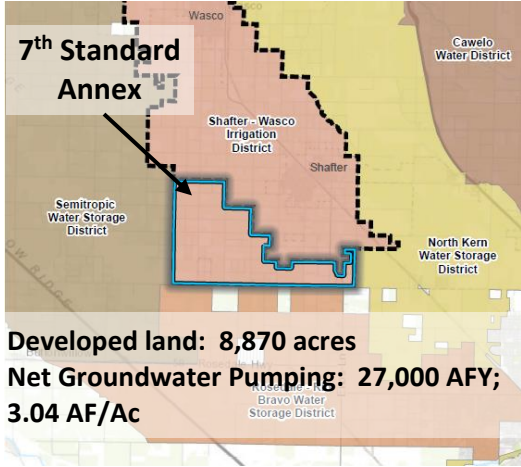




### SWID 7<sup>th</sup> Standard Management Area

#### 7<sup>th</sup> Standard Annex Management Area and Nearby KGA Members



- The Shafter-Wasco Irrigation District (SWID) is annexing 10,045 acres of “white area” lands located between the south boundary of SWID and 7<sup>th</sup> Standard Rd.
- Land Uses include:
  - Agricultural Land: 7,950 acres
    - Permanent crops: 3,900 acres
    - Row/field crops: 4,040 acres
  - Undeveloped Land: 1,130 acres
  - Urban/Industrial Land: 920 acres
- Historic Period Annual Shortfall w/o P&MAs – 1,100 to 13,000 AFY; 0.12 to 1.5 AF/Ac
- Annex Area landowners have proactively worked to join SWID and are undergoing a Prop 218 process, to tax themselves \$7+M over the next 5 years to pay for development of Projects & Management Actions and SGMA.

### Position – Positive / Negative Balance

- Calibrated spreadsheet model
- Management Area shows supply deficit that will be reduced with/through Projects & Management Actions (P&MAs)
- For P&MA planning purposes, the high end of the 2030 Climate Change Conditions range is used: **13,883 AFY shortfall (1.6 AF/ac)**

#### Projected 2040 Water Budget Shortfall without P&MAs

Scenario	Estimated Annual Change in Storage by 2040
Baseline (No climate change)	-1,510 AFY to -13,060 AFY
2030 Climate Change Conditions (Moderate effects)	-2,333 AFY to -13,883 AFY
2070 Climate Change Conditions (High effects)	-3,648 AFY to -15,198 AFY

### Management Projects/ Action Plans

### Glide Path - Timeline

#### Projects to Increase Groundwater Storage/Recharge

1. Evaluation of Potential to Utilize Shafter-Wasco Irrigation District (SWID) Kimberlina Ponds or Other Facilities for Recharge
2. Evaluation of Potential to Partner in Kern Fan Groundwater Storage Project
3. Construct 7<sup>th</sup> Standard Annex Management Area Storage Pond Project
4. Identify Opportunities to Utilize Existing Infrastructure
5. On-Farm Groundwater Recharge
6. Purchase surface water when available

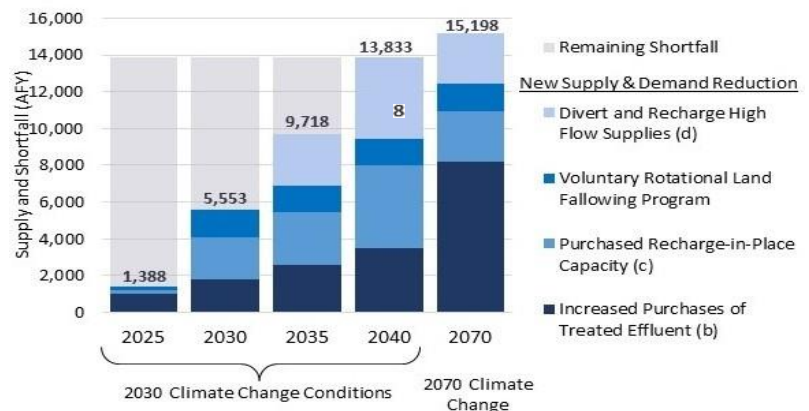
#### Projects to Increase Delivery Flexibility

7. Flat Rock Canal Extension
8. Develop New Interconnections Within SWID’s Conveyance System and Improve “Bottleneck” Issues
9. Increased Recycled Water Deliveries and Recharge

#### Management Actions/Policies to Reduce Overall Water Demand

10. On-Farm Water Conservation
11. Voluntary Rotational Land Following Program
12. Education of Groundwater Use per Acre

Case 2 - Assumed Native Safe Yield of 0.30 AFY/ac



#### Sustainability Goal

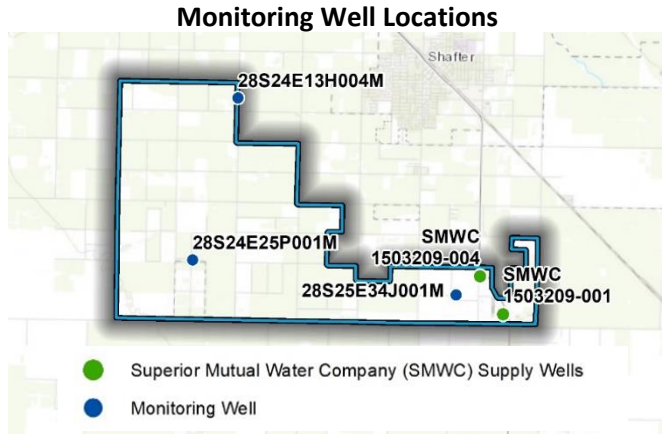
- Eliminate 13,883 AFY shortfall by 2040 through increasing supply and reducing demand

#### Adaptive Management

- If certain actions do not occur as projected, greater use of others will take place to eliminate the shortfall.

## Checkbook/Management/Minimum Thresholds & Measurable Objectives & Trigger Point for Undesirable Results/ MTs

- **Chronic Lowering of GW Levels:** Lowering of GW levels has been observed within the Annex Area at a rate of approx. 1 ft/year over the long term. Water levels will be monitored semi-annually within the Annex Area. MOs/MTs have been established for water levels, and are consistent with methodology used for SWID, Semitropic WSD, and North Kern WSD. The resulting MOs and MTs for the Management Area are -79 ft msl and -137 ft msl, respectively. Implementation of P&MAs will be necessary to maintain water levels above MOs/MTs.
- **Reduction of GW Storage** Based in historic conditions (WY 1995-2014) water storage in the Management Area is declining at approx. 1,080 AFY. The Basin-wide model estimates a decline of approx. 760 AFY for Management Area. MOs/MTs for lowering of GW levels will be used as a proxy for the reduction of GW storage.
- **Water Quality Degradation:** Limited water quality data are available within the Management Area. Water quality will be monitored semi-annually within the Annex Area to fill this data gap. If data suggest that water quality is being affected due to groundwater management practices (i.e., a causal nexus is established), MOs/MTs for water quality will be developed.
- **Subsidence:** No significant subsidence and no undesirable results have been observed within the Annex Area. Therefore, no MOs/MTs have been developed for this indicator at this time, other than those set in the basin-wide plan. The results of this basin-wide monitoring will be reviewed periodically and the need for MOs/MTs will be assessed, if the data suggest subsidence could affect critical infrastructure in the Management Area.
- **Seawater Intrusion & Surface Water Depletion:** Not applicable for Management Area



### SWID Annex Area-Specific Stakeholder Outreach

Public Meeting Type	Number of Meetings
SWID Board Meetings	11
Annex Area Landowner Committee Meetings	4
Annex Area Stakeholder Workshops	3
Total	18

### P&MA Effectiveness

- Basin model projects that water levels will stay above MOs & MTs with implementation of P&MAs.
- If the water level MOs are not maintained for 3 consecutive years, despite the implementation of P&MAs, then as a contingency, SWID will develop a mandatory pumping restriction and/or land fallowing policy, and work to maintain water levels above the MTs.

### Todd Model Projected Water Levels With and Without Basin-wide P&MA Implementation

