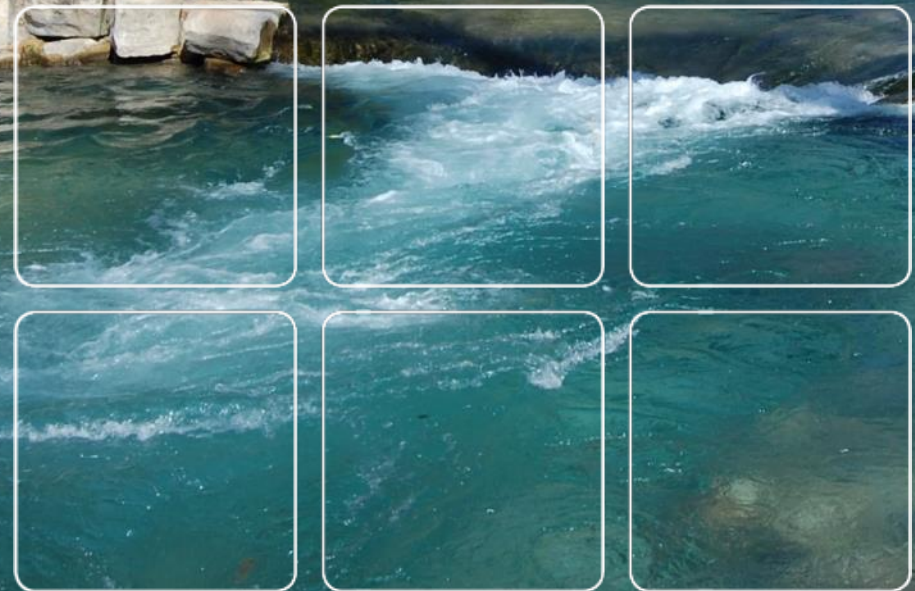




City of San Marcos Water Reuse System Expansion



September 11, 2015



Regional Finance Forum

Financing Resilient and Sustainable Water Infrastructure



Laurie Moyer, P.E.

Director of Engineering & Capital Improvements

Thomas P. Taggart

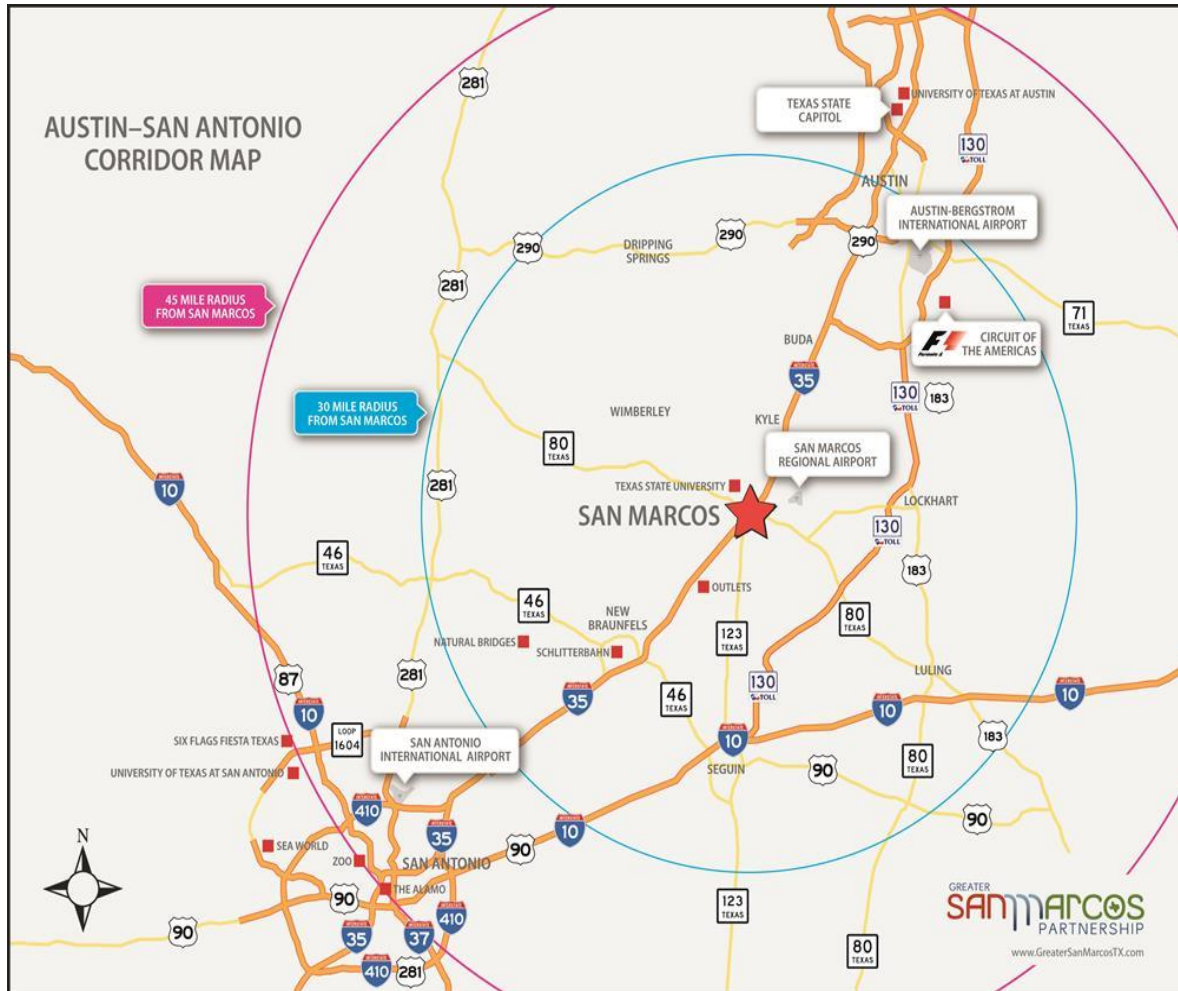
Executive Director of Public Services



Juan Guerra, P.E.

Associate Vice President





Release Number: CB15-89:
THURSDAY, MAY 21, 2015

Ten U.S. Cities Now Have 1 Million People or More; California and Texas Each Have Three of These Places

San Marcos, situated between Austin and San Antonio, was the fastest-growing city for the third consecutive year, with its population climbing 7.9 percent between 2013 and 2014 to reach 58,892.

- Unemployment rate
 - Job growth (current)
 - Projected 10 yr. job growth
- 3.10%
 - 2.82%
 - 42.50%

http://www.bestplaces.net/economy/city/texas/san_marcos



	San Marcos	U.S.
Per Capita Income	\$15,247	\$28,051
Household Income	\$27,360	\$53,046
Family Median Income	\$48,482	\$64,585

http://www.bestplaces.net/economy/city/texas/san_marcos



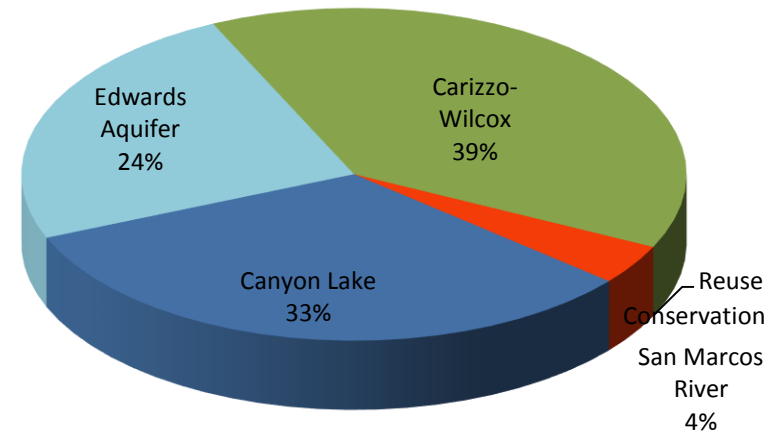
Population by Occupation	San Marcos	U.S.
Education, library	7.91%	6.10%
Arts, design, media, sports, entertainment	2.77%	1.88%
Food preparation, serving	14.85%	5.61%
Sales, office, administrative support	29.70%	24.89%



Planning for Drought in Times of Flood



Year	Water Demand (AF)	Edwards Aquifer (CSM) (AF)	Edwards Aquifer (Texas State) (AF)	Surface Water (AF)	Carrizo-Wilcox (AF)	Total Supply	Average Cost (\$/AF)
2015	10,125	5,433	2,000	10,000	0	17,433	\$ 140
2020	12,474	5,433	2,000	10,000	0	17,433	\$ 140
2025	14,215	5,433	2,000	10,000	4,000	21,433	\$ 346
2030	16,245	5,433	2,000	10,000	4,000	21,433	\$ 346
2035	18,782	5,433	2,000	10,000	12,000	29,433	\$ 590



- Rebates
 - Rainwater Harvesting Rebate Program
 - Wash-Smart Rebate Program
 - Flush-Smart Rebate Program

- Public and School Education Programs

- Indoor Water Surveys

- Public and School Education Programs

- Irrigation System Evaluations

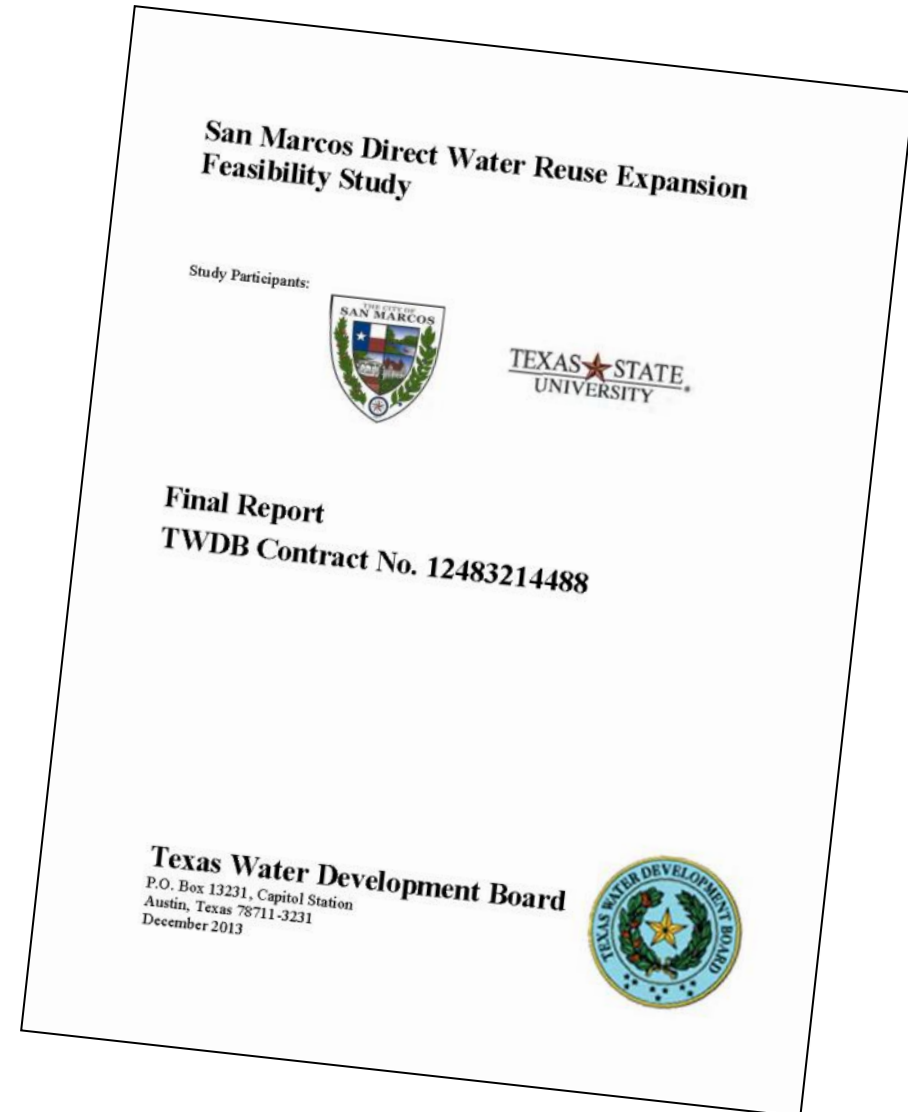


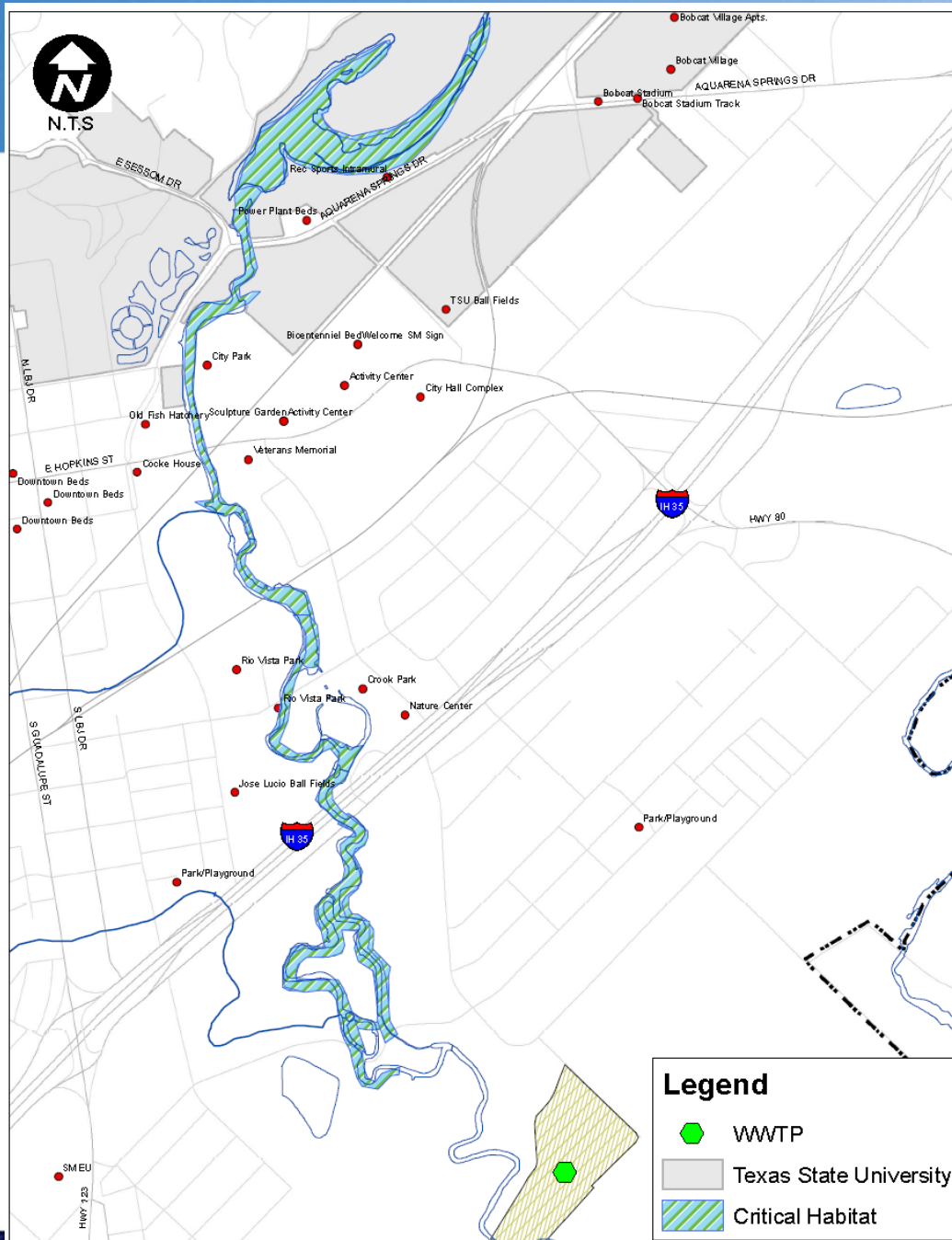
- 2000 - Hays Energy power plant
- 2010 – Golf course development
- 2011 - Extension to cement manufacturer



TWDB Regional Planning

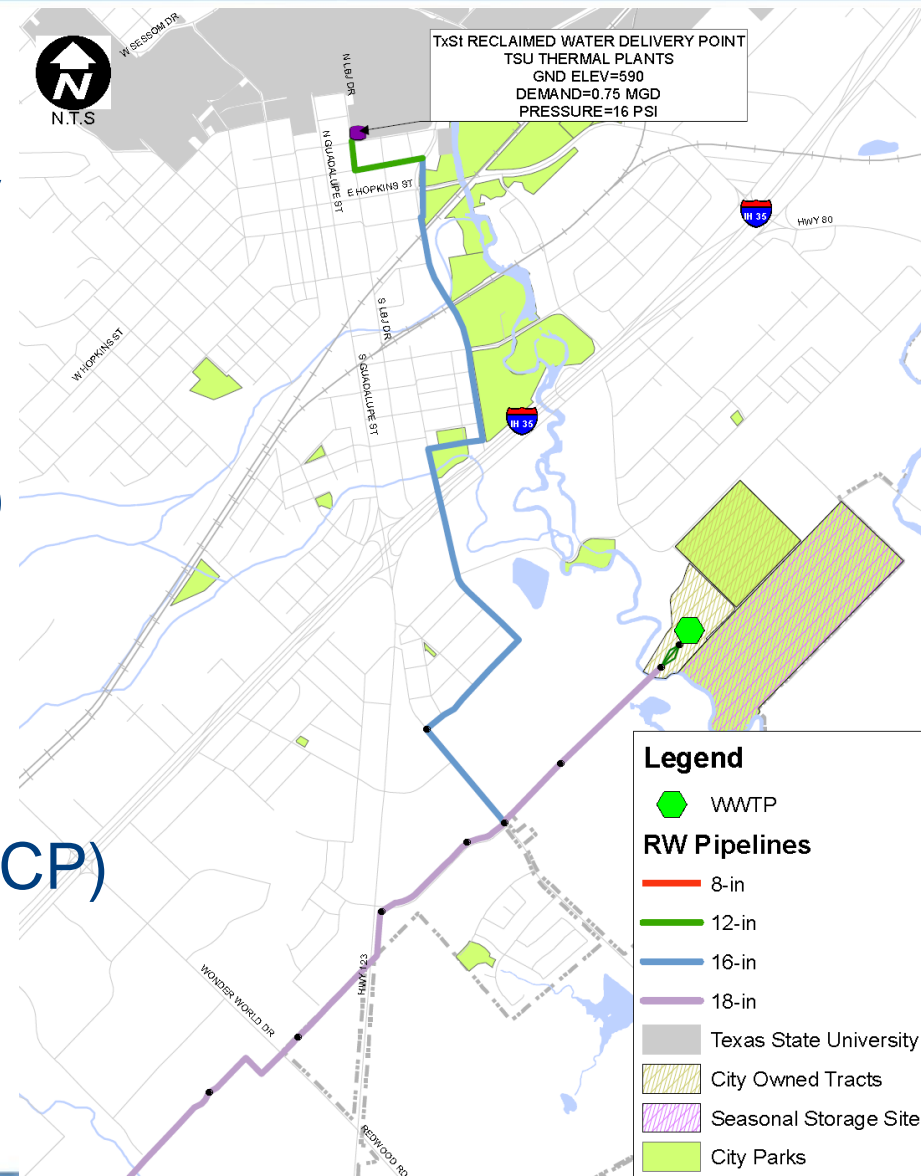
- ❖ Conceptualization
- ❖ Feasibility assessment
- ❖ Multi-phased development





Drivers for Feasibility study

- Edwards Aquifer Recovery Implementation Plan (EARIP)
- Jackson Well
- Habitat Conservation Plan (HCP)
- Texas State University San Marcos River Water Rights

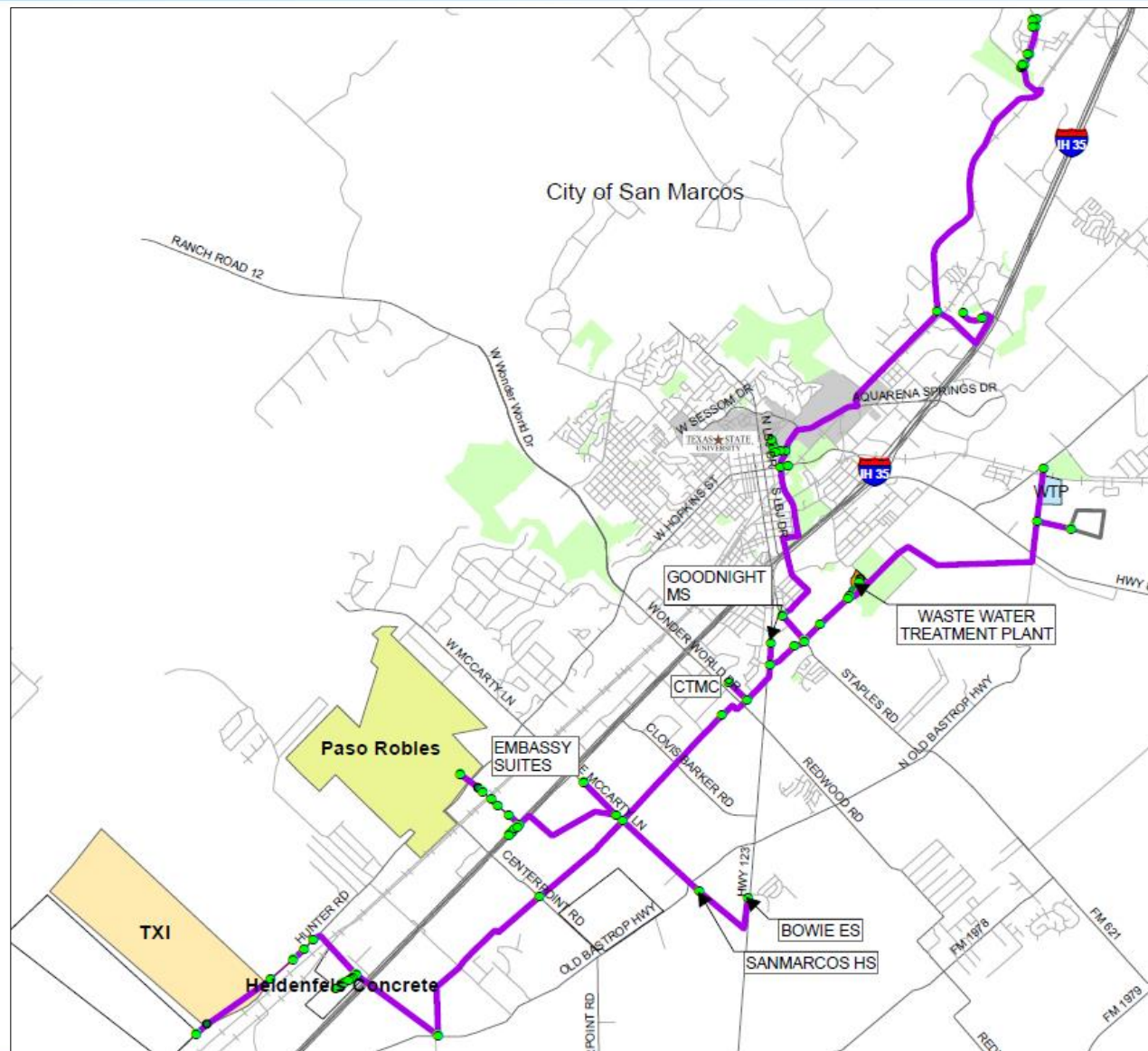


- 2000 - Hays Energy power plant
- 2010 – Golf course development
- 2011 - Extension to cement manufacturer
- **2012 - TWDB Regional Planning grant**
- **2013 - Feasibility study for the fully developed system**
- **2015 - TWDB CWSRF funding**

- ✓ Investor-owned gas-fired power plant (2000)
- ✓ Cement plant (2007)
- ✓ Golf course development (2010)
- Texas State University Thermal Plants
- Parks and Athletic Fields (university & city)



- **Phase 1:**
University Thermal
Plants (2015)
- **Phase 2:** City &
University Parks &
Facilities (2017)
- **Phase 3:** School,
Commercial &
Gary Ball Fields
(2020)
- **Phase 4:** Northern
Service Area
(2035)

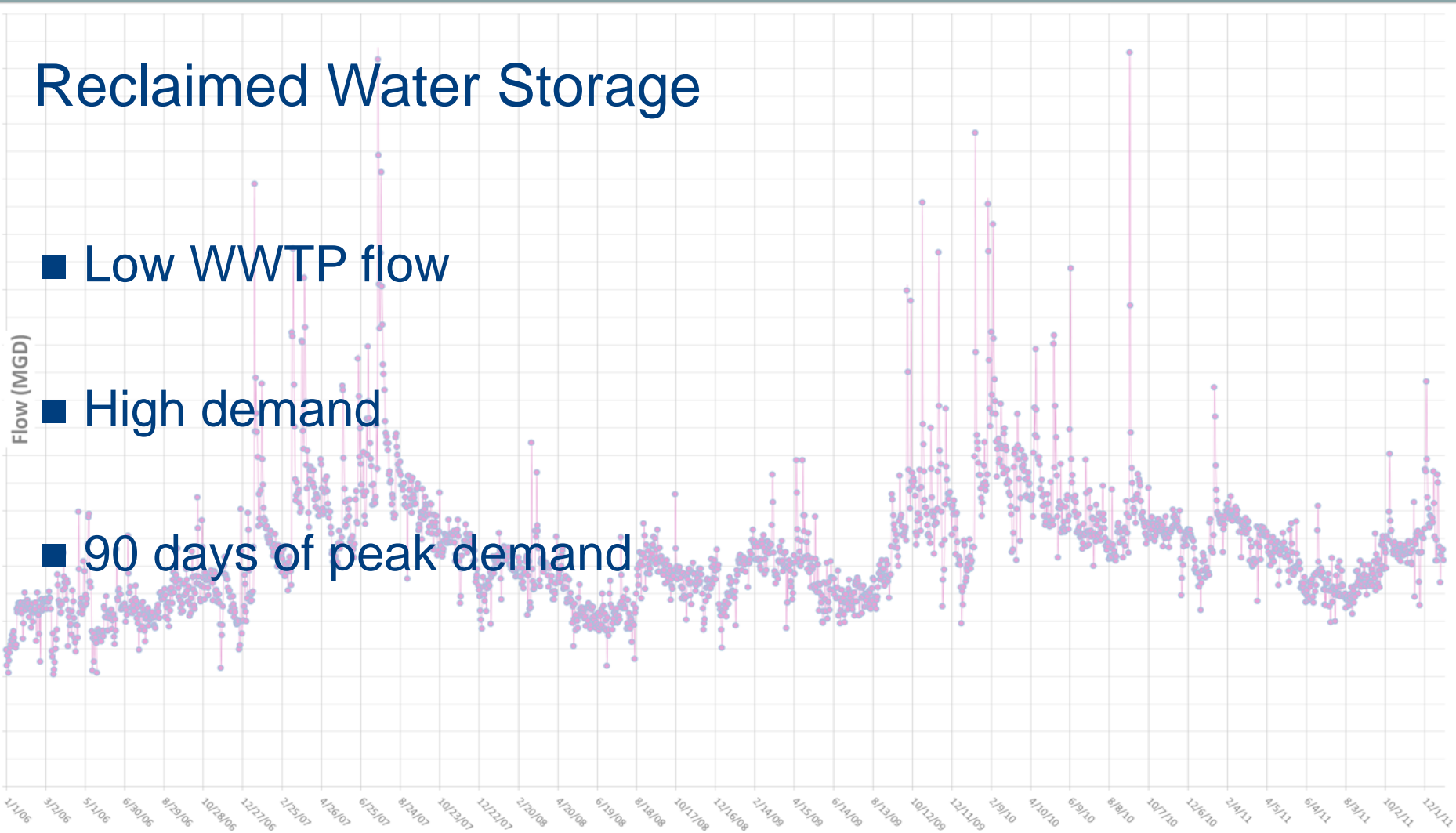


Reclaimed Water Storage

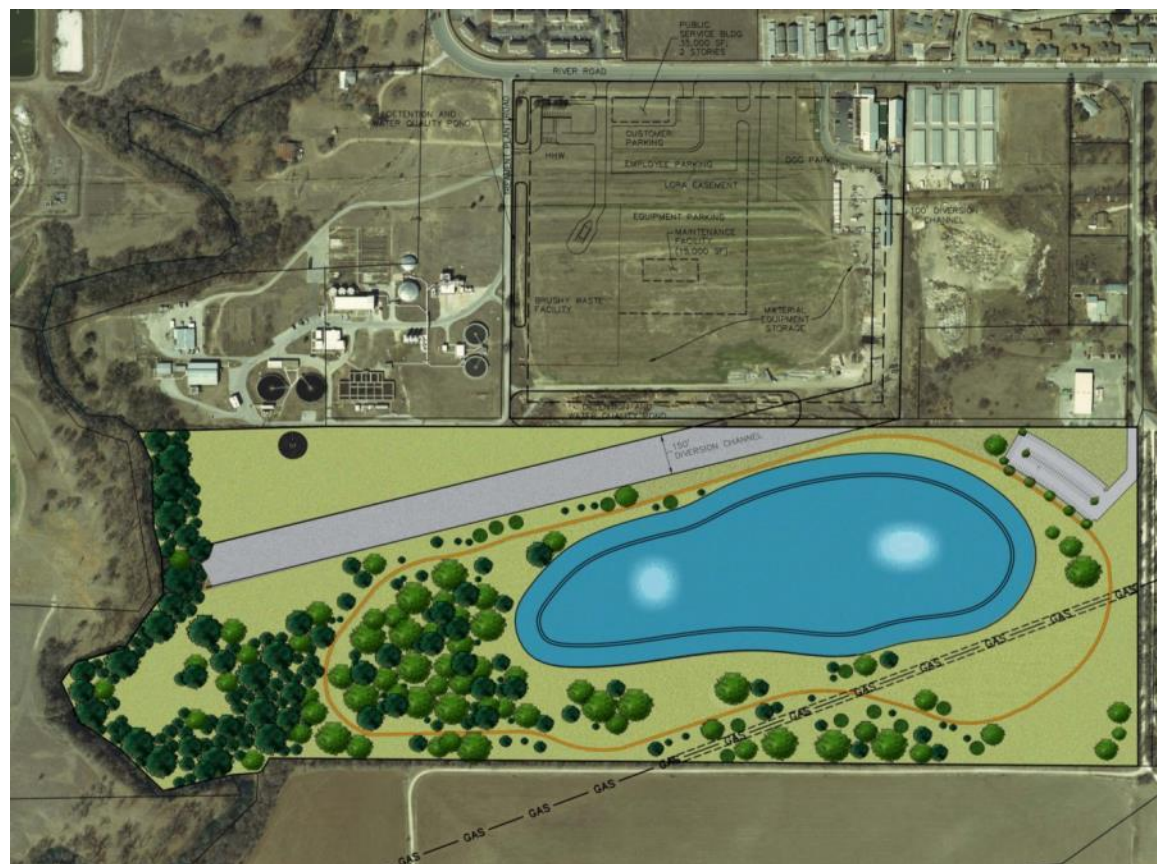
■ Low WWTP flow

■ High demand

■ 90 days of peak demand

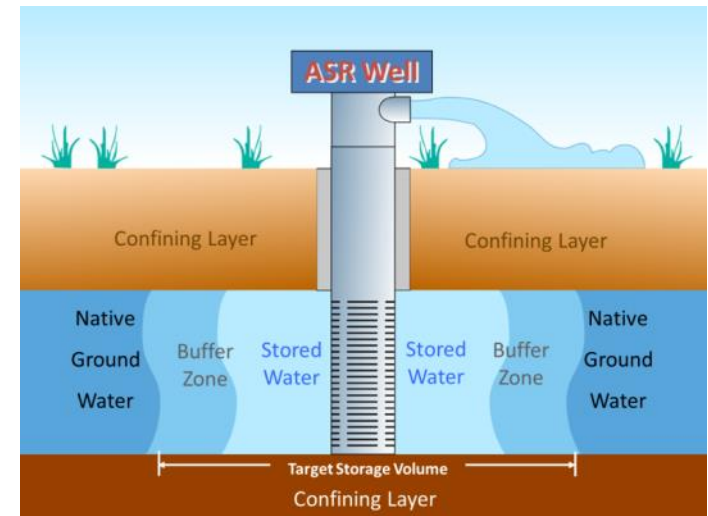


Reclaimed Water Storage



Evaluating Aquifer Storage & Recovery (ASR)

- No evaporation
- Preserves water quality
- Regulatory & institutional issues



- What funding sources are available?
 - Revenue Bonds
 - Grants & Low Interest Loans (CWSRF)
 - User fees

- What strings are attached?
 - Davis-Bacon
 - AIS
 - Good Faith Effort

- How to compete effectively?
 - Timing



- Interest rate subsidy of 120 - 125 basis points off the city's credit rating.
- Loan terms of 20 – 30 years.
- Planning, acquisition, design, and construction.
- Limited loan forgiveness
 - Green Project Reserve

- Green infrastructure
- Water reuse is categorically eligible
- Other environmentally innovative activities



It ain't easy being green...

Developing funding alternatives

- Project priority
 - Reuse is only one of the city's water management strategies
- Partnering
 - Texas State University
- The right motivations
 - Environmental
 - Water supply
 - Local economy
- The right time
 - Financial assistance program schedules

Thank you!



Questions?

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