



Town of

*Orleans*  
Massachusetts

# Orleans Business Forum Workshop No. 6

## Water Quality and Wastewater Planning

April 4, 2017

# Financial Plan Development

- ❖ **Developed Detailed Model with Functionality**
- ❖ **Developed Initial Scenarios and Average Costs per User Category using Total Number of Users/Owners per User Area**
- ❖ **Incorporated Implementation Phasing Program for Downtown Area and Meetinghouse Pond Area Systems**
- ❖ **Incorporated Parcel Level Water Use and Property Assessment Data (to Better Refine Rates for User Categories)**
- ❖ **Updated and Adjusted Project Costs**
- ❖ **Estimated Average and Parcel-specific Rates for User Categories**
- ❖ **Compared User Costs to EPA Affordability Benchmark (2% MHI) and 2010 Approved CWMP**



# Scenario Development and Assumptions

## ❖ Produced Approximately 24 Scenarios (170 Runs)

## ❖ Key Considerations

- Cost Allocation Across User Groups
- Identification of Costs for Residential and Non-residential Users
- Direct and Indirect Benefit to the Users
- Reasonable “Affordability” using EPA Affordability Benchmark
- Contribution from Downtown Businesses
- Delivery Options Feasibility and Savings



# Scenario Development and Assumptions (cont.)

Component Description	A	B	C	D	E	F	G	H	I
100% Capital Cost on Tax Rate	X	X	X	X	X	X	X		
100% O/M/R/R on User Charge	X	X	X	X	X	X	X	X	X
<del>4% Conventional Financing</del>	<del>X</del>	<del>X</del>							
<del>20 Year Borrowing</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>				
<del>90% Grant/Loan Forgiveness</del>		<del>X</del>							
<del>2% SRF Financing</del>			<del>X</del>						
0% SRF Financing				X	X	X	X	X	X
25% Grant/Loan Forgiveness					X	X	X		
10% Grant/Loan Forgiveness								X	X
30 Year Borrowing						X	X	X	X
D/B/O Savings							X	X	
Local Options Tax							X	X	X
Septage Revenue							X	X	X
One WWTF								X	X
Special Assessments								X	X



# 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



# 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	66
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	1998
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



# 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		Type of Waste water Service <sup>1</sup>	Number of Users in Category	Average Waste water (gpd) <sup>4</sup>	Average Assessed Value <sup>5</sup>	Cost Description <sup>7</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>	Total Average Annual Charges (Year 20)	Range of Total Annual Charges (Year 20) <sup>8, 9</sup>
Sewered Areas	Sewered Area	Sewers & WWTF	384	235	\$505,512	<i>Former Scenario Runs</i>	\$1,550	\$0 - \$35,544	\$2,494	\$0 - \$55,128	\$3,737	\$0 - \$81,405
	Downtown Non-Residential					New Scenario Runs	\$1,285	\$307 - \$7,007	\$1,727	\$307 - \$7,028	\$2,148	\$307 - \$7,065
	Downtown Residential/Meetinghouse Pond		<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	NT Technology or I/A System	4,208	118	\$533,329	<i>Former Scenario Runs</i>	\$928	\$0 - \$36,577	\$755	\$0 - \$36,432	\$644	\$0 - \$36,339
	Non-Traditional Areas					New Scenario Runs	\$939	\$307 - \$7,007	\$801	\$307 - \$7,028	\$739	\$307 - \$7,065
	Non-Nitrogen Sensitive Areas	Title 5 On-Site System	791	130	\$643,889	<i>Former Scenario Runs</i>	\$476	\$0 - \$12,791	\$317	\$0 - \$8,524	\$216	\$0 - \$5,790
						Septic Only	New Scenario Runs	\$518	\$307 - \$7,007	\$418	\$307 - \$7,028	\$397

## 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



# Next Steps

- ❖ **Continue to Refine a Limited Number of Scenarios**
- ❖ **Follow-up Meetings and Review with Downtown Business Owners and Finance Committee**
- ❖ **Follow-up with BOS in April**

