



Town of

*Orleans*  
Massachusetts

**Finance Committee  
Water Quality and Wastewater Planning  
Financial Planning Workshop/Training**

April 20, 2017

# Financial Analysis Update - Cost Allocation

## New Scenario Assumptions – One Plant

### ❖ Capital Costs- WWTF and Collection System

- Case 1 – 100% Tax Rate
- Case 2 – 50% Tax Rate, 50% Downtown Area/MHP Special Assessment
- Case 3 – 20% Tax Rate, 80% Downtown Area/MHP Special Assessment (Split 50% Downtown Non-residential, 30% Downtown Residential/MHP)

### ❖ Capital Costs Effluent Disposal and NT - 100% Tax rate

### ❖ O&M&R&M - 100% User Fees

### ❖ Financing

- 30-year 0% SRF
- 10% Grant
- Additional 5% Local Tax Option
- Septage Revenue (\$584,000 annually)
- 15% Contingency for Capital/ Replacement Costs

### ❖ Non-traditional and Septic Only costs do not include individual owner costs to pump and maintain on-site septic systems



# Financial Analysis Update - Cost Allocation

## Setting Minimum and Maximum Costs Methodology

- ❖ Apply Maximum Annual Cost
- ❖ Apply Minimum\* Annual Cost
- ❖ Re-allocate\* the difference of costs Town-wide

\*Excludes undevelopable parcels

	Case 1	Case 2	Case 3
	100% Tax Rate	50% Tax Rate, 50% Special Assessment	20% Tax Rate, 80% Special Assessment (50% Downtown Non-Residential, 30% Downtown Residential/ Meetinghouse Pond)
Number owners with annual cost above:	\$7,000	30	52
Total costs owed by owners with costs above maximum:	\$ 420,464	\$ 765,052	\$ 1,182,348
Balance to cover if they only pay the maximum:	\$ 210,464	\$ 401,052	\$ 720,348
Number of Owners to Increase to Minimum:	\$300	1199	1547
Surplus after minimum charge applied:	\$ 166,946	\$ 224,930	\$ 306,879
Net amount remaining to allocate:	\$ 43,518	\$ 176,122	\$ 413,469
Number of Owners to allocate to:	6,398	6,398	6,398
Additional cost allocated per owner:	\$ 7	\$ 28	\$ 65

Total Owners/Users Town-Wide:	6,559
Total number of owners/users with undevelopable land:	161



# Financial Analysis Update - Cost Allocation Summary – Annual Costs (Year 20)

Case 1	Case 2	Case 3
100% Tax Rate	50% Tax Rate, 50% Special Assessment	20% Tax Rate, 80% Special Assessment (50% Downtown Non-Residential, 30% Downtown Residential/ Meetinghouse Pond)

Area of Orleans							Total Average Annual Charges (Year 20)	Range of Total Annual Charges (Year 20) <sup>8,9</sup>	Total Average Annual Charges (Year 20)	Range of Total Annual Charges (Year 20) <sup>8,9</sup>	Total Average Annual Charges (Year 20)	Range of Total Annual Charges (Year 20) <sup>8,9</sup>
	Type of Waste water Service <sup>1</sup>	Number of Users in Category	Average Wastewater (gpd) <sup>4</sup>	Average Assessed Value <sup>5</sup>	Cost Description <sup>7</sup>							
Sewered Areas	Sewered Area Downtown Non-Residential	384	235	\$505,512	<i>Former Scenario Runs</i>	\$1,550	\$0 - \$35,544	\$2,494	\$0 - \$55,128	\$3,737	\$0 - \$81,405	
					New Scenario Runs	\$1,285	\$307 - \$7,007	\$1,727	\$307 - \$7,028	\$2,148	\$307 - \$7,065	
	Downtown Residential/Meetinghouse Pond	1,176	95	\$330,644	<i>Former Scenario Runs</i>	\$722	\$0 - \$10,657	\$1,072	\$0 - \$19,079	\$1,056	\$0 - \$19,607	
					New Scenario Runs	\$738	\$307 - \$7,007	\$1,091	\$307 - \$7,028	\$1,114	\$307 - \$7,065	
Unsewered Areas	Nitrogen Sensitive Areas Non-Traditional Areas	4,208	118	\$533,329	<i>Former Scenario Runs</i>	\$928	\$0 - \$36,577	\$755	\$0 - \$36,432	\$644	\$0 - \$36,339	
					New Scenario Runs	\$939	\$307 - \$7,007	\$801	\$307 - \$7,028	\$739	\$307 - \$7,065	
	Non-Nitrogen Sensitive Areas Septic Only	791	130	\$643,889	<i>Former Scenario Runs</i>	\$476	\$0 - \$12,791	\$317	\$0 - \$8,524	\$216	\$0 - \$5,790	
					New Scenario Runs	\$518	\$307 - \$7,007	\$418	\$307 - \$7,028	\$397	\$307 - \$5,855	

**Notes**

1. NT Technology = Shellfish, PRB, NRB or On-site I/A System
2. The WWTF will be implemented in phases and therefore users do not pay user charges or special assessments until their phase is implemented. All costs shown here represent "Year 20" when everyone will be connected and paying user charges.
3. Wastewater flows were determined as 95% of the average 2014-2015 water usage data.
4. Assessed values based on FY 2015 assessor's data.
5. Special Assessments are applied to applicable user groups (Downtown and Meetinghouse Pond).
6. Non-residential categories include all parcels that are not 100% residential, such as mixed use, conservation, developable, etc.
7. "Former Scenario Runs" (as determined by the Financial Model) are shown in italics.
8. Maximum and minimum total annual costs were applied, Town-wide. The minimum charge was not applied to the 161 undevelopable parcels. The cost differential was allocated equally Town-wide (with the exception of the 161 undevelopable parcels).
9. The minimum shown for the re-allocated costs does not include undevelopable parcels, which may have an annual cost less than the minimum charge.  
Minimum: \$300 Maximum: \$7,000



# Financial Model Flow Chart

Cost Estimate Sheets	Financing	Downtown Area	Downtown Area Special Assessment Breakdown	Meetinghouse Pond Area	Non-Traditional Technology Area	Septic System Only Area	Discounts, Offsets, and Additional Funds	Financial Model Outputs
Upload Files	Type (SRF or Conventional)	Special Assessment Percentage	Same for Residential, and Non-Residential/Mixed Use Properties	Special Assessment Percentage	Property Taxes Percentage	Property Taxes Percentage	Grant(s) Percentage	Project Complete "All in Year 1" – Average Property Costs
Number of WWTFs	Term (Years)	Property Tax Assessment	Residential Percentage	Property Tax Assessment			Design/Build Savings Percentage	Program Phased over 40-Years – Average Property Costs
Folder for Saving Files	Interest Rate		Non-Residential/Mixed Use Percentage				Design/Build/Operate Savings Percentage	Program Phased over 40-Years – Per Property Costs
							Additional Local Tax Options Percentage	
							Annual Septage Revenue	





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Thank You