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Implementing Design-Build On a Small Scale – Everett’s East Clearwell Roof Replacement

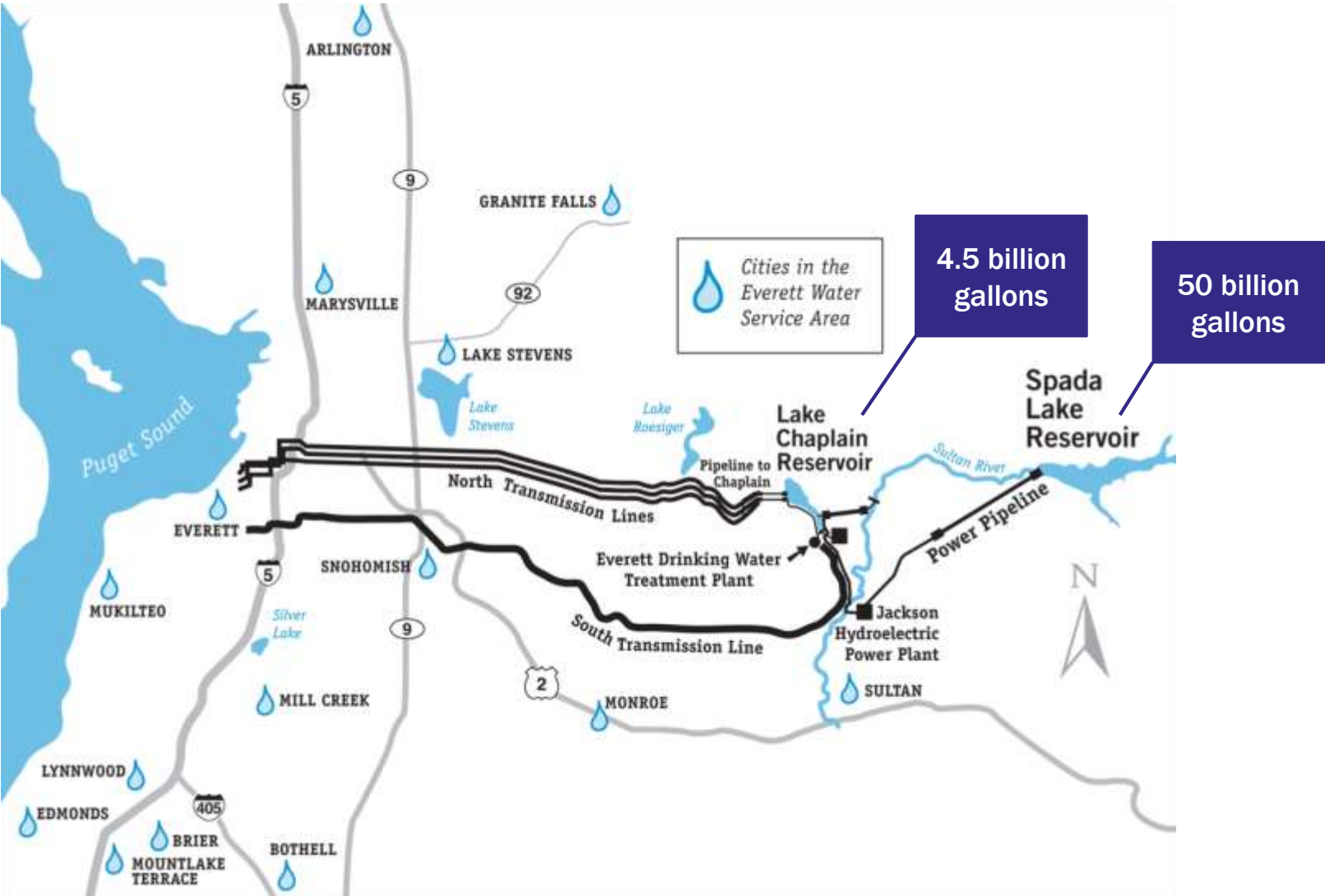
April 27, 2018





Background: Everett's Water Supply System and Facilities

Everett – A major regional water supplier



Water supply system includes a remote surface water sources (Spada Lake and Lake Chaplain)



The City's Water Filtration Plant is aging and approaching its capacity

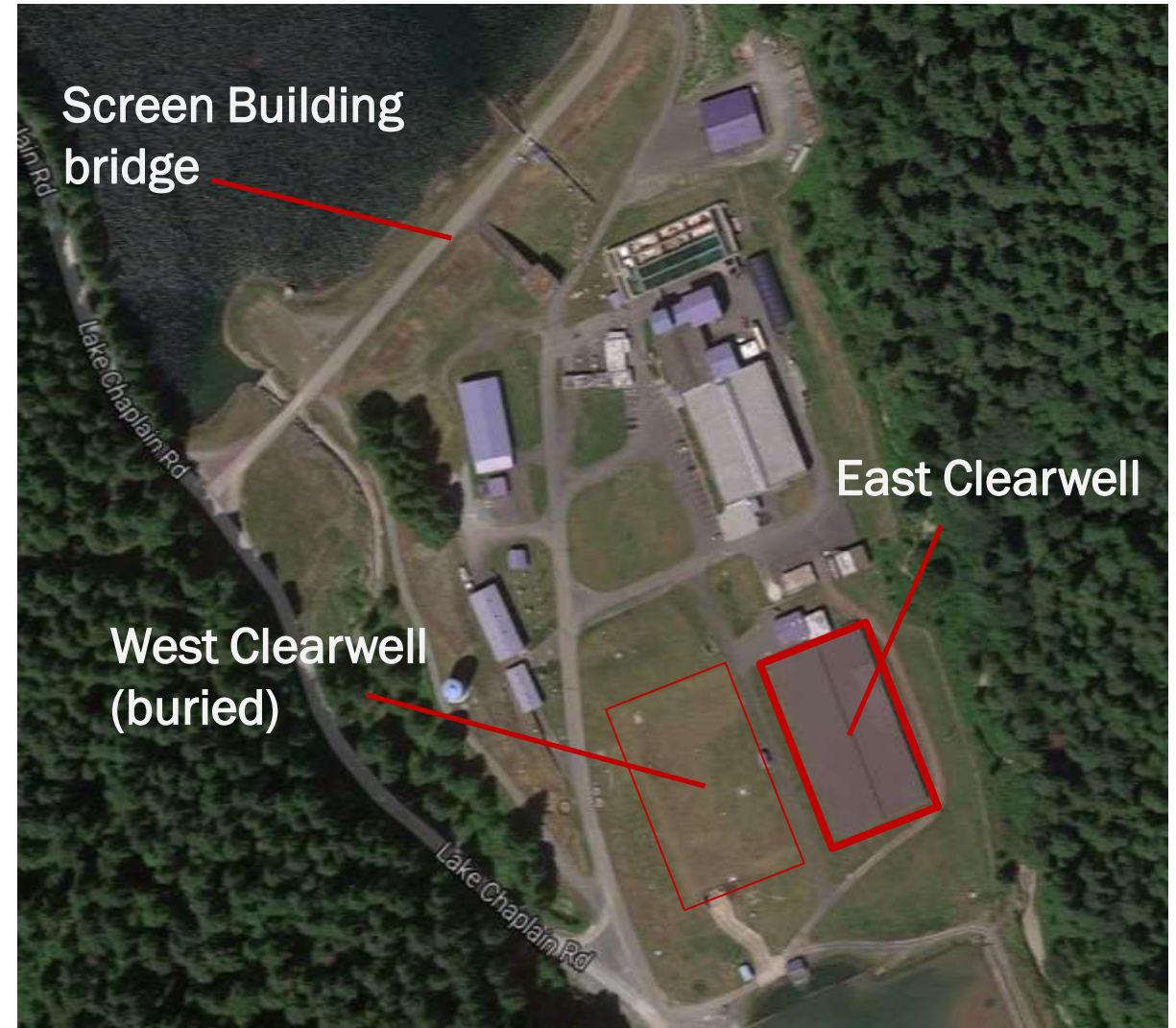




Project Overview: East Clearwell Roof Replacement

East Clearwell Roof Replacement Project

- Roof area: 140 ft x 268 ft
- Roof age: 34 years
- Concerns:
 - Structural integrity (corrosion, delamination)
 - WSDOH assessments (screens, access)
- Screen building bridge seismic concerns



Project Elements

- East Clearwell:
 - Demolish and replace existing East Clearwell roof
 - Avoid damage to walls and floor!
 - Perform joint and crack repair



Project Elements

- Screening Building access bridge
 - Demolish existing access bridge
 - Avoid damage to exposed and buried pipes!
- Install new pedestrian bridge



Project Budget

- City target price in RFP: \$3.1M
- Proposal price for selected DB firm: \$3.0M



Typical Corroded Purlin Hanger



View from North at Center Ridge Looking East



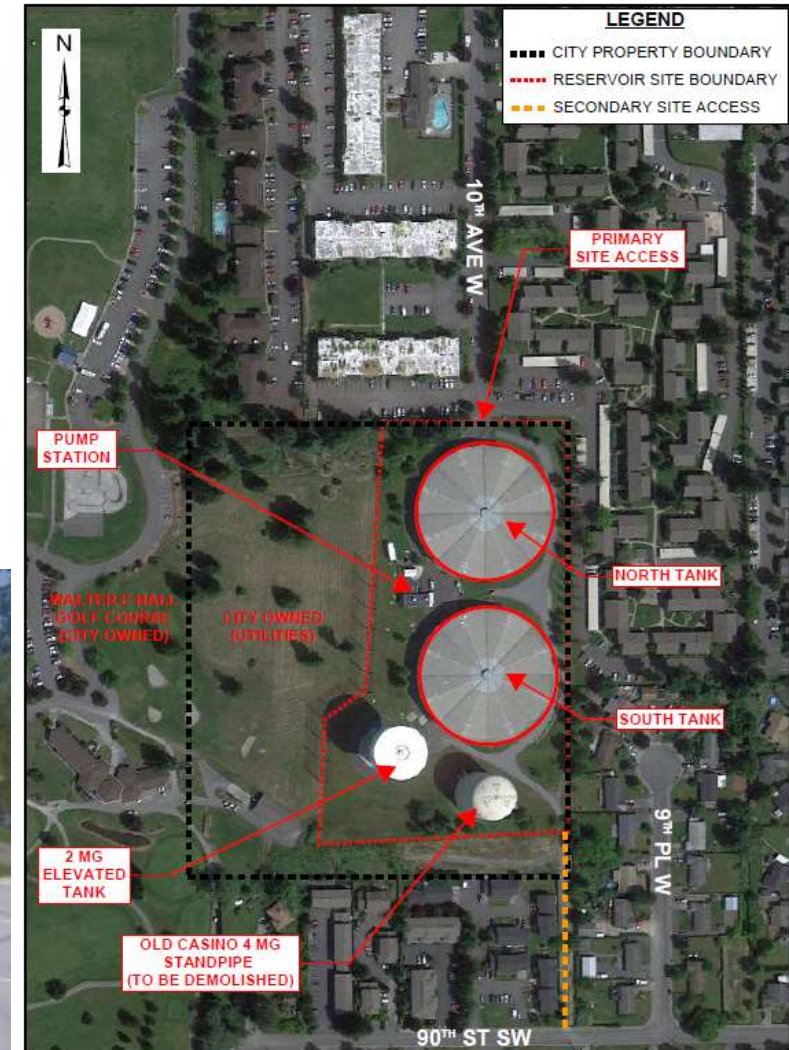
Foam Eave Filler at North Elevation Flashing



Why Design-Build?

Why the City chose Fixed-Price DB delivery

- City familiarity with alternative delivery:
 - Reservoir 6 Roof Replacement
 - Water Pollution Control Facility expansion
 - Pipeline #5 River Crossing
- Success with similar Reservoir 6 roof system replacement project

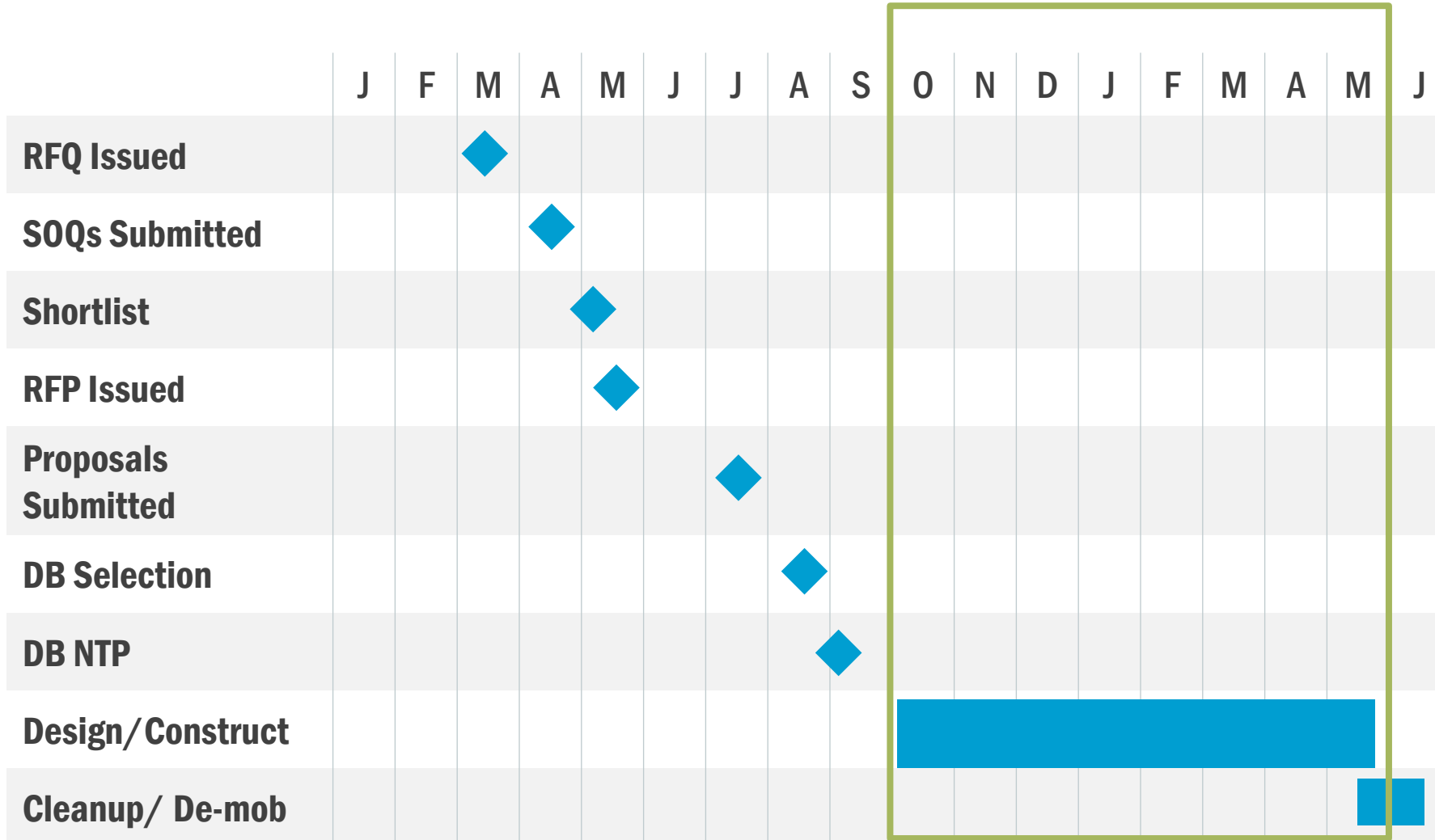


Why the City chose Fixed-Price DB delivery

- Risk management:
 - East Clearwell is a critical component of City infrastructure – construction is high risk
 - Existing 35 year-old structure being preserved and re-used – single entity responsible
 - Ability to manage unforeseen conditions
- Suitability for the project:
 - Most of roof design is vendor provided – allows high degree of coordination
 - Qualifications considered in procurement – high quality, long-lasting product
- Ability to meet schedule constraints

Schedule

**Allowable Period with
One Clearwell Offline**





Design-Build Procurement for a Small Project

Small DB Projects in WA

- Not frequently used for smaller (<\$10M) water/wastewater projects in WA
- City of Everett a leader in this regard
- Design-Build = designer and contractor on the same team
- Fixed-price DB = Proposer bids price in Proposal for design and construction meeting RFP requirements
- Progressive DB = Selected firm completes partial design, then negotiates final design and construction price with owner



When to Consider DB on Small and Mid-sized Projects?

- **Not suitable for every project – assess project delivery method**
- When project involves specialized systems (i.e., primarily a vendor supplied design)
- When project success requires close coordination of designer and contractor (e.g., construction at a critical WTP, key schedule milestones, key design assumptions)
- When there can be a benefit from shifting certain risks
- **BUT only if....** procurement process can be simplified consistent with value of contract

DB Benefits and Challenges on Smaller Projects

Benefits:

- Opportunity for staff learning
- Lower risk (fewer \$ committed)
- Single point of contact for the owner
- Selection based on price and quals

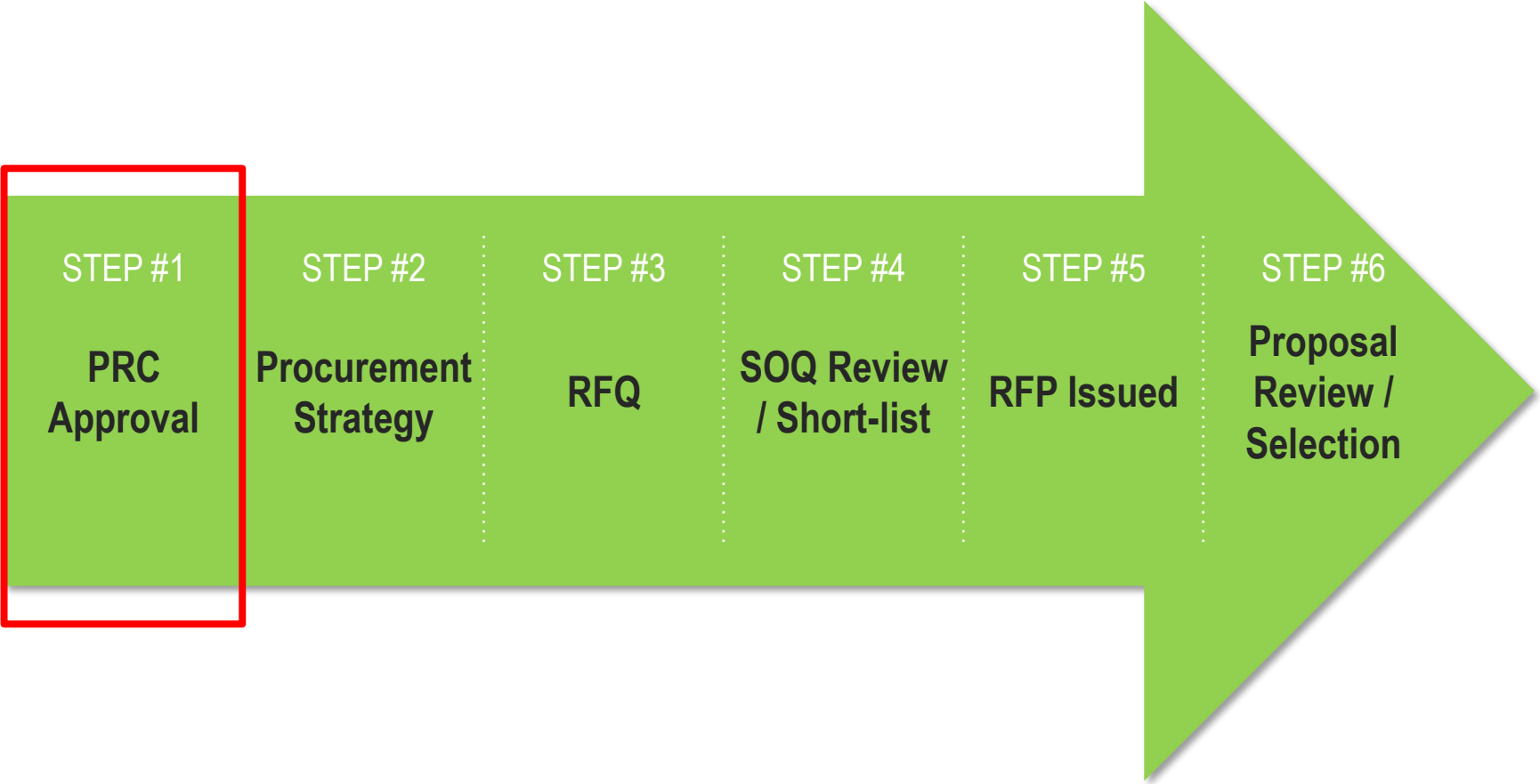
Challenges:

- RCW 39.10 restrictions
- Lack of staff/organizational familiarity
- DB procurement process
- Less owner control (fixed-price)
- Limited local DB contracting experience / smaller size limits national-level interest

DB Procurement for Small Projects

- Comply with State Law (RCW 39.10)
 - Obtain Capital Projects Review Board (CPARB) Project Review Committee (PRC) approval
 - Use specific procurement processes and requirements
- Adapt for small projects:
 - Tailor procurement process consistent with size of contract
 - Conduct targeted contractor outreach
 - Advertising
 - Specific firms

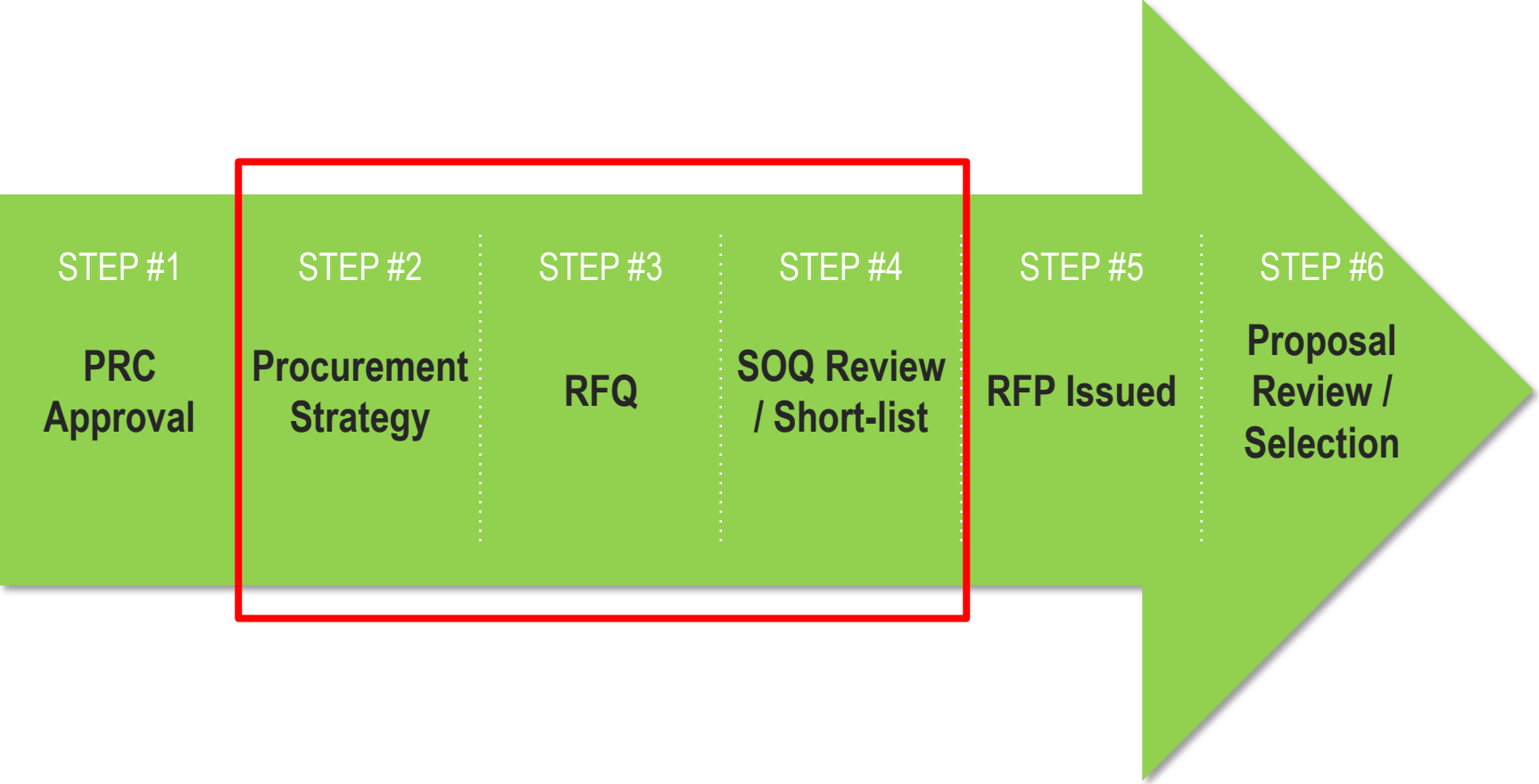
DB Procurement Steps



Step 1. PRC approval

- Application and presentation to Board demonstrating:
 - Compliance with RCW 39.10 requirements
 - Benefits (e.g., cost, quality, schedule)
 - City staff or consultants are knowledgeable in DB delivery
 - City:
 - Multiple staff with experience in prior City projects
 - Staff with experience at prior employers
 - Owner's Advisor
 - Brown and Caldwell

DB Procurement Steps



Step 2. Procurement Strategy

Step 3. Request for Qualifications

- Include state-required elements
- Identify the project (scope, budget, schedule)
 - Adequate information to confirm proposer interest
- Define the procurement process
 - Procurement steps and schedule
 - SOQ and Proposal scoring criteria and weights
 - Honorarium (in this case, \$10,000)
- Form of Contract, General Terms and Conditions
 - Legal involvement – not trivial

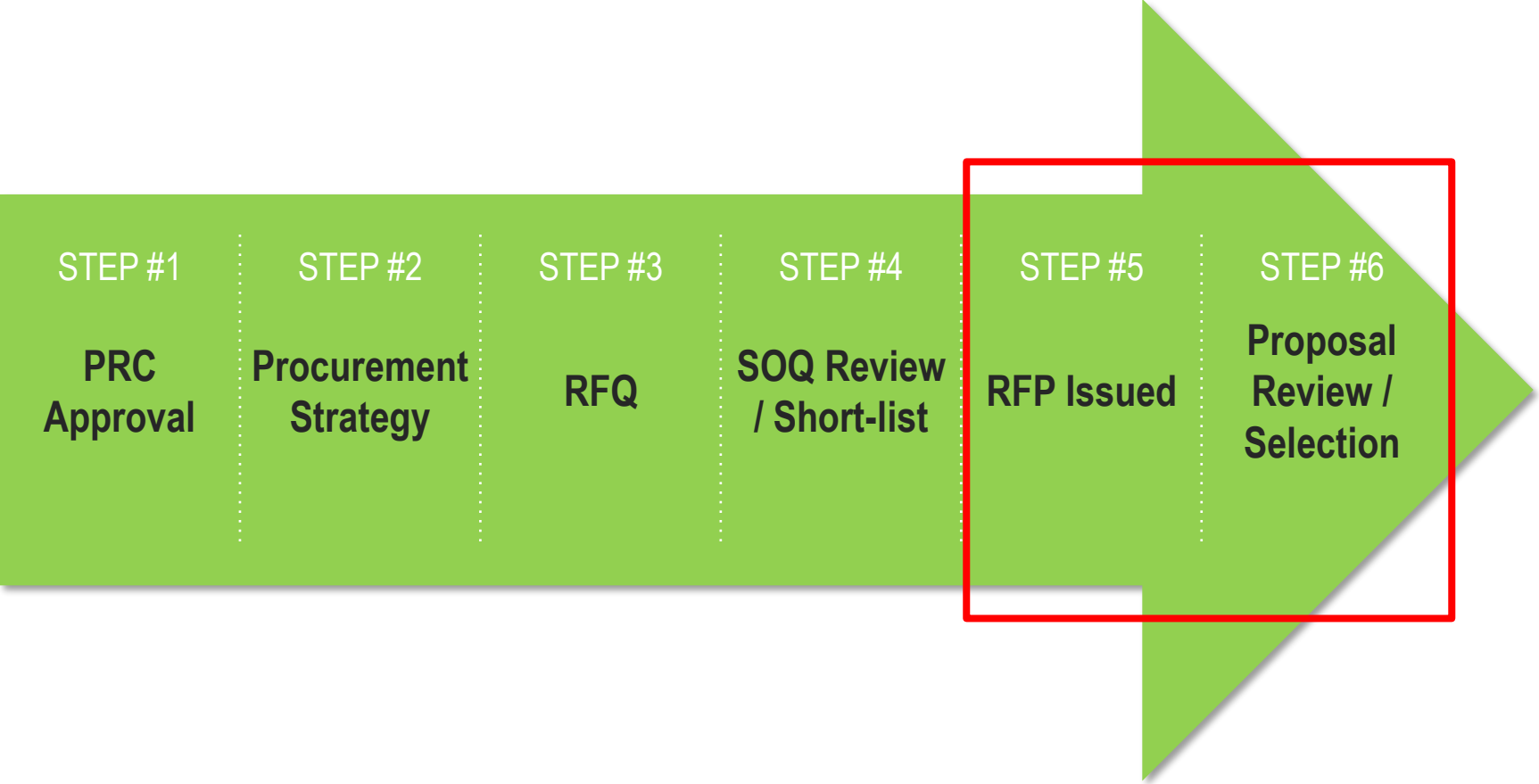
Step 4. SOQ Evaluation and Shortlisting

- Review SOQ consistent with RFQ criteria:

	Criteria	Weight
1.	Technical Experience and Qualifications	60%
2.	Managerial and Commercial Considerations	20%
3.	References	20%

- 3 SOQs submitted
- 2 firms shortlisted to submit proposals

DB Procurement Steps



Step 5. Request for Proposals

- Required Proposal content
- DB Contract
- General Conditions
- Supplementary Conditions
 - Owner's requirements and design criteria

East Clearwell Project Challenges for RFP

- Integration with existing structure:
 - Interior columns (potential design conflicts)
- Standards for damage during demolition/construction
 - e.g., leakage testing reqs
- Remote site (access, comm)
- Schedule constraints



Step 5. RFP - Owner's Criteria

- Set requirements during procurement for DB firm to develop pricing
 - Functional and technical requirements
- Examples:
 - Roof system performance and general design criteria, e.g.:
 - “The roof shall be walkable”
 - “Design vents in accordance with AWWA D100-11”
 - Structural design criteria
 - Demolition and disposal (issues with damage on another project)
 - Testing

Step 5. RFP - Owner's Criteria

- Roof material – leave open to maintain competition (aluminum or steel)
- Operations staff key input:
 - Adjacent facilities that must remain in service
 - Personnel access locations (sampling and inspection)
 - Roof access safety systems
 - Secure vents and screens
 - Tank baffling
 - Other requested improvements

Step 6. Proposal Evaluation and DB Firm Selection

- Review Proposal relative to criteria stated in RFP

	Criteria	Weight
1.	Technical and Managerial Proposal	30%
2.	Business Proposal (DB Price and LCC)	60%
3.	Qualifications and Experience of Key Firms and Personnel	10%

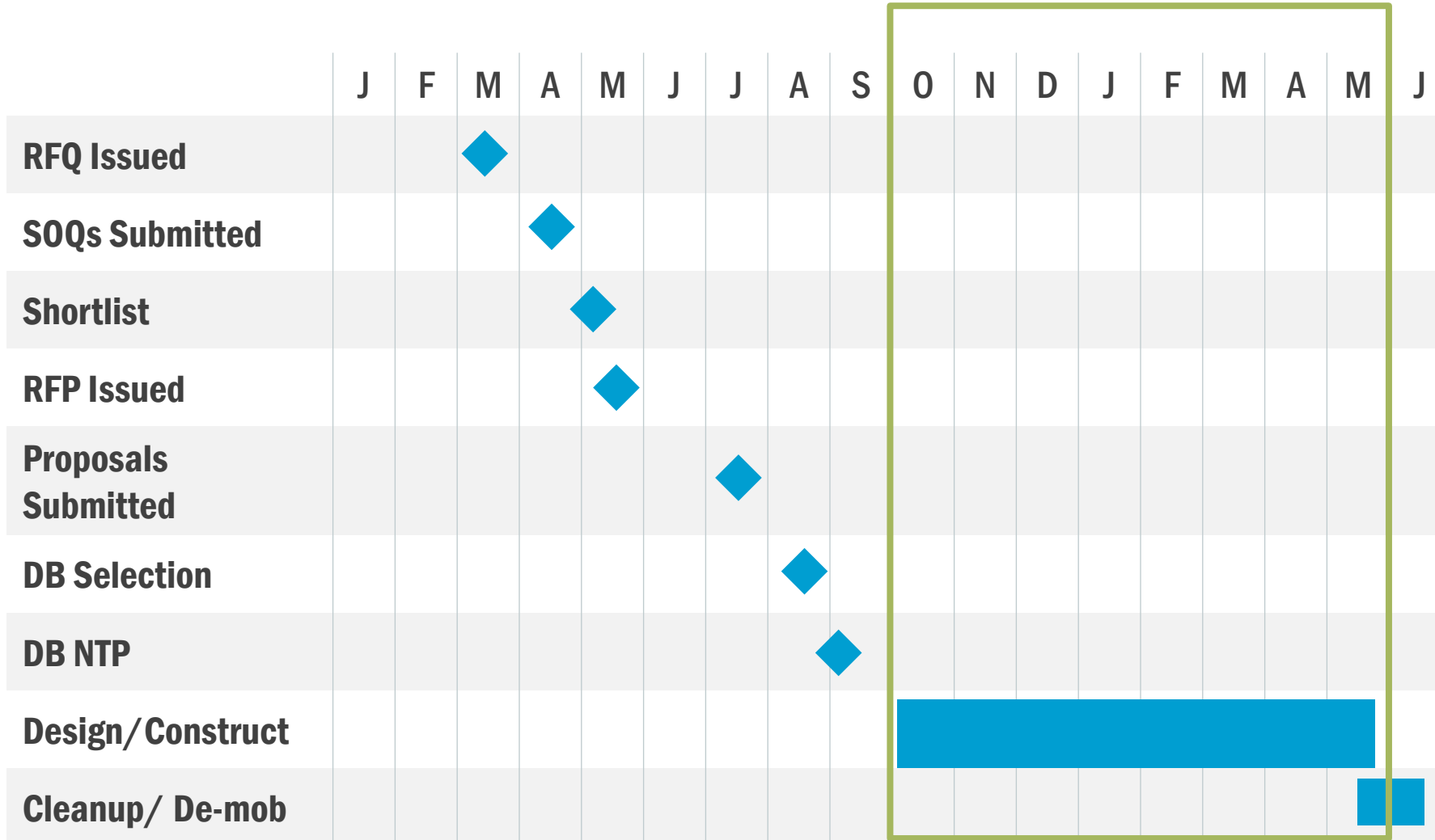
- DB firm selected to enter into contract negotiations (successful)



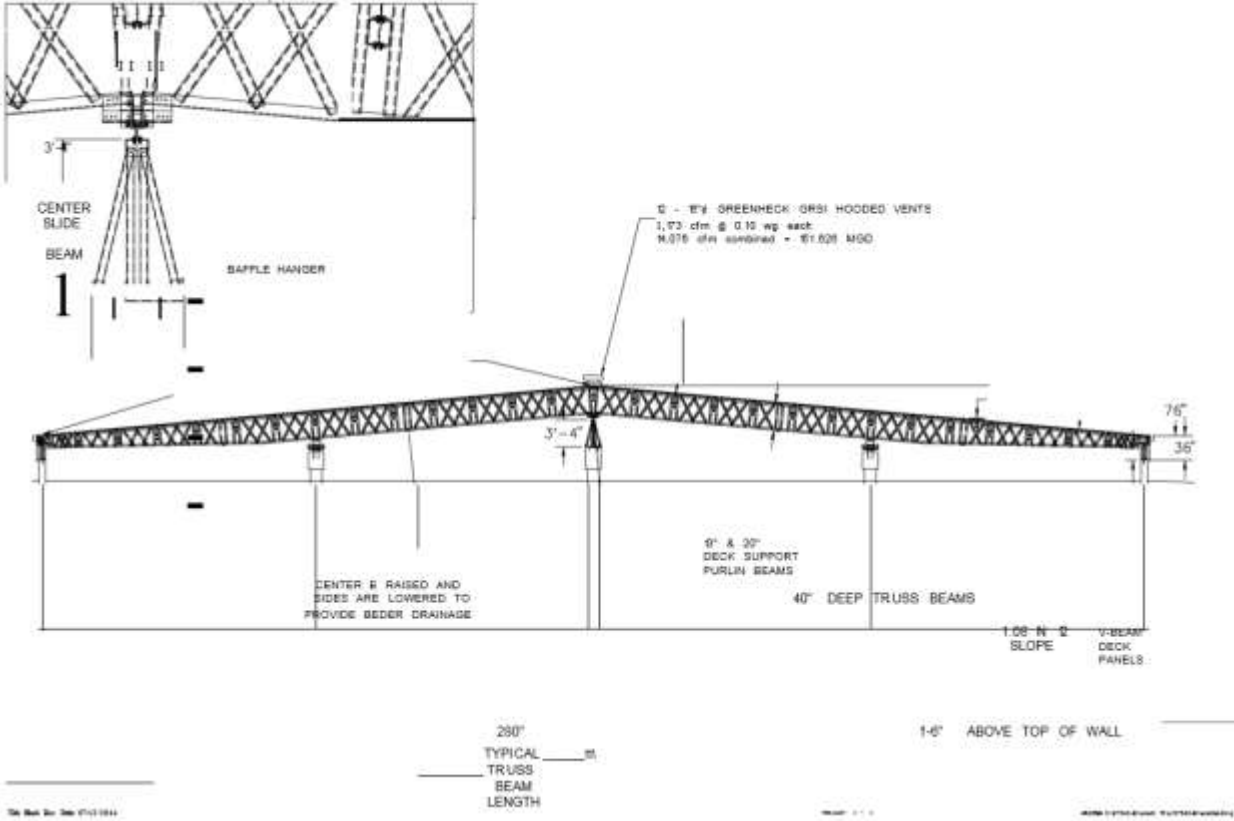
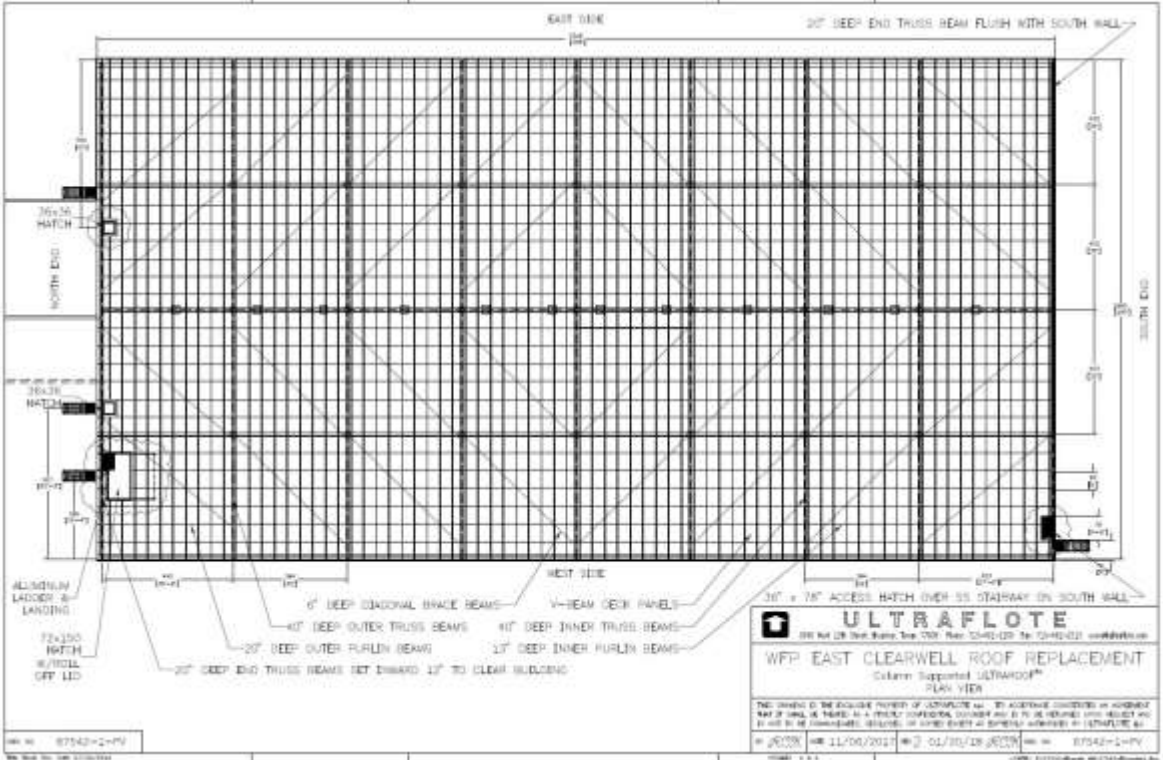
Project Status

Schedule

Allowable Period with
One Clearwell Offline



Project Status – Design Complete



Project Status – Demolition Complete



Project Status – Roof Replacement Staging





Thank you.
Questions?