

Wisconsin DNR Information Request Response

PREPARED FOR: Jim Pardee and Ben Callan/ Wisconsin Department of Natural Resources
COPY TO: Waukesha Water Utility
PREPARED BY: CH2M/Jacobs & Greeley & Hansen
DATE: September 21, 2018

The Wisconsin Department of Natural Resources (WDNR) is reviewing the previously submitted Great Water Alliance (Program) updated Environmental Impact Report (EIR) to address the Wisconsin Environmental Policy Act (WEPA) requirements for the Waukesha Great Lakes Water Supply Program. The following questions were submitted to the Program for additional information on September 13, 2018. This document provides immediate answers to some of the questions and identifies which questions will be answered after further investigation.

Information Needed – Submitted Questions and Answers

1. Has the proposed location for the water supply pump station (WSPS) been determined? What about for the alternative pipeline routes?

The WSPS location is planned to be at a property on the southeast corner of 76th Street and Oklahoma Avenue. See attached document '1_A_WSPS Site Layout' for a preliminary site layout of the WSPS location.

The three Milwaukee Supply Route alternatives have been determined and Route M-1 is the preferred route. An overview map of all three Milwaukee Supply Routes is attached; see document '1_B_Milwaukee Route Alternatives'. This overview map is from the Milwaukee Supply Route study, which was completed prior to the WSPS location change to 76th Street and Oklahoma Avenue. At that time, the assumed location of the WSPS was 60th Street and Howard Avenue, so all three routes start there.

2. Has the proposed location for the return flow pump station (RFPS) been determined? What about for the alternative pipeline routes?

This question was determined to already be answered by what was submitted with the EIR and needs no further information.

3. Two connection points to the City of Waukesha distribution system are shown in Figure 2 1. The City of Waukesha water supply connection point located at the intersection of Les Paul Parkway and East Sunset Drive is the proposed connection point. This location is preferred by the Applicant based on water distribution modeling results. A connection point at the intersection of Les Paul Parkway and East Racine Avenue was also considered and was used for resource impact calculations during the Applicant's alternatives analysis and wetland and waterway impacts. Has there been a decision to go with one or the other connection point?

A 36-inch connection will be required to supply WWU's existing distribution system with potable Lake Michigan water. The location of the connection is at the intersection of East Sunset Drive and Les Paul Parkway in Waukesha; see attached map document 'Distribution System Connection'.

4. Are additional treatment modifications planned for the WWTP for phosphorus or chloride?

The answer to this question was determined to be within the previously submitted Facility Plan Amendment and no further information is required at this time.

5. Do the data in the wetland and waterway crossing tables double-count for the co-located pipelines?

The answer is no for the routes that were studied in the originally submitted EIR, though since the switch to the Milwaukee Supply route these data will need to be re-calculated. With submission of more information on wetland and waterway crossing impacts, the submittal will count wetland and waterway crossings for any co-located pipeline a single time.

6. Will there be flow monitoring equipment at the discharge site?

The Program does not proposed to install flow monitoring equipment at the return flow discharge site.

7. Need development and operational costs for the proposed pipeline and for each alternative pipeline.

The construction and operations and maintenance costs for the return flow pipeline and facilities are found within the previously submitted Facility Plan Amendment for the Clean Water Plant. The probable construction cost and operations and maintenance costs for the Milwaukee Supply Routes can be seen in the following tables from the Route Study:

Table 5-25 Class 4 Opinions of Probable Construction Cost for Route Alternatives

Item	Class 4 OPCCs for Route Alternatives (June 2017 ENR CCI = 10,942)		
	M1	M2	M3
Class 4 OPCCs ¹ (\$-Million)	63.2	64.6	69.5
Class 4 OPCC Comparison (\$-Million)	-6.3	-4.9	0.0

Notes: 1. Class OPCCs include Program Element No. 3 – Water Supply Pipeline and Appurtenances.

Table 5-26 Life Cycle Pumping Costs

Life Cycle Pumping Costs ¹	Estimated Life Cycle Pumping Costs for Route Alternatives		
	M1	M2	M3
Annualized Life Cycle Cost (\$-Million)	0.53	0.53	0.55
20-Year Life Cycle Cost (\$-Million)	10.56	10.59	10.98

Notes:

1. Life cycle pumping costs are based on an 8.2 MGD ADD conveyed at a throughput equivalent to the firm capacity of each pumping station. Costs include a \$0.075/kWhr electrical rate, a 3.00% inflation rate, and an 8.00% discount rate.

8. Have there been further refinements in the proposed and alternative pipeline routes as suggested in the supplemental EIR?

Yes – the updated supply routes can be found in the answer to Question 1 above. The return flow routes were provided with the submittal of the supplemental EIR.

9. Are there updates on the City's chloride reduction strategy? What outreach has been done to let customers, businesses, know that they will not need water softening with a switch to Lake Michigan water?

The majority of this question is answered by the 2017 Final Chloride Report and WPDES permit application submitted in December 2017. A progress update will be provided in a subsequent submittal by October 21st, 2018.

10. Does the City have data showing that their chloride reduction ordinance has decreased chloride concentrations at the plant since 2014?

This question is answered by the 2017 Final Chloride Report and WPDES Permit Application submitted in December 2017 and was determined to require no further information.

11. How much chloride reduction is expected by switching to Lake Michigan water.

This question is answered by the 2017 Final Chloride Report and WPDES Permit Application submitted in December 2017 and was determined to require no further information.

12. Will any of the proposed or alternative facilities be in flood sensitive areas or flood plains?

No – the only facility located within a floodplain is the outfall structure at the return flow discharge site, which by its function must be at the river's edge. This question is more fully answered by the previously submitted Facility Plan Amendment.

13. Need energy use information for the proposed and alternative facilities

See Table below for energy use and energy cost information for all of the alternatives:

Route Alternative Annual Costs

	Return Flow			Water Supply		
	2	3	4	M1	M2	M3
Annual Costs						
Pumping Costs (\$M/yr)	0.222	0.242	0.265	0.520	0.517	0.532
OM&R Costs (\$M/yr)	0.107	0.110	0.124	0.070	0.068	0.073
Total Yearly Costs (\$M/yr)	0.329	0.352	0.390	0.590	0.586	0.606
20 Year Costs						
20 year Costs (\$M)	2.799	3.049	3.349	6.565	6.528	6.716
20 year OM&R Costs (\$M)	1.347	1.393	1.570	0.885	0.860	0.926
Total 20 year Costs (\$M)	4.146	4.442	4.919	7.450	7.388	7.641
Energy Consumption						
Energy Consumption (kWhr/day)	8,100	8,830	9,700	19,010	18,900	19,440
Energy Consumption (kWhr/yr)	2,956,500	3,222,950	3,540,500	6,938,650	6,898,500	7,095,600

14. Need affected acreage data for the proposed and alternative facilities.

This will be submitted for all Preferred and Alternative Routes by October 21, 2018.

15. Need planned construction schedule.

The draft proposed construction schedule is attached. See '15_Proposed Draft Construction Schedule' document.

16. Need affected land use acreage data for agricultural land, transportation, public or conservation land, natural areas, recreational lands, scenic areas, grasslands and forest lands affected by the proposed and alternative facilities.

This will be submitted for all Preferred and Alternative Routes by October 21, 2018.

17. Need the planned width of pipeline construction corridors for the proposed and alternative pipelines.

The overall planned width of pipeline construction for all alternatives is 50 feet, although in specific areas it may be slightly more or slightly less.

18. Need current links to the application materials on the City's website.

This link is for the Waukesha Water Utility Application Documents, including the application, Waukesha's final decision of the Compact Council, supplemental information since the October 2013 application, and presentations. http://www.waukesha-water.com/app_docs.html

1 B - Milwaukee Route Alternatives

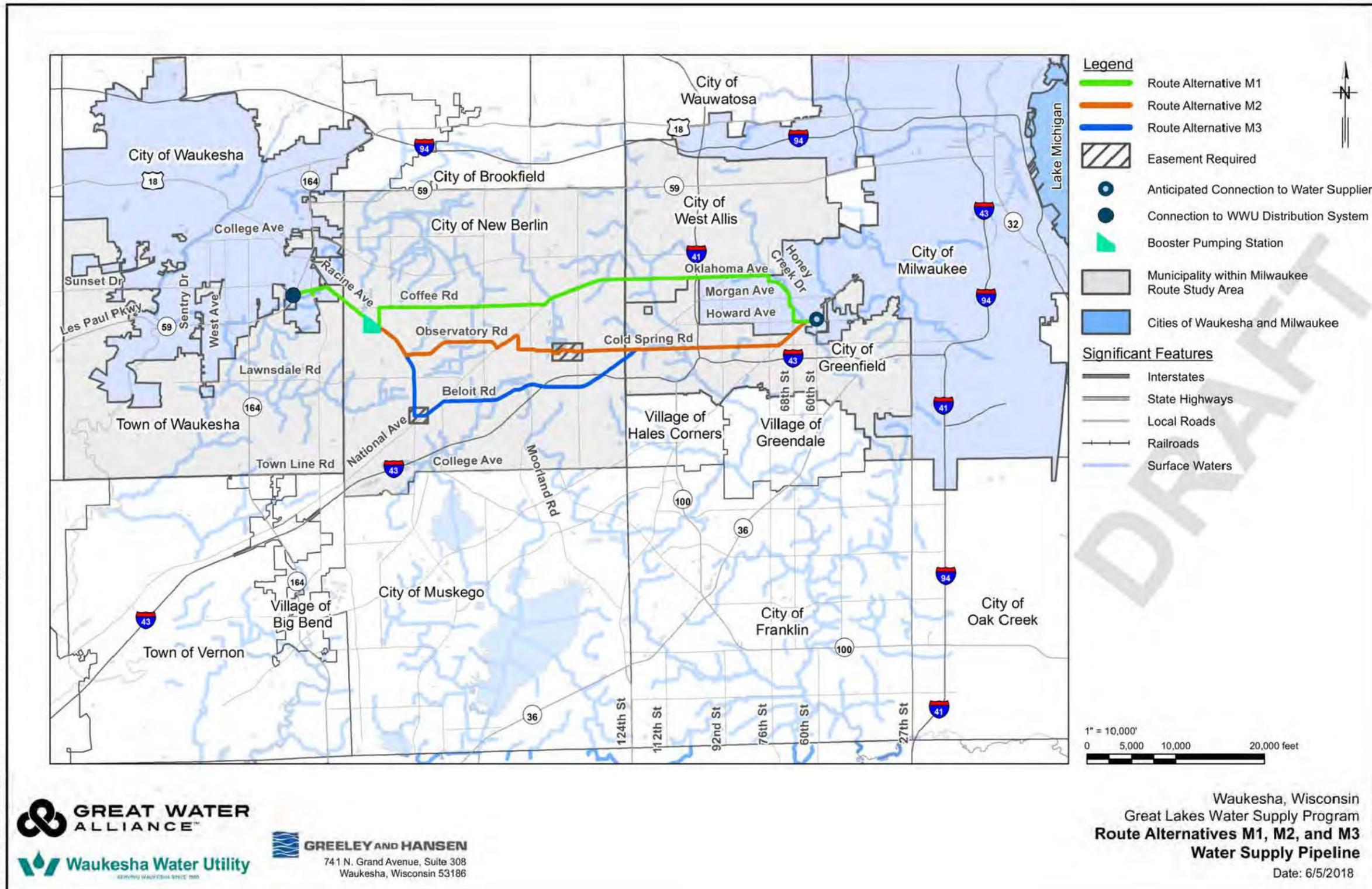
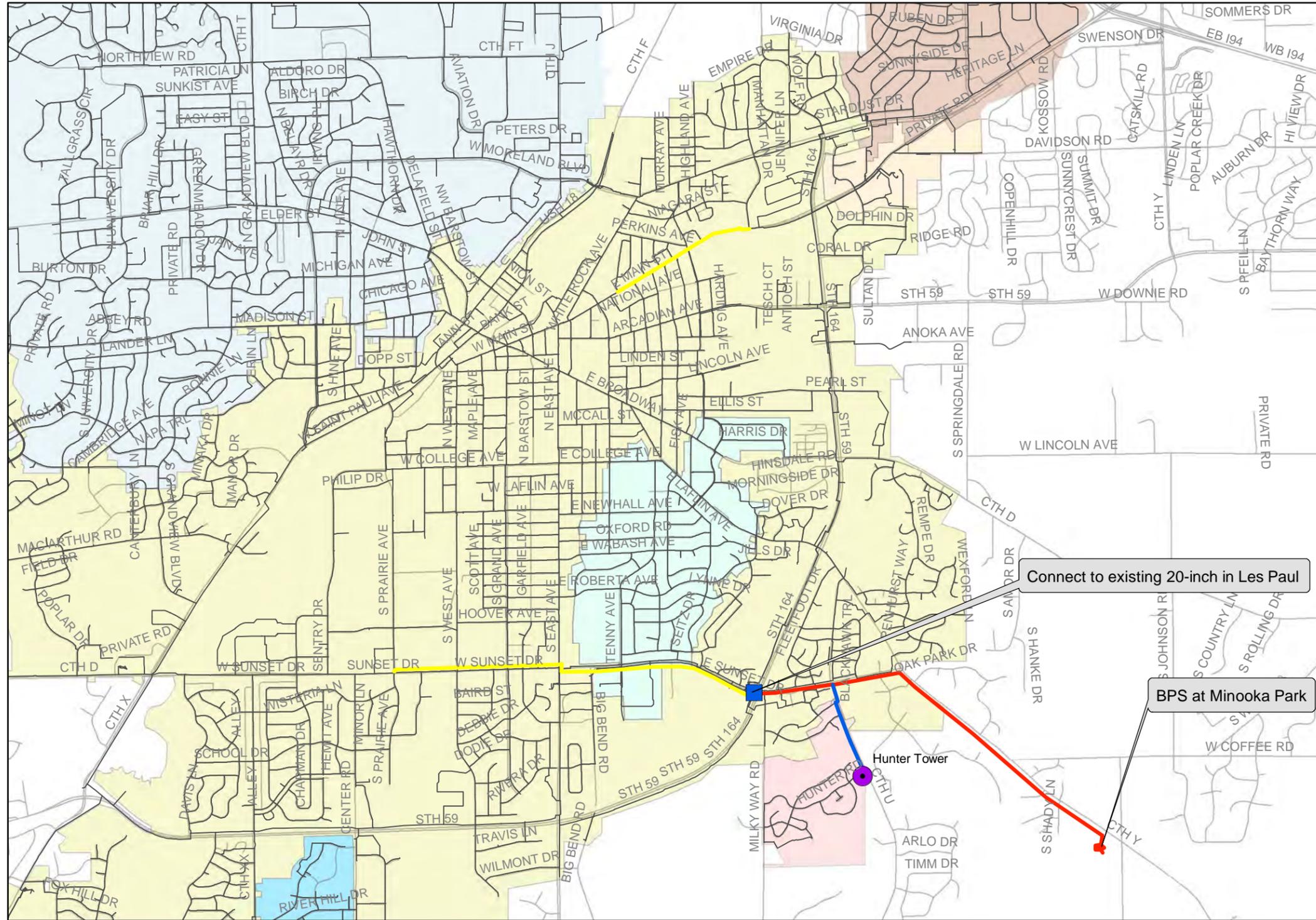


Figure 2-1 Route Alternatives M1, M2, and M3

3 - Distribution System Connection



Legend

- Water Supply Control Building
- Hunter Tower
- Hunter Tower Connection

New Pipe

- 16 Inch
- 24 Inch
- 30 Inch
- Existing Pipe

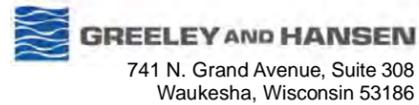
Pressure Zones

- Reduced Northwest Pressure Zone
- Northwest Pressure Zone
- Central Pressure Zone
- Pebble Valley Pressure Zone
- Oakmont Pressure Zone
- Reduced Southeast Pressure Zone
- Southeast Pressure Zone
- Northeast Pressure Zone
- Hillcrest Pressure Zone
- South Central Pressure Zone

1" = 3,000'

0 2,100 4,200 6,300 8,400 Feet

Plotted: 9/20/2018
Document Path: C:\Users\mb027412\Documents\Waukesha\WaterDistribution\Maps\20180404_TMConnectionAlternative1_Main.mxd



Waukesha, Wisconsin
Great Lakes Water Supply Program
Connection Alternative 1 - Improvements (Main Street)
Hunter Tower and Sunset and Route 59
Date: 9/20/2018

15 - Proposed Draft Construction Schedule

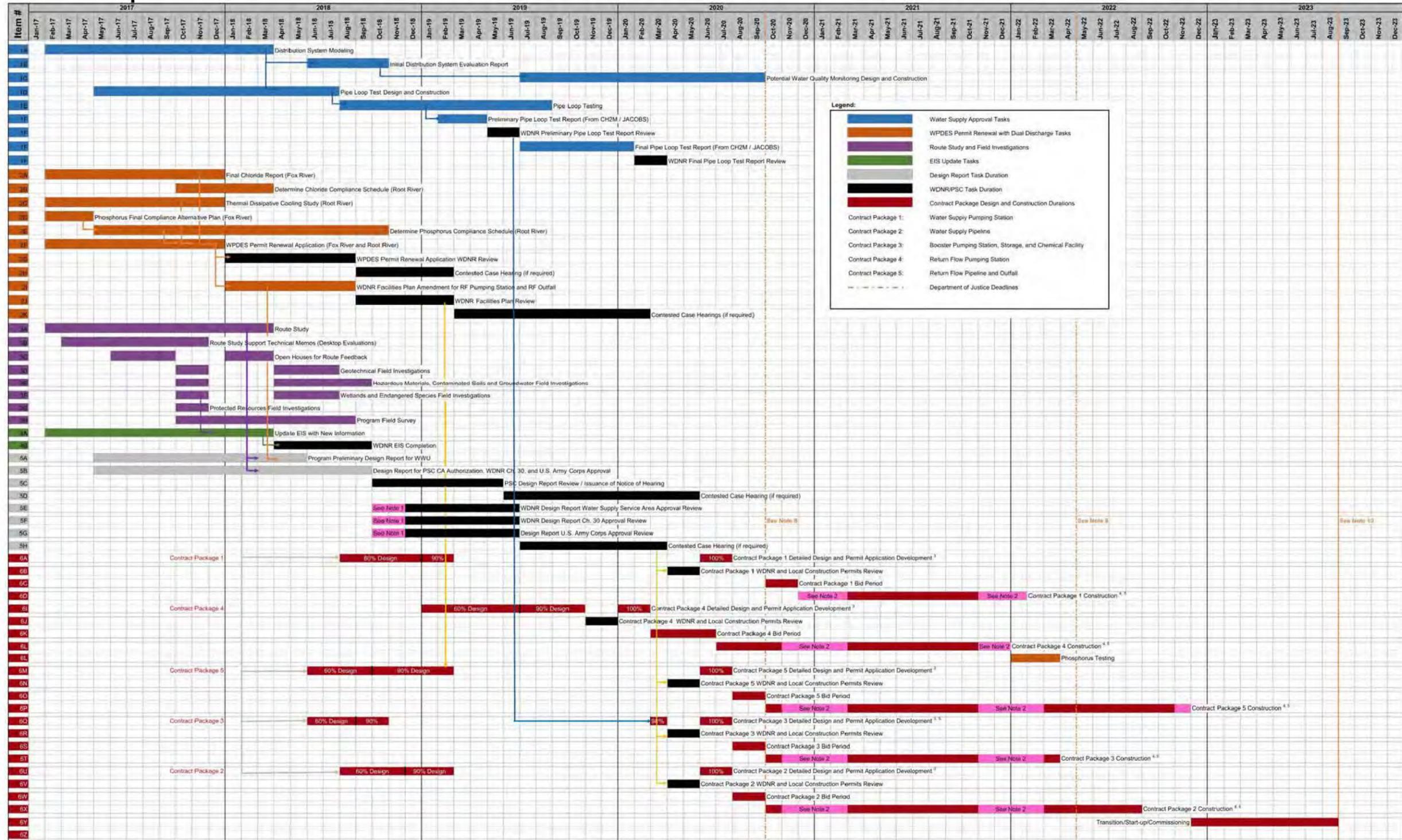


Figure 1-6 Program Schedule