

# TOWN OF CHATHAM

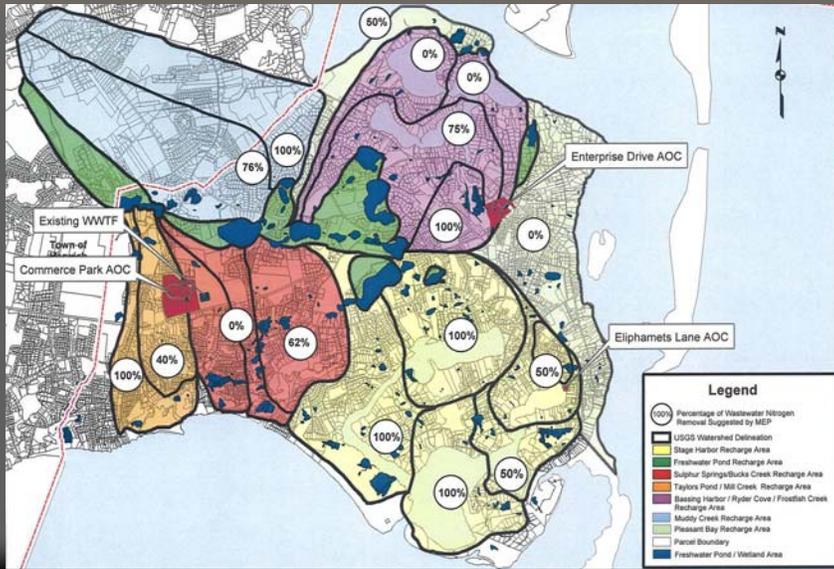
Summary of  
Draft Comprehensive Wastewater Management Plan/  
Draft Environmental Impact Report (DCWMP/DEIR)  
and  
Notice of Project Change

Presentation to the  
Chatham Public Informational Meeting and  
Cape Cod Commission Subcommittee Hearing  
on  
May 22, 2008

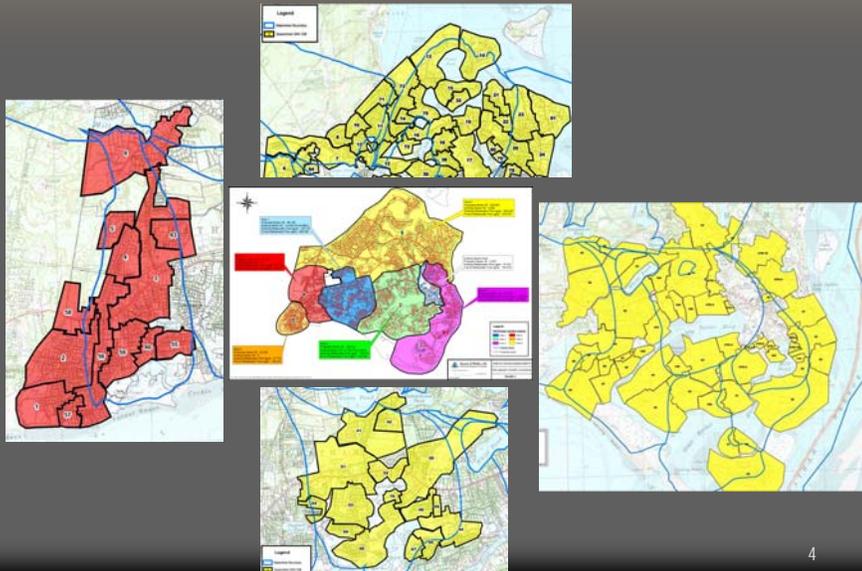
## Presentation Outline

- Alternatives Evaluation Summary
  - Watershed evaluations
  - Hydrogeologic and site evaluations
  - Alternative plan formation and evaluation
- The Recommended Plan
- Next Steps

# Alternatives Evaluation Summary: Watershed Evaluations



# Alternatives Evaluation Summary: Watershed Evaluations



## Alternatives Evaluation Summary: Watershed Evaluations



Summary of Typical Nitrogen Removals for the Wastewater Management Options

Technology	Typical Nitrogen Concentration in the Effluent	Typical Percent Removal
Title 5 Septic System	20 to 40 mg/l	23%
Individual Nitrogen Removal Septic System	15 to 25 mg/l	50%
Community/Cluster System	5 to 15 mg/l	75%
Upgraded Chatham WWTF	3 mg/l	93%

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## Alternatives Evaluation Summary: Watershed Evaluations

### Summary of Findings

- ⇒ Large areas of Chatham need to remove > 50% of the wastewater nitrogen to remediate embayment water quality and the related water resources
- ⇒ This nitrogen removal performance is best met with collection and treatment at an Upgraded Chatham WWTF

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## Alternatives Evaluation Summary: Watershed Evaluations

➤ Plan sewer extensions in these areas to meet the nitrogen - removal goals as well as the other Town goals of:

- Low cost
- Fiscal fairness
- Fewer raised systems
- Address needs in other Areas of Concern

➤ Townwide average annual flow is ~ 1.9 mgd



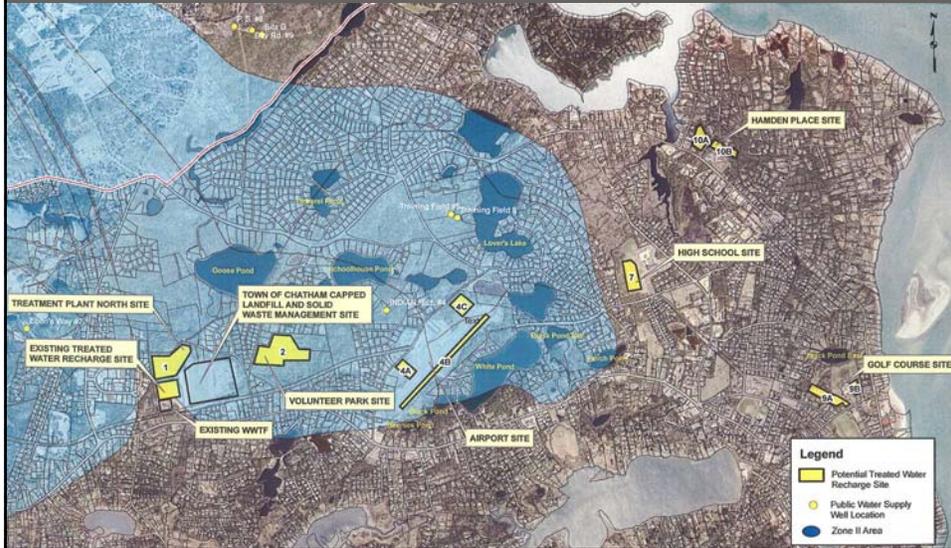
## Alternatives Evaluation Summary: Watershed Evaluations

➤ Sewer extensions to meet the existing defined Nitrogen TMDLs

➤ Average annual flow is ~ 1.3 mgd



## Alternatives Evaluation Summary: Hydrogeologic and Site Evaluations



## Alternatives Evaluation Summary: Hydrogeologic and Site Evaluations

Hydraulic load testing and groundwater modeling demonstrates that:

- The WWTF site can accommodate an expansion to 1.9 mgd with no adverse impacts
- The recharge will not adversely impact the capped landfill or the groundwater at the landfill site



## Alternative Plan Formation and Evaluation

Plan No. 1: No Action Alternative

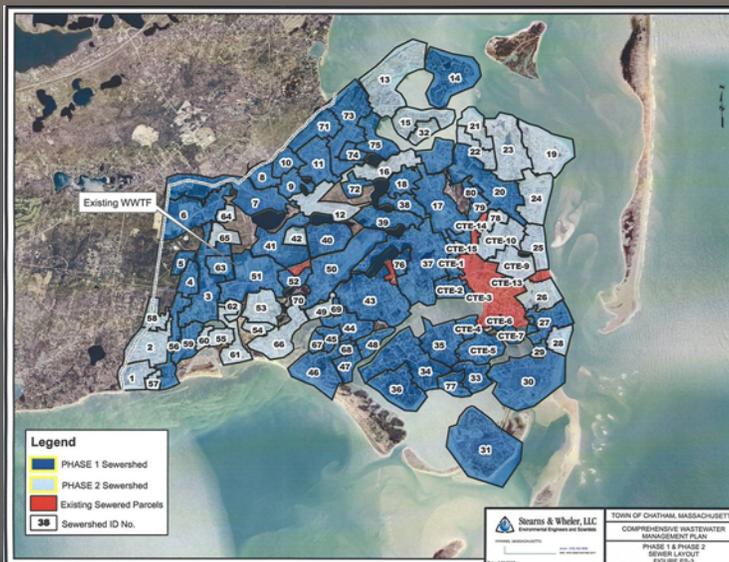
Plan No. 2: Combination of Sewers and I/A Technology in Selected Watersheds

Plan No. 3: Sewer Extension to Meet Nitrogen TMDLs

Plan No. 4: Town-Wide Sewer Extension

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## The Recommended Plan: Phase 1 and 2 Sewer Extension Areas



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## The Recommended Plan: WWTF Upgrade and Expansion



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## The Recommended Plan: Costs

Phase 1 Cost Summary	
Component	Capital Costs <sup>(1)</sup>
WWTF upgrade and expansion	
Construction Costs	\$25,000,000
Contingencies	\$5,000,000
Fiscal, Legal, and Engineering	<u>\$4,900,000</u>
<b>Total</b>	<b>\$35,000,000</b>
Collection System Expansion	
Construction Costs	\$110,000,000
Contingencies	\$28,000,000
Fiscal, Legal, and Engineering	<u>\$28,000,000</u>
<b>Total</b>	<b>\$170,000,000</b>

<sup>(1)</sup> All costs are rounded to two significant digits and are referenced to a date of June 2007.

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## The Recommended Plan: Costs

Total Phase 1 and 2 Cost Summary (in Millions of Dollars)			
Component	Capital Costs Phase 1 <sup>(1)</sup>	Capital Costs Phase 2 <sup>(1)</sup>	Capital Costs Total <sup>(1)</sup>
WWTF upgrade and expansion			
Construction Costs	\$25	\$6.0	\$31
Contingencies	\$5.0	\$1.2	\$6.2
Fiscal, Legal, and Engineering	\$4.9	\$1.6	\$6.5
<b>Total</b>	<b>\$35</b>	<b>\$8.8</b>	<b>\$44</b>
Collection System Expansion			
Construction Costs	\$110	\$60	\$170
Contingencies	\$28	\$14	\$42
Fiscal, Legal, and Engineering	\$28	\$14	\$42
<b>Total</b>	<b>\$170</b>	<b>\$88</b>	<b>\$250</b>

<sup>(1)</sup> All costs are rounded to two significant digits and are referenced to a date of June 2007.

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## The Recommended Plan:

### Regulatory Review Process

- ⇒ Joint Review Process
- ⇒ Massachusetts Environmental Policy Act (MEPA) Review Process
  - Six week review period for DCWMP/DEIR
  - Distribution to, and review by several state, regional and local agencies
- ⇒ Cape Cod Commission (CCC) Development of Regional Impact (DRI) Review Process

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## The Recommended Plan: Implementation Schedule

### Short-Term Implementation

- ⇒ April 30, 2008: DCWMP/DEIR Submittal for MEPA
- ⇒ June 13, 2008: Receive MEPA comments and prepare Final CWMP/FEIR
- ⇒ September 2008 : Projected Final CWMP/FEIR Submittal to MEPA
- ⇒ November 2008: Expected MEPA approval
- ⇒ December 2008: Expected CCC approval

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## The Recommended Plan: Implementation Schedule

### Phase 1 Implementation for WWTF Upgrade and Expansion

- ⇒ February 2009 through July 2011:
  - WWTF design
  - SRF funding requests
  - MassDEP review
  - Bidding and award
- ⇒ July 2011 through March 2014: Construction



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## The Recommended Plan: Implementation Schedule

Phase 1 Implementation for Collection System Expansion

⇒ 2011 through 2031 in phased approach:

- Design
- SRF funding requests
- MassDEP review
- Bidding and award
- Construction

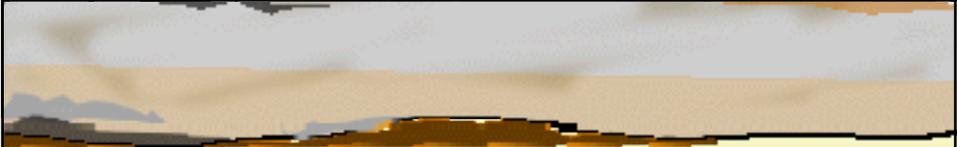


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## Next Steps

- ⇒ MEPA and CCC review of the DCWMP/DEIR
- ⇒ Receive and address review comments
- ⇒ Submit Final CWMP/EIR for review
- ⇒ Receive and address review comments
- ⇒ Proceed with design

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## **QUESTIONS AND DISCUSSION**

The DCWMP/DEIR, and a copy of this presentation  
are located on the Town Web Site:

[http://www.chatham-ma.gov/public\\_documents/ChathamMa\\_CWMPlan/CWMP](http://www.chatham-ma.gov/public_documents/ChathamMa_CWMPlan/CWMP)