

**APPENDIX 3.N. DEMAND MANAGEMENT AND SUBSIDENCE
MITIGATION MEASURES**

Prepared as part of the
Groundwater Sustainability Plan
Chowchilla Subbasin

January 2020
Revised August 2024

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Memorandum of Understanding

ESTABLISHING DEMAND MANAGEMENT PROGRAMS AND SUBSIDENCE MITIGATION MEASURES FOR THE CHOWCHILLA SUBBASIN OF THE SAN JOAQUIN VALLEY GROUNDWATER BASIN

This Memorandum of Understanding (“MOU”) is entered into on this ___ day of ___ 2024 (the “Effective Date”), by and between the Groundwater Sustainability Agencies (“GSAs”) of the CHOWCHILLA WATER DISTRICT GSA (“CWD GSA”), COUNTY OF MADERA GSA – CHOWCHILLA (“Madera County GSA”), COUNTY OF MERCED GSA – CHOWCHILLA (“Merced County GSA”), and TRIANGLE T WATER DISTRICT GSA (“TTWD GSA”), collectively hereinafter referred to as the “Parties,” or individually as the “Party.”

RECITALS

- A. **WHEREAS**, groundwater and surface water resources within the Chowchilla Subbasin of the San Joaquin Valley Groundwater Basin (DWR Bulletin 118 No. 5-022.05) (“Subbasin”) are vitally important resources, in that they provide the foundation to maintain and fulfill current and future agricultural, domestic, environmental, industrial, and municipal needs, and to maintain the economic viability, prosperity, and sustainable management of the Subbasin; and
- B. **WHEREAS**, in 2014 the California Legislature passed a statewide framework for sustainable groundwater management, known as the Sustainable Groundwater Management Act, California Water Code § 10720-10737.8 (“SGMA”), pursuant to Senate Bill 1168, Senate Bill 1319, and Assembly Bill 1739, which was approved by the Governor on September 16, 2014, and went into effect on January 1, 2015; and
- C. **WHEREAS**, the Subbasin has been designated by the California Department of Water Resources (“DWR”) as a high-priority subbasin in a condition of critical groundwater overdraft and is subject to the requirements of SGMA; and
- D. **WHEREAS**, SGMA requires that all medium and high priority groundwater basins in California be managed by a GSA, or multiple GSAs, and that such management be implemented pursuant to an approved Groundwater Sustainability Plan (“GSP”), or multiple GSPs; and
- E. **WHEREAS**, the Subbasin is being managed by the Parties whose boundaries are as set-forth in **Exhibit A**; and
- F. **WHEREAS**, the Parties have collectively developed one GSP, such that the Subbasin is managed under one GSP; and
- G. **WHEREAS**, on January 29, 2020, the Parties submitted the Initial GSP to DWR; and
- H. **WHEREAS**, on January 28, 2022, DWR completed their evaluation of the Initial GSP and determined the Initial GSP to be incomplete; and
- I. **WHEREAS**, on July 27, 2022, the Parties resubmitted the Revised GSP to DWR; and

- J. WHEREAS, on March 2, 2023, DWR completed their evaluation of the Revised GSP and determined the Revised GSP was inadequate, shifting the primary jurisdiction of the Subbasin to the State Water Resources Control Board (“SWRCB”); and
- K. WHEREAS, SGMA defines sustainable groundwater management as the management and use of groundwater in a manner that can be maintained during the GSP planning and implementation horizon without causing undesirable results; and
- L. WHEREAS, under SGMA the GSAs are responsible for managing the Subbasin under the GSP to achieve and maintain sustainability according to conditions after SGMA was effective that are caused by groundwater management in the Subbasin; and
- M. WHEREAS, the Parties agree, and as SGMA allows, a transition to sustainability over the 20-year GSP Implementation Period is in the best overall interest of the Subbasin, although this approach is expected to result in some continued groundwater level declines during the GSP Implementation Period prior to achieving sustainable groundwater conditions in the Subbasin by or before 2040, as described in the Revised GSP; and
- N. WHEREAS, the Parties agree that during the GSP Implementation Period it will be necessary to implement projects and management actions to achieve and maintain sustainable groundwater conditions in the Subbasin by or before 2040; and
- O. WHEREAS, the Parties acknowledge that successful implementation of GSP projects and management actions to achieve their intended benefits during the 20-year GSP Implementation Period (prior to 2040) is dependent on adherence to the implementation timelines; and
- P. WHEREAS, the Parties acknowledge that successful implementation of GSP projects and management actions to achieve their intended benefits during the 20-year GSP Implementation Period (prior to 2040) is dependent, in part, on uncertainties related to hydrologic conditions (e.g., precipitation and snowpack), available water supply, permitting, funding, and other factors during that time period; and
- Q. WHEREAS, the Parties acknowledge that implementation of additional projects and management actions may be necessary to offset uncertainties related to implementation and/or benefits of GSP projects and management actions to ensure that sustainable groundwater conditions are achieved in the Subbasin by or before 2040; and
- R. WHEREAS, the Parties acknowledge that wet hydrologic conditions and faster implementation of projects and management actions may result in diminished need for additional projects and management actions, and
- S. WHEREAS, the Parties acknowledge that dry hydrologic conditions, prolonged drought, delayed implementation of projects and management actions, and other factors may result in an accelerated need for additional projects and management actions; and
- T. WHEREAS, the Parties have had several informal consultations with SWRCB staff, during which SWRCB staff indicated that the Parties must prepare demand management programs and subsidence mitigation measures with specific triggers, providing a “backstop” and an

alternative pathway for achieving sustainability should the other GSP projects and management actions either not come to fruition or not yield the intended benefits; and

U. WHEREAS, the Parties recognize that in order for the SWRCB to determine that the Revised GSP has sufficiently addressed the deficiencies identified in DWR's inadequate determination letter and in SWRCB staff's review of the Revised GSP, SWRCB staff are seeking a firm commitment from the Parties for their consideration of management action(s) to address and mitigate overdraft, groundwater level decline, subsidence, and impacts from subsidence during their management of the Subbasin; and

V. WHEREAS, the Parties acknowledge that they cannot control groundwater conditions not caused by groundwater management activities within the Subbasin; and

W. WHEREAS, the Parties acknowledge that SGMA requires sustainable groundwater management; however, SGMA does not make GSAs responsible for injury from overdraft; and

X. WHEREAS, nothing in this MOU is intended to alter or otherwise eliminate the need for the Parties to proceed with implementation of the projects and management actions set-forth in the Revised GSP; and

Y. WHEREAS, the Parties acknowledge that additional projects and management action(s) to address and mitigate overdraft, groundwater level decline, and subsidence will be implemented in coordination with other related programs in the Subbasin and in the region, as applicable; and

Z. WHEREAS, the Parties recognize that chronic lowering of groundwater levels and land subsidence are two sustainability indicators under SGMA and that, while they are related, separate sustainable management criteria have been established for each sustainability indicator, consistent with SGMA, recognizing that the more restrictive sustainable management criteria governs; and

AA. WHEREAS, the Parties recognize that projects and management actions that are expected to benefit groundwater levels and groundwater storage in the Subbasin are also expected to provide benefits to address and mitigate subsidence conditions.

BB. NOW, THEREFORE, in consideration of the mutual promises, covenants, and conditions contained herein and these Recitals, which are hereby incorporated herein by this reference, the Parties agree to develop, review, consider, and undertake demand management and subsidence mitigation measures through development of Demand Management Programs ("Program") for the Subbasin as follows:

AGREEMENT

1. PROGRAM MEASURES

The Program is anticipated to include some subset of the following Program measures for demand reduction and subsidence mitigation:

- **Voluntary Measures:** The Parties will consider and move forward voluntary measures for immediate implementation. Measures may include, but are not limited to:
 - Multi-benefit land repurposing (e.g., recharge basins, renewable energy including solar, habitat, recreational spaces, pollinator habitat, etc.)
 - Incentivized land use changes that provide net groundwater benefit
 - Dry-land farming
 - Fallowing
 - Water conservation (focusing on activities to reduce consumptive use and groundwater extraction)
 - Encouraging use of all available surface water in lieu of groundwater pumping
 - On-farm best management practices (agronomic practices, soil moisture monitoring and management, delayed irrigation and/or regulated deficit irrigation, runoff capture, etc. to reduce groundwater extraction)

- **Mandatory Measures:** The Parties commit to refining and preparing to implement mandatory measures between the date this MOU is fully executed and the Program start date. If trigger conditions occur in the Subbasin, or a portion thereof, on or after the Program start date (specified in Section 6), the Parties commit to implementing mandatory measures for demand reduction. Measures are expected to include, but are not limited to:
 - Groundwater allocations, considering:
 - Groundwater consumptive use restrictions, in coordination with Madera County and Merced County (“Counties”)
 - Well extraction restrictions, in coordination with the Counties
 - Penalties and fee structures for unsustainable groundwater extraction

- The Parties agree that Program measures are to be adaptively implemented and managed in each GSA:
 - Commensurate with the amount of demand reduction required in that GSA area, recognizing the sustainable yield for the Subbasin, the overdraft for the Subbasin, and other projects and management actions that are being implemented by each GSA.
 - Commensurate with the issue(s) facing the area(s) where the measure(s) are to be implemented, considering, but not confined to:

- Options for regional implementation of certain actions (around a “Focus Area” where undesirable results are occurring), and/or
 - Options for Subbasin-wide implementation of certain actions (equal treatment of the Subbasin as a whole).
 - In consideration of subsidence conditions in the Subbasin or a portion thereof, with the intent of restricting new subsidence and reducing residual subsidence during the GSP Implementation Period.
 - In consideration of and in coordination with other voluntary and mandatory actions that may be taking place in other GSAs within the Subbasin.
- The Parties agree that implementation of Program measures in any given GSA may be superseded or otherwise altered by ongoing demand management efforts under existing demand management programs that serve the same function as the Program measures.
 - The Parties agree that implementation of Program measures in any given GSA is not intended to alter, supersede, or otherwise eliminate the need for other GSP projects and management actions unless that is the choice of any given GSA.
 - The Parties agree that, under SGMA, GSAs do not have the authority to modify or otherwise change groundwater rights. Additionally, the Parties agree that neither SGMA nor this MOU make the GSAs responsible for injury from overdraft (i.e., the GSAs do not extract groundwater), nor do they require or assign any liability to GSAs to provide, ensure, or guarantee any level of water quality or access.

2. TRIGGERS

The Parties commit to implementing mandatory measures for demand reduction if trigger conditions occur in the Subbasin or a portion thereof on or after the Program start date. Trigger conditions will be developed and agreed to among the Parties prior to the Program start date.

It is anticipated that trigger conditions may be defined in reference to, but may not be limited to:

- Groundwater conditions (e.g., groundwater levels or subsidence) that do not meet or exceed the interim milestones specified in the Revised GSP at the interim milestone date.
- Groundwater conditions (e.g., groundwater levels or subsidence) that are approaching undesirable results in the Subbasin or some portion thereof.
- Occurrence of undesirable results in the Subbasin or some portion thereof.

3. PROPORTIONATE RESPONSIBILITY

The Parties agree to cooperate in good faith to determine each Party’s proportionate responsibility for Program activities (including, but not limited to, Program development, design, implementation) undertaken in connection with this MOU.

4. FUNDING AND FINANCING

The Parties agree to fund the Program on an annual basis, commensurate with the scope of the Program and consistent with the final determination of each Party's proportionate responsibility, as determined in the manner provided for herein. Program funding and financing discussions are anticipated to include, among other considerations, costs for mitigation of subsidence-related impacts to critical infrastructure in the Subbasin.

It is anticipated that the Program funding will come from one, or a combination, of the following sources established by the Parties:

- Reserve fund
- GSA fees and assessment
- Funds generated through implementation of other projects and management actions (e.g., fines and/or penalties)
- County/state/federal funding, as available
- Other sources, as identified

5. BUDGET CYCLE AND REVIEW

The budget cycle of the Program shall be on a calendar year basis. Not less than once per year, the Parties shall convene a meeting to review Program implementation progress in that year and plan for Program implementation in the subsequent year.

6. TERM

The Program shall be developed and mandatory measures, as may be required, will be ready for implementation no later than January 1, 2026 (the Program start date) consistent with the triggers developed. Upon implementation, as maybe required, the Program shall continue in perpetuity unless otherwise directed by the Parties.

7. PROGRAM DEVELOPMENT

The Parties shall, as part of Program development, agree to define the Program's purpose, objectives, scope, roles and responsibilities, requirements, and potential outcomes.

The anticipated goal of the Program is to address and mitigate overdraft, groundwater level decline, and subsidence and related undesirable results during the GSP Implementation Period including costs for mitigation of subsidence-related impacts to critical infrastructure in the Subbasin, as defined in the Revised GSP, by reducing demand for groundwater in the Subbasin.

Items for consideration during Program development include, but are not limited to:

- Definitions
- Program measures, including:
 - Voluntary Measures for immediate implementation (i.e., measures that will move forward at the Program start date)

- Mandatory Measures (i.e., measures that the Parties commit to refining and preparing to implement, such that they are ready to implement no later than the Program start date if trigger conditions occur in the Subbasin)
- Public outreach and engagement process
- Coordination of Program with other related programs in the Subbasin and in the region, as applicable
- Implementation considerations and protocol for phased adaptive implementation of mandatory measures:
 - Identification of area(s) where measures are applicable.
 - Determination of sustainable yield for those areas.
 - Determination of an appropriate transition period from current to sustainable conditions (prior to 2040), considering uncertainties of the basin setting and of the timelines for other projects and management actions.
 - Process and timeline for implementing phased measures.
 - Process and timeline for evaluating and adapting measures to respond to changing conditions (in annual reports and periodic GSP evaluations).
 - Considerations for allocation development and enforcement, as applicable, related to consumed versus extracted groundwater.
 - Monitoring and enforcement process.
 - Funding and financing, including the planned annual Program funding responsibilities of each Party (see Section 4).

8. PROGRAM IMPLEMENTATION AND MANAGEMENT

Program management shall be facilitated by either:

- One of the Parties for the whole Subbasin; or
- Each Party, for their respective portion of the Subbasin.

Program management may be facilitated through a third party upon consent of the Party or the Parties as may be applicable given the geographic scope of implementation.

The Parties agree that Program implementation governance may include the following:

- Program Implementation Committee (comprised of at least two representatives from each Party); or
- Advisory Committee (could include beneficial users, community organizers, and/or non-governmental organizations)
- GSA governing entities (e.g., Boards of Directors or Supervisors).

To aid the Parties in Program development and implementation, a DRAFT Program organizational structure is as shown in **Exhibit B** and a DRAFT Program implementation flowchart is as shown in **Exhibit C**. That shown in **Exhibit B and Exhibit C** is only a DRAFT and shall not limit or otherwise constrain Program development and implementation.

While Program management decisions will be the responsibility of the Party or Parties, as may be applicable given the geographic scope of implementation, it is anticipated that Program

management will be coordinated with the management of other programs in the Subbasin and region related to demand reduction, as applicable, including County-administered programs.

9. ENVIRONMENTAL REVIEW

The Parties agree to cooperatively complete any environmental review as may be determined necessary for Program implementation. Any costs associated with environmental review shall be per the proportionate share as determined through Program development.

10. NOTICES

All notices required or permitted by this MOU shall be made in writing, and may be delivered in person (by hand or by courier) or may be sent by regular, certified, or registered mail or U.S. Postal Service Express Mail, with postage prepaid, or by facsimile transmission, or by electronic transmission (email) and shall be deemed sufficiently given if served in a manner specified herein.

The addresses and addressees noted below are the Party's designated address and addressee for delivery or mailing notices.

To CWD GSA: _____ Chowchilla Water District
Brandon Tomlinson
327 South Chowchilla Blvd.
Chowchilla, CA 93610

To Madera County GSA: _____ County of Madera
Stephanie Anagnoson
200 W 4th Street, 4th Floor
Madera, CA 93637

To Merced County GSA: _____ County of Merced
Lacey McBride
2222 M Street
Merced, CA 95340

To TTWD GSA: _____ Triangle T Water District
Brad Samuelson
P.O. Box 2657
Los Banos, CA 93635

Any Party may, by written notice to the other Party, specify a different address for notice. Any notice sent by registered or certified mail, return receipt requested, shall be deemed given on the date of delivery shown on the receipt card, or if no delivery date is shown, three days after the postmark date. If sent by regular mail, the notice shall be deemed given 48 hours after it is

addressed as required in this section and mailed with postage prepaid. Notices delivered by United States Express Mail or overnight courier that guarantee next day delivery shall be deemed given 24 hours after delivery to the Postal Service or overnight courier. Notices transmitted by facsimile transmission or similar means (including email) shall be deemed delivered upon telephone or similar confirmation of delivery (confirmation report from fax machine is sufficient), provided a copy is also delivered via personal delivery or mail. If notice is received after 4:00 p.m. or on a Saturday, Sunday or legal holiday, it shall be deemed received on the next business day.

IN WITNESS WHEREOF, the Parties have caused this MOU to be executed, each signatory hereto represents that he/she has been appropriately authorized to enter into this MOU on behalf of the Party whom he/she signs.

DRAFT

Chowchilla Water District GSA

Date

County of Madera GSA – Chowchilla

Date

County of Merced GSA – Chowchilla

Date

Triangle T Water District GSA

Date

Exhibit A.

Map of Chowchilla Subbasin GSAs.

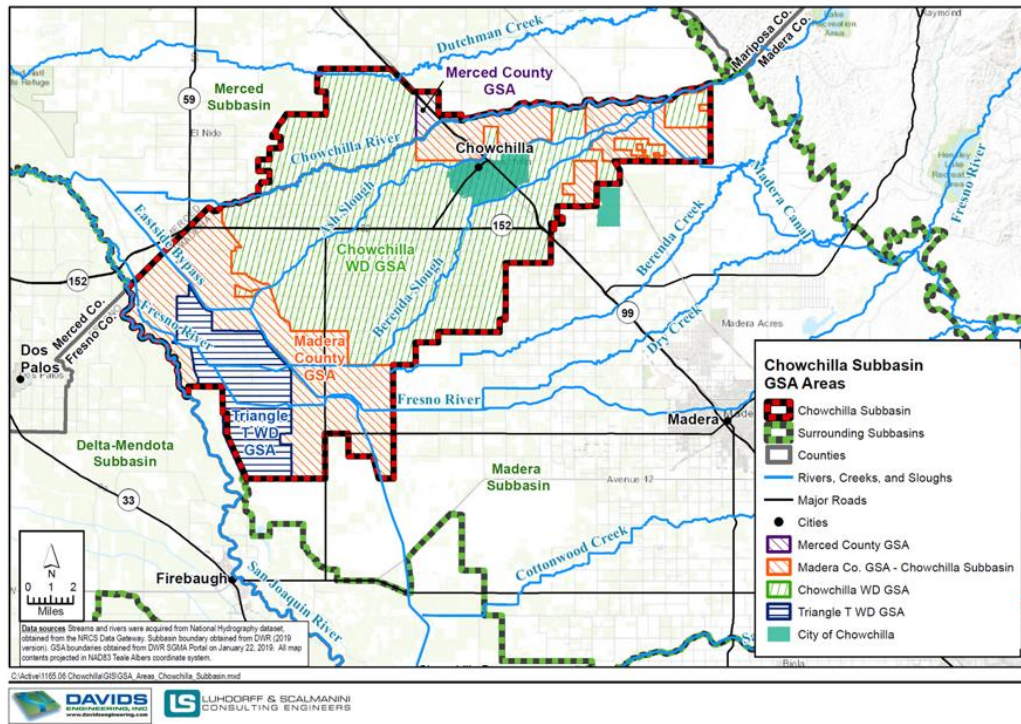


Figure ES-1. Chowchilla Subbasin GSAs Map.¹

¹In February 2023, TTWD annexed approximately 3,062 acres formerly located in the Madera County GSA within portions of the Chowchilla, Madera, and Delta-Mendota Subbasins. GSA boundary modifications will be shown in the five-year GSP update and will be reflected in future water budget updates.

Exhibit B.
Chowchilla Subbasin Demand Management Program
DRAFT Organizational Structure.

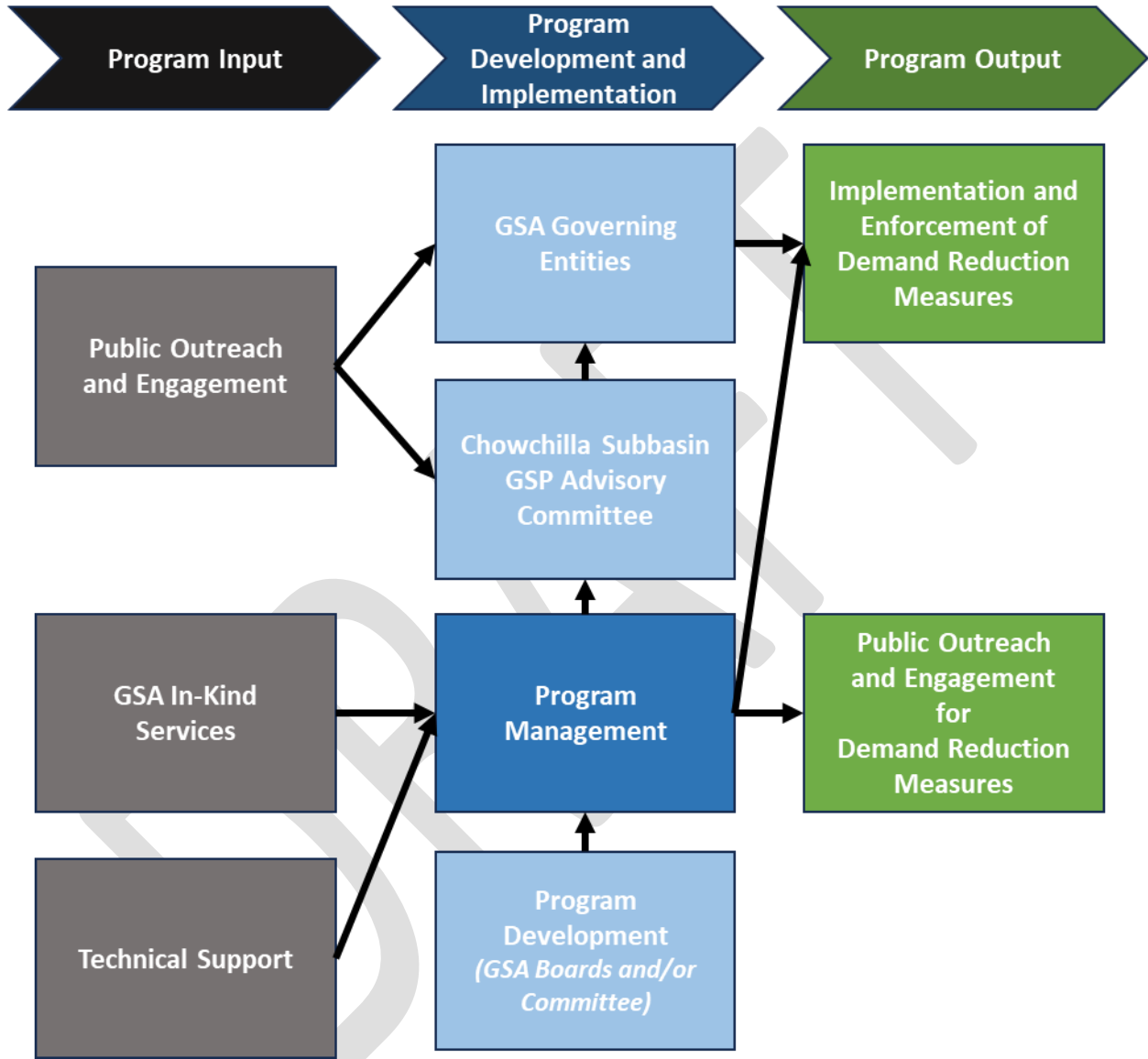
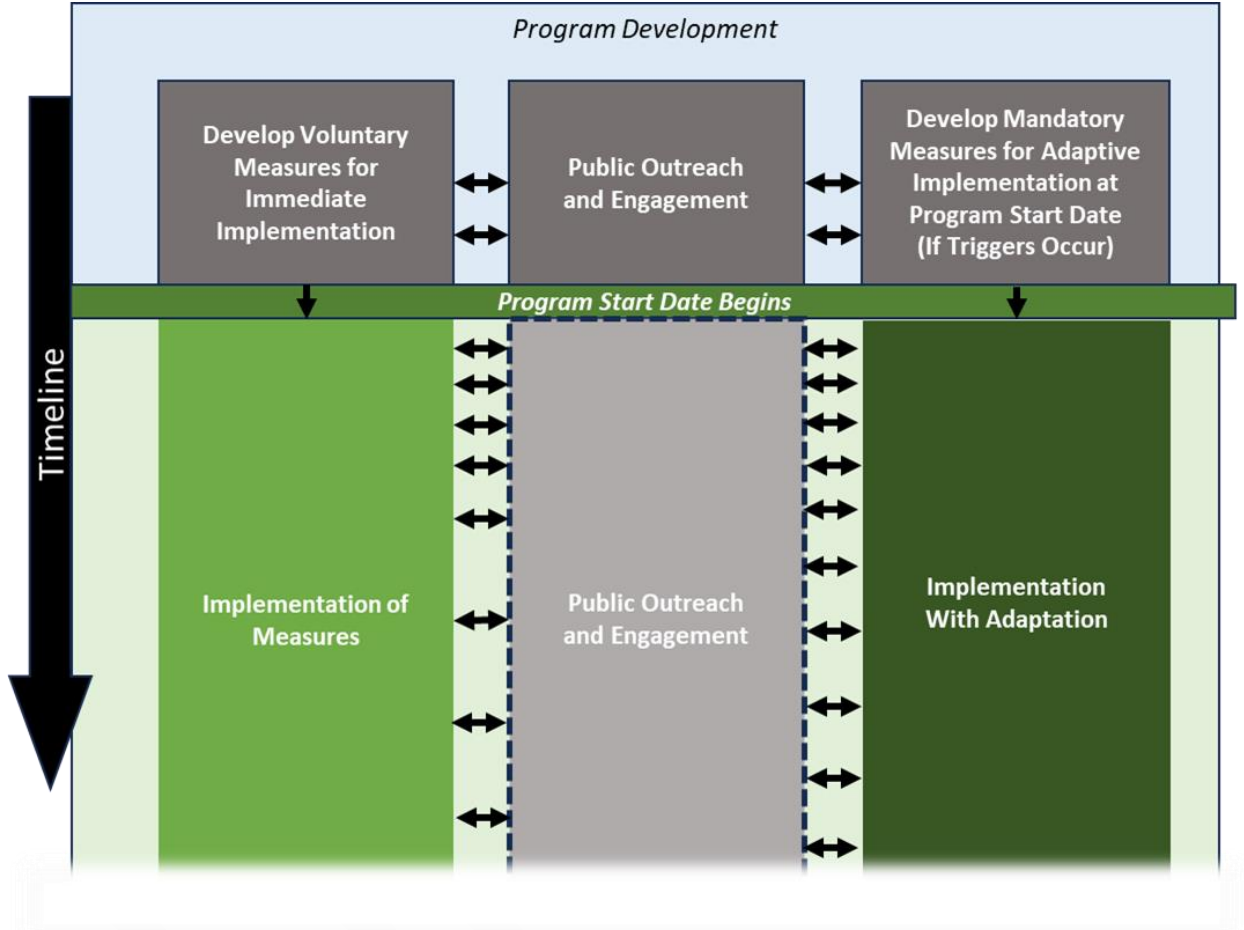


Exhibit C.

**Chowchilla Subbasin Demand Management Program
DRAFT Implementation Flowchart.**



Notes:

1. Steps shown herein are intended to demonstrate critical components and is not intended to be indicative of all steps that may be required for Program implementation.
2. Steps shown herein are subject to revision by the Parties.