

Water Treatment Plant Upgrade

City of Franklin, Tennessee

August 25, 2015

Timeline of Decisions regarding Water Treatment Plant Upgrade

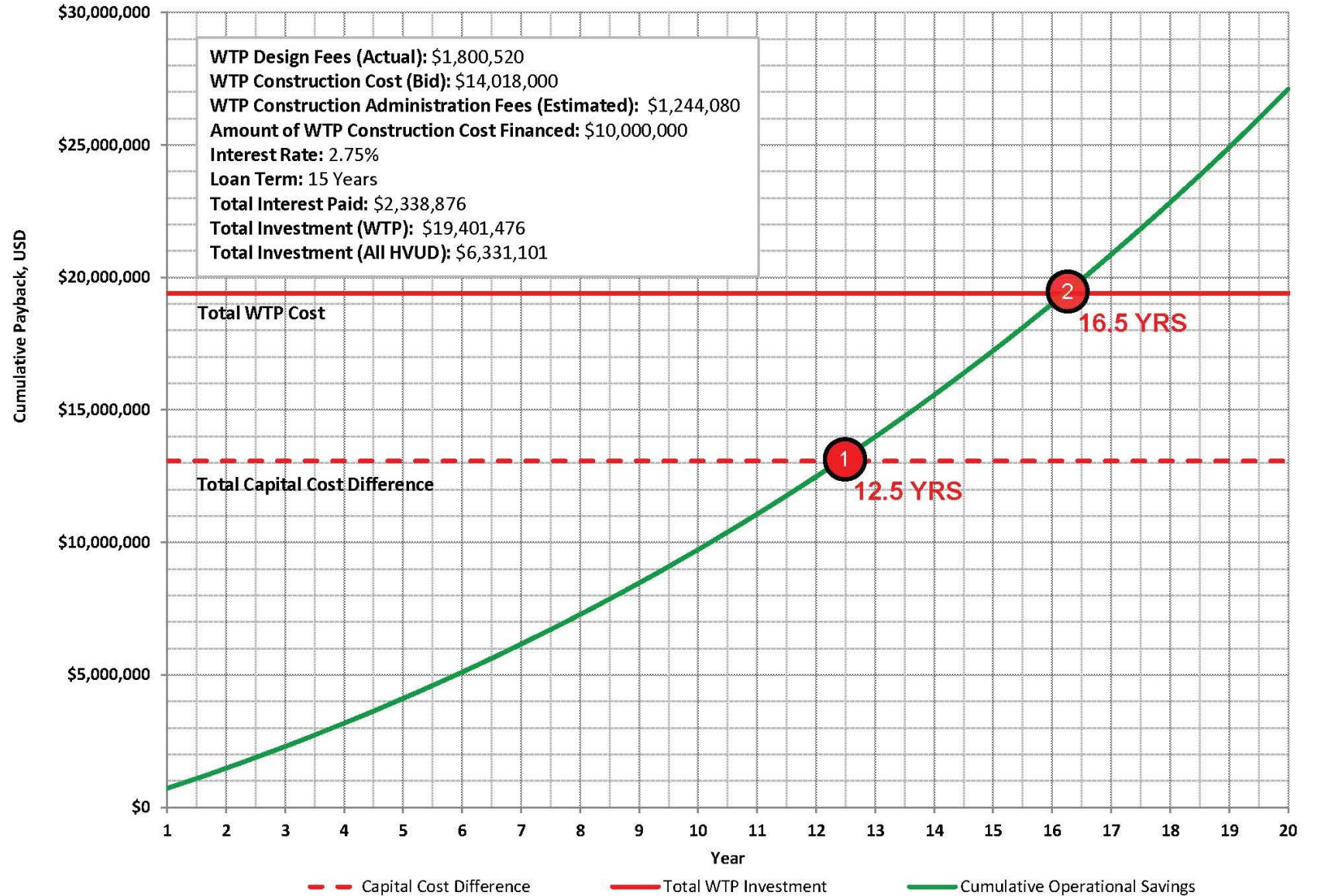
- **August 2008** - Raw Water Reservoir Improvement to 114 million gallon capacity – Completed April 2011
- **September 2011** - Harpeth Restoration Project (Low-Head Dam removal) near WTP intake – Completed Fall 2012
- **2010-12** – Integrated Water Resource Plan (IWRP) – Broad base of stakeholders established 9 weighted objectives, including various aspects of water supply
 - Evaluation of multiple scenarios
 - Integrated modeling to evaluate performance of scenarios
 - Approval of Resolution 2012-018 identifying priority projects – May 2012
- **November 2012** - Engineering Design Services for Water Treatment Plant Upgrade – Contract 2012-0183
- **May 2014**- Preliminary Engineering Report review and selection of 2.6 MGD Firm Capacity Water Treatment Plant Upgrade option.
- **July 2015** - Aquatic Resources Alteration Permit (ARAP) issued
 - Maintained withdrawal level and low flow cut-off. Inclusive of new dissolved oxygen permit standard of 5 mg/L as suggested by the City

Why upgrade a 60 year old plant?

- **Resiliency and Water Supply Diversity**
 - The City of Franklin experiences this during the 2010 flood when we were able to bring our WTP back on line quickly. Franklin and our broader region benefited by our ability to treat water from the Harpeth River.
 - A water main break in south Nashville last summer caused thousands of residents in parts of Nashville and Brentwood to go on water restrictions for several days.
 - Other communities dependent on only one source have suffered major service disruption: Chemical spill on the Elk River in West Virginia; Toledo, Ohio due to a massive algae bloom in Lake Erie
 - Williamson Medical Center benefits greatly by having more than one source of water to support its vital service to the community. This is especially true in a time of greatest need, such as a natural disaster.
- **Economics that help stabilize rates**
 - Anticipated total payback within 13-17 years
 - Projections show a lower cost of operation (plus debt service) compared to a full HVUD purchase option.
- **System Dynamics**
 - System HVUD provides the City with quality water. While preliminary evaluations have been performed, buying water solely from HVUD requires evaluation of quantity and quality aspects of the distribution system that has largely been designed over the years based on the presence of a plant.

Payback Analysis

Payback Analysis



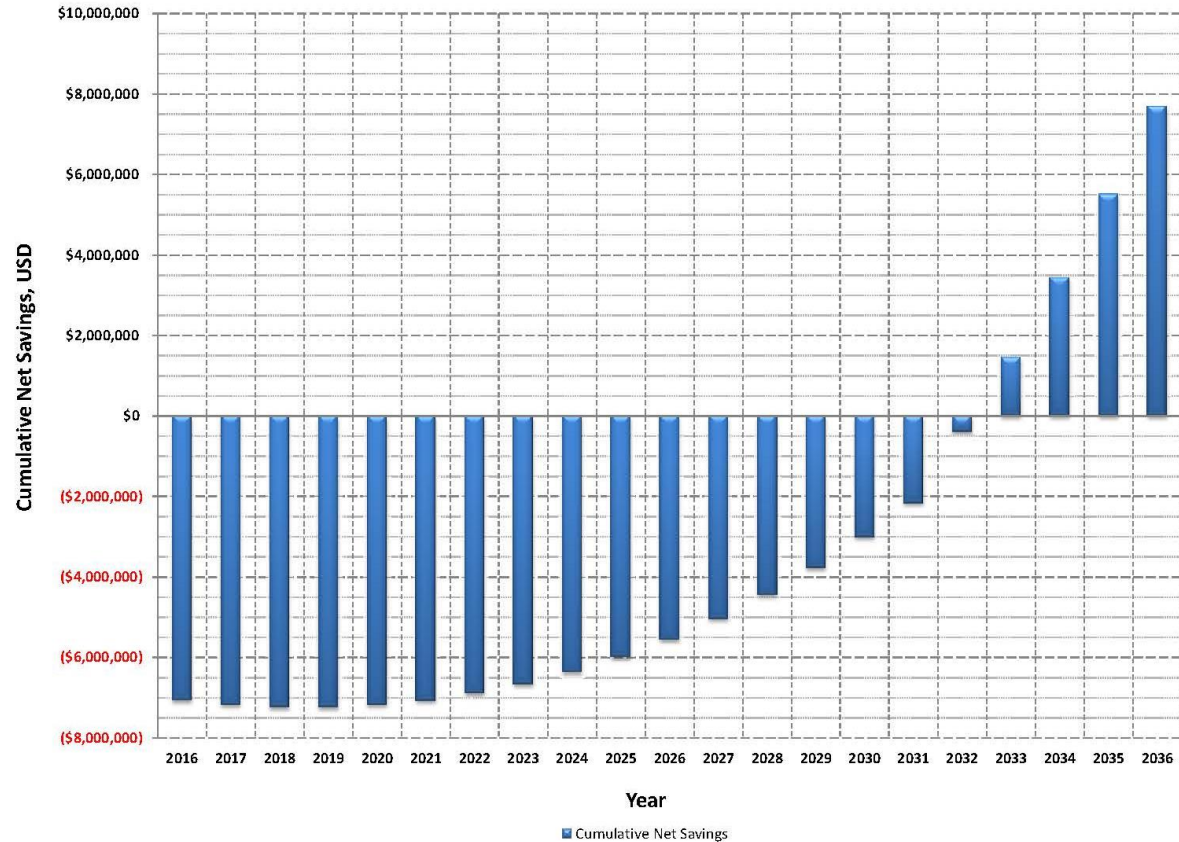
Net Savings Analysis

7.4 - Cumulative Net Savings on 2.6 MGD Facility

Year	O&M Savings	Less Debt Service	Capital Outlay	Annual Net Savings	Cumulative Net Savings	Year	O&M Savings	Less Debt Service	Capital Outlay	Annual Net Savings	Cumulative Net Savings
2016	\$0	\$0	\$7,062,600	-\$7,062,600	-\$7,062,600	2016	\$0	\$0	\$7,062,600	-\$7,062,600	-\$7,062,600
2017	\$711,626	\$822,592	\$0	-\$110,966	-\$7,173,566	2017	\$711,626	\$822,592	\$0	-\$110,966	-\$7,173,566
2018	\$764,764	\$822,592	\$0	-\$57,827	-\$7,231,393	2018	\$764,764	\$822,592	\$0	-\$57,827	-\$7,231,393
2019	\$820,138	\$822,592	\$0	-\$2,454	-\$7,233,847	2019	\$820,138	\$822,592	\$0	-\$2,454	-\$7,233,847
2020	\$877,842	\$822,592	\$0	\$55,251	-\$7,178,596	2020	\$877,842	\$822,592	\$0	\$55,251	-\$7,178,596
2021	\$935,068	\$822,592	\$0	\$112,476	-\$7,066,120	2021	\$935,068	\$822,592	\$0	\$112,476	-\$7,066,120
2022	\$994,572	\$822,592	\$0	\$171,980	-\$6,894,141	2022	\$994,572	\$822,592	\$0	\$171,980	-\$6,894,141
2023	\$1,056,447	\$822,592	\$0	\$233,855	-\$6,660,285	2023	\$1,056,447	\$822,592	\$0	\$233,855	-\$6,660,285
2024	\$1,120,790	\$822,592	\$0	\$298,199	-\$6,362,087	2024	\$1,120,790	\$822,592	\$0	\$298,199	-\$6,362,087
2025	\$1,187,701	\$822,592	\$0	\$365,110	-\$5,996,977	2025	\$1,187,701	\$822,592	\$0	\$365,110	-\$5,996,977
2026	\$1,261,123	\$822,592	\$0	\$438,531	-\$5,558,446	2026	\$1,261,123	\$822,592	\$0	\$438,531	-\$5,558,446
						2027	\$1,337,666	\$822,592	\$0	\$515,075	-\$5,043,371
						2028	\$1,417,468	\$822,592	\$0	\$594,876	-\$4,448,495
						2029	\$1,500,444	\$822,592	\$0	\$677,852	-\$3,770,643
						2030	\$1,581,382	\$822,592	\$0	\$758,790	-\$3,011,853
						2031	\$1,671,647	\$822,592	\$0	\$849,055	-\$2,162,798
						2032	\$1,765,898	\$0	\$0	\$1,765,898	-\$396,900
						2033	\$1,864,320	\$0	\$0	\$1,864,320	\$1,467,420
						2034	\$1,967,108	\$0	\$0	\$1,967,108	\$3,434,527
						2035	\$2,074,463	\$0	\$0	\$2,074,463	\$5,508,991
						2036	\$2,190,428	\$0	\$0	\$2,190,428	\$7,699,419

* 2016 Capital Outlay: \$1.80 M in Design Fees, \$1.25 M in CA Fees, and \$4.01 M in Cash toward Construction Cost

Cumulative Net Savings



Water Rate Comparison – 2010-14

Year (Date of HVUD Rate change)	HVUD Rate (per 1,000 gallons)*	% Change – HVUD	% Change – COF (Calendar Year)
2/1/2014	\$2.55	8.1%	4.0%
2/1/2013	\$2.36	8.3%	4.0%
4/1/2012	\$2.18	9.0%	4.0%
4/1/2011	\$2.00	4.7%	4.0%
1/1/2010	\$1.91**		