



Warren, Rhode Island Wastewater Treatment Facility Permit and Consent Agreement



Town Council Workshop October 15, 2013

COMMITMENT & INTEGRITY DRIVE RESULTS

Overview

- Wastewater Treatment Facility Discharge Permit
- Consent Agreement
- Permit Modifications
- Next Step – Facility Plan
- Going Forward
- Cost
- Questions and Comments



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Discharge Permit Background

- Operated to meet requirements of a permit from the state (DEM)
- September 30, 2010 - new permit issued
- Included **nitrogen** and **flow** limits which could be met
- Warren negotiated and entered into a Consent Agreement

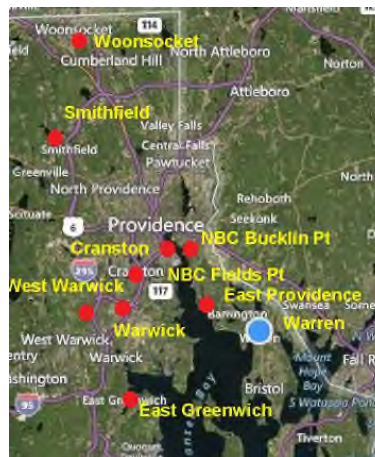


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Why was a Nitrogen Limit issued?

- Water quality & fish kills
- 2004 mandate for 50% reduction
- RI and Mass facilities
- DEM nitrogen load study on the Palmer River

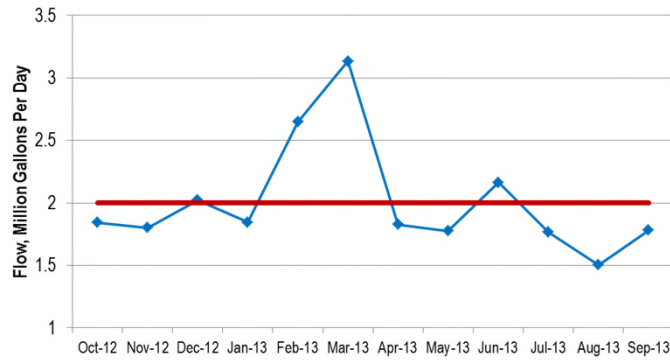


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Why was the flow limit a Concern?

- Permitted flow was 2 million gallons per day
- Limit exceeded during wet weather
- Sewer system subject to infiltration and inflow

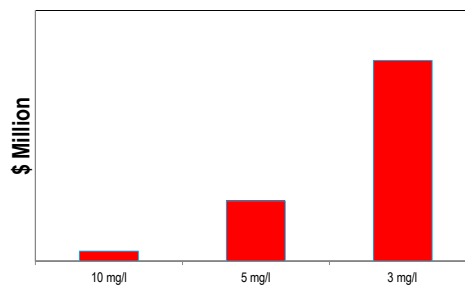


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Why was the flow limit a Concern?

- $\text{Flow} \times \text{Concentration} = \text{Load}$
- Lower Concentration = Higher Cost



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Background on Consent Agreement

- Finalized in September 2011
- Negotiations Warren, United Water, Woodard & Curran and DEM
- Lays out steps for compliance:
 - Phase 1 – Design Flow Report (Woodard & Curran completed)
 - Permit modification (DEM) based on the Design Flow Report
 - Phase 2 – Planning - Facility Plan
 - Phase 3 – Engineering and Permitting
 - Phase 4 – Construction



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Permit Modification

- Issued by DEM on August 28, 2013
- Contains limits that are **less stringent** than the September 2010 Permit
- Flow and nitrogen limits are seasonal versus monthly
- Seasonal limits provide a great deal of flexibility for compliance – saving the Town \$ in capital and operations



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Next Step – Phase 2 - Facility Plan

- Evaluations, recommendations and cost estimates for Wastewater Treatment Facility improvements
- Condition assessment and recommendations for reliability
- Improvements for nitrogen
 - Maximize existing infrastructure
 - Team with operators



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Going Forward

- Submit Facility Plan to DEM - April 2014
- DEM Review and Finalize - August 2014
- Design and Permitting – September 2014 to December 2015
- Bidding and Construction - January 2016 to April 2017

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Comparison Cost

- DEM – \$7M¹
From DEM Report - Plan for Managing Nutrient Loadings to RI Waters - estimated the cost for Warren's upgrades for nitrogen at \$4.6M in 2005
- East Greenwich – \$10M¹
Similar size facility to Warren upgraded in 2006 for \$7M
- Warwick - \$14M¹
Warwick was \$35M² for 7.7 million gallon per day facility in 2004²– equivalent to approximately \$9M on an equivalent flow basis

1 – Cost projected to 2017 using Engineering News Record – Construction Cost Index

2 – From the Warwick Sewer Authority website

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Funding

- The State Revolving Fund (SRF)
- Co-managed by the R.I. Clean Water Finance Agency (RICWFA) & DEM
- Provides below market rate loans for wastewater facilities
- Every major treatment facility upgrade in RI to date has received funding through this program

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Questions and Comments



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