



Consideration of Recommendations for Water Rate Increase

February 26, 2015

Clean, Safe, Reliable Drinking Water



WATER . . .
Can't live without it . . .



Regional Water Supply Challenges

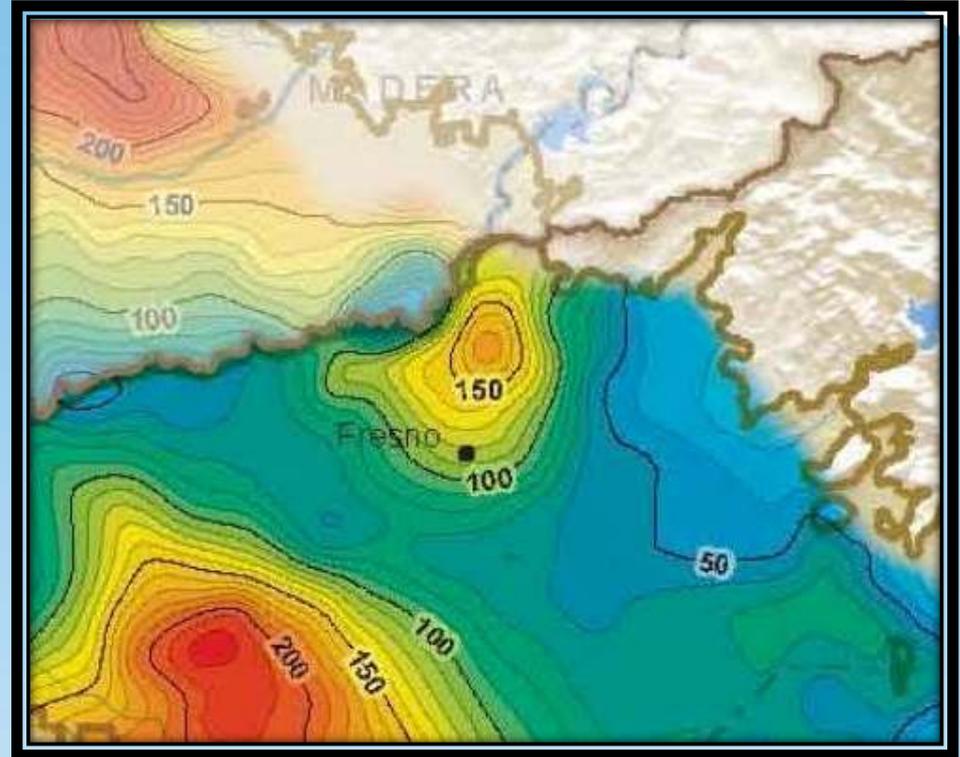


Pine Flat Reservoir

“Our regional groundwater basin loses the equivalent of 1.5 times the size of Pine Flat Reservoir every year.”

- *Jonathan Traum, P.E.
US Geologic Survey
Sept 29, 2014*

Regional Water Supply Challenges



“In the final prioritization, Kings Sub-basin ranks as the ninth highest priority basin in the DWR South Central Region, and ranks 17th among the 515 basins that were prioritized statewide.”

- Kings Basin Water Authority

2014 Sustainable Groundwater Management Act

- Mandates “the management and use of groundwater ... without causing *undesirable results*”
- Sustainable groundwater management depends upon creating more opportunities for *robust conjunctive management of surface water and groundwater resources*

“The State's primary role is to provide guidance and technical support ...and to step in on an interim basis when, but only when, local agencies fail to exercise their responsibilities as set forth in this legislation.”

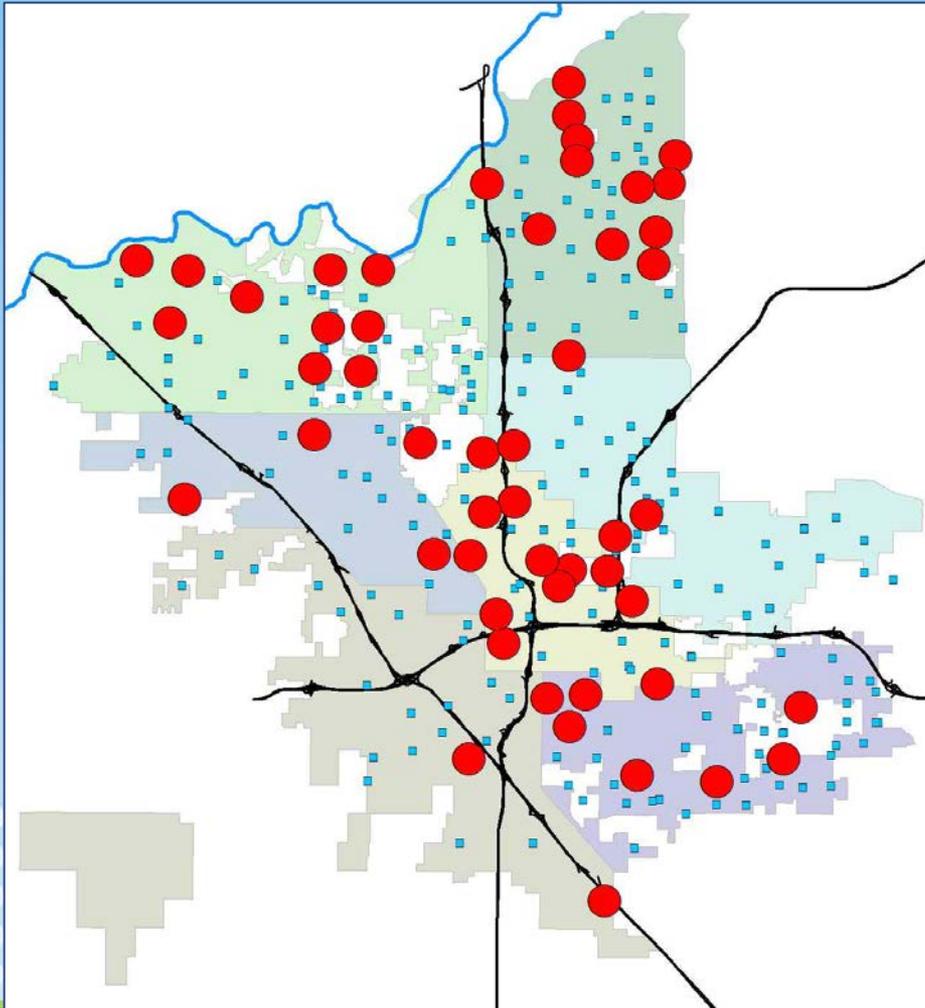
- Mark Cowin, Director, Division of Water Resources

“Undesirable Result”

- Chronic **lowering** of groundwater levels
- Significant and unreasonable **reduction** of groundwater storage
- Significant and unreasonable **degraded** water quality

Fresno's Water Supply Challenges

Wells Running Dry



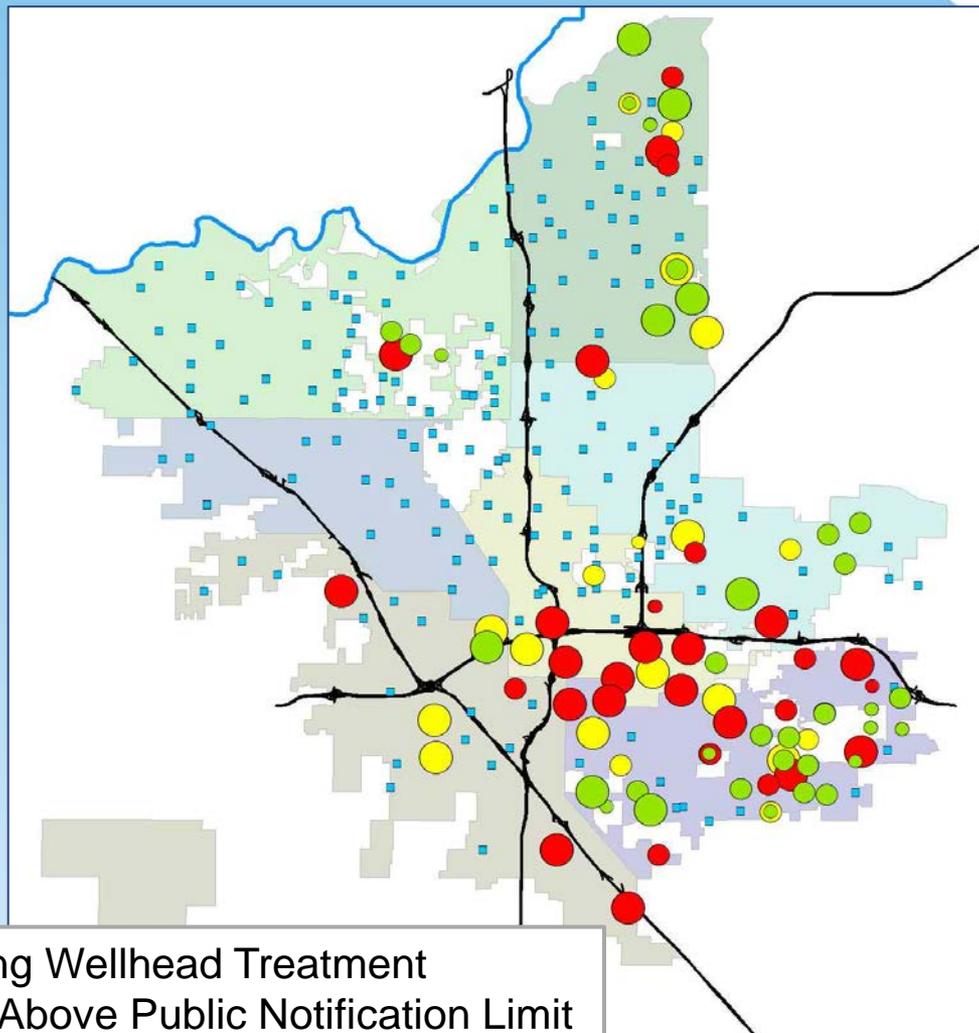
● Wells with groundwater depth risks

- 266 active wells
- 23 wells to be removed from service as groundwater continues to decline
- If groundwater decline similar to 2014 (*4 feet versus 1 foot*), 21 more wells at risk in 2015

Fresno's Water Supply Challenges

1,2,3-trichloropropane (TCP)

- 82 total contaminated, not treated, wells in the system
- New water quality regulations for 1,2,3-TCP will reduce supply
- TCP detected in 73 wells
- 124 million gallons per day impacted
- Treatment cost = \$170M - \$300M



Capital Plan Objectives

- **Comply with laws and regulations** – water quantity, water quality, and design of rates, fees, and charges
- **Implement surface water treatment** – as has been recommended for the last 25 years to reduce groundwater pumping
- **Enhance water conservation** – continue to work with community to reduce overall water demands
- **Continue rehabilitation and replacement of existing infrastructure** – avoids expensive failures and maintains system reliability (*400-year replacement schedule*)
- **Continue groundwater recharge** – expedite the recovery of groundwater levels in combination with reduced pumping

Summary of Projects and Financing

PROJECTS

Southeast Surface Water Treatment Facility.....	\$186.4 million
Raw Water Pipelines.....	\$ 98.4 million
Finished Water Pipelines.....	\$ 55.4 million
Water System Renewal and Replacement.....	\$ 82.5 million
Groundwater Recharge.....	\$ 6.4 million

TOTAL = \$429.1 million

ORIGINAL FINANCING ASSUMPTIONS

- \$50 million, SRF Loan (2%, 20 years)
- \$290.6 million, Revenue Bonds (5.5%, 30 years)
- \$88.5 million, Cash (pay-as-you-go)

Summary of Projects and Financing

PROJECTS

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FINANCING with SRF LOAN

\$186.4 million, SRF Loan (1.663%, 30 years)

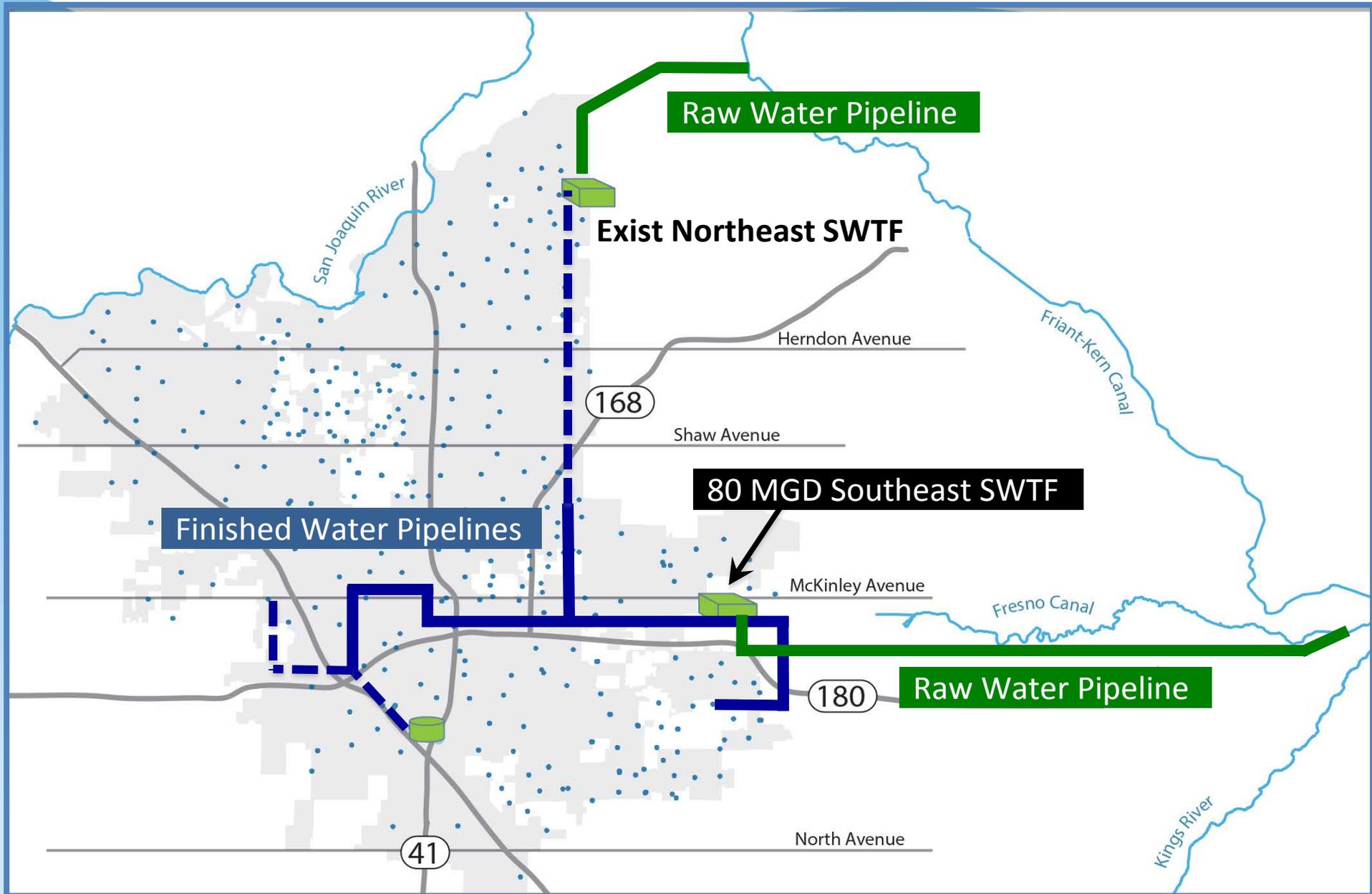
\$154.2 million, Revenue Bonds (5.5%, 30 years)

\$88.5 million, Cash (pay-as-you-go)

*\$104 million savings in
finance cost with SRF loan*

*Applications to be
submitted to State for
additional SRF loans*

Recharge Fresno Projects



Recharge Fresno Projects



City of Fresno Water System

Existing Conditions

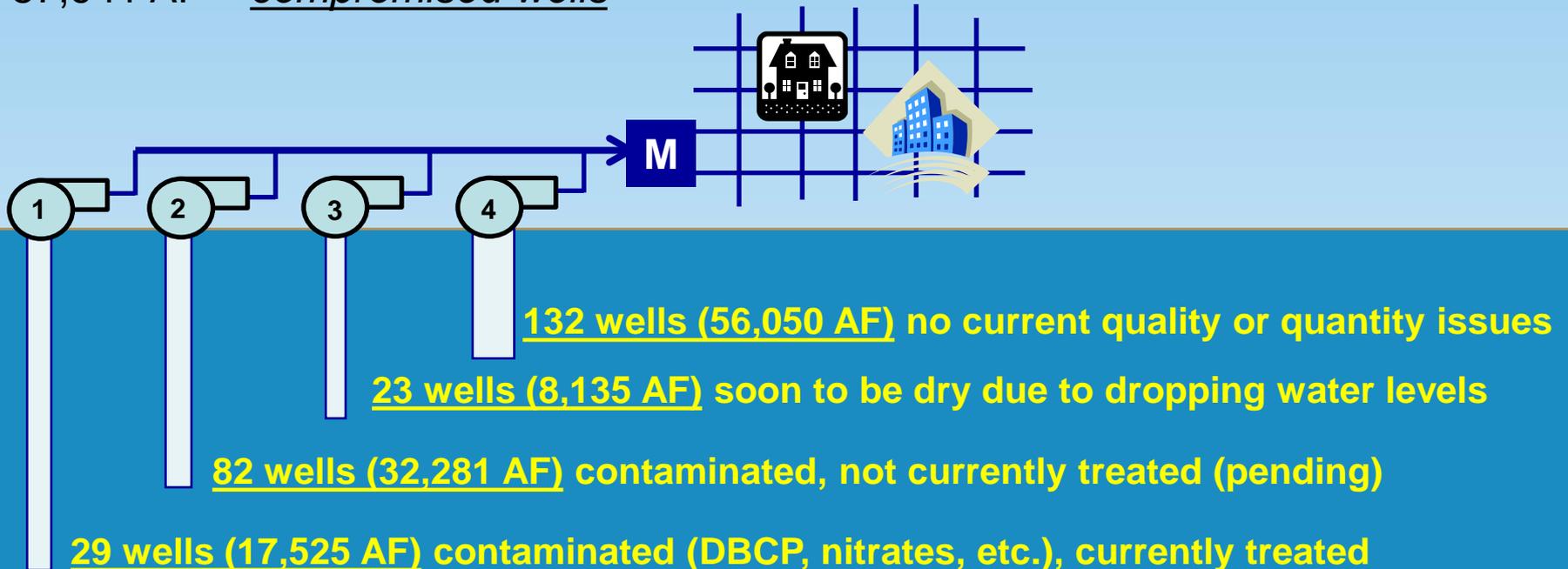
City's Current Groundwater Profile

56,050 AF – non-compromised wells

57,941 AF – compromised wells

Groundwater System

- 266 wells
- PG&E \$1 million per month
- Four types of wells



City of Fresno Water System

Existing Conditions

2014 Water Budget Analysis

Total Demand = 128,067 AF

Surface Water Use = 19,683 AF

Groundwater Use = (108,384 AF)

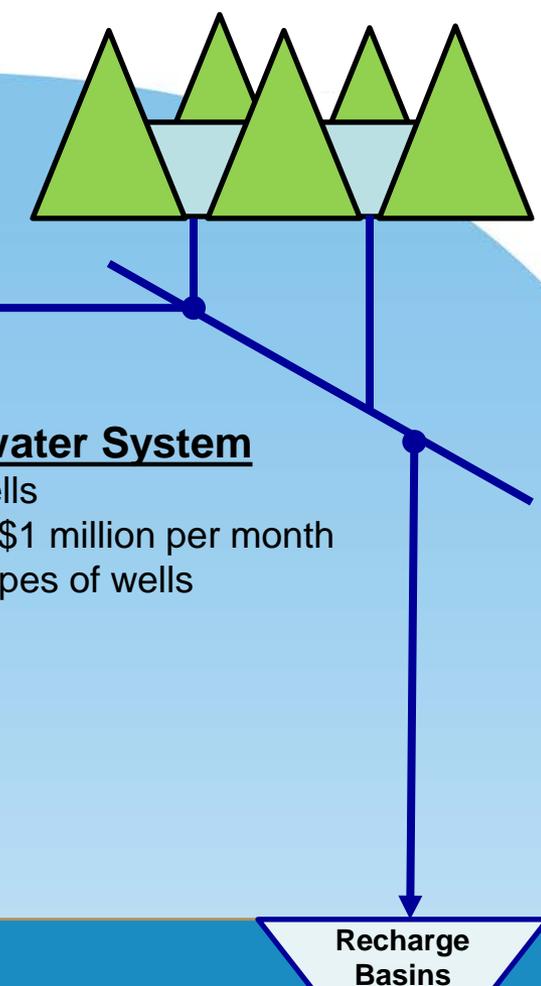
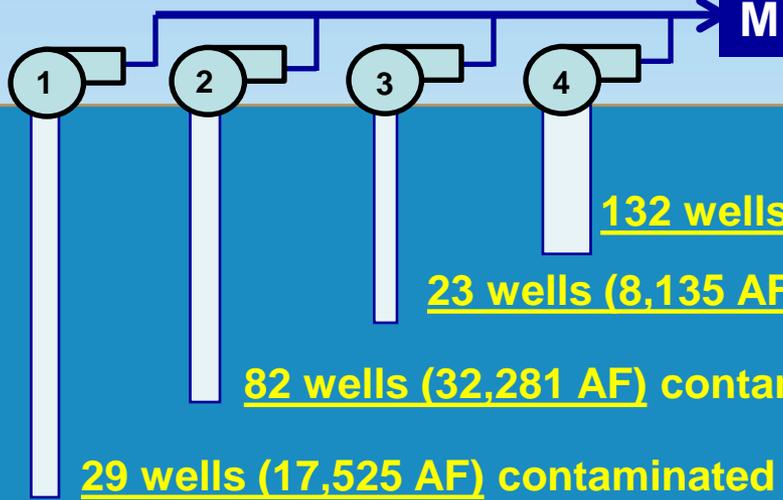
Recharge = 40,469 AF

2014 Impact = (67,915 AF)

NE SWTF
(30 mgd)

Groundwater System

- 266 wells
- PG&E \$1 million per month
- Four types of wells



132 wells (56,050 AF) no current quality or quantity issues

23 wells (8,135 AF) soon to be dry due to dropping water levels

82 wells (32,281 AF) contaminated, not currently treated (pending)

29 wells (17,525 AF) contaminated (DBCP, nitrates, etc.), currently treated

City of Fresno Water System

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2014 Water Budget Analysis

Total Demand = 128,067 AF

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Recharge = 40,469 AF

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NE SWTF
(30 mgd)

Groundwater System

- 266 wells
- PG&E \$1 million per month
- Four types of wells

Groundwater Loss

2006 to 2013 = ~1 ft/yr
2013 to 2014 = ~4 feet

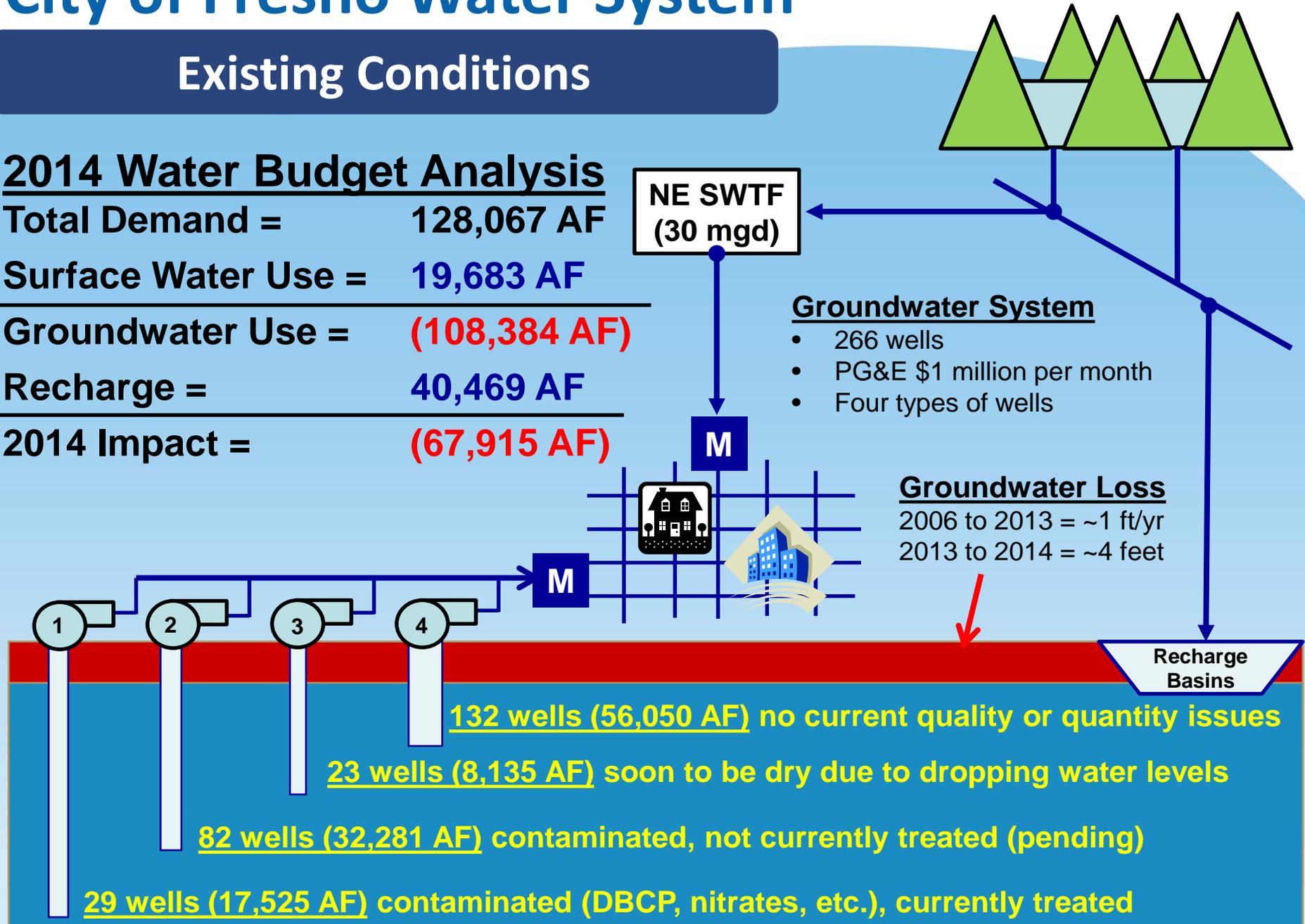
Recharge
Basins

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City of Fresno Water System

Future Scenario with SE SWTF

2014 Water Budget Analysis

Total Demand = 128,067 AF

Surface Water Use = 19,683 AF

Groundwater Use = (108,384 AF)

Recharge = 40,469 AF

2014 Impact = (67,915 AF)

NE SWTF
(30 mgd)

SE SWTF
(80 mgd)

M

M

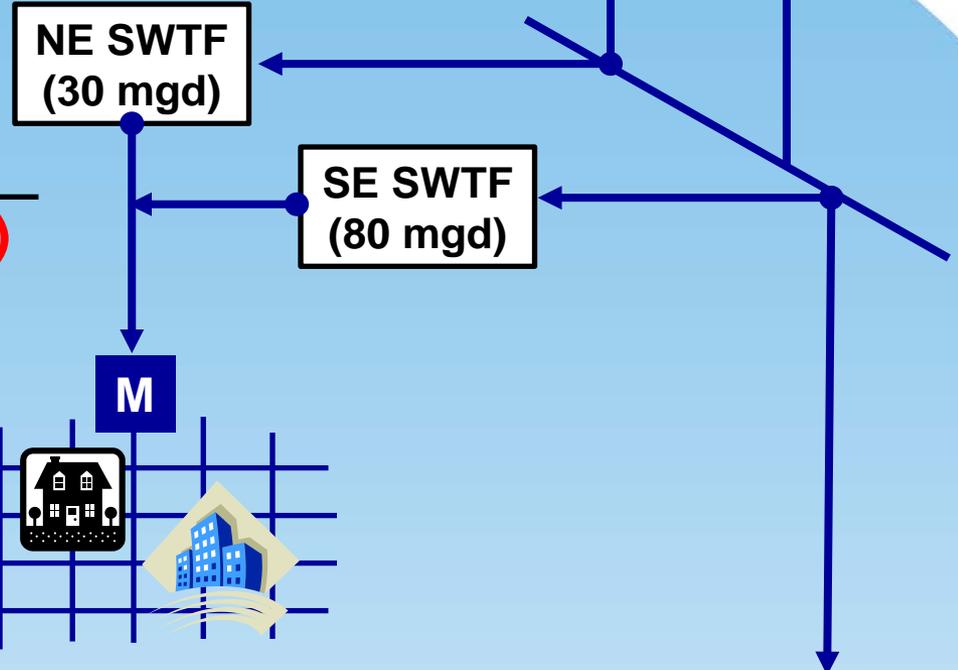
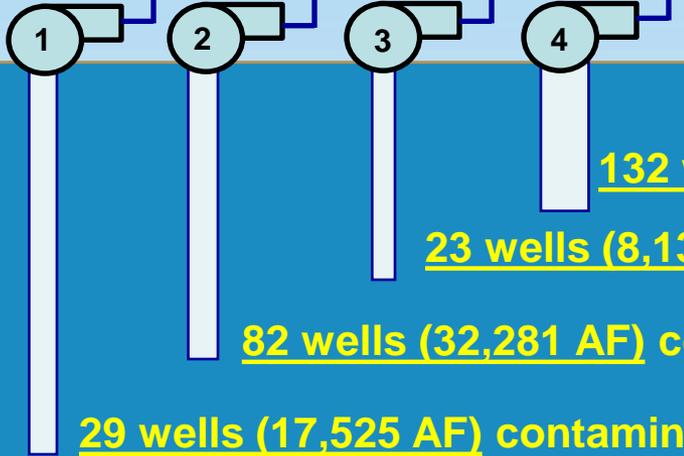
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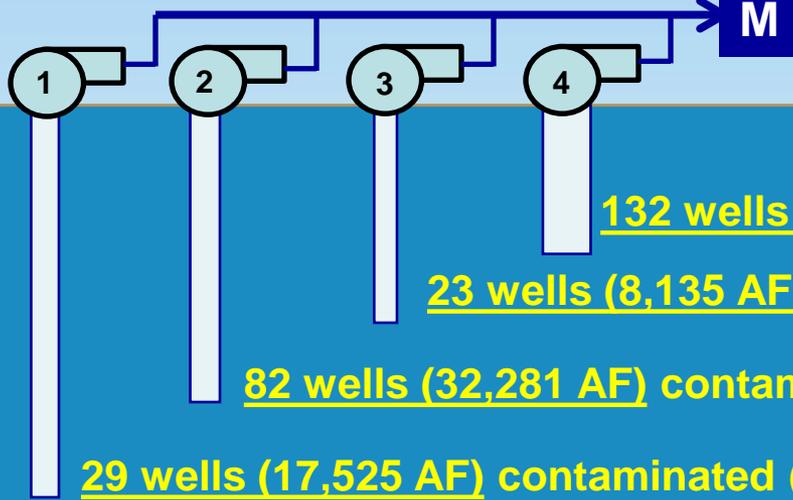
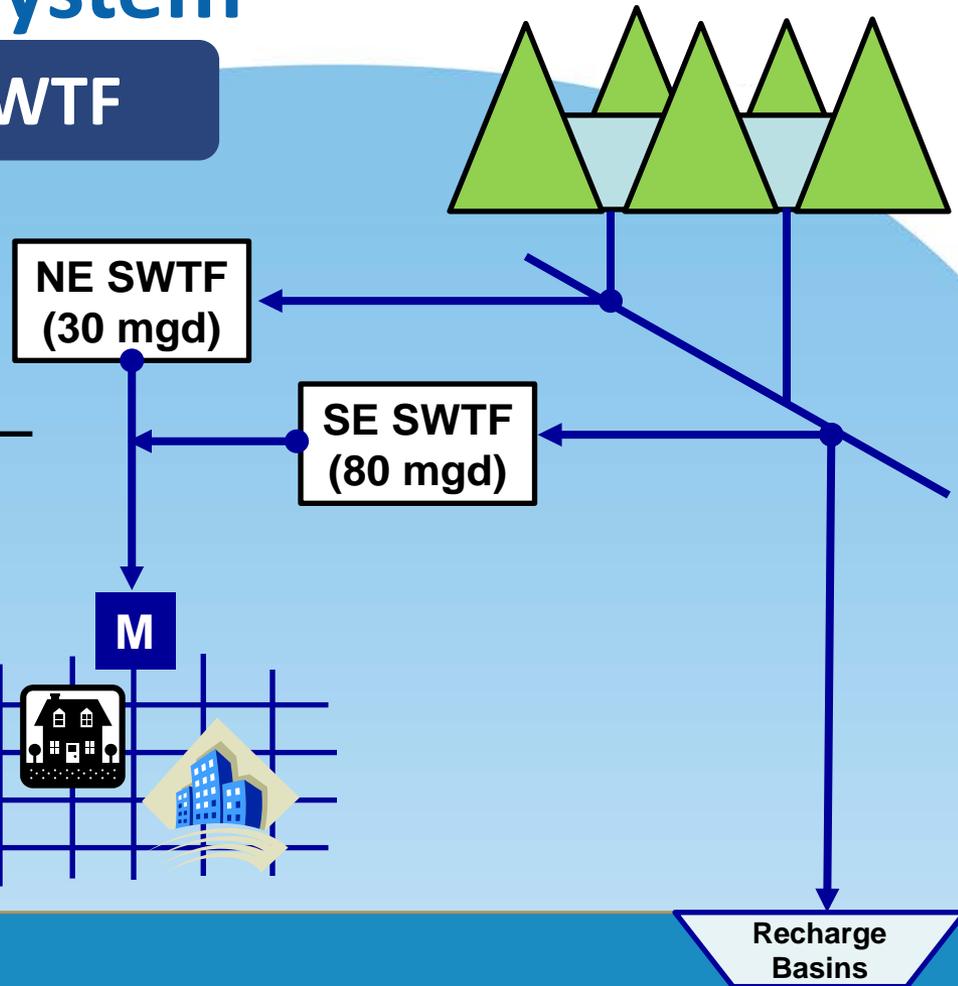


City of Fresno Water System

Future Scenario with SE SWTF

2014 Water Budget Analysis

Total Demand =	128,000 AF
Surface Water Use =	110,000 AF
Groundwater Use =	(18,000 AF)
Recharge =	32,000 AF
2014 Impact =	14,000 AF



132 wells (56,050 AF) no current quality or quantity issues

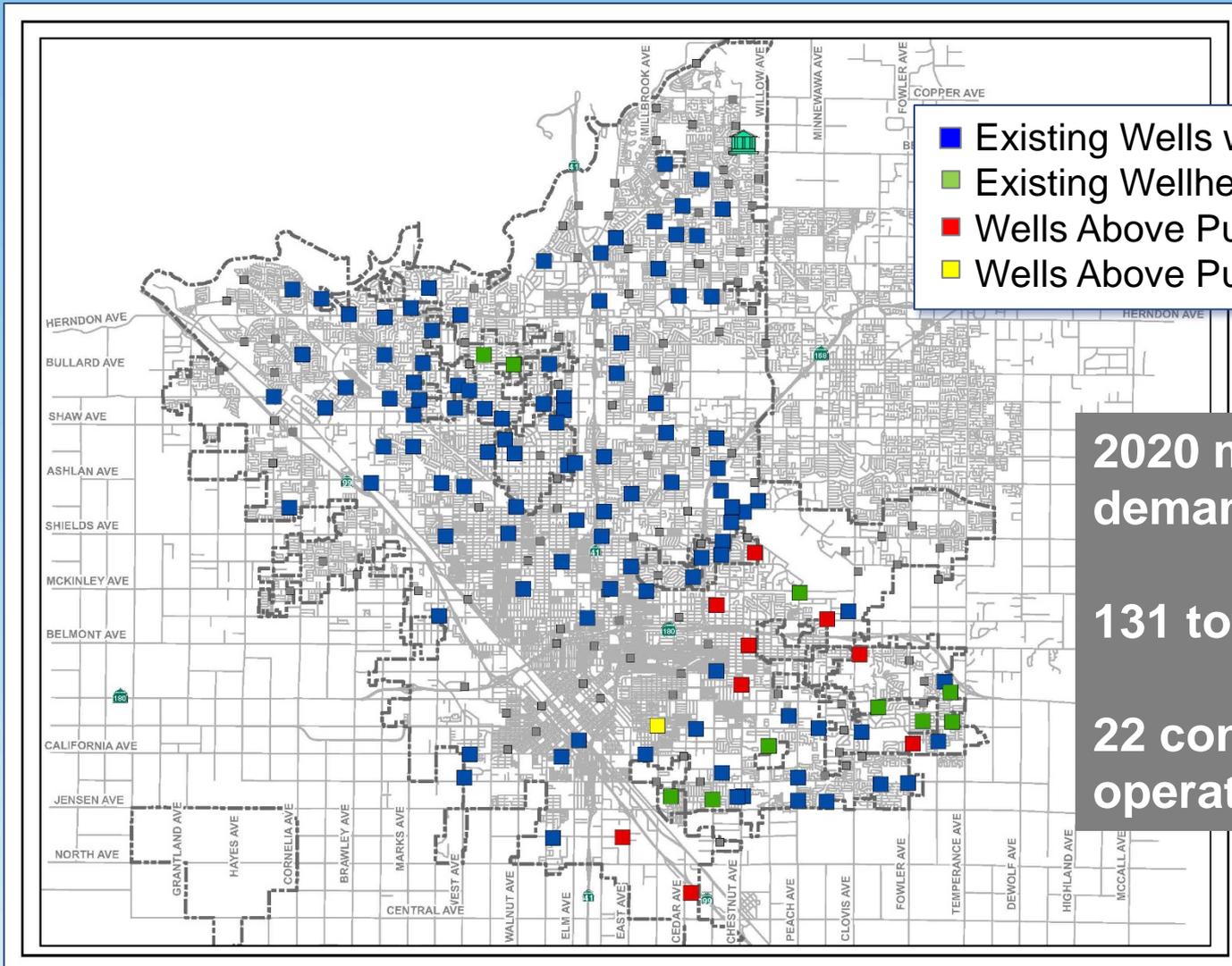
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Operation without SE SWTF

Water Production with wells and NE SWTF



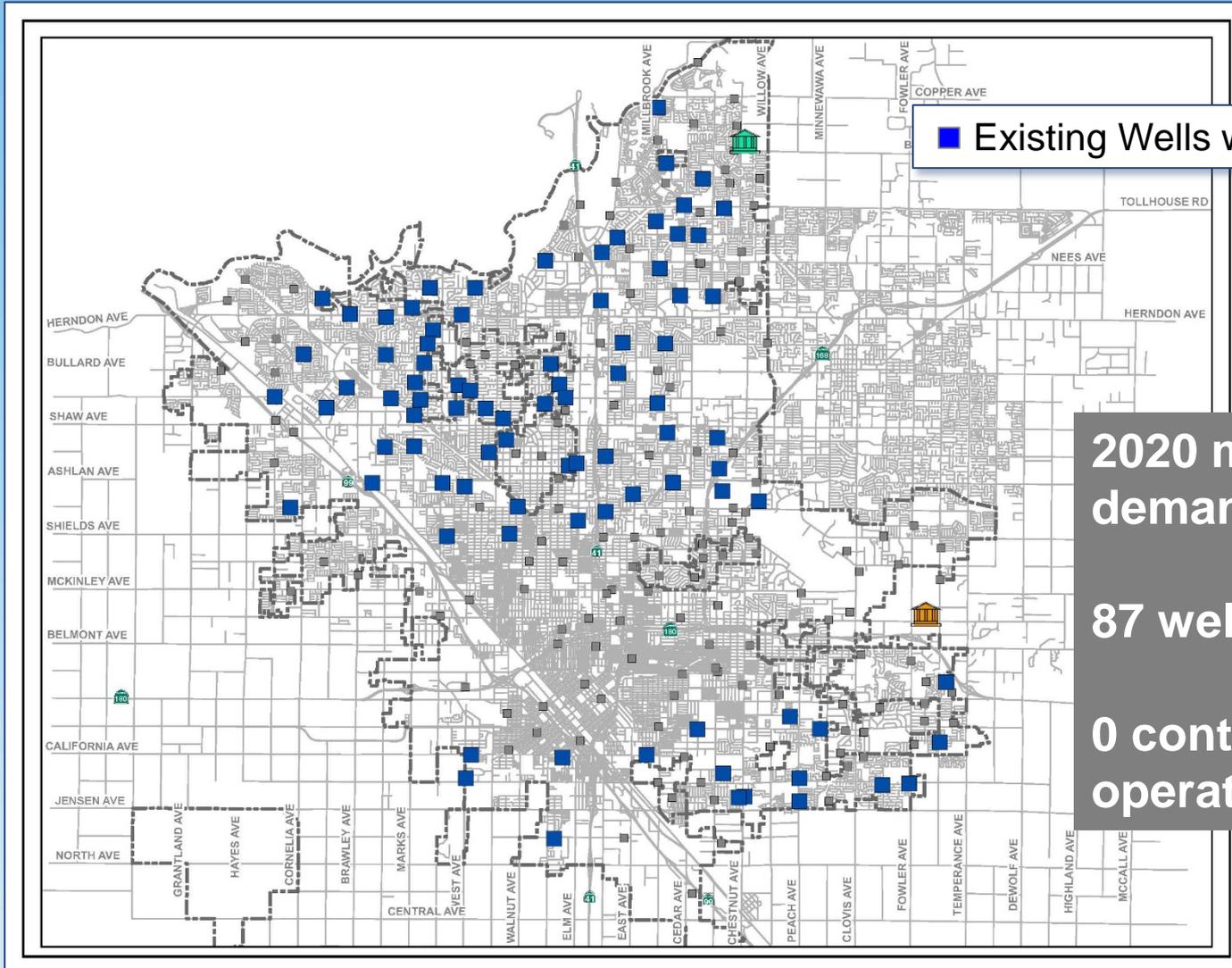
2020 maximum day demand

131 total wells operating

22 contaminated wells operating

Proposed Operation with SE SWTF

Water Production with wells, NE SWTF and proposed SE SWTF



■ Existing Wells with No Contamination

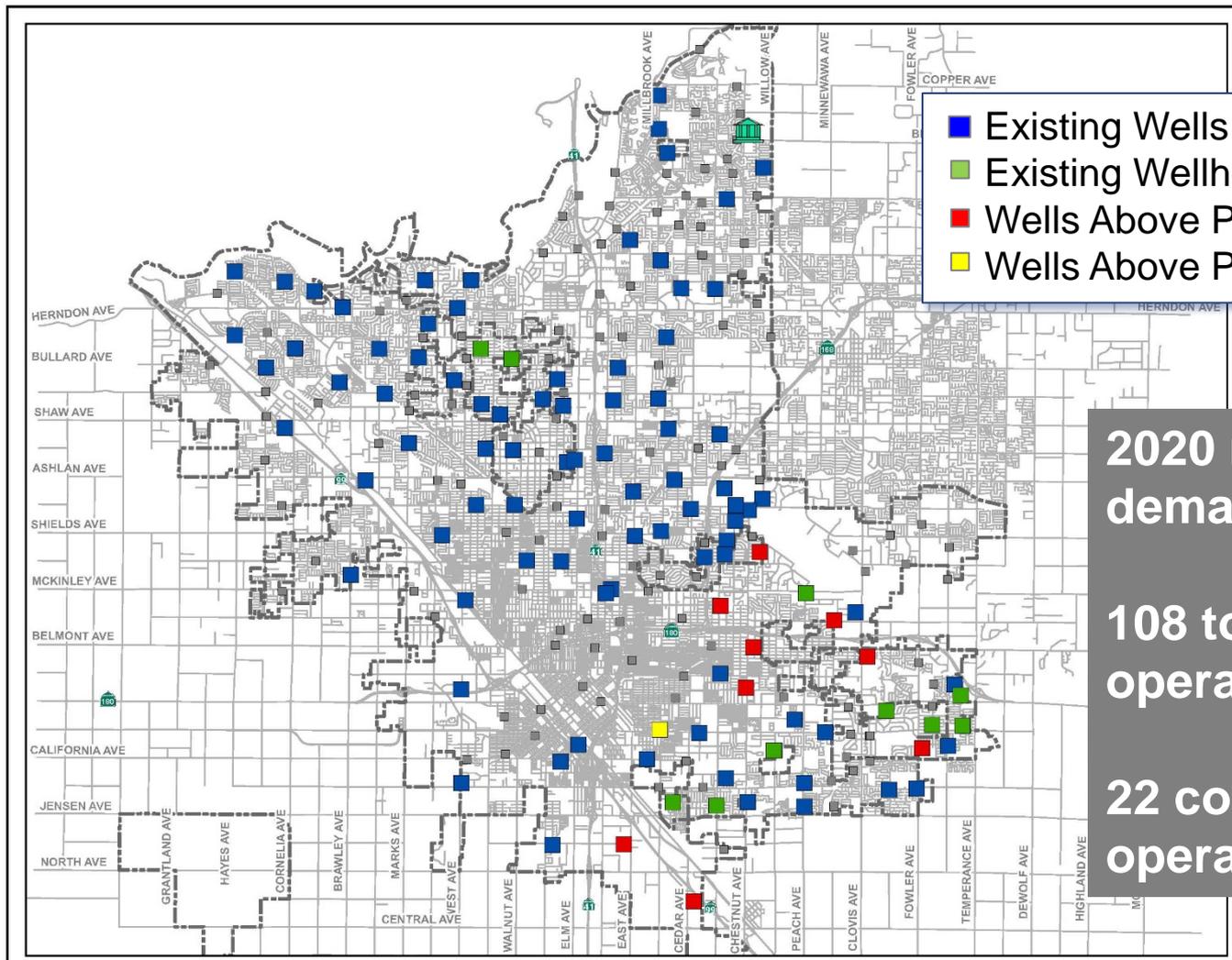
2020 maximum day demand

87 wells operating

0 contaminated wells operating

Expand NE SWTF by 30 mgd only

Water Production with wells and expanded NESWTF



- Existing Wells with No Contamination
- Existing Wellhead Treatment
- Wells Above Public Notification Limit
- Wells Above Public Health Goal

2020 maximum day demand

108 total wells operating

22 contaminated wells operating

Water Balance Simulation

What if the system was already in place?

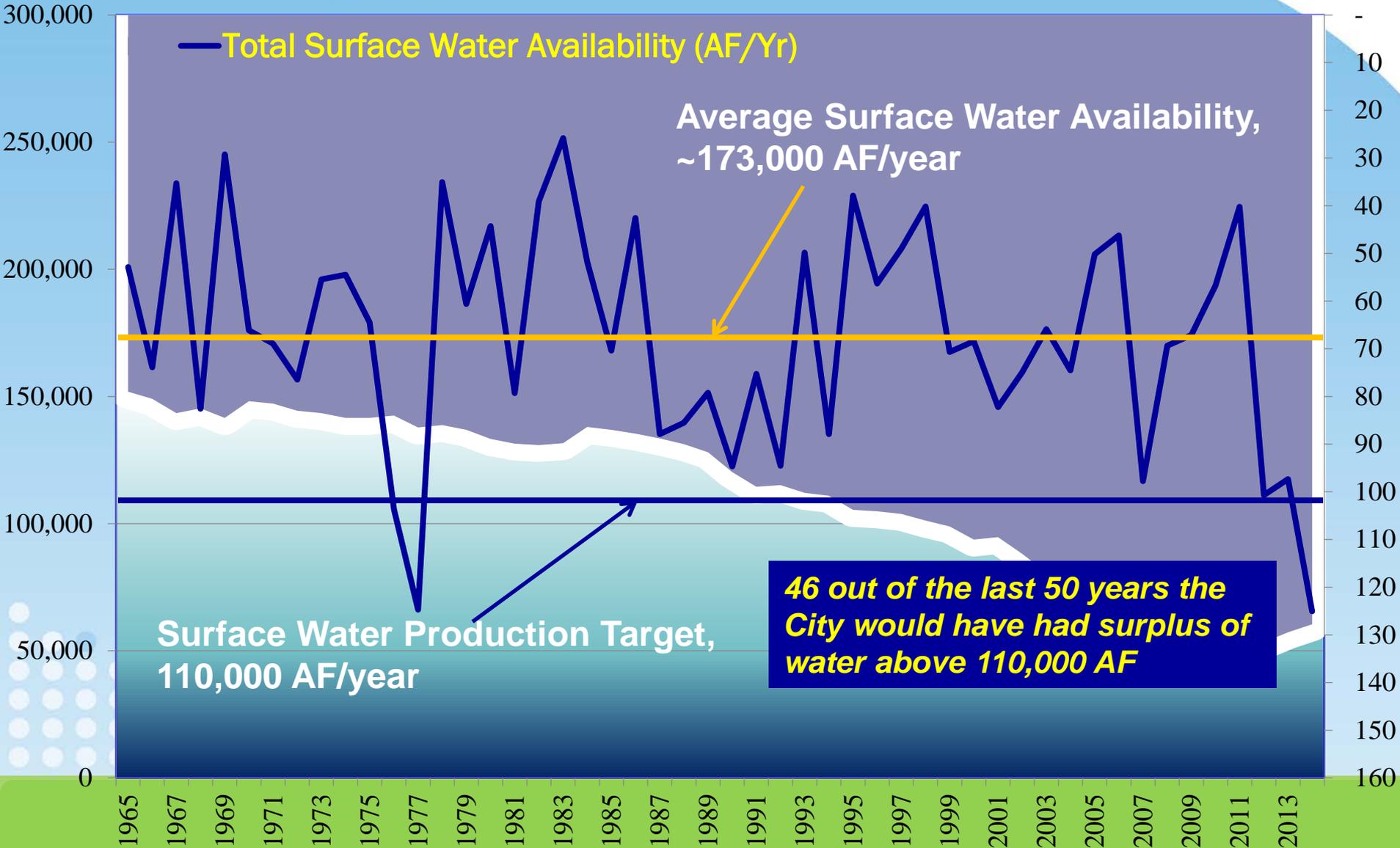
Year	Total System Demand (AF)	Surface Water Allocation (AF)	Surface Water Production (AF)	Groundwater Recharge (AF)		Groundwater Demand (AF)		Allocation Not Used (AF)	
				Estimated	Actual	Estimated	Actual	Estimated	Actual
2007	165,762	113,484			38,047		145,110		54,760
2008	168,085	164,299			50,534		148,022		93,676
2009	157,782	152,569			53,865		137,903		78,801
2010	147,020	195,385			53,586		127,409		122,165
2011	140,059	192,470			49,116		119,193		122,467
2012	138,643	114,796			47,774		118,685		47,042
2013	141,614	120,089			47,020		123,547		54,980
					Totals		919,870		573,891

Water Balance Simulation

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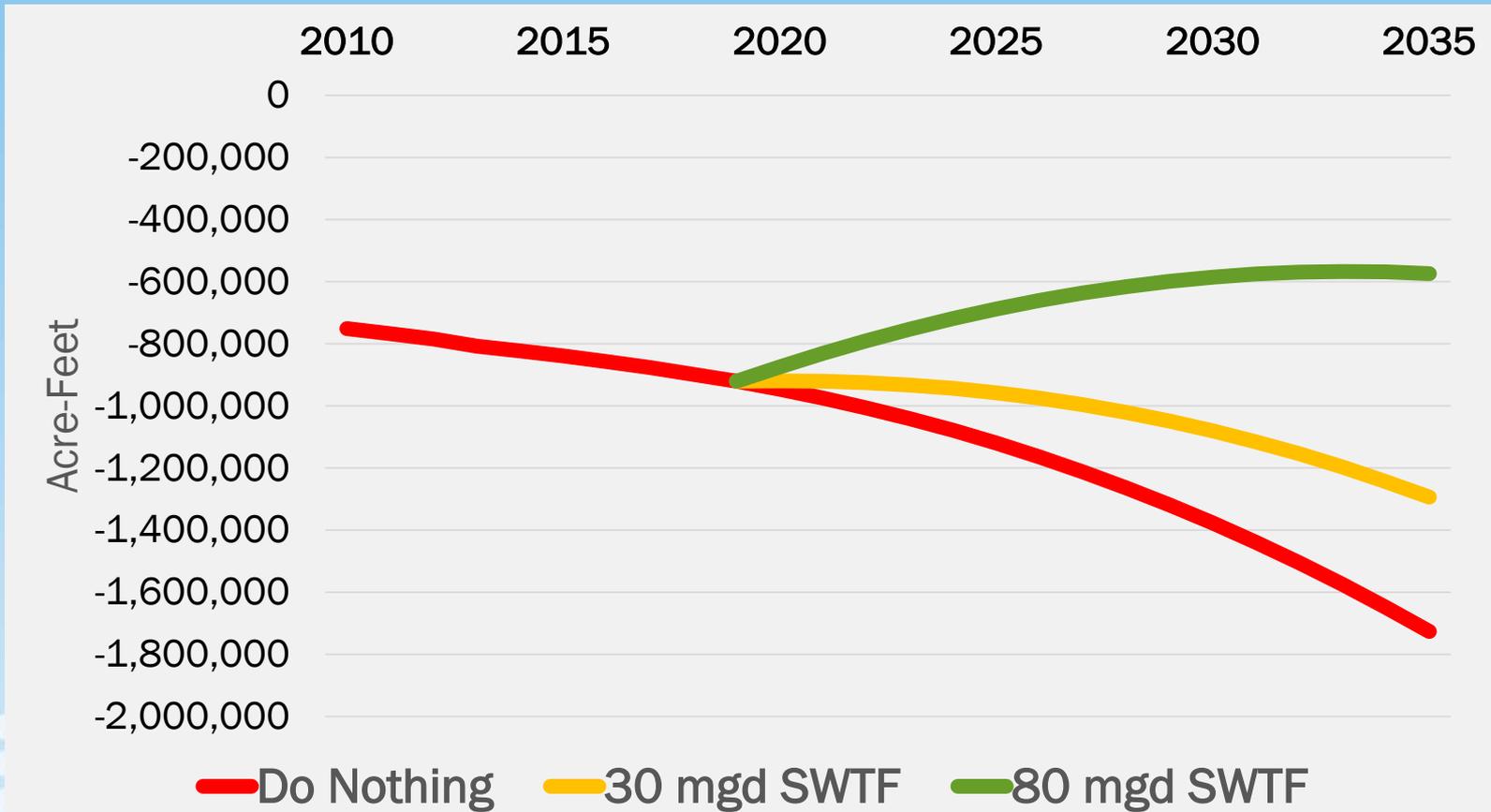
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2007	165,762	113,484	110,000	3,484	38,047	55,762	145,110	0	54,760
2008	168,085	164,299	110,000	54,299	50,534	58,085	148,022	0	93,676
2009	157,782	152,569	110,000	42,569	53,865	47,782	137,903	0	78,801
2010	147,020	195,385	110,000	55,000	53,586	37,020	127,409	30,385	122,165
2011	140,059	192,470	110,000	55,000	49,116	30,059	119,193	27,470	122,467
2012	138,643	114,796	110,000	4,796	47,774	28,643	118,685	0	47,042
2013	141,614	120,089	110,000	10,089	47,020	31,614	123,547	0	54,980
Preserved Groundwater = 630,905 AF (~5 years of current demand)				Totals		288,965	919,870	57,855	573,891
				Reduction	69%		90%		

Surface Water Supply Reliability



SE SWTF Size Selection

80 MGD appropriately addresses groundwater overdraft



Summary of Projects and Financing

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TOTAL = \$429.1 million

FINANCING with SRF LOAN

\$186.4 million, SRF Loan (1.663%, 30 years)

\$154.2 million, Revenue Bonds (5.5%, 30 years)

\$88.5 million, Cash (pay-as-you-go)

Water Rate Planning

Monthly Water Bill (18 HCF, 1" service)

Year of Rate Plan	Repealed Plan (\$/mo)	Revised Plan (\$/mo)
Current	\$ 24.49	\$ 24.49
Year 1	\$ 33.28	\$ 27.76
Year 2	\$ 41.42	\$ 31.92
Year 3	\$ 44.70	\$ 36.84
Year 4	\$ 48.34	\$ 42.80
Year 5	\$ 52.26	\$ 49.22

State Regional Water Quality Control Board Affordability Index

Targeted Consumer Rate for Water Affordability = 1.5% of MHI

MHI for the City of Fresno, \$42,015 (2009-2013, US Census Bureau)

Affordable Monthly Water Bill = **\$52.52 per month.**

New Rate Plan Promotes Conservation

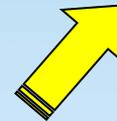
- 2013 Average Consumption, SFR = ~24 HCF
- 2014 Average Consumption, SFR = ~21.7 HCF
- 2019 Forecasted Average Consumption, SFR ~16.5 HCF (24% additional conservation)

	Current	Revised Plan (5 th year)
Total Water Bill	\$ 24.49	\$ 49.22
Meter Charge (1-inch meter)	\$ 13.51	\$ 17.90
Consumption Charge (18 HCF)	\$ 10.98	\$ 31.32
Meter Charge Allocation	55.2 %	36.4 %
Consumption Charge Allocation	44.8 %	63.6 %

Water Rate Planning

Monthly Water Bill with Conservation

Year of Rate Plan	Revised Plan (\$/mo)	Revised Plan (\$/mo) with Conservation
Current	\$ 24.49	\$ 24.49
Year 1	\$ 27.76	\$ 25.51
Year 2	\$ 31.92	\$ 28.00
Year 3	\$ 36.84	\$ 32.23
Year 4	\$ 42.80	\$ 37.40
Year 5	\$ 49.22	\$ 42.96



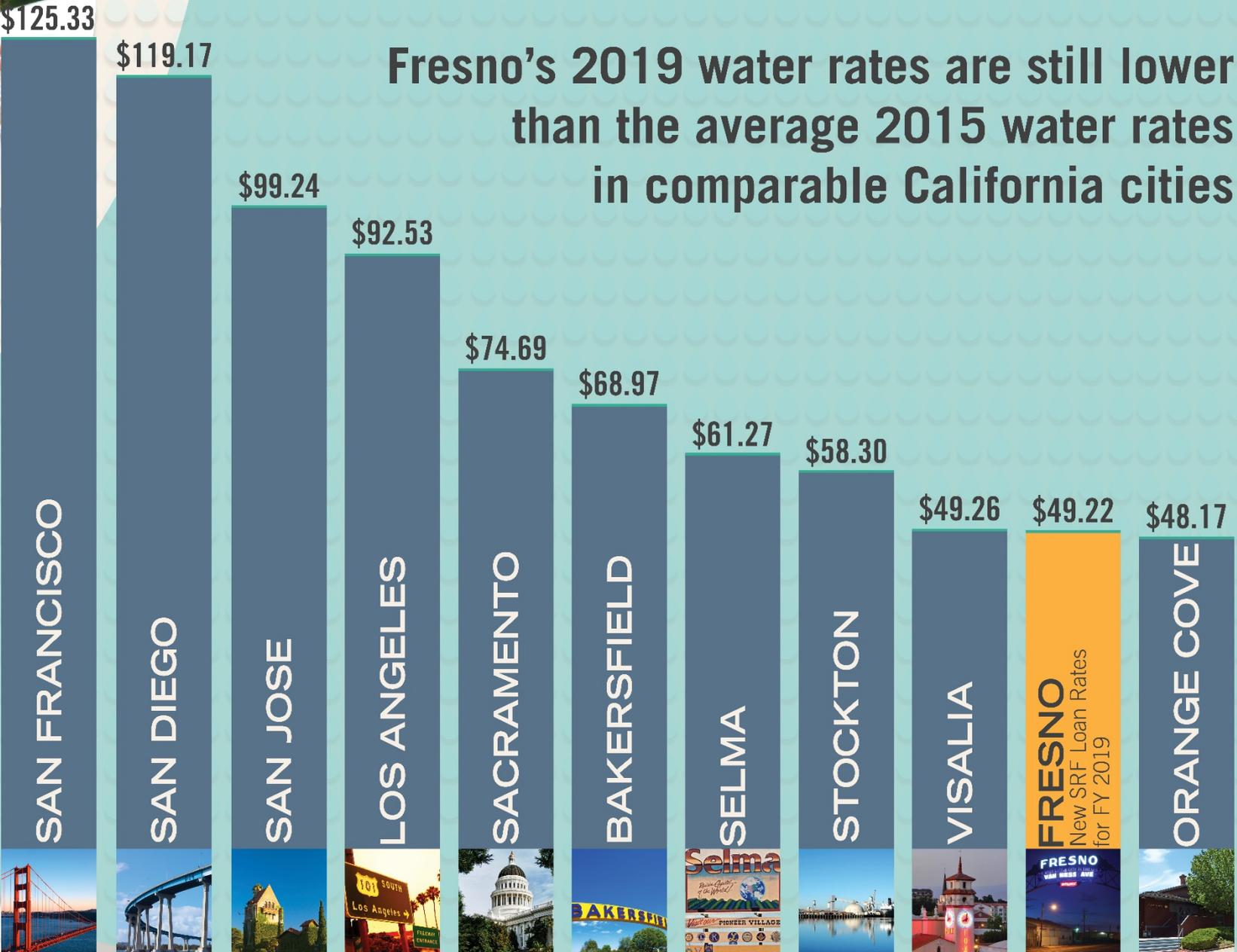
with 20% conservation in water use

Rate Comparison



Fresno's 2019 water rates are still lower than the average 2015 water rates in comparable California cities

The rates apply to 100 Cubic Feet = 1 HCF = 748 gallons
Source: City/Water Utility Websites



Utility Bill Impact

CURRENT RATES

Billing Summary

Previous Balance	\$81.90
Payments	\$81.90
Adjustments	\$0.00
Balance Forward	\$0.00

Total SOLID WASTE Charges	25.37
96 gal Cont	25.37

Total SANITATION Charges	6.23
Sanitation	6.23

Total SEWER NON-METERED Charges	25.81
Pretrtmnt – Residntl	0.06
Residential Sewer	25.75

Total WATER – Metered Charges	24.49
Standby Charge	13.51
Consumption	10.98

Current Charges	\$81.90
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TOTAL AMOUNT DUE	\$81.90
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REVISED RATES

Billing Summary

Previous Balance	\$106.63
Payments	\$106.63
Adjustments	\$0.00
Balance Forward	\$0.00

Total SOLID WASTE Charges	25.37
64 gal Cont	25.37

Total SANITATION Charges	6.23
Sanitation	6.23

Total SEWER NON-METERED Charges	25.81
Pretrtmnt – Residntl	0.06
Residential Sewer	25.75

Total WATER – Metered Charges	49.22
Monthly Meter Charge	17.90
Consumption	31.32

Current Charges	\$106.63
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TOTAL AMOUNT DUE	\$106.63
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**30%
Increase**

2011 UAC Rate Plan vs Proposed 2015 Plan

Utility Service	Current	Year 1	Year 2	Year 3	Year 4	Year 5
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Current Plan

Water (1-inch, 18 HCF)	\$ 24.49	\$ 27.76	\$ 31.92	\$ 36.84	\$ 42.80	\$ 49.22
Sewer	\$ 25.81	\$ 25.81	\$ 25.81	\$ 25.81	\$ 25.81	\$ 25.81
Solid Waste (96 gallon can)	\$ 25.37	\$ 25.37	\$ 25.37	\$ 25.37	\$ 25.37	\$ 25.37
Community Sanitation	\$ 6.23	\$ 6.23	\$ 6.23	\$ 6.23	\$ 6.23	\$ 6.23
TOTAL Utility Bill Costs	\$ 81.90	\$ 85.17	\$ 89.33	\$ 94.25	\$ 100.21	\$ 106.63

2011 UAC Recommendations

Water (1-inch, 18 HCF)	\$ 24.49	\$ 31.81	\$ 36.40	\$ 37.98	\$ 39.62	\$ 41.35
Sewer	\$ 25.81	\$ 26.39	\$ 27.05	\$ 27.73	\$ 28.42	\$ 29.13
Solid Waste (96 gallon can)	\$ 25.37	\$ 24.61	\$ 23.87	\$ 23.15	\$ 22.46	\$ 21.79
Community Sanitation	\$ 6.23	\$ 6.23	\$ 6.23	\$ 6.23	\$ 6.23	\$ 6.23
TOTAL Utility Bill Costs	\$ 81.90	\$ 89.04	\$ 93.55	\$ 95.09	\$ 96.73	\$ 98.50

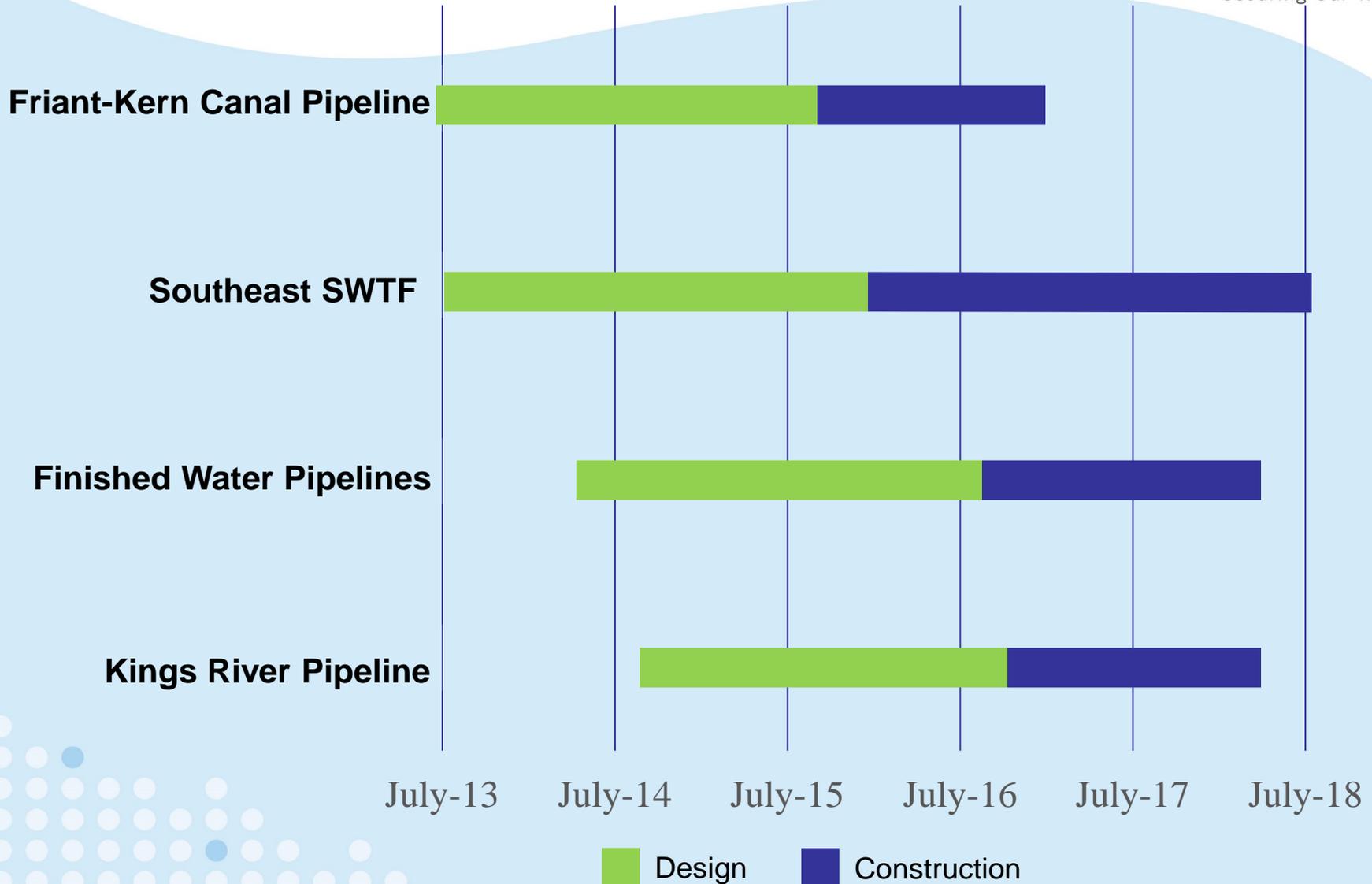
Affordability Credit Plan

Proposed ACP Impact on Monthly Water Service Bills (18 HCF/month)	
Monthly Water Bill Cost (18 HCF per month, current rates)	\$24.49
Monthly Water Bill Cost (18 HCF per month, 1st twelve months)	\$30.45
Monthly Water Bill Impact (18 HCF per month, 1st twelve months)	\$5.96

Affordability Credit Plan

Proposed ACP Impact on Monthly Water Service Bills (18 HCF/month)	
Monthly Water Bill Cost (18 HCF per month, current rates)	\$24.49
Monthly Water Bill Cost (18 HCF per month, 1st twelve months)	\$30.45
Monthly Water Bill Impact (18 HCF per month, 1st twelve months)	\$5.96
Water Affordability Credit	(\$5.00)
Net Monthly Water Bill Impact (18 HCF per month, 1st twelve months)	\$0.96

Major Project Schedules



Summary – Next Steps

Feb 26,
2015

5-year rate proposal, incorporating loan savings, presented to *(and adopted by)* City Council

Council authorizes applications for additional \$155 M State funding

Mar 5
2015

Mar 30
2015

Bills include new rates

- Council approves SE SWTF loan agreement
- Council receives tentative loan agreement for pipeline projects

May/June
2015

July 2015

- Qualified low-income residents begin receiving Water Affordability Credit
- Construction bids solicited for SE SWTF

Council awards construction contract

Oct/Nov
2015

Start-up and Re-rating of SESWTF

Sept/Oct
2018

Complete construction of SESWTF with a permitted capacity of 54 mgd

Six month demonstration of superior performance at 54 mgd

Start 12-month demonstration test to rerate SE SWTF to 80 mgd

Complete 12-month demonstration test for 80 mgd

Oct 2018
Mar 2019

Mar 2019
May 2019

June
2019

Jan
2020

June
2020

July
2020

Operate one filter set at higher rate of 80 mgd

City of Fresno managed under a **Groundwater Sustainability Plan** with 80 mgd SE SWTF as foundation

Receive new operating permit for SE SWTF at 80 mgd

What We Heard Since July 31, 2014

- Water affordability and equity are important.
- New development should pay its fair share of program costs.
- What happens if we don't advance the capital plan and rate plan (What is Plan B)?
- The City has credibility issues (delivery of projects, transparency, compliance with adopted plans).
- What is the reliability of the City's surface water entitlements?
- What happens if we get additional financial support from the State of CA?
- Are we certain that the Recharge Fresno plan will meet the State's requirements in the Sustainable Groundwater Management Act?
- What is the status of the Conveyance Agreement?

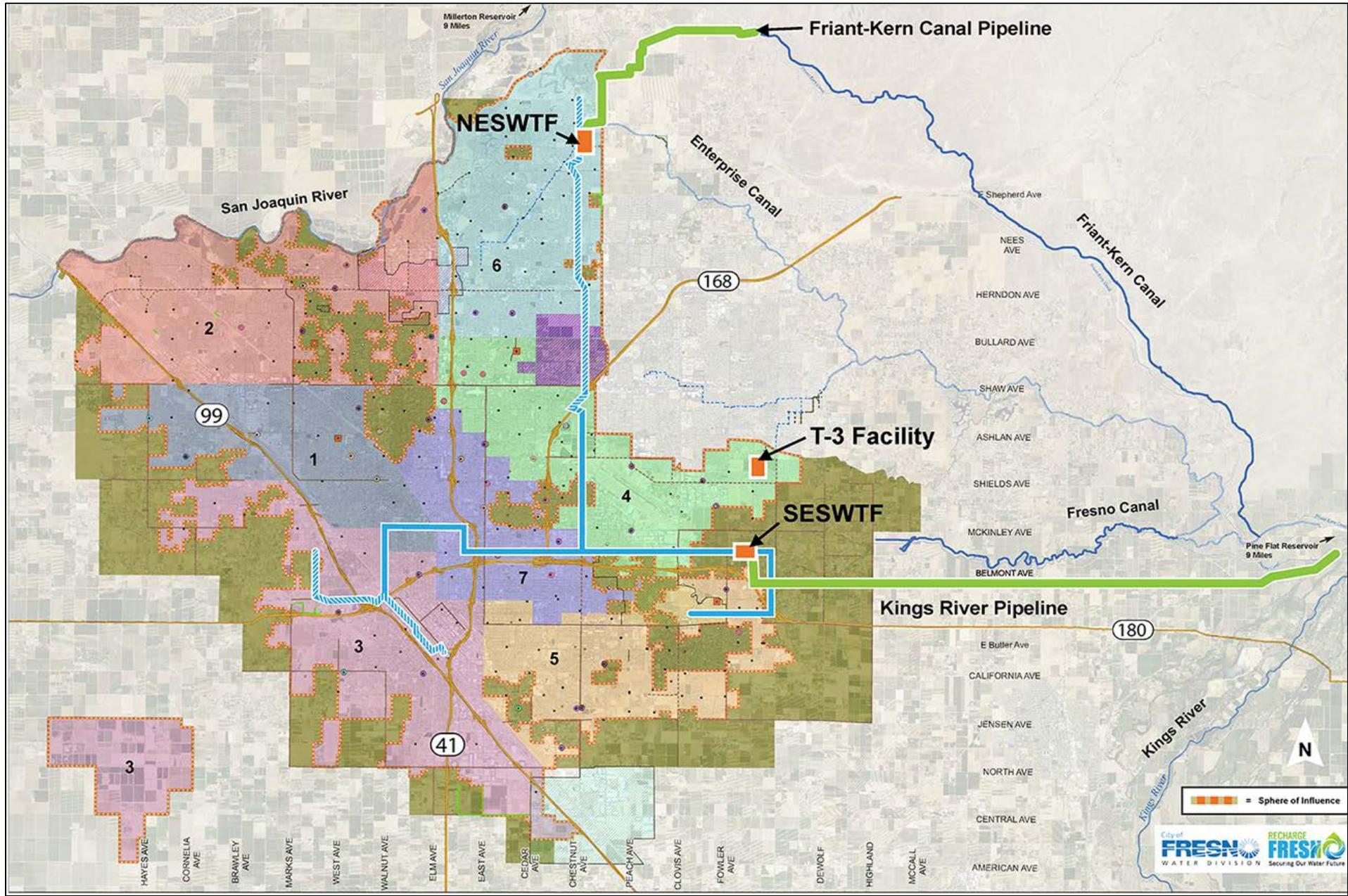
Long-Range Vision

- Safe and Reliable Water System
- Sustainable and Resilient Water Supply
- Equitable and Affordable Rate Plan



Questions

Recharge Fresno Projects



Expand NE SWTF by 30 mgd only

