

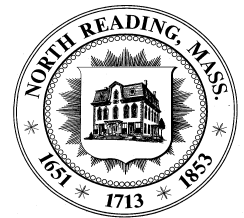
TOWN OF NORTH READING WASTEWATER PROJECT

Information Session

Wednesday, March 8th

North Reading Middle/High School

Distance Learning Lab



History

- Town Meeting Appropriated \$2,893,000 in Oct of 2021 to Facilitate the Preliminary Design of the Municipal Wastewater Project & Conduct a Municipal Wastewater Financial Study
- Since Oct 2021, held Multiple Wastewater Working Group Meetings to Guide the Progress of the Project's Preliminary Design and the Financial Study
- Briefed the Select Board on the Results of the Design & Study
- Met with Other Boards & Committees in the Fall of 2022 to Present these Results and to Get their Feedback
- Conducted Public Outreach Meetings in the Fall of 2022 with Abutters to the Sewer and with Residents Outside of the Sewer District to Gather Comments and Input on the Financial Model Being Considered for the Project
- Reviewed Findings with Select Board on November 7, 2022

History

- Presented revised financing models, including reducing or eliminating use of betterments, on February 13, 2023
- Met with Select Board, Finance Committee, Community Planning Commission, School Committee, and Board of Health on March 2, 2023

THE CONSTRUCTION PROJECT

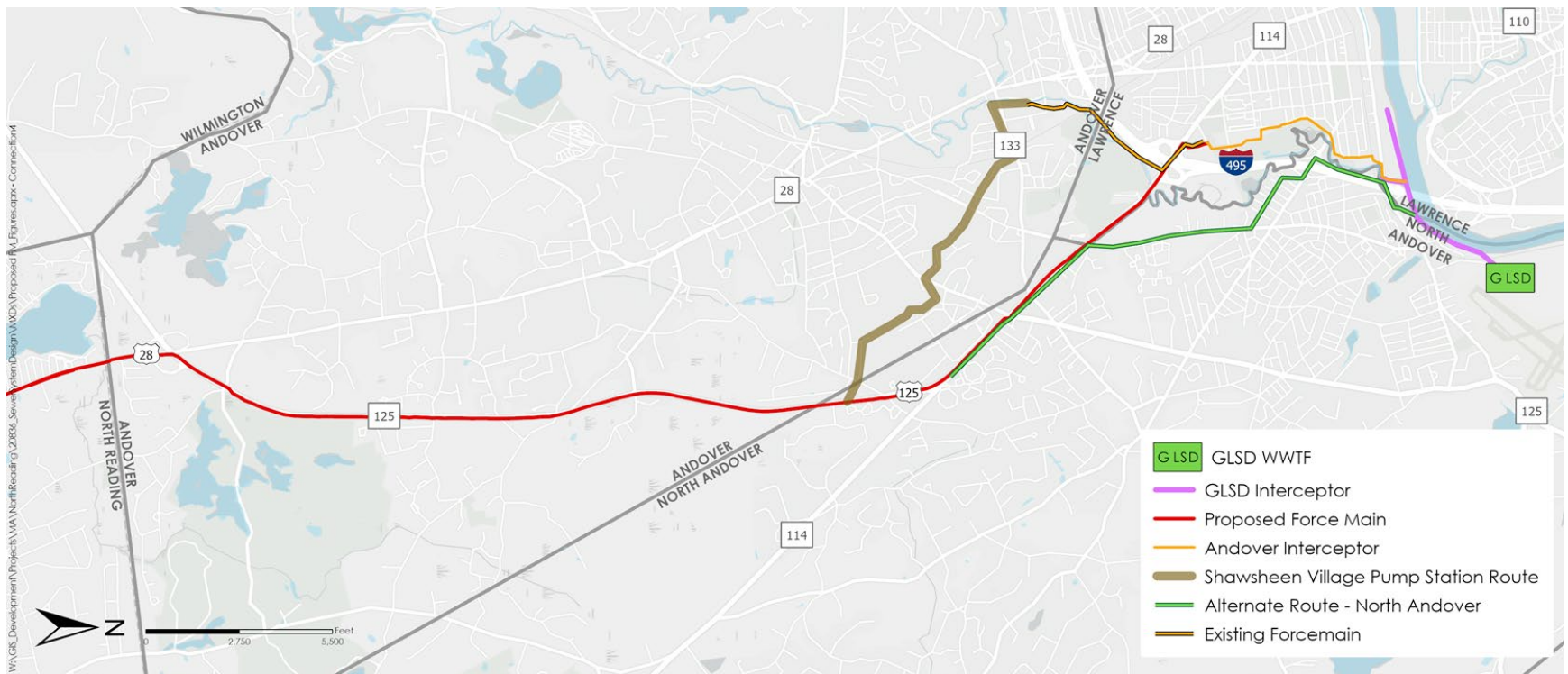
In-Town Wastewater Collection System



How will wastewater be disposed of?

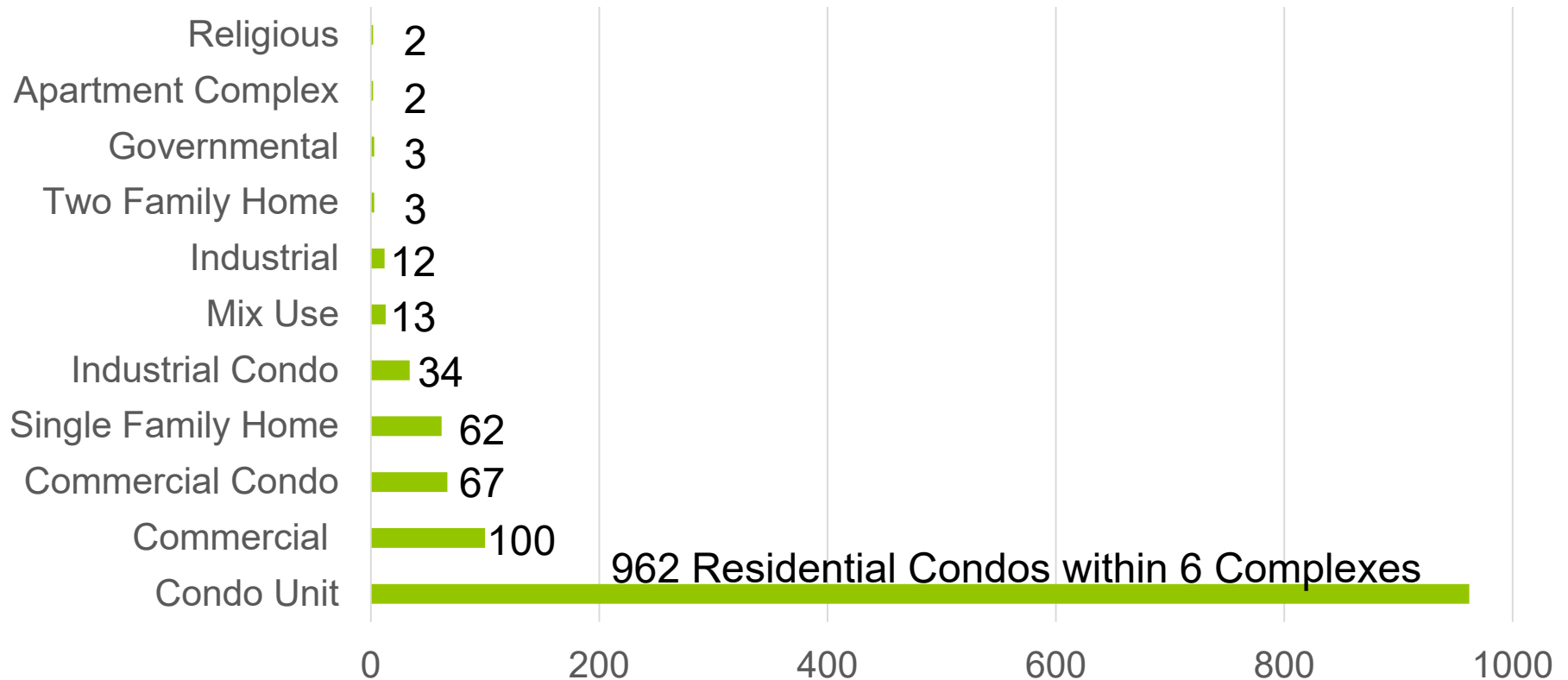
- Discussions with Andover and North Andover have been ongoing. The intended route to convey wastewater via a force main to the Greater Lawrence Sanitary District (GLSD) wastewater treatment plant located in North Andover is to follow Route 28 to Route 125 to Route 114.
- Andover and North Andover have encouraged the Town to look at other options for a route from slightly south of the Route 125 intersection with Route 114 to GLSD.
- Discussions continue with the two communities regarding the best route to connect to GLSD from this area, including potential use of existing gravity sewer line routes that could be upgraded.

Wastewater Conveyance System to GLSD



Property Types in Phase I Area

Property Description



Summary of Wastewater Flows

- Total Wastewater Design/Permitted Flow Capacity being sought is 503,000 gallons per day (gpd)
- Reduced by existing Phase I Wastewater Flow Allocation of 186,000 gpd
- Reduced by Phase II (Martin's Pond) Wastewater Flow Reserve of 32,000 gpd
- Reduce by Ground Water Infiltration allowance of 29,300 gpd
- Reduce by 10% Safety Factor for above Allocations & Reserves of 21,800 gpd
- This results in projected available wastewater flow for future New Growth of 233,900 gpd. The number could vary, particularly if some users in Phase I or II elect not to connect to the system.

WHY SEWER?

Why Sewer? Economic Development

- The Select Board believes that making available a wastewater collection utility (public sewer) in commercial areas will promote economic development by making more land area usable for development and by allowing for more dense development in our commercial/industrial areas
- Increased economic development will provide more local services and more local job opportunities for the region.
- A wastewater collection system will also make possible more multi-family housing construction along Main Street, creating population density to support new businesses.
- The Community Planning Commission has been working over the past five years to identify development possibilities for Main Street.

To the north: Andover



To the south: Reading



CPC Main St. / Winter St. Conceptual Plan

Market/civic squares like in Fort Collins, CO invite a wide range of day and night-time activities and are another alternative for North Reading.



CPC Main St. / Winter St. Conceptual Plan

A Market Square could have apartments over shops and a community building surrounding a market hall. This large space invites public events while outdoor dining and other activities occur throughout.



MAIN STREET/WINTER STREET STUDY, NORTH READING, MA

ABACUS [ARCHITECTS + PLANNERS]

MARKET SQUARE

MARCH 2020

0' 30' 60' 120' 180'



CPC Main St. / Winter St. Conceptual Plan

A pedestrian street lined with apartments over shops can run down the center of the site. Here community buildings sit at each end, and parking is located behind buildings throughout. A residential street crosses the site near Martins Brook.



MAIN STREET/WINTER STREET STUDY, NORTH READING, MA

ABACUS [ARCHITECTS + PLANNERS]

PEDESTRIAN STREET A

MARCH 2020

0' 30' 60' 120'



CPC Main St. / Winter St. Conceptual Plan

A Town Green for North Reading could be surrounded by homes with a community building anchoring the center connecting to park land. Commercial development (with apartments above) lines Main and Winter with parking behind.



CPC Main St. / Winter St. Conceptual Plan

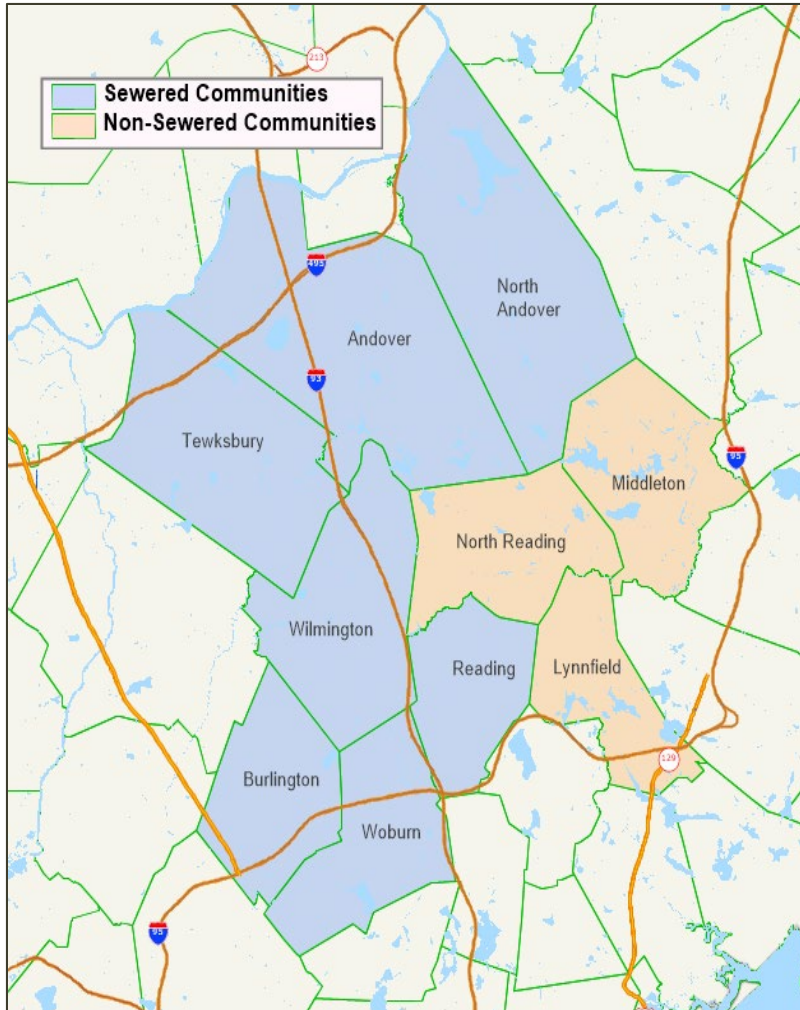
Paved and green open spaces face the intersection and a community building backs up to Martin's Brook. Retail faces Main St., the intersection, and a new retail street. Parking lots are "hidden" behind buildings.



Why sewer? The environment

- A wastewater collection system will help promote public health and environmental protection by:
 - Improving surface and ground water quality (i.e., lakes, rivers, aquifer, wetlands)
 - Providing sustainable long-term solution for wastewater management

Why sewer? Revenue for Services



- FXM Projected Commercial / Industrial, and Multi-Family Residential Growth in the Sewer District is based on Projected Demand in Surrounding Sewered Towns
- Assumes constant tax rate of \$15 / \$1,000 valuation
- Not a feasibility study – for long term planning purposes only

Conclusion: There is sufficient demand within the market area to absorb the projected commercial SF potential and number of units projected

Why Sewer? Revenue for Services

Projections Define
100% Potential Residential Growth,
100% Potential Commercial Growth

Summary Findings Potential Financial Impacts of Proposed Wastewater Management System Commercial & Industrial Properties

	Retail	Industrial/Flex	Office	TOTAL
Potential Increases in Value of Existing Properties (\$2022)	\$ 126,325,000	\$ 41,618,000	\$ 22,118,000	\$ 190,055,000
Potential Net New Growth (2026-2056)				
Inventory (SF)	359,000	1,954,000	305,000	2,618,000
Property Values	\$ 127,841,000	\$ 624,790,000	\$ 149,845,000	\$ 902,476,000
Tax Revenues	\$ 1,918,000	\$ 9,372,000	\$ 2,248,000	\$ 13,537,000

Market Demand Potential Only
Actual Growth Impacted By Town Decision Making

Why Sewer? Revenue for Services

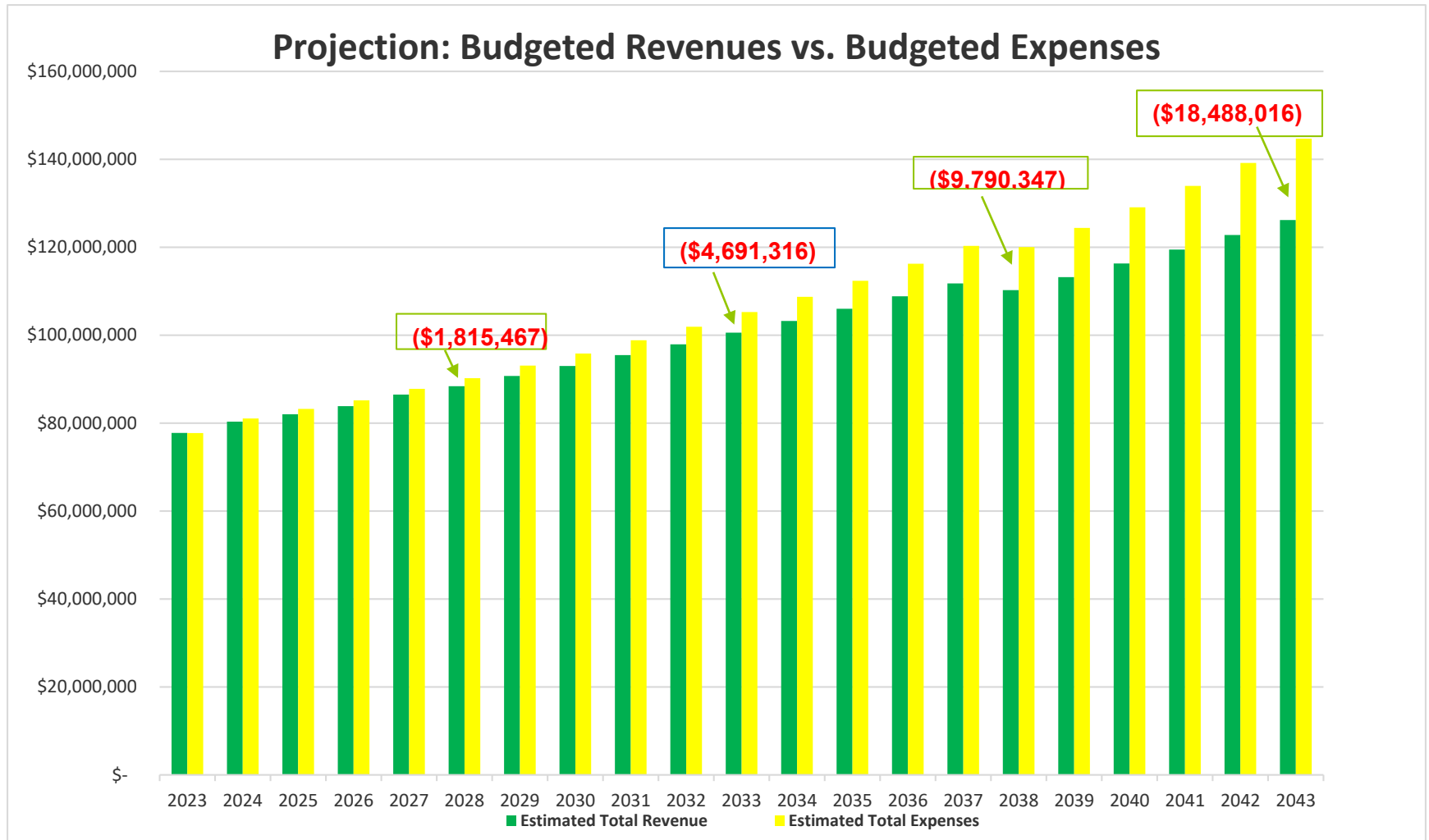
Projections Define
100% Potential Residential Growth,
100% Potential Commercial Growth

Summary Findings				
Potential Financial Impacts of Proposed Wastewater System				
Multifamily Residential Properties				
Potential Net New Growth (2026-2056)				
Inventory (number of units)			1,302	
Property Values		\$	698,587,000	
Tax Revenues		\$	10,479,000	

Market Demand Potential Only
Actual Growth Impacted By Town Decision Making

Town's Financial Projections

(based on 20 year history, current service levels, without sewer)



Projected New Growth (Revenue)

FXM Market Growth at 100% Potential

Potential Market New Growth Adj.		CIP Class 100%	Residential Class 100%	Avg. New Growth Tax Rate Factor Over 30 Years \$15.00 FY22								General Fund Debt Service Tax Obligation
Year	Fiscal Year	Commercial New Growth Property Values	Residential New Growth Property Values	Total New Growth Property Values	Commercial New Growth Tax Levy @ \$15.00 Avg. Tax Rate	Residential New Growth Tax Levy @ \$15.00 Avg. Tax Rate	Total New Growth Tax Levy @ \$15.00 Avg Tax Rate	Prior Year Tax Levy Sewer System Contribution	Prop 2 1/2 2.5% Increase to Prior Year Tax Levy Sewer System Contribution	FY New Growth Added to Tax Levy Sewer System Contribution	FY Total Tax Levy Sewer System Contribution	
0	2022	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	2023	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	2024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	2025	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$228,000
1	2026	\$18,664,213	\$18,442,642	\$37,106,855	\$279,963	\$276,640	\$556,603	\$0	\$0	\$556,603	\$556,603	\$6,403,600
2	2027	\$19,186,811	\$18,682,396	\$37,869,207	\$287,802	\$280,236	\$568,038	\$556,603	\$13,915	\$568,038	\$1,138,556	\$6,000,873
3	2028	\$19,724,042	\$18,925,267	\$38,649,309	\$295,861	\$283,879	\$579,740	\$1,138,556	\$28,464	\$579,740	\$1,746,760	\$6,327,538
4	2029	\$20,276,315	\$19,171,295	\$39,447,610	\$304,145	\$287,569	\$591,714	\$1,746,760	\$43,669	\$591,714	\$2,382,143	\$6,441,923
5	2030	\$20,844,052	\$19,420,522	\$40,264,574	\$312,661	\$291,308	\$603,969	\$2,382,143	\$59,554	\$603,969	\$3,045,665	\$6,438,023
6	2031	\$21,427,685	\$19,672,989	\$41,100,674	\$321,415	\$295,095	\$616,510	\$3,045,665	\$76,142	\$616,510	\$3,738,317	\$6,431,715
7	2032	\$22,027,660	\$19,928,738	\$41,956,398	\$330,415	\$298,931	\$629,346	\$3,738,317	\$93,458	\$629,346	\$4,461,120	\$6,428,123
8	2033	\$22,644,435	\$20,187,812	\$42,832,247	\$339,667	\$302,817	\$642,484	\$4,461,120	\$111,528	\$642,484	\$5,215,132	\$6,421,995
9	2034	\$23,278,479	\$20,450,253	\$43,728,732	\$349,177	\$306,754	\$655,931	\$5,215,132	\$130,378	\$655,931	\$6,001,441	\$6,418,333
10	2035	\$23,930,276	\$20,716,106	\$44,646,382	\$358,954	\$310,742	\$669,696	\$6,001,441	\$150,036	\$669,696	\$6,821,173	\$6,407,008
11	2036	\$24,600,324	\$20,985,416	\$45,585,740	\$369,005	\$314,781	\$683,786	\$6,821,173	\$170,529	\$683,786	\$7,675,489	\$6,408,270
12	2037	\$25,289,133	\$21,258,226	\$46,547,359	\$379,337	\$318,873	\$698,210	\$7,675,489	\$191,887	\$698,210	\$8,565,586	\$6,396,493
13	2038	\$25,997,229	\$21,534,583	\$47,531,812	\$389,958	\$323,019	\$712,977	\$8,565,586	\$214,140	\$712,977	\$9,492,703	\$6,397,053
14	2039	\$26,725,151	\$21,814,533	\$48,539,684	\$400,877	\$327,218	\$728,095	\$9,492,703	\$237,318	\$728,095	\$10,458,116	\$6,389,445
15	2040	\$27,473,456	\$22,098,122	\$49,571,578	\$412,102	\$331,472	\$743,574	\$10,458,116	\$261,453	\$743,574	\$11,463,143	\$6,388,798
16	2041	\$28,242,712	\$22,385,397	\$50,628,109	\$423,641	\$335,781	\$759,422	\$11,463,143	\$286,579	\$759,422	\$12,509,143	\$6,384,733
17	2042	\$29,033,508	\$22,676,407	\$51,709,915	\$435,503	\$340,146	\$775,649	\$12,509,143	\$312,729	\$775,649	\$13,597,520	\$6,377,373
18	2043	\$29,846,446	\$22,971,201	\$52,817,647	\$447,697	\$344,568	\$792,265	\$13,597,520	\$339,938	\$792,265	\$14,729,723	\$6,371,718
19	2044	\$30,682,147	\$23,269,826	\$53,951,973	\$460,232	\$349,047	\$809,280	\$14,729,723	\$368,243	\$809,280	\$15,907,245	\$6,367,518
20	2045	\$31,541,247	\$23,572,334	\$55,113,581	\$473,119	\$353,585	\$826,704	\$15,907,245	\$397,681	\$826,704	\$17,131,630	\$6,354,645
21	2046	\$32,424,402	\$23,878,774	\$56,303,176	\$486,366	\$358,182	\$844,548	\$17,131,630	\$428,291	\$844,548	\$18,404,469	\$6,348,350
22	2047	\$33,332,285	\$24,189,198	\$57,521,483	\$499,984	\$362,838	\$862,822	\$18,404,469	\$460,112	\$862,822	\$19,727,403	\$6,348,133
23	2048	\$34,265,589	\$24,503,658	\$58,769,247	\$513,984	\$367,555	\$881,539	\$19,727,403	\$493,185	\$881,539	\$21,102,126	\$6,338,738
24	2049	\$35,225,026	\$24,822,206	\$60,047,232	\$528,375	\$372,333	\$900,708	\$21,102,126	\$527,553	\$900,708	\$22,530,388	\$6,330,293
25	2050	\$36,211,326	\$25,144,894	\$61,356,220	\$543,170	\$377,173	\$920,343	\$22,530,388	\$563,260	\$920,343	\$24,013,991	\$6,327,670
26	2051	\$37,225,244	\$25,471,778	\$62,697,022	\$558,379	\$382,077	\$940,455	\$24,013,991	\$600,350	\$940,455	\$25,554,796	\$6,320,493
27	2052	\$38,267,550	\$25,802,911	\$64,070,461	\$574,013	\$387,044	\$961,057	\$25,554,796	\$638,870	\$961,057	\$27,154,723	\$6,313,760
28	2053	\$39,339,042	\$26,138,349	\$65,477,391	\$590,086	\$392,075	\$982,161	\$27,154,723	\$678,868	\$982,161	\$28,815,752	\$6,307,345
29	2054	\$40,440,535	\$26,478,147	\$66,918,682	\$606,608	\$397,172	\$1,003,780	\$28,815,752	\$720,394	\$1,003,780	\$30,539,926	\$6,295,998
30	2055	\$41,572,870	\$26,822,363	\$68,395,233	\$623,593	\$402,335	\$1,025,928	\$30,539,926	\$763,498	\$1,025,928	\$32,329,353	\$6,289,718
31	2056	\$42,736,910	\$27,171,054	\$69,907,964	\$641,054	\$407,566	\$1,048,619	\$32,329,353	\$808,234	\$1,048,619	\$34,186,206	\$463,250
30 Yr. TOTALS		\$902,476,100	\$698,587,399	\$1,601,063,499	\$13,537,142	\$10,478,811	\$24,015,952	\$406,810,134	\$10,170,253	\$24,015,952	\$440,996,339	\$191,466,915

Projected New Growth (Revenue)

FXM Market Growth at 100% Potential

		CIP Class	Residential Class	Avg New Growth Tax Rate Factor Over 30 Years										\$13.99 FY23	
Potential Market New Growth Adj.		100%	100%												
Year	Fiscal Year	Commercial New Growth Property Values	Residential New Growth Property Values	Total New Growth Property Values	Commercial New Growth Tax Levy @ \$13.99 Avg. Tax Rate	Residential New Growth Tax Levy @ \$13.99 Avg. Tax Rate	Total New Growth Tax Levy @ \$13.99 Avg. Tax Rate	Prior Year Tax Levy Sewer System Contribution	Prop 2 1/2 Increase to Prior Year Tax Levy Sewer System Contribution	FY New Growth Added to Tax Levy Sewer System Contribution	FY Total Tax Levy Sewer System Contribution	General Fund Debt Service Tax Obligation	30 Year Net General Fund Debt Service Tax Obligation		
0	2022	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
	2023	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
	2024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
	2025	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$228,000	(\$228,000)		
	2026	\$18,664,213	\$18,442,642	\$37,106,855	\$261,112	\$258,013	\$519,125	\$0	\$0	\$519,125	\$519,125	\$6,403,600	(\$5,884,475)		
2	2027	\$19,186,811	\$18,682,396	\$37,869,207	\$268,423	\$261,367	\$529,790	\$519,125	\$12,978	\$529,790	\$1,061,893	\$6,000,873	(\$4,938,979)		
3	2028	\$19,724,042	\$18,925,267	\$38,649,309	\$275,939	\$264,764	\$540,704	\$1,061,893	\$26,547	\$540,704	\$1,629,144	\$6,327,538	(\$4,698,393)		
4	2029	\$20,276,315	\$19,171,295	\$39,447,610	\$283,666	\$268,206	\$551,872	\$1,629,144	\$40,729	\$551,872	\$2,221,745	\$6,441,923	(\$4,220,177)		
5	2030	\$20,844,052	\$19,420,522	\$40,264,574	\$291,608	\$271,693	\$563,301	\$2,221,745	\$55,544	\$563,301	\$2,840,590	\$6,438,023	(\$3,597,432)		
6	2031	\$21,427,685	\$19,672,989	\$41,100,674	\$299,773	\$275,225	\$574,998	\$2,840,590	\$71,015	\$574,998	\$3,486,603	\$6,431,715	(\$2,945,112)		
7	2032	\$22,027,660	\$19,928,738	\$41,956,398	\$308,167	\$278,803	\$586,970	\$3,486,603	\$87,165	\$586,970	\$4,160,738	\$6,428,123	(\$2,267,384)		
8	2033	\$22,644,435	\$20,187,812	\$42,832,247	\$316,796	\$282,427	\$599,223	\$4,160,738	\$104,018	\$599,223	\$4,863,980	\$6,421,995	(\$1,558,015)		
9	2034	\$23,278,479	\$20,450,253	\$43,728,732	\$325,666	\$286,099	\$611,765	\$4,863,980	\$121,599	\$611,765	\$5,597,344	\$6,418,333	(\$820,988)		
10	2035	\$23,930,276	\$20,716,106	\$44,646,382	\$334,785	\$289,818	\$624,603	\$5,597,344	\$139,934	\$624,603	\$6,361,881	\$6,407,008	(\$45,127)		
11	2036	\$24,600,324	\$20,985,416	\$45,585,740	\$344,159	\$293,586	\$637,744	\$6,361,881	\$159,047	\$637,744	\$7,158,672	\$6,408,270	\$750,402		
12	2037	\$25,289,133	\$21,258,226	\$46,547,359	\$353,795	\$297,403	\$651,198	\$7,158,672	\$178,967	\$651,198	\$7,988,837	\$6,396,493	\$1,592,344		
13	2038	\$25,997,229	\$21,534,583	\$47,531,812	\$363,701	\$301,269	\$664,970	\$7,988,837	\$199,721	\$664,970	\$8,853,528	\$6,397,053	\$2,456,475		
14	2039	\$26,725,151	\$21,814,533	\$48,539,684	\$373,885	\$305,185	\$679,070	\$8,853,528	\$221,338	\$679,070	\$9,753,936	\$6,389,445	\$3,364,491		
15	2040	\$27,473,456	\$22,098,122	\$49,571,578	\$384,354	\$309,153	\$693,506	\$9,753,936	\$243,848	\$693,506	\$10,691,291	\$6,388,798	\$4,302,493		
16	2041	\$28,242,712	\$22,385,397	\$50,628,109	\$395,116	\$313,172	\$708,287	\$10,691,291	\$267,282	\$708,287	\$11,666,860	\$6,384,733	\$5,282,128		
17	2042	\$29,033,508	\$22,676,407	\$51,709,915	\$406,179	\$317,243	\$723,422	\$11,666,860	\$291,672	\$723,422	\$12,681,954	\$6,377,373	\$6,304,581		
18	2043	\$29,846,446	\$22,971,201	\$52,817,647	\$417,552	\$321,367	\$738,919	\$12,681,954	\$317,049	\$738,919	\$13,737,921	\$6,371,718	\$7,366,204		
19	2044	\$30,682,147	\$23,269,826	\$53,951,973	\$429,243	\$325,545	\$754,788	\$13,737,921	\$343,448	\$754,788	\$14,836,158	\$6,367,518	\$8,468,640		
20	2045	\$31,541,247	\$23,572,334	\$55,113,581	\$441,262	\$329,777	\$771,039	\$14,836,158	\$370,904	\$771,039	\$15,978,100	\$6,354,645	\$9,623,455		
21	2046	\$32,424,402	\$23,878,774	\$56,303,176	\$453,617	\$334,064	\$787,681	\$15,978,100	\$399,453	\$787,681	\$17,165,234	\$6,348,350	\$10,816,884		
22	2047	\$33,332,285	\$24,189,198	\$57,521,483	\$466,319	\$338,407	\$804,726	\$17,165,234	\$429,131	\$804,726	\$18,399,091	\$6,348,133	\$12,050,958		
23	2048	\$34,265,589	\$24,503,658	\$58,769,247	\$479,376	\$342,806	\$822,182	\$18,399,091	\$459,977	\$822,182	\$19,681,250	\$6,338,738	\$13,342,512		
24	2049	\$35,225,026	\$24,822,206	\$60,047,232	\$492,798	\$347,263	\$840,061	\$19,681,250	\$492,031	\$840,061	\$21,013,342	\$6,330,293	\$14,683,049		
25	2050	\$36,211,326	\$25,144,894	\$61,356,220	\$506,596	\$351,777	\$858,374	\$21,013,342	\$525,334	\$858,374	\$22,397,049	\$6,327,670	\$16,069,379		
26	2051	\$37,225,244	\$25,471,778	\$62,697,022	\$520,781	\$356,350	\$877,131	\$22,397,049	\$559,926	\$877,131	\$23,834,107	\$6,320,493	\$17,513,614		
27	2052	\$38,267,550	\$25,802,911	\$64,070,461	\$535,363	\$360,983	\$896,346	\$23,834,107	\$595,853	\$896,346	\$25,326,305	\$6,313,760	\$19,012,545		
28	2053	\$39,339,042	\$26,138,349	\$65,477,391	\$550,353	\$365,675	\$916,029	\$25,326,305	\$633,158	\$916,029	\$26,875,491	\$6,307,345	\$20,568,146		
29	2054	\$40,440,535	\$26,478,147	\$66,918,682	\$565,763	\$370,429	\$936,192	\$26,875,491	\$671,887	\$936,192	\$28,483,571	\$6,295,998	\$22,187,573		
30	2055	\$41,572,870	\$26,822,363	\$68,395,233	\$581,604	\$375,245	\$956,849	\$28,483,571	\$712,089	\$956,849	\$30,152,509	\$6,289,718	\$23,862,792		
31	2056	\$42,736,910	\$27,171,054	\$69,907,964	\$597,889	\$380,123	\$978,012	\$30,152,509	\$753,813	\$978,012	\$31,884,335	\$463,250	\$31,421,085		
30 Yr TOTALS		\$902,476,100	\$698,587,399	\$1,601,063,499	\$12,625,641	\$9,773,238	\$22,398,878	\$379,418,251	\$9,485,456	\$22,398,878	\$411,302,586	\$191,466,915	\$219,835,671		

Projected New Growth (Revenue)

FXM Market Growth at 100% Potential

		CIP Class	Residential Class	Avg New Growth Tax Rate Factor Over 30 Years	
Potential Market New Growth Adj.		100%	100%		\$13.99
Debt Service Year	Fiscal Year	Commercial New Growth Tax Levy @ \$13.99 Avg. Tax Rate	Residential New Growth Tax Levy @ \$13.99 Avg. Tax Rate	FY Total Tax Levy Sewer System Revenue	General Fund Debt Service Tax Obligation
3	2028	\$275,939	\$264,764	\$1,629,144	\$6,327,538
8	2033	\$316,796	\$282,427	\$4,863,980	\$6,421,995
13	2038	\$363,701	\$301,269	\$8,853,528	\$6,397,053
18	2043	\$417,552	\$321,367	\$13,737,921	\$6,371,718
23	2048	\$479,376	\$342,806	\$19,681,250	\$6,338,738
28	2053	\$550,353	\$365,675	\$26,875,491	\$6,307,345

Projected New Growth (Revenue)

FXM Market Growth at 75% Potential

Potential Market New Growth Adjustment		CIP Class	Residential Class	Avg New Growth Tax Rate Factor Over 30 Years	
		75%	75%		\$13.99
Debt Service Year	Fiscal Year	Commercial New Growth Tax Levy @ \$13.99 Avg. Tax Rate	Residential New Growth Tax Levy @ \$13.99 Avg. Tax Rate	FY Total Tax Levy Sewer System Revenue	General Fund Debt Service Tax Obligation
3	2028	\$206,955	\$198,573	\$1,221,858	\$6,327,538
8	2033	\$237,597	\$211,821	\$3,647,985	\$6,421,995
13	2038	\$272,776	\$225,952	\$6,640,146	\$6,397,053
18	2043	\$313,164	\$241,025	\$10,303,441	\$6,371,718
23	2048	\$359,532	\$257,105	\$14,760,937	\$6,338,738
28	2053	\$412,765	\$274,257	\$20,156,618	\$6,307,345

Projected New Growth (Revenue)

FXM Market Growth at 50% Potential

Potential Market New Growth Adjustment		CIP Class	Residential Class	Avg. New Growth Tax Rate Factor Over 30 Years	
		50%	50%		\$13.99
Debt Service Year	Fiscal Year	Commercial New Growth Tax Levy @ \$13.99 Avg. Tax Rate	Residential New Growth Tax Levy @ \$13.99 Avg. Tax Rate	FY Total Tax Levy Sewer System Revenue	General Fund Debt Service Tax Obligation
3	2028	\$137,970	\$132,382	\$814,572	\$6,327,538
8	2033	\$158,398	\$141,214	\$2,431,990	\$6,421,995
13	2038	\$181,851	\$150,634	\$4,426,764	\$6,397,053
18	2043	\$208,776	\$160,684	\$6,868,961	\$6,371,718
23	2048	\$239,688	\$171,403	\$9,840,625	\$6,338,738
28	2053	\$275,177	\$182,838	\$13,437,746	\$6,307,345

Projected New Growth (Revenue)

FXM Market Growth at 25% Potential

		CIP Class	Residential Class		
Potential Market New Growth Adjustment		25%	25%	Avg New Growth Tax Rate Factor Over 30 Years	\$13.99
Debt Service Year	Fiscal Year	Commercial New Growth Tax Levy @ \$13.99 Avg. Tax Rate	Residential New Growth Tax Levy @ \$13.99 Avg. Tax Rate	FY Total Tax Levy Sewer System Revenue	General Fund Debt Service Tax Obligation
3	2028	\$68,985	\$66,191	\$407,286	\$6,327,538
8	2033	\$79,199	\$70,607	\$1,215,995	\$6,421,995
13	2038	\$90,925	\$75,317	\$2,213,382	\$6,397,053
18	2043	\$104,388	\$80,342	\$3,434,480	\$6,371,718
23	2048	\$119,844	\$85,702	\$4,920,312	\$6,338,738
28	2053	\$137,588	\$91,419	\$6,718,873	\$6,307,345

HOW WOULD WE PAY FOR SEWER?

Wastewater Project Cost Breakdown

- Total Project Cost Estimate = \$129,100,000
 - General Benefit Facilities Cost (To Pump Out of Town) = \$73,580,000
 - Special Benefit Facilities Cost (In Town Collection) = \$55,520,000
\$129,100,000
- Project Cost Eligible for Low Interest **SRF Loan** = \$112,600,000
- Project Cost Not Eligible for Low Interest **SRF Loan** = \$16,500,000
\$129,100,000

Additional Financial Assistance Available

- **\$1.5 million** in federal funding for final design earmarked for the Town (Congressman Moulton; Senators Warren and Markey)
- **\$250,000** in state funding for design/permitting earmarked for the Town (Rep. Jones and Senator Tarr)
- It is anticipated that these grants will reduce the amount of funding to be borrowed.
- Additionally, the Town has available for potential use:
 - **\$15 million** from the sale of Town-Owned Land (Berry Property/104 Lowell Road)
 - **\$4 million** from American Rescue Plan Act funding

“SRF”

- The Town has been notified that the wastewater project has been included on the Massachusetts State Revolving Fund (SRF) program 2023 Draft Intended Use plan.
- SRF is a federal-state partnership that provides communities low-cost financing for a wide range of water quality infrastructure projects.
- Construction Costs are Eligible for SRF Financing.
- Design Cost, Land Purchases, Administrative Costs and Fees are not.
- For Eligible Costs, the standard terms are 2% interest for a 20 year repayment period or 2.4% for a 30-year repayment period.
- Non-Eligible Project Cost is financed at the current market Interest rate.
- The Initial Project Borrowing will require a Short Term Interest Only Bond Anticipation Note (BAN) at current market interest rate.

Wastewater Project Borrowing Over a 30 Year Repayment Period

112.6 Million in
SRF Eligible Cost
16.5 Million in
Non-Eligible Cost

4% BAN Rate
5% Market Rate
2.4% SRF Rate

Town of North Reading, Massachusetts \$129,100,000 Wastewater				Est. Tax Rate Impact Per \$1,000 in Property Value
112,600,000	Est. MCWT Eligible Costs			
16,500,000	Est. Ineligible Costs			
1,750,000	Application of Grants (\$1.5M Federal Funds + \$250k State Funding)			
14,750,000	Est. Ineligible Costs; GOB Financing			
4.00	Est. BAN Rate			
5.00	Est. GOB 30yr Bond Rate			
2.40	Est. MCWT 30yr Rate			
Financing Plan 1 - 30yrs				Est. Tax Impact Per \$1,000 in Property Value

Fiscal Year	Est. Short Term Interest	Est. MCWT 30yr dated June 2025	Est. \$7.7M GOB dated June 2026	Est. \$7.05M GOB dated June 2028	Projected Debt Service	Est. Tax Rate Impact Per \$1,000	Est. Impact per \$100,000 Home Valuation
06/30/2024	-	-	-	-	-	0.05	5.37
06/30/2025	228,000	-	-	-	228,000.00	1.41	151.26
06/30/2026	308,000	6,095,600	-	-	6,403,600.00	1.49	148.95
06/30/2027	16,000	5,474,873	510,000.00	-	6,000,872.50	1.51	151.64
06/30/2028	352,000	5,466,788	508,750.00	-	6,327,537.50	1.52	151.55
06/30/2029	-	5,467,173	507,250.00	467,500.00	6,441,922.50	1.51	151.40
06/30/2030	-	5,460,773	510,500.00	466,750.00	6,438,022.50	1.51	151.32
06/30/2031	-	5,457,715	508,250.00	465,750.00	6,431,715.00	1.51	151.17
06/30/2032	-	5,452,873	510,750.00	464,500.00	6,428,122.50	1.51	151.09
06/30/2033	-	5,446,245	507,750.00	468,000.00	6,421,995.00	1.51	150.92
06/30/2034	-	5,442,833	509,500.00	466,000.00	6,418,332.50	1.51	150.85
06/30/2035	-	5,437,508	505,750.00	463,750.00	6,407,007.50	1.51	150.57
06/30/2036	-	5,435,270	506,750.00	466,250.00	6,408,270.00	1.51	150.59
06/30/2037	-	5,425,993	507,250.00	463,250.00	6,396,492.50	1.51	150.41
06/30/2038	-	5,424,803	507,250.00	465,000.00	6,397,052.50	1.50	150.39
06/30/2039	-	5,416,445	506,750.00	466,250.00	6,389,445.00	1.50	150.30
06/30/2040	-	5,411,048	510,750.00	467,000.00	6,388,797.50	1.50	150.12
06/30/2041	-	5,408,483	509,000.00	467,250.00	6,384,732.50	1.50	149.99
06/30/2042	-	5,403,623	506,750.00	467,000.00	6,377,372.50	1.50	149.89
06/30/2043	-	5,396,468	509,000.00	466,250.00	6,371,717.50	1.50	149.59
06/30/2044	-	5,392,018	510,500.00	465,000.00	6,367,517.50	1.49	149.44
06/30/2045	-	5,385,145	506,250.00	463,250.00	6,354,645.00	1.49	149.43
06/30/2046	-	5,375,850	506,500.00	466,000.00	6,348,350.00	1.49	149.21
06/30/2047	-	5,374,133	511,000.00	463,000.00	6,348,132.50	1.49	149.01
06/30/2048	-	5,364,738	509,500.00	464,500.00	6,338,737.50	1.49	148.95
06/30/2049	-	5,357,793	507,250.00	465,250.00	6,330,292.50	1.49	148.78
06/30/2050	-	5,353,170	509,250.00	465,250.00	6,327,670.00	1.49	148.63
06/30/2051	-	5,345,743	510,250.00	464,500.00	6,320,492.50	1.48	148.47
06/30/2052	-	5,340,510	510,250.00	463,000.00	6,313,760.00	1.48	148.21
06/30/2053	-	5,332,345	509,250.00	465,750.00	6,307,345.00	1.48	148.06
06/30/2054	-	5,321,248	507,250.00	467,500.00	6,295,997.50	1.48	147.90
06/30/2055	-	5,317,218	509,250.00	463,250.00	6,289,717.50	1.48	147.80
06/30/2056	-	-	-	463,250.00	463,250.00	0.11	1.00
06/30/2057	-	-	-	467,250.00	467,250.00	0.11	1.00
Total	904,000	\$162,784,415.00	\$14,748,500.00	\$13,497,250.00	\$191,934,165.00		

NOTES:
FY23 Valuation = 4,248,113,076
Interest estimated, subject to change.

Averages
\$1.50/\$1,000 in
Assessed
Property Value
over 30 Years

Averages
\$150/\$100,000
in Assessed
Property Value
over 30 Years

Would the Town be allowed to incur the debt associated with this project?

- Yes, the Town is allowed to incur the debt associated with this project.
- The Town's current debt limit is \$180,383,440 and, with state approval, the debt limit can be doubled to \$360,766,880. The outstanding debt and debt authorized but not yet issued subject to the debt limit is 15,077,369.75, leaving additional borrowing capacity of \$165,306,070 under the normal debt limit and \$345,689,510 under the double debt limit.
- Having the capacity should not be confused with the Town's ability to support the payment of additional debt service within the Town's Proposition 2 ½ levy limit or the need for additional revenues (betterment assessment revenues or debt exclusion revenues).

Municipal Finance: Debt Exclusion

- A debt exclusion is a vote to exclude from the levy limit the costs of debt service for capital projects. This exclusion remains in effect for the life of the debt only.
- A project funded by a debt exclusion is paid for by raising property taxes townwide above and beyond what they would normally be in a given year or years.

Wastewater Project Borrowing as a Debt Exclusion

- Debt Exclusion Tax on Average Valued Single Family Home = \$745,319:
 - Average over the 30 Year Project Borrowing Period = \$1,116 per Year
- This Debt Exclusion Amount can be Reduced with the use of Other Revenues Sources to lower the Amount Borrowed or to Contribute to Payment of the Annual Debt Service Amount and includes:
 - Betterment Assessment Revenue
 - Privilege Fee Revenue
 - Use of Available Funds (ARPA, Sale of Town Land (Pulte), Etc)

Betterments and Privilege Fees

- Betterments are generally guaranteed revenue to offset the cost of a project. To assess a betterment, Town Meeting approval in the form of a bylaw or specific vote is required.
- Privilege Fees are not guaranteed and only occur when a property owner who was not subject to a betterment decides to connect. Privilege fees can also be assessed to a property that paid a betterment but is seeking more wastewater capacity than it was bettered for. To assess a privilege fee, Town Meeting approval in the form of a bylaw or specific vote is required. To assess a privilege fee to a property that has paid a betterment and is seeking additional wastewater flow, special legislation (approval from the state) is required.

Decisions

- Should we bond (borrow) for this project?
 - In any scenario, the Town will have to seek a bond authorization at Town Meeting. The Town does not have sufficient funding on hand to pay for the cost of this project. The Town also does not have sufficient funding to make debt payments on a bond within the existing tax levy.
- Rely solely on funding from a townwide debt exclusion?
 - All taxpayers would pay for the project in the form of an additional cost in their tax bill with no portion of the cost assessed as a special benefit to property owners along the project route.
- Assess betterments to reduce the cost to the taxpayer townwide?
 - This would require abutting property owners to pay a portion of the overall project costs upfront or over the term of repayment of the bond, reducing the cost to taxpayers townwide. This assessment would be roughly equivalent to the increase in property value resulting from the availability of public sewer, and payments would be required regardless of whether or not a property owner chooses to connect to the system. The assessment of betterments requires Town Meeting approval in a bylaw or specific vote.
- If so, how much should the betterment be?
 - A series of scenarios will follow.
- Assess privilege fees?
 - This would require abutting property owners to pay a portion of the overall project costs only if they choose to connect to the sewer. They can connect at the time of construction or at a later time. The use of privilege fees requires Town Meeting approval in a bylaw or specific vote.

Financing Scenarios

Wastewater Project Funding from Debt Exclusion, Betterment Assessments & Sewer Privilege Fees

**TABLE 1
BETTERMENTS & SEWER PRIVILEGE
FEE ASSESSMENT COMPARISONS**

	No Betterments or Privilege Fees	Opt In & Pay Privilege Fees Upon Connection			Betterments Liened Upon Construction		
	100% Debt Exclusion With No Betterment Assessments	\$5,000 Single Family Sewer Privilege Fee	\$10,000 Single Family Sewer Privilege Fee	\$20,000 Single Family Sewer Privilege Fee	With \$5,000 Single Family Betterment Assessments	With \$10,000 Single Family Betterment Assessments	With \$20,000 Single Family Betterment Assessments
Property Description	Title V Current Design Flows	Title V Current Design Flows	Title V Current Design Flows	Title V Current Design Flows	Title V Current Design Flows	Title V Current Design Flows	Title V Current Design Flows
Project Cost to be Borrowed:	\$127,350,000	\$127,350,000	\$127,350,000	\$127,350,000	\$127,350,000	\$127,350,000	\$127,350,000
Project Cost Paid for as Debt Exclusion:	\$127,350,000	\$127,350,000	\$127,350,000	\$127,350,000	\$120,815,000	\$114,280,000	\$101,210,000
Debt Exclusion per \$100,000 in Assessed Property Value:	\$1.50	\$1.50	\$1.50	\$1.50	\$1.42	\$1.35	\$1.21
Debt Exclusion for Avg Single Family Home = \$745,319:	\$1,116	\$1,116	\$1,116	\$1,116	\$1,062	\$1,008	\$901
Project Cost Paid for as Betterments:					\$6,535,000	\$13,070,000	\$26,140,000
Total Number of Sewer Units Assessed:					1,307	1,307	1,307
Single Family Home Betterment Cost = 1 Sewer Unit :	\$0	\$5,000	\$10,000	\$20,000	\$5,000	\$10,000	\$20,000
Condominium Units, 1 Bedroom:	\$0	\$1,667	\$3,333	\$6,667	\$1,667	\$3,333	\$6,667
Condominium Units, 2 Bedroom:	\$0	\$3,333	\$6,667	\$13,333	\$3,333	\$6,667	\$13,333
Condominium Units, 3 Bedroom:	\$0	\$5,000	\$10,000	\$20,000	\$5,000	\$10,000	\$20,000
Condominium Units, 4 Bedroom:	\$0	\$5,000	\$10,000	\$20,000	\$5,000	\$10,000	\$20,000

Septic System Repair/Replacement Costs

Ranges between \$25,000 - \$50,000 for the typical Single Family Home

Septic System Costs							
		Local Contractors		Town's Design Engineer		Local Design Engineer	
		NR Contractor 1	NR Contractor 2	Wright-Pierce 1	Wright-Pierce 2	Eng Costs	Const Costs
Repair	Replace Septic Tank	\$6,000 to \$7,000	\$8,500			\$0	\$5,000 to \$7,000
	Replace Leaching Field	\$20,000 to \$30,000	\$20,000			\$2,250 to \$2,750	\$20,000 to \$25,000
	Replace Raised Leaching Field	\$25,000 to \$40,000				\$2,250 to \$2,750	\$30,000 to \$35,000
New	Conventional (Gravity) Septic System	\$25,000 to \$40,000	\$38,500	\$30,000 to \$40,000	\$24,000 to \$28,000	\$2,250 to \$2,750	\$32,500 to \$40,000
	Pumped system with Raised Leaching Field	\$35,000 to \$45,000	\$60,000		\$32,000 to \$36,000	\$2,250 to \$2,750	\$37,500 to \$47,500
	Non-Conventional System (Alternative Technology)	\$30,000 to \$50,000				\$2,250 to \$3,250	Can add \$7,000 to \$8,000

Septic Systems Along the Route

- Board of Health has indicated that it may consider requiring properties along the route that experience total or significant septic system failure to connect to the system.
- Board of Health has indicated that it may consider requiring properties along the route that seek to expand / construct additions to connect to the system.
- Board of Health has indicated that it would be unlikely to require properties along the route that require septic system repairs to connect to the system.
- Systems over 10,000 gallons per day fall outside of the Board of Health's regulation and are regulated by the Massachusetts Department of Environmental Protection

Sewer Rates of the GLSD Municipalities

- Rates are shown per Hundred Cubic Feet (HCF) Quantities which is approximately 748 Gallons
 - Andover: \$4.45 per HCF
 - North Andover: \$9.24 per HCF
 - Lawrence: \$3.58 per HCF
 - Methuen: \$4.48 per HCF
 - Salem New Hampshire: \$4.65 per HCF
- Using Highest Sewer Rate of the GLSD Municipalities = \$9.24
- The Average Single Family Home using 130 GPD
- The Average Quarterly Sewer Bill = \$147

Operating a Sewer System

- The cost to operate a sewer system varies from community to community.
- Factors include maintenance costs, proximity to plant, and age of system.
- The long-term goal is to have fees from the users cover the cost of operating the system, however in the earlier years following the construction of the system it is likely that a general fund subsidy will be required to ease the burden on the users (ratepayers).

Sewer Operating Costs / Utility Bills

North Reading		
Wastewater Collection System		
Estimated Annual Sewer Operating Budget		
Components	Cost	
Salary	\$450,000	
Benefits/Insurances	\$ 300,000	est. 2/3 labor costs
Sewer Charges from Municipality	TBD	
Sewer Charges from GLSD	TBD	
Electricity	\$66,000	
Chemicals	\$300,000	
Other expenses	\$50,000	estimated based on other Towns' budgets

Next Steps: Meetings / Info Sessions

- | | |
|--|---|
| • Monday, February 13, 2023 | Select Board Update on Wastewater Project Financing |
| • Monday, February 27, 2023 | Select Board By-Law Warrant Article Informational Hearing and Wastewater Project Discussion |
| • Thursday, March 2, 2023 | Town Boards & Committees Informational Meeting |
| • Monday, March 6, 2023 | Town Meeting on Sewer Betterment By-Law Petition |
| • Wednesday, March 8, 2023 | Public Outreach Meeting #1 (In Person) |
| • Monday, March, 2023 | Select Board Actions on WWP Financing |
| • Wednesday, April 5, 2023 | Public Information Session #2 (Virtual) |
| • Wednesday, April 12, 2023 | Public Information Session #3 (In Person) |
| • Monday, May 8, 2023 | Select Board Warrant Article Informational Hearing |
| • Monday, May 15, 2023 | Town Meeting for Wastewater Project Borrowing |
| • No More Than 90 Days Later | Special Election for Wastewater Project Debt Exclusion |

Questions and Answers