



Capital Program Funding Update

Anne Malenfant
P.E., PMP

Adding PFAS to the Mix

April 26, 2023



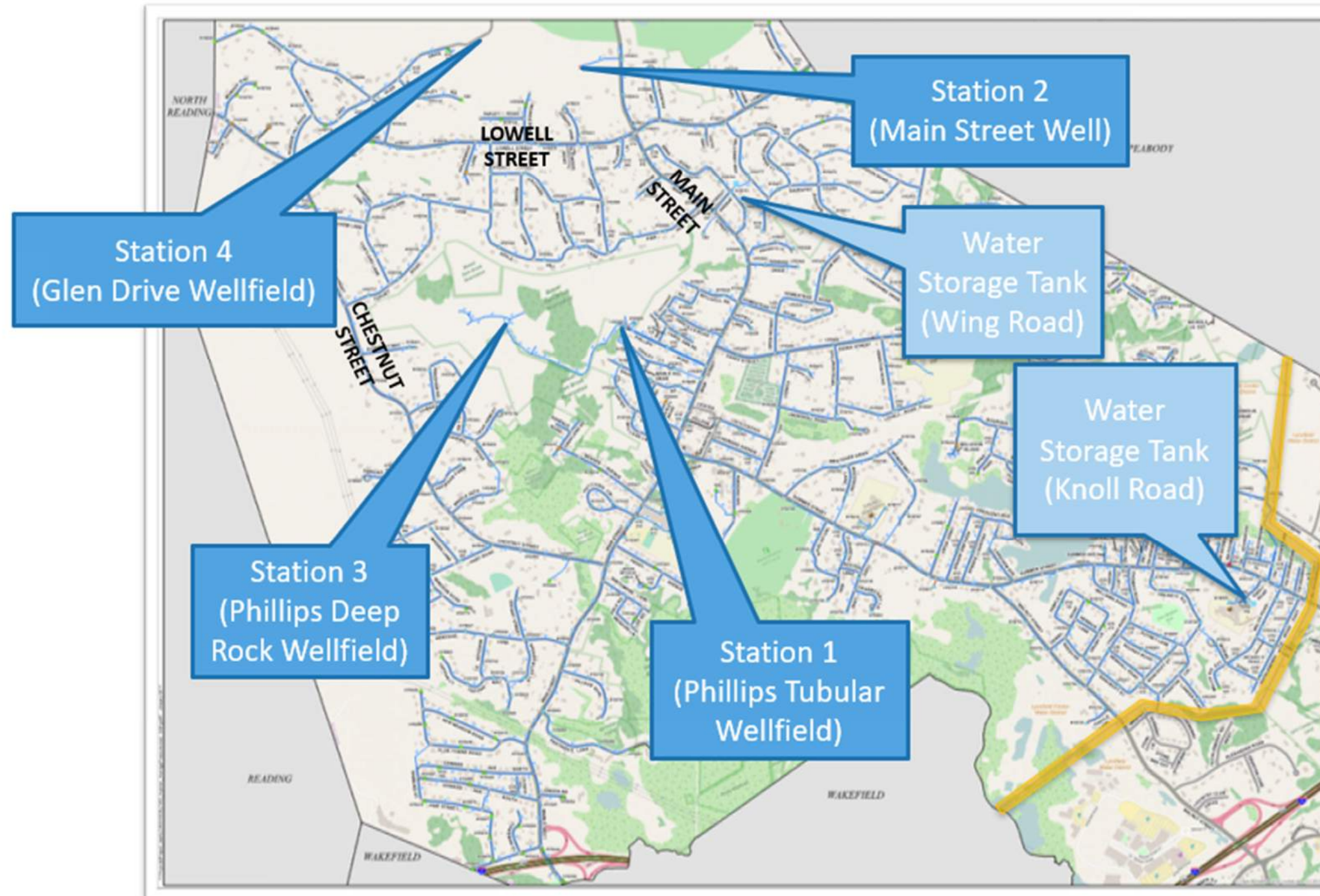
**CDM
Smith**

Agenda

- LCWD's Capital Program Overview
- May 2021 to Today – How has it changed? (PFAS)
- Evaluation of Options
- Revised Capital Program
- May 8th Vote



LCWD's Capital Program Overview (Original)

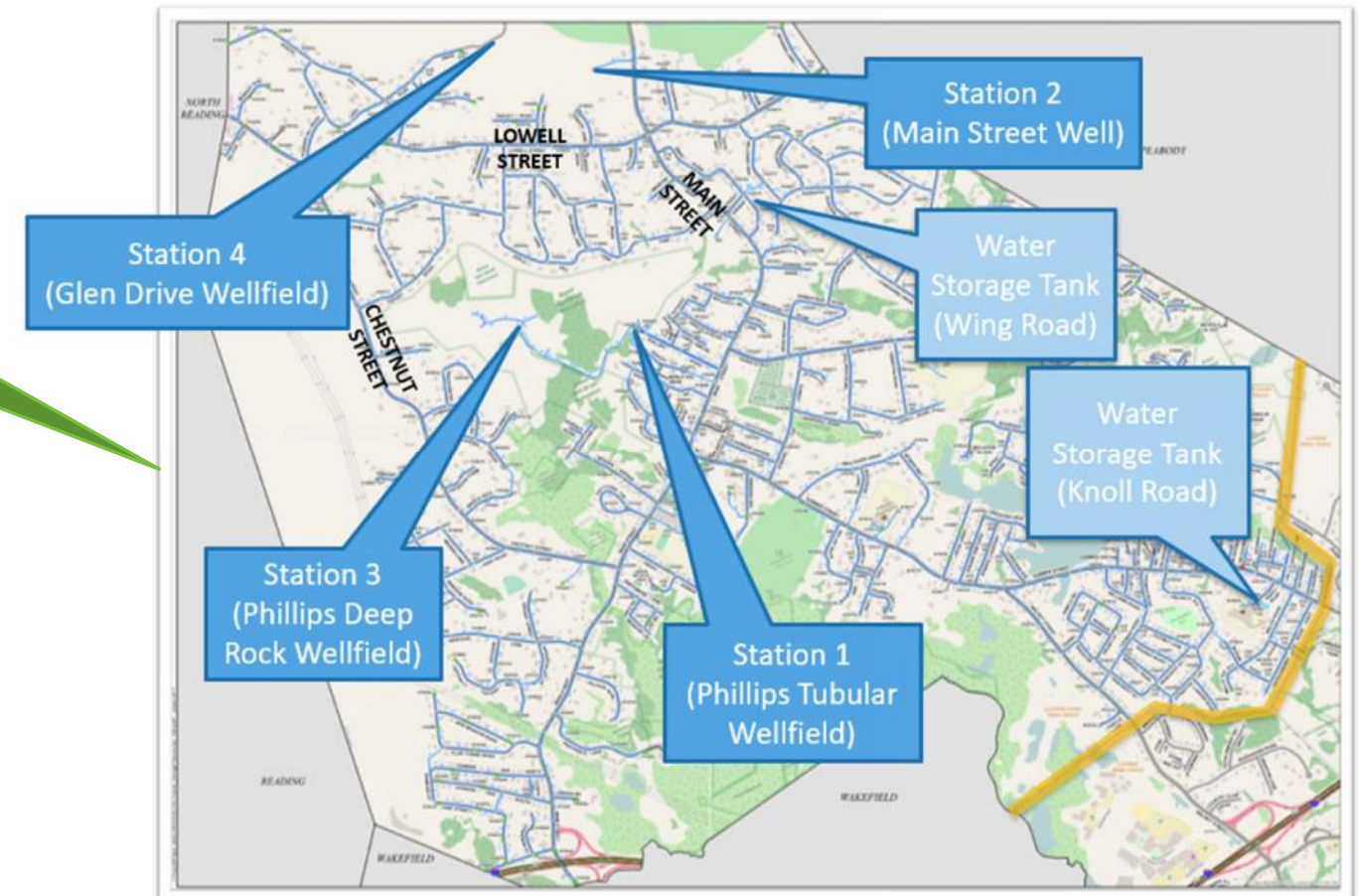


LCWD's Capital Program Overview (Original)

■ Quantity

- Challenged to meet summer demands (1.0-1.4 MGD)
- No redundancy

1.0-1.2 MGD
maximum capacity



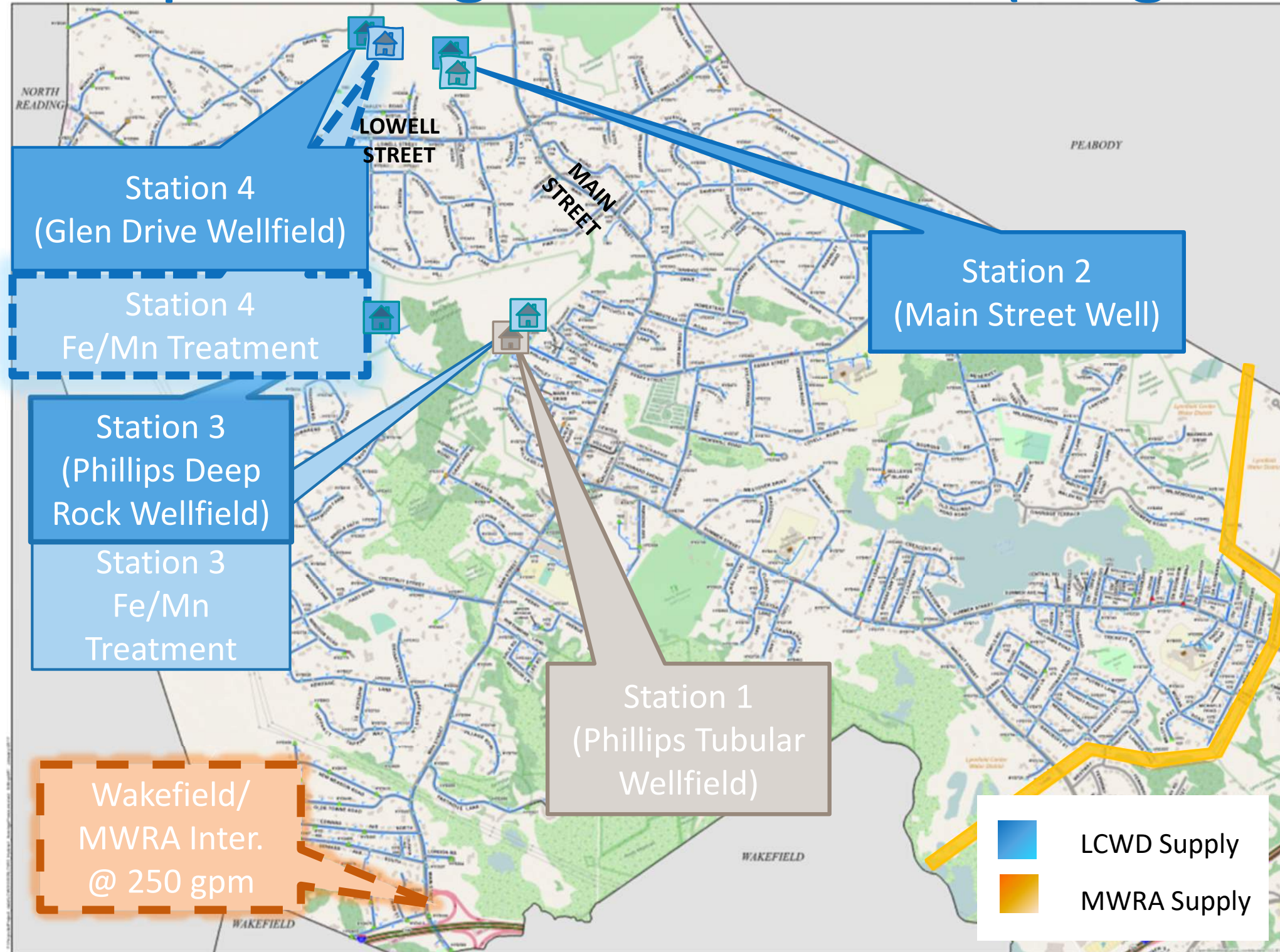
LCWD's Capital Program Overview (Original)

- **Quality**

- Station 4 (Glen Drive) iron and manganese

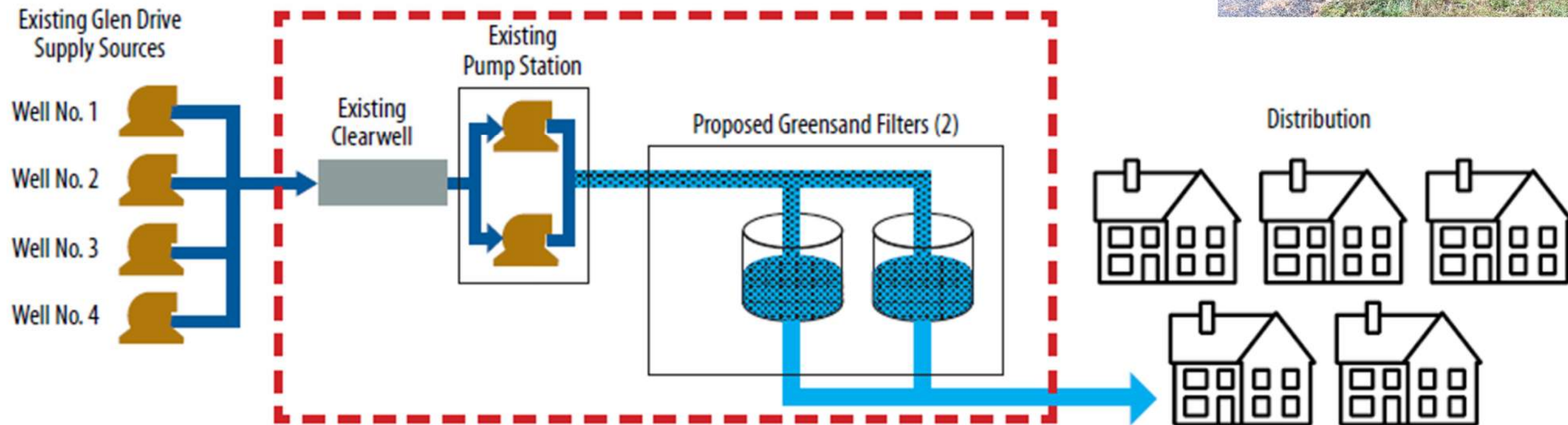


LCWD's Capital Program Overview (Original)

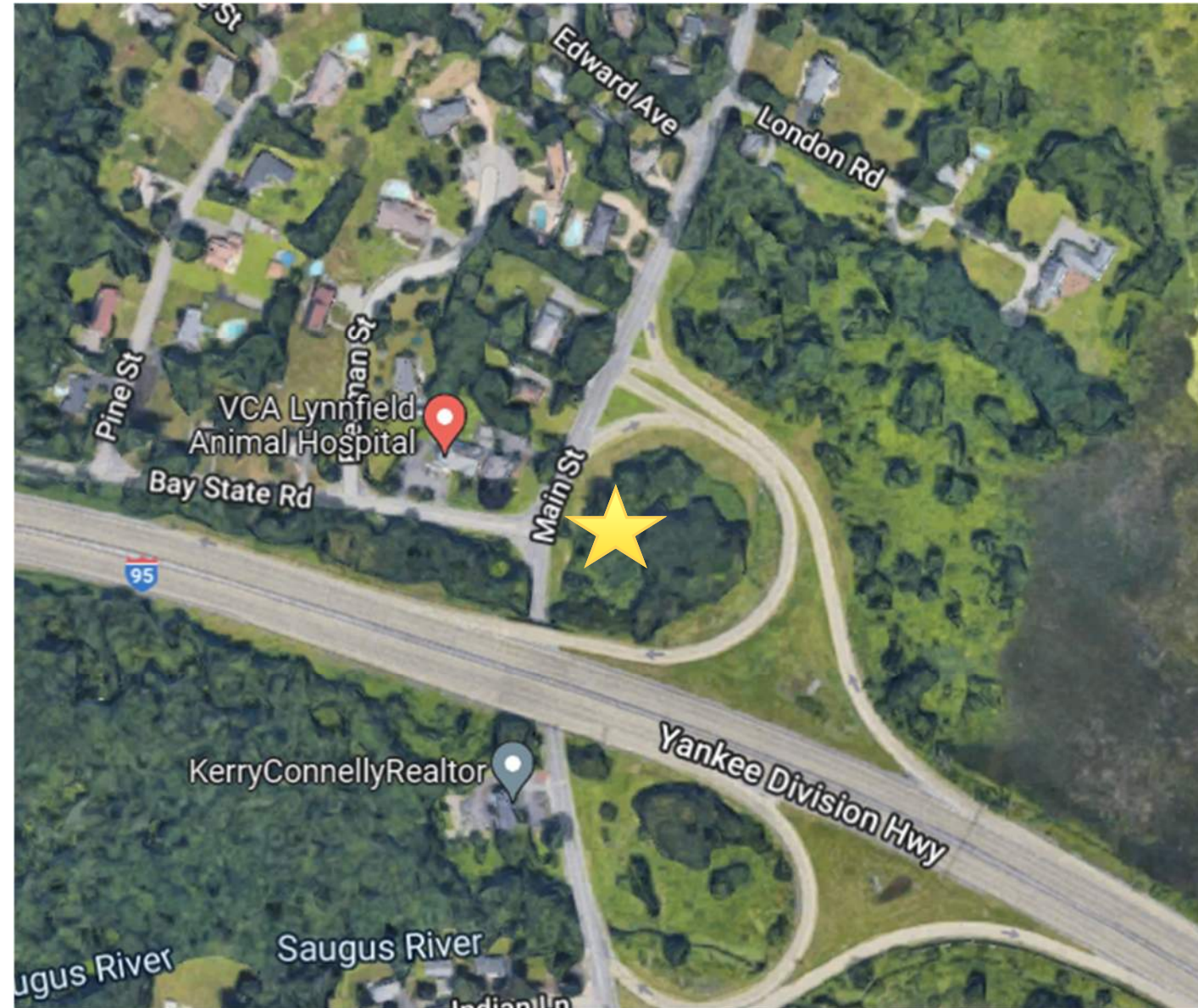


Glen Drive WTP Design (Original)

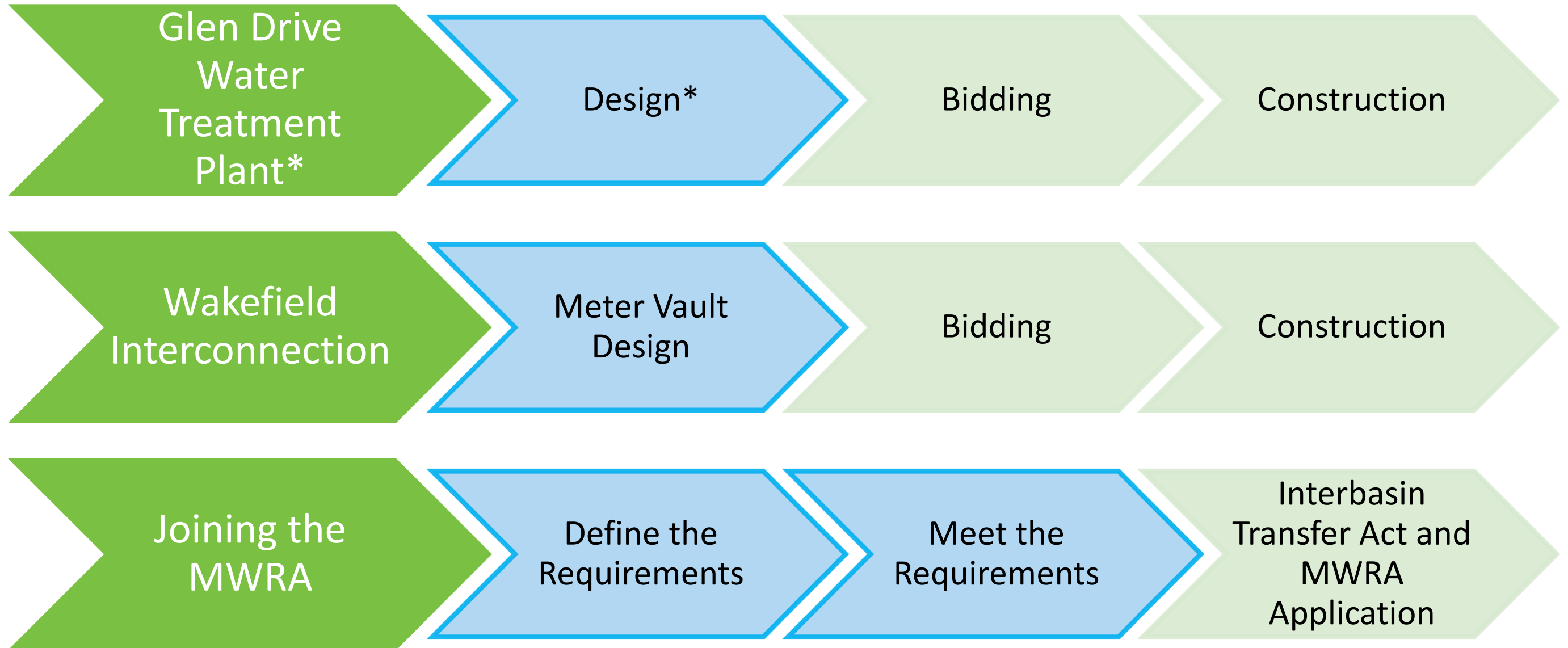
- Existing Glen Drive Pump Station
- Addition of greensand filters to remove iron and manganese



MWRA/Wakefield Meter Vault Design

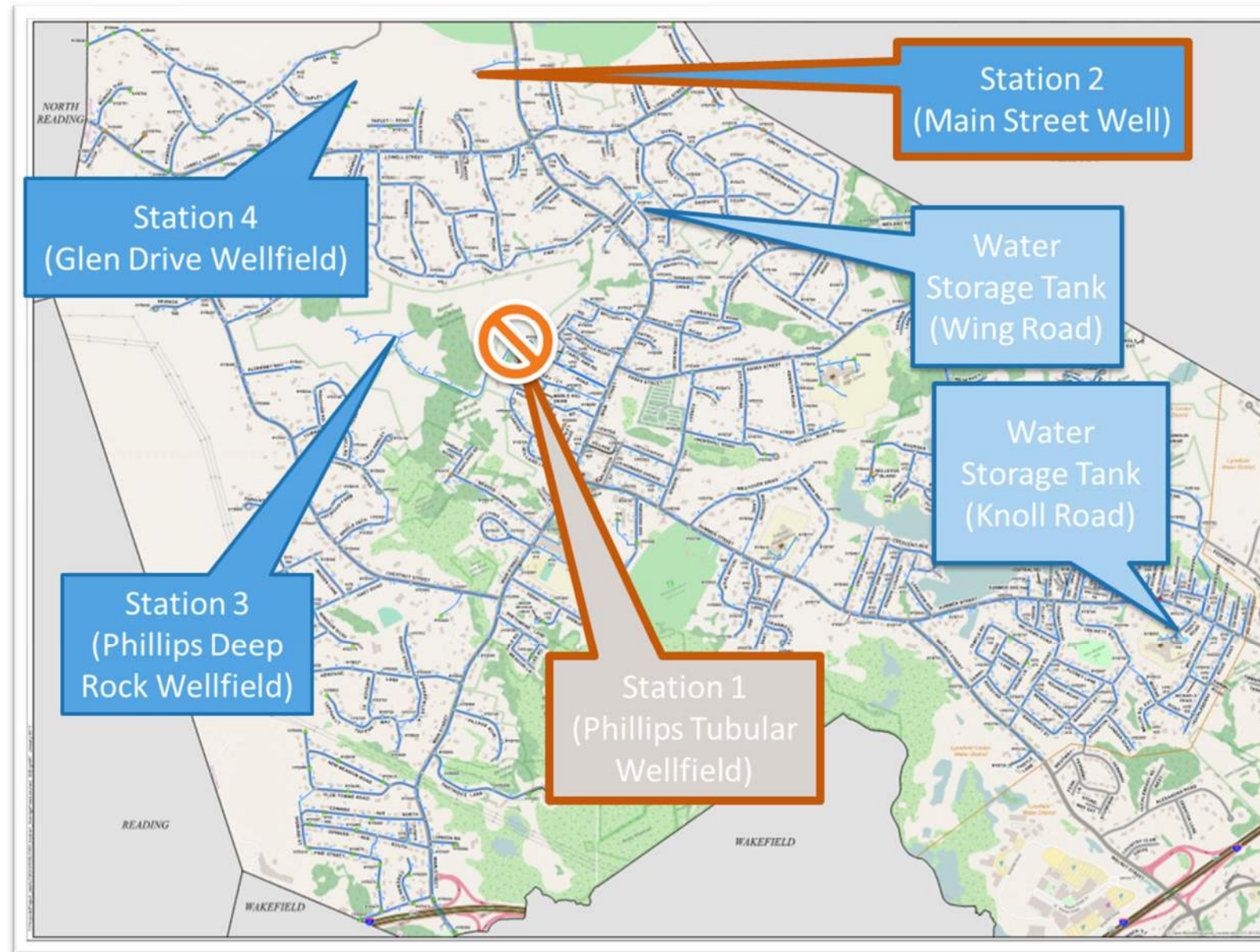


Capital Program Projects (Original)



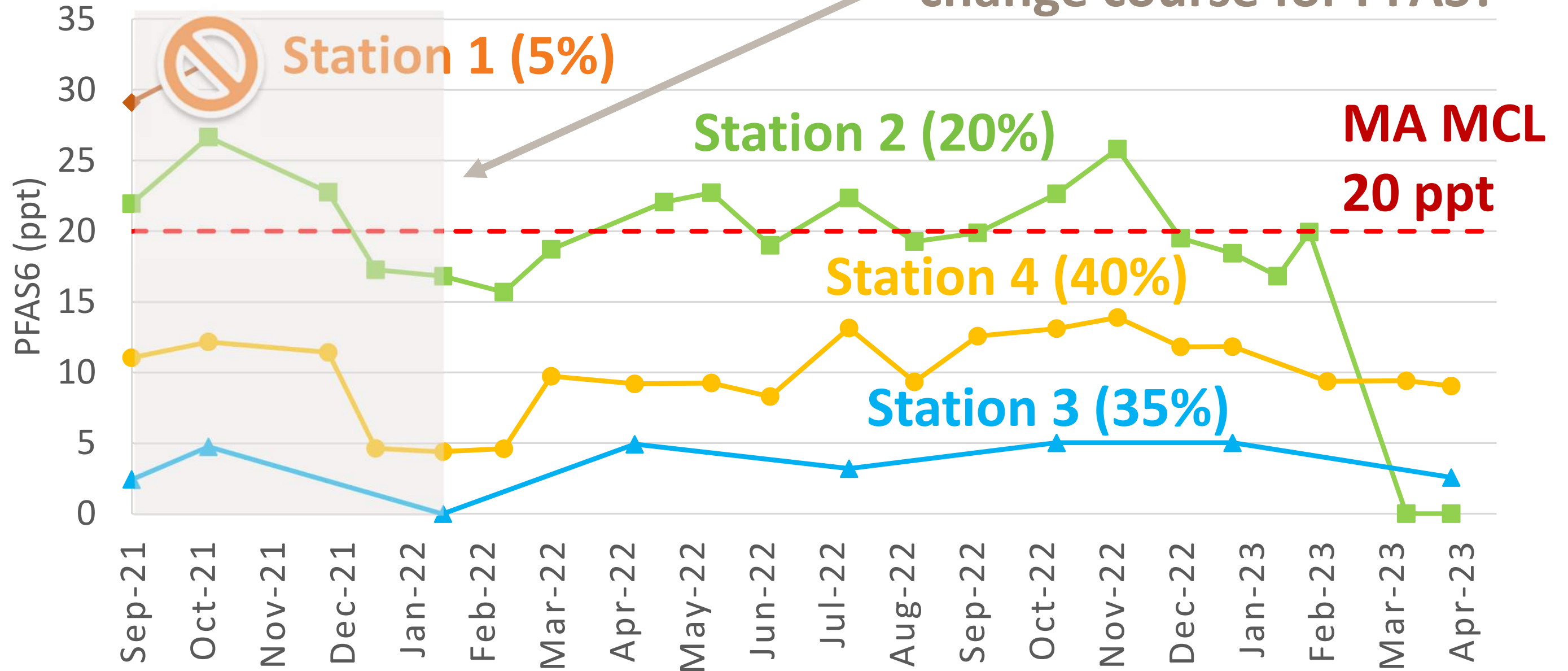
* Iron and manganese treatment only

But What About PFAS? (September 2021)



But What About PFAS?

Late 2021 – How to change course for PFAS?



% indicates contribution from each Station to LCWD supply

But What About PFAS? (Jan/Feb 2022)

- Need Station 2 to meet demands
- Address PFAS through extended interim treatment
- Provides time to evaluate permanent options
 - Station 2 treatment at Station 4 (Glen Drive)
 - Increase Wakefield/MWRA interconnection
 - Other MWRA interconnections
 - Permanent treatment at Station 2



But What About PFAS? (Jan/Feb 2022)

- Add separate PFAS building to Glen Drive WTP design
 - Maintain similar schedule
 - Be prepared for funding opportunities
- If no funding or select alternative PFAS mitigation
→ remove building from design
- Buildings can be combined after securing funding



LCWD Capital Program Funding Successes

- State Revolving Fund (SRF) Program
 - Typically low interest loan for clean water/drinking water projects
 - 2023 Fiscal Year – PFAS projects 0% interest loan
 - Glen Drive WTP project qualified
 - Up to **\$18.96 million loan at 0% interest**
- Water Management Act Grant
 - Interconnection design
 - MWRA admission process
 - **\$147,200 grant**
- Earmark in Economic Development Bill
 - **\$100,000** for LCWD PFAS design



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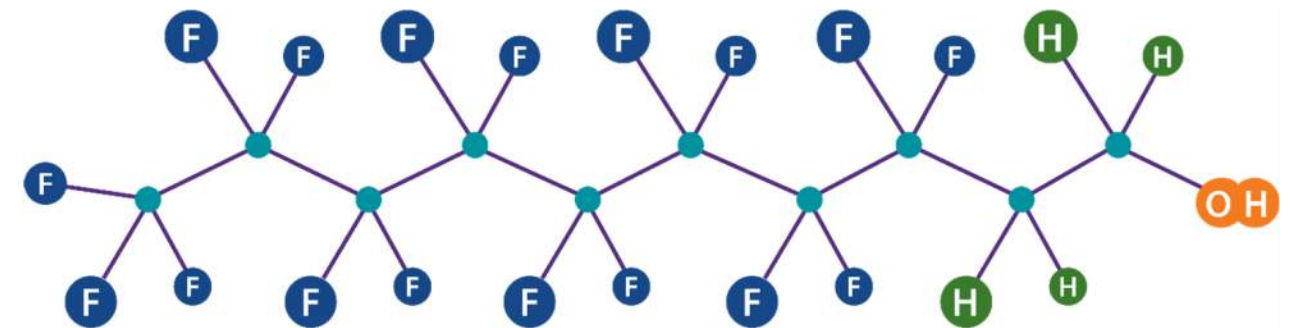
PFAS Maximum Contaminant Level (MCL)

- Massachusetts Department of Environmental Protection (MassDEP) drinking water standard
- No Federal PFAS drinking water standard
 - Proposed EPA MCL March 2023
 - 4 ppt for PFOA and PFOS
 - Anticipated Effective December 2026

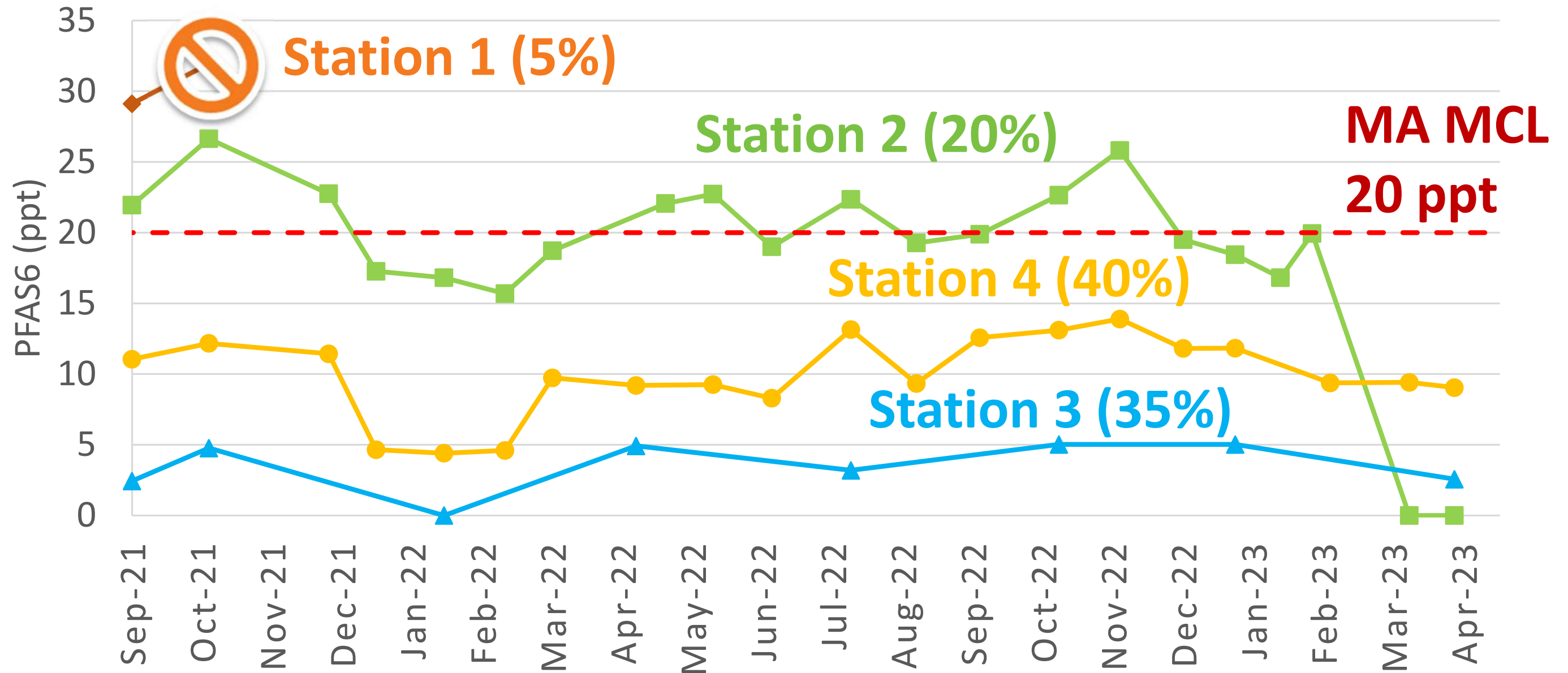
PFOS+PFOA+PFHxS+PFNA+PFHpA+PFDA =

PFAS6

Its maximum
contaminant
level (MCL) is **MCL=20 ppt**

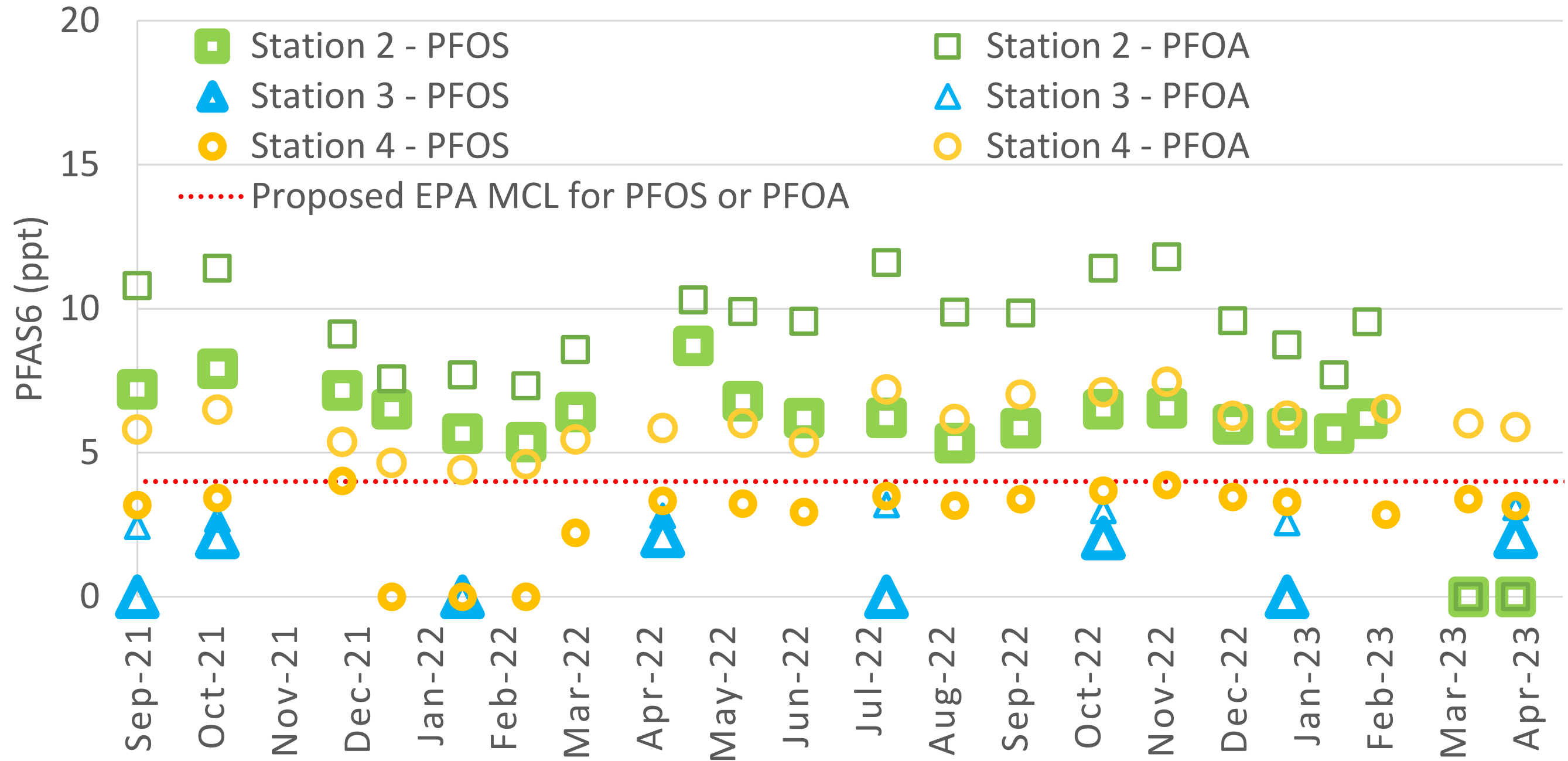


But What About PFAS?



% indicates contribution from each Station to LCWD supply

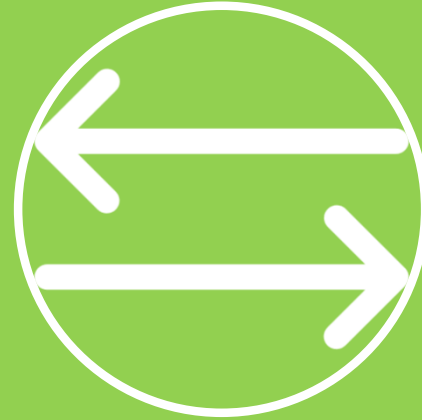
But What About PFAS?



2022 – New Quality Challenge - PFAS



**All Water from
LCWD**



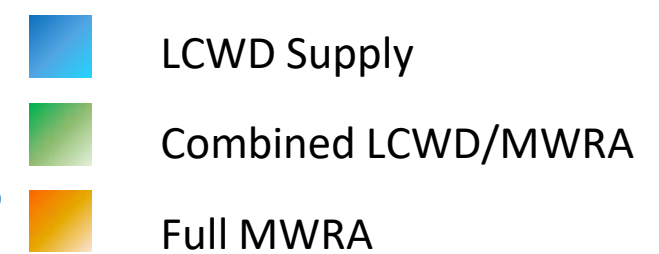
**Improvements to
LCWD and
Supplemental
Water from MWRA**



**All Water from
MWRA**

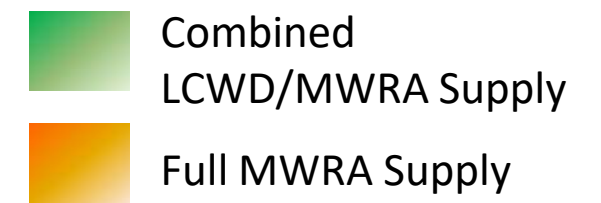


Long Term PFAS Capital Project Options



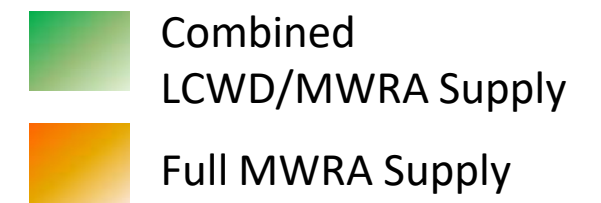
Alternative	Brief Description
1	<ul style="list-style-type: none"> • No Glen Drive WTP • Wakefield MWRA Interconnection at 250 gpm • Temp. PFAS treatment at Station 2
2	<ul style="list-style-type: none"> • Glen Drive WTP with iron, manganese and PFAS treatment for Station 2 and Station 4 • Wakefield MWRA Interconnection at 250 gpm
3	<ul style="list-style-type: none"> • Glen Drive WTP with iron and manganese treatment for Station 4 only • Increase Wakefield MWRA Interconnection to 575 gpm • Discontinue use of Station 2
4	<ul style="list-style-type: none"> • Increase Wakefield MWRA Interconnection to 575 gpm • LWD MWRA Interconnection for 250 gpm • Discontinue use of Station 2 and Station 4
5	<ul style="list-style-type: none"> • Increase Wakefield MWRA Interconnection to 575 gpm • LWD MWRA Interconnections for 650 gpm • Discontinue use of all LCWD sources (Stations 1, 2, 3 and 4)
6	<ul style="list-style-type: none"> • Direct interconnection to MWRA • Discontinue use of all LCWD sources (Stations 1, 2, 3 and 4)

Long Term PFAS Capital Project Options

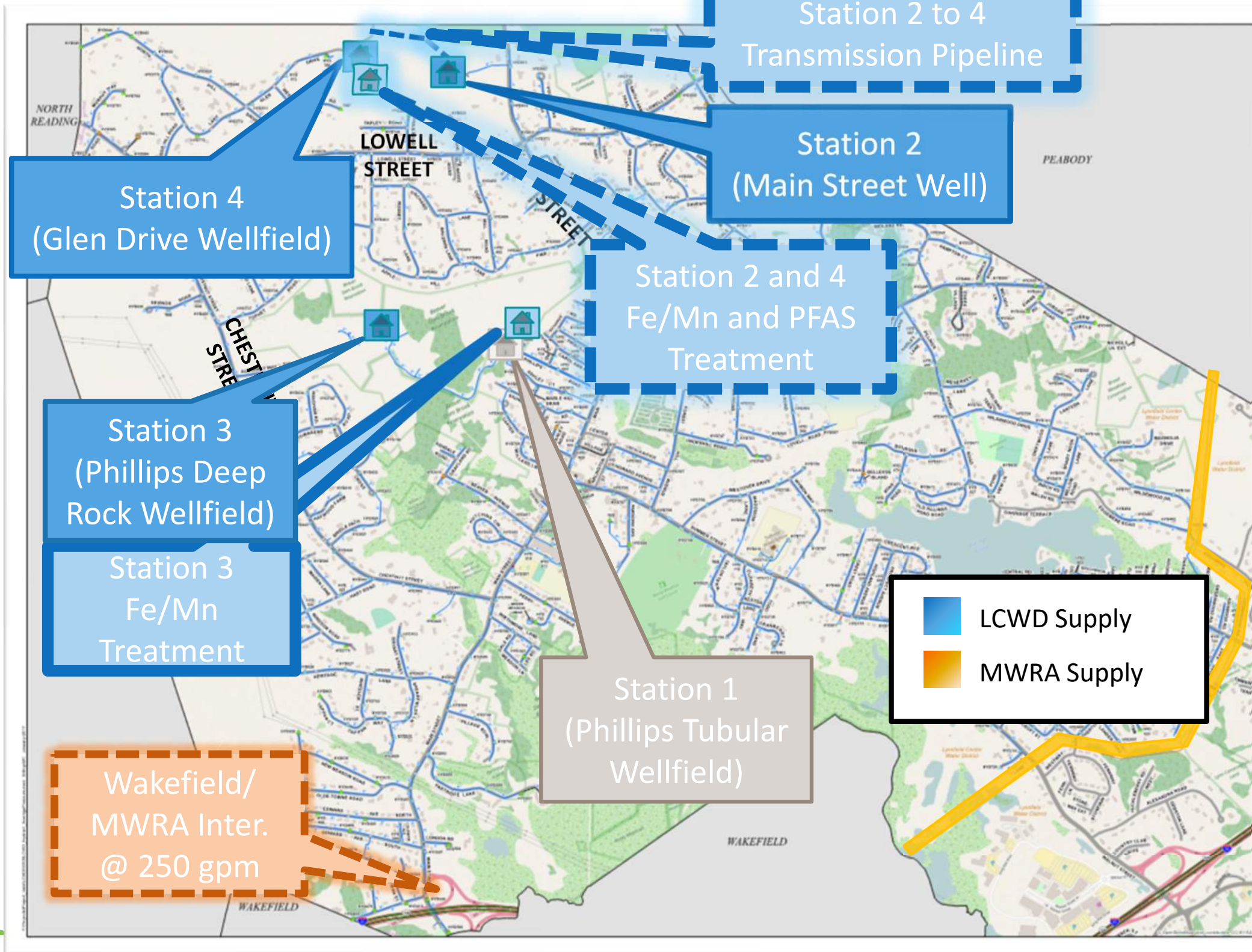


Option	1	2	3	4	5	6
	<ul style="list-style-type: none"> No Glen Drive WTP Wakefield MWRA Inter. @ 250 gpm 	<ul style="list-style-type: none"> Glen Drive WTP Fe, Mn, PFAS St. 2 & St. 4 Wakefield MWRA Inter. @ 250 gpm 	<ul style="list-style-type: none"> Glen Drive WTP Fe, Mn St. 4 only Wakefield MWRA Inter. @ 575 gpm Retire St. 2 	<ul style="list-style-type: none"> Wakefield MWRA Inter. @ 575 gpm LWD MWRA Inter. @ 250 gpm Retire St. 2 & 4 	<ul style="list-style-type: none"> Wakefield MWRA Inter. @ 575 gpm LWD MWRA Inter. @ 650 gpm Retire all LCWD sources 	<ul style="list-style-type: none"> Retire all LCWD sources Direct connection to MWRA
Quality	<i>Not Achieved</i>		<i>Partially Achieved</i>			<i>Fully Achieved</i>
Timeframe	1-2 years	2 years	2 - 3 years	3 - 5 years	3 - 5 years	3 - 5 years
Capital Investment	\$2 M	\$18 – 20 M	\$18 – 20 M	\$12 – 14 M	\$18 - 20 M	\$25 - \$30 M
Borrowing	Capital Borrowing (5%)	Capital Borrowing (0% SRF Loan)	Capital Borrowing (5%)	Capital Borrowing (5%)	Capital Borrowing (5%)	Capital Borrowing (5%)
Total 30-year Cost	\$140 M	\$210 M	\$290 M	\$300 M	\$380 M	\$330 M
Water Rates (% of capacity)	MWRA+20% 20% Local Rates 80%	MWRA+20% 20% Local Rates 80%	MWRA+20% 50% Local Rates 50%	MWRA+20% 67% Local Rates 33%	MWRA+20% 100% Local Rates 0%	MWRA 100% Local Rates 0%

Long Term PFAS Capital Project Options

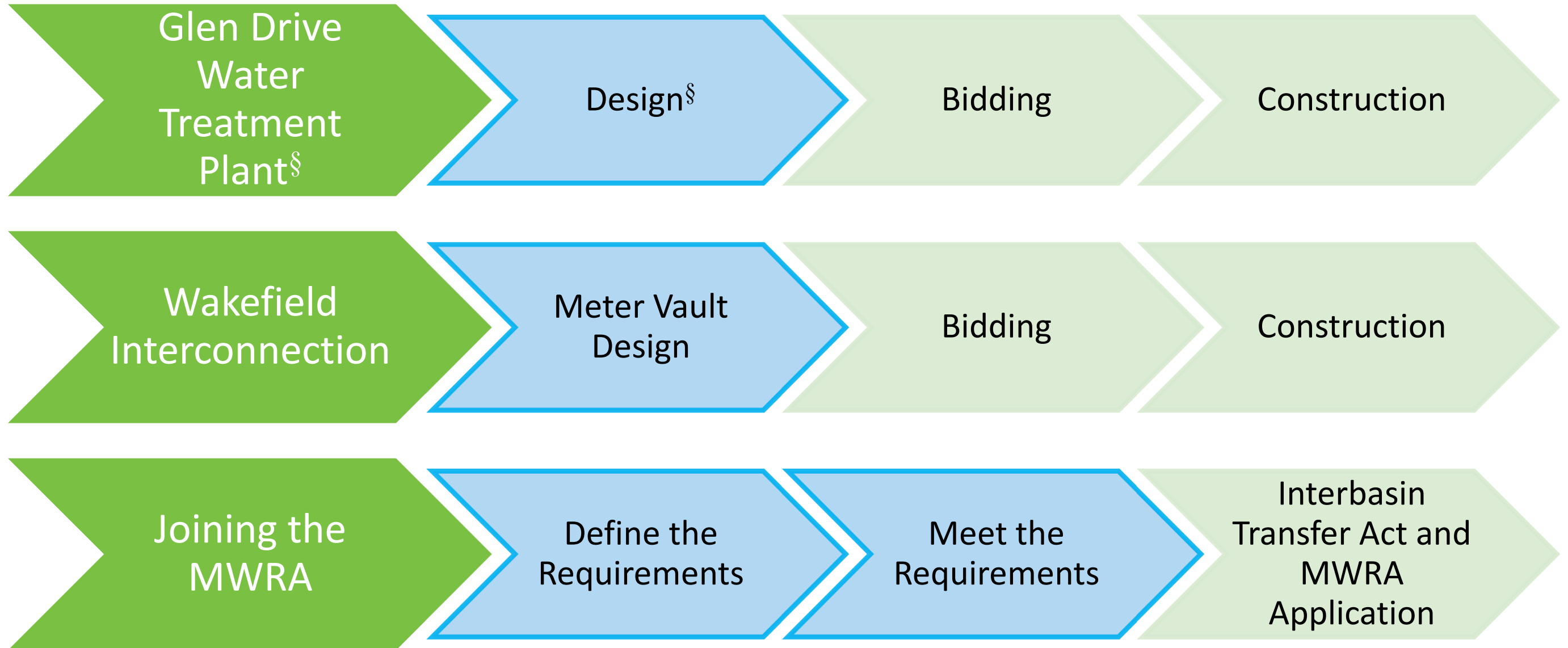


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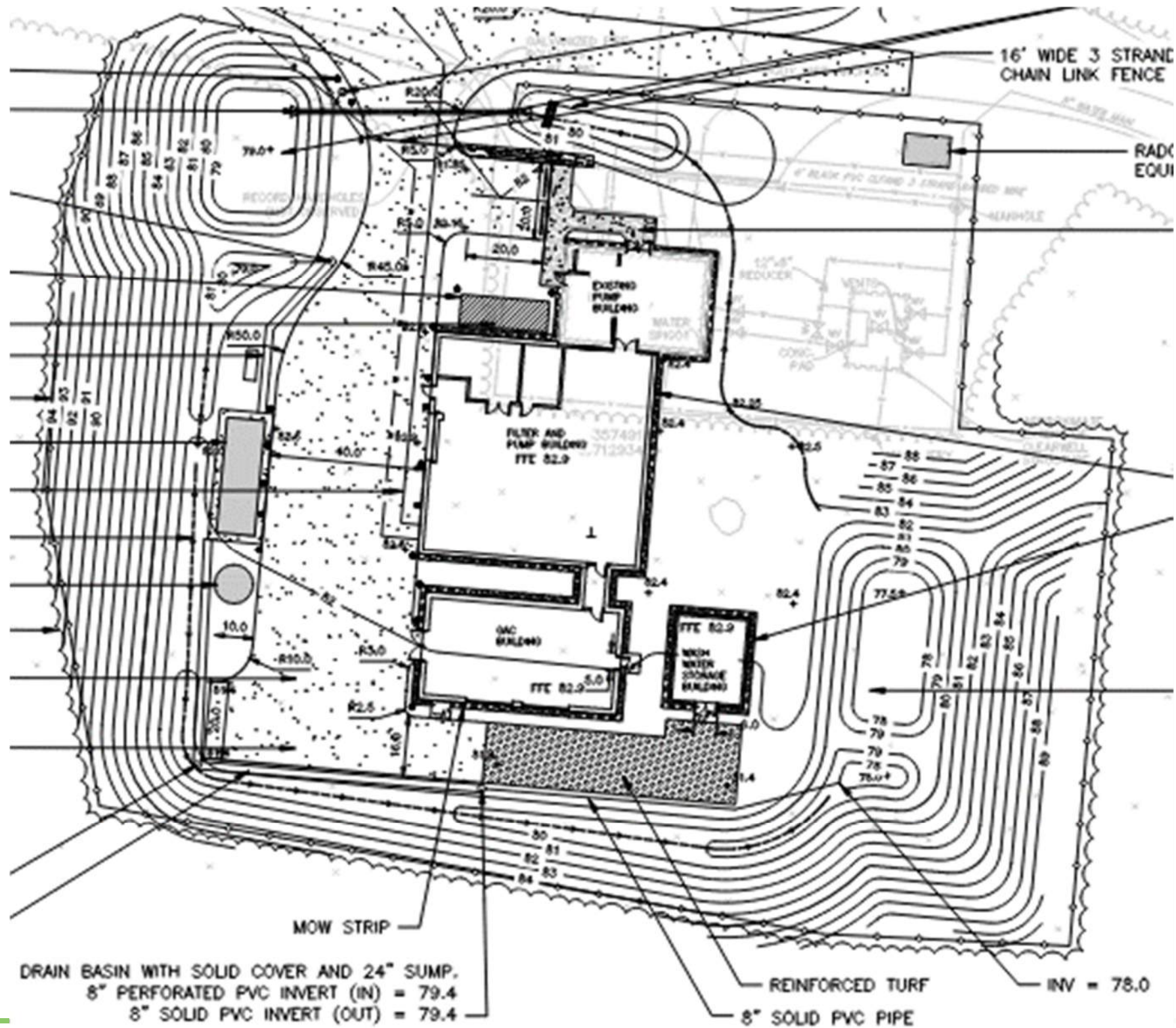


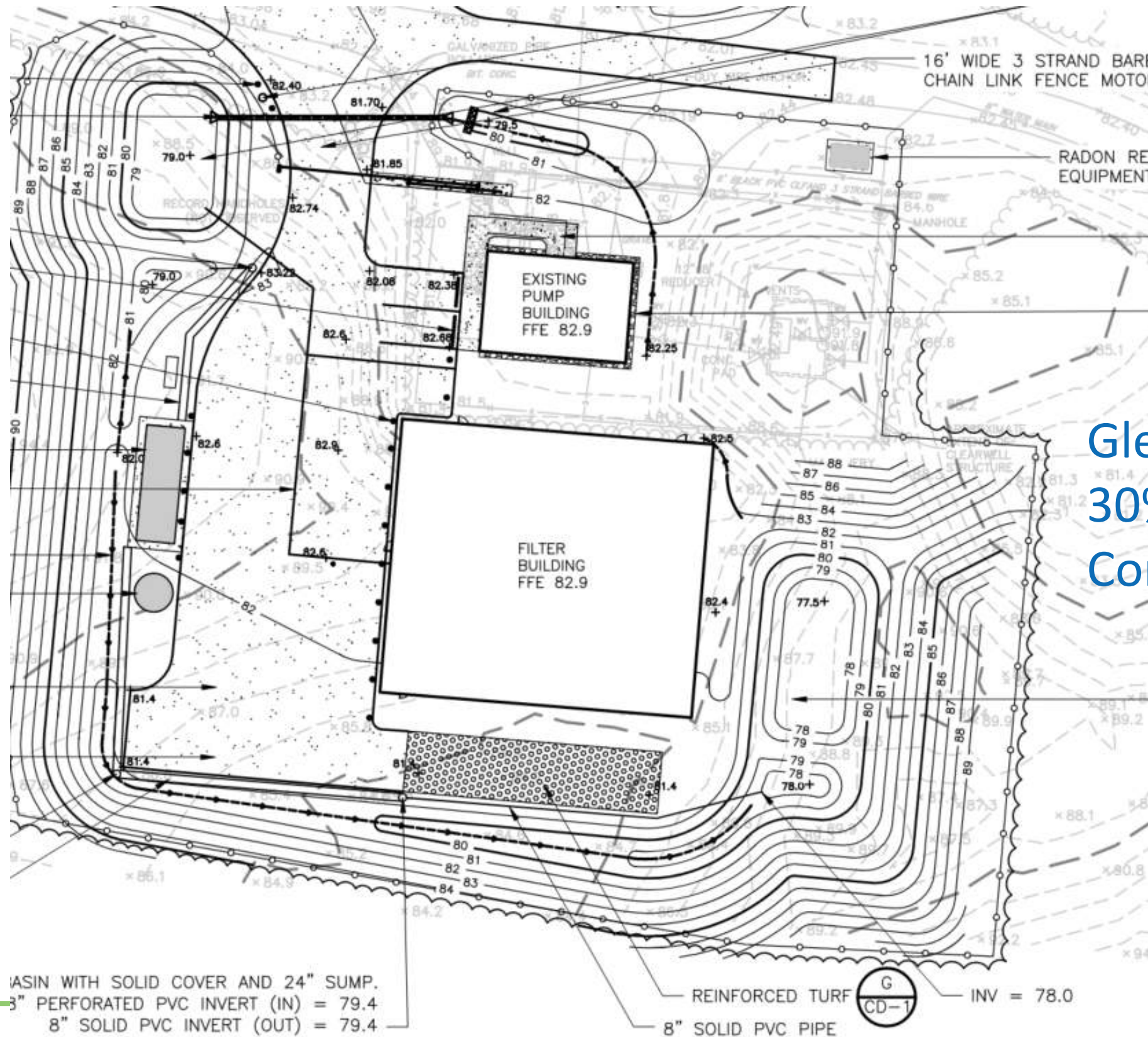
Selected
Alternative

Capital Program Projects (April 2023)

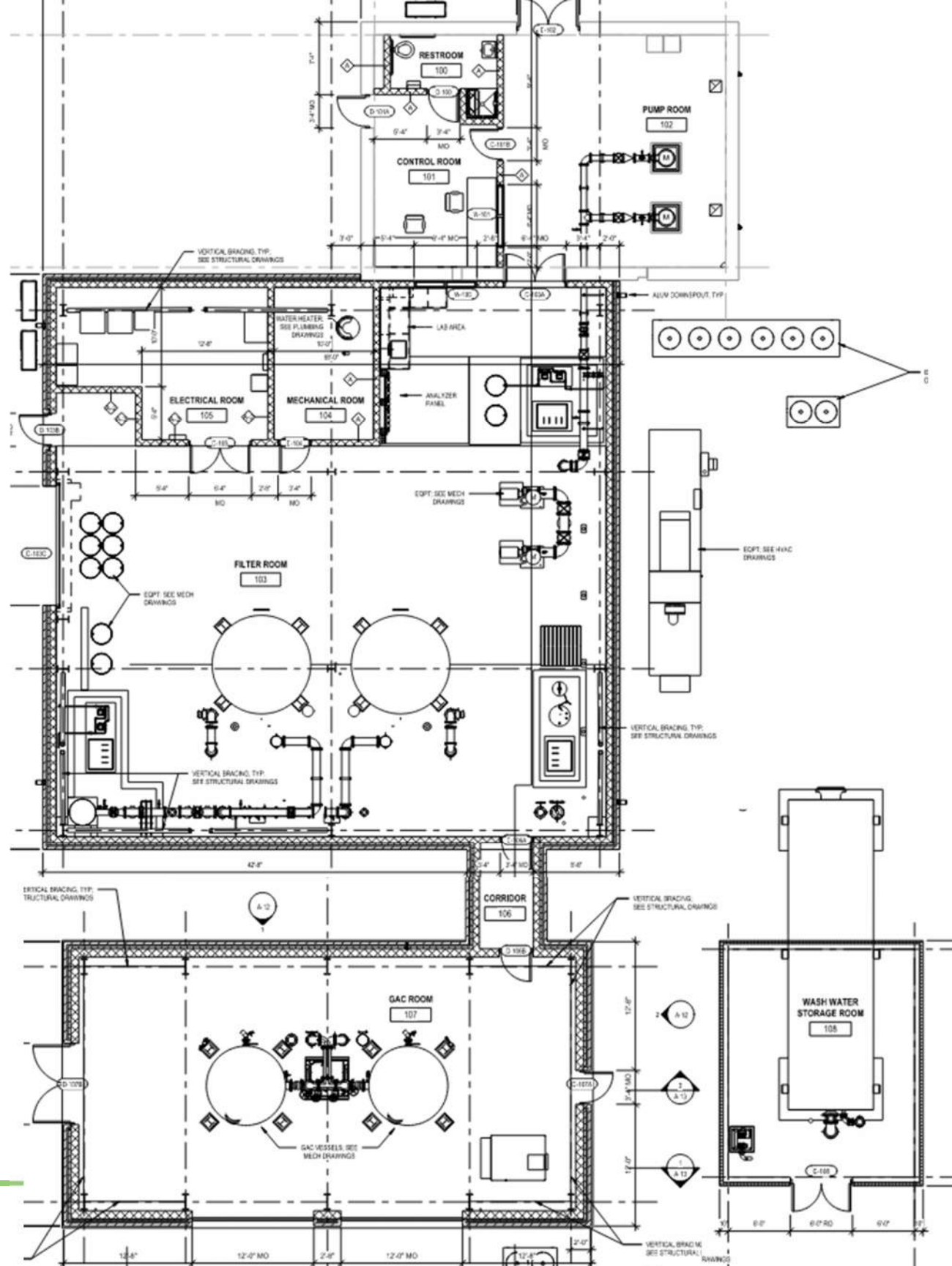


[§] Iron, manganese and PFAS treatment



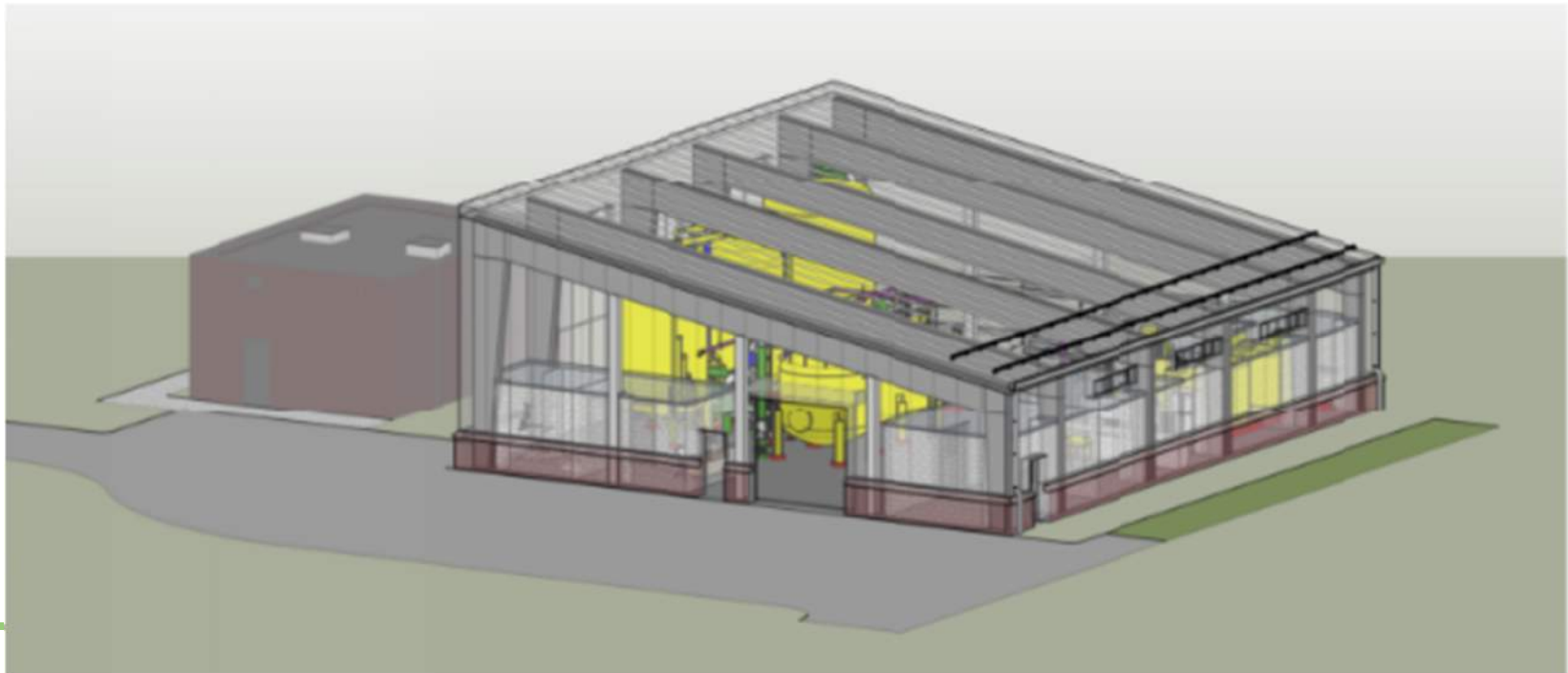


Glen Drive WTP
 30% Design
 Combined Buildings

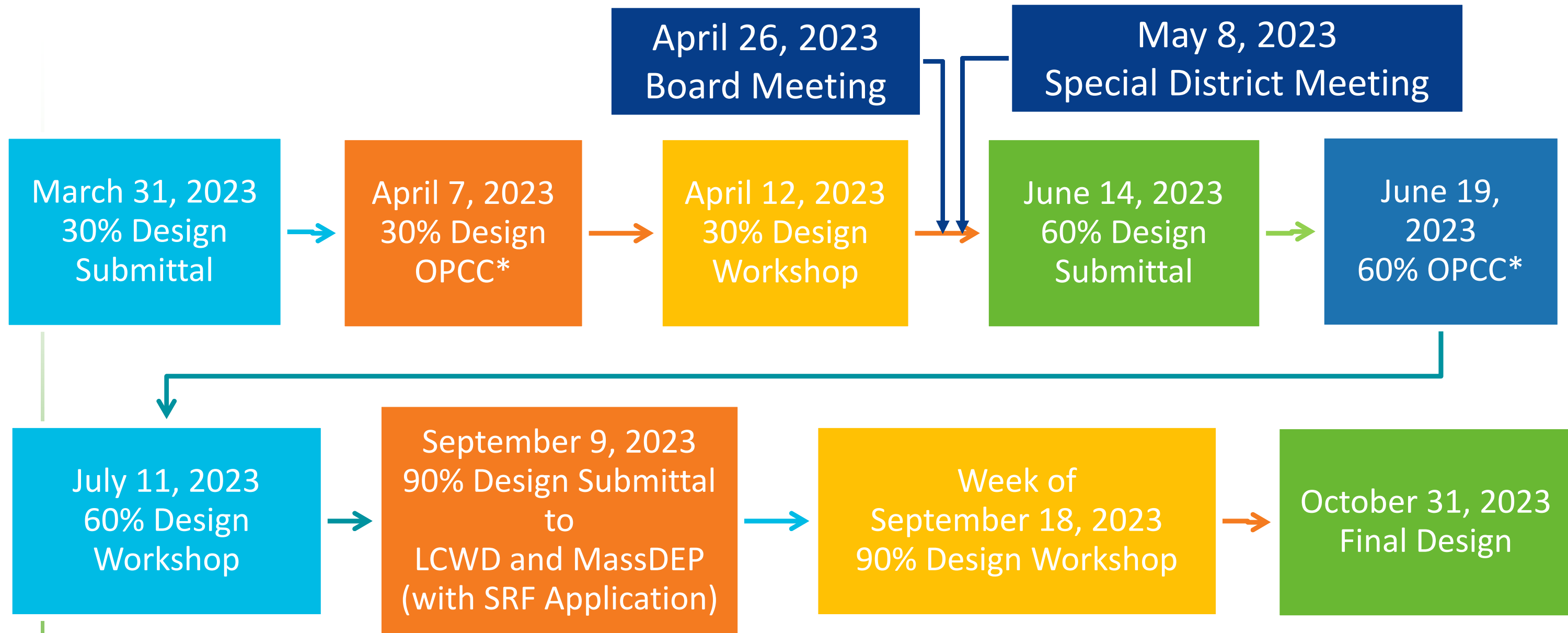


Glen Drive WTP
 60% Design with
 Separate Buildings

Glen Drive WTP Combined Buildings

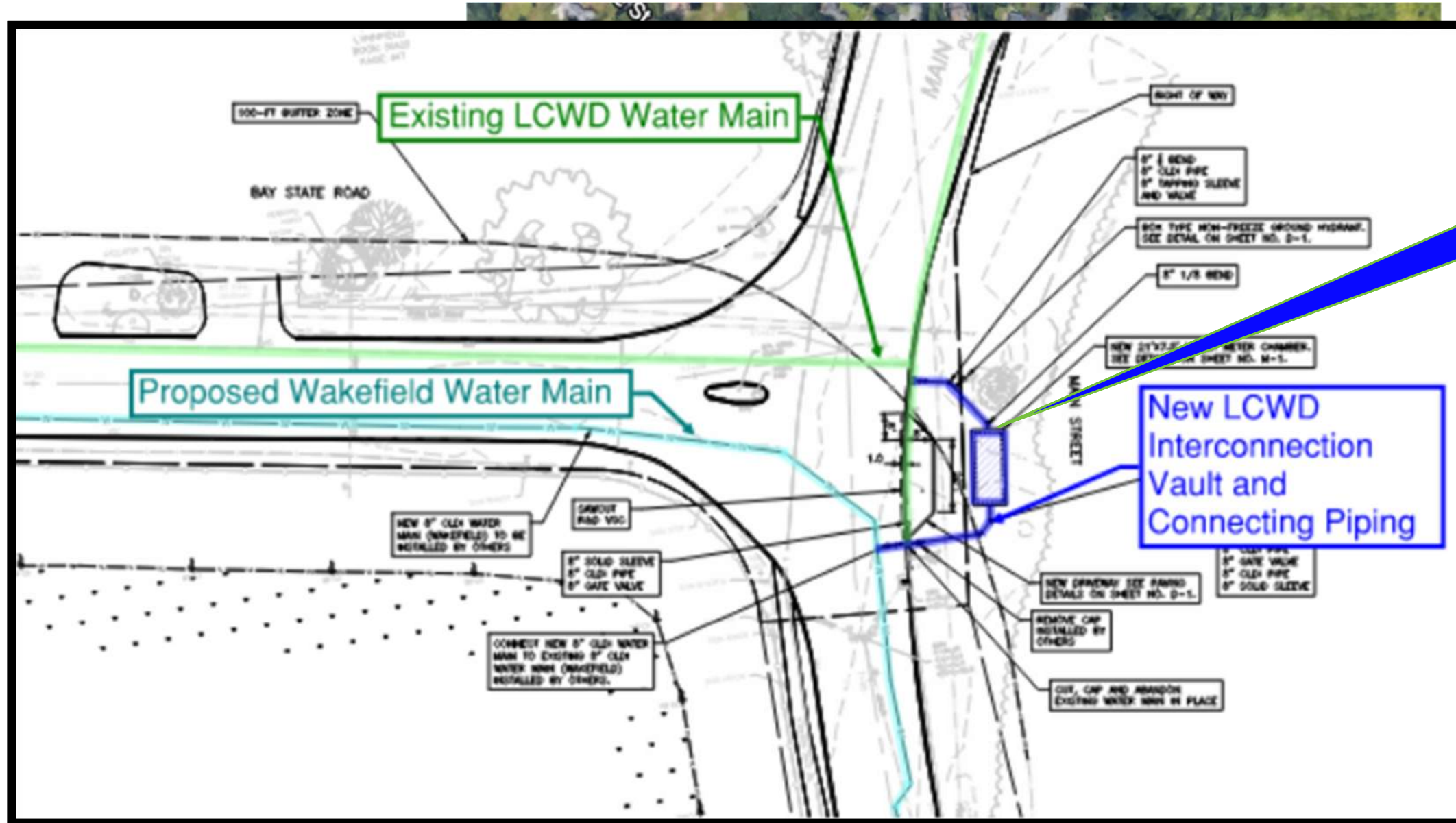


Glen Drive WTP Schedule



* Opinion of Probable Construction Cost

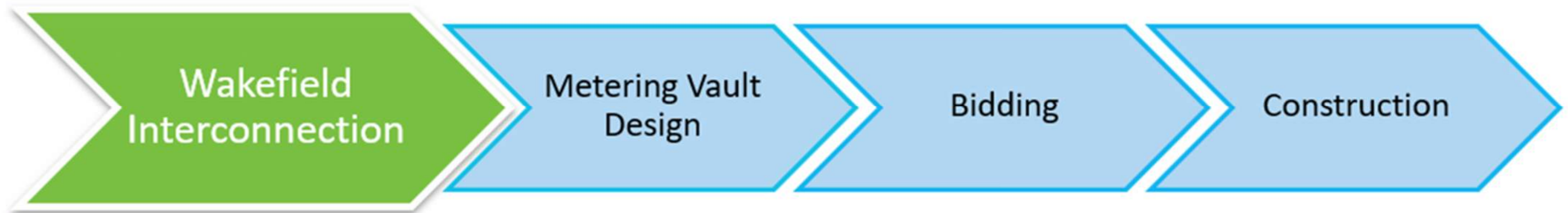
MWRA/Wakefield Meter Vault Design



21-ft x 7.5-ft vault

Meter Vault Project Status

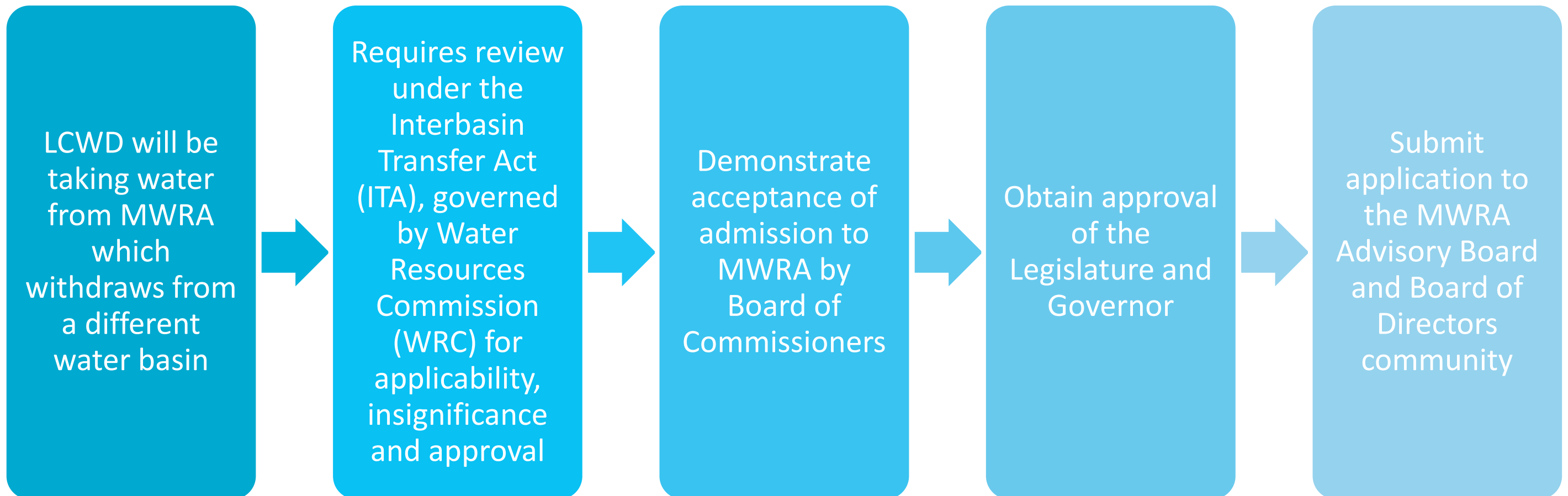
- Project in design – 90% design complete
- Develop bid documents for Summer 2023 bid
- Coordination with MassDOT for easement
- Construction Summer 2023



Joining the MWRA

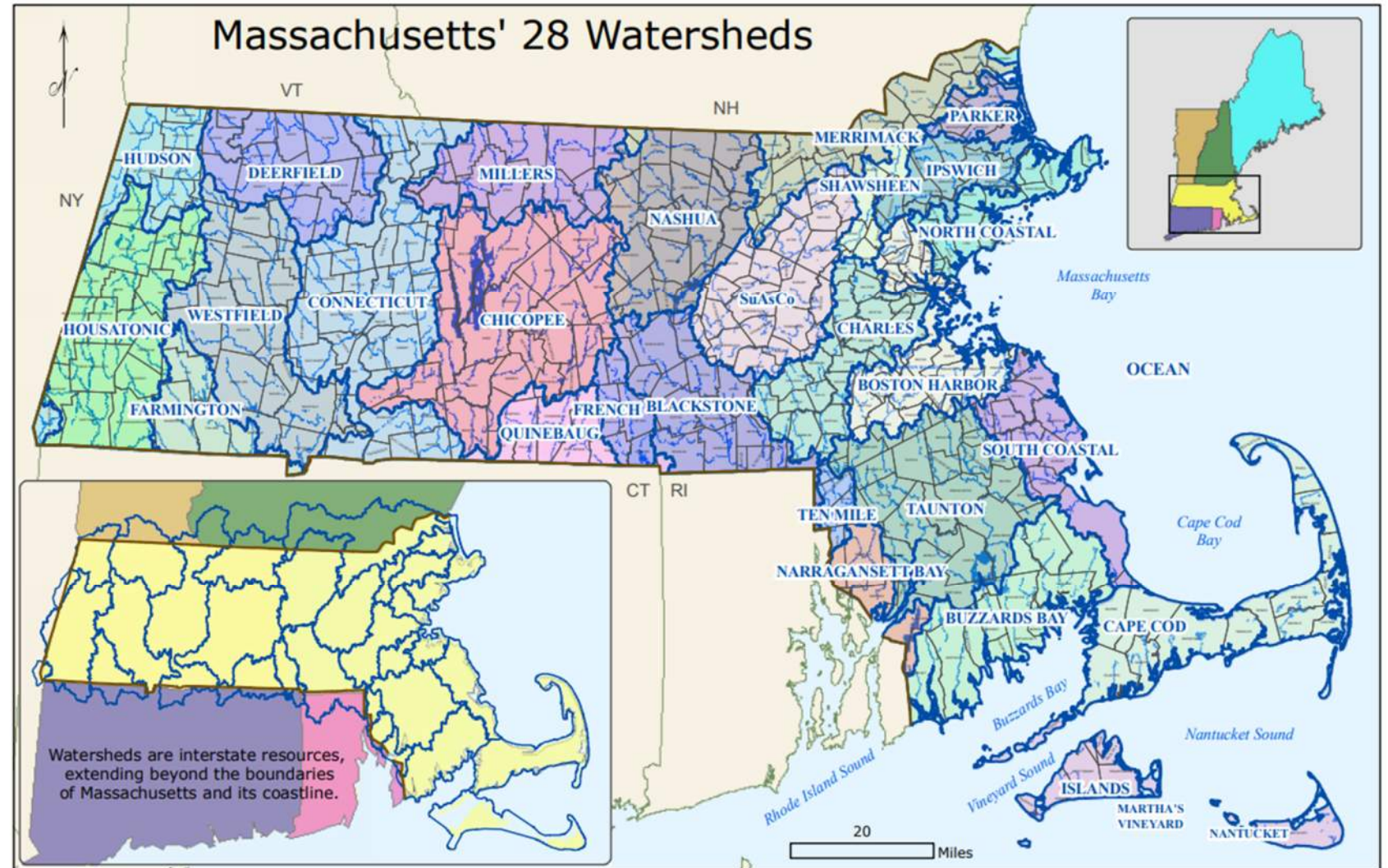


What is the process?



WRC Process for Interbasin Transfer Act (ITA)

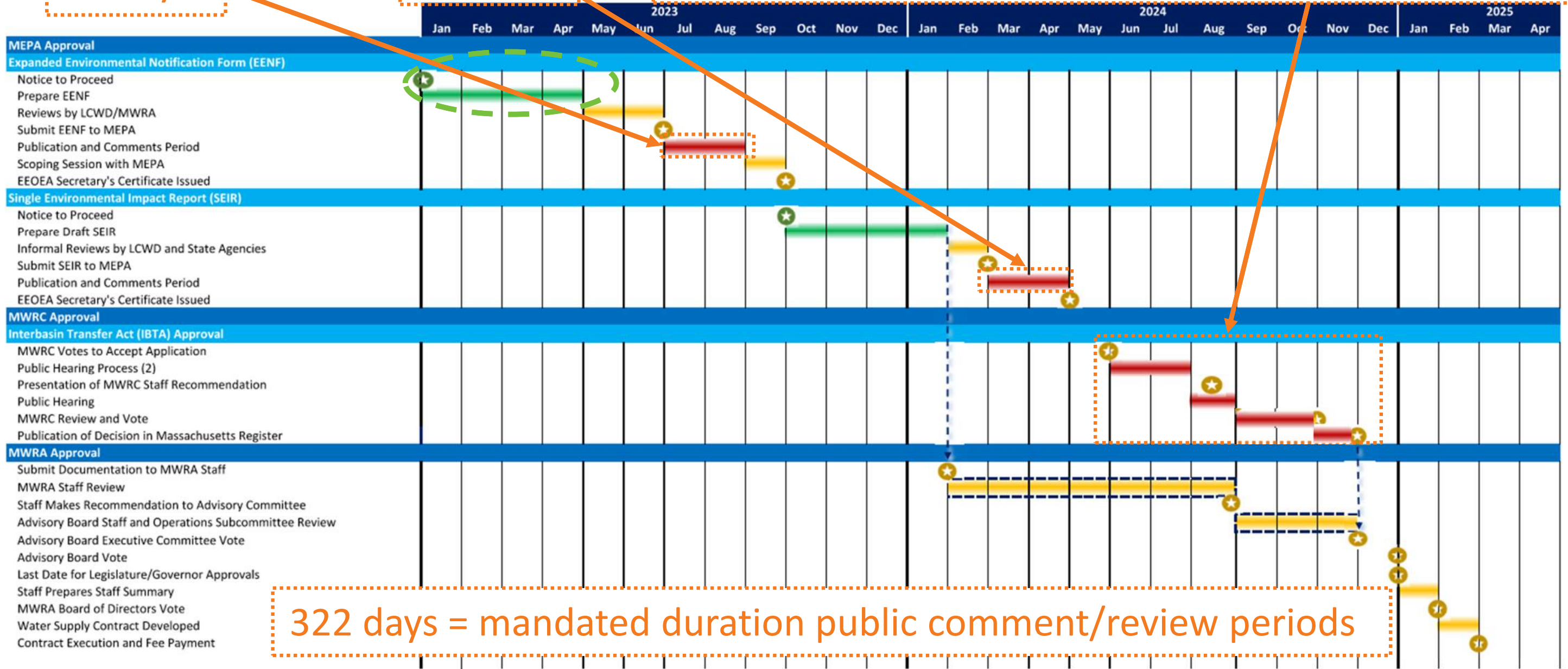
- ✓ Determination of Applicability
- **MEPA**
- **Expanded Environmental Notification Form (EENF)**
- **Single Environmental Impact Report (SEIR)**
- SEIR as Application to WRC for ITA
- WRC Hearings
- WRC Approval for ITA



60 days

60 days

60 days + 16-31 days + 14-21 days + 60 days + 30 days



322 days = mandated duration public comment/review periods

Assumptions

1. LCWD and MWRA reviews of draft documents will be simultaneous.
2. EEOEA and MWRC will not require additional studies during their reviews.
3. LCWD meets all water system performance standards in 2022.
4. No wastewater system evaluations are needed.

Notes

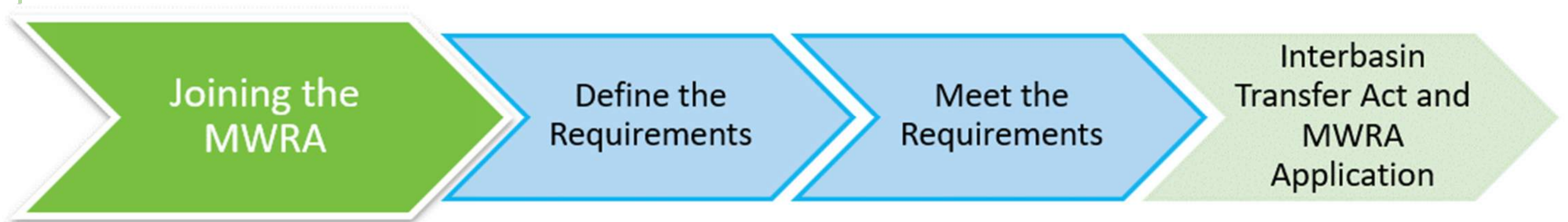
1. With the submittal of an Expanded Environmental Notification Form (EENF) the EIR will be a Single EIR (SEIR).
2. The SEIR constitutes the application for MWRC and MWRA approvals.
3. The SEIR preparation may be shorter or longer depending on the results of the MEPA scoping session.

Legend

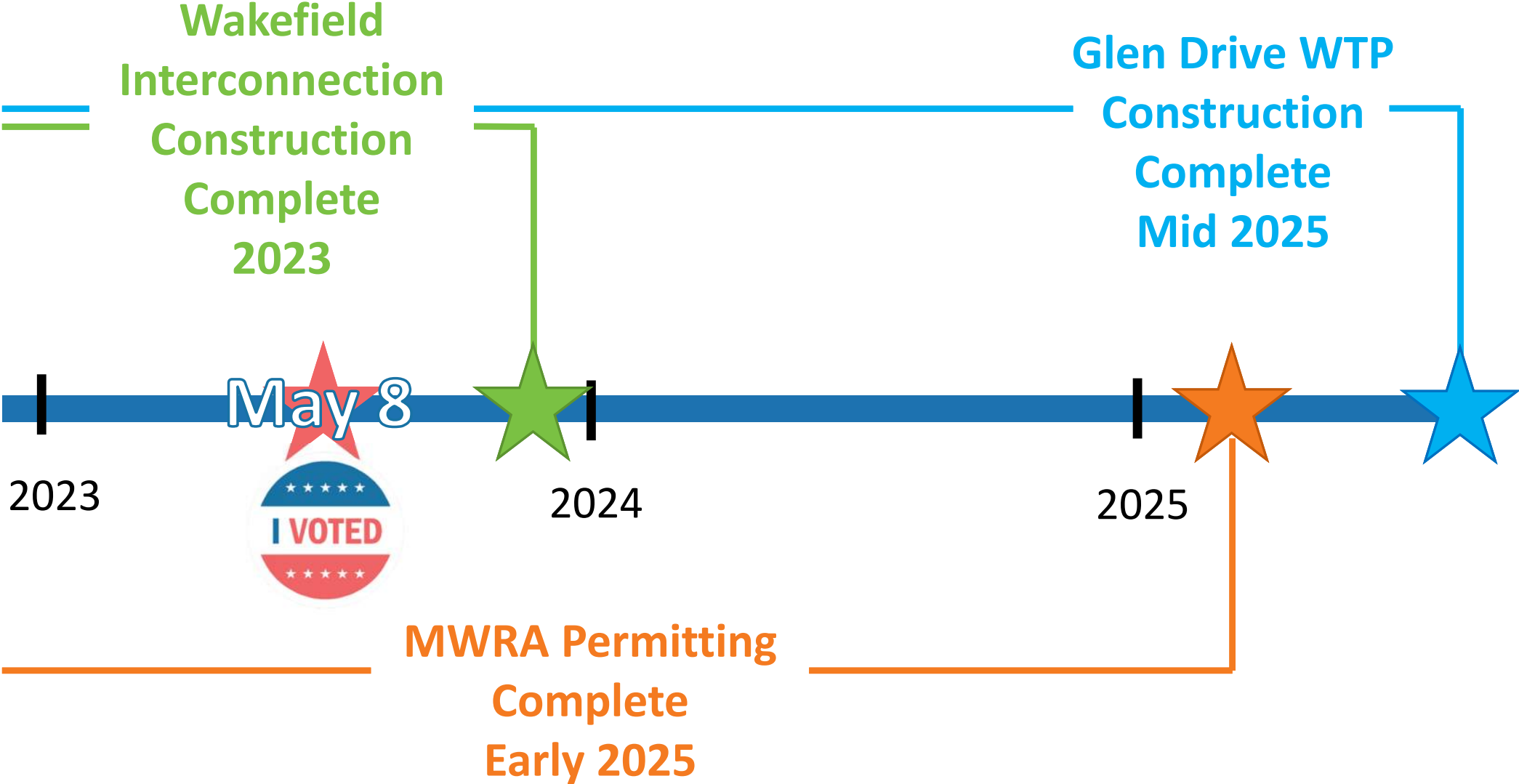
- LCWD-led Task
- Task with State Agency
- Comment period - Incompressible timeline
- Key Milestone

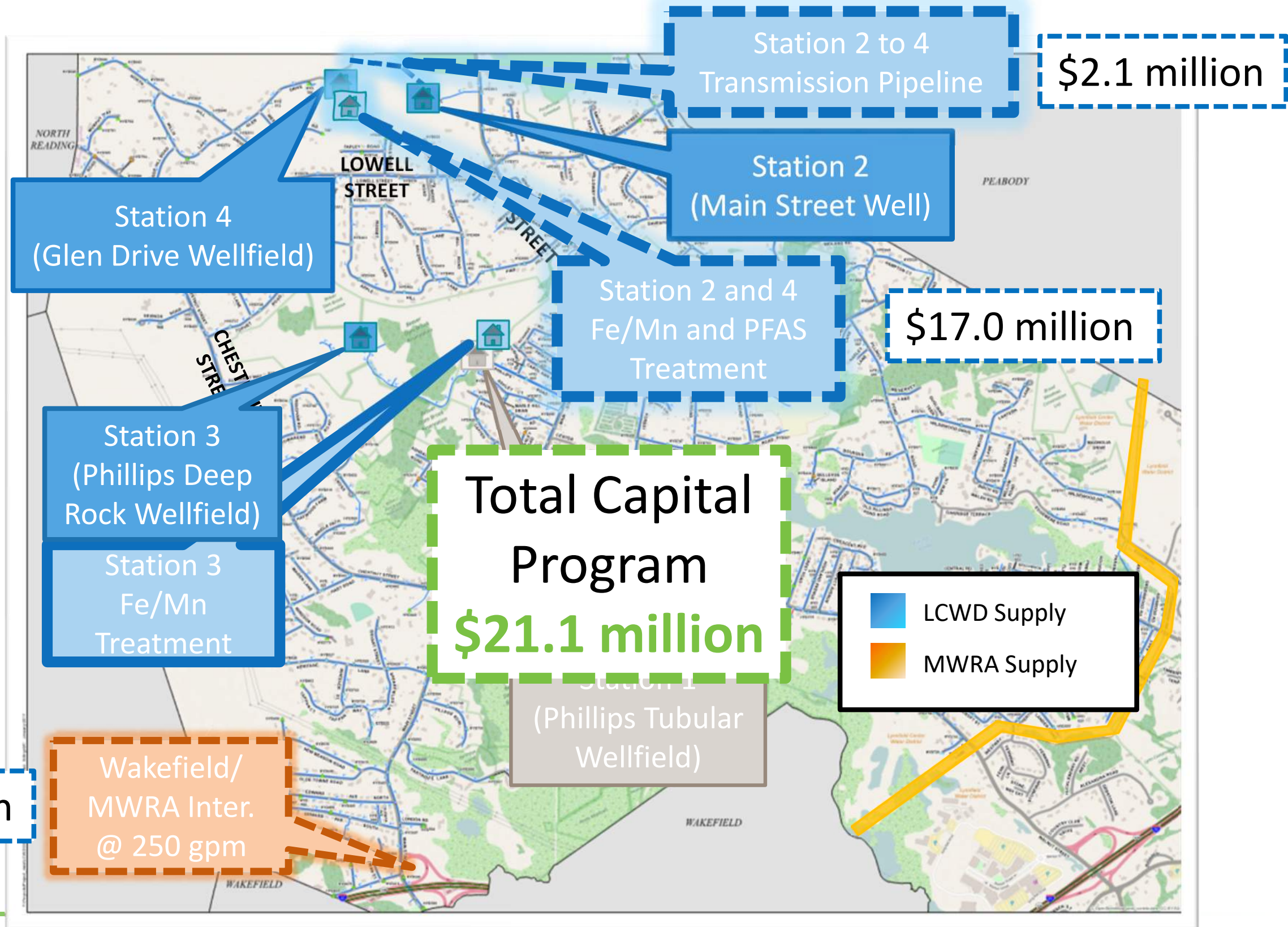
MWRA Admission

- EENF to be submitted end of June 2023
- Review by MEPA and public comments inform the SEIR
- SEIR to begin October 2023



Capital Program Schedule





Special District Meeting – May 8th

- Adding PFAS to the Capital Program mix
- What are you voting on?
 - Addressing PFAS for Station 2 and Station 4, as funded by the SRF
 - Local appropriation required by SRF by June 30, 2023
 - Vote for approval to borrow up to \$17 million for the Glen Drive WTP project

