

Warren, Rhode Island

WASTEWATER TREATMENT FACILITY CONSENT AGREEMENT AND DESIGN UPDATE



Town Council Meeting
February 16, 2016

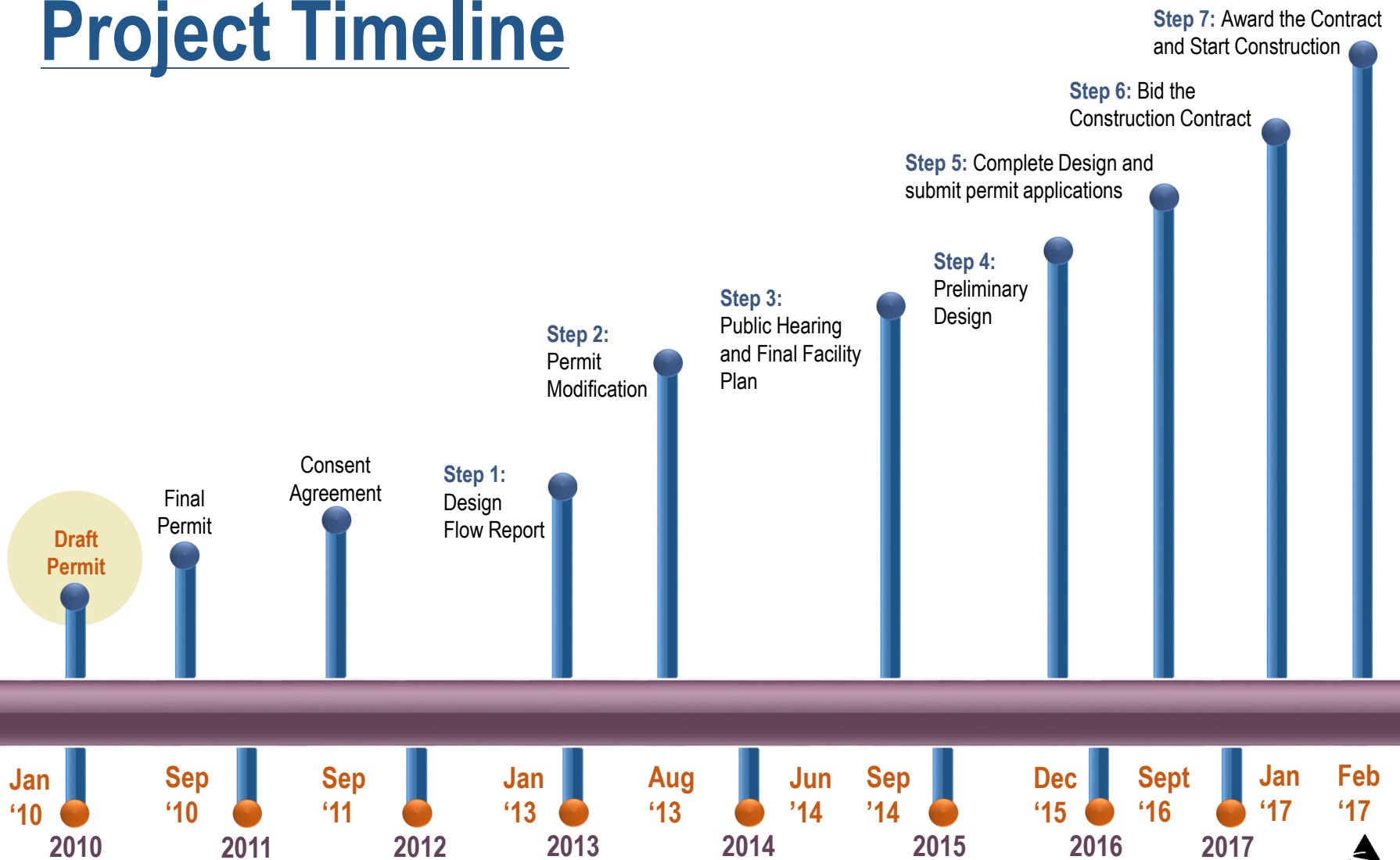
Overview

- Review of Project Timeline
 - Consent Agreement
 - Permitting
- Current Project Status
 - Preliminary design complete (30%)
 - Focus on cost effectiveness and working closely with Sewer Department
 - Design customized to maximize the flexibility provided in the unique discharge permit
- Next Steps
 - Proceed with Detailed Design
 - Capital Item for Construction



Project Timeline

PERMIT & CONSENT AGREEMENT

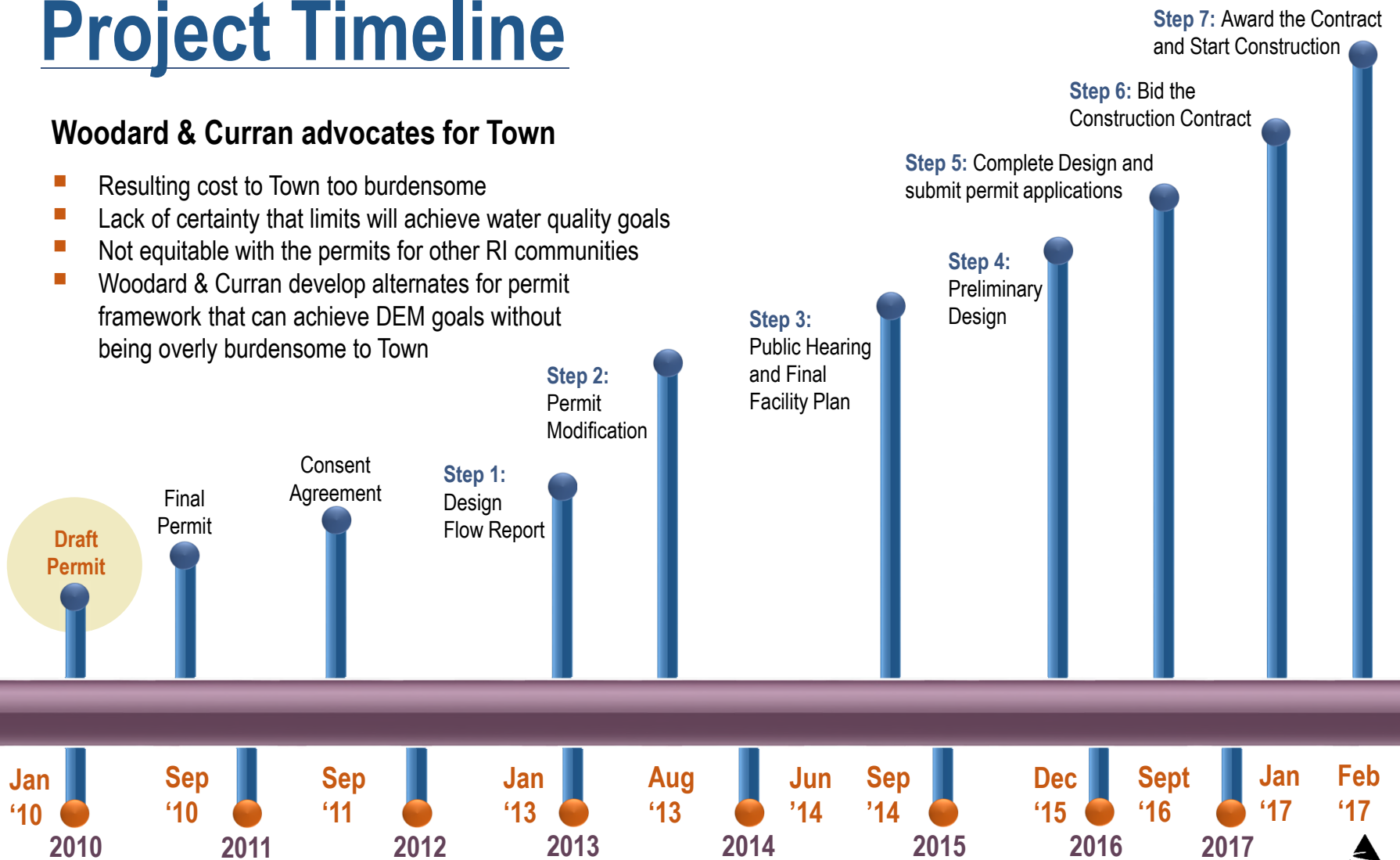


Project Timeline

Woodard & Curran advocates for Town

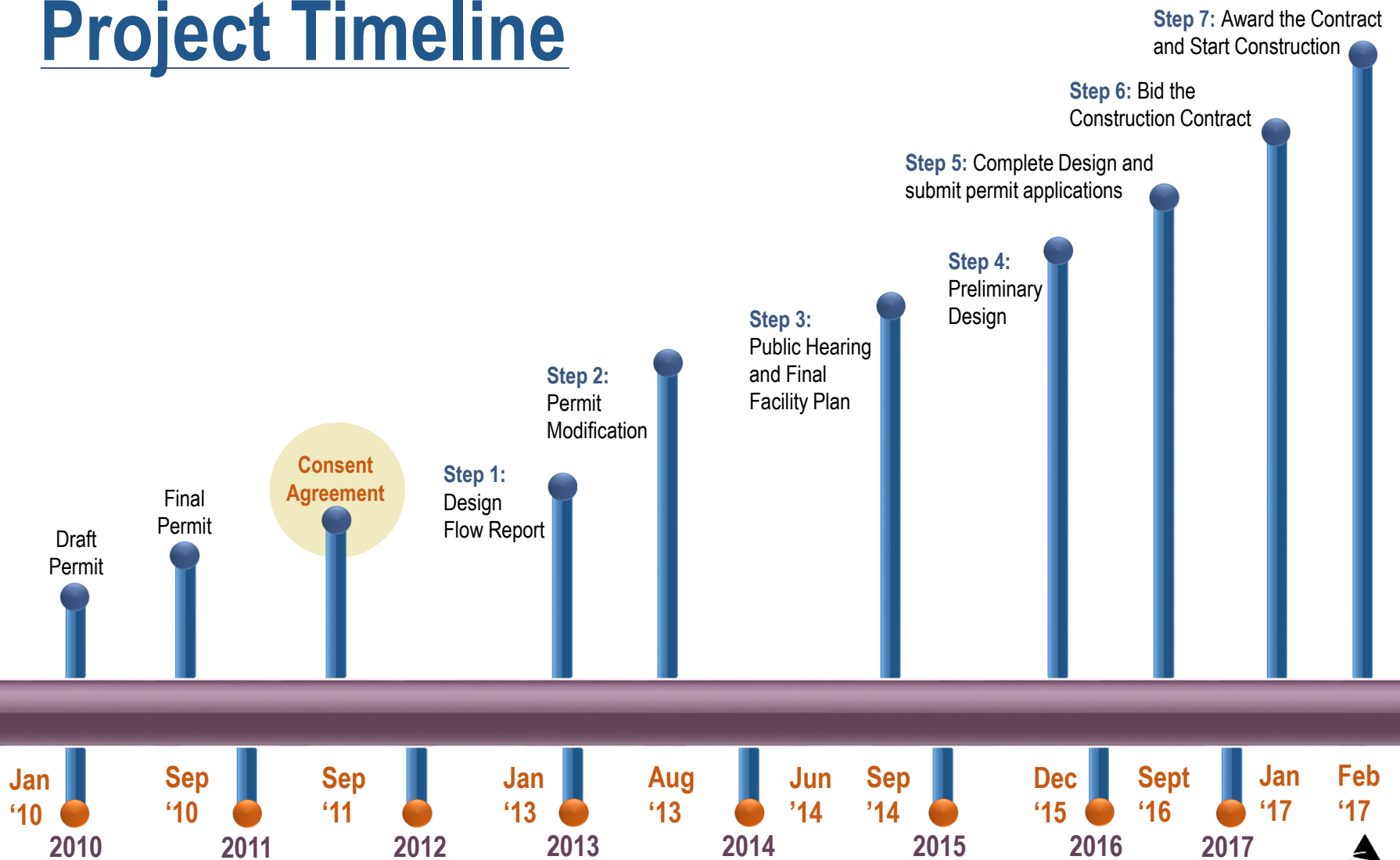
- Resulting cost to Town too burdensome
- Lack of certainty that limits will achieve water quality goals
- Not equitable with the permits for other RI communities
- Woodard & Curran develop alternates for permit framework that can achieve DEM goals without being overly burdensome to Town

PERMIT & CONSENT AGREEMENT



Project Timeline

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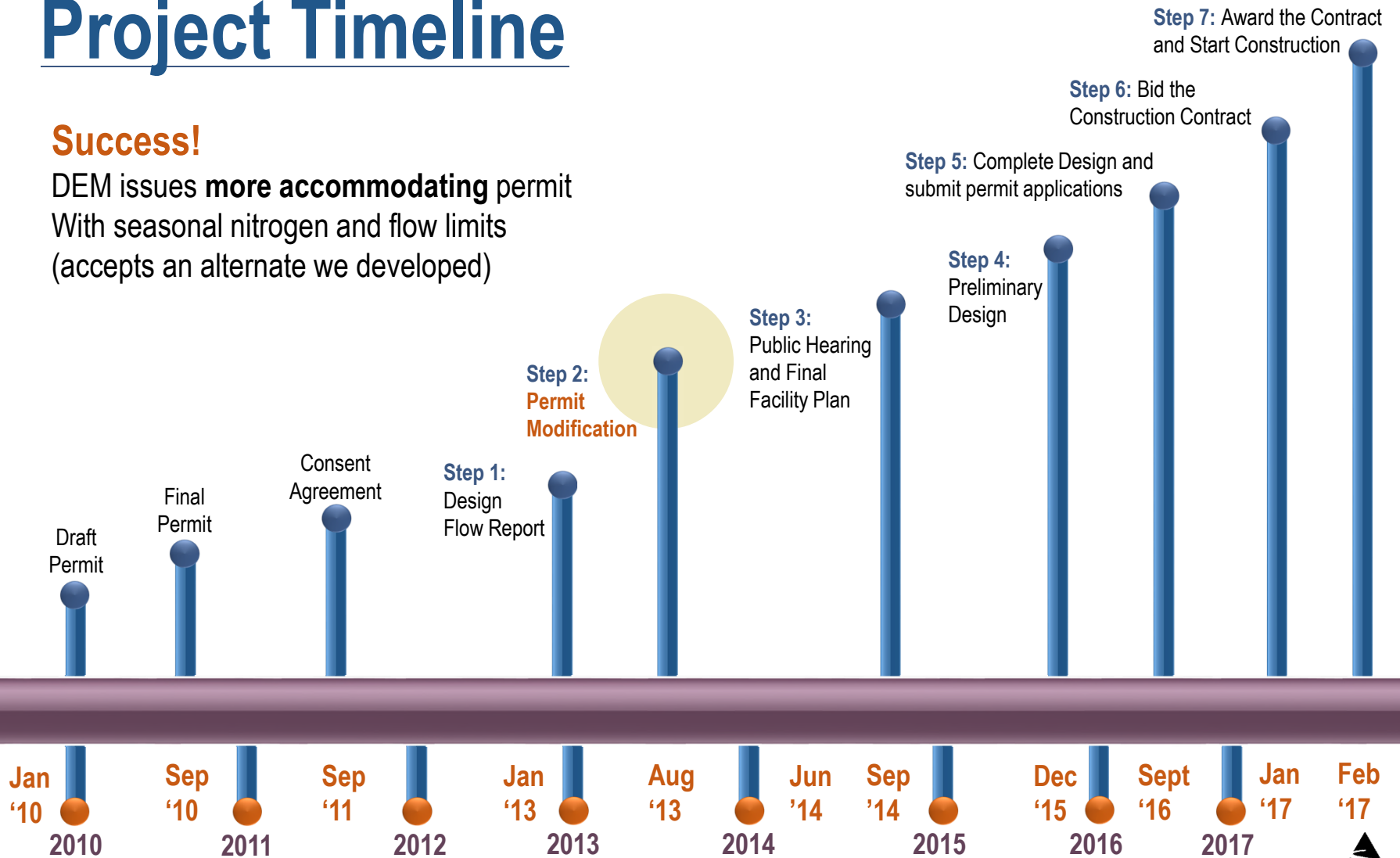


Project Timeline

Success!

DEM issues **more accommodating** permit
With seasonal nitrogen and flow limits
(accepts an alternate we developed)

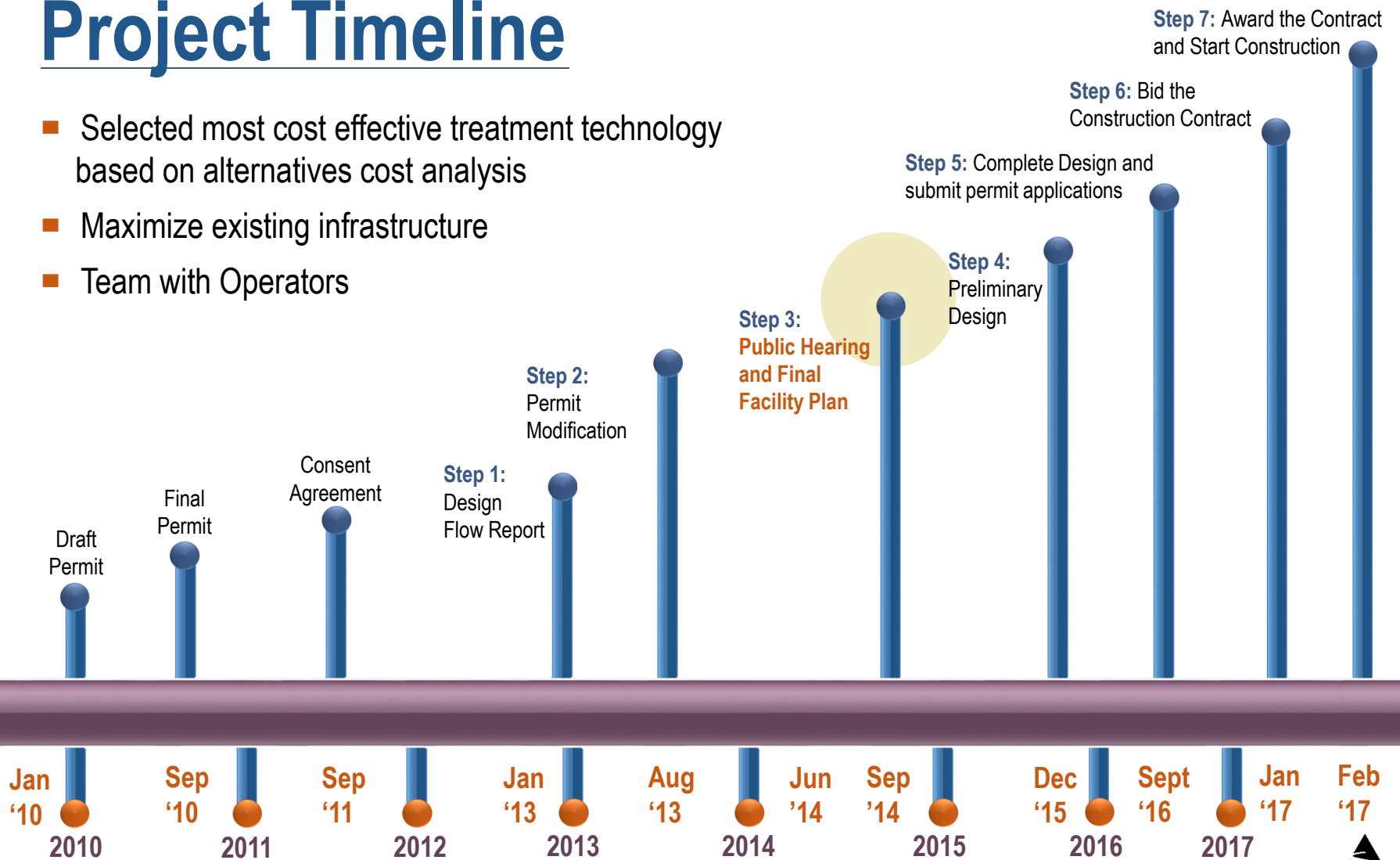
PERMIT & CONSENT AGREEMENT



Project Timeline

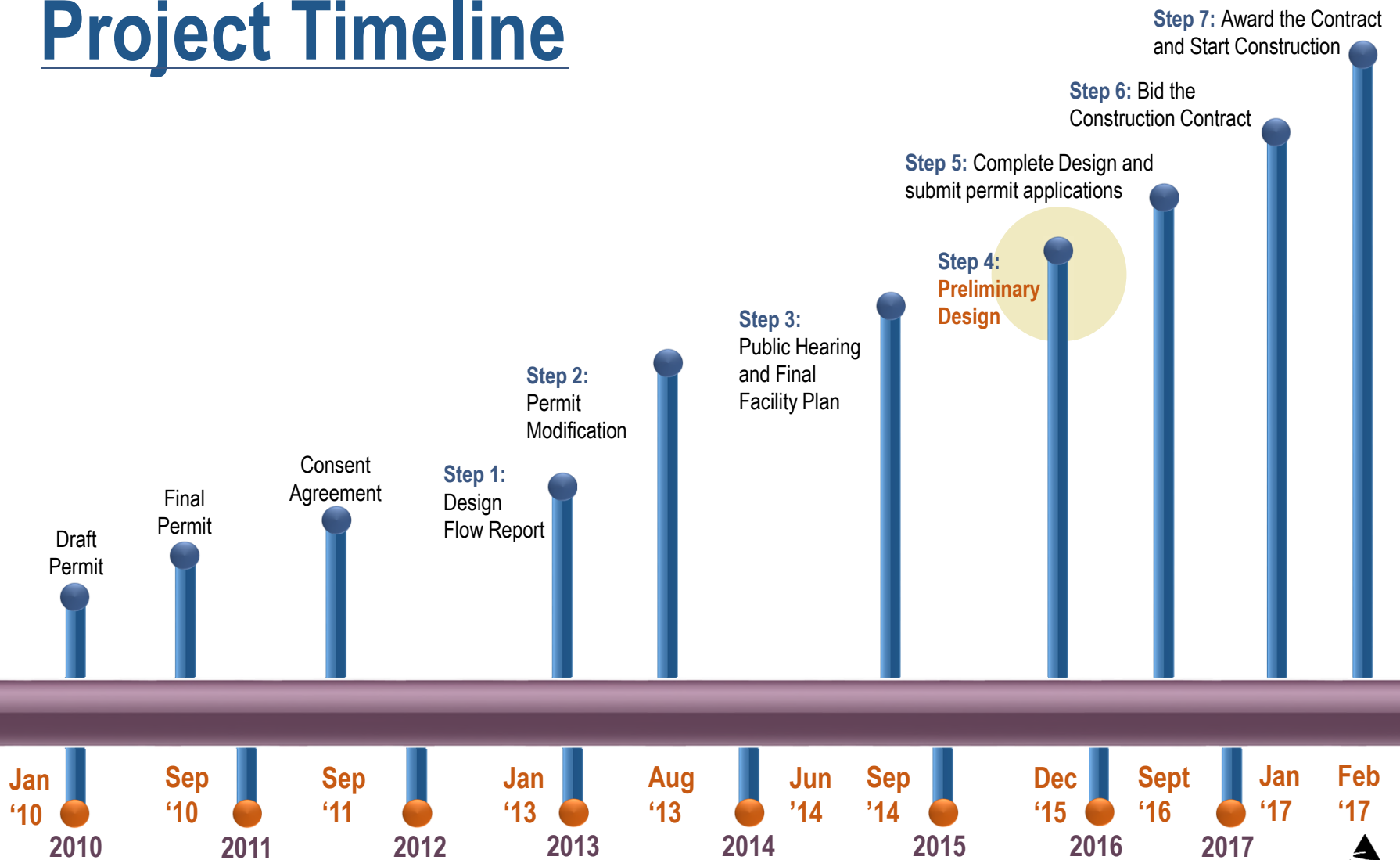
- Selected most cost effective treatment technology based on alternatives cost analysis
- Maximize existing infrastructure
- Team with Operators

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Project Timeline

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Permitting and Design Approach for Nitrogen Removal Saves \$

Variable Operating Mode

- Maximum flexibility for responding to various conditions
- Lowest capital cost
- Lowest O&M costs
- Not a proprietary process
- Customized to take advantage of seasonal limits afforded by the permit modification



Improvements for Reliability and Efficiency

- Equipment beyond design life
- Operator safety
- Remove risk – high \$ for failure
 - Emergency repairs
 - Regulatory violations or fines
 - Funding questionable
- Higher efficiency (power and chemical)



Preliminary Design Meets Planning Level Estimates

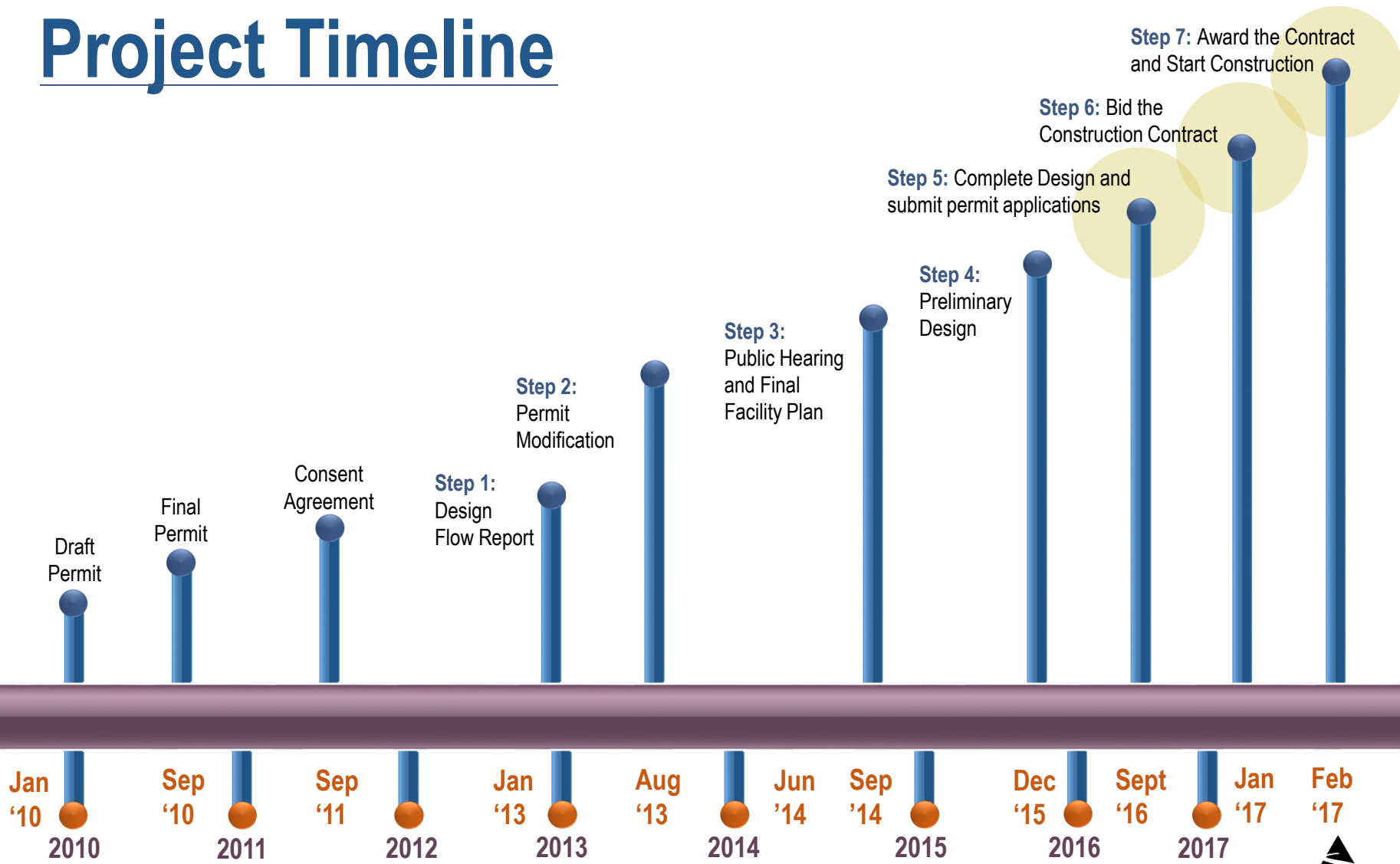
- Further advanced the Facility Plan recommendations
- Additional testing to establish design parameters
- Prepared more detailed cost estimate
 - \$20M for construction of the upgrades
 - Consistent with the planning-level estimate in the Facility Plan

Engineering for Cost Effectiveness

- Further refined nitrogen treatment process to take advantage of flexibility in the discharge permit
- Cost evaluation of alternatives to select most effective mixing and aeration equipment (capital and O&M)
- Recommended ultrasonic testing to cost effectively address old pipes
- Takes advantage of electric company incentives

Project Timeline

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Approval to Proceed with Design Allows Warren to Stay on Schedule

- Unique, flexible permit modification allows for reduced financial burden
- Cost effective analysis of multiple treatment alternatives
- Customized to maximize the permit flexibility
- Needed improvements for reliability, safety and efficiency
- Secure funding through State Revolving Fund Loan Program
- Support for public outreach on construction approval





Questions / Discussion?

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