

Wastewater Facilities Planning



Presented by:

WRIGHT-PIERCE 
Engineering a Better Environment

Presentation Overview

- ✓ Wright-Pierce
- ✓ Present Situation
- ✓ Planning Goals
- ✓ Project Approach
- ✓ Key Issues
- ✓ Facilities Plan Scope and Schedule
- ✓ Questions & Answers

Wright-Pierce

- Full-service New England firm
 - ✓ 63 years of experience
 - ✓ 175+ employees
 - ✓ offices throughout New England
 - ✓ nationally recognized
- Wastewater engineering
 - ✓ mainstay of business
 - ✓ >100 treatment plants and upgrades
 - ✓ similar projects throughout New England



Present Situation

WWTF has served City well but is aging and facing major regulatory changes ...
City needs a plan for the future.



Planning Goals

- Develop solutions that:
 - achieve regulatory compliance
 - provide adequate capacity
 - operator friendly and reliable
 - flexible for future
 - approvable
 - reflect City preferences
 - affordable



Big Picture Approach

- **Begin with end in mind**

- ◊ long-term regulatory vision
- ◊ City's long-term wastewater needs

- **Develop upgrade strategies**

- ◊ compliance with range of regulatory outcomes
- ◊ phase-able
- ◊ flexibility for the future

- **Negotiate for “best” regulatory outcomes**

- **Develop affordability strategy**

- **Gain necessary approvals**



Project Approach Summary

Bottom line

Plan for the worst but ...

work to position City for best technical,
regulatory and financial outcomes

Key Issues

Regulatory	Biosolids Management
Future demands	Sustainability
Reliability	Odor / aesthetics
Nitrogen Removal	Coordination with the City
Phosphorus Removal	Affordability
High Flow Management	

Key Regulatory Issues

- Long-term vision
- Nitrogen
 - 8, 5 or 3 mg/l
 - mass or concentration based
 - maximum month or annual average
- Phosphorus
- Flow
- Compounds of emerging concern (CEC)
- Wet-weather blending
- Biosolids management
- Evolving roles, influence and impact of EPA, NHDES, Alliance, 'third parties', other communities



QUAGMIRE

Key Future Demands Issues

- Existing flows and loadings
- Future growth
- Future requirements to control septic systems
- Impacts of biosolids management
- Future I/I strategies



Planning Scope

- Define current/projected future flows and loads
- Comprehensive plant evaluation
- Evaluation of nutrient removal alternatives
- Workshops, pilot/demonstration testing
- Develop recommended plans and costs
- Financial capability analysis
- Regulatory coordination
- Public / stakeholder meetings

Schedule

- Kick off – February 2011
- Comprehensive evaluations – Spring
- Nutrient evaluations – Summer
- Recommended plans – early Fall
 - existing discharge permit expires Oct. 2nd
- Draft report – late Fall
- Public / Stakeholder Meetings – Winter
- Final Report – Winter 2012

Questions & Answers



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