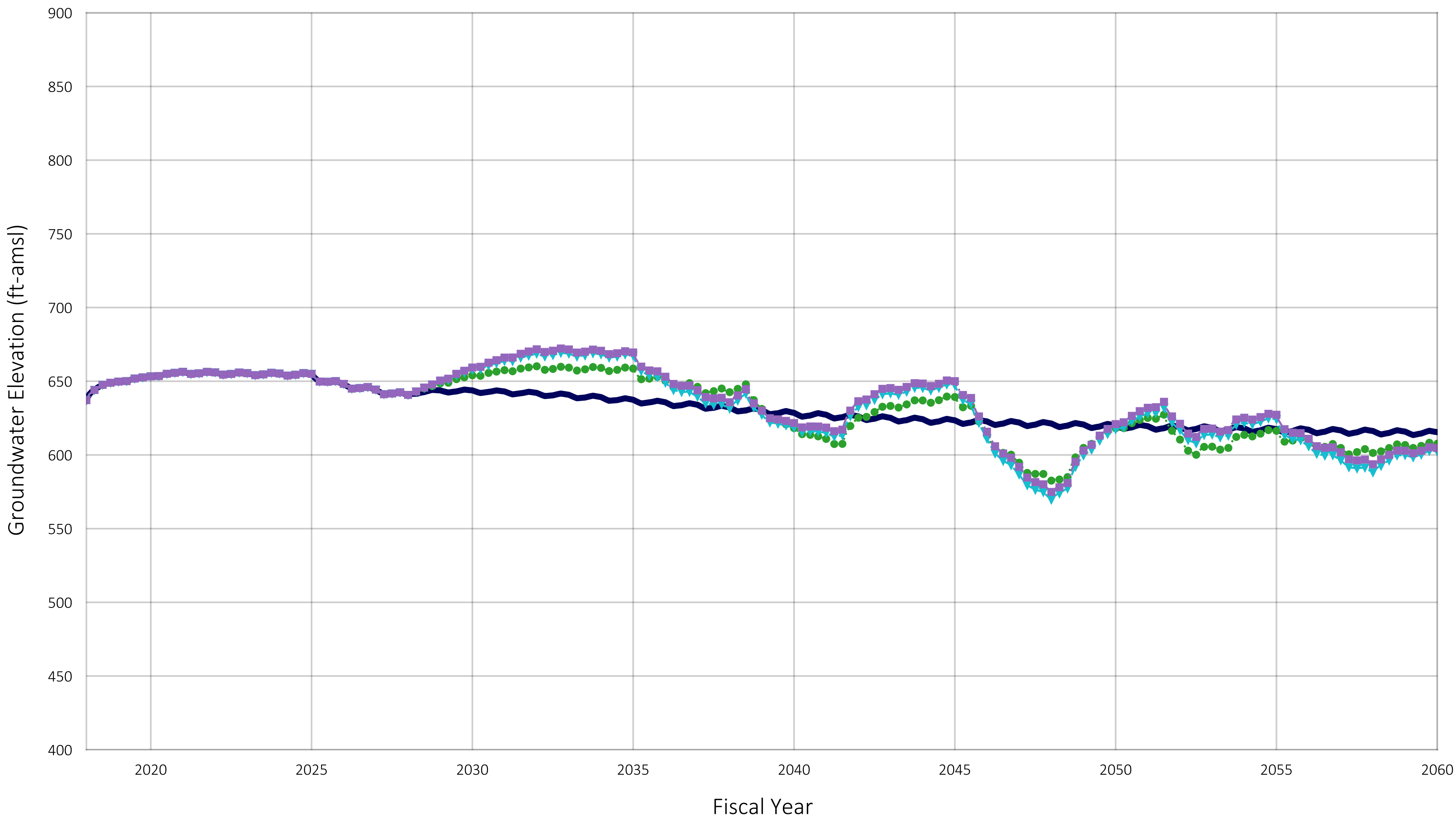
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 120
Owner: City of Ontario
Well Name: 120

Figure A-114



Location of Well in Chino Basin

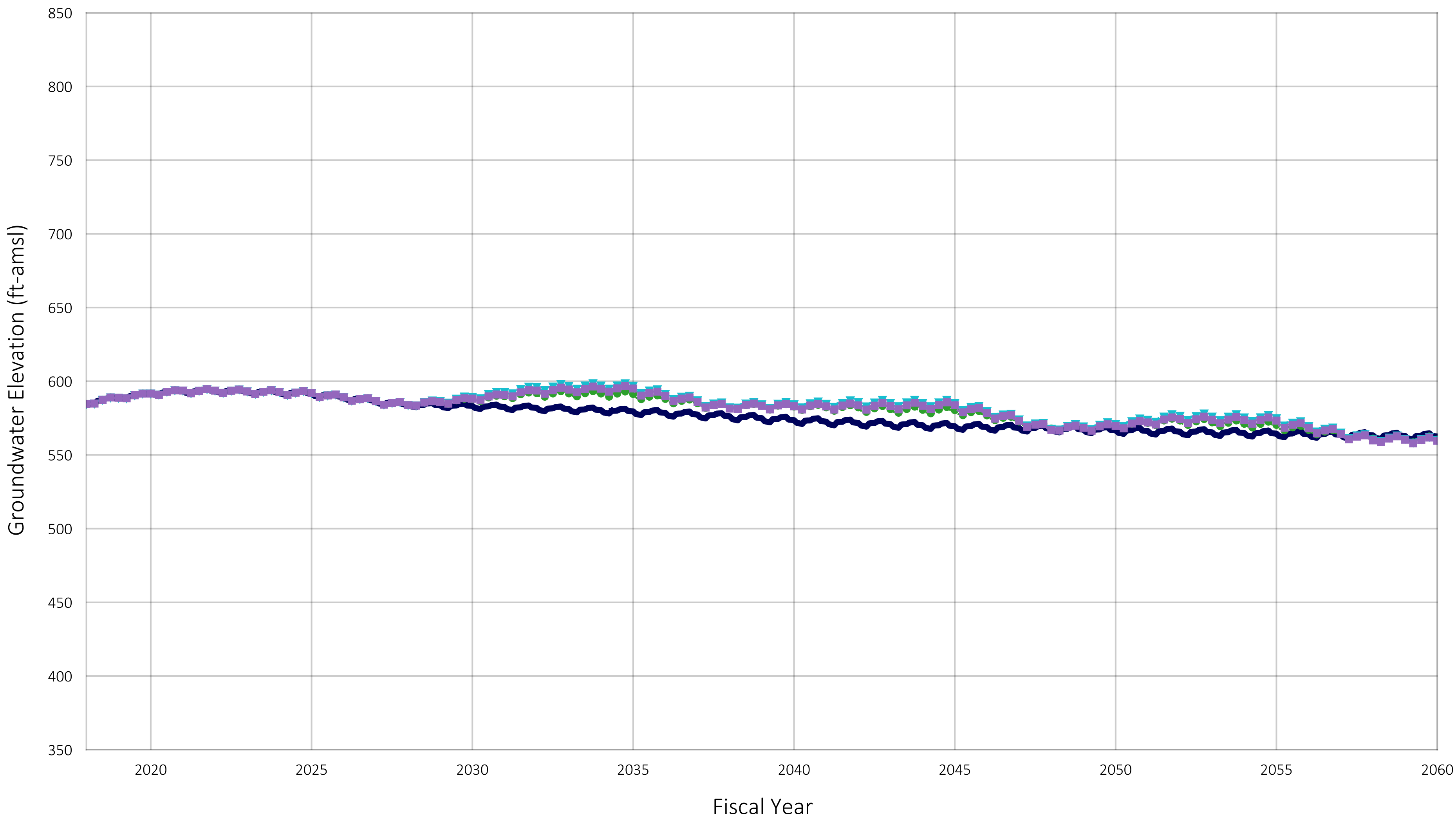
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 126
Owner: City of Ontario
Well Name: 126

Figure A-115



Location of Well in Chino Basin

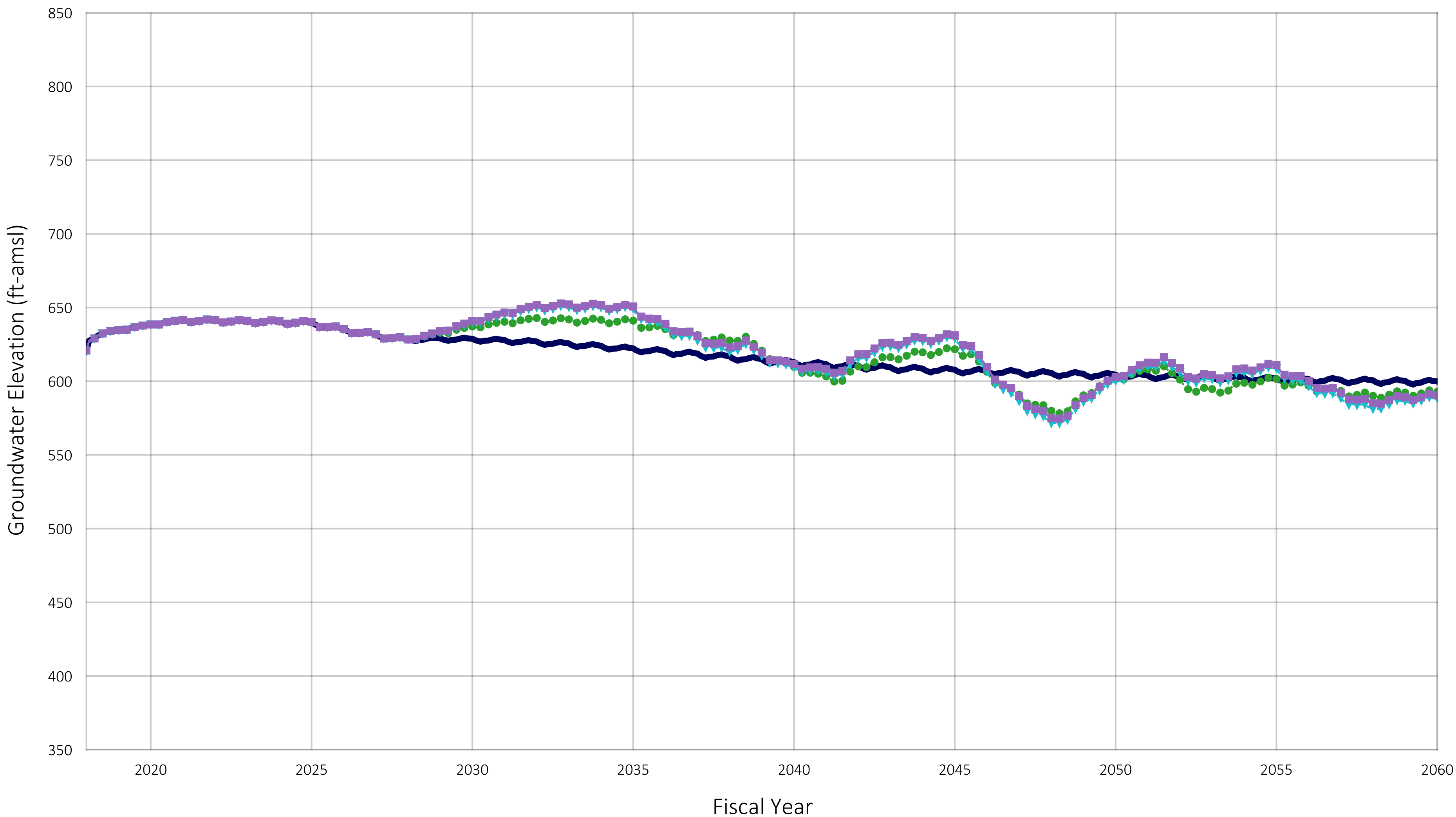
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 134
Owner: City of Ontario
Well Name: 134

Figure A-116



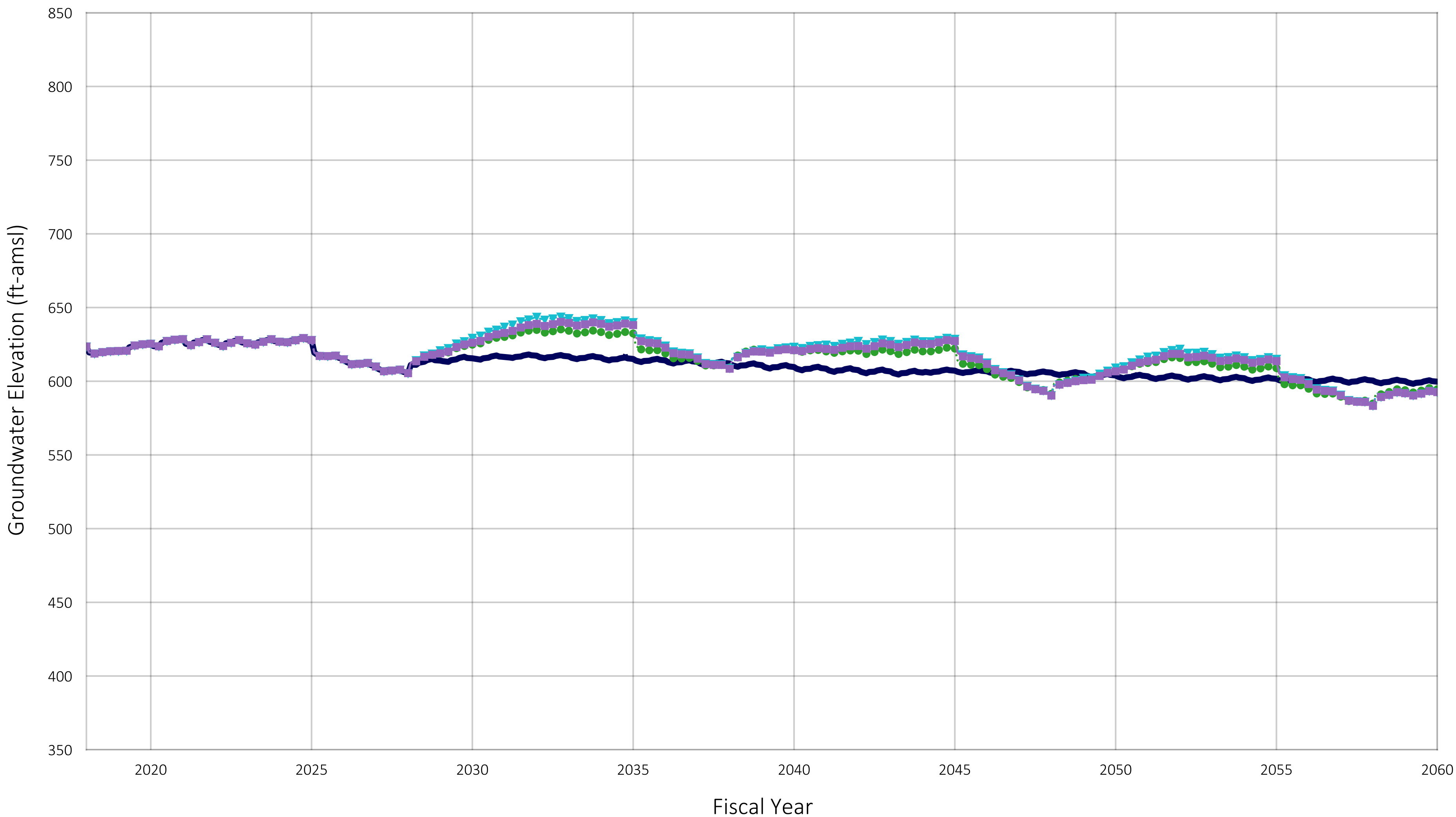
Location of Well in Chino Basin

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 136
Owner: City of Ontario
Well Name: 136

Figure A-117



Location of Well in Chino Basin

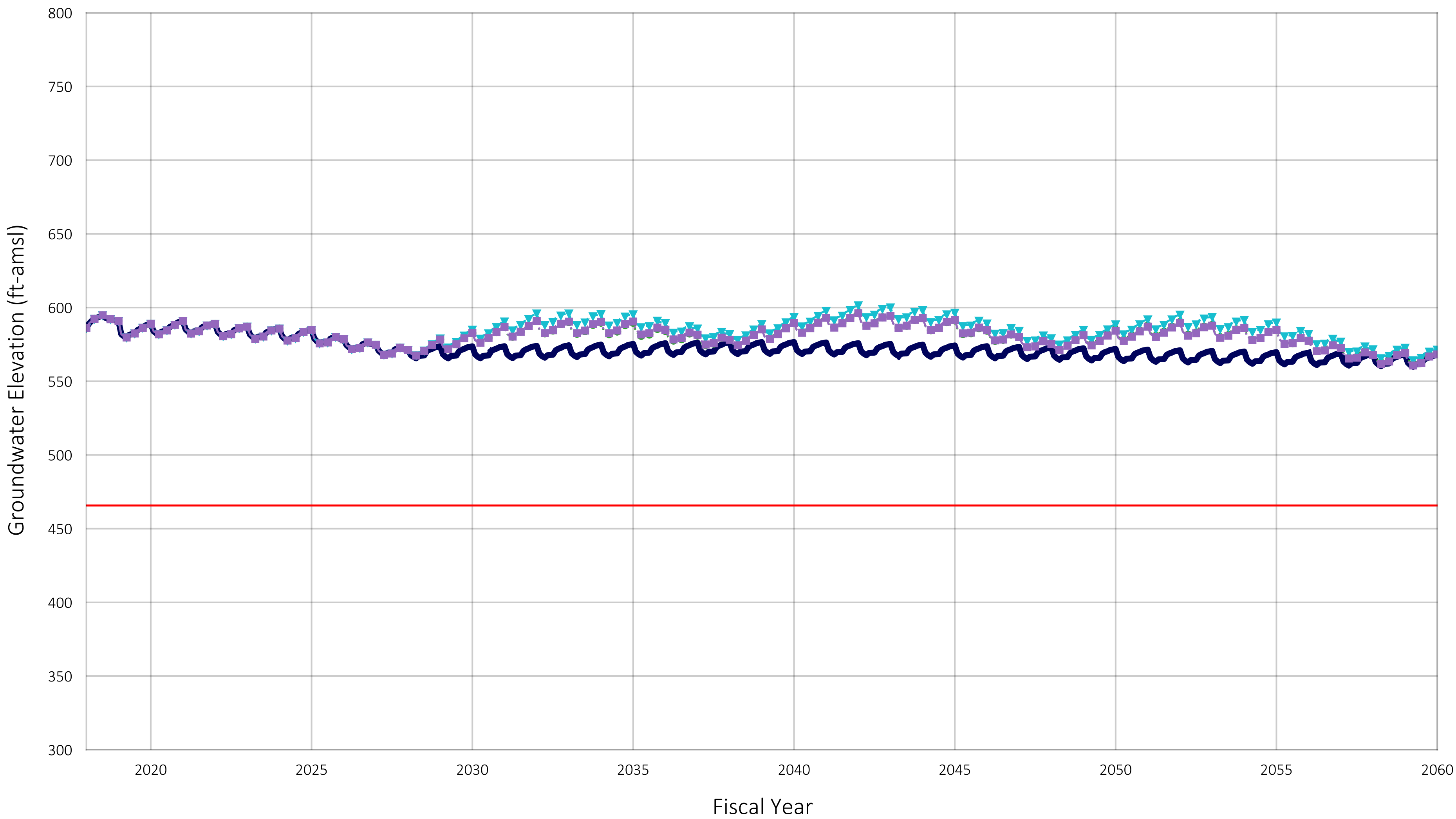
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

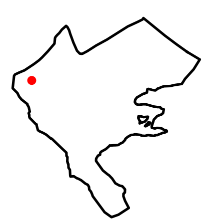
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 138
Owner: City of Ontario
Well Name: 138

Figure A-118



Location of Well in Chino Basin



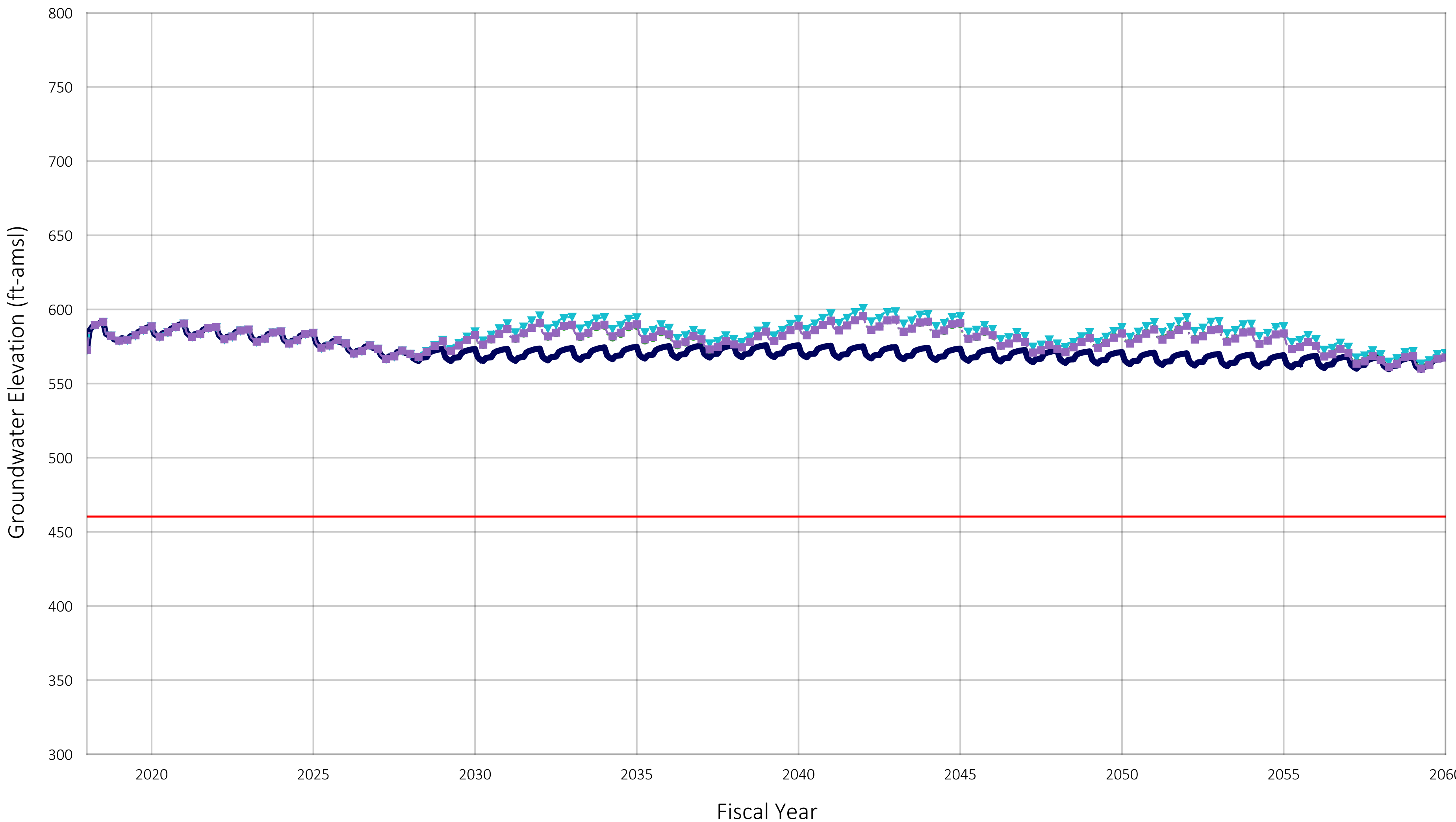
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

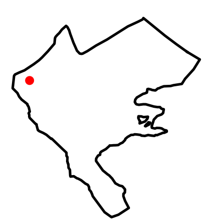
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002653
Owner: City of Pomona
Well Name: 2

Figure A-119



Location of Well in Chino Basin



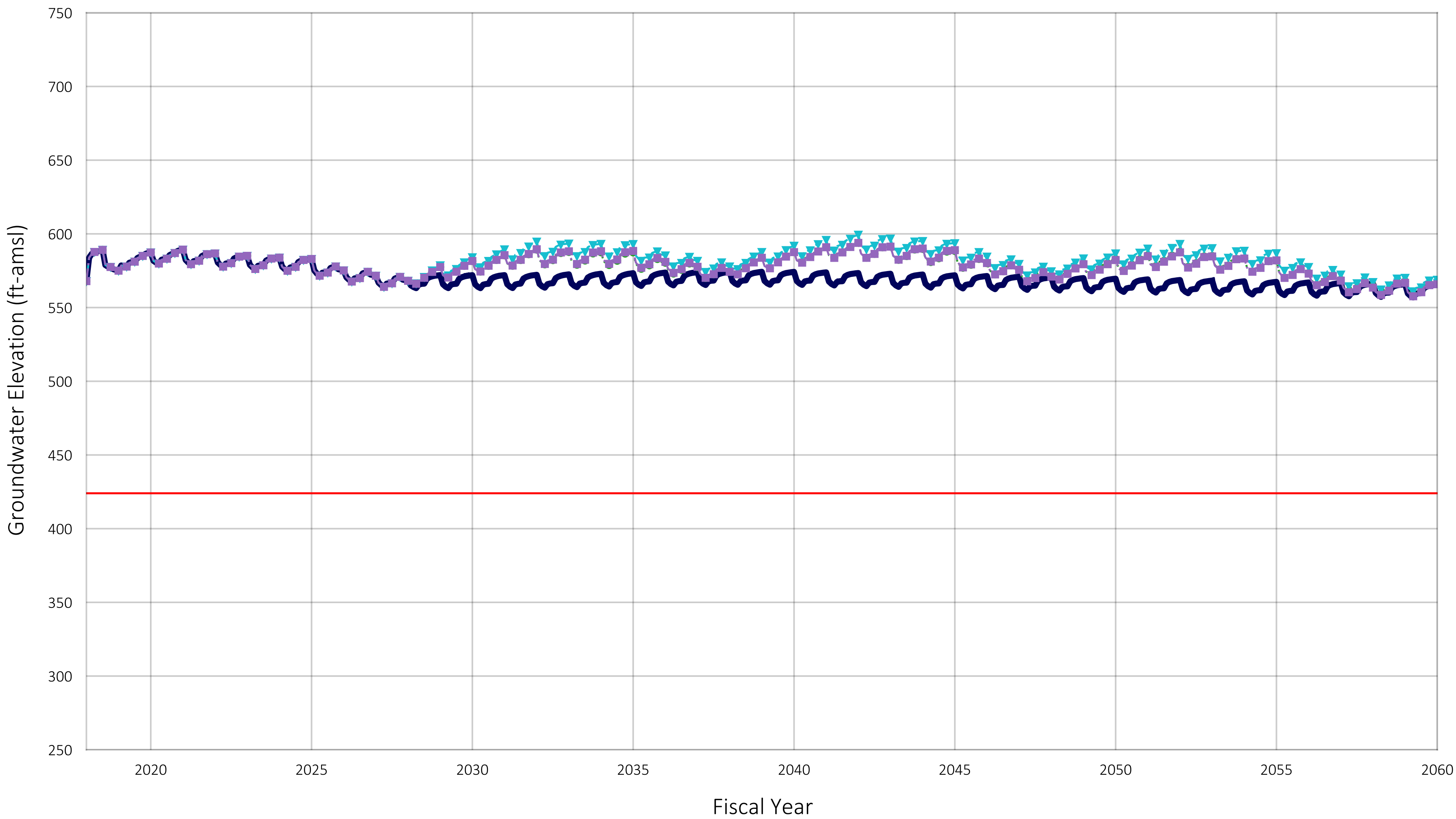
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

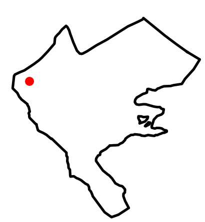
WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1205314
Owner: City of Pomona
Well Name: 5B

Figure A-120



Location of Well in Chino Basin



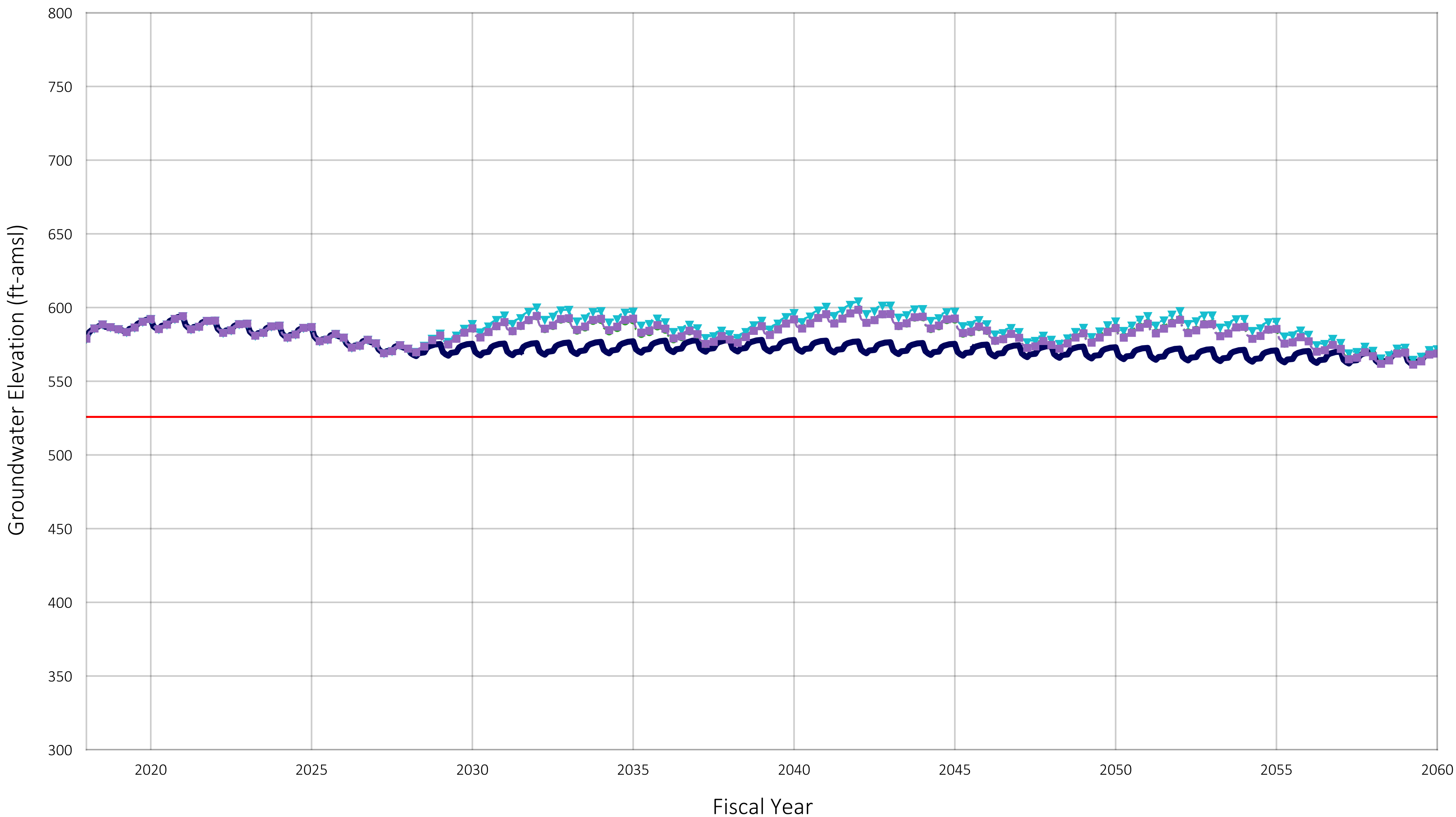
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002650
Owner: City of Pomona
Well Name: 6

Figure A-121



Location of Well in Chino Basin

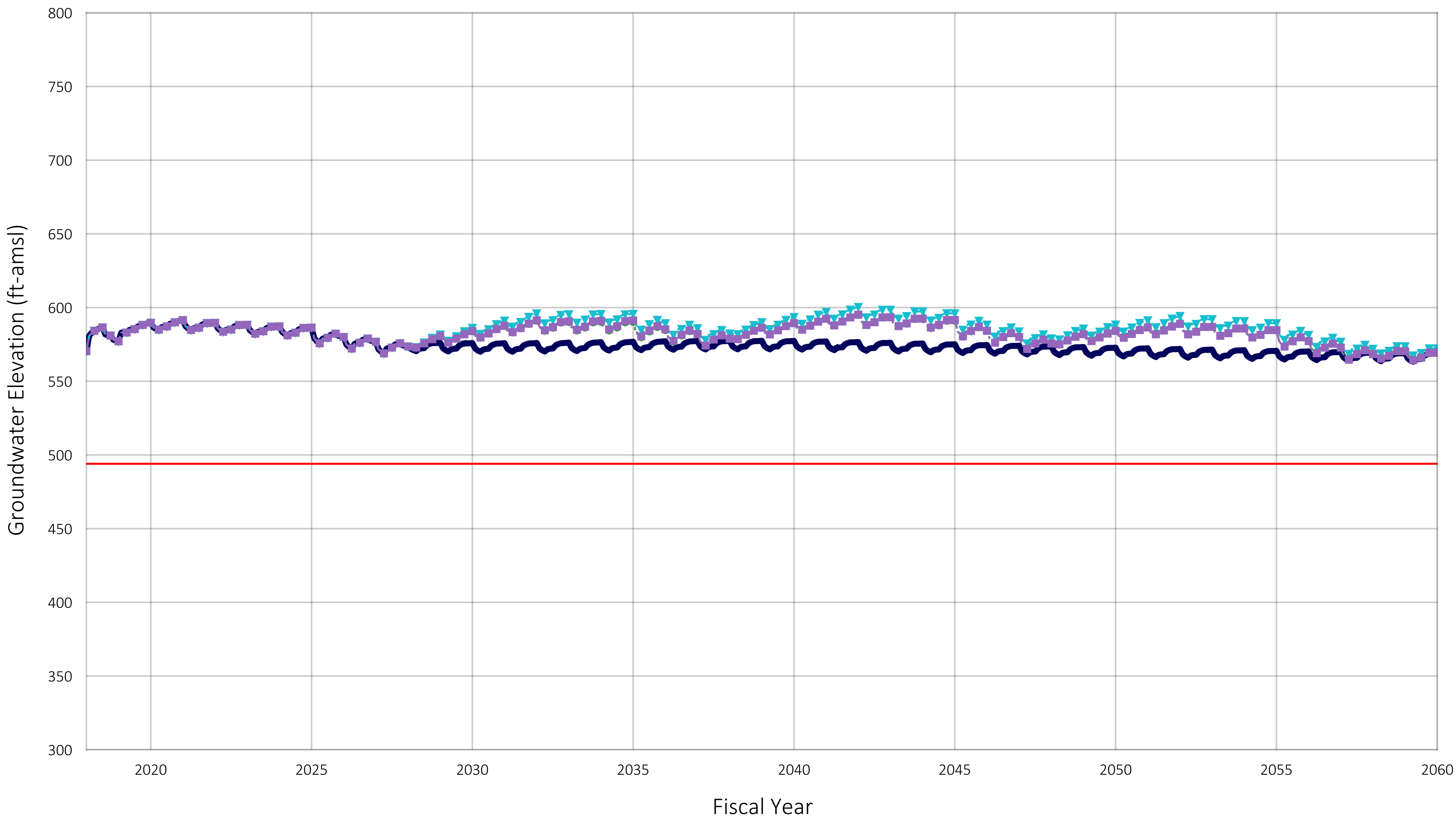
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

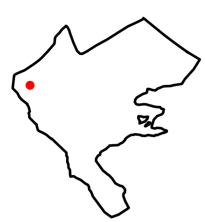
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002656
Owner: City of Pomona
Well Name: 10

Figure A-122



Location of Well in Chino Basin



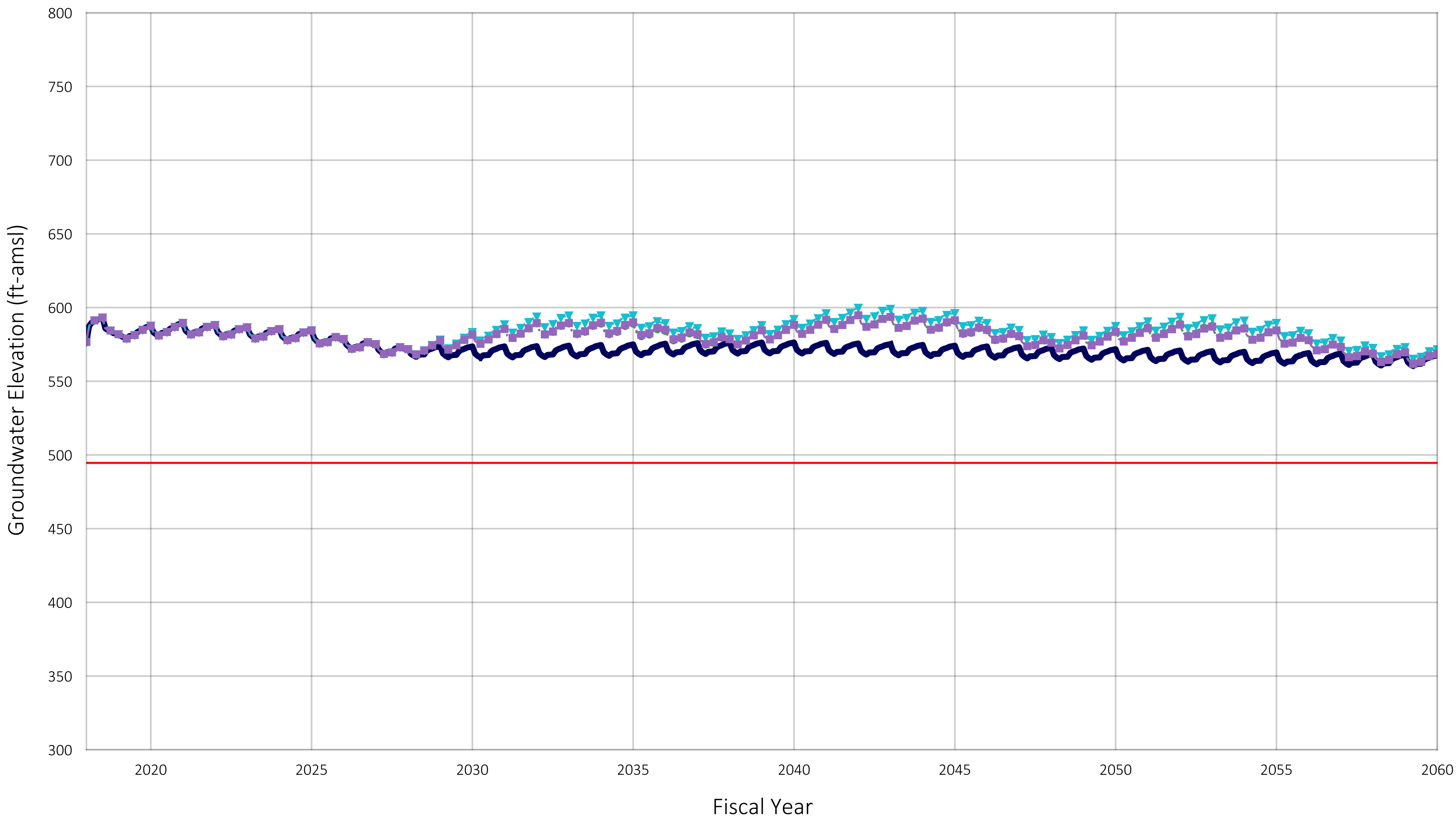
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002664
Owner: City of Pomona
Well Name: 15

Figure A-123



Location of Well in Chino Basin

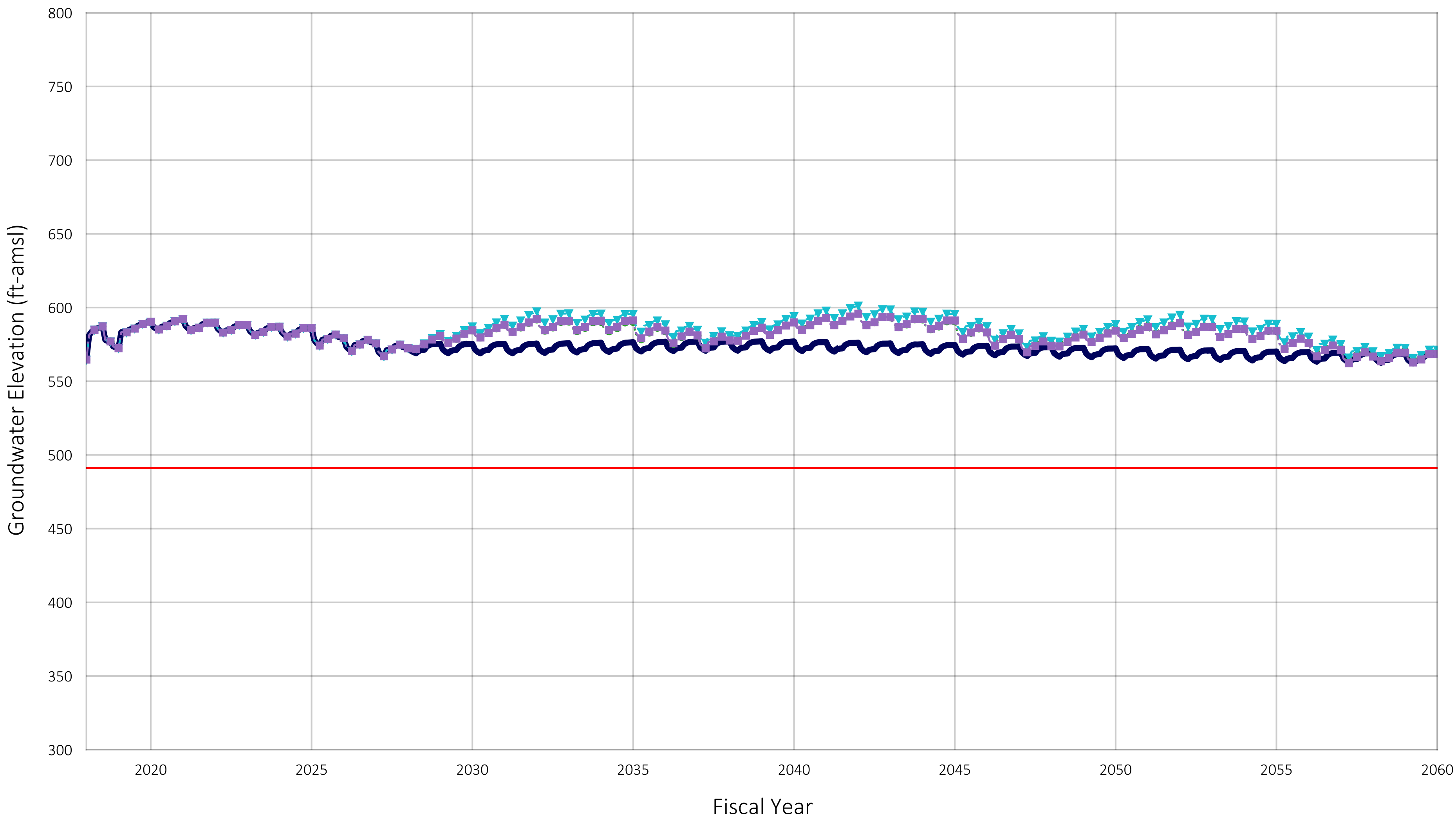
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002654
Owner: City of Pomona
Well Name: 16

Figure A-124



Location of Well in Chino Basin

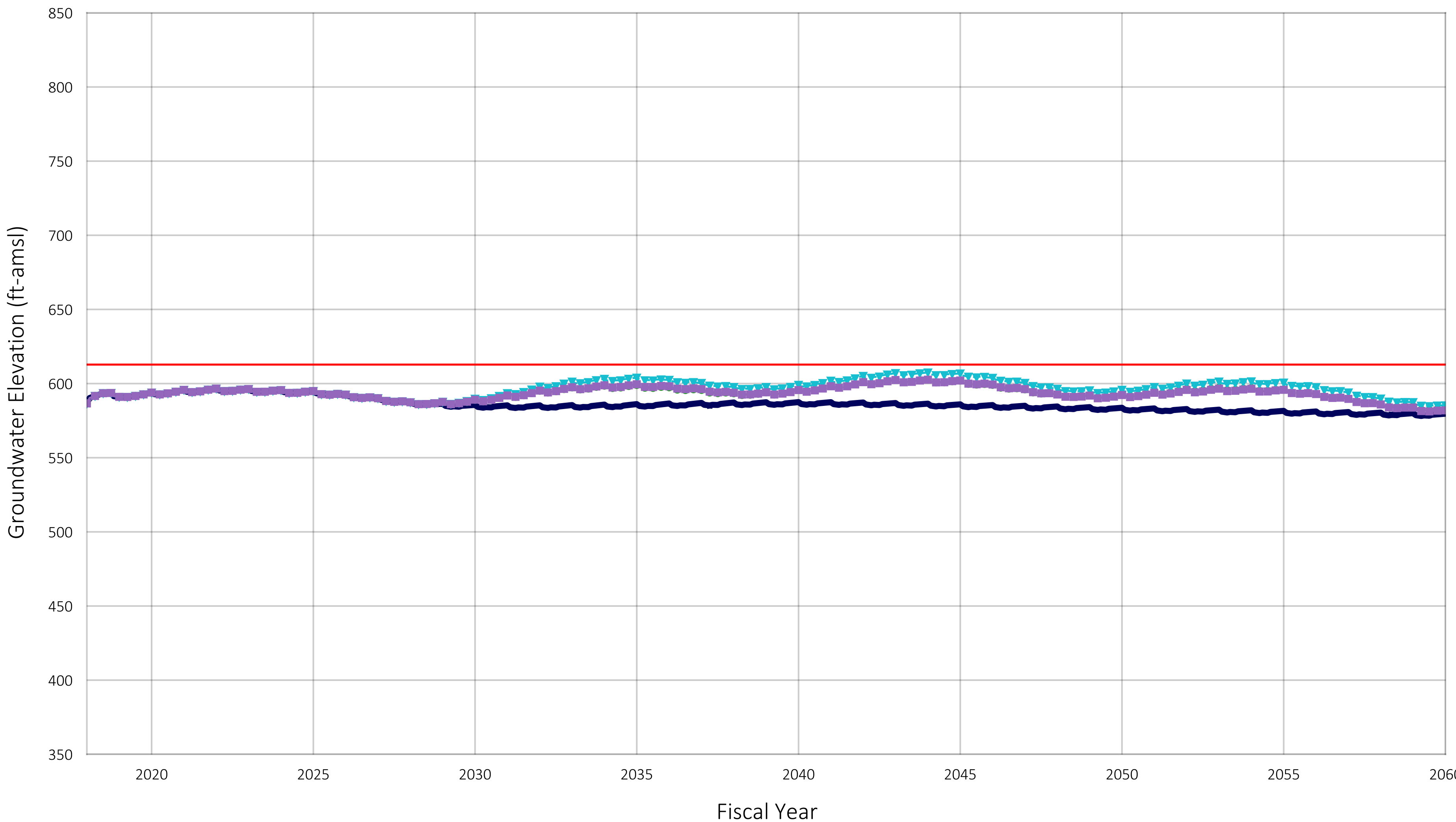
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

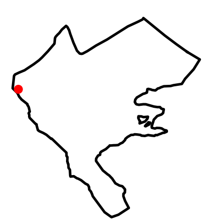
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002659
Owner: City of Pomona
Well Name: 17

Figure A-125



Location of Well in Chino Basin



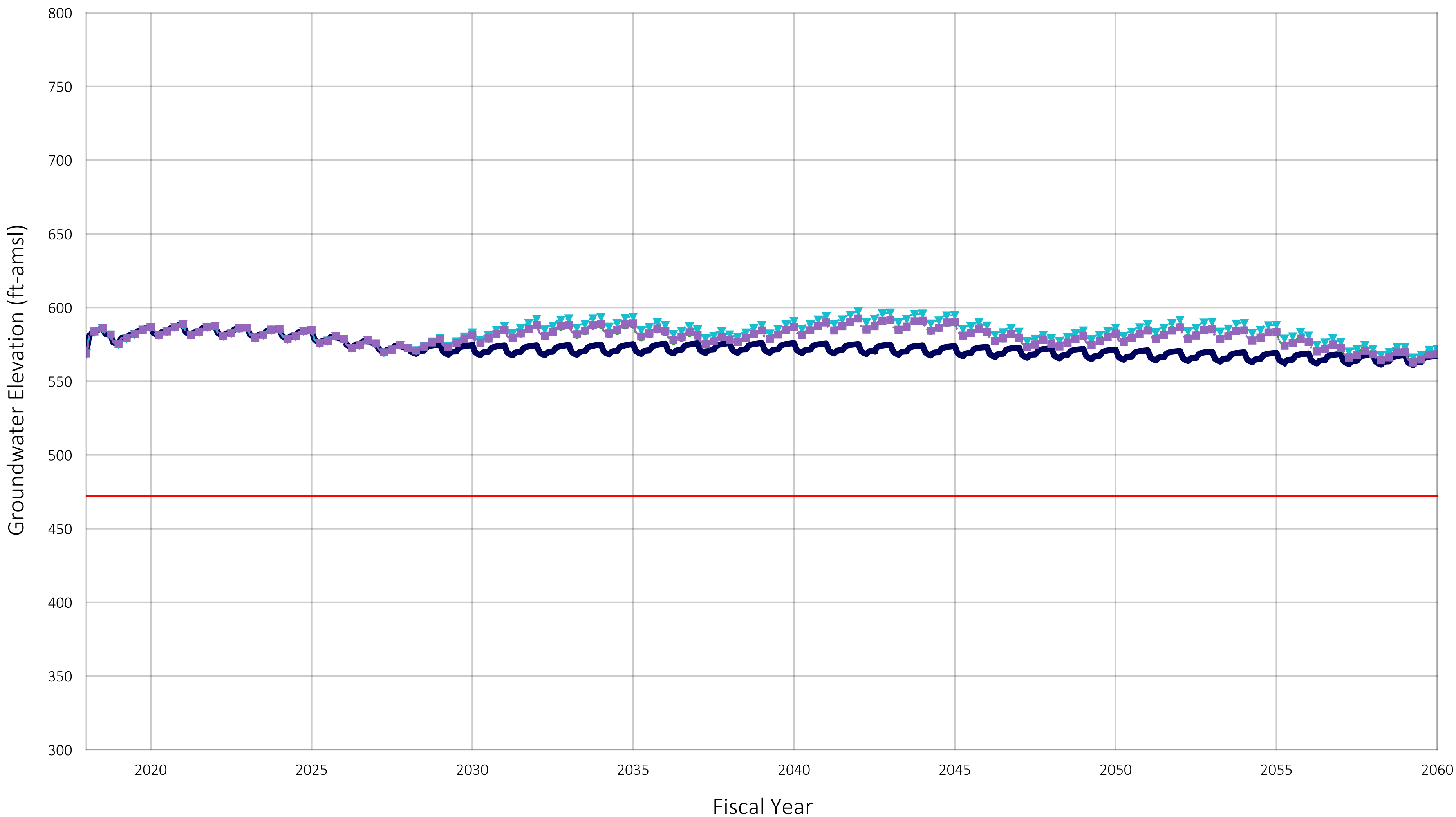
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

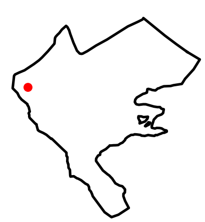
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002678
Owner: City of Pomona
Well Name: 21

Figure A-126



Location of Well in Chino Basin



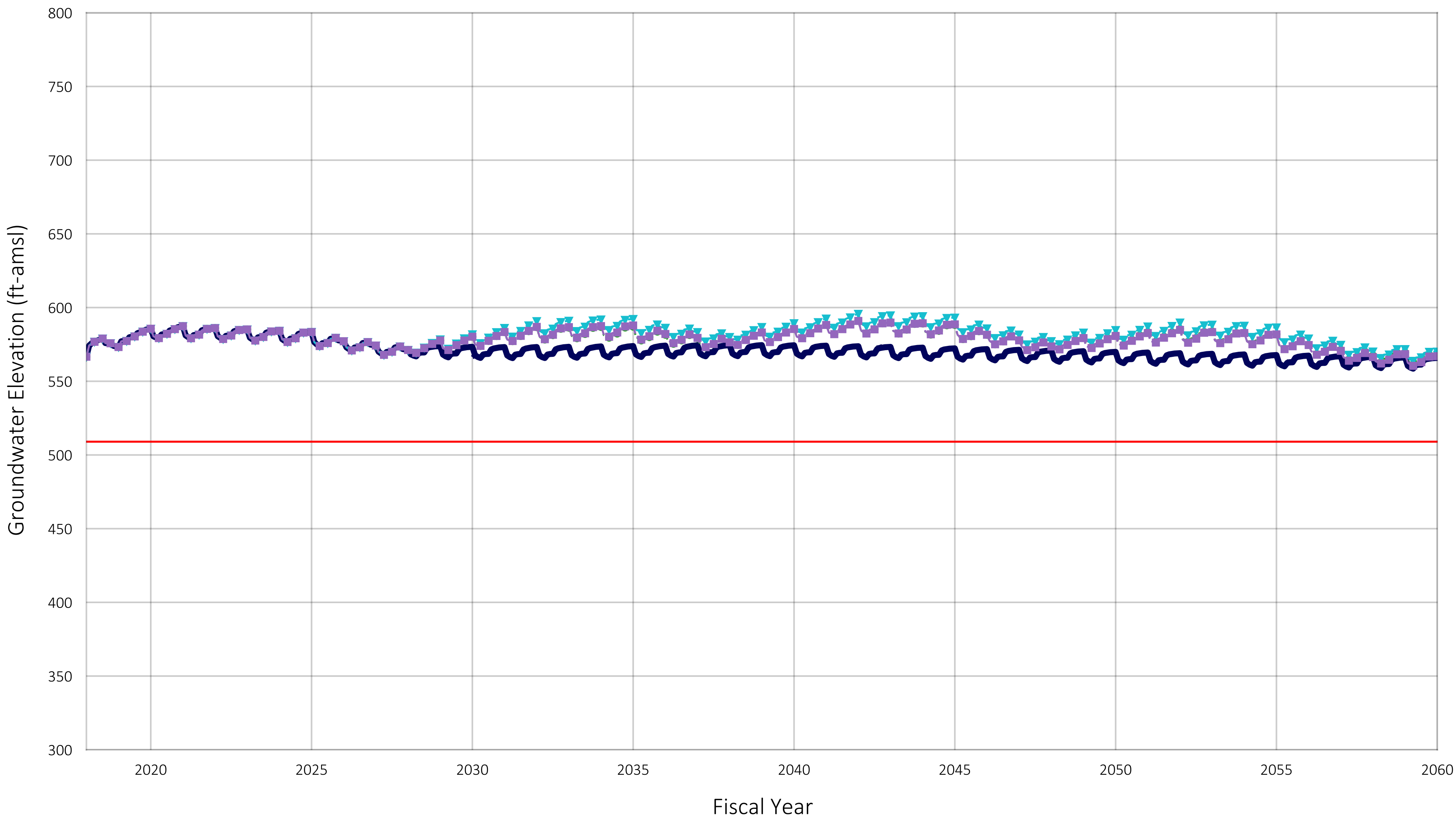
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002704
Owner: City of Pomona
Well Name: 23

Figure A-127



Location of Well in Chino Basin

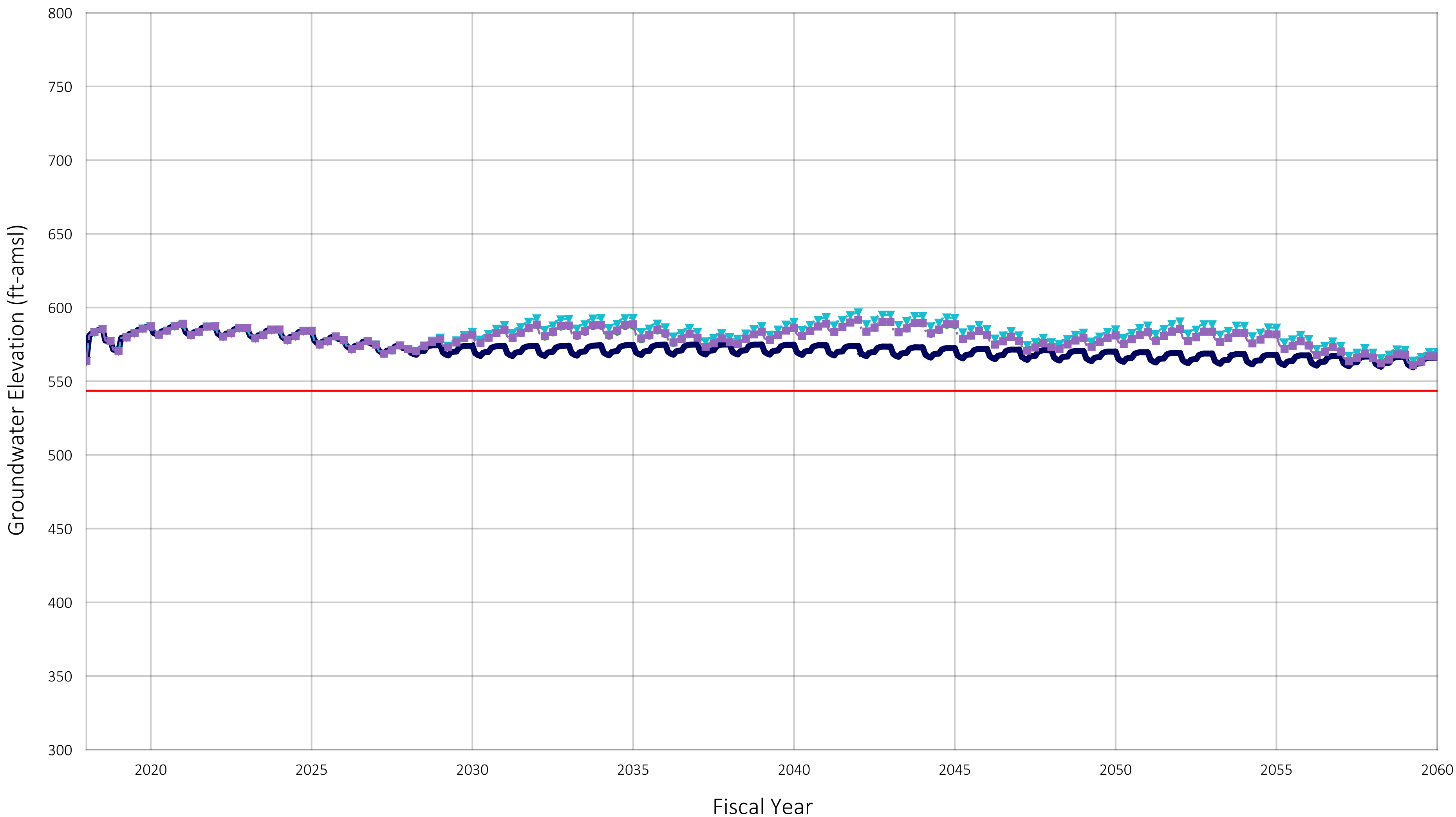
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

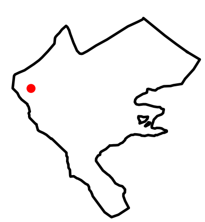
WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002706
Owner: City of Pomona
Well Name: 25

Figure A-128



Location of Well in Chino Basin



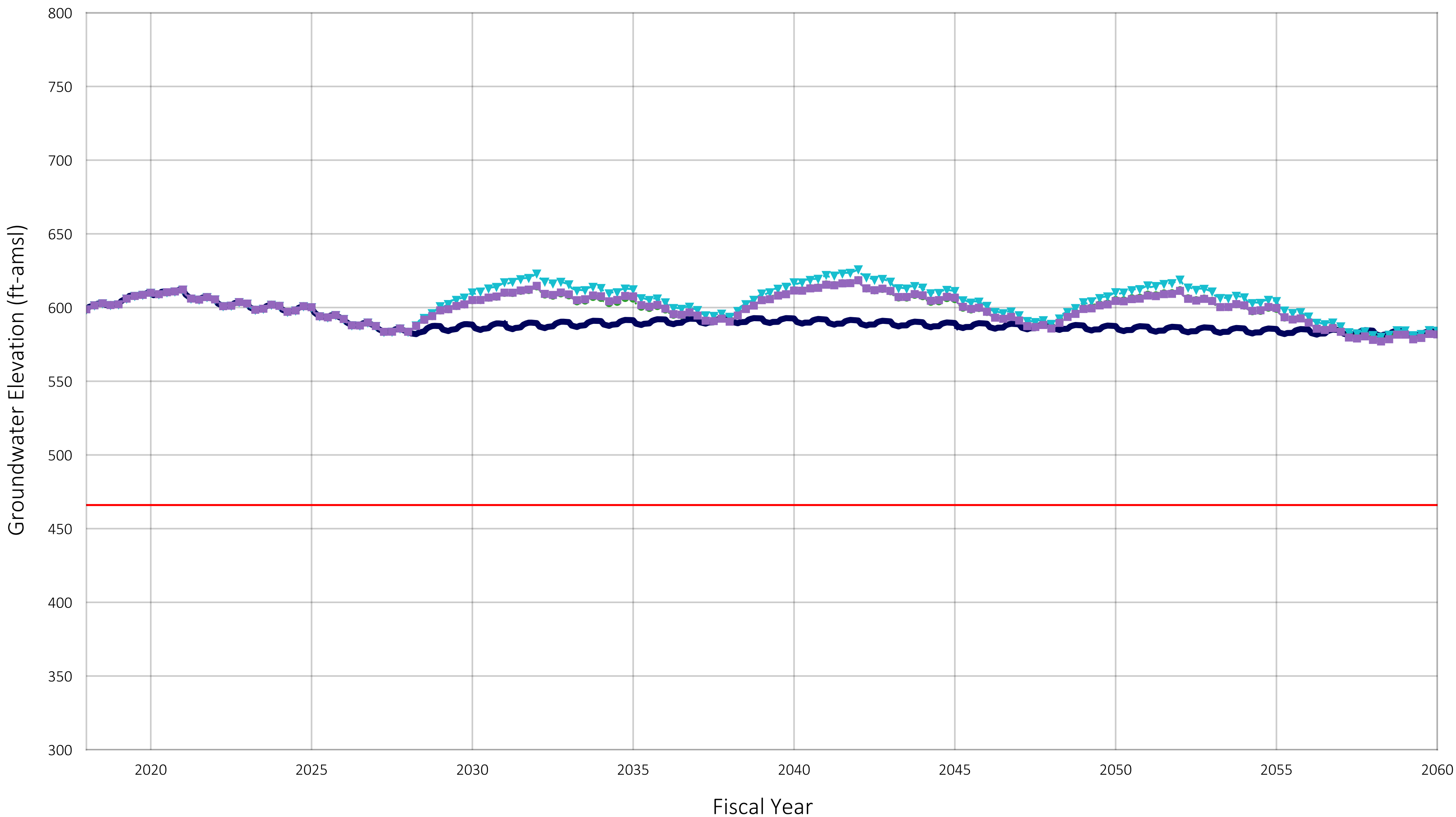
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

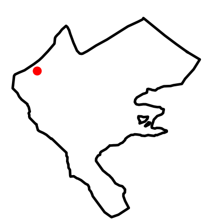
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002703
Owner: City of Pomona
Well Name: 26

Figure A-129



Location of Well in Chino Basin



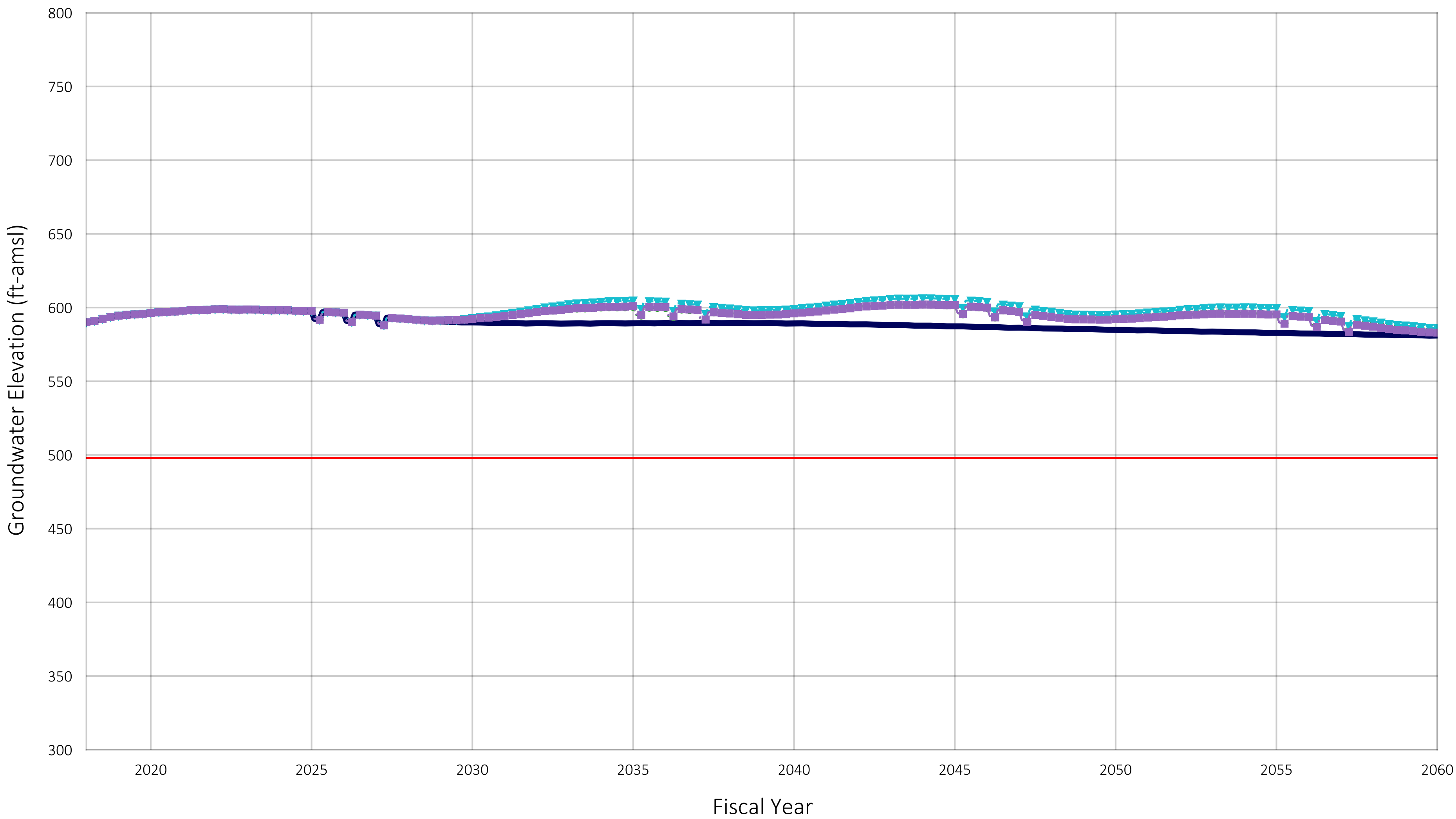
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1201236
Owner: City of Pomona
Well Name: 27

Figure A-130



Location of Well in Chino Basin

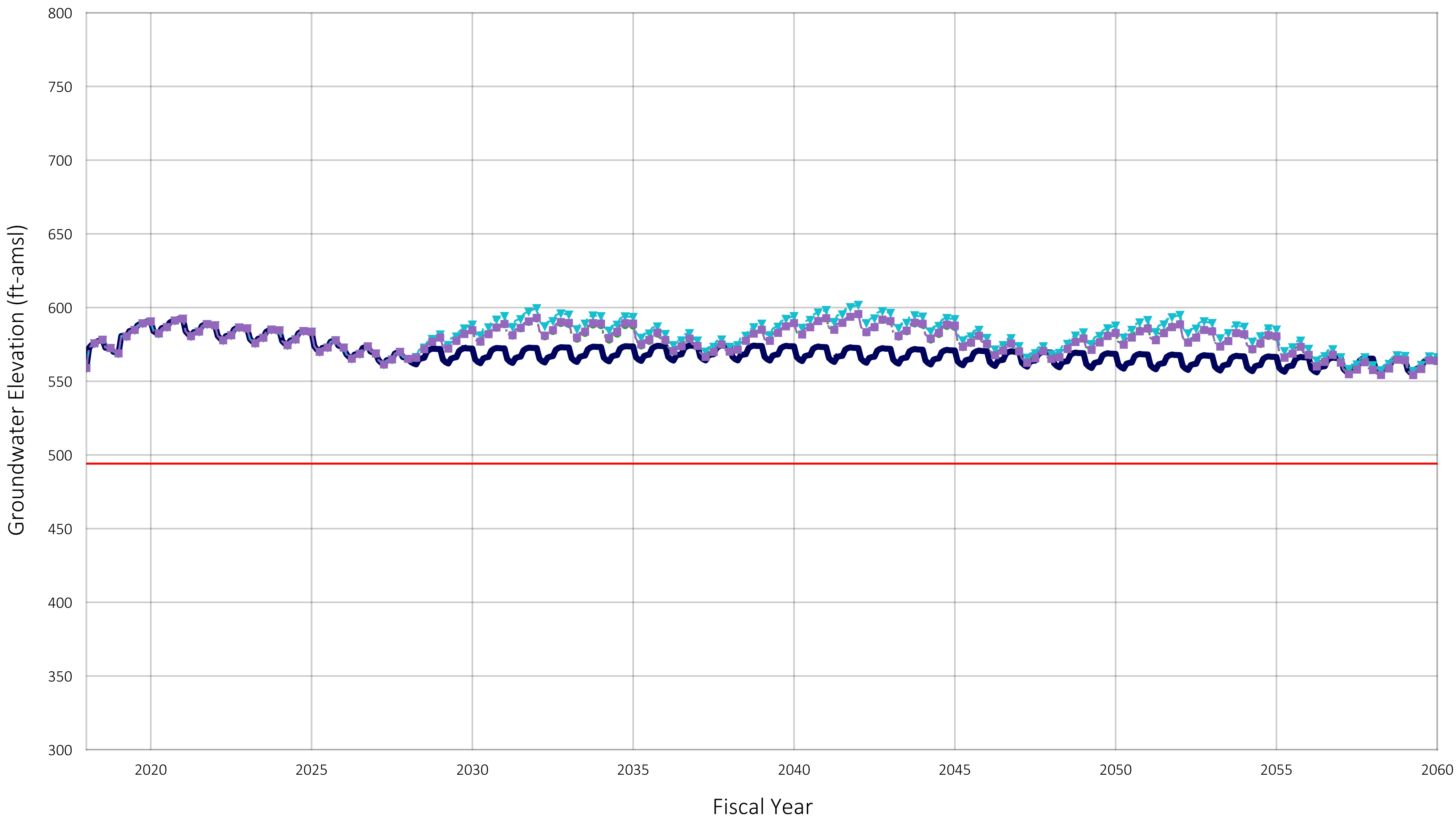
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1203062
Owner: City of Pomona
Well Name: 29

Figure A-131



Location of Well in Chino Basin

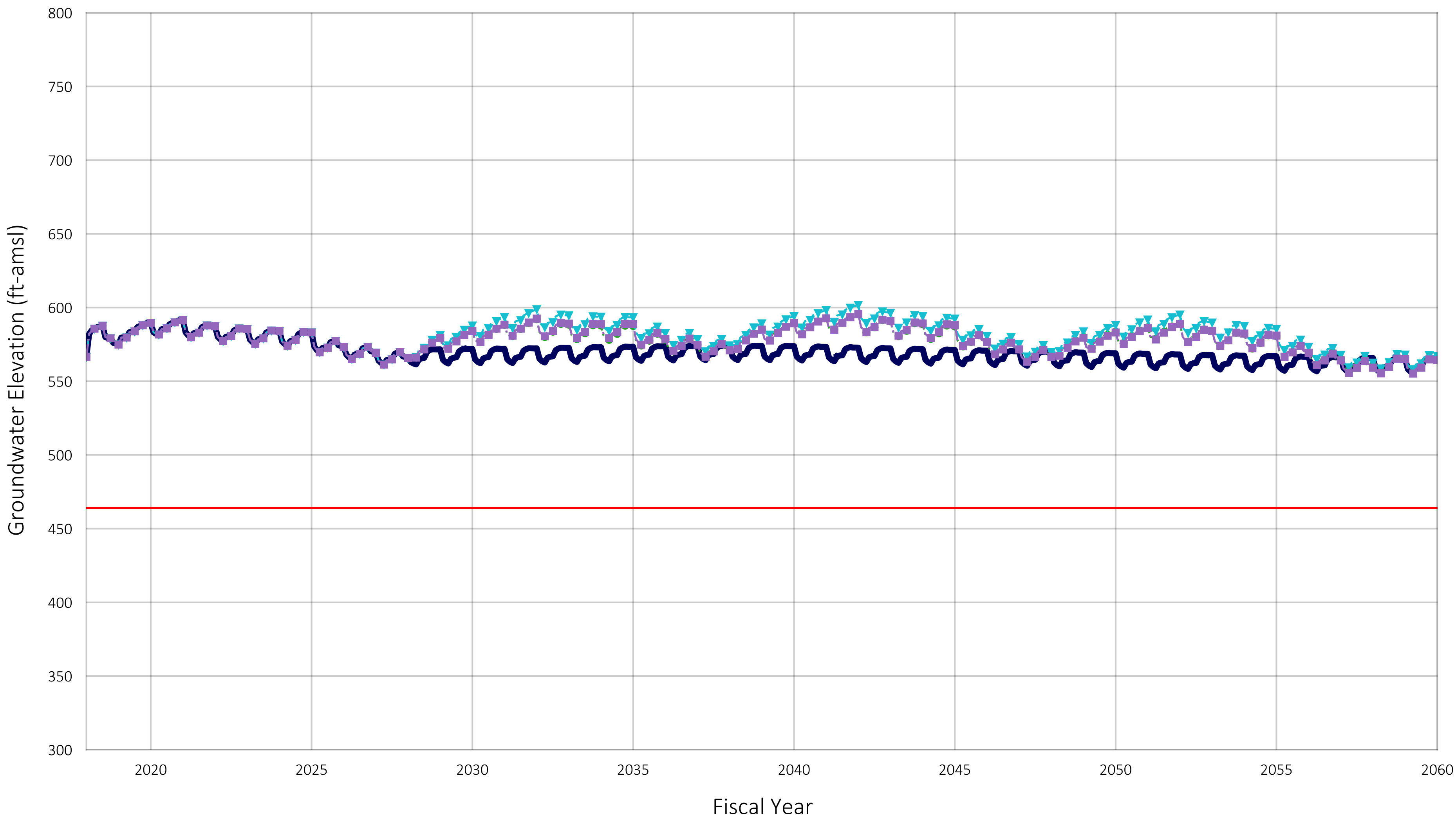
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

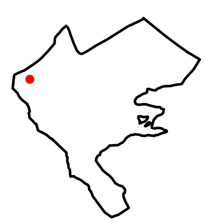
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1201247
Owner: City of Pomona
Well Name: 34

Figure A-132



Location of Well in Chino Basin



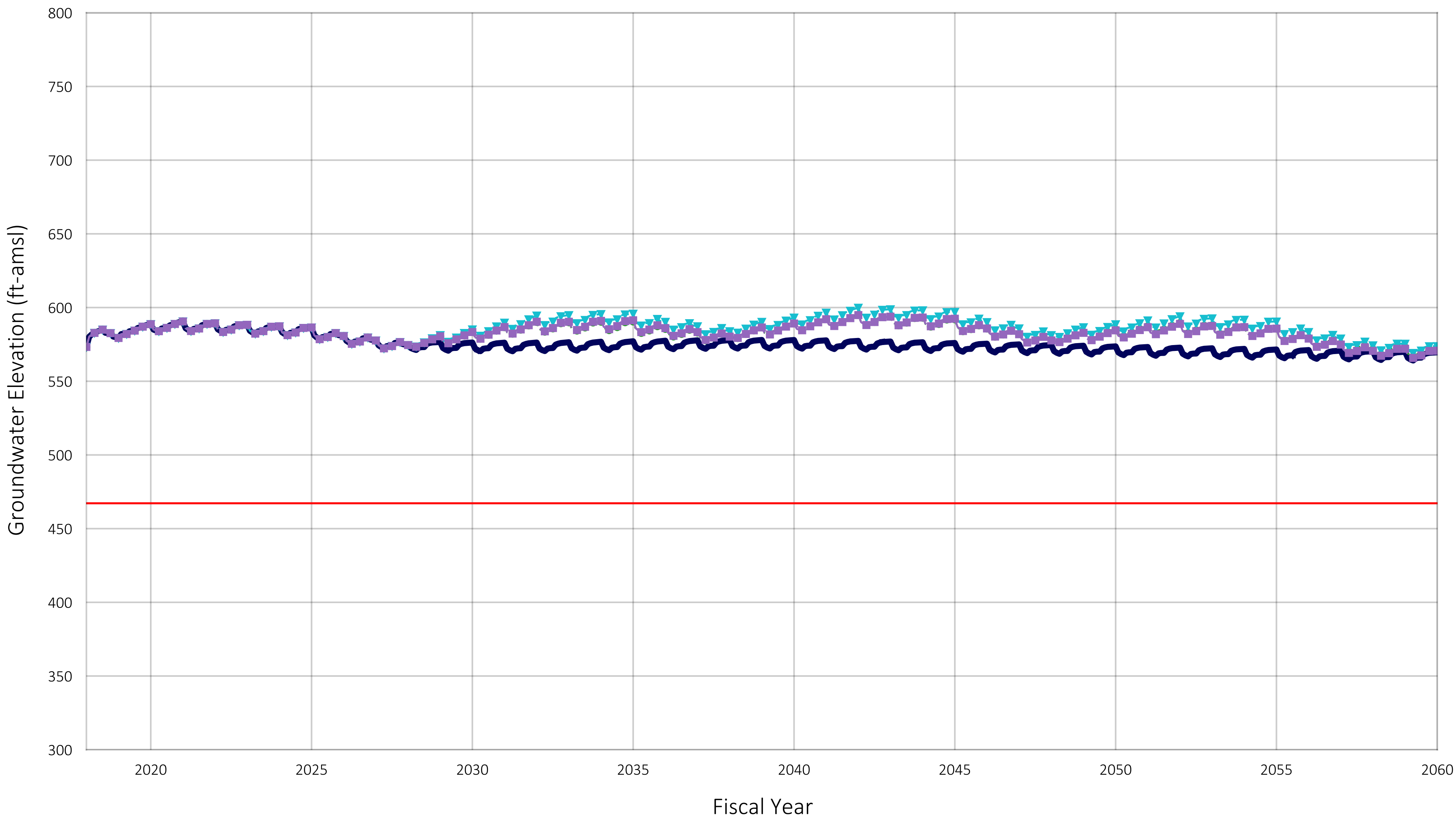
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1201246
Owner: City of Pomona
Well Name: 35

Figure A-133



Location of Well in Chino Basin

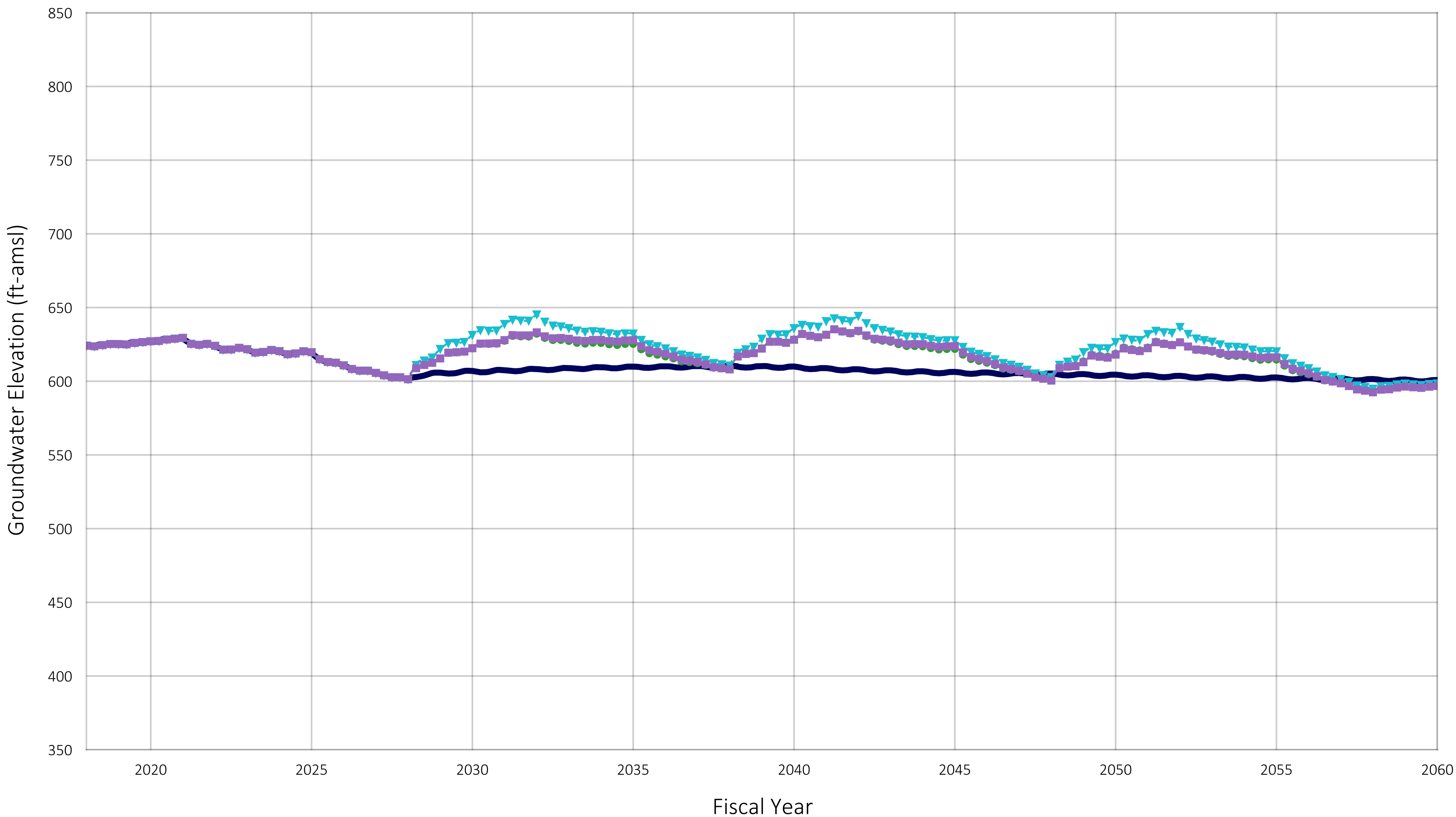
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

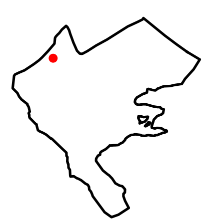
WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1205309
Owner: City of Pomona
Well Name: 36

Figure A-134



Location of Well in Chino Basin



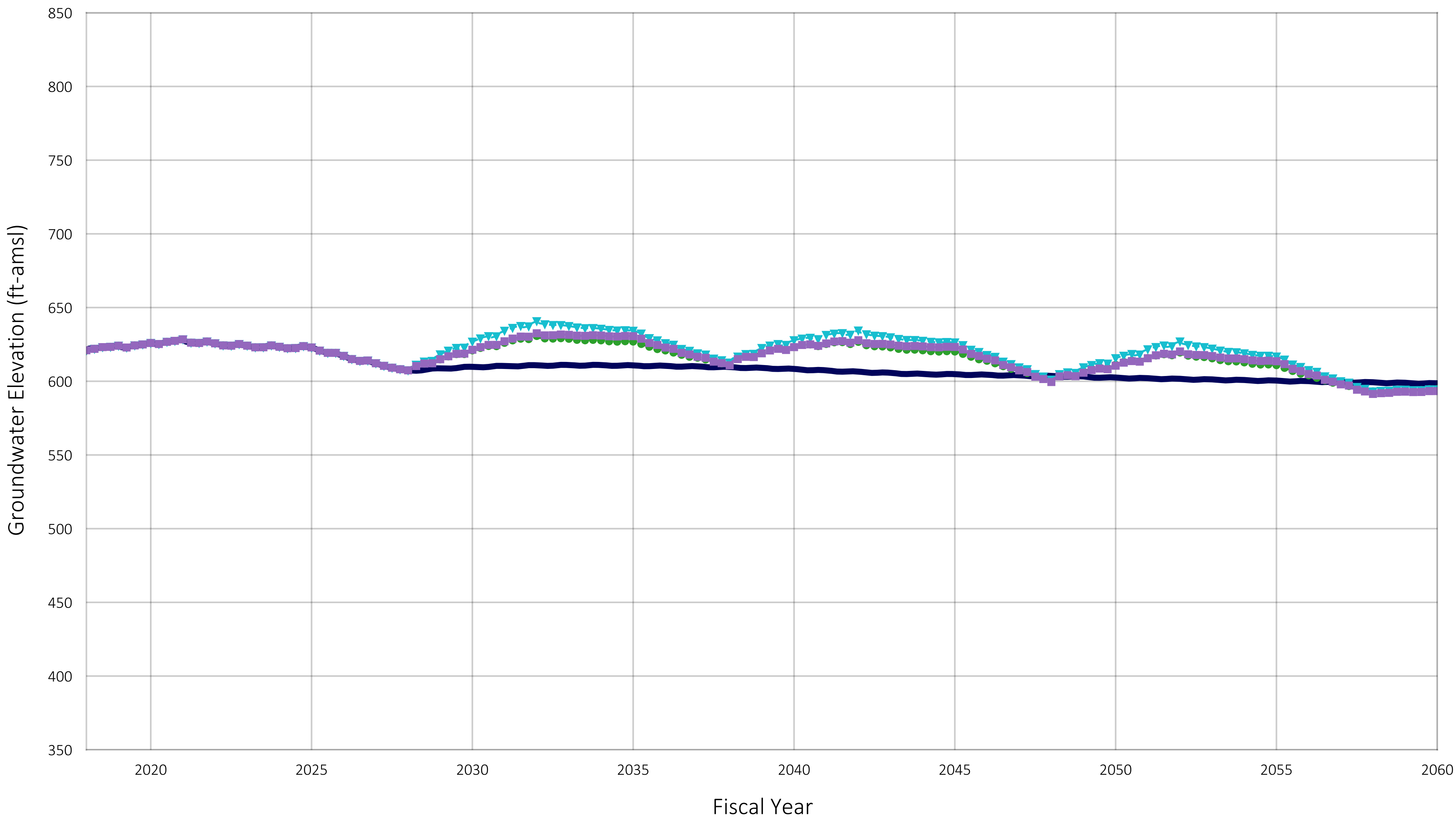
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002535
Owner: City of Upland
Well Name: 3

Figure A-135



Location of Well in Chino Basin

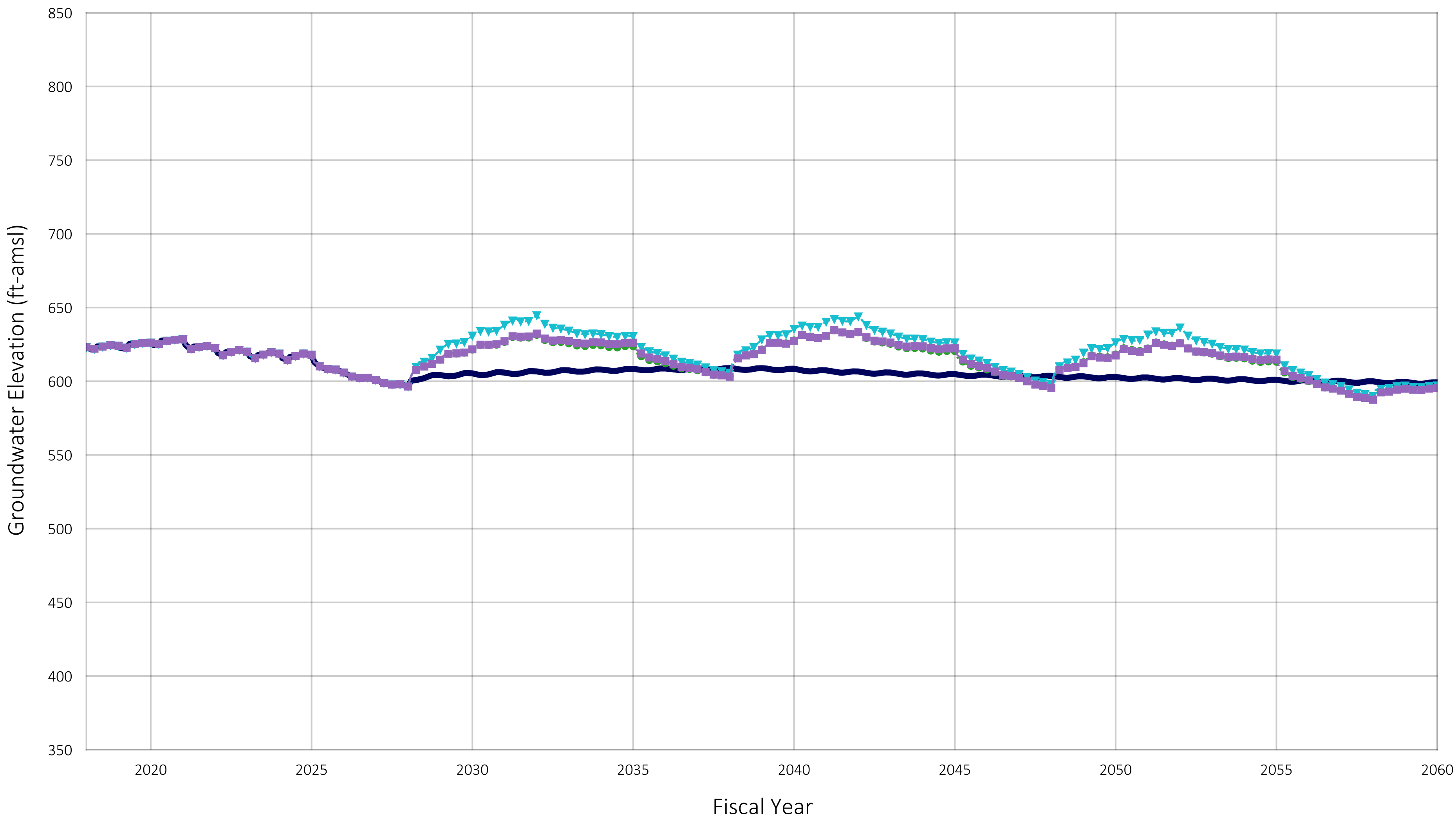
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1006997
Owner: City of Upland
Well Name: 7A

Figure A-136



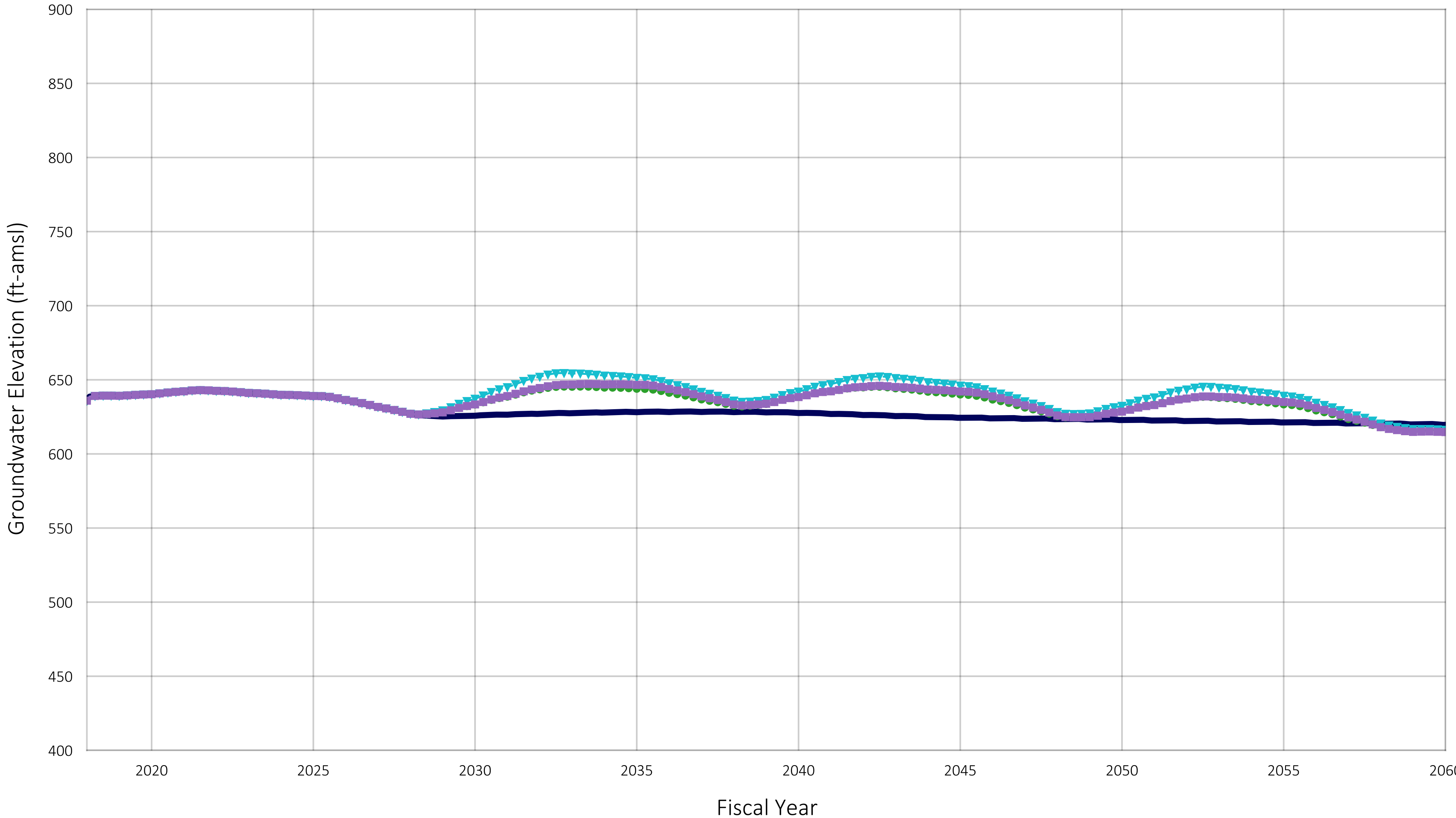
Location of Well in Chino Basin

Prepared by:

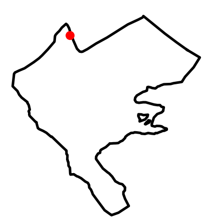
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002531
Owner: City of Upland
Well Name: 8

Figure A-137



Location of Well in Chino Basin



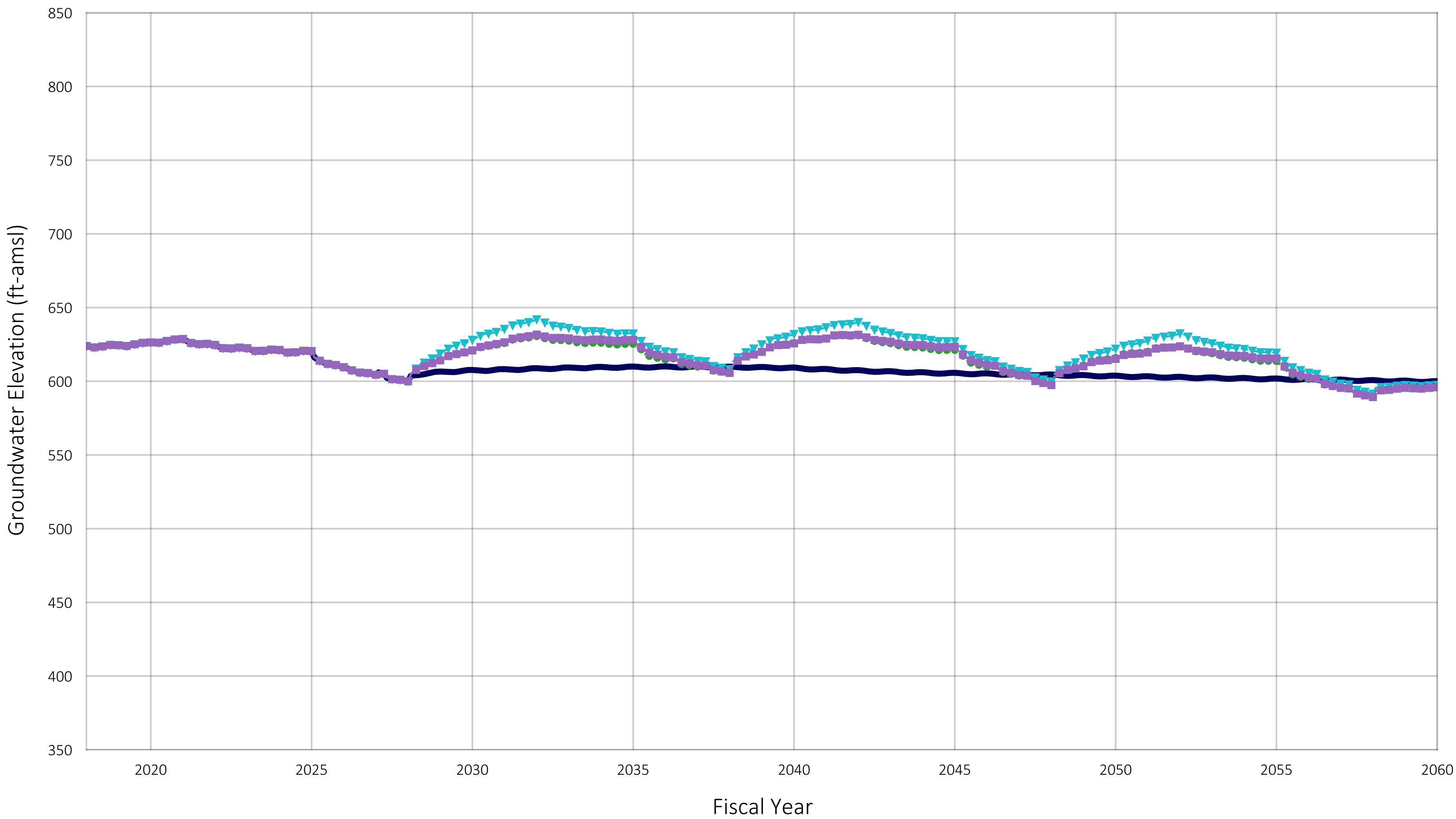
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206654
Owner: City of Upland
Well Name: 20

Figure A-138



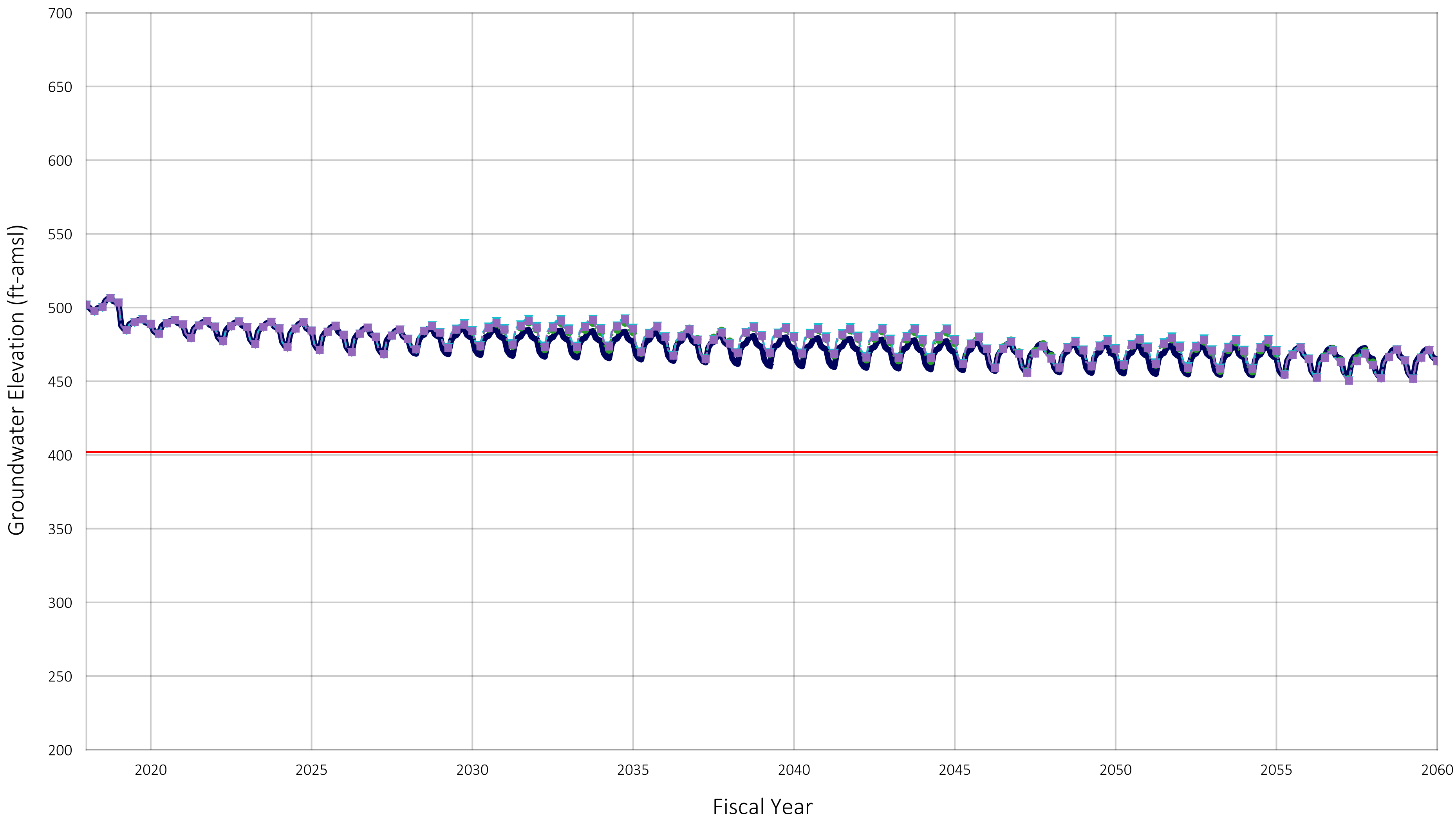
Location of Well in Chino Basin

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1207956
Owner: City of Upland
Well Name: 21A

Figure A-139



Location of Well in Chino Basin

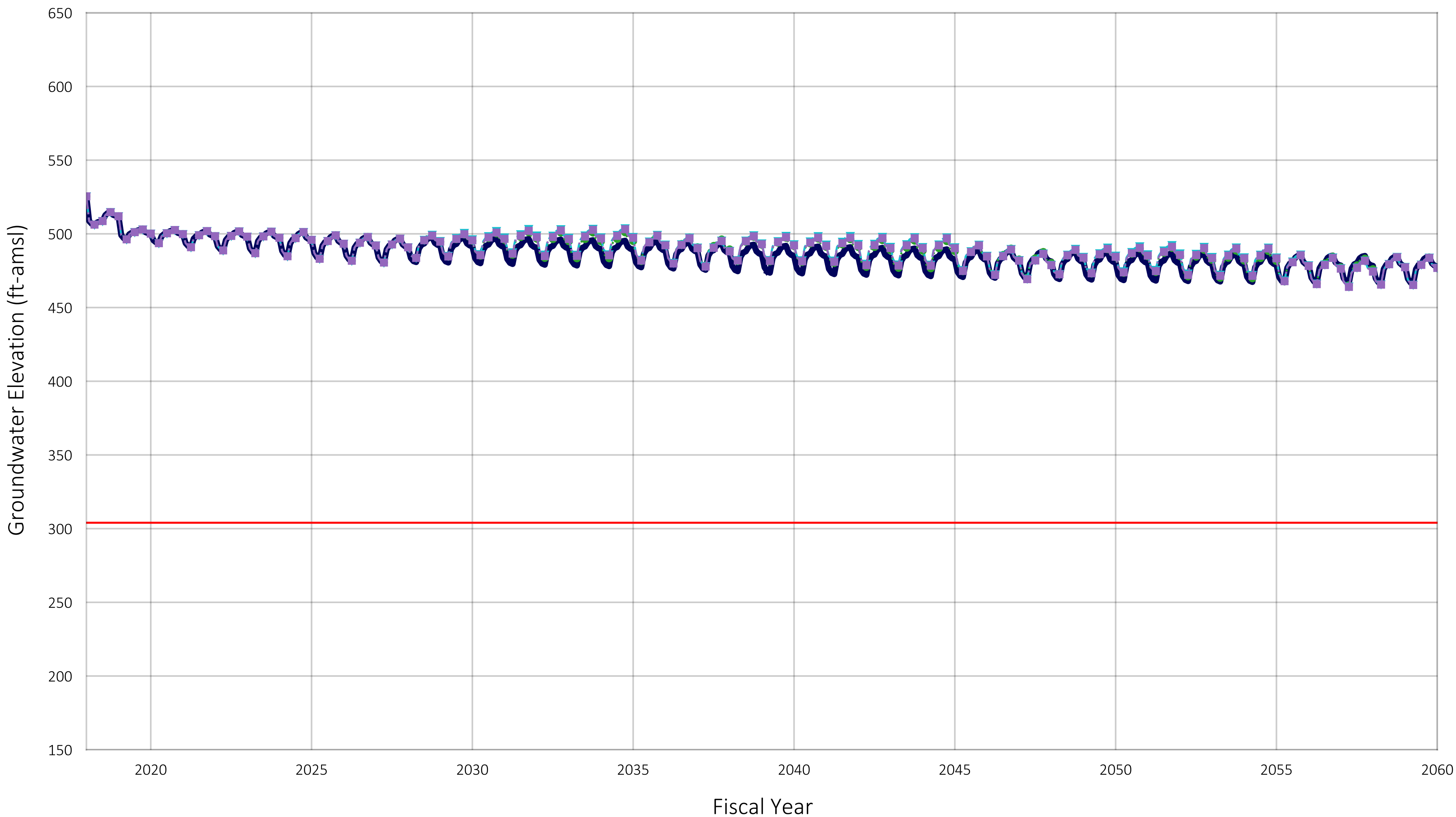
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206675
Owner: Chino Basin Desalter Authority
Well Name: I-1

Figure A-140



Location of Well in Chino Basin

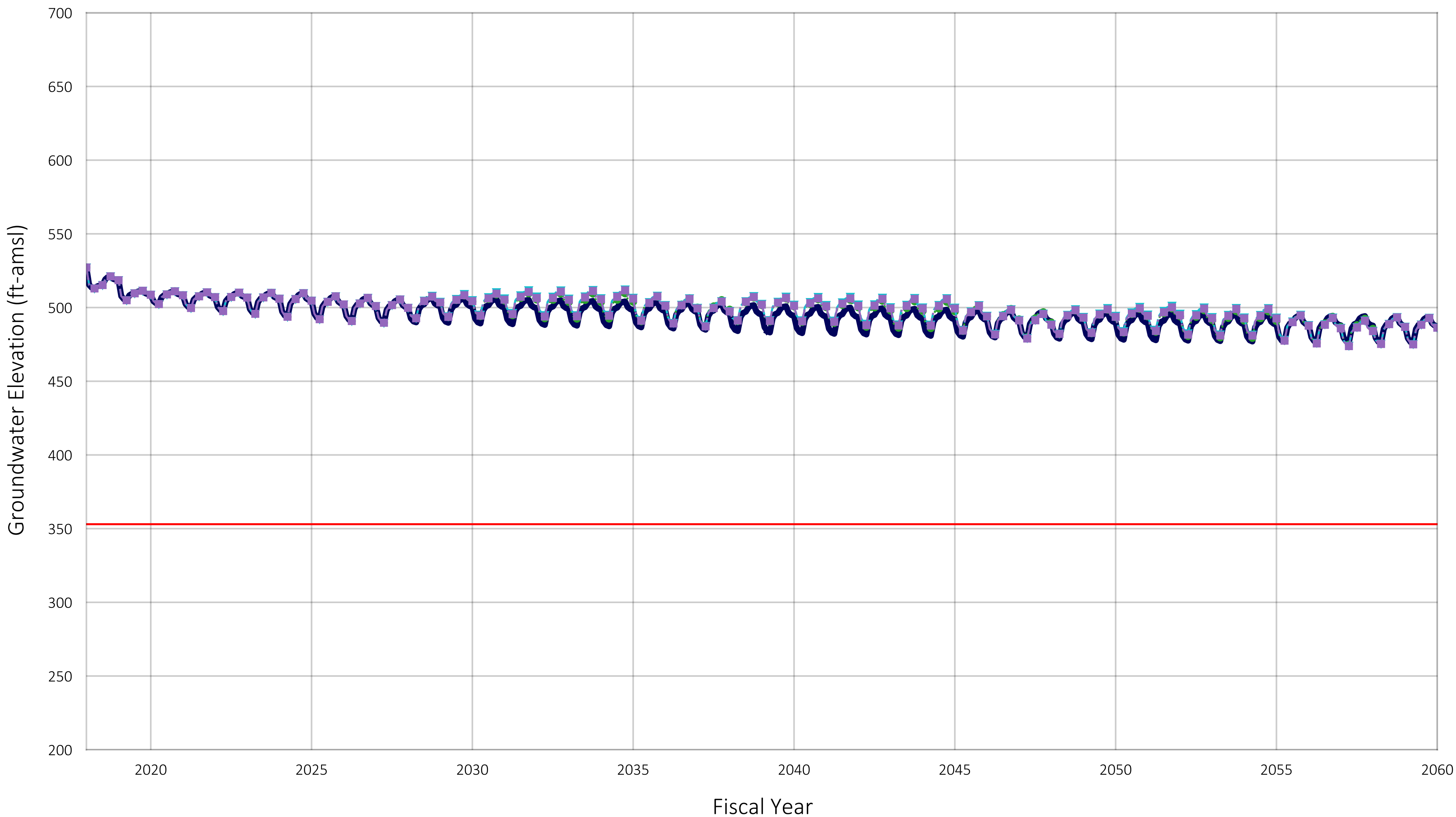
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206676
Owner: Chino Basin Desalter Authority
Well Name: I-2

Figure A-141



Location of Well in Chino Basin

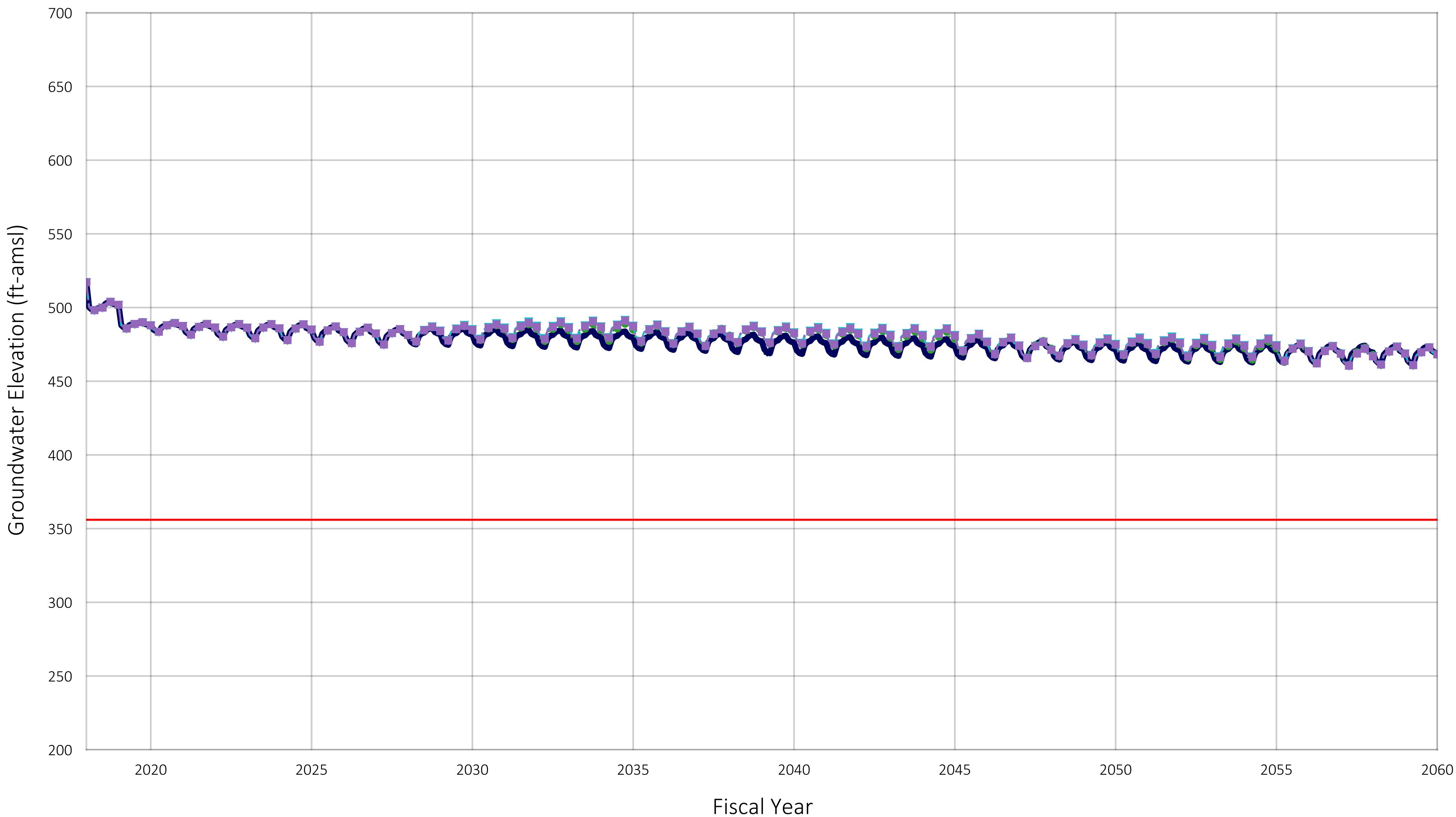
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206677
Owner: Chino Basin Desalter Authority
Well Name: I-3

Figure A-142



Location of Well in Chino Basin

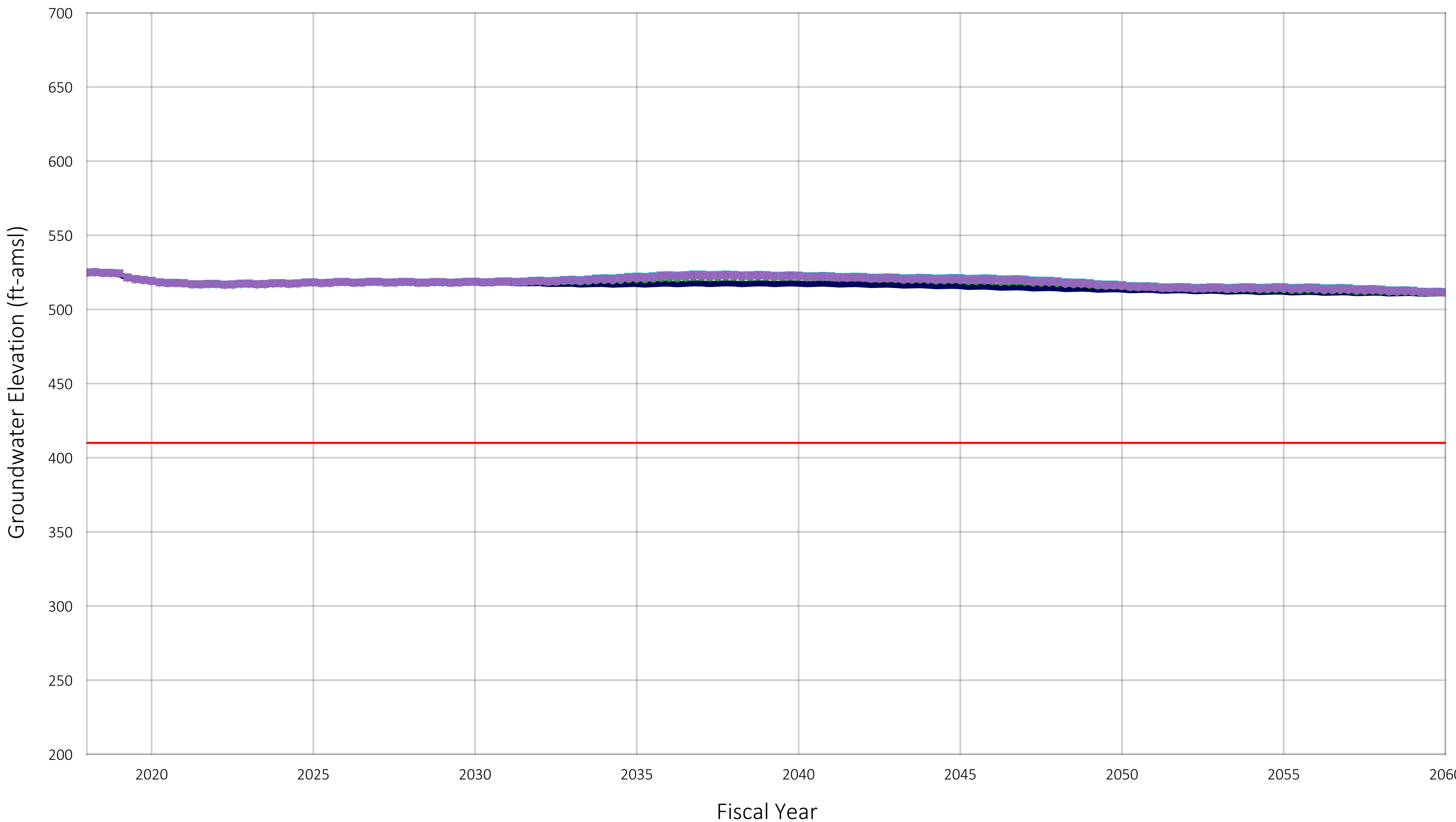
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206678
Owner: Chino Basin Desalter Authority
Well Name: I-4

Figure A-143



Location of Well in Chino Basin

Baseline

Scenario 2A

Scenario 3A

Scenario 3B

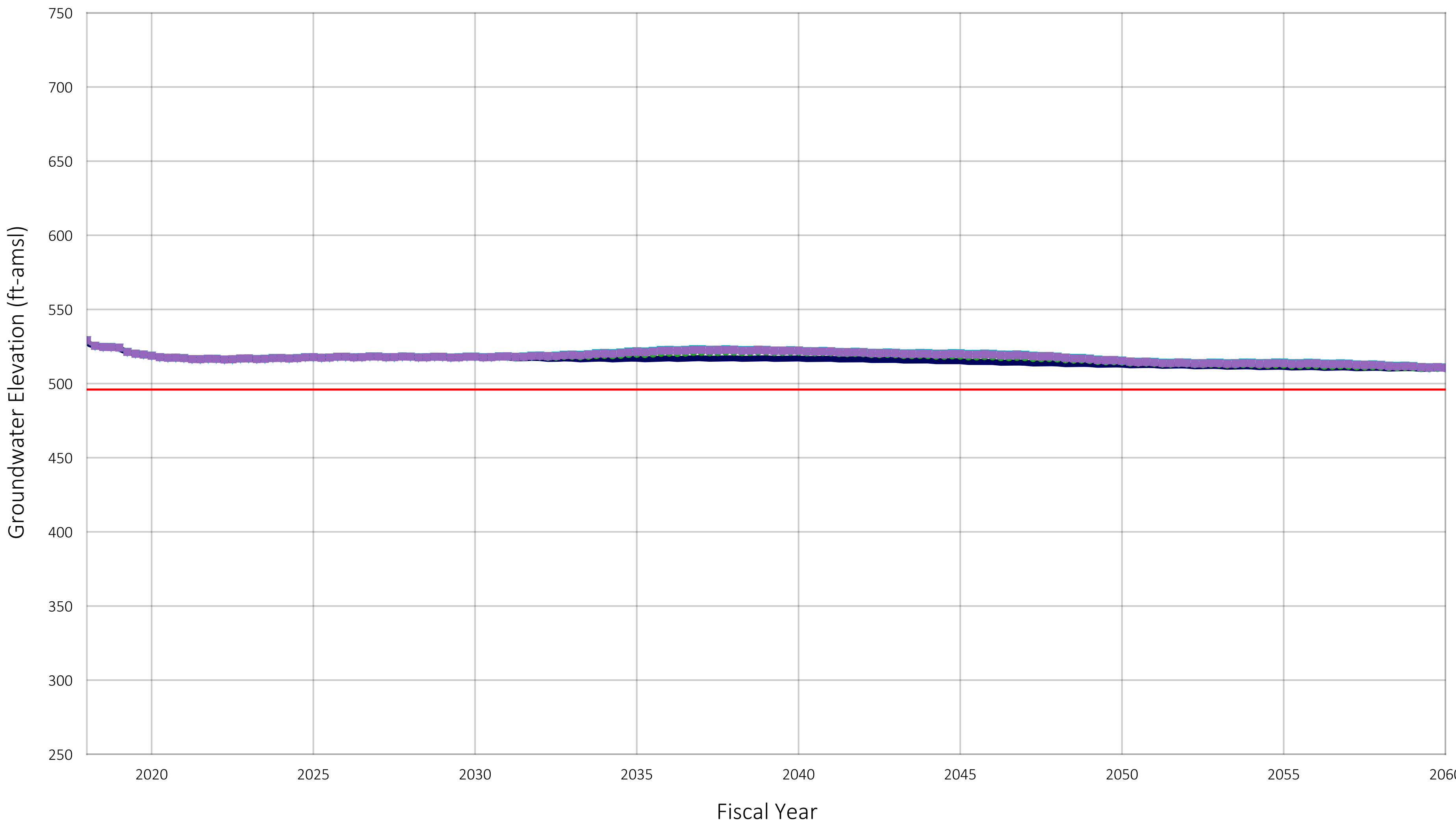
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206679
Owner: Chino Basin Desalter Authority
Well Name: I-5

Figure A-144



Location of Well in Chino Basin

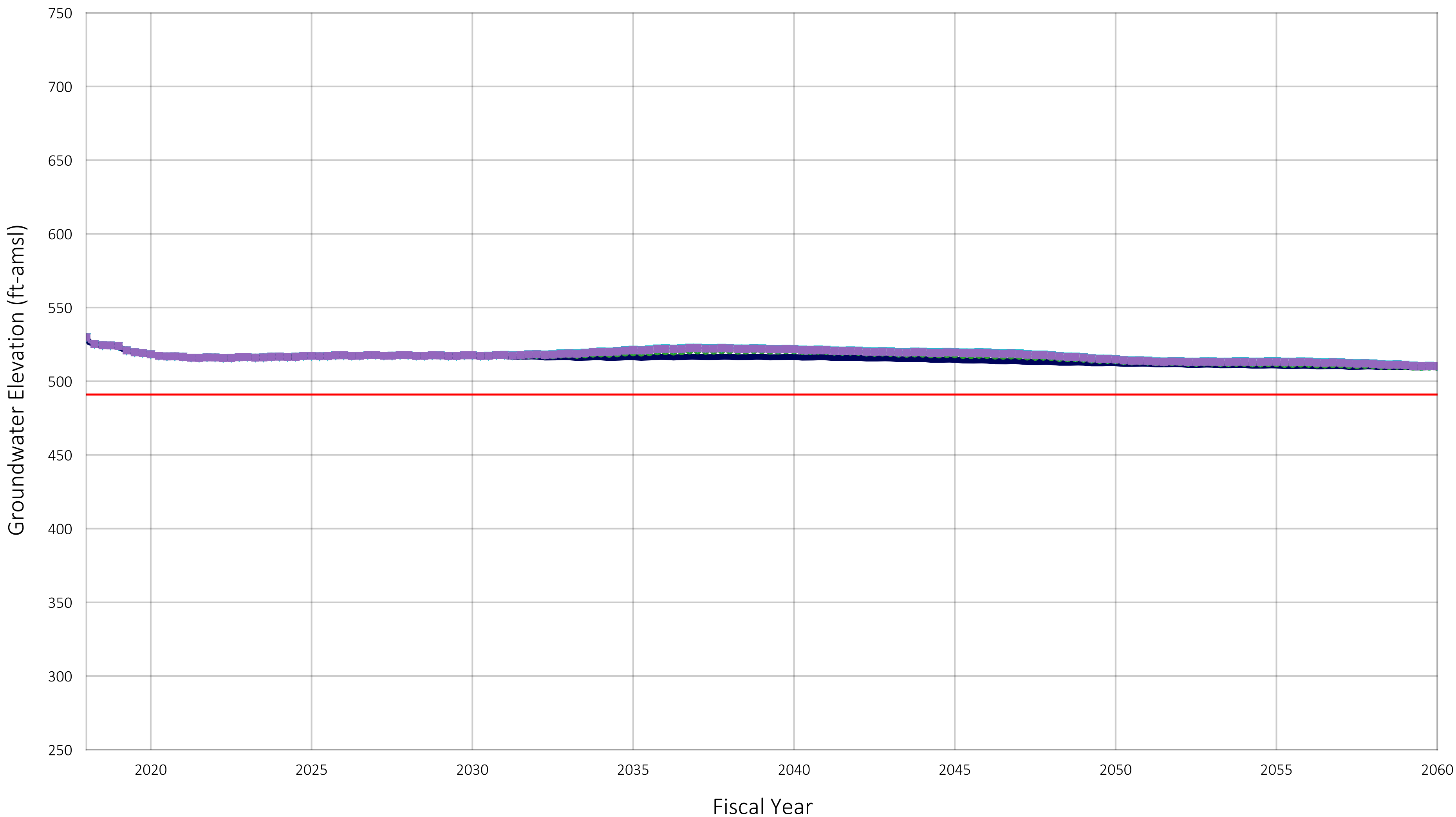
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206684
Owner: Chino Basin Desalter Authority
Well Name: I-6

Figure A-145



Location of Well in Chino Basin

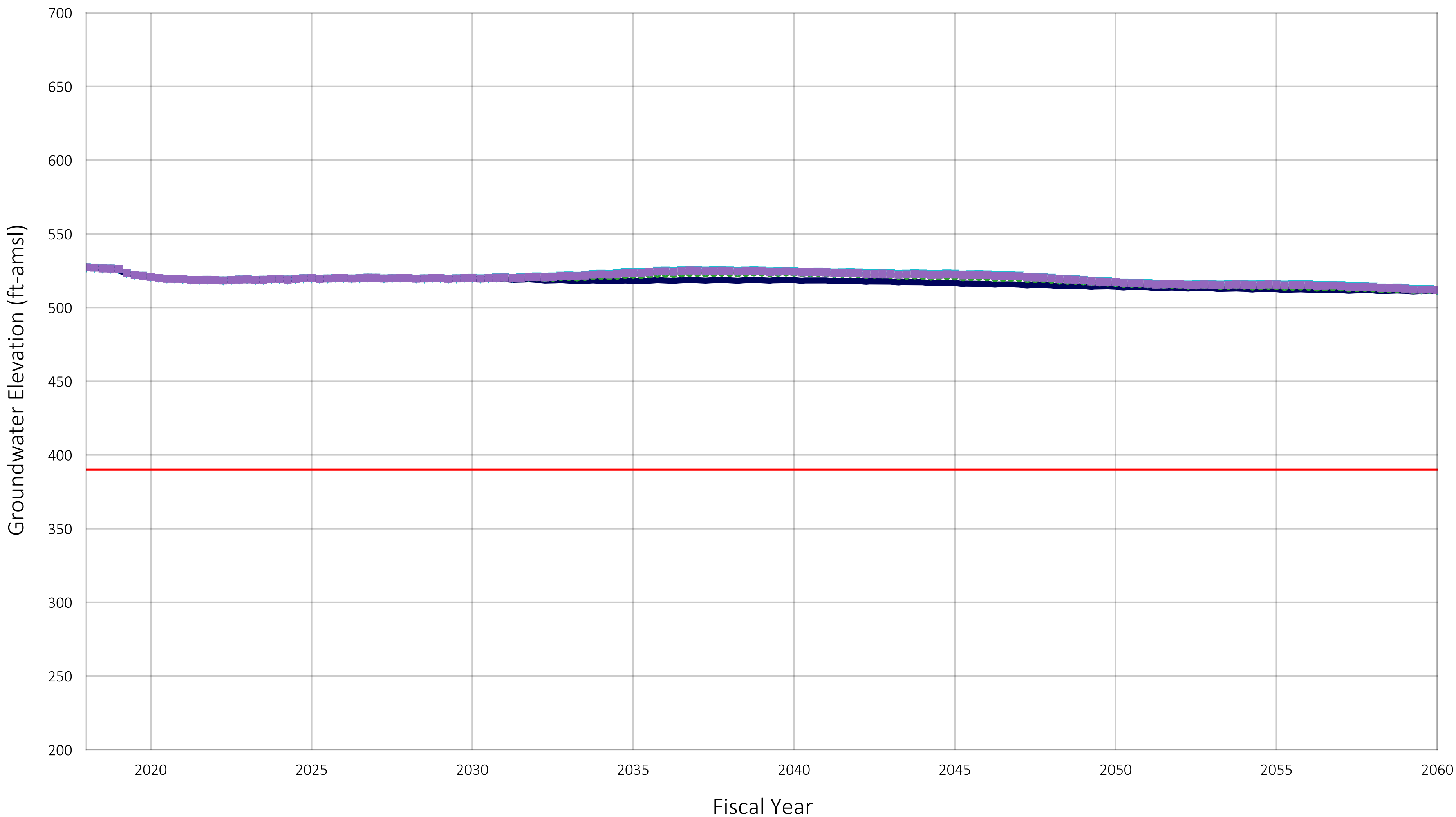
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206685
Owner: Chino Basin Desalter Authority
Well Name: I-7

Figure A-146



Location of Well in Chino Basin

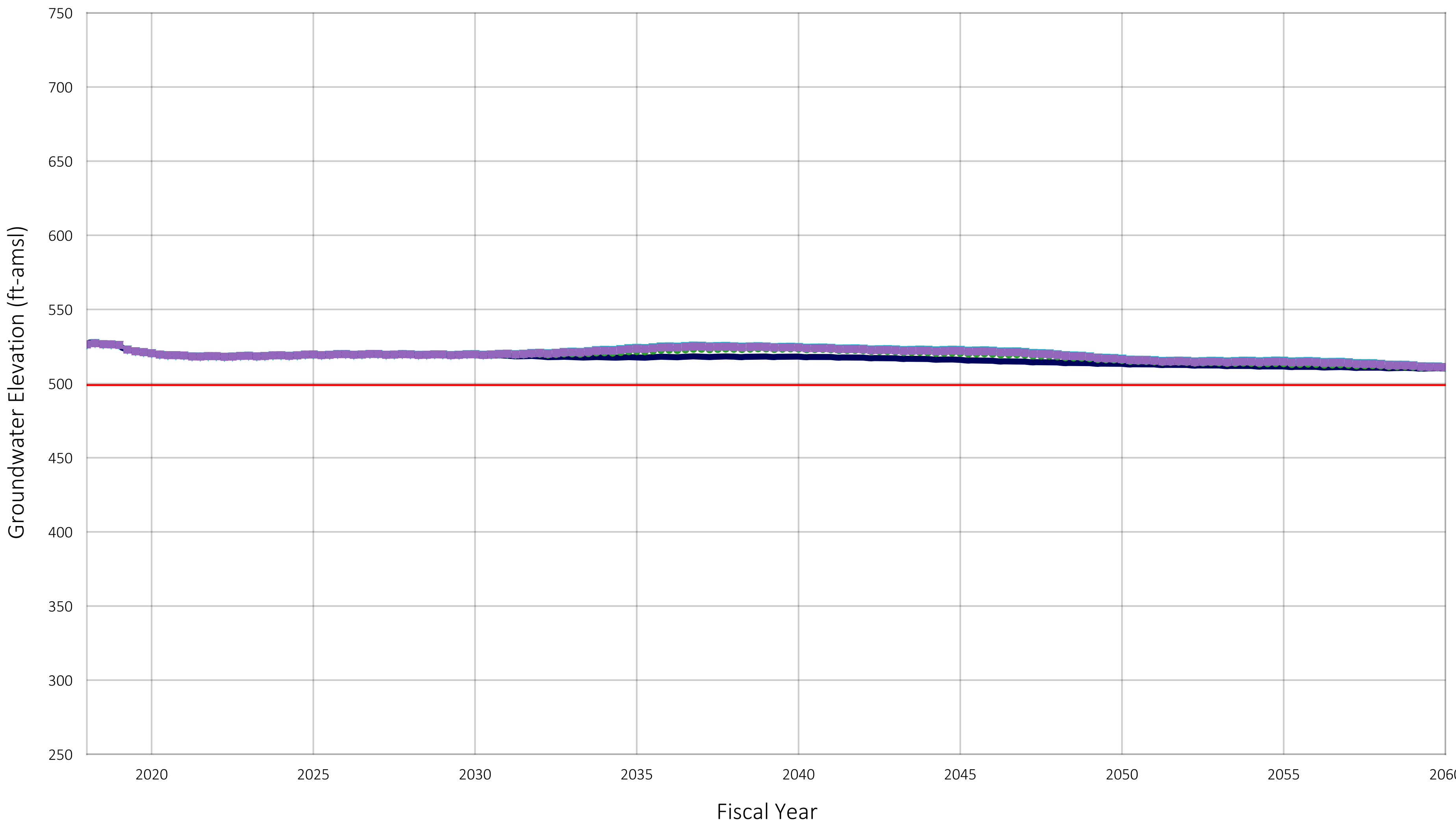
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206680
Owner: Chino Basin Desalter Authority
Well Name: I-8

Figure A-147



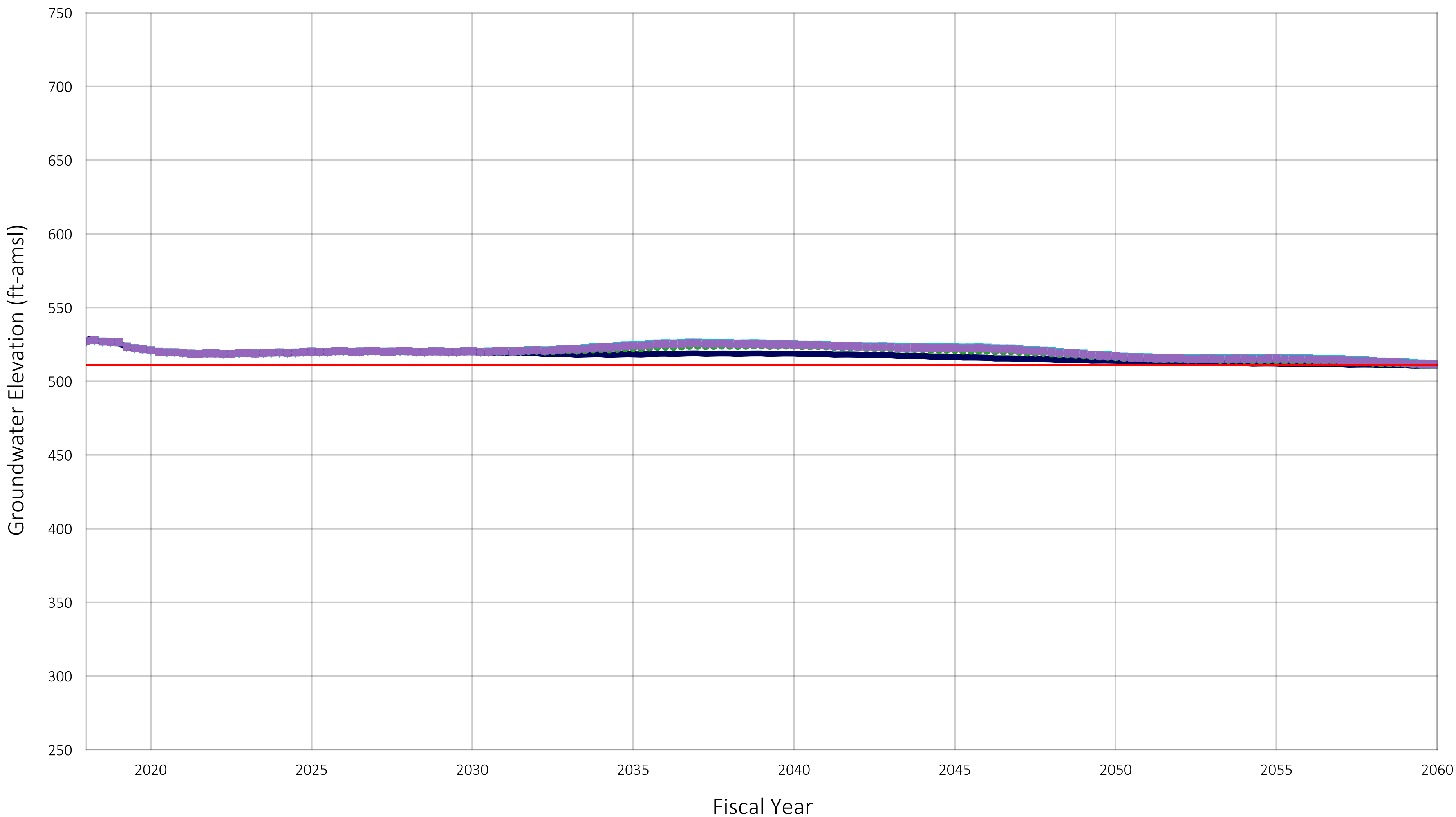
Location of Well in Chino Basin

Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

Projected Groundwater Elevation
Well ID#: 1206681
Owner: Chino Basin Desalter Authority
Well Name: I-9

Figure A-148



Location of Well in Chino Basin

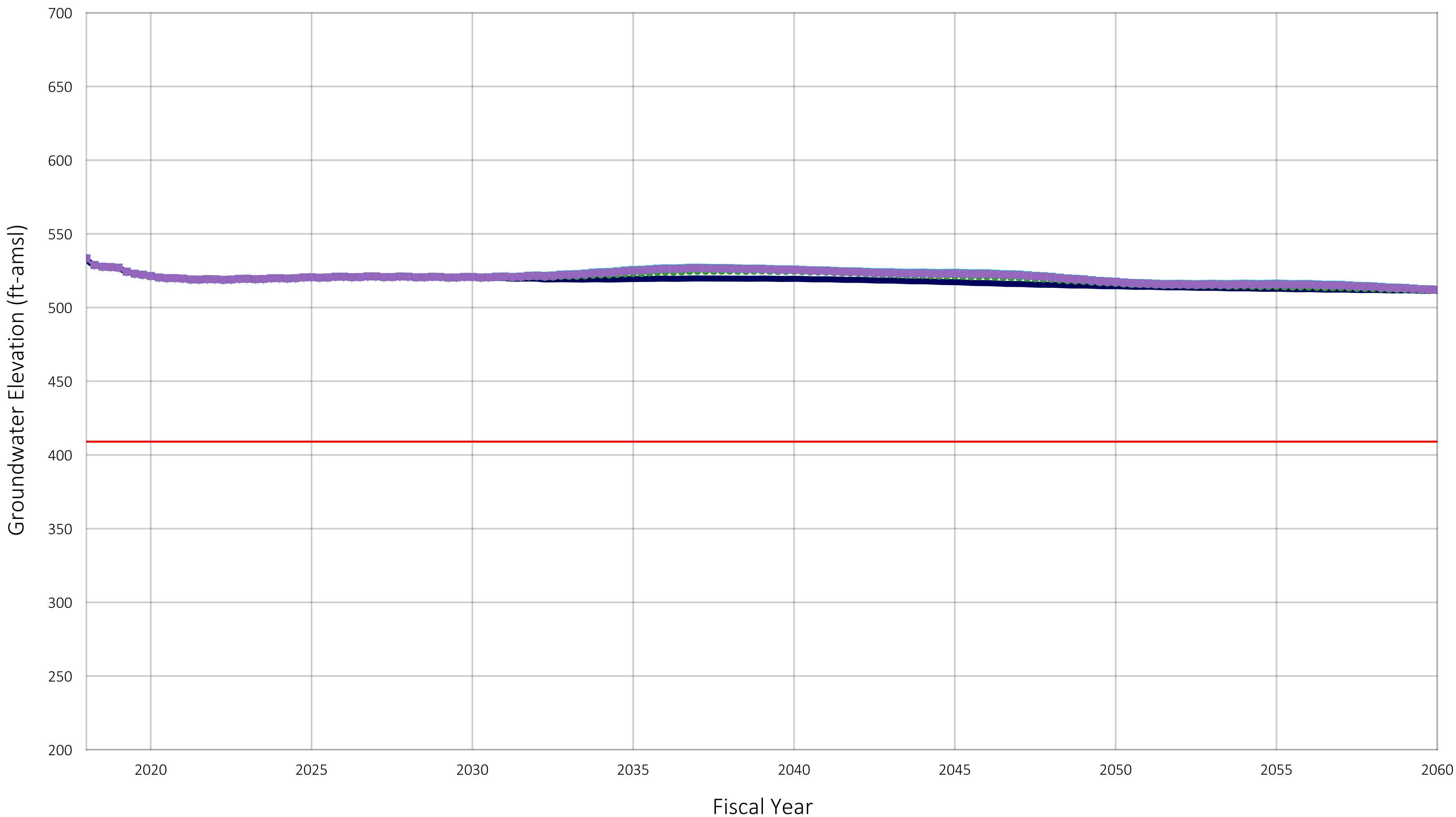
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206682
Owner: Chino Basin Desalter Authority
Well Name: I-10

Figure A-149



Location of Well in Chino Basin

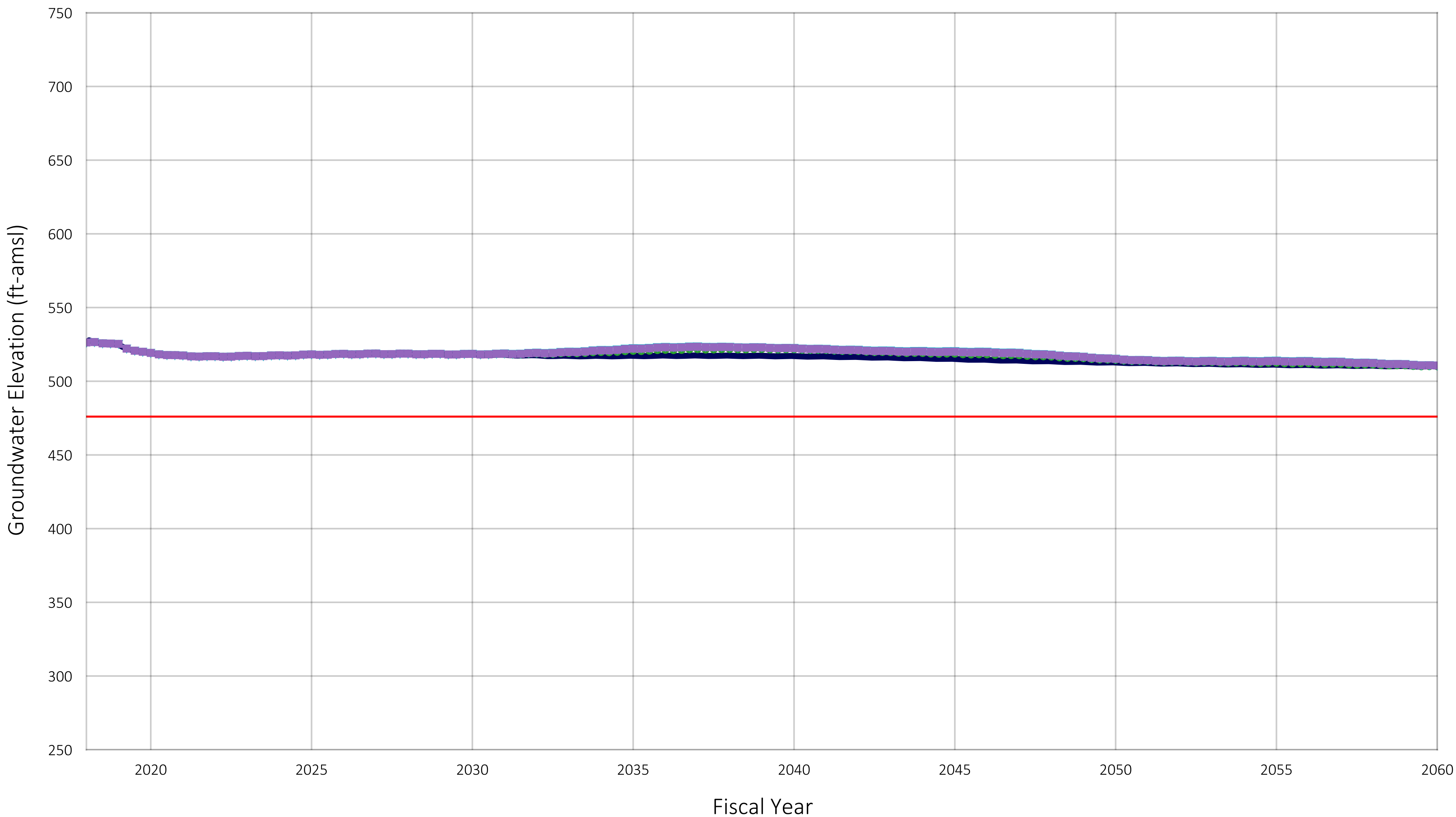
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206683
Owner: Chino Basin Desalter Authority
Well Name: I-11

Figure A-150



Location of Well in Chino Basin

Baseline

Scenario 2A

Scenario 3A

Scenario 3B

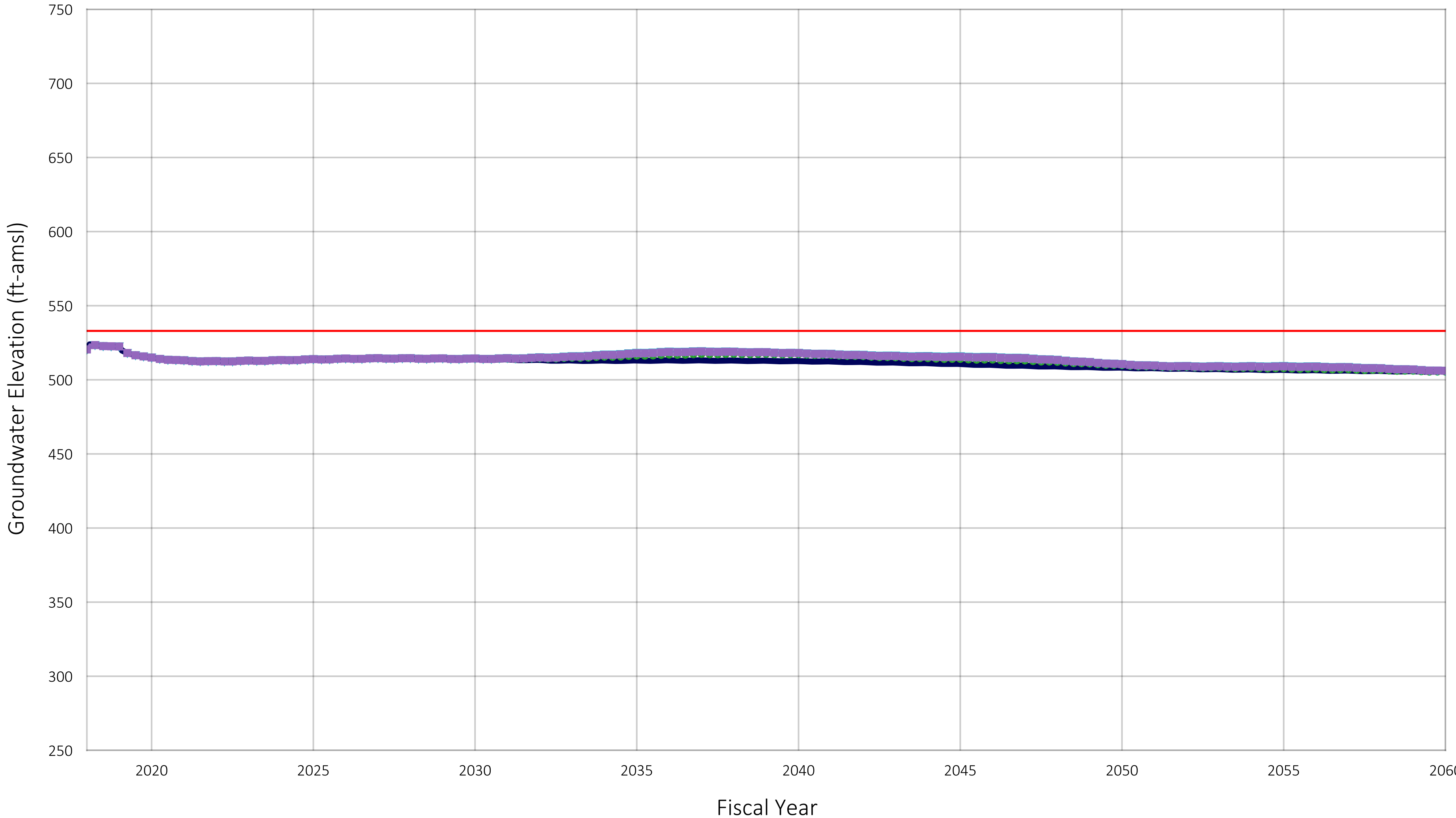
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206958
Owner: Chino Basin Desalter Authority
Well Name: I-13

Figure A-151



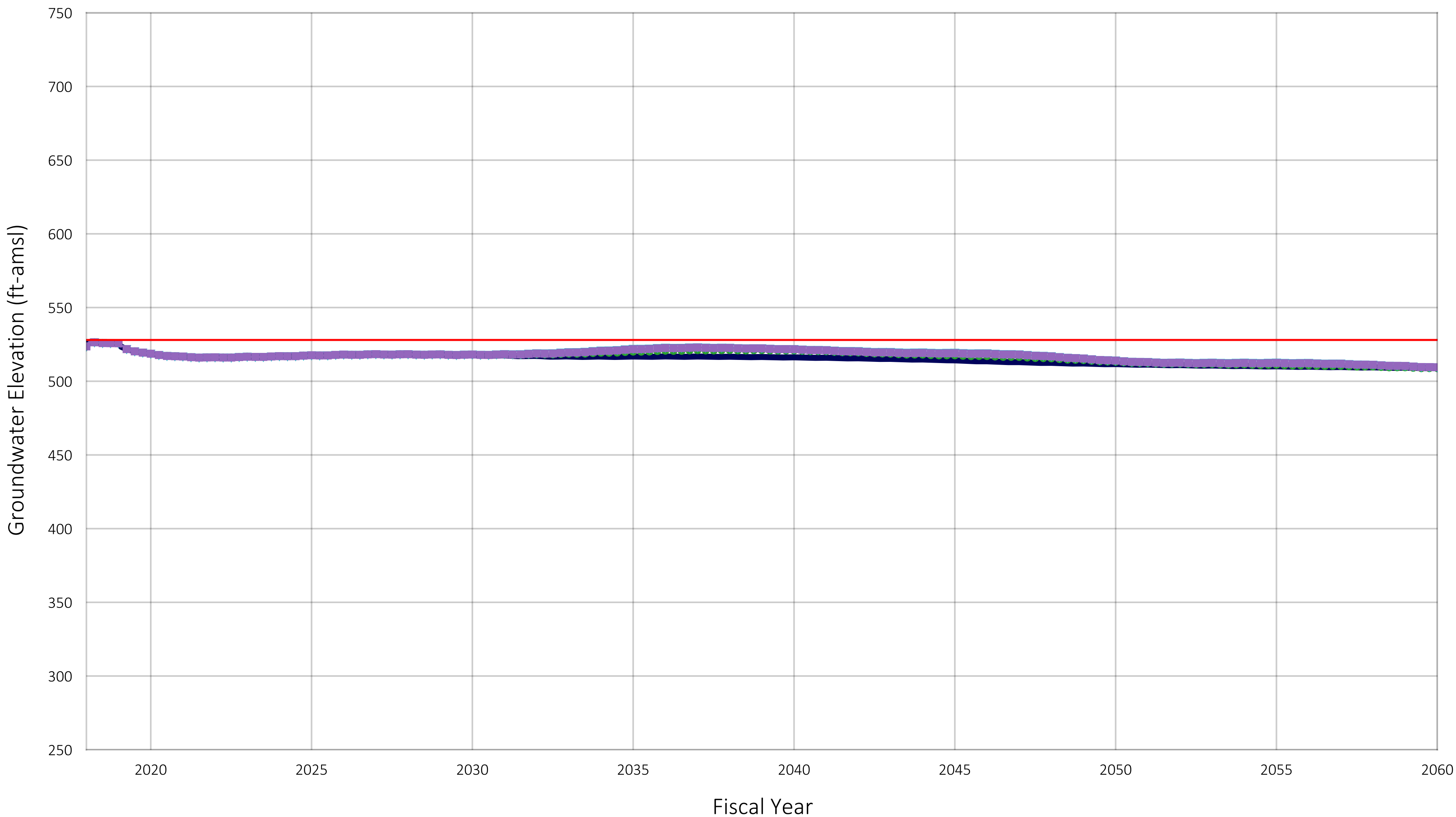
Location of Well in Chino Basin

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206959
Owner: Chino Basin Desalter Authority
Well Name: I-14

Figure A-152



Location of Well in Chino Basin

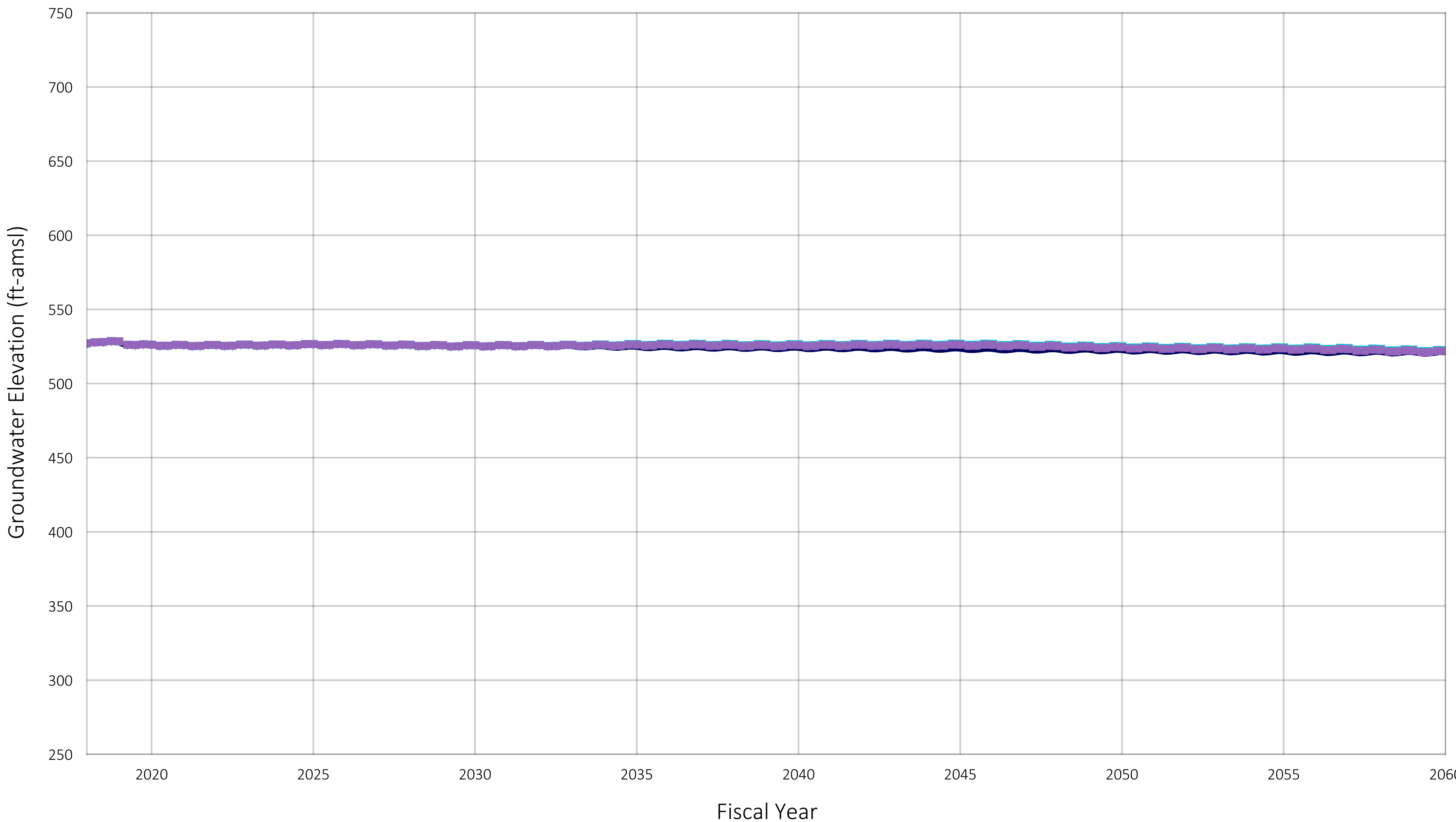
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206960
Owner: Chino Basin Desalter Authority
Well Name: I-15

Figure A-153



Location of Well in Chino Basin

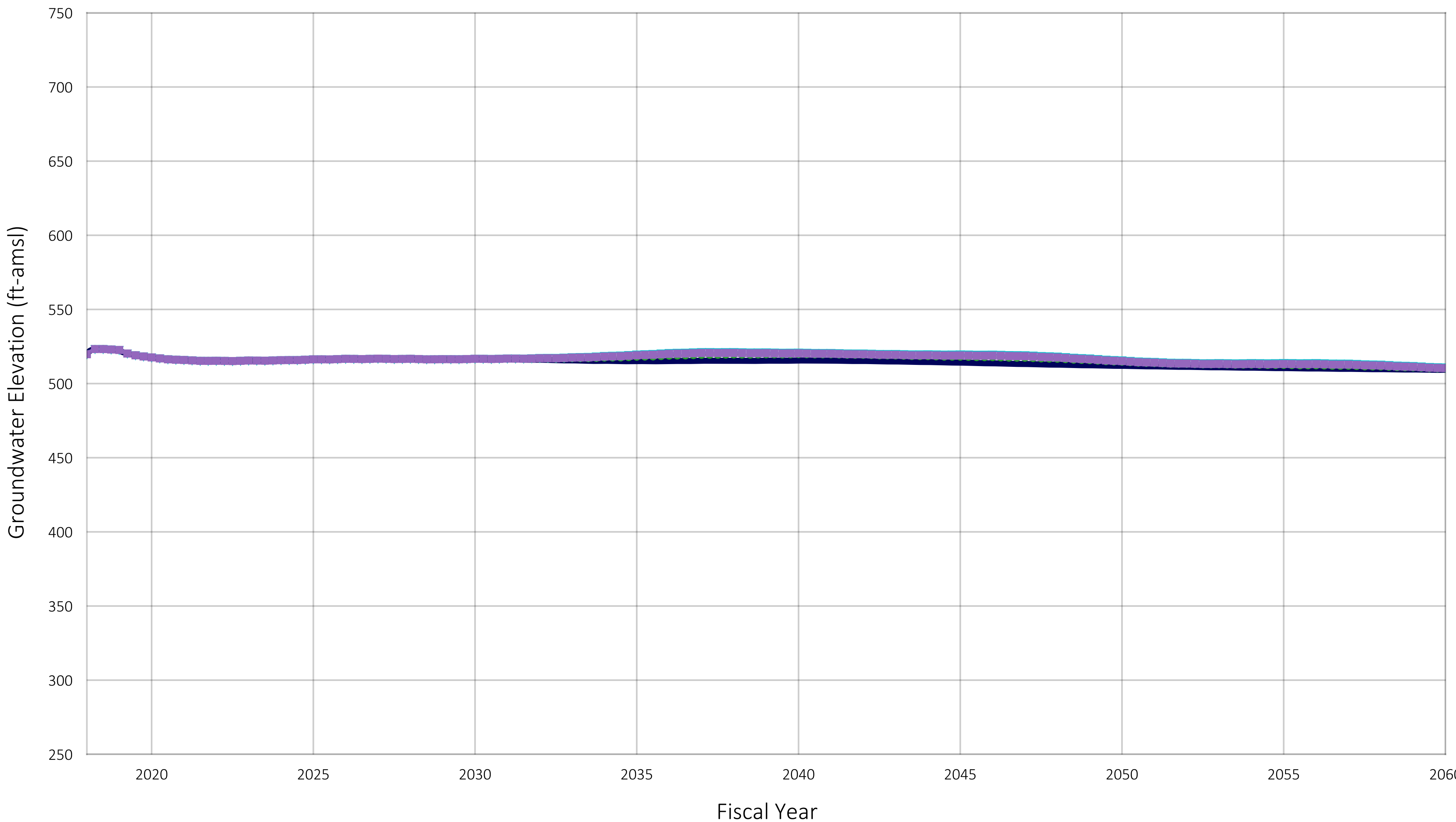
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1222970
Owner: Chino Basin Desalter Authority
Well Name: I-16

Figure A-154



Location of Well in Chino Basin

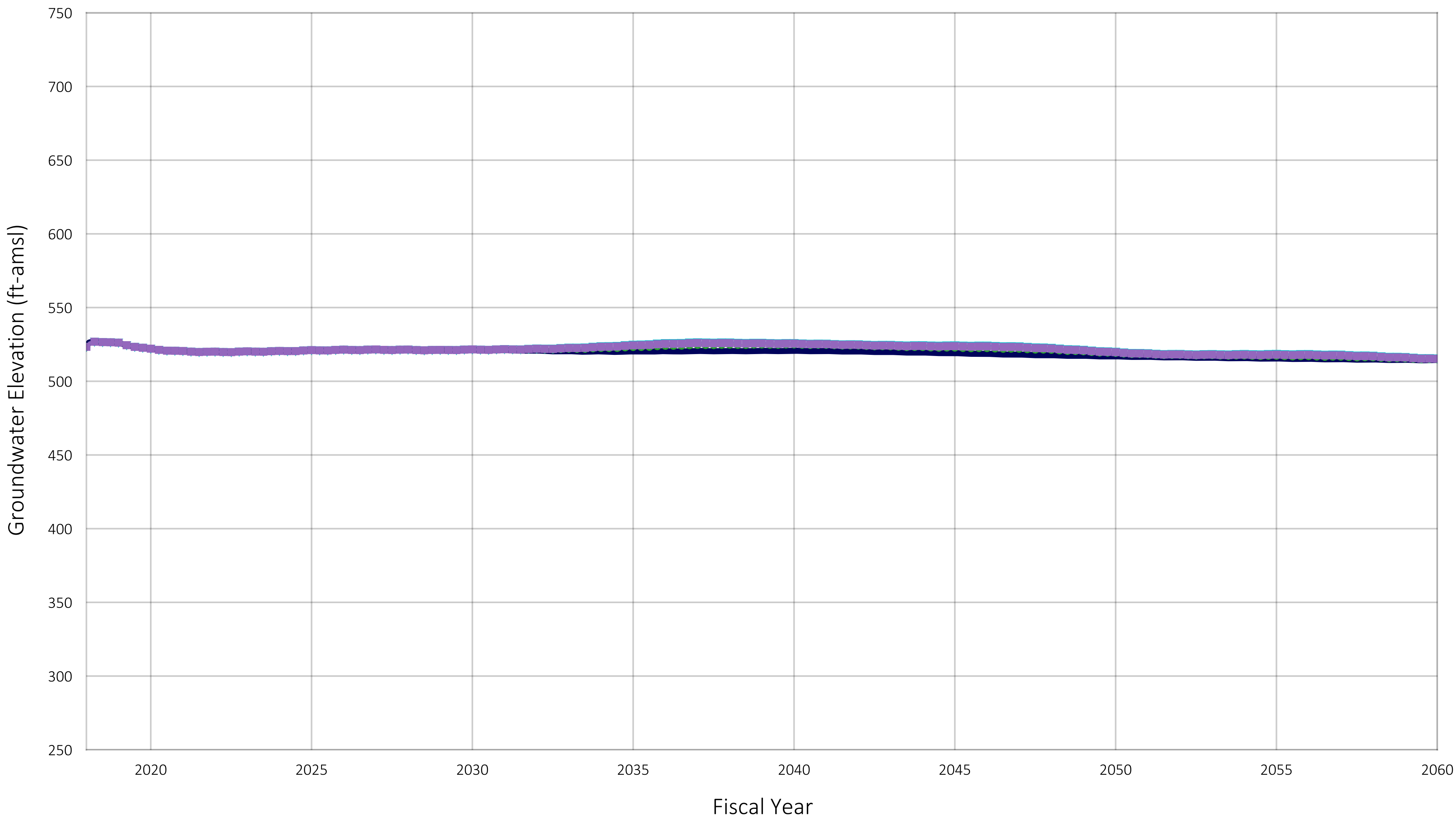
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1224801
Owner: Chino Basin Desalter Authority
Well Name: I-20

Figure A-155



Location of Well in Chino Basin

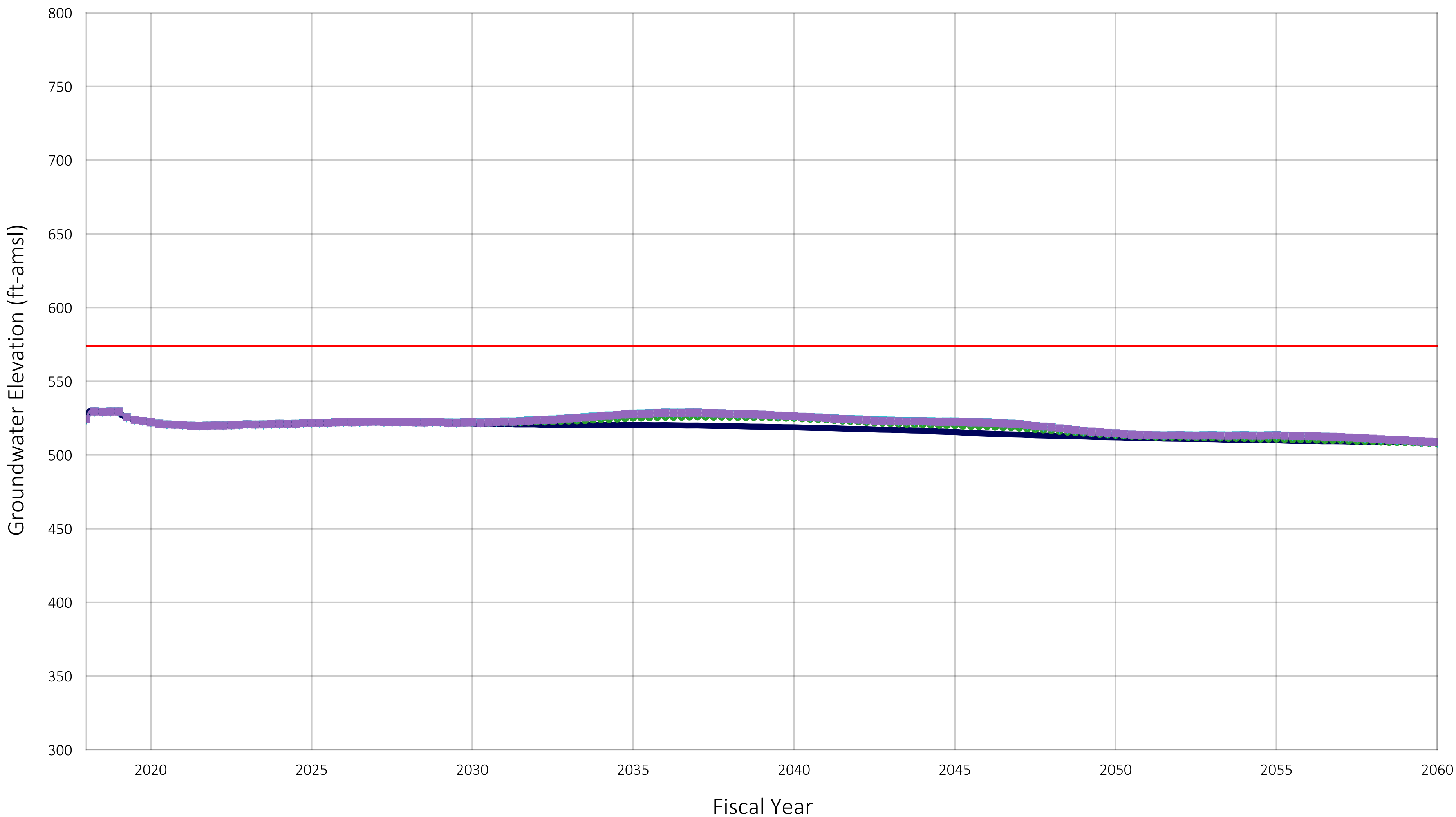
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Projected Groundwater Elevation
Well ID#: 1224812
Owner: Chino Basin Desalter Authority
Well Name: I-21

Prepared by:

WEST YOST
Water. Engineered.

Figure A-156



Location of Well in Chino Basin

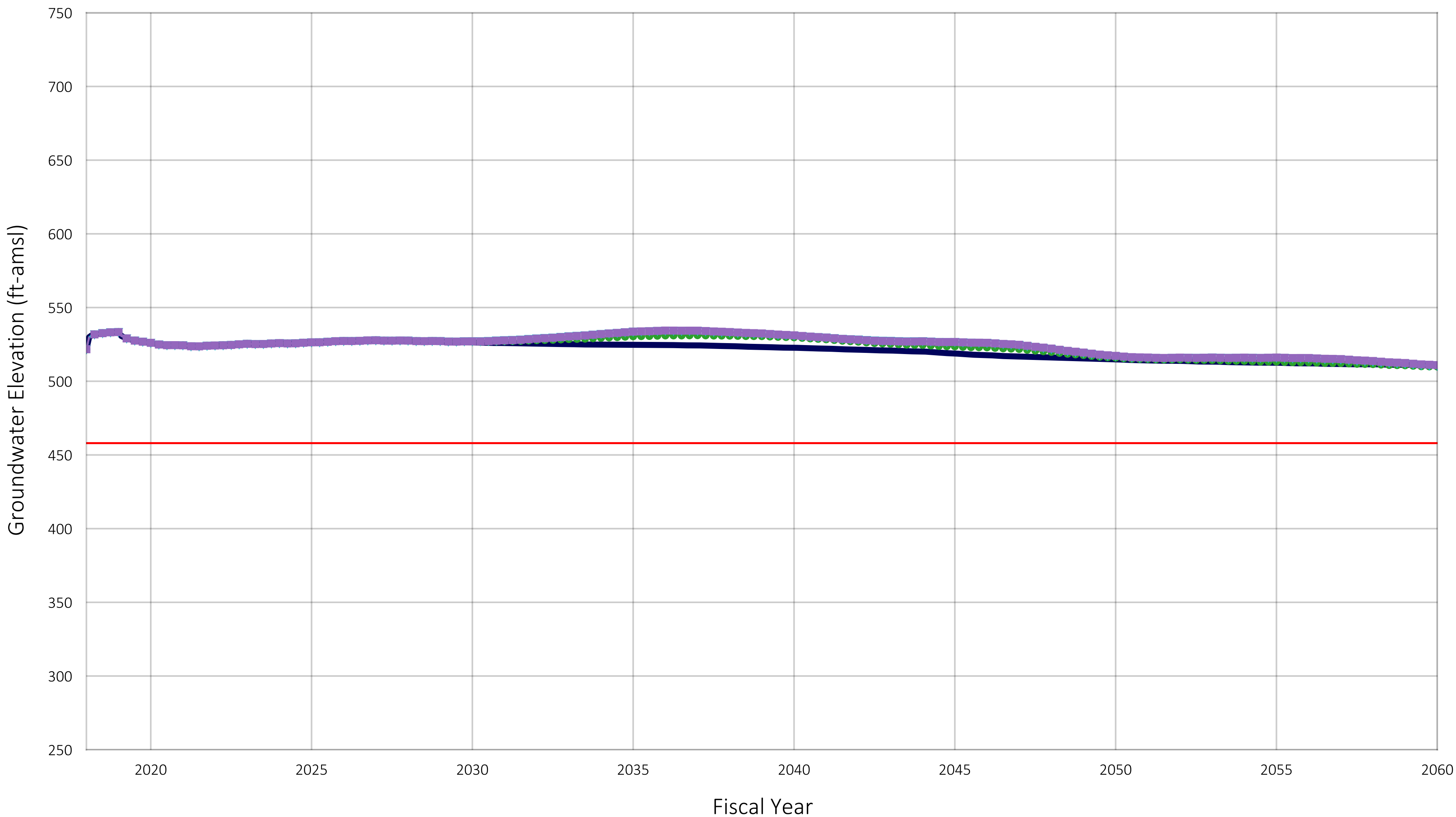
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206961
Owner: Chino Basin Desalter Authority
Well Name: II-1

Figure A-157



Location of Well in Chino Basin

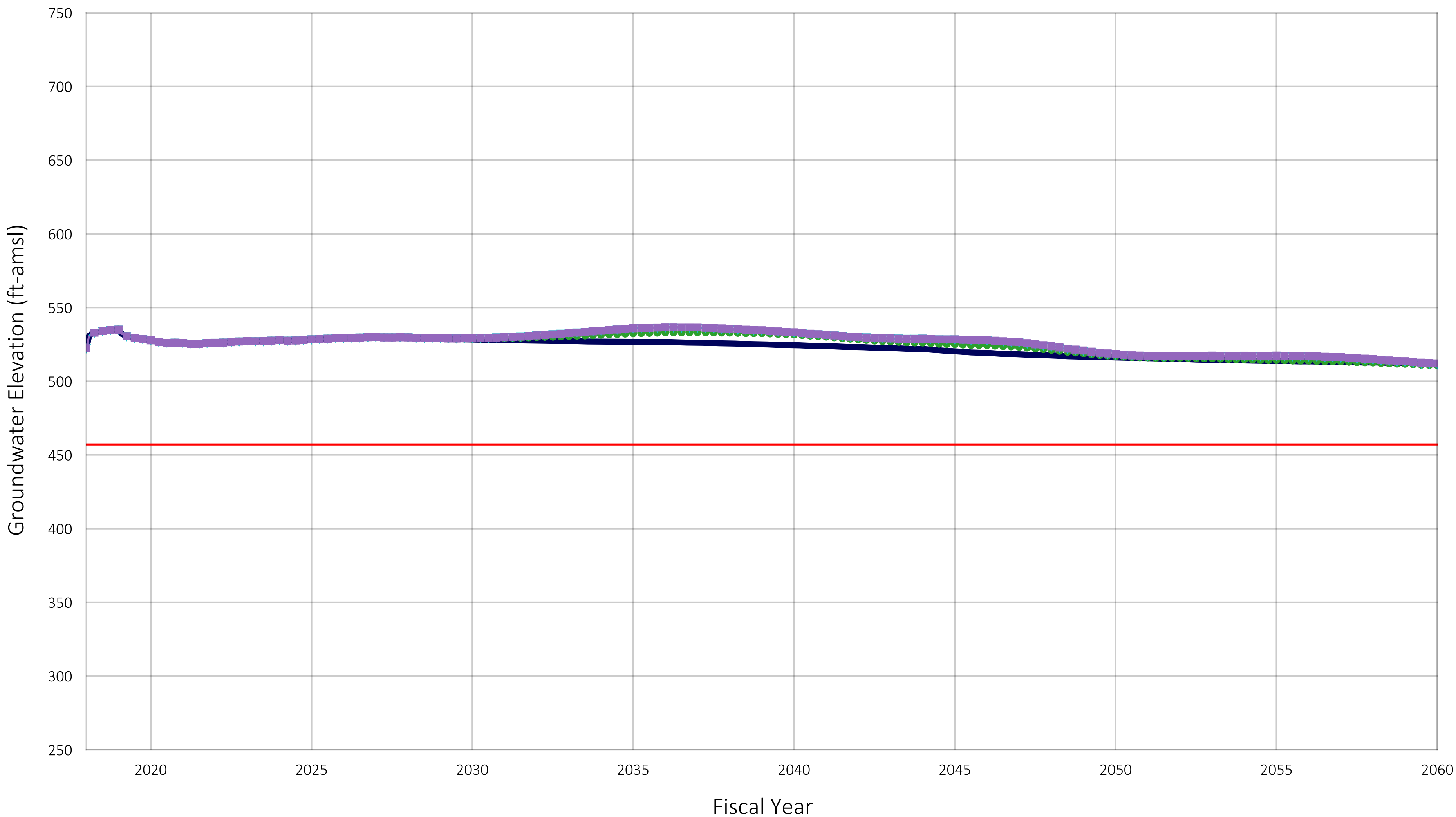
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206962
Owner: Chino Basin Desalter Authority
Well Name: II-2

Figure A-158



Location of Well in Chino Basin

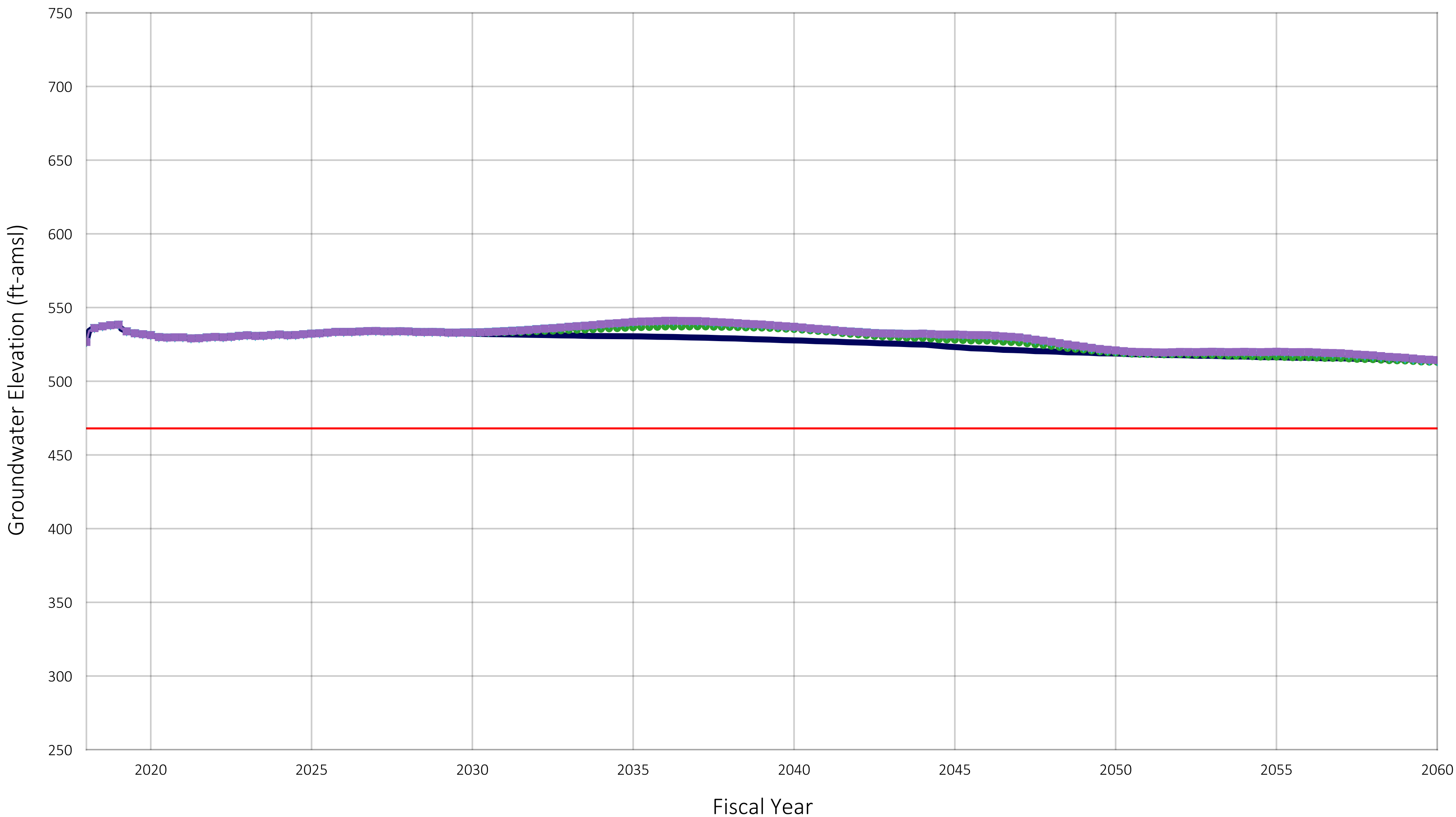
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206963
Owner: Chino Basin Desalter Authority
Well Name: II-3

Figure A-159



Location of Well in Chino Basin

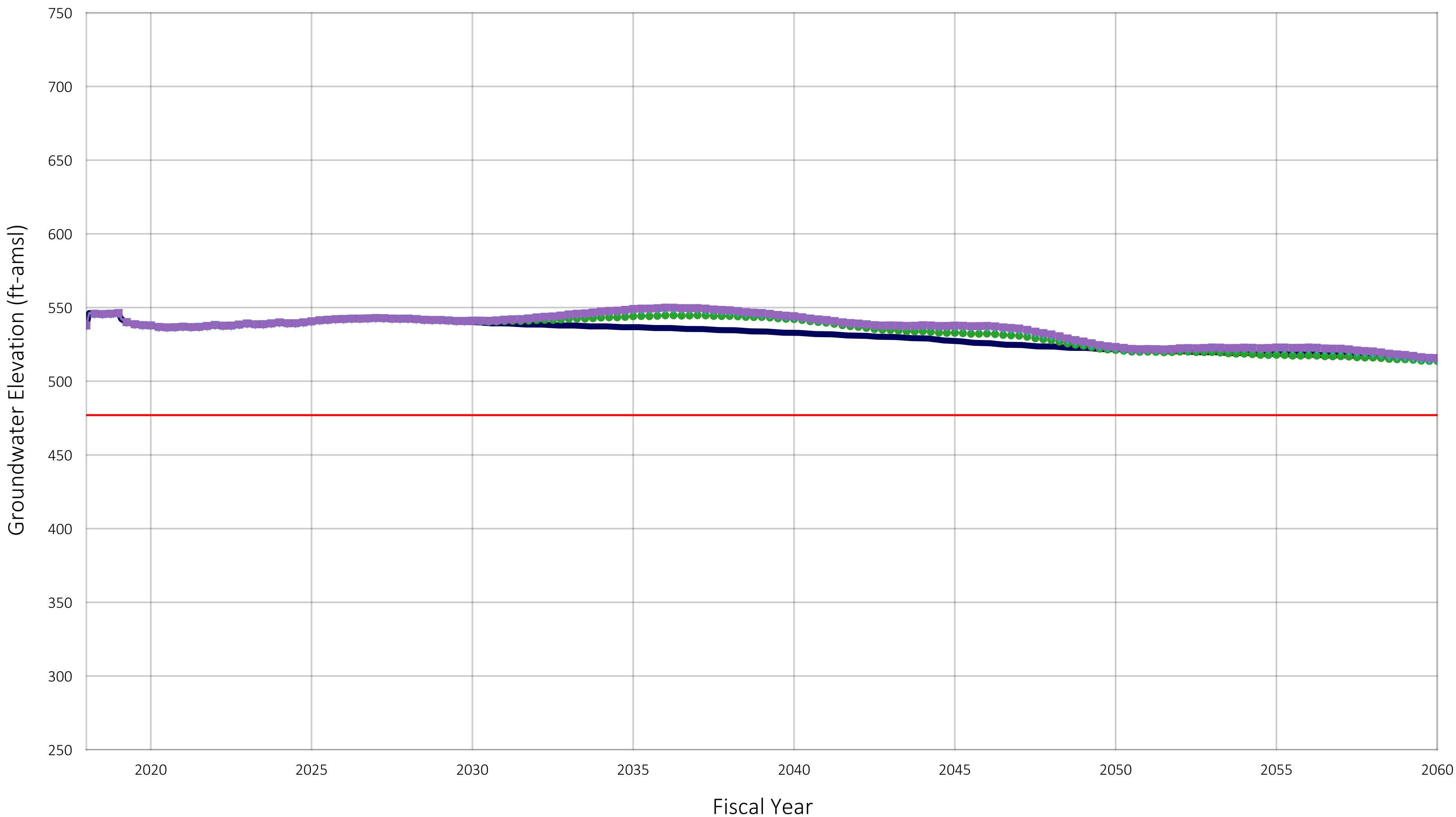
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206964
Owner: Chino Basin Desalter Authority
Well Name: II-4

Figure A-160



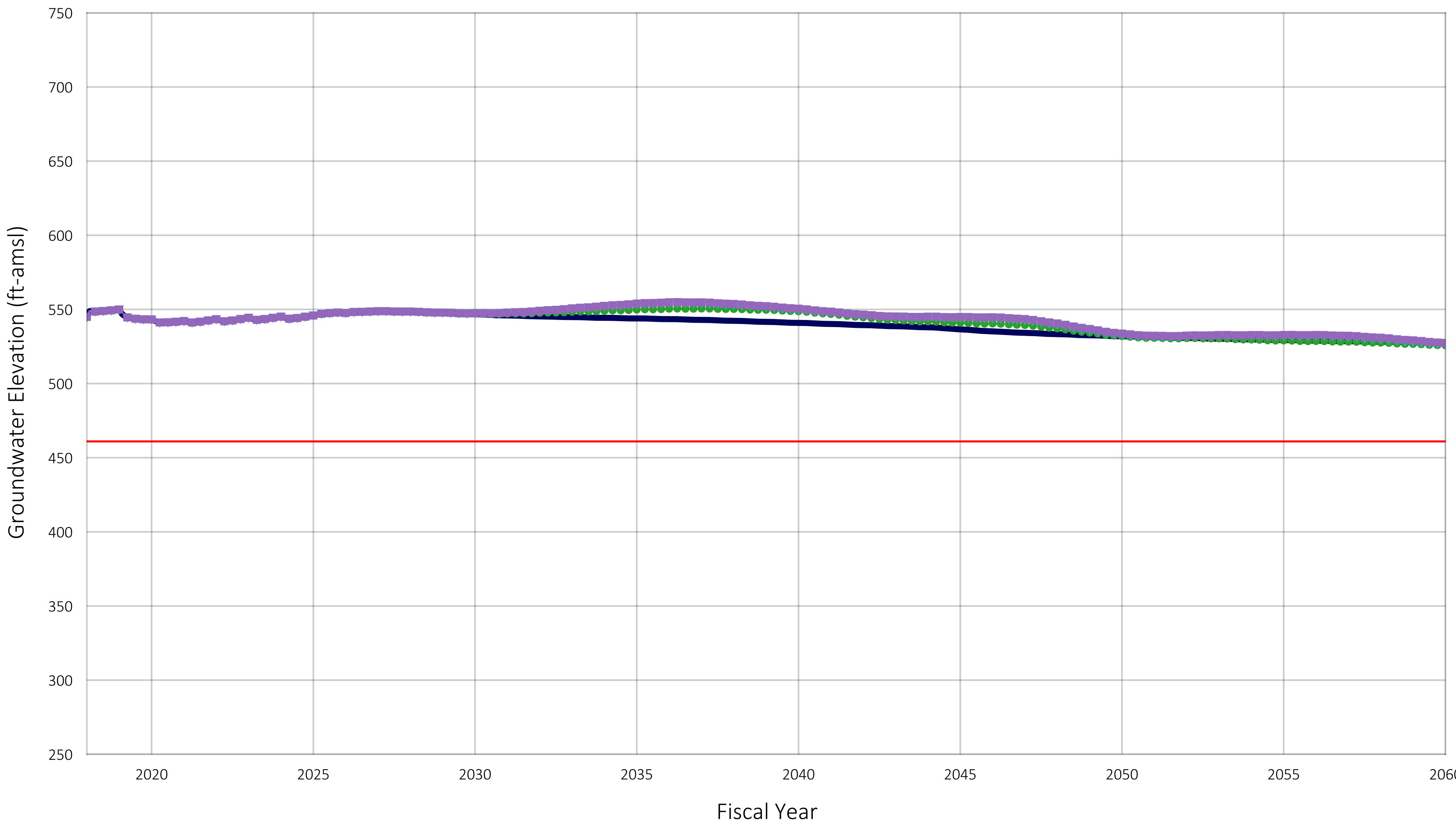
Location of Well in Chino Basin

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206966
Owner: Chino Basin Desalter Authority
Well Name: II-6

Figure A-161



Location of Well in Chino Basin

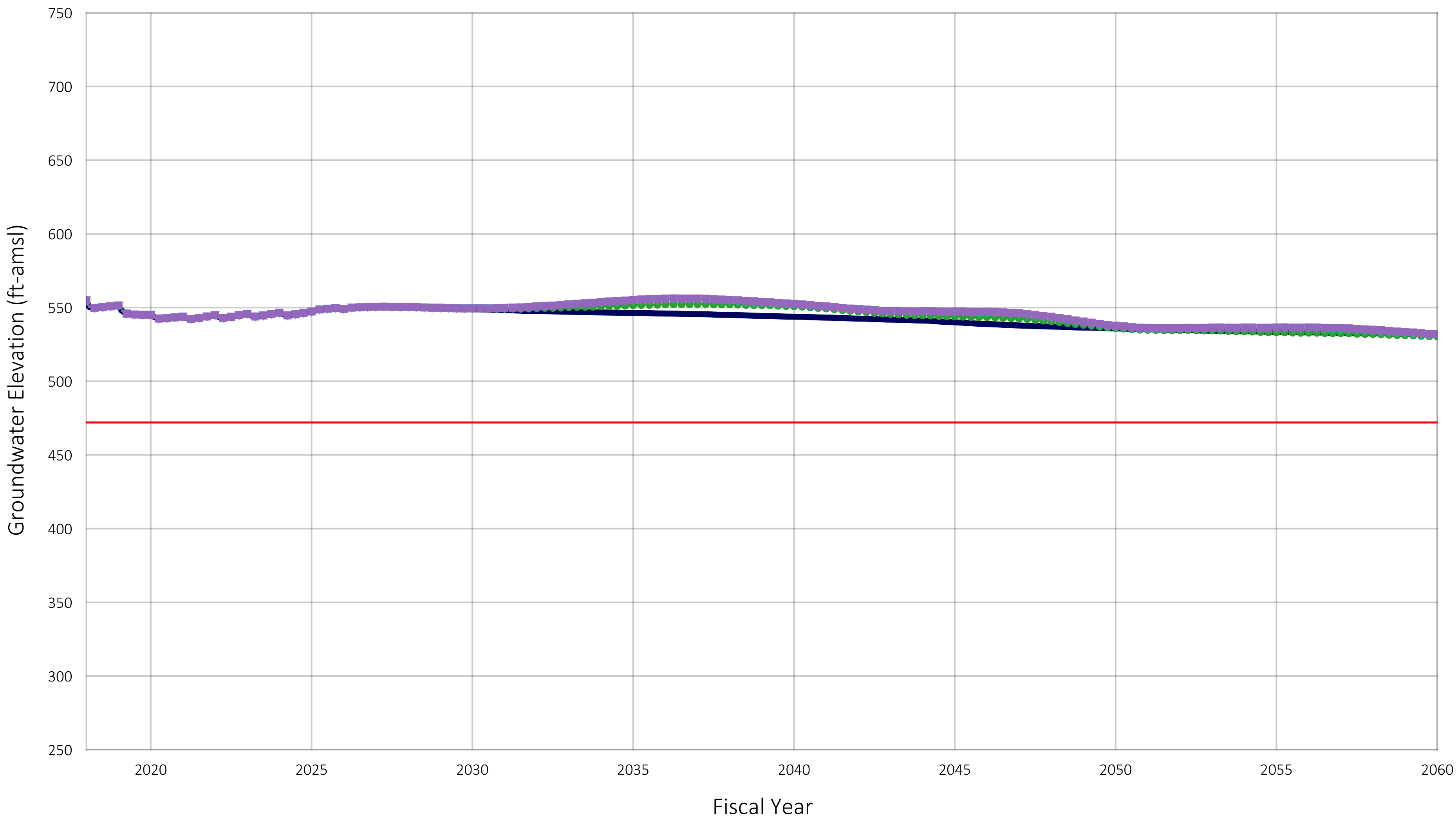
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206967
Owner: Chino Basin Desalter Authority
Well Name: II-7

Figure A-162



Location of Well in Chino Basin

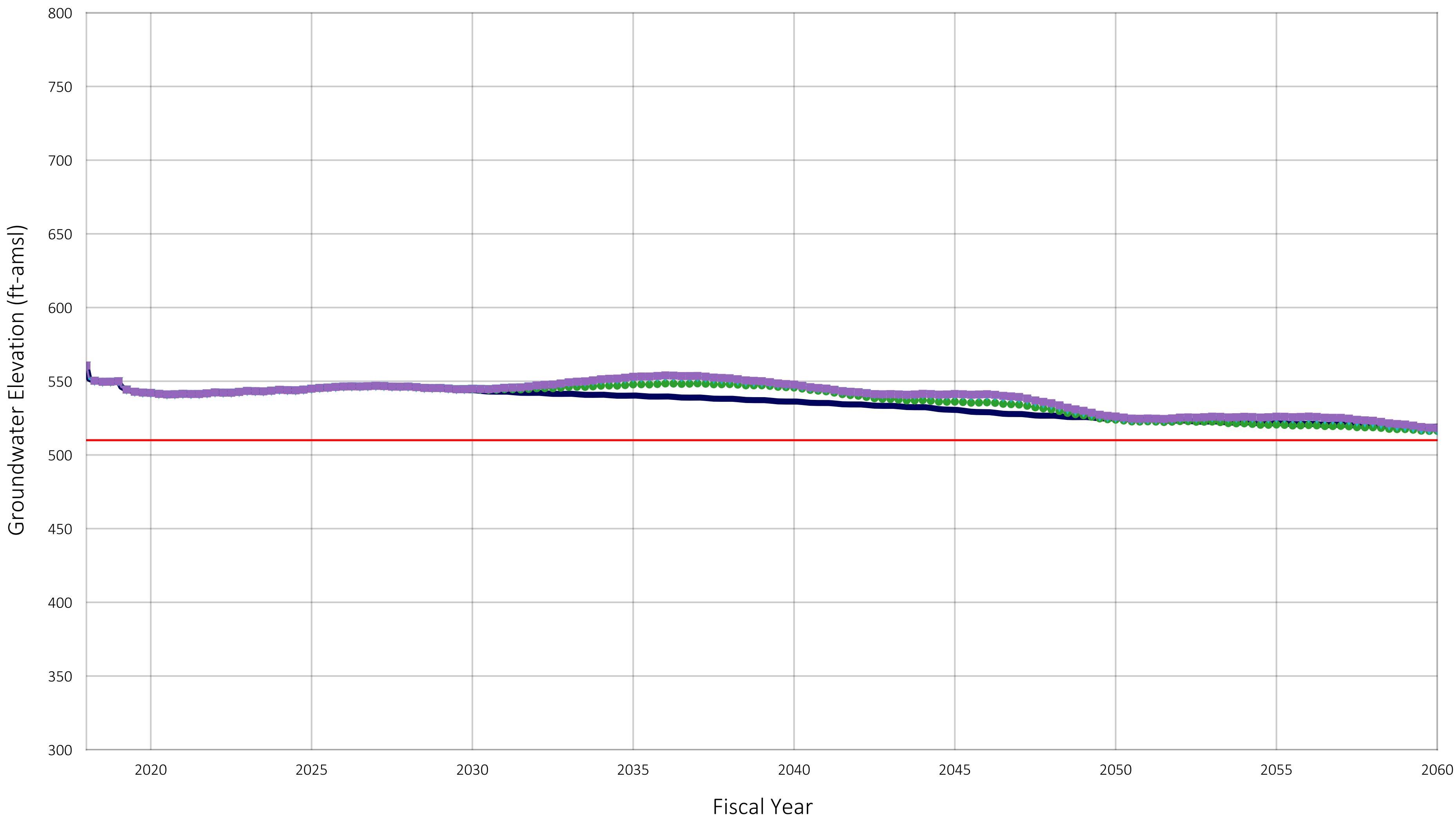
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206968
Owner: Chino Basin Desalter Authority
Well Name: II-8

Figure A-163



Location of Well in Chino Basin

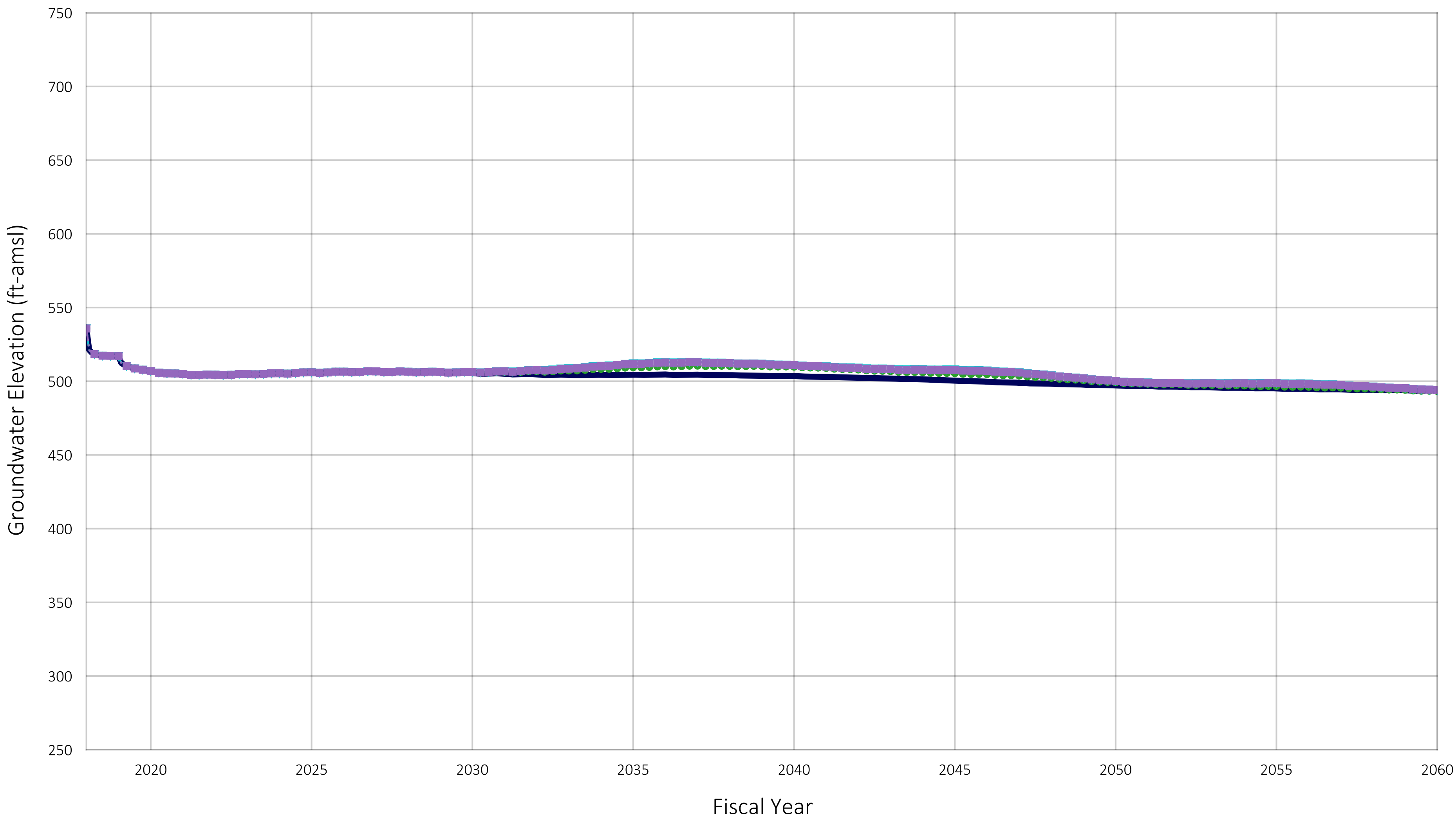
Baseline
Scenario 2A
Scenario 3A
Scenario 3B
Pumping Sustainability Metric Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206969
Owner: Chino Basin Desalter Authority
Well Name: II-9A

Figure A-164



Location of Well in Chino Basin

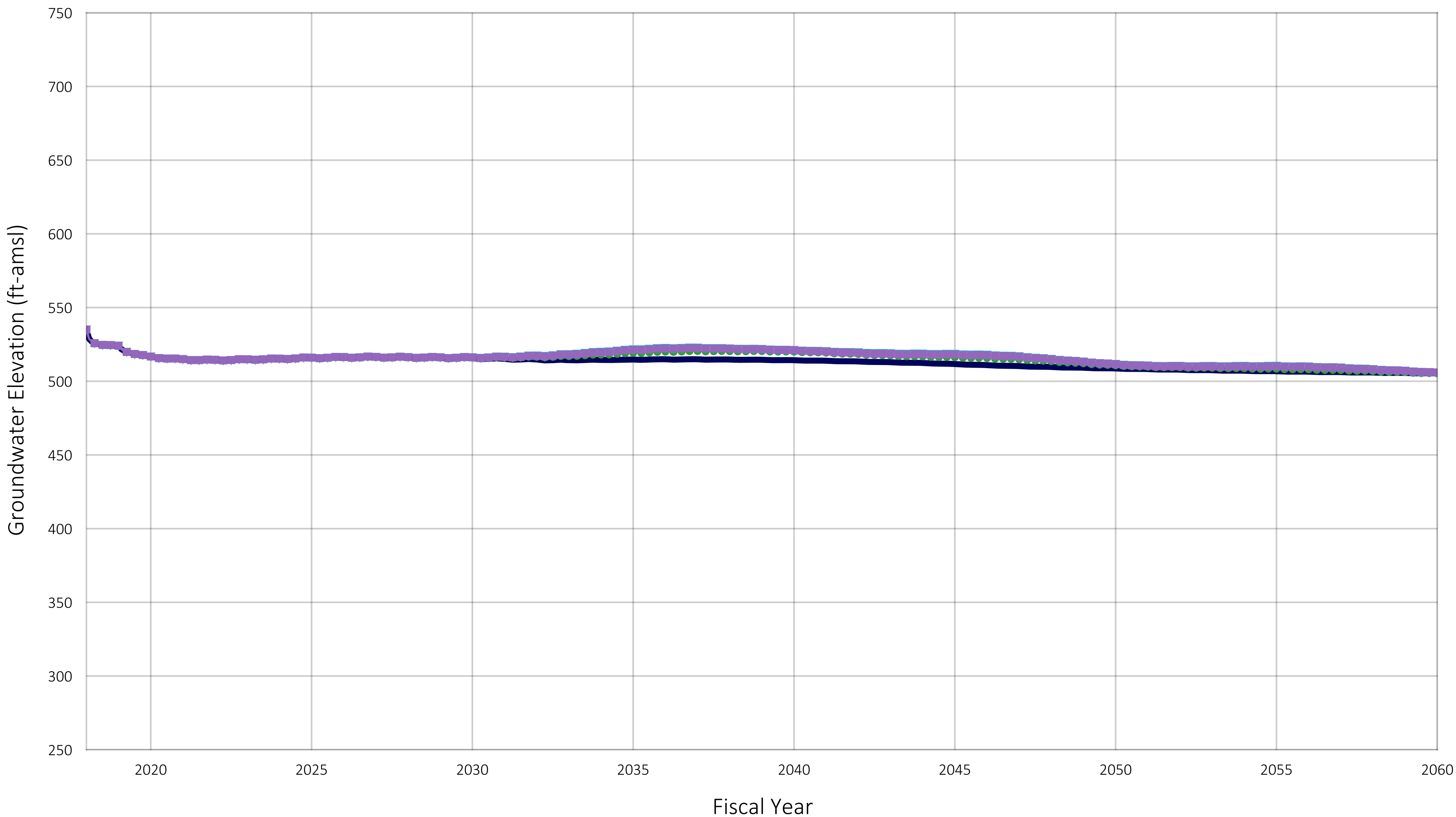
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1234064
Owner: Chino Basin Desalter Authority
Well Name: II-10

Figure A-165



Location of Well in Chino Basin

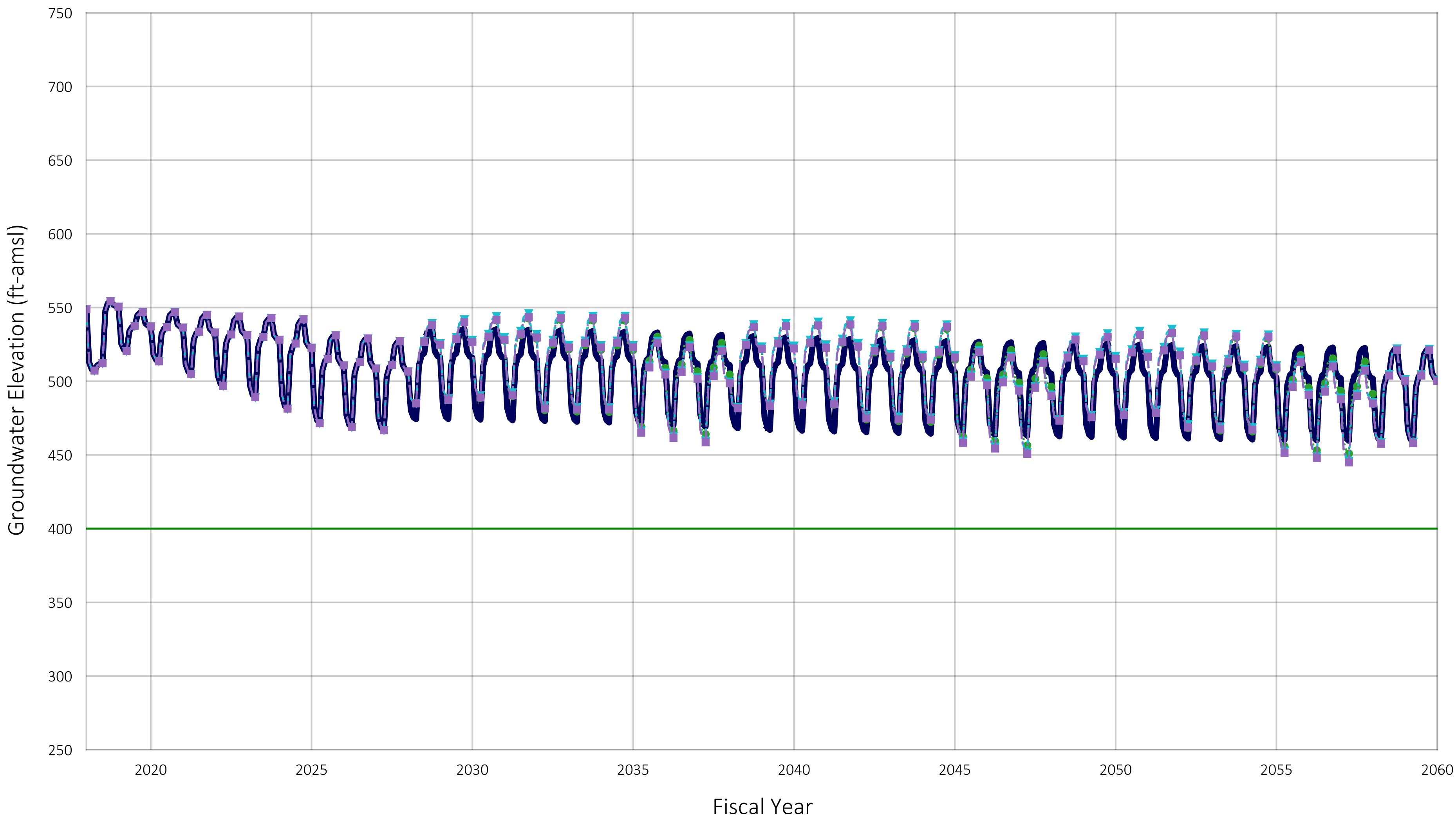
Baseline
Scenario 2A
Scenario 3A
Scenario 3B

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1234065
Owner: Chino Basin Desalter Authority
Well Name: II-11

Figure A-166



Location of Well in Chino Basin

Baseline
Scenario 2A
Scenario 3A
Scenario 3B
New Land Subsidence Elevation

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206952
Owner: Chino Basin Water Master
Well Name: AP-PA/7

Figure A-167