

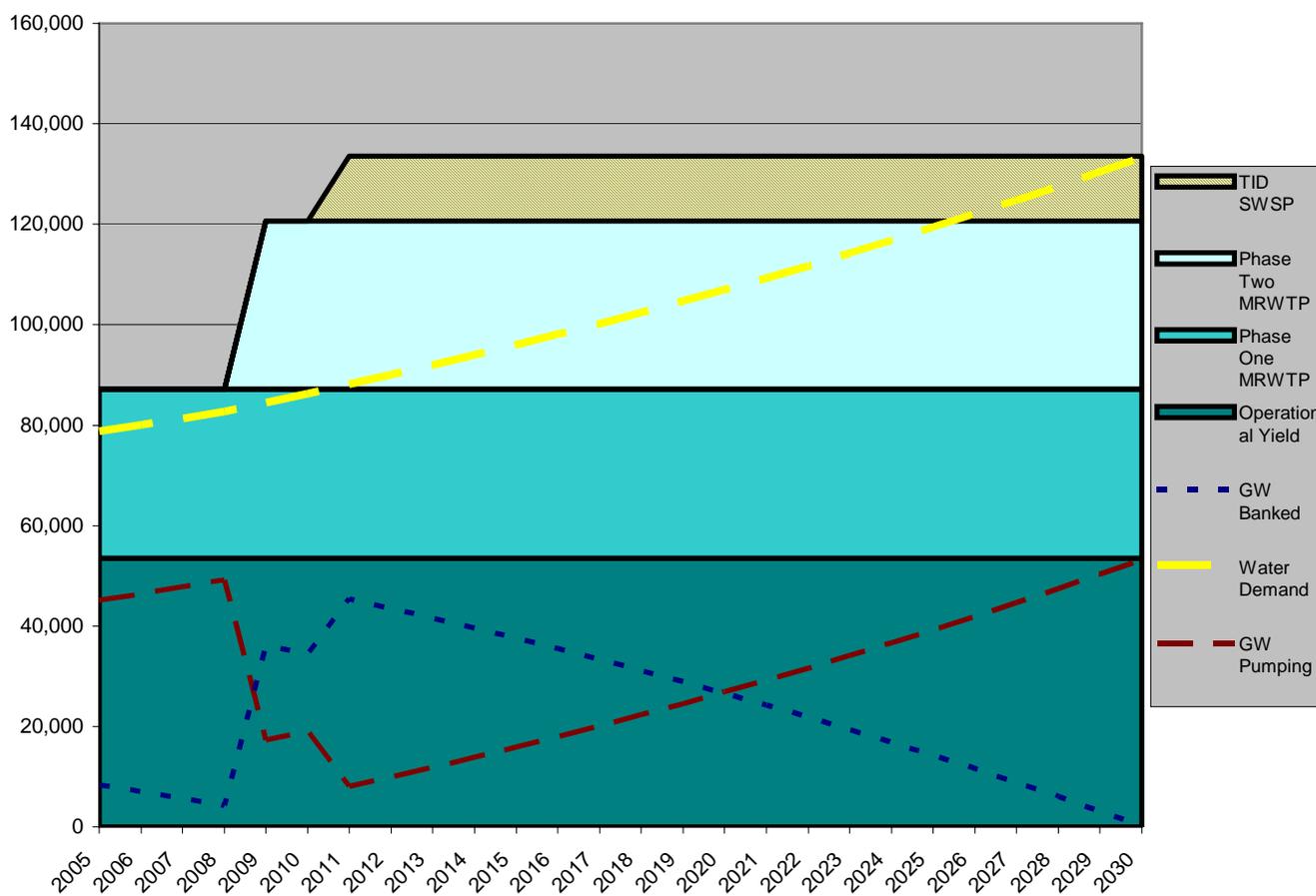
**Appendix B – Water Supply Projections  
Assuming SWSP and Phase  
Three MRWTP**

---

The City of Modesto is currently evaluating potential alternatives for future surface water supplies to offset groundwater pumping to meet demands in normal and dry years. Specifically, in addition to the Phase Two MRWTP expansion expected to come online in December of 2009, the City of Modesto is evaluating participation in the Surface Water Supply Project (SWSP) with Turlock Irrigation District (TID), and the City of Modesto and MID will be evaluating a Phase Three MRWTP expansion.

**SWSP.** The City recently entered into an agreement with TID to participate in the design of a TID Surface Water Supply Project (SWSP) to be located east of Modesto, on the south side of the Tuolumne River. Modesto is currently considering entering into a future Treatment and Delivery Agreement (TDA) for delivery of 12,881 AFY (11.5 MGD) of Tuolumne River water from TID to the south Modesto area. This will enhance Modesto’s ability to manage its surface and groundwater supplies conjunctively. The SWSP is assumed to be operational in the year 2011. Figure B-1 presents the City of Modesto’s future supply and demand, assuming the SWSP comes online in 2011. Table B-1 presents anticipated water supply, demand, and shortfalls assuming the SWSP is pursued. It is assumed that cutbacks similar the MRWTP will apply to treated surface water from the proposed TID SWSP during multiple dry year conditions.

**Figure B-1: Projected City of Modesto Supplies and Demands with SWSP**



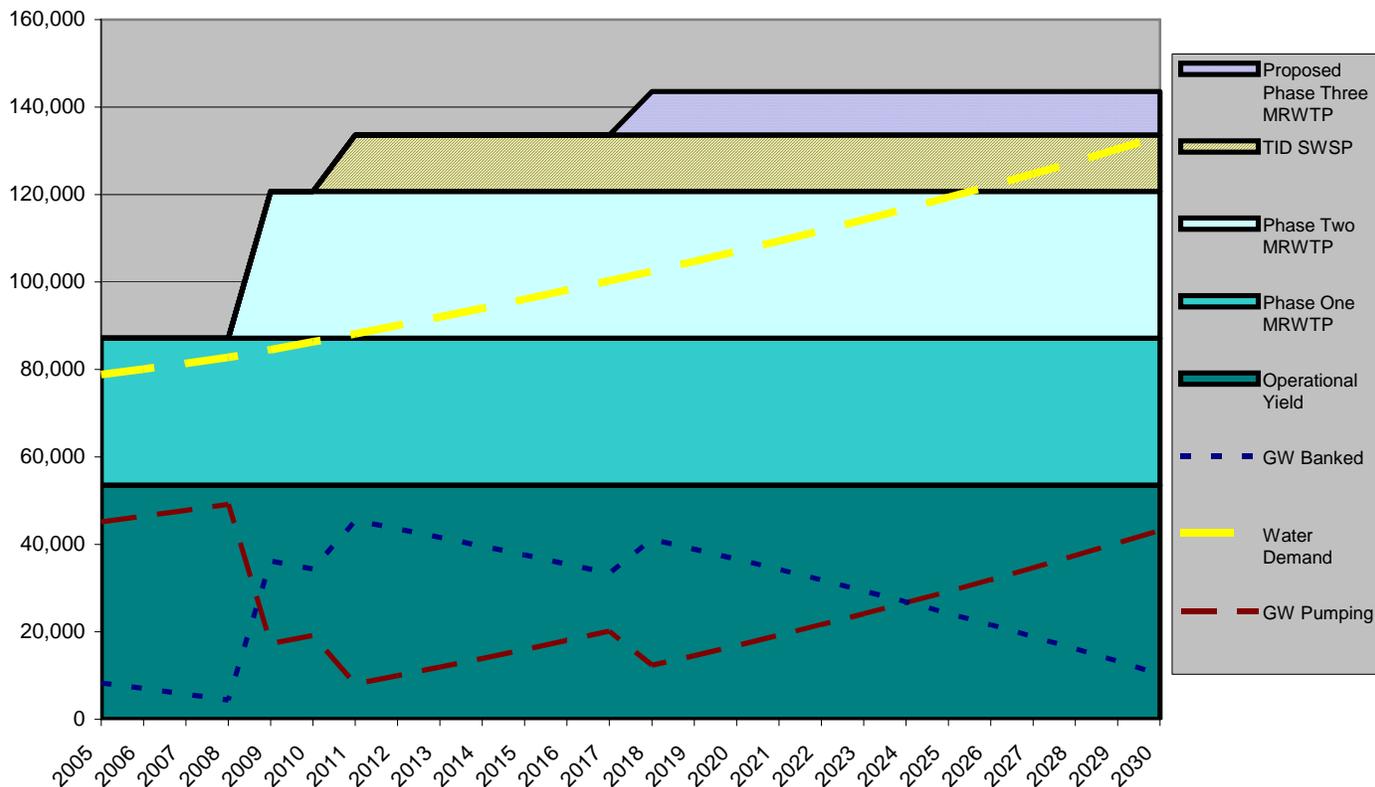
**Table B-1: City of Modesto Supplies, Demands, and Reduction in Groundwater Pumped with SWSP**

Year	Scenario	Demand	MID Supply	TID Supply	Groundwater Pumping	Total Available Supply	Supply Deficit
2005	Normal	78,802	33,602	0	45,200	53,500	None
	Single Dry	78,802	26,400	0	52,402	53,500	None
	Multiple Dry						None
	2006	80,057	32,162	0	47,895	53,500	None
	2007	81,353	30,722	0	50,631	53,500	None
	2008	82,746	29,282	0	53,464	53,500	None
	2009	84,505	55,680	0	28,825	53,500	None
	2010	86,308	52,800	0	33,508	53,500	None
2010	Normal	86,308	67,204	0	19,104	53,500	None
	Single Dry	86,308	52,800	0	33,508	53,500	None
	Multiple Dry						None
	2011	88,154	64,320	12,330	11,504	53,500	None
	2012	90,047	61,440	11,778	16,829	53,500	None
	2013	91,986	58,560	11,226	22,200	53,500	None
	2014	93,972	55,680	10,674	27,618	53,500	None
	2015	96,008	52,800	10,122	33,086	53,500	None
2015	Normal	96,008	67,204	12,881	15,923	53,500	None
	Single Dry	96,008	52,800	10,121	33,087	53,500	None
	Multiple Dry						None
	2016	98,094	64,320	12,330	21,444	53,500	None
	2017	100,231	61,440	11,778	27,013	53,500	None
	2018	102,421	58,560	11,226	32,635	53,500	None
	2019	104,664	55,680	10,674	38,310	53,500	None
	2020	106,963	52,800	10,122	44,041	53,500	None
2020	Normal	106,963	67,204	12,881	26,878	53,500	None
	Single Dry	106,963	52,800	10,121	44,042	53,500	None
	Multiple Dry						None
	2021	109,319	64,320	12,330	32,669	53,500	None
	2022	111,733	61,440	11,778	38,515	53,500	None
	2023	114,206	58,560	11,226	44,420	53,500	None
	2024	116,740	55,680	10,674	50,386	53,500	None
	2025	119,337	52,800	10,122	56,415	53,500	2,915

Year	Scenario	Demand	MID Supply	TID Supply	Groundwater Pumping	Total Available Supply	Supply Deficit
2025	Normal	119,337	67,204	12,881	39,252	53,500	None
	Single Dry	119,337	52,800	10,121	56,416	53,500	2,916
	Multiple Dry						None
	2026	121,997	64,320	12,330	45,347	53,500	None
	2027	124,724	61,440	11,778	51,506	53,500	None
	2028	127,517	58,560	11,226	57,731	53,500	4,231
	2029	130,380	55,680	10,674	64,026	53,500	10,526
	2030	133,313	52,800	10,122	70,391	53,500	16,891
2030	Normal	133,313	67,204	12,881	53,228	53,500	None
	Single Dry	133,313	52,800	10,121	70,392	53,500	16,892
	Multiple Dry						None
	2031	133,313	64,320	12,330	56,663	53,500	3,163
	2032	133,313	61,440	11,778	60,095	53,500	6,595
	2033	133,313	58,560	11,226	63,527	53,500	10,027
	2034	133,313	55,680	10,674	66,959	53,500	13,459
	2035	133,313	52,800	10,122	70,391	53,500	16,891

**Phase Three Expansion.** The City of Modesto and MID are currently evaluating a potential arrangement through which the MRWTP would be expanded and the City would purchase additional Tuolumne River water supplies from MID to be delivered to the North Modesto area. Current conceptual design, if this alternative is pursued, would result in planning initiated in the 2012 to 2013 timeframe with approximately 10 MGD (11,202 AFY) of water delivery beginning around 2018. Figure B-2 represents the City of Modesto’s future supply and demand, assuming the Phase Three Expansion comes online in 2018. Table B-2 presents anticipated water supply, demand, and shortfalls assuming the Phase Three Expansion is pursued.

**Figure B-2: Projected City of Modesto Supplies and Demands with Phase Three MRWTP Expansion**



**Table B-2: City of Modesto Supplies, Demands, and Reduction in Groundwater Pumped with SWSP and Phase Three MRWTP Expansion**

Year	Scenario	Demand	MID Supply	TID Supply	Groundwater Pumping	Total Available Supply	Supply Deficit
2005	Normal	78,802	33,602	0	45,200	53,500	None
	Single Dry	78,802	26,402	0	52,400	53,500	None
	Multiple Dry						
	2006	80,057	32,162	0	47,895	53,500	None
	2007	81,353	30,722	0	50,631	53,500	None
	2008	82,746	29,282	0	53,464	53,500	None
	2009	84,505	55,680	0	28,825	53,500	None
	2010	86,308	52,800	0	33,508	53,500	None

Year	Scenario	Demand	MID Supply	TID Supply	Groundwater Pumping	Total Available Supply	Supply Deficit
2010	Normal	86,308	67,204	0	19,104	53,500	None
	Single Dry	86,308	52,803	0	33,505	53,500	None
	Multiple Dry						
	2011	88,154	64,320	12,330	11,504	53,500	None
	2012	90,047	61,440	11,778	16,829	53,500	None
	2013	91,986	58,560	11,226	22,200	53,500	None
	2014	93,972	55,680	10,674	27,618	53,500	None
	2015	96,008	52,800	10,122	33,086	53,500	None
2015	Normal	96,008	67,204	12,881	15,923	53,500	None
	Single Dry	96,008	52,803	10,121	33,084	53,500	None
	Multiple Dry						
	2016	98,094	64,320	12,330	21,444	53,500	None
	2017	100,231	61,440	11,778	27,013	53,500	None
	2018	102,421	70,272	11,226	20,923	53,500	None
	2019	104,664	66,816	10,674	27,174	53,500	None
	2020	106,963	63,360	10,122	33,481	53,500	None
2020	Normal	106,963	80,640	12,881	13,442	53,500	None
	Single Dry	106,963	63,360	10,121	33,482	53,500	None
	Multiple Dry						
	2021	109,319	77,184	12,330	19,805	53,500	None
	2022	111,733	73,728	11,778	26,227	53,500	None
	2023	114,206	70,272	11,226	32,708	53,500	None
	2024	116,740	66,816	10,674	39,250	53,500	None
	2025	119,337	63,360	10,122	45,855	53,500	None
2025	Normal	119,337	80,640	12,881	25,816	53,500	None
	Single Dry	119,337	63,360	10,121	45,856	53,500	None
	Multiple Dry						
	2026	121,997	77,184	12,330	32,483	53,500	None
	2027	124,724	73,728	11,778	39,218	53,500	None
	2028	127,517	70,272	11,226	46,019	53,500	None
	2029	130,380	66,816	10,674	52,890	53,500	None
	2030	133,313	63,360	10,122	59,831	53,500	6331.4

Year	Scenario	Demand	MID Supply	TID Supply	Groundwater Pumping	Total Available Supply	Supply Deficit
<b>2030</b>	Normal	133,313	80,640	12,881	39,792	53,500	None
	Single Dry	133,313	63,360	10,121	59,832	53,500	6332.2
	Multiple Dry						
	2031	133,313	77,184	12,330	43,799	53,500	None
	2032	133,313	73,728	11,778	47,807	53,500	None
	2033	133,313	70,272	11,226	51,815	53,500	None
	2034	133,313	66,816	10,674	55,823	53,500	2323.3
	2035	133,313	63,360	10,122	59,831	53,500	6331.4