



Rising Up: A Design-Build Reservoir

October 9, 2024

Outline

- Alternate delivery methods
- Pasco's storage needs
- Progressive design build decisions
- Preliminary design and agency coordination
- Construction



Alternate Delivery Methods

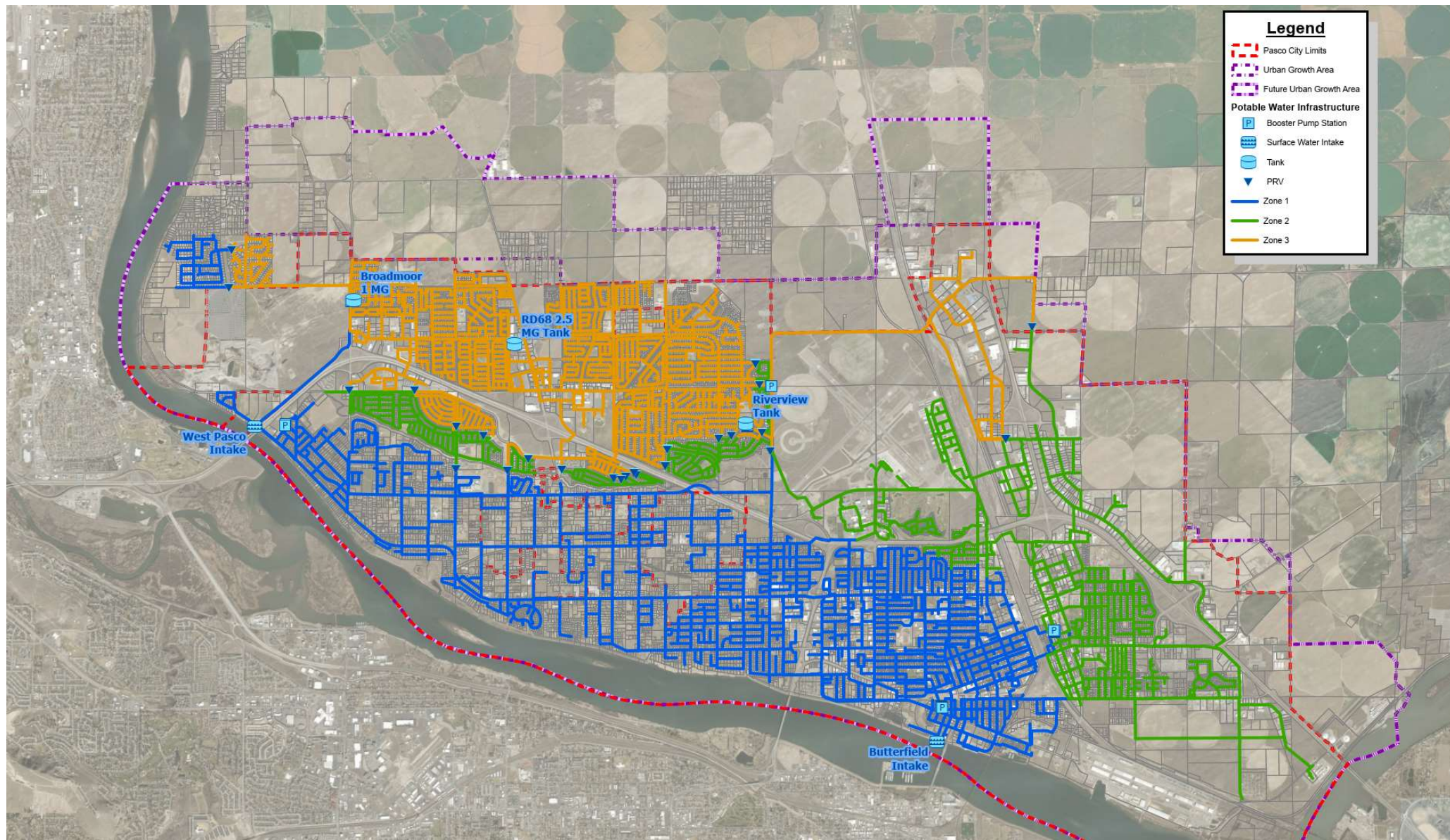
- Design-Bid-Build (DBB)
- Design Build (DB)
- Progressive Design Build (PDB)
- Construction Manager/General Contractor (CM/GC)

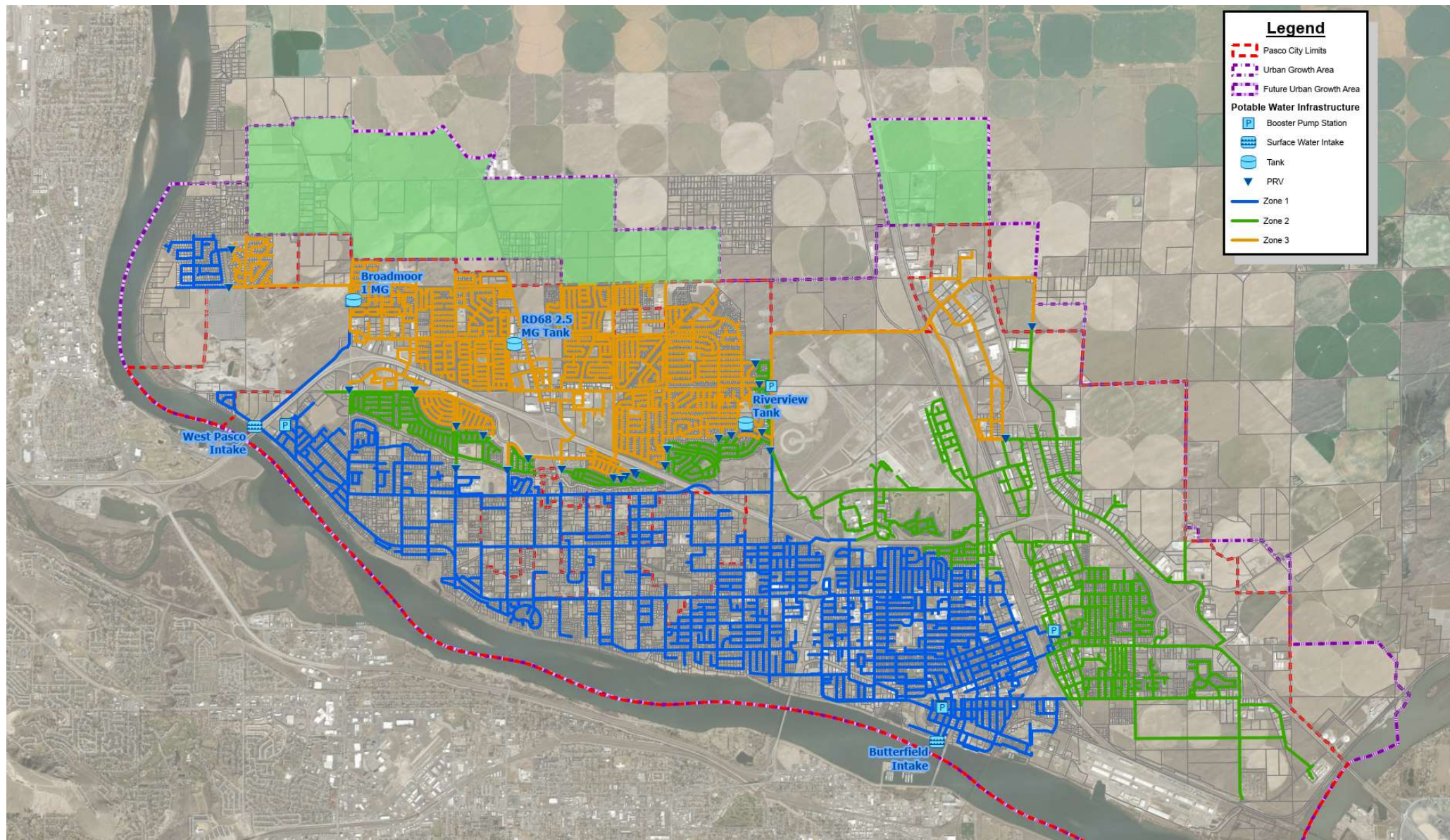


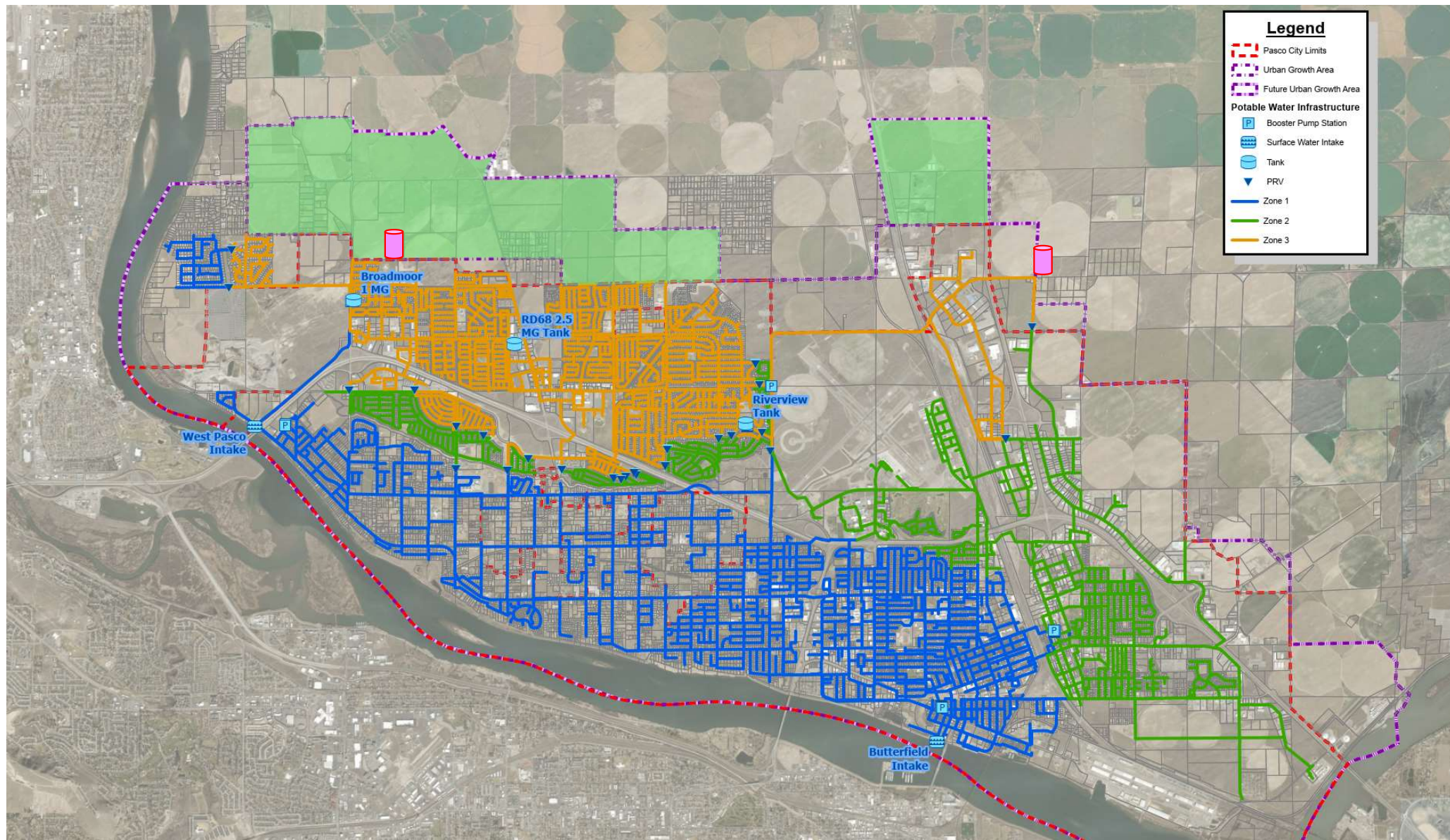
Pasco's Storage Needs

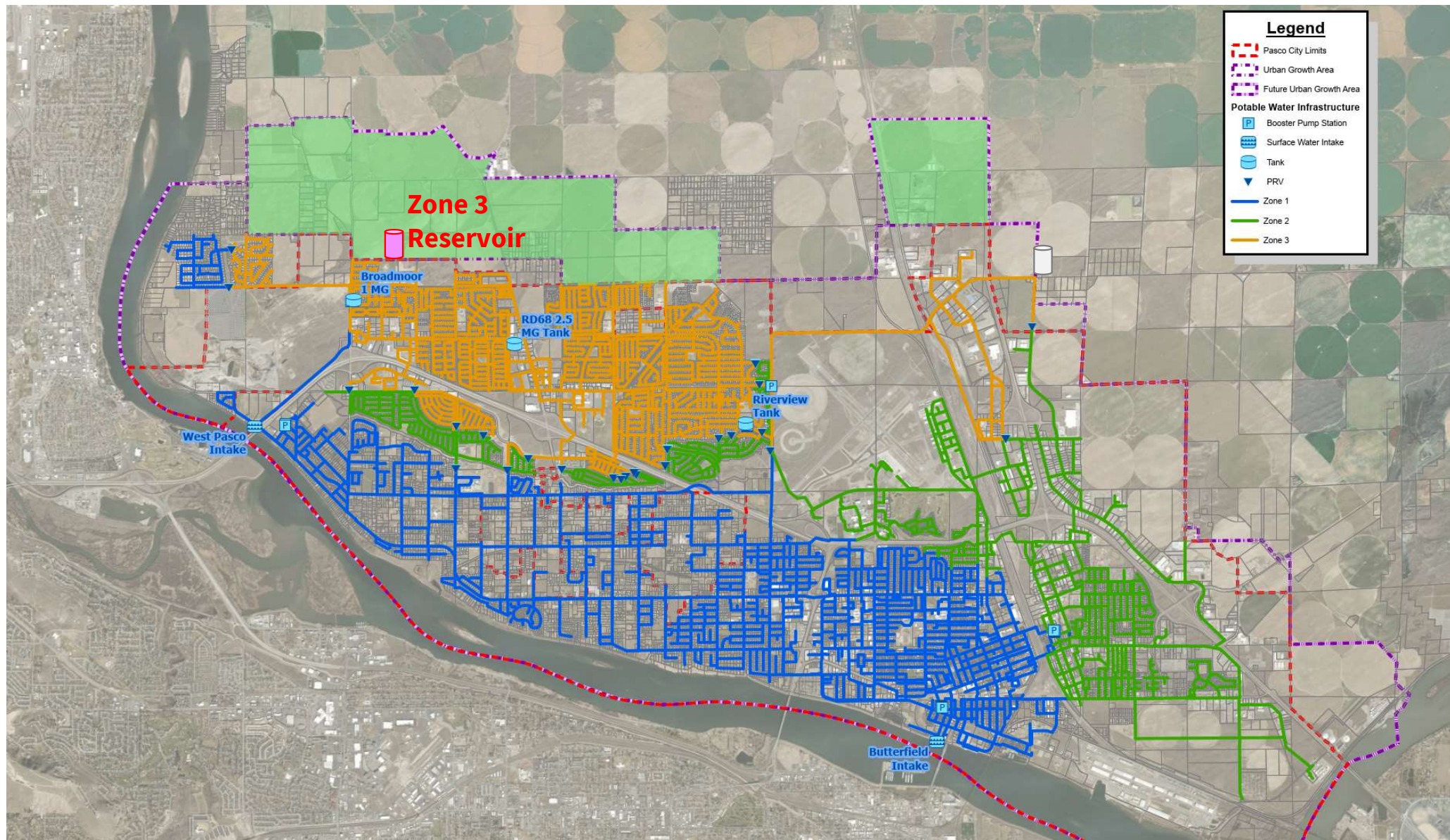
- WSP identified two new reservoirs
- Rapid growth since 2010
- UGA expansion began in 2019 to provide land to support 50,000 additional people by 2038.
- New industries coming to Pasco
- Early 2021 evaluation identified:
 - 3.5 MG near-term storage
 - 3 to 4 MG additional future storage











Project Delivery Decisions

- Accelerated schedule (15-month minimum construction duration)
- Steel market



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<https://tradingeconomics.com/commodity/steel>

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- In June 2021, City issued a **Progressive Design Build** RFQ



PDB Team Selection

- RFQ published in June 2021
- SOQ's evaluated and top 3 teams identified
- Proposals and interviews in September 2021
- PDB team selected in October 2021
- Contract award in November 2021



Initial Contract (November 2021)

- Alternative analysis for storage style and location
- Basis of design report with recommendation
- Geotech investigation and cultural survey
- 60% design of the proposed alternative
- Project Report and construction document submittal to DOH
- SEPA and conditional use permit with City
- Development and negotiation of the GMP



Workshop and Alternatives Evaluation

- City solidified reservoir site
- Workshop scheduled immediately after contract awarded

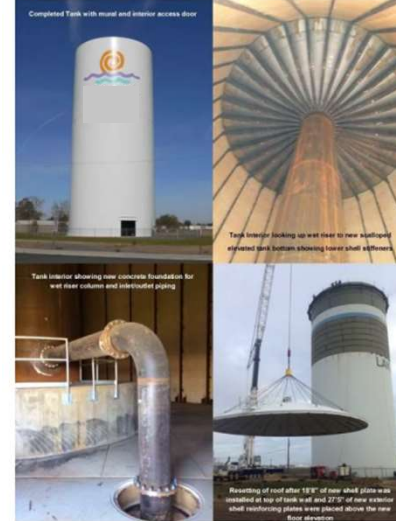
Standpipe



Composite



Skirted Standpipe



Ground-level Pumped



Description	Alternatives			
	1 Composite Tank	2 Standpipe	3 Skirted Standpipe	4 Ground Level Tank with BPS
Weighted Criteria Descriptions				
Net Cost	Net Cost Exceeds \$1.5M more than Lowest Cost	Net Cost Exceeds \$1.5M more than Lowest Cost	Net Cost is the Lowest	Net Cost is within \$1.5M of Lowest Cost
Reliability and Redundancy	Minor Improvement to System Reliability and Redundancy	Significantly Improves System Reliability and Redundancy	Minor Improvement to System Reliability and Redundancy	No Improvement or Adverse Effect to System Reliability and Redundancy
Impacts to System Hydraulics	Proposed Improvements Greatly Enhance System Hydraulics	Proposed Improvements Greatly Enhance System Hydraulics	Proposed Improvements Greatly Enhance System Hydraulics	Impact to System Hydraulics is Negligible
Water Quality and Residence Time	Minimal Impact to Water Quality and Residence Time	Adverse Impact to Water Quality and Residence Time	Minimal Impact to Water Quality and Residence Time	Minimal Impact to Water Quality and Residence Time
Regulatory Approval	Low Permitting Efforts and Regulatory Agency Coordination Anticipated	Low Permitting Efforts and Regulatory Agency Coordination Anticipated	Medium Permitting Efforts and Regulatory Agency Coordination Anticipated	Extensive Permitting Efforts and Regulatory Agency Coordination Anticipated
Neighborhood or Adjacent Property Impacts	Neighborhood Permanently Impacted by Proposed Improvements	Neighborhood Permanently Impacted by Proposed Improvements	Neighborhood Permanently Impacted by Proposed Improvements	Neighborhood Not Impacted by Proposed Improvements
Criteria Points				
Net Cost	1	1	3	2
Reliability and Redundancy	2	3	2	1
Impacts to System Hydraulics	3	3	3	2
Water Quality and Residence Time	2	1	2	2
Regulatory Approval	3	3	2	1
Neighborhood or Adjacent Property Impacts	1	1	1	3
Weighted Points				
Net Cost	5	5	15	10
Reliability and Redundancy	8	12	8	4
Impacts to System Hydraulics	9	9	9	6
Water Quality and Residence Time	6	3	6	6
Regulatory Approval	6	6	4	2
Neighborhood or Adjacent Property Impacts	2	2	2	6
Totals	36	37	44	34

Agency Coordination

- DOH
 - November 2021 meeting to discuss expectations and procedures
- Franklin County
 - December 2021 meeting to discuss expectations and procedures
- Cultural Evaluations
 - Desktop evaluation and EZ-1 finished in January 2022
 - Field investigations in February 2022
 - Submittal to DAHP in March 2022; approvals delayed until early May 2022



Agency Coordination (continued)

- FAA
 - Application filed in May 2022
- City
 - SEPA application filed June 2022
 - Special Use Permit filed June 2022
 - Grading permit filed July 2022
 - Building permit filed August 2022



Reports and Preliminary Design

- February 2022 Submittals
 - Basis of Design Report
 - Project Report
 - 30% design plans

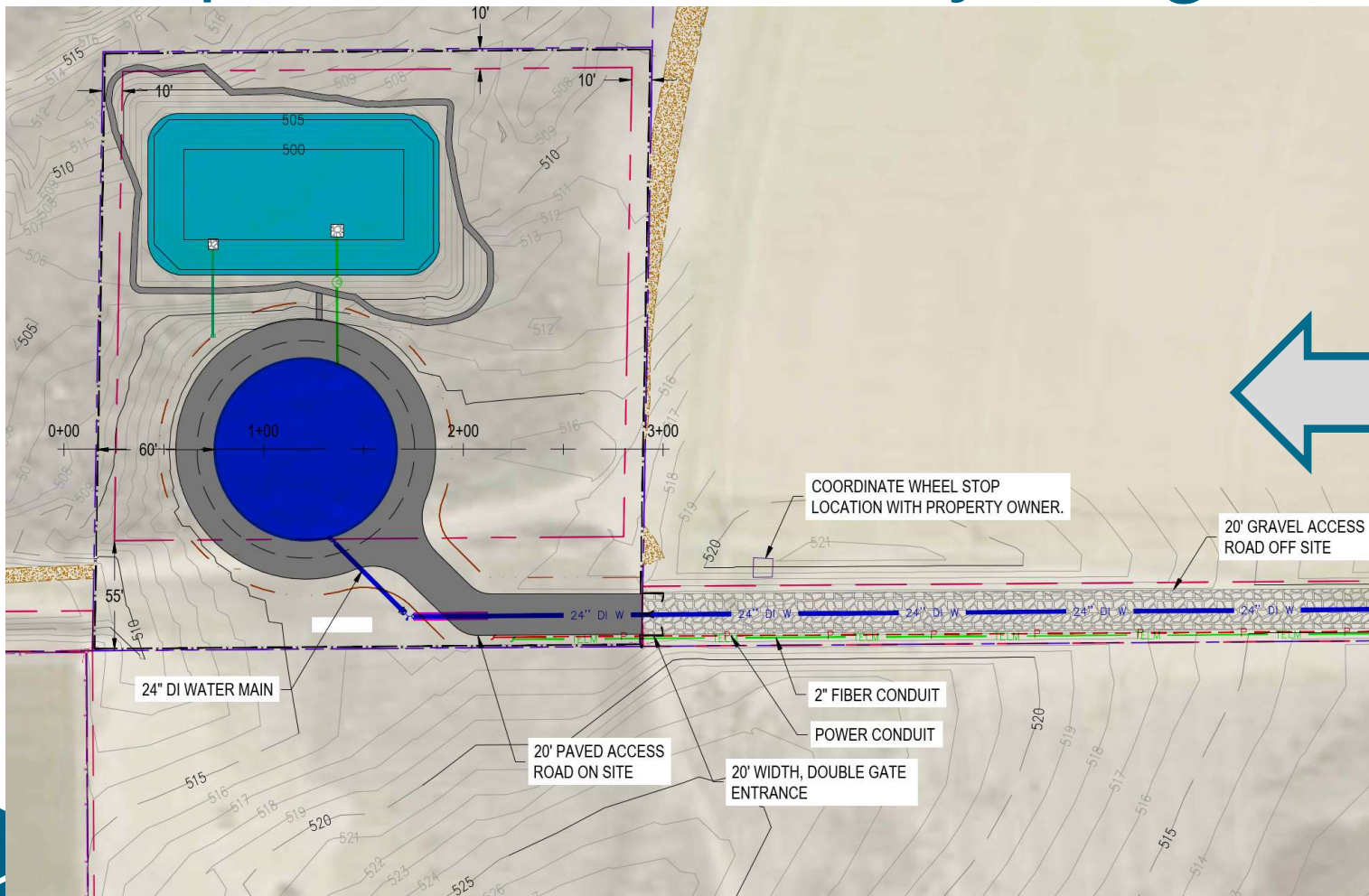


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Reports and Preliminary Design



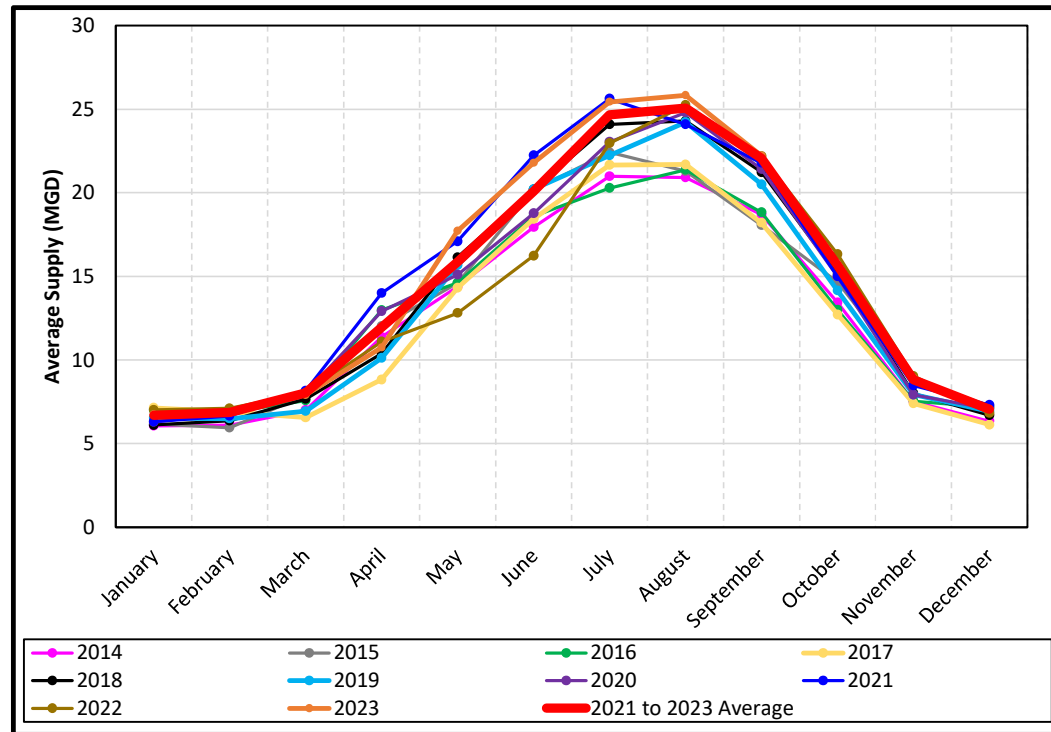
Schedule Update

• ~~Summer 2023~~ → Fall 2023



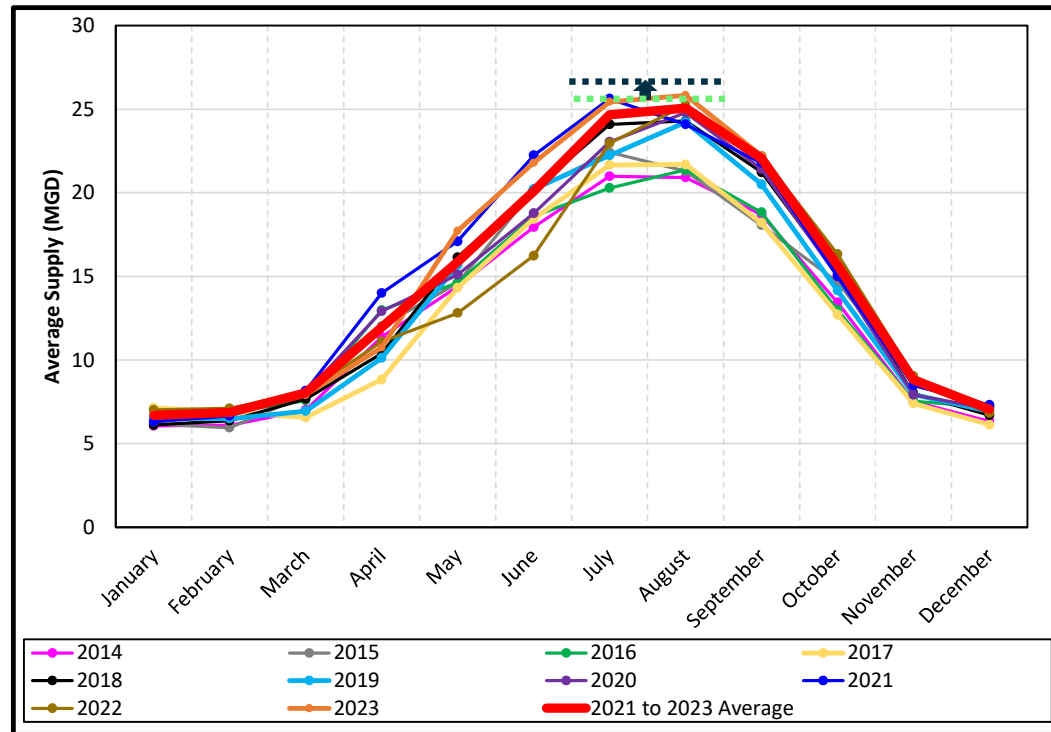
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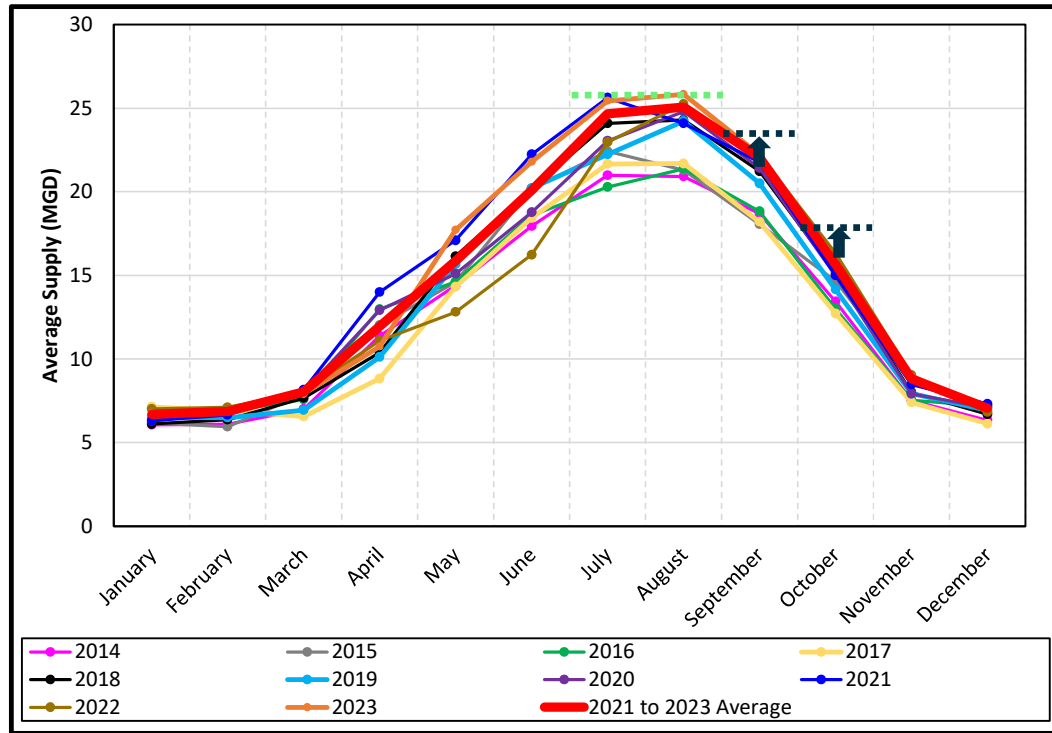
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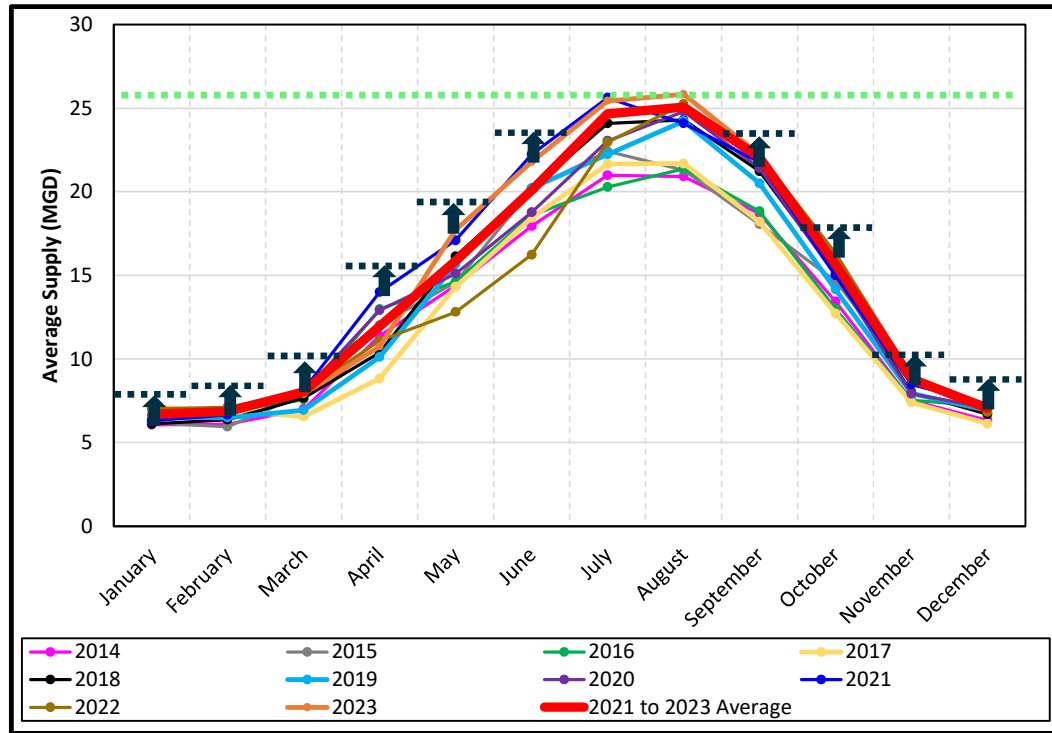
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Schedule Update

• ~~Summer 2023~~ → ~~Fall 2023~~ → Spring 2024

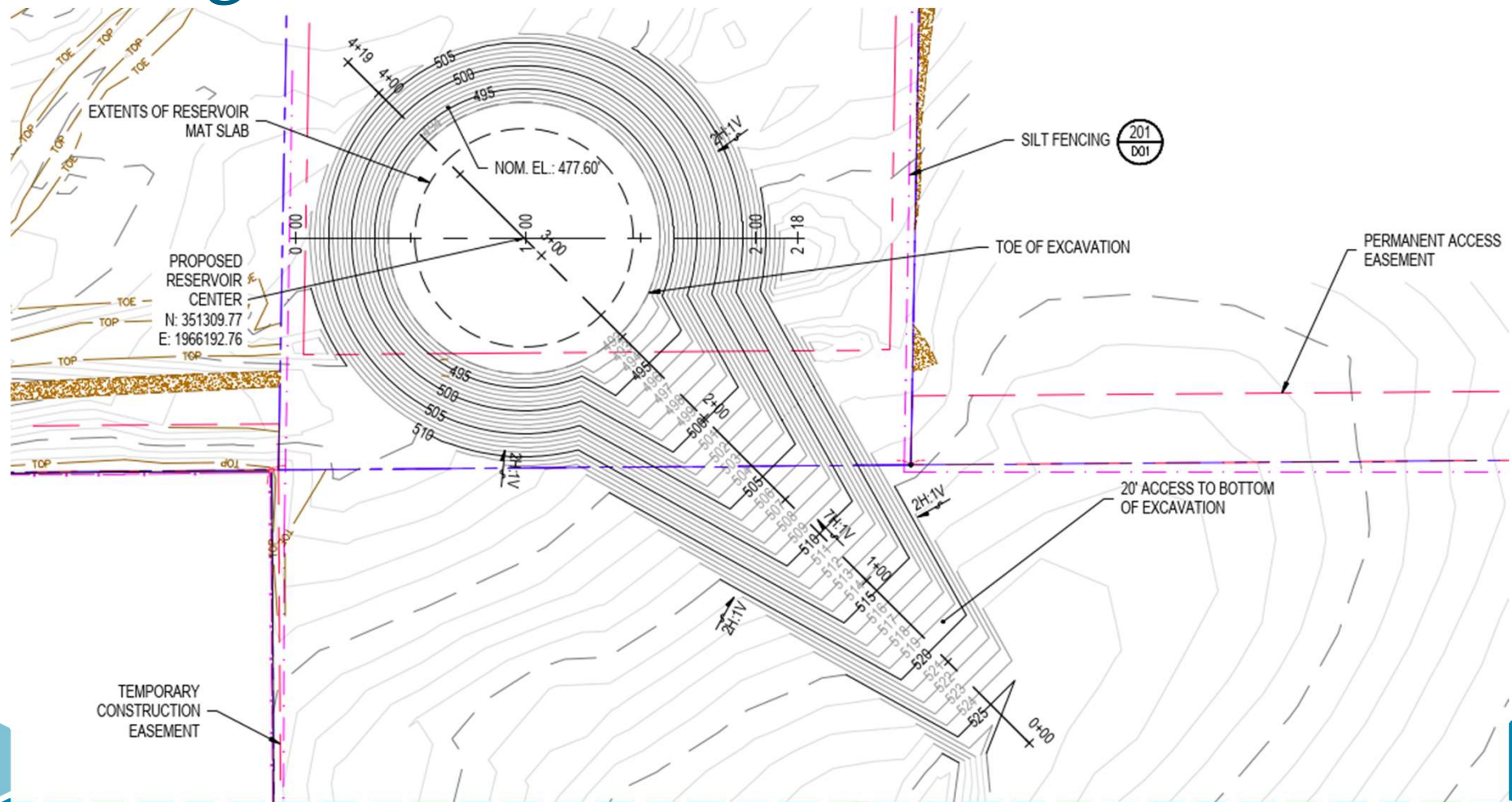


Geologic Evaluation

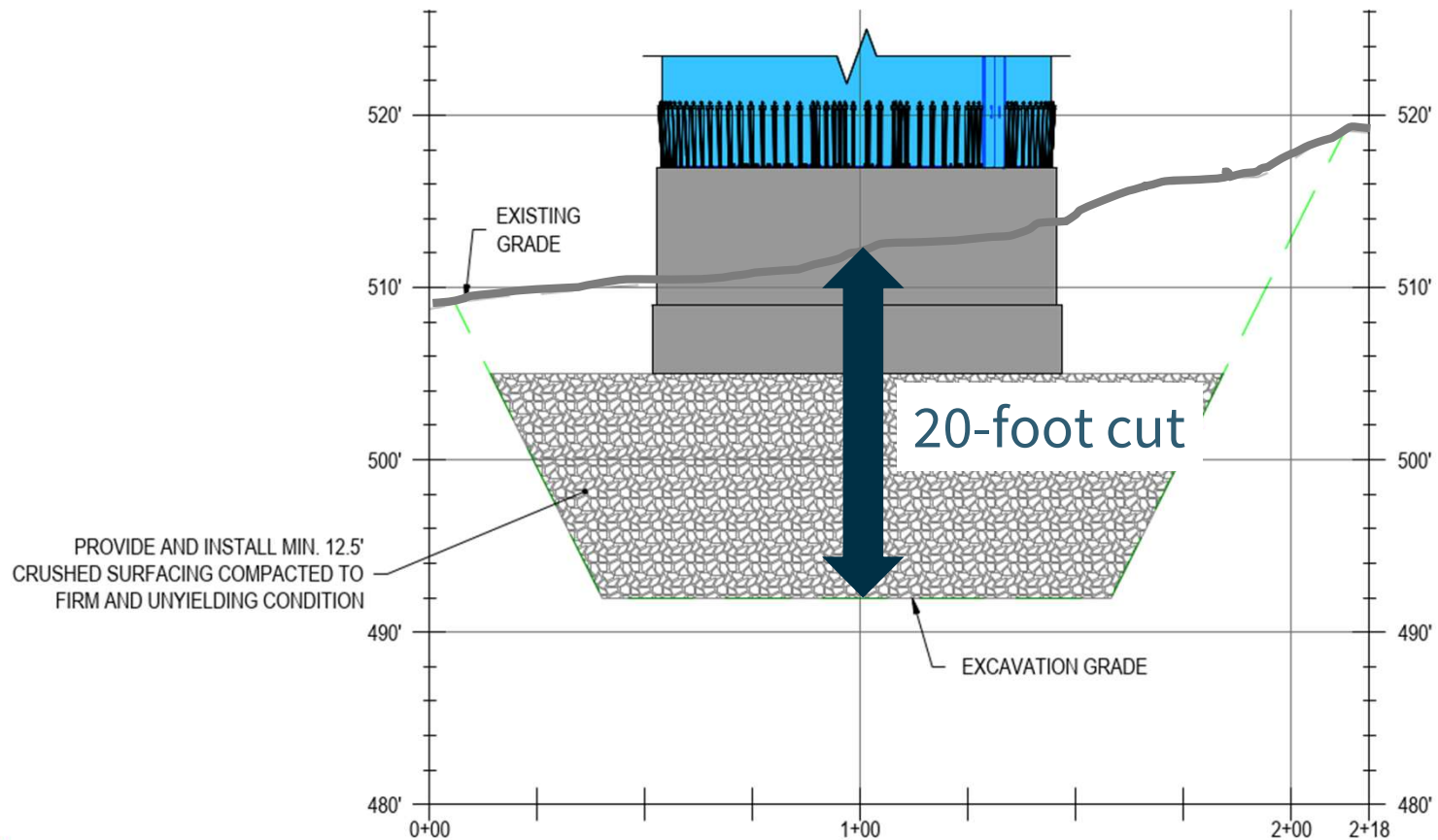
- Preliminary design assumed 25 to 30-foot excavation
- May 2022 borings indicated 20-foot excavation



Geologic Evaluation



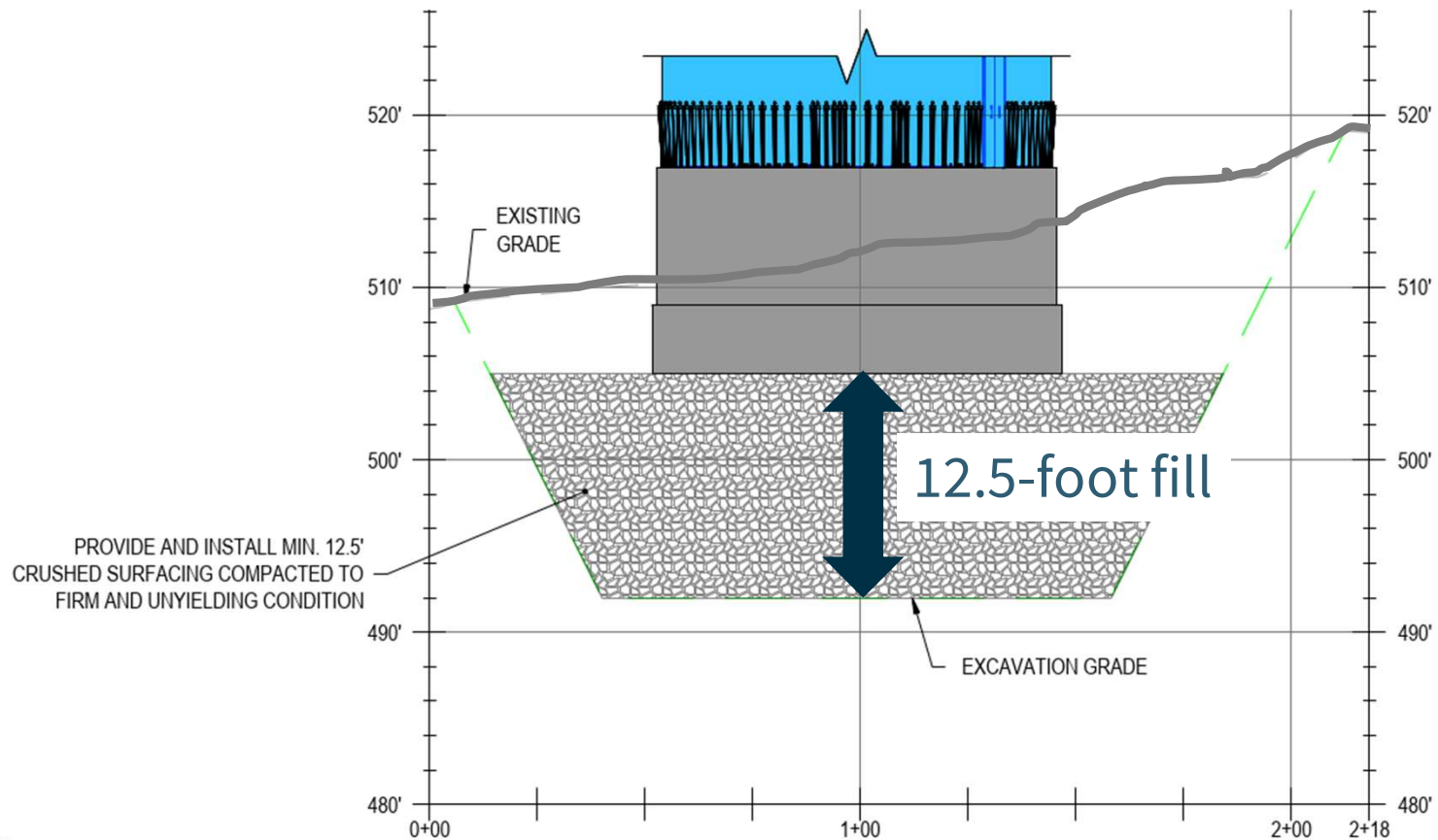
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EXCAVATION SECTION - RESERVOIR

H: 1" = 20'; V: 1" = 5'

Geologic Evaluation



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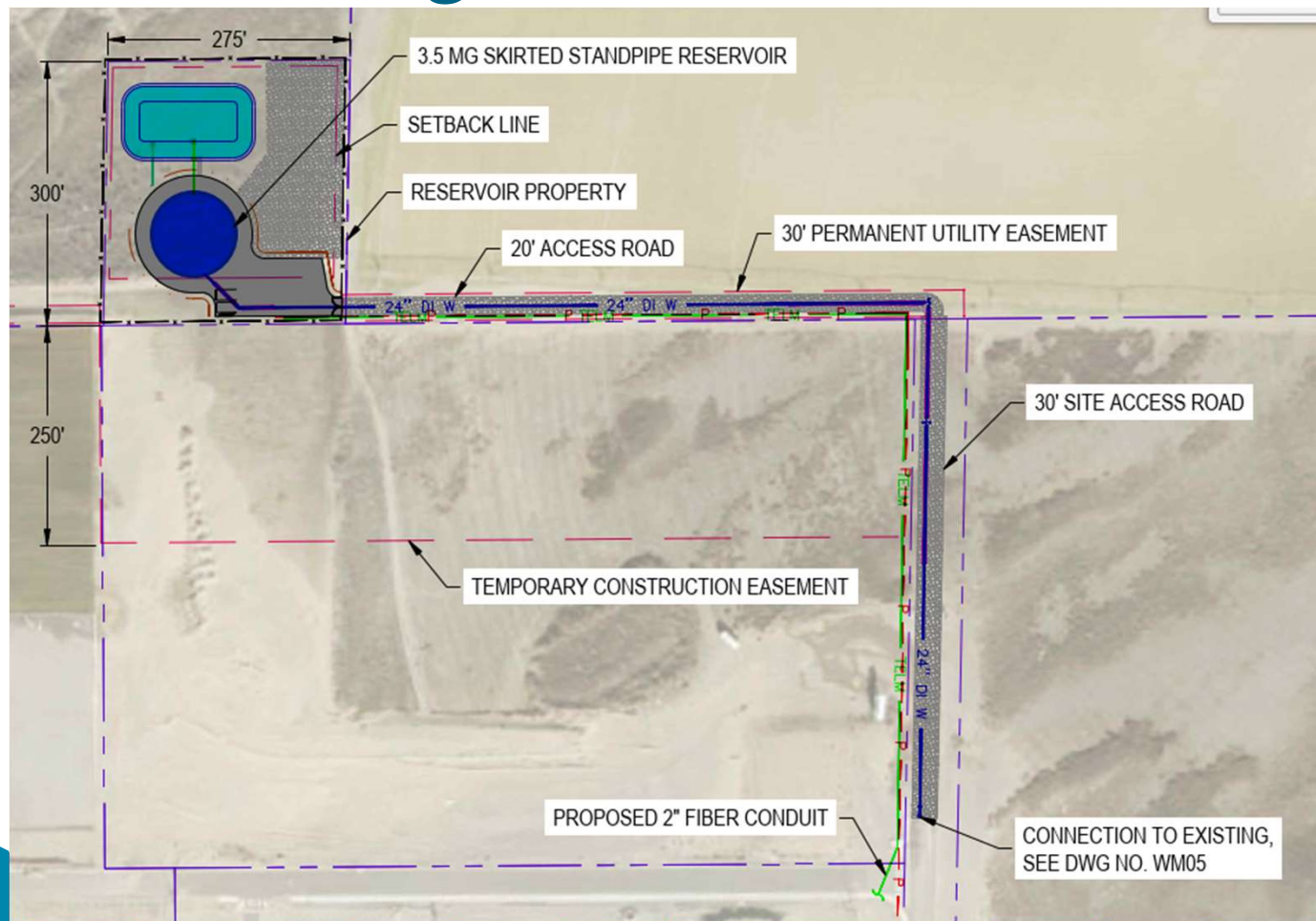
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Mechanical Design

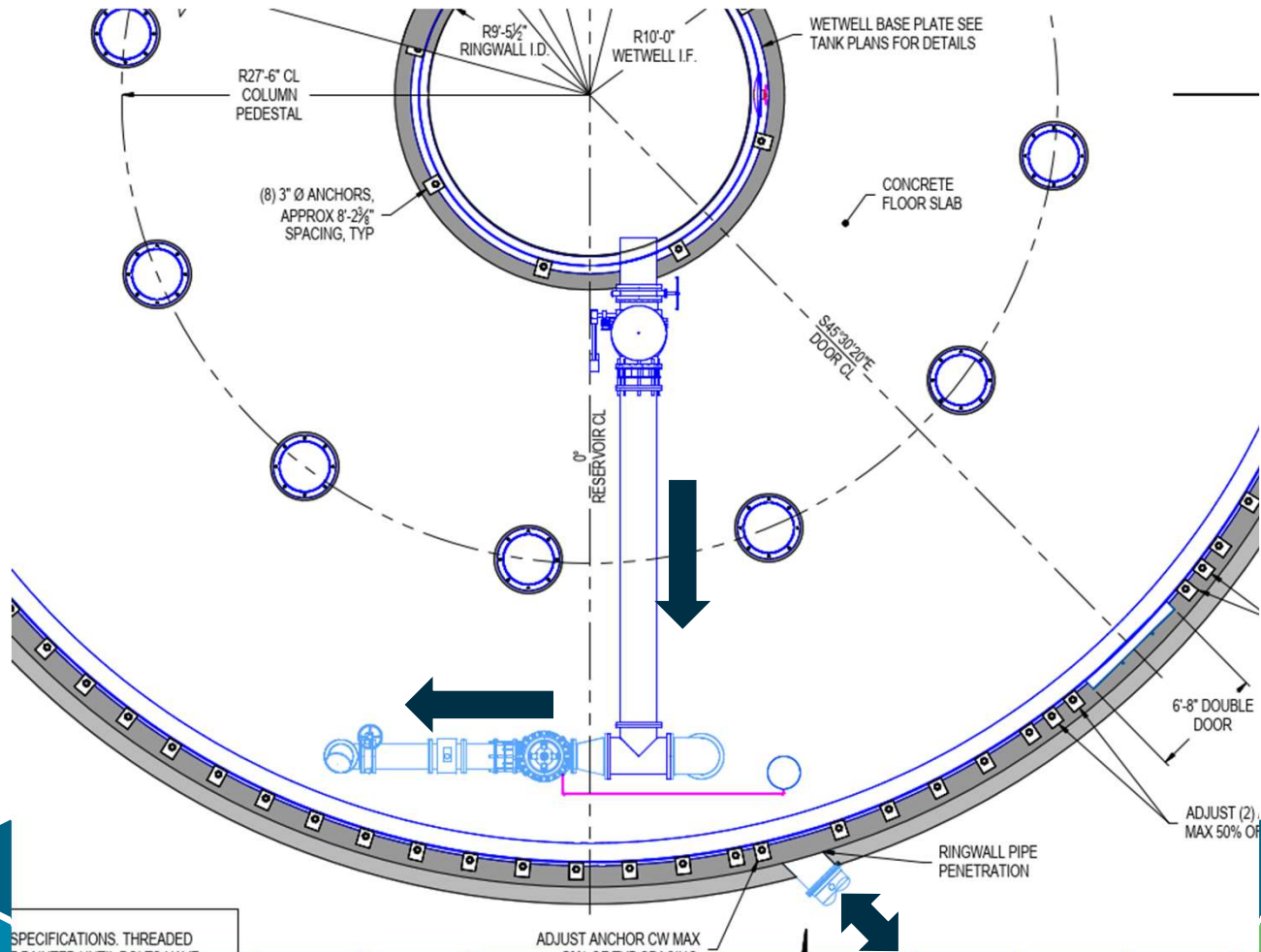
- 1,400 LF 24-inch DI
- Site piping and fittings
- Valving and fittings inside tank
- Ringwall penetrations



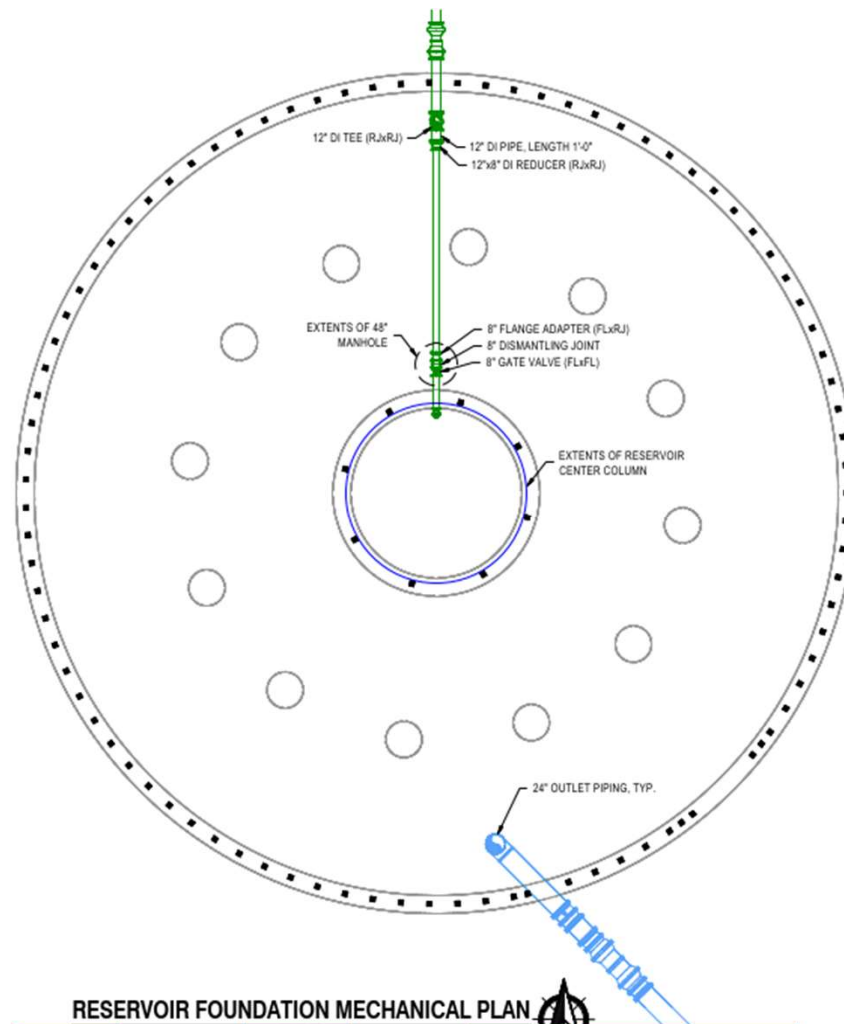
Mechanical Design



Mechanical Design



Mechanical Design



Mechanical Design

DUE TO CURRENT SUPPLY CHAIN DISRUPTIONS, MATERIALS ARE SUBJECT TO PRICING AT TIME OF SHIPMENT. MATERIAL AVAILABILITY AND TIMELINESS OF SHIPMENTS CANNOT BE GUARANTEED. THIS TERM SUPERSEDES ALL OTHER CONTRACTUAL PROVISIONS.

DUE TO ESCALATED PRICES ON SCRAP METAL, RESULTING FROM THE RUSSIA-UKRAINE WAR, A MANUFACTURER IMPOSED SURCHARGE WILL BE ADDED TO ALL SHIPMENTS OF DUCTILE IRON PIPE. AN ESTIMATE OF THE SURCHARGE IS INCLUDED IN THIS BID FOR YOUR REFERENCE. THE MANUFACTURER SURCHARGE IS SUBJECT TO CHANGE AND WILL BE CALCULATED AT THE TIME OF SHIPMENT.



Mechanical Design

- 1,400 LF 24-inch DI
- Site piping and fittings
- Valving and fittings inside tank
- Ringwall penetrations



Guaranteed Maximum Price

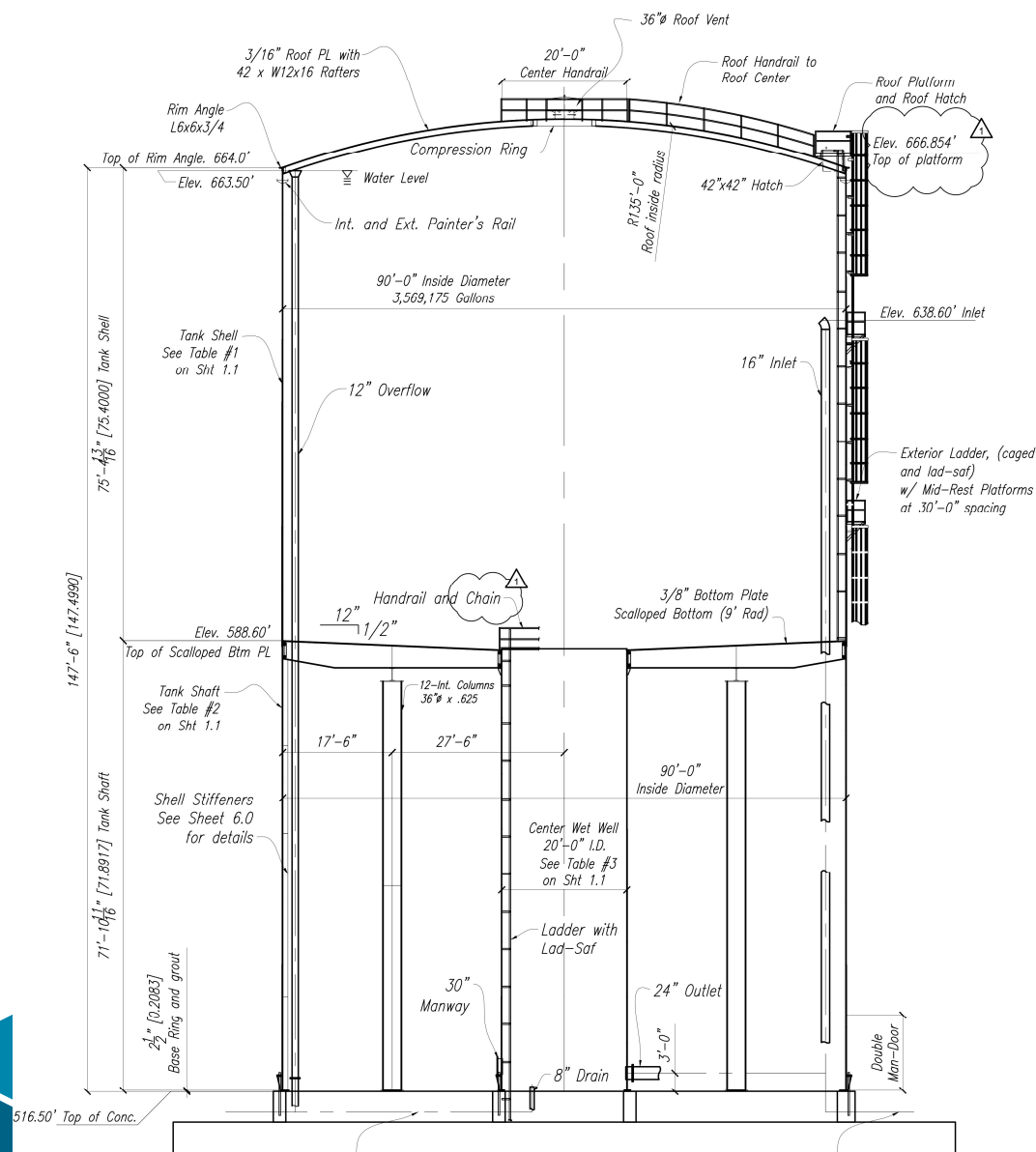
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- Independent estimator retained by the City's team to verify estimate
- August 2022: Quantity reconciliation
- September 8, 2022: GMP comparison meeting
- September 19, 2022: TBailey authorized for initial site and earthwork
- October 2022: GMP agreement drafted
- November 28, 2022: GMP approved at City Council meeting

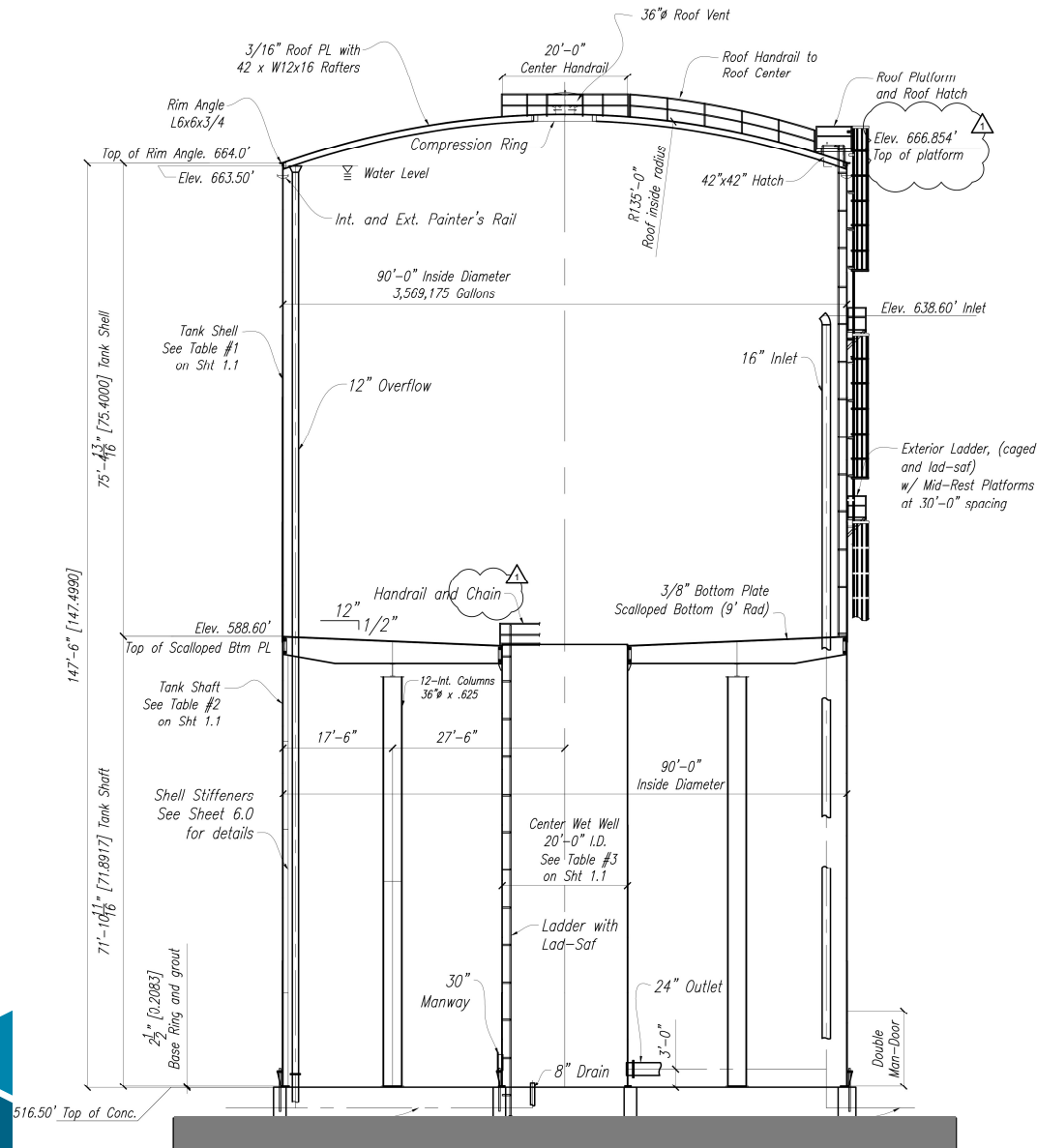


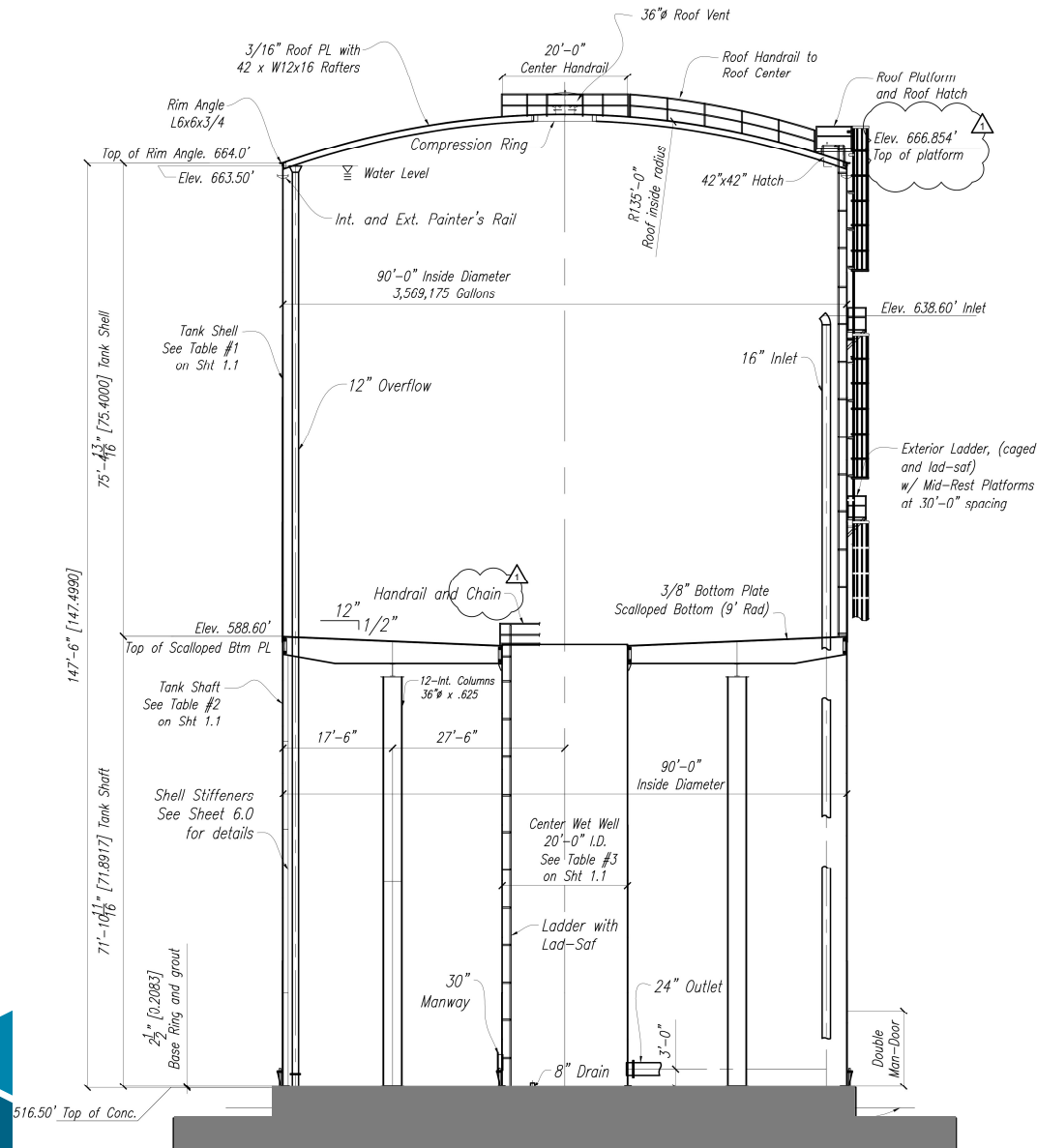
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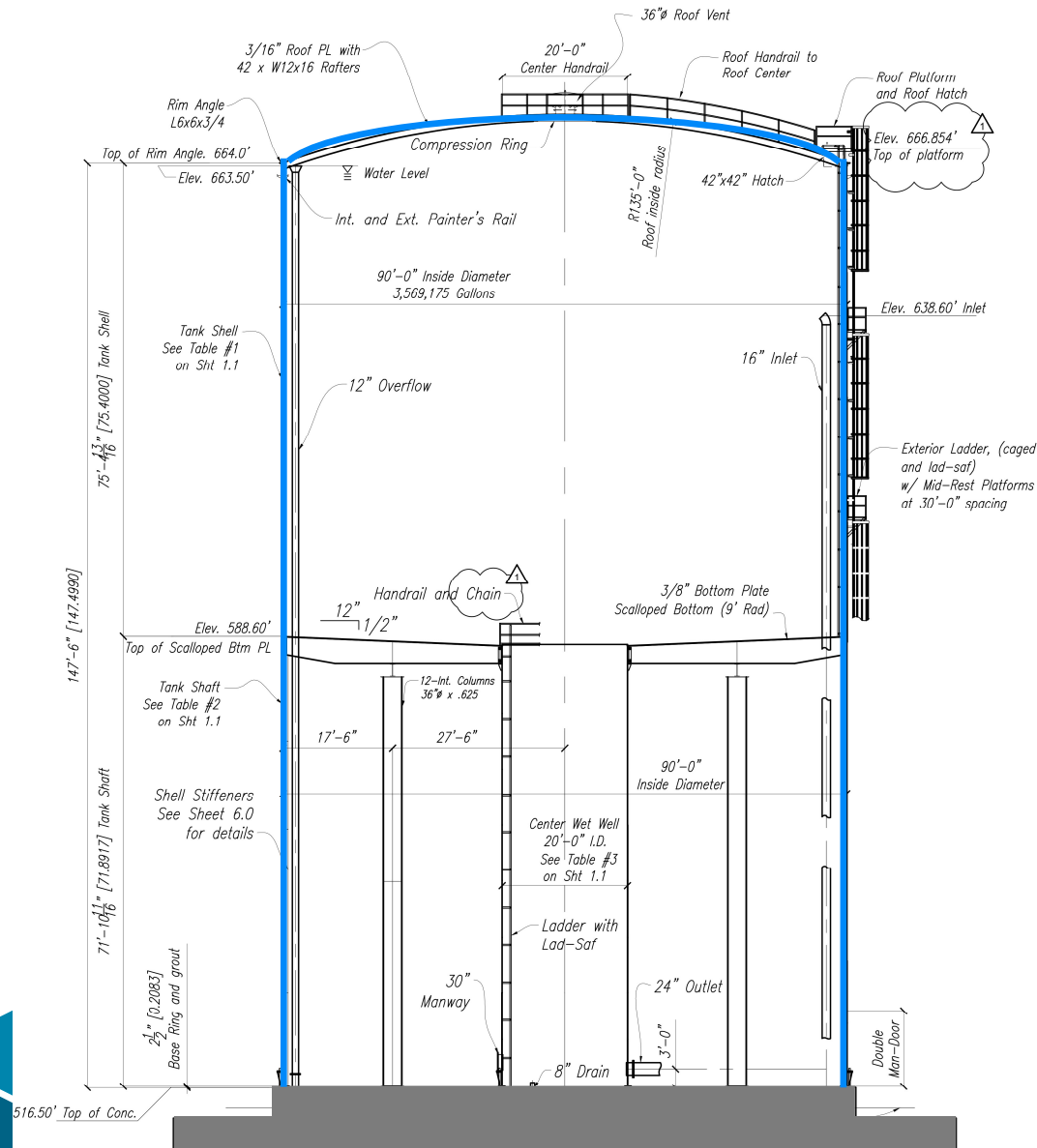
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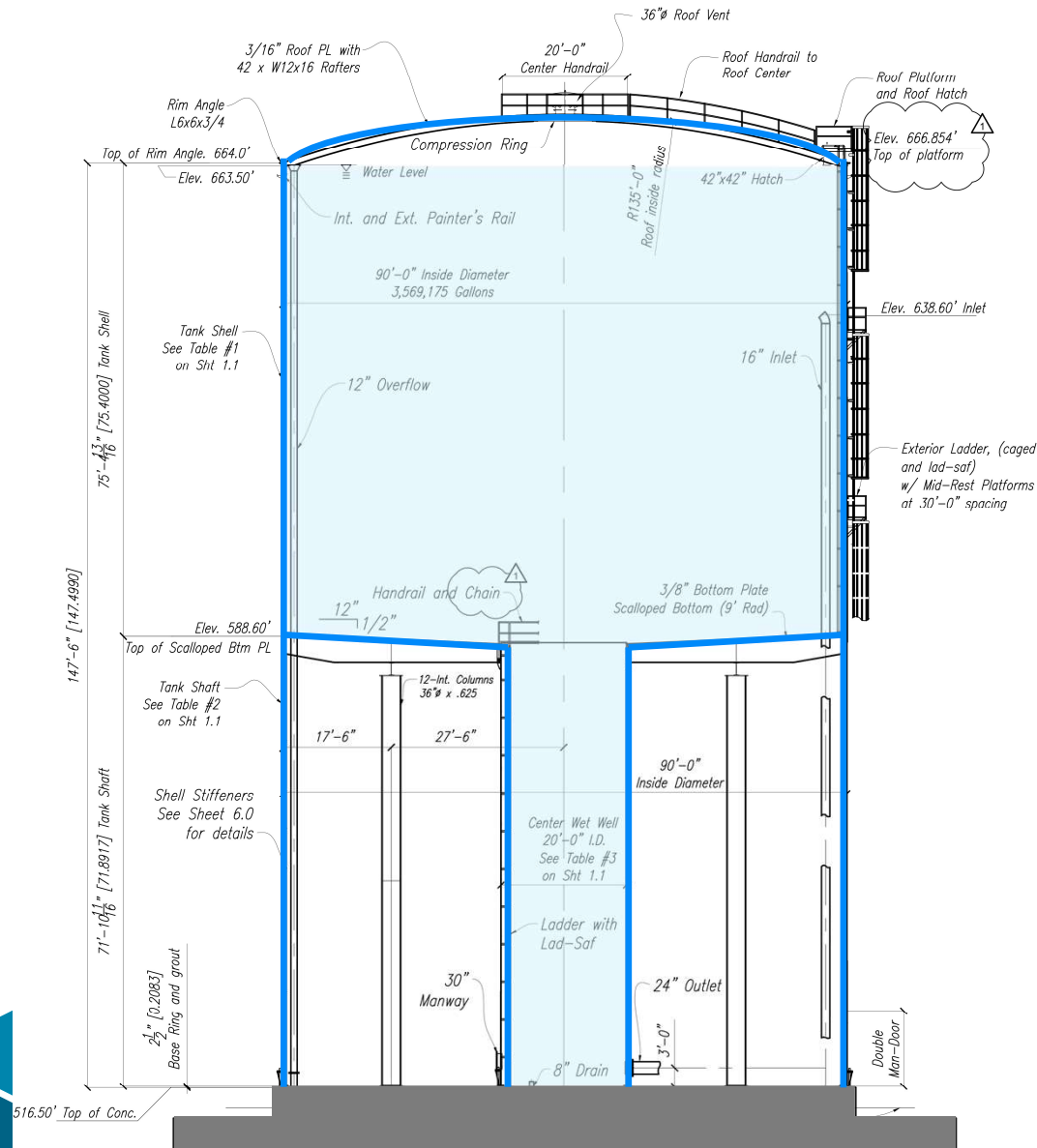


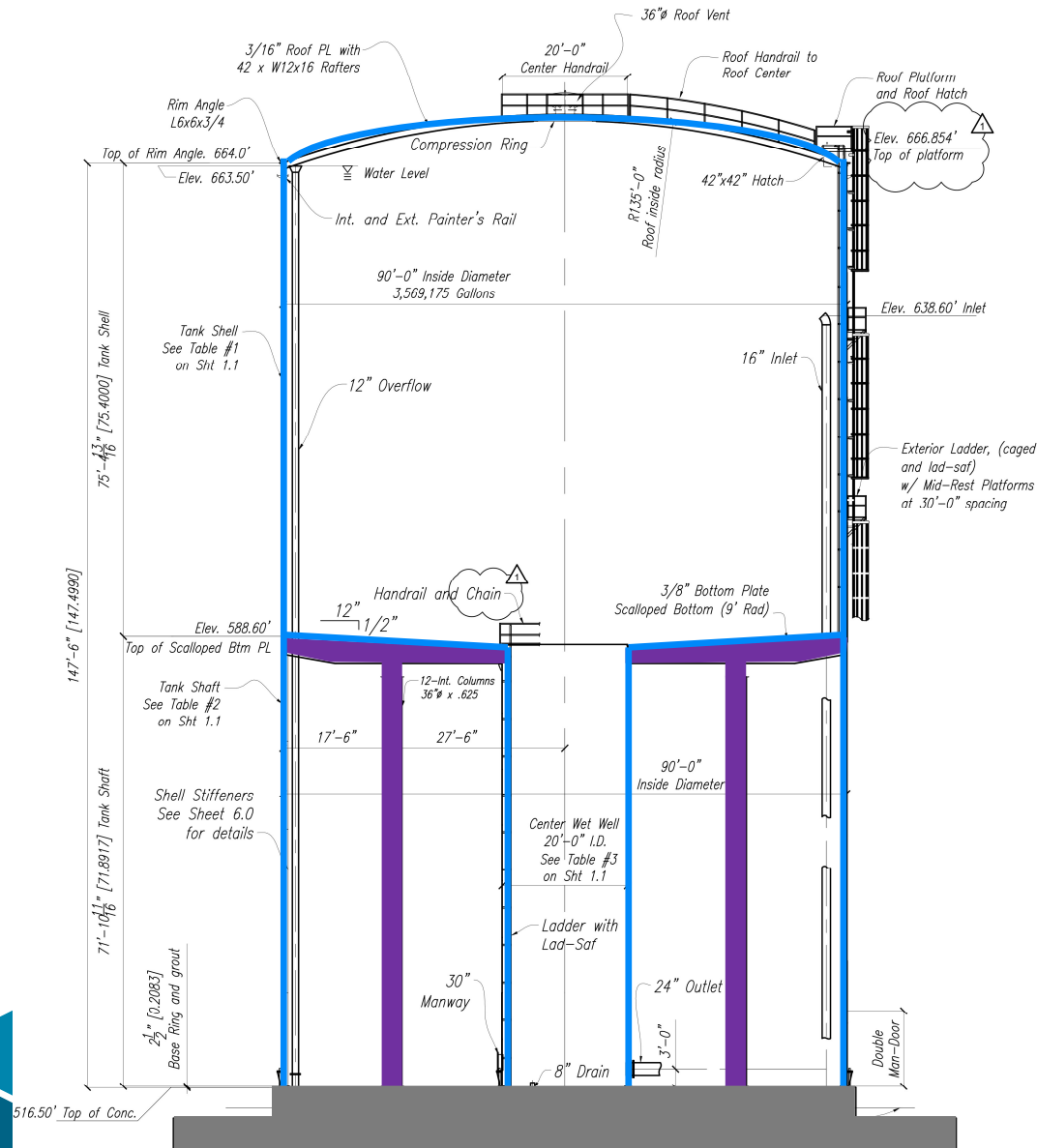












Construction Photos: Original Site



Construction Photos: Excavation



Construction Photos: Excavation



Construction Photos: Import Backfill



Construction Photos: Import Backfill



Construction Photos: Import Backfill



Construction Photos: Import Backfill



Construction Photos: Import Backfill



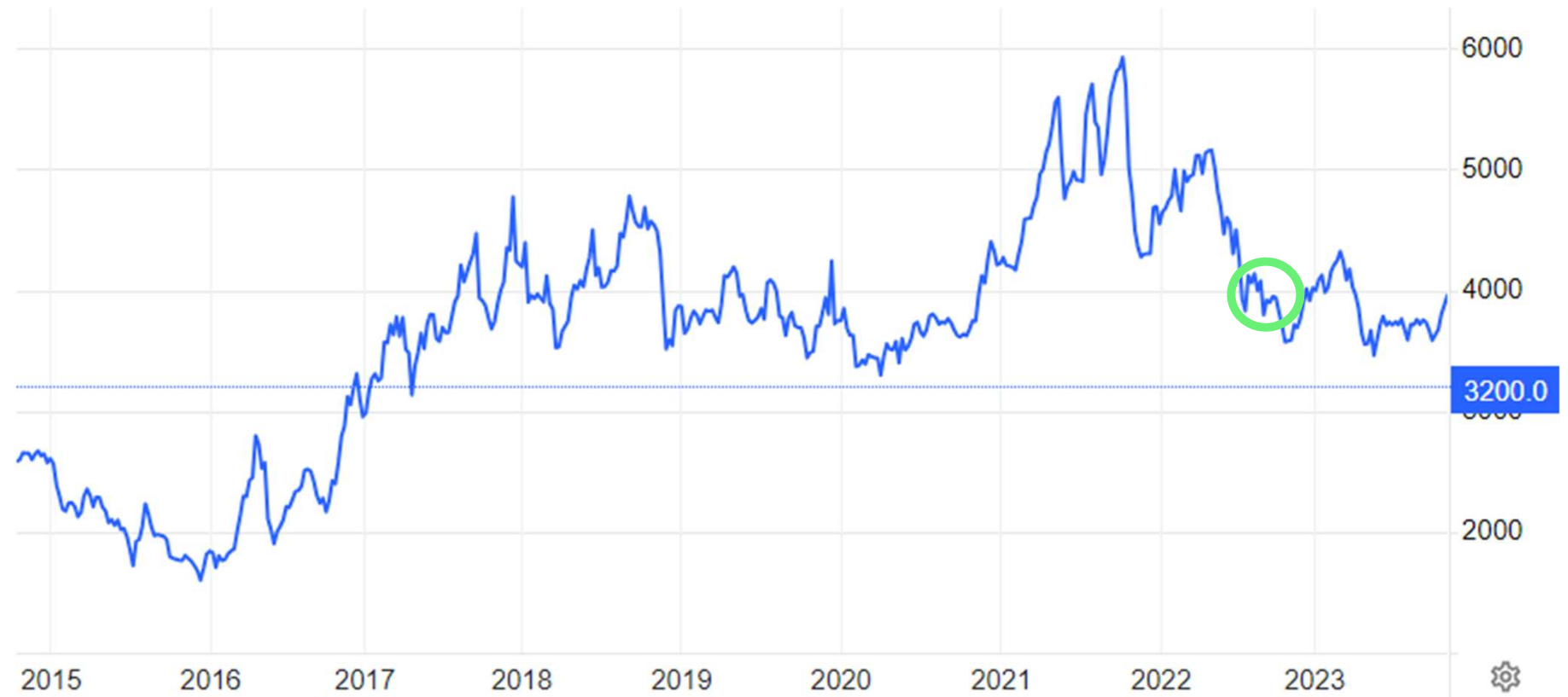
Construction Photos: Import Backfill



Construction Photos: Import Backfill



Steel Market



Construction Photos: Mat Slab Forming



Construction Photos



Tri-City Herald

WEATHER NEWS

More snow and freezing temps for Tri-Cities — just in time for a frigid, white Christmas



Tri-City Herald

WEATHER NEWS

More snow and freezing temps for Tri-Cities — just in time for a frigid, white Christmas

Tri-Citians should brace for another round of winter weather as snow and ice are expected to move into the area just in time for a cold, white Christmas.



Tri-City Herald

WEATHER NEWS

More snow and freezing temps for Tri-Cities — just in time for a frigid, white Christmas

Tri-Citians should brace for another round of winter weather as snow and ice are expected to move into the area just in time for a cold, white Christmas.

Temperatures hit zero degrees during the predawn hours Thursday in the Tri-Cities, according to the National Weather Service. The wind made it feel like it was minus 15.



Construction Photos: Mat Slab



Construction Photos: Mat Slab Pour



Construction Photos: Mat Slab Pour



Construction Photos: Mat Slab Pour



Construction Photos: Mat Slab Pour



Construction Photos: Ringwall and Penetration



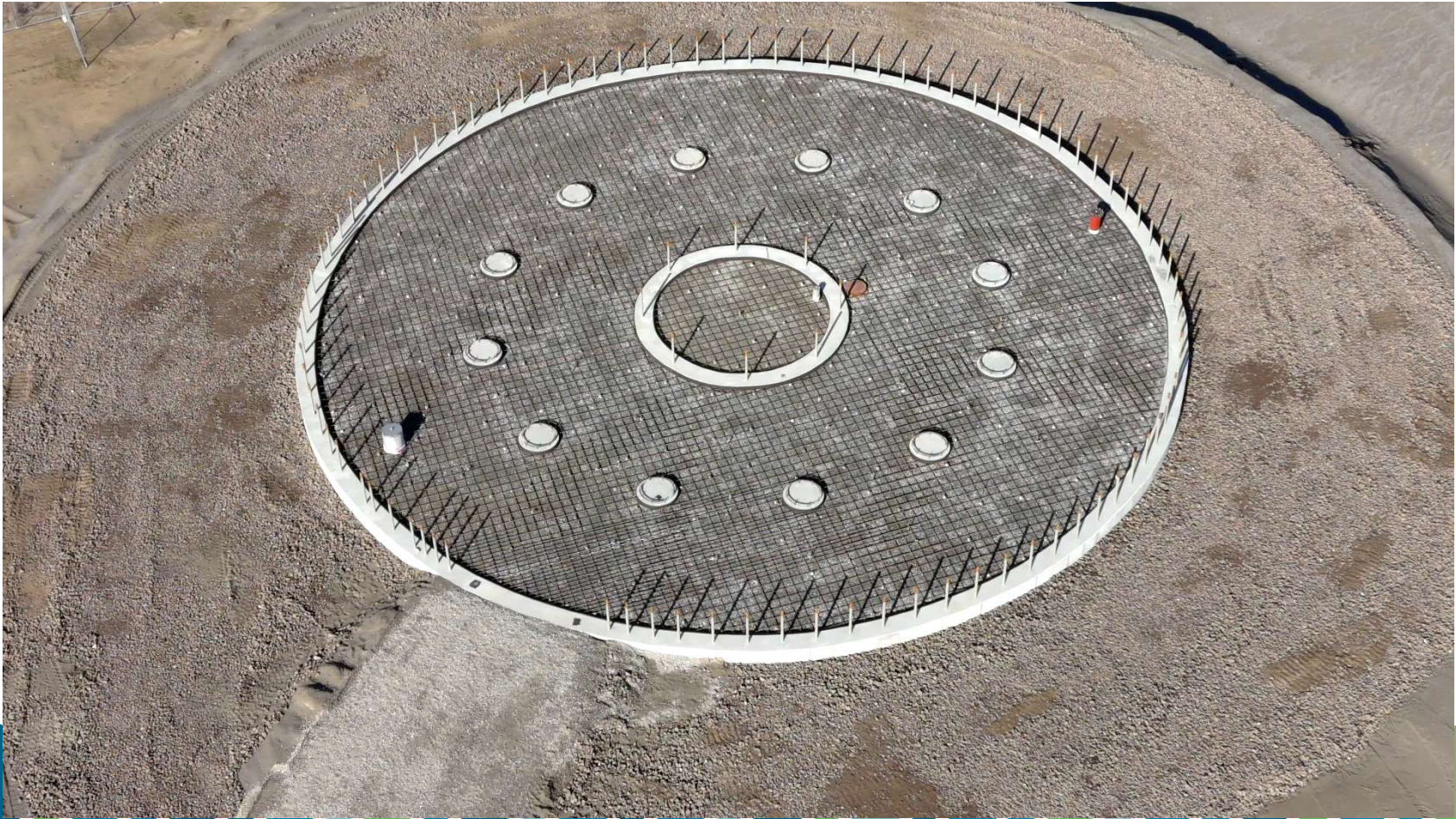
Construction Photos: Ringwall and Columns



Construction Photos: Ringwall and Columns



Construction Photos: Floor Slab



Construction Photos: Floor Slab



Construction Photos



Construction Photos



Construction Photos



Construction Photos



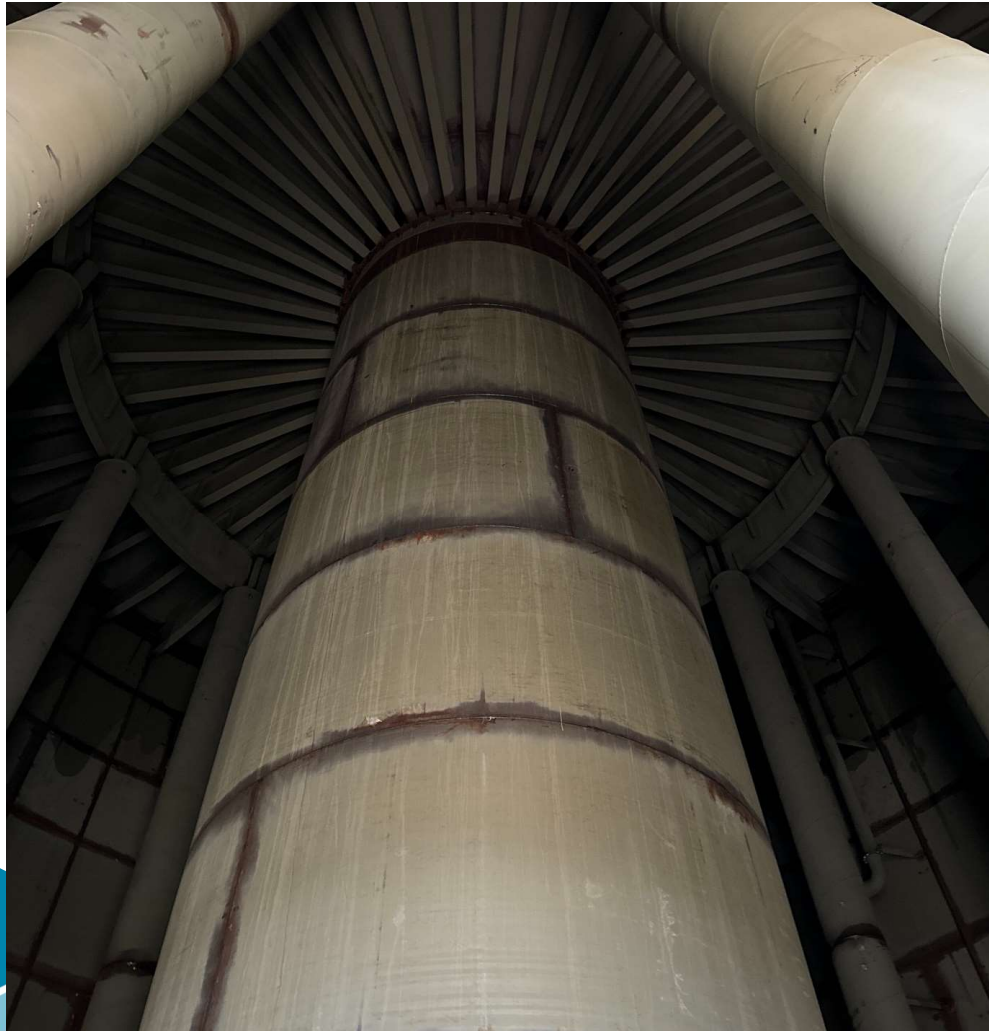
Construction Photos



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Construction Photos





Questions?



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RH2

T BAILEY
INC.

