# City of Newton, MA

Phase 1 Phosphorus Control Plan Alternative Schedule Request

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## APPENDICES

# ALTERNATIVE SCHEDULE REQUEST SYNOPSIS

This Synopsis provides a summary of the following Alternative Schedule Request (ASR). The synopsis is organized by ASR section and incorporates information from the respective sections and applicable appendices.

**Introduction (Executive Summary):** The Massachusetts Small Municipal Separate Storm Sewer Systems (MS4) General Permit requires that permittees in the Charles River watershed reduce stormwater related phosphorus loading to the Charles River. Execution of a 20% reduction is required by June 2026 and a 25% reduction by June 2028. During development of the City of Newton's Phase 1 PCP, and associated implementation schedule, it was anticipated that the City could not feasibly execute the number of projects necessary to achieve these reduction requirements in the required timelines. The number of projects, their associated complexity and cost, and community impacts, such as construction disruption and staff labor resources, present a significant schedule challenge for the City. Therefore, it was anticipated that an Alternative Schedule Request would be submitted.

An Alternate Schedule Request (ASR) is permissible in accordance with the MS4 General Permit, Appendix F, Section A.I.1.a.3 if the permittee determines that the schedule to meet the Phase 1 reduction requirement is impracticable. Six elements are required as part of an ASR: narrative identifying the reasons for the request and of efforts to date; analysis of non-structural controls implemented to date; description of Phase 1 structural controls for which a schedule adjustment is requested; associated cost of the structural controls for which the schedule adjustment is requested; affordability analysis and financial capability assessment; and the requested schedule to meet Phase 1 requirements. The City of Newton's ASR addresses each of these elements.

The City of Newton is a Small MS4 permittee. The City's Phase 1 phosphorus reduction requirement is unique; it is the second largest in Massachusetts and is only exceeded by Boston, a Medium/Large MS4 permittee. The City's Phase 1 PCP reduction requirement is larger than 33 of the Small MS4's Phase 2 reduction requirements and exceeds 27 of the Small MS4's total Phase 3 reduction requirements. As such, the City's situation aligns with components of the MS4 General Permit's Phase 2 and Phase 3 Alternative Schedule Request descriptions. Key considerations for schedule implementation, such as site suitability, planning, design, permitting, and financing, are as critical as affordability.

**Background and Overall Progress to Date (Section 1):** The City of Newton manages a vast stormwater system and its associated challenges. The stormwater system includes over 13,000 catch basins and 320 miles of storm drain pipe, among other infrastructure, with an annual operating budget of $5.8M. The City has an outstanding debt of $4M, expected additional expenditures of $5M annually for phosphorus control, and over $20M expected expenditures over the next decade on non-phosphorus related stormwater projects. This funding supports MS4 compliance, flood mitigation, aging infrastructure, and stormwater pollution prevention and phosphorus control planning. Given Newton's historical development of low-lying areas, flooding is a key concern for the City. This stormwater funding supports Newton's regulatory obligations and improvements for community benefit. As part of the City's commitment to environmental sustainability, they continue to make significant advances with their stormwater nutrient management program through thoughtful planning and alignment of capital improvements across all facets of City planning.

Newton's total phosphorus load reduction requirement is defined by the MS4 General Permit as 5,214 pounds/year (lbs/yr). In accordance with the MS4 General Permit milestones (Permit Table F-1), the City of Newton completed a Phase 1 PCP in June 2023. The Phase 1 PCP outlines potential implementation measures to achieve the City's Permit Year (PY) 8 and Permit Year (PY) 10 phosphorus reduction milestones of 20% and 25%, respectively. The Phase 1 PCP also outlines the associated implementation cost and schedule among other related elements. Newton's Phase 1 PCP considered 430 municipally owned properties for stormwater control retrofit potential and identified 111 parcels with retrofit potential. Retrofit potential evaluation considered factors like topography, environmental resource areas, utility constraints, ability to convey runoff to the site, and other factors; this analysis is outlined in Appendix E of the City's Phase 1 PCP.

Of these 111 parcels with retrofit potential, 52 municipal properties were prioritized for implementation of Phase 1 structural stormwater retrofits, some with multiple projects per parcel for a total of 58 priority stormwater retrofit projects. Additionally, 10 retrofit projects were identified within municipal rights-of-way. A total of 68 projects were identified for advancement and implementation to support the Phase 1 load reduction requirements. In order to accomplish the proposed Phase 1 PCP, approximately 15% of all municipal parcels, primarily schools and parks, would be disrupted by concurrent construction impacts over the 5-year Phase 1 timeline (2023-2026). Additionally, these structural Stormwater Control Measure (SCM) projects were estimated to cost $112M (2023 dollars) based on EPA unit costs for anticipated projects; these unit costs attribute a cost ($) per cubic foot (CF) of stormwater treatment storage volume and depend on the selected SCM type (infiltration chambers, biofiltration, etc.). Of the estimated $112M for Phase 1 SCMs, approximately $100M is associated with PY8 implementation and the remainder PY10 implementation. This breakdown of implementation cost was based on the City's Phase 1 PCP Permit Timeline Schedule; to meet the required PY8 (20%) load reduction requirement 63 projects were identified for implementation, with the remaining 5 projects to be implemented in support of PY10 (25%) load reduction requirements.

The required timeline would present significant challenges for vital public access with more than 30 parks/recreational areas estimated to undergo construction concurrently in 2025 and 2026. Due to the City's concerns over feasibility and community impacts associated with implementing such a significant number of large scale projects concurrently in municipal parcels, a second schedule was developed with the Phase 1 PCP, the Phase 1 Constraint Schedule. The Constraints Schedule considered number and complexity of concurrent projects, community impacts, and associated implementation costs. The Constraints Schedule depicted an implementation timeline of approximately 55 years, as such the City of Newton anticipated the submittal of a Phase 1 ASR.

The City continues to make advancements in phosphorus load reduction, as evidenced by their most recent (PY7) Performance Evaluation. This PY7 Performance Evaluation is summarized in Section 1.2 of this ASR report. The City's reduction requirement decreased from 5,214 lbs/yr (MS4 General Permit) to approximately 4,692 lbs/yr (PY7 Performance Evaluation) based on updated land use/land cover analysis resulting in required phosphorus load reductions of approximately 938 lbs/yr (PY8) and 1,173 lbs/yr (PY10). The City continues to implement and optimize their non-structural control program, with a current annual non-structural load reduction of approximately 52 lbs/yr. They also continue to document and account for municipal and private structural SCMs resulting in approximately 112 lbs/yr of load reduction. Though the City has identified approximately 162 lbs/yr of load reduction through known/planned projects, a credit gap remains for both compliance years. Given the magnitude of the credit gap, it is impracticable for the City to meet their Phase 1 reductions in the required permit timelines.

**Non-Structural Control Progress and Optimization (Section 2):** Since submission of the City's Phase 1 PCP, Newton has continued to refine and enhance its non-structural phosphorus control program, with a focus on improving street sweeping and leaf litter collection efficiency. In Fall 2024, the City restructured sweeping routes and prioritized high-impact areas; however, equipment limitations constrained vacuum sweeping, resulting in biweekly sweeping of most priority routes and monthly sweeping of nearly all other routes. To improve performance and maximize phosphorus reduction credit, the City is tracking sweeping productivity in detail, updating route design and operating procedures, procuring new sweeping equipment, and coordinating sweeping with other municipal services.

The City also evaluated its sweeping program under both the 2016 MS4 General Permit and the Draft 2024 MS4 General Permit and determined that proposed policy changes significantly reduce available sweeping credit, by nearly 10 lbs/yr, despite increased operational effort. The Draft 2024 Permit provides less credit flexibility for Permittees and does not include the measured approach, which was included in the recommendations in the "Clean Sweep Recommendations for New and Updated Credits for Street Cleaning in New Hampshire", published in 2022 with oversight from EPA. The measured approach would drastically increase non-structural phosphorus reduction credit, incentivizing regulated dischargers to expand leaf litter collection practices, resulting in earlier and effective stormwater quality improvements.

While continued refinements of the City's non-structural control program are expected to improve water quality outcomes, non-structural controls alone are unlikely to materially affect the Phase 1 implementation schedule without corresponding changes to MS4 General Permit-defined crediting policies.

**Structural Control Planning and Progress (Section 3):** The City of Newton has maintained rigorous post-construction stormwater management requirements since 2004 and updated its Stormwater Management Ordinance and related rules in 2022. Through their Stormwater Management Ordinance and Stormwater Management and Erosion Control Rules and Regulations, effective control of runoff from development and redevelopment is ensured. City regulations require volume retention, peak flow control, sediment removal, and phosphorus reduction, depending on the type of project. Stormwater retention and mitigation are required for projects increasing impervious area by as little as 401 square feet, with more stringent requirements for larger projects. These standards have resulted in the installation of thousands of private stormwater control measures (SCMs) over time.

The MS4 General Permit requires permittees to certify that the SCMs credited for phosphorus reduction have been inspected and maintained in accordance with the system O&M program, are performing as originally designed, and further requires the date of last completed inspection and maintenance. While systems constructed prior to April 2022 are required to perform inspection and maintenance, the City's previous regulations did not specifically require annual inspection and maintenance reports to be submitted to the City, currently limiting available documentation. However, private SCMs permitted after the 2022 regulatory changes are accounted for in the City's annual Performance Evaluations.

A Phase 1 ASR is required to provide information demonstrating the applicant's efforts and extent of progress made toward meeting the required phosphorus reductions as well as a description of the planned Phase 1 structural controls for which schedule adjustment is requested. Per the City's PY7 Performance Evaluation, and documented in Table 1-2 of this report, approximately 112 lbs/yr of load reduction has been achieved through structural measures, with another approximately 162 lbs/yr anticipated through planned projects. The 112 lbs/yr of load reduction from existing structural controls is a culmination of many municipal projects, including redevelopment at schools, parks, and other municipal properties, in addition

to City tracking of private redevelopment since April 2022. These projects include redevelopment of the Newton Free Library, the Gath Pool, the Angier School, and many others. Additionally, the City has redevelopment and stormwater retrofit projects planned or under construction. As of June 2025, when the PY7 Performance Evaluation was written, these projects included the Horace Mann Elementary School addition, Lincoln Eliot Elementary School addition, the Albemarle Field renovation (in partnership with the Charles River Watershed Association), and others. Many of these projects have advanced since June 2025.

Finally, extensive due diligence efforts have been performed by the City to advance implementation of new structural stormwater control measures. Due diligence and design are important steps to advance initial planning concepts prior to implementation (construction). Due diligence efforts identify potential site constraints that can dictate SCM type, size, and performance prior to advancing design. Ongoing due diligence and design efforts are being performed to support potential regional SCMs at the Cabot Dog Park, Cold Spring Park, Albemarle Field, Bobby Braceland Playground, and other municipal facilities. Through these due diligence efforts, which consisted of approximately 50 test pits, 20 environmental site assessments, and utility and record plan reviews at over 10 sites, the City has determined that many of the sites identified for Phase 1 SCM implementation during the PCP planning stage are either not suitable or may not support the extent of phosphorus load reduction anticipated for Phase 1. Through these investigations, 17 locations previously anticipated for retrofit with stormwater infiltration (the treatment method providing the highest and most cost effective phosphorus load reduction) have been determined to be unsuitable for stormwater infiltration; another 5 locations were found to potentially remain suitable at a lower treatment level, higher cost, or increased environmental risk. Section 3.2 of this report provides information on the extensive efforts made to date by the City.

These results clearly identify that a project based ASR is not practical; it is impractical to base the requested schedule adjustment on planned Phase 1 structural controls, given that the identified Phase 1 control load reduction results will vary, often significantly, between the planning stage and final constructed control measures. Therefore, the City has committed to a significant annual funding amount ($5 million), and the basis of the ASR is predicated on expenditure of this set annual funding toward PCP compliance including Phase 1 due diligence, design and implementation of structural SCMs as described in Section 4 and 5 of this report.

**Funding and Financial Capability (Section 4):** A review of funding mechanisms and the City's financial capability to support PCP implementation was performed in accordance with Permit requirements. The City has actively pursued funding opportunities from state and local agencies but has seen limited success with most loan or grant awards being either unavailable or modest in size. The City faces a significant challenge in meeting regulatory compliance obligations since City funding is the primary mechanism to support PCP implementation given the constrained external funding support, as further detailed in ASR Section 4.3 and Table 4-2.

The City has increased stormwater utility fees since 2019 for both residential and non-residential properties; however, existing revenues are largely consumed by ongoing operations, debt service, and previously planned capital projects, leaving limited capacity for additional large-scale investments. Recognizing this constraint, the City has committed an additional $5 million annually for phosphorus mitigation, supplementing approximately $3 million per year in non-structural controls and more than $14 million annually in total stormwater management expenditures (existing costs and phosphorus mitigation). Full implementation of the Phase 1 PCP under the current permit schedule would likely require substantial new debt backed by property tax revenues, potentially increasing the City's net debt by more than 30 percent

for Phase 1 alone and by more than 130 percent for full PCP compliance. Funding Phase 1 through stormwater fees would require a prolonged rate-setting process and rate increases on the order of 170 percent, with revenues realized too late to meet Permit Year 8 or 10 milestones. These financial constraints underscore the impracticability of the current Phase 1 schedule and the need for an alternative implementation timeline.

The City of Newton prepared a Financial Capability Assessment (FCA) in accordance with EPA's 2024 Clean Water Act (CWA) guidance to evaluate the affordability, fiscal capacity, and equity implications of complying with phosphorus control requirements under the MS4 General Permit. The FCA is provided in Appendix A and discussed in Section 4.2 of this ASR. The FCA evaluates compliance under Alternative 1 (standardized affordability indicators) and Alternative 2 (long-term financial and rate modeling), with particular focus on the costs and timing associated with implementation of the PCP. The FCA is a required component to support schedule negotiations and was therefore prepared for the ASR.

Alternative 1 is based upon the results of several standardized metrics:

- The Residential Indicator metric assesses the cost per household (CPH) as a percentage of the City's Median Household Income (MHI) to meet CWA regulatory requirements. The Residential Indicator score is based on EPA benchmarks of Low Impact (CPH less than 1% of MHI), Mid-Range (CPH 1-2% of MHI), or High (CPH exceeding 2% of MHI).
- The Financial Capability Indicator is based on six debt, socioeconomic, and financial management indicators – resulting in a score of Weak, Mid-Range, or Strong.
- The Residential Indicator score and the Financial Capability Indicator score are combined in a Financial Capability Matrix to create a summary score of Low, Medium, or High Impact.
- The Lowest Quintile Poverty Indicator (LQPI) is based on six Census data points to assess the severity and prevalence of poverty in a community – resulting in a benchmark score of Low, Medium, or High Impact.
- The LQPI score and the Financial Capability Matrix score are combined in the Expanded Financial Capability Assessment Matrix to ultimately determine the outcome for FCA Alternative 1. The Expanded Financial Capability Assessment Matrix results in a Low, Medium, or High Impact score. EPA uses this score as one way to determine where a community falls on their recommended implementation schedule benchmarks.

Alternative 2 employs detailed financial and rate analyses to show year by year impacts of meeting CWA regulatory requirements.

The following table summarizes the scenarios evaluated for each Alternative.

| Scenario | Costs Included | PCP Phase | PCP Capital Cost |
|---|---|---|---|
| Alternative 1 – Scenario 1 | Wastewater and Stormwater | PCP Phase 1 | $111.98M |
| Alternative 1 – Scenario 2 | Wastewater, Stormwater, & Drinking Water | PCP Phase 1 | $111.98M |
| Alternative 2 – Scenario 1 | Wastewater, Stormwater, & Drinking Water | PCP Phase 1 | $111.98M |
| Alternative 2 – Scenario 2 | Wastewater, Stormwater, & Drinking Water | PCP Phase 1, 2, and 3 | $447.93M |
| Alternative 2 – Scenario 3 | Wastewater, Stormwater, & Drinking Water | PCP Phase 1 (ASR) | $94.54M[1] |

[1] Includes O&M cost of $6.64M as shown in ASR Table 5-3.

While the FCA confirms that Newton has strong overall financial capacity, it also demonstrates that meeting PCP requirements on the standard timeline would impose substantial near-term financial burdens, create adverse affordability impacts for vulnerable populations, and present significant implementation constraints, supporting the City's request for an Alternative Schedule.

> Under FCA **Alternative 1 - Scenario 1**, total current and projected annual costs for CWA compliance were estimated at $65.4 million, with 85.3% allocated to residential users (the share of residential water usage to total water usage). This results in an average annual CPH of $1,758, or 0.95% of MHI, a Low Impact Score under EPA benchmarks for the Residential Indicator. For the Expanded Financial Capability, the City scores Low Impact due to strong Financial Capability Indicators score, low Residential Indicator score, and low impact score on the Lowest Quintile Poverty Indicator (LQPI).
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> However, in FCA **Alternative 1 - Scenario 2**, when total water costs (drinking water, sewer, and stormwater) are considered—consistent with EPA guidance where water costs are substantial—the Residential Indicator increases to 1.47% of MHI, placing Newton in the Mid-Range Residential Indicator category. While the Residential Indicator does change when considering total water costs, there is no change to the Financial Capabilities Indicator, and the City would still have a Low Impact on the Financial Capability Indicator and Expanded Financial Capability Assessment Matrix. Under long-term projections analyzed in Alternative 2 (based on future investments associated with PCP implementation), total water costs exceed 2% of MHI for certain scenarios and years, approaching levels historically considered unaffordable by EPA.

Although Newton's Citywide LQPI score is Low Impact (2.9), the FCA identifies significant localized affordability concerns. In lower-income census tracts (Census Tract 3741) and among population aged 65 and older (Census Tract 3732), stormwater and sewer costs alone exceed 2–3% of MHI, and total water costs approach or exceed 5% of MHI in some cases. At these levels, the Residential Indicator would have a High Impact score given the FCA guidance. These two Census tracts (referenced in the FCA) collectively reflect approximately 7% of Newton's total population. These findings demonstrate that accelerated implementation would disproportionately burden vulnerable residents, an outcome EPA guidance specifically instructs communities to consider when evaluating schedule flexibility.

Phase 1 PCP compliance requires approximately $112 million in stormwater capital investments for structural control measures to achieve a 25% phosphorus load reduction. Most of these costs are assumed to occur between FY2026 and FY2028, far exceeding existing stormwater capital budgets. Even with conservative debt assumptions (20-year term at 4% interest), this front-loaded investment would require significant new debt issuance and sustained increases in operating and maintenance costs. Moreover, using Stormwater Fee revenues as a pledged source of this debt repayment would be unrealistic given that Stormwater fees would need to be increased substantially and it would take time (approximately a year) for the fund to realize increased revenues. These constraints would likely require the City to utilize General Obligation Bonds backed by Citywide property tax revenues to fund reductions stipulated in Phase 1, a challenge given that the City is already at their Proposition 2 ½ Levy limit.

> The City's Phase 1 PCP estimated the total Phase 1 implementation cost in 2023 to be $142.24 million, of which approximately $112M was estimated to support the implementation of Phase 1 structural control measures in addition to $14.98M for Non-Structural SCMs, $11.66M for SCM Operations & Maintenance (O&M), and $3.75M for Program Management (ASR Table 4-1). This

$112M was based on EPA unit costs for each of the 68 potential projects identified in the Phase 1 PCP anticipated to support PY 10 compliance (Phase 1 PCP Section 7, Appendix F Cost Report Sheets and Appendix H Schedule). $112M in capital cost for planned SCMs is the basis of FCA **Alternative 2 - Scenario 1**, the Baseline Compliance Schedule. Alternative 2 - Scenario 1 results in total water costs exceeding 1.5% of MHI for decades. Scenario 1 was set to reflect the current compliance timeline with projects achieving a 20% phosphorus reduction by PY8 and 25% reduction by PY10.

**Alternative 2 - Scenario 2** drives affordability above 2% of MHI, peaking at approximately 2.3–2.4%, levels EPA has historically viewed as unaffordable. Scenario 2 was set to consider further phosphorus load reductions required in PCP Phases 2 and 3. Capital costs associated with the additional reduction requirements are based on the Phase 1 approximate cost of $112 million associated with the 25% reduction and escalated to the year incurred. Full implementation costs total over $447M based on straight-line projection from the Phase 1 costs that were developed Additionally, O&M costs are also included to account for the maintenance costs associated with new controls put in place to meet Phase 2 and 3 requirements.

The proposed Phase 1 Alternative Schedule, and associated cost, is the basis of **Alternative 2 - Scenario 3**. The anticipated cost associated with the proposed Phase 1 Alternative Schedule, $94.5M, varies from that of the Phase 1 PCP. As previously noted, the City has made a significant financial commitment of $5M toward PCP, in addition to the stormwater programs already budgeted. PCP Structural control implementation progress to date has identified that project based implementation schedule planning is unrealistic, since project based load reductions will vary throughout the project's lifecycle. Therefore, the City based the ASR on a financial commitment ($5M annually), coupled with an average $/LB for implementation to achieve the required Phase 1 load reduction (refer to ASR Section 5.2.1 and Table 5-3 and 5-4). This financial based approach, and PY7 PE basis, results in a lower overall implementation cost for the Phase 1 ASR. Therefore, to best assess the financial implications the City of Newton considered this ASR cost in Scenario 3. This scenario would have a ramp up period in FY2026 and FY2027 with a City investment of $950,000 and $3,587,000, respectively to the $5M annual investment. Alternative 2 - Scenario 3 significantly moderates impacts, keeping total water costs closer to 1.2 to 1.4% of MHI while still achieving measurable and sustained phosphorus reductions.

The FCA also highlights non-financial constraints associated with the standard schedule, including the City's capacity to design, permit, and construct approximately 70 new regional stormwater projects in a short timeframe, manage cumulative O&M obligations, and balance stormwater investments against other critical infrastructure needs. A more phased approach improves feasibility, reduces delivery risk, and supports more effective project sequencing.

Although Newton scores Low Impact on EPA's Financial Capability and Expanded FCA Matrices, reflecting strong municipal finances, the FCA clearly shows that affordability pressures, equity considerations, capital intensity, and implementation realities make the standard PCP schedule impracticable. EPA guidance recognizes that even financially strong communities may warrant schedule flexibility when compliance on the default timeline would result in disproportionate household impacts, excessive near-term debt burdens, or implementation infeasibility, all of which are evident under the current compliance schedule.

As stated, Alternative 1 - Scenario 1, evaluated standardized financial impact metrics for Clean Water Act obligations, including stormwater and sewer costs. Alternative 1, Scenario 2 accounts for total water costs, including drinking water, stormwater and sewer costs. To support inclusion of total water costs, additional detailed descriptions for the drinking water system are provided. Detailed descriptions and cost estimates for the drinking water projects are provided in the City's 5-year Capital Improvement Plan (CIP) (FCA – Attachment A). The relationship of the wastewater service area to the drinking water service area and households served is generally similar, as the City is a MWRA water and sewer community. The City's drinking water, sewer, and stormwater systems are all divisions within the City's Public Works Department. As indicated by the City's financial audits, the drinking water, sewer, and stormwater systems are shown as separate proprietary funds. The past three years of financial reports for the drinking water and stormwater systems have been provided here[1]. Additionally, the current rate schedules for the water and sewer systems are provided here[2]. Adding the drinking water costs as described in the FCA Section 3.6 results in a cost per household for drinking water only of $962 or 0.52% of MHI.

The FCA found that while the City is generally capable of funding PCP requirements, compliance under the existing permit timeline would result in steep and rapid increases in household costs and substantially increase the City's debt burden, with disproportionate impacts on low-income (Census Tract 3741) and residents aged 65 and older (Census Tract 3732). Section 5 of the FCA analyzed MHI at the Census Tract level to highlight impacts to the most vulnerable populations.

Census Tract 3741 has a MHI of $120,766 according to the 2023 American Community Survey (ACS) 5-Year estimates. This reflects the following:

- FCA Alternative 1 – Scenario 1 (Stormwater and Sewer Costs): Cost per Household as presented in FCA Section 3.1 totals $1,758
    - Cost per Household as a percentage of MHI is 1.46% for Census Tract 3741
    - 1.46% of MHI reflects a Mid-Range score on the Residential Indicator
- FCA Alternative 1 – Scenario 2 (Water, Sewer, and Stormwater): Cost per Household as presented in FCA Section 3.6 totals $2,720
    - Cost per Household as a percentage of MHI is 2.25% for Census Tract 3741
    - 2.25% of MHI reflects a High score on the Residential Indicator

Census Tract 3741 is 5,251 people or approximately 6% of Newton's total population according to the 2023 ACS 5-Year estimates. This demonstrates that a substantial population will face affordability constraints under the current compliance schedule.

Additionally, when looking further at Census demographics certain populations will face more drastic affordability issues. Census Tract 3732, for household populations aged 65 years or older, has a MHI of $54,583 according to the 2023 ACS 5-Year estimates. This reflects the following:

[1] Annual Audits: https://www.newtonma.gov/government/comptroller/audited-cafrs
Annual Budgets: https://www.newtonma.gov/home/showpublisheddocument/128665/638809509134870000

https://www.newtonma.gov/home/showpublisheddocument/118857/638488791571870000

https://www.newtonma.gov/home/showpublisheddocument/100205/638185290528230000

[2] Current Rates: https://www.newtonma.gov/government/public-works/water-sewer-division/current-water-sewer-rates

- FCA Alternative 1 – Scenario 1 (Stormwater and Sewer Costs): Cost per Household as presented in FCA Section 3.1 totals $1,758
    - Cost per Household as a percentage of MHI is 3.22% for household populations aged 65 years or older in Census Tract 3732
    - 3.22% of MHI reflects a High score on the Residential Indicator
- FCA Alternative 1 – Scenario 2 (Water, Sewer, and Stormwater): Cost per Household as presented in FCA Section 3.6 totals $2,720
    - Cost per Household as a percentage of MHI is 4.98% for household populations aged 65 years or older in Census Tract 3732
    - 4.98% of MHI reflects a High score on the Residential Indicator

Household populations aged 65 years or older in Census Tract 3742 reflect a population of 717 or approximately 1% of Newton's population. Even though this is a relatively small portion of the City's population, this example helps provide a picture of the significant and even detrimental impacts the baseline compliance schedule would have on the City's most vulnerable residents. The alternative Phase 1 schedule, presented in this ASR, provides a more stable, predictable, and affordable cost trajectory, supporting fiscal sustainability while continuing progress toward phosphorus reduction goals. Furthermore, the alternative schedule will allow the City to more effectively stagger cost impacts of capital investments across the stormwater, drinking water, and sewer improvements.

As previously referenced, the City has faced challenges in realizing meaningful phosphorus reduction at the sites originally identified for improvements under Phase 1 implementation due to unsuitable site conditions. If the City is required to move forward with an improvement at a contaminated site to meet the original Phase 1 schedule, the real cost to implement the project is likely to be much higher – due to waste disposal, site remediation, and other requirements. Higher costs because of poor site conditions will only further increase the disproportionate impact of affordability for residents, particularly the most vulnerable populations.

It is also important to note that the City has among the highest combined water and sewer charges in the MWRA system. According to the MWRA Advisory Board's 2025 Retail Rate Survey, the average combined water and sewer bill was $2,097 per year. Newton, at $2,804 a year, is one of the few communities in the $2800-$3000 range, resulting in a costly bill. Stormwater Fees, assessed on top of the water and sewer charges included in the survey, adds even more to residents' bills. Given MWRA rate increases, and the City's operational and capital program in the water and sewer systems, it is expected that the City will continue to raise water and sewer fees approximately 4% annually, well faster than property tax increases allowed under Proposition 2 ½. With the $5M annual commitment to address Phase 1 PCP in addition to existing stormwater system needs, the stormwater fee is expected to rapidly increase. The additional $5 million per year commitment to the PCP represents an extremely large ongoing fiscal increase.

**Phase 1 Alternative Schedule (Section 5):** This Phase 1 Alternative Schedule method identifies an annual phosphorus reduction based on a set annual capital investment of $5M. This fiscal based schedule approach affords the City flexibility with implementation of structural controls; if one location is found to be unsuitable or to provide less benefit than anticipated, other locations can be considered and advanced. The City therefore has flexibility to achieve their proposed phosphorus reduction without being committed to specific projects and their associated load reduction targets.

The Phase 1 Alternative Schedule considers the specific elements of PCP support funded through the City's $5M and an average $/lb investment for implementation. Specific PCP elements funded by the $5M include PCP planning for regulatory compliance (PCP Phases 2-3), Phase 1 site due diligence and structural control implementation planning, design, bidding and construction of Phase 1 structural SCMs, and operation and maintenance costs associated with newly constructed SCMs to support Phase 1 requirements. The costs associated with these specific PCP elements, and how they impact the proposed alternative schedule, are summarized in Section 5.2.1 of this report. Further clarification is provided below.

- An annual commitment of $5M is expended in support of PCP implementation. This is anticipated to be fully funded in PY10 (2028). From PY8 (2026) to PY10 (2028), the City anticipates performing planning, due diligence, and design to prepare for construction of new SCMs. SCMs that have been designed and are either currently being constructed, or planned to start construction soon, already have funding appropriated for their implementation.
- Planning and due diligence efforts are anticipated to be needed for Phase 1 SCM implementation to make informed prioritized site selections prior to starting design. An annual cost ranging from $0.2M to $0.25M is accounted for in the proposed alternative schedule from PY8 until PY17, and an additional $0.05M is included in PY18. It is anticipated that by PY18, the City will have performed adequate due diligence to identify SCM implementation projects to meet Phase 1 PCP requirements.
- Phase 2 and Phase 3 Phosphorus Control Plan development have regulatory deadlines; therefore, associated budget allocations are based on regulatory timeframes. An estimated $500,000 was budgeted for the Phase 2 PCP in PY9, and an additional $500,000 was budgeted for the Phase 3 PCP in PY14.
- An average SCM construction cost benefit ($/lb removed) was developed in 2026 dollars.
    - The average cost benefit of prioritized project opportunities identified in the Phase 1 PCP (2023 costs) was used. These estimates can be found in Appendix E (Prioritized Parcel Opportunity Report Sheets) in Newton's Phase 1 PCP.
    - The opportunity project costs were based on published EPA construction unit costs for each approved treatment type ($/CF of treatment volume). The project costs were divided by their phosphorus load reduction to develop a cost benefit ($/lb removed). The proposed alternative schedule uses the average cost benefit for the Phase 1 PCP projects. This was estimated to be about $73,000 per pound of phosphorus removed by a SCM.
    - The average construction cost benefit was escalated by 3% annually to account for inflation and rounded up to the nearest $1,000, resulting in a PY8 (2026) construction cost benefit of approximately $81,000 at the start of the proposed alternative schedule.
- An average operation and maintenance cost ($/LB) was determined based on the Phase 1 planned structural SCM phosphorus reduction and associated operation and maintenance (O&M) cost.
    - The Phase 1 planned structural SCM phosphorus reduction was estimated to be 1,422 lbs/yr. See Figure 5-1 in Newton's Phase 1 PCP.
    - The Phase 1 structural SCM O&M cost for PY6 was estimated to be about $1.6 million (2023 dollars), per Newton's Phase 1 PCP. This includes existing and planned structural SCMs. The estimated annual cost for planned structural SCMs only is $1.2 million. See Appendix G (Municipal Structural SCM Operation & Maintenance Costs) in Newton's Phase 1 PCP.
    - An average O&M cost per pound removed is estimated to be $845/lb in 2023 dollars.
    - This average O&M cost was escalated by 3% annually to account for inflation and rounded up, resulting in an estimated PY8 (2026) O&M cost of $930/lb removed.
    - Annual O&M costs assume maintenance begins the year after SCM construction.

- Annual budget allocations were assigned to specific years, to support Phase 1 implementation advancement planning and site due diligence.

Utilizing the information above, the annual funding available to support structural control design and construction (Capital Investment) was calculated. Documentation prepared by EPA notes that a 35% design/engineering/contingency cost, as a fixed percentage of the total construction cost, is a common standard. Therefore, 35% of the construction cost was allocated for design.

$$\begin{aligned} &Capital\ Investment \\ &\quad = \$5\ Million - \text{Planning}/Due\ Diligence - Phase\ 2\ \&\ 3\ PCP\ Planning \\ &\quad - Previous\ Years' Cumulative\ Maintenance - Design \end{aligned}$$

An annual load reduction was then calculated based on the available Capital Investment and average cost per pound of phosphorus reduction.

$$Annual\ Phosphorus\ Reduction\ \left(\frac{lb}{year}\right) = \frac{Annual\ Capital\ Investment\ (\$/year)}{Average\ Construction\ \&\ O\&M\ Cost - Benefit\ \left(\frac{\$}{lb}\right)}$$

The City's Phase 1 Alternative schedule builds year-to-year, starting with the phosphorus load reduction gap identified in the PY7 PE, using the annual funding and related expenditures to identify annual load reduction achieved based on the fiscal spend, until ultimately the required Phase 1 load reduction targets are achieved.

As documented in the PY7 Performance Evaluation, the current Phase 1 load reduction requirement is lower than that of the Phase 1 Plan development (1,173 lbs/yr vs 1,420 lbs/yr) due to updated land use/land cover analysis. The City has also advanced phosphorus load reductions since the Phase 1 PCP having implemented and documented existing and newly constructed structural SCMs (totaling 112 lbs/yr). As such, the phosphorus load reduction required to be implemented from PY8 to PY10 is lower than that anticipated in PY5 when the Phase 1 PCP was prepared. Additionally, the Phase 1 Alternative Schedule continues to assume annual load reductions are achieved through redevelopment (20 lbs/yr) and roadway improvement projects (2 lbs/yr). Those modest load reductions, separate from the municipal structural SCM improvements, are reflected and accounted for in the City's Phase 1 Alternative schedule. The City's Phase 1 Alternative Schedule proposes 20% load reduction to be achieved in 2040 and 25% (Full Phase 1 compliance) in 2045.

As previously noted, the City's Phase 1 ASR implementation costs vary from that of the Phase 1 PCP; this is directly related to the City's current load reduction status (PY7 PE) and the fiscal based schedule approach. The fiscal based schedule utilizes an average $/LB for phosphorus load reduction, as opposed to a summation of specific project opportunity costs. Since the current required load reduction (1,173 lbs/yr) is less than that anticipated in PY5 (1,420 lbs/yr), the associated implementation cost also varies since costs are based on $/lb. Additionally, the $5M annual commitment used in the Alternative Schedule excludes PCP costs that are funded separately, such as the City's non-structural control program (catch basin cleaning, street sweeping, and leaf litter collection), program management costs, and operation and maintenance costs for existing systems. Refer to ASR Section 5.2.1 and Table 5-3 and 5-4 for additional detail on the differences between Phase 1 PCP and ASR costs.

**Schedule Opportunities (Section 6):** There are several proposed regulatory, programmatic, and policy-related opportunities that could reduce the magnitude of the remaining phosphorus load reduction obligation over time and in turn shorten the City of Newton's proposed Phase 1 Alternative Schedule. These proposed schedule opportunities include the Draft Commercial, Industrial, and Institutional (CII) NPDES Permit, flexibility in certification requirements for maintenance of existing systems, and alternative credit

methods, among others. While none of these opportunities are currently creditable under existing permit conditions, collectively, they represent significant potential for accelerated compliance while maintaining fiscal responsibility, if and when EPA policies and related permits are finalized or revised.

**Phase 2 ASR Components (Section 7):** The City of Newton's Phase 1 PCP implementation challenges align with key elements of the MS4 General Permit's Phase 2 Alternative Schedule Request criteria. While this submittal is formally a Phase 1 Alternative Schedule Request, Newton's uniquely large phosphorus reduction requirement, combined with substantial site, operational, and financial constraints, places the City in circumstances more comparable to those envisioned under Phase 2 of Appendix F.

The City's planning and due diligence efforts demonstrate that site suitability limits the feasibility of cost-effective structural controls at many previously identified municipal locations, with access to and acquisition of property rights presenting additional challenges. While the City continues to explore easements and inspection access on private property to support regional treatment and private SCM crediting, these efforts require time, coordination, and regulatory flexibility beyond the Phase 1 permit timeframe.

Evaluation of the full implementation lifecycle—including planning, design, permitting, financing, procurement, and construction—shows that meeting permit milestones would require an impractically large number of concurrent projects, exceeding administrative capacity, causing significant disruption at schools and parks, and driving steep increases in household costs and City debt. Permitting timelines, particularly near regulated resource areas or where public outreach is required, further limit the City's ability to accelerate construction even with additional funding.

Although phosphorus reductions from private redevelopment and municipal roadway projects are tracked and contribute meaningful long-term benefits, they cannot substitute for the scale of structural controls needed to meet Phase 1 requirements within the original schedule.

The magnitude and concentration of required SCM implementation, when balanced against other critical capital priorities, further underscores that the current timeline is unrealistic.

These factors collectively support the need for a flexible, fiscally based alternative schedule and substantiate the City's proposed Phase 1 Alternative Schedule as both reasonable and consistent with the underlying intent of the MS4 General Permit's alternative schedule provisions.

**Summary (Section 8):** The City of Newton seeks an Alternative Schedule for implementation of its Phase 1 Phosphorus Control Plan (PCP) under Appendix F of the MS4 General Permit due to the exceptional magnitude of its required phosphorus reductions (938 lbs/year (20%) by Permit Year (PY) 8 and 1,173 lbs/year (25%) by PY10) and associated financial implications of levying approximately $112M in new debt while fulfilling other City needs.

While the City has implemented and refined non-structural controls, current crediting policies limit their contribution to less than five percent of the Phase 1 requirement, necessitating substantial reliance on structural stormwater control measures (SCMs). The Phase 1 PCP determined that the number, complexity, cost, and community impacts of the required structural projects make completion within the five-year permit timeline infeasible and subsequent due diligence confirmed additional site constraints that limit the feasibility and cost-effectiveness of infiltration-based SCMs. Financial assessment further determined that though feasible, compliance with regulatory timeframes would present an extreme near-term fiscal burden.

The fiscal burden of meeting the Phase 1 timeframe would result in an increase in the City's overall net debt by more than 30% - a major burden that would have to be met in a very short timeframe.

Despite these challenges, Newton remains committed to phosphorus reduction and watershed improvement. The City has committed an additional $5 million annually, beyond existing stormwater and non-structural control budgets, to support phosphorus control implementation. Given the City's dense, urbanized, and historic context, a project-specific schedule is impracticable; therefore, Newton proposes a fiscally based Alternative Schedule that provides flexibility in project selection and sequencing while ensuring sustainable fiscal planning. Under this approach, the City proposes to achieve the 20% and 25% Phase 1 reduction milestones by 2040 and 2045, respectively, with the expectation that future regulatory or crediting changes may further shorten this timeline.

# EXECUTIVE SUMMARY

The EPA approved a Total Maximum Daily Load (TMDL) for nutrients in the Lower Charles River Basin and the Upper/Middle Charles River, establishing the amount of phosphorus the Charles River can assimilate without exceeding water quality standards. Appendix F of the Massachusetts Municipal Separate Storm Sewer Systems (MS4) General Permit establishes the required stormwater-related phosphorus load reductions that municipalities in the Charles River watershed must achieve for the Charles River to meet water quality standards. In accordance with the MS4 General Permit and City of Newton Permit Number MAR041080, the City of Newton (City) is required to develop and execute a Phosphorus Control Plan (PCP) to reduce phosphorus in its stormwater discharges to the Charles River. The PCP is a 20-year plan to be developed and implemented in three phases from 2018 to 2038. This report is an alternative schedule request for the first PCP phase to be implemented; the Phase 1 PCP.

In accordance with the MS4 General Permit, the Phase 1 PCP was required to be completed by June 30, 2023, and executed by June 30, 2028. The City's Interim Phase 1 PCP, dated June 30, 2023, outlined implementation measures to achieve the Permit Year 10 (2028) requirement of a 25% reduction in the City's stormwater-related phosphorus load. After completing the Phase 1 PCP implementation schedule, it was anticipated that the City could not feasibly execute the number of projects necessary to achieve a 25% reduction in the required timeline of 5 years. The number of projects, their associated complexity and cost, along with community impacts such as construction disruption and staff labor resources, present a significant schedule challenge for the City. Since development of the Phase 1 PCP, the City has progressed their stormwater phosphorus control program, project planning, and project due diligence, and has confirmed that the Phase 1 PCP implementation schedule is impracticable.

Under Appendix F, Section A.I.1.a.3 of the MS4 General Permit, permittees may submit an Alternate Schedule Request to EPA and MassDEP if the permittee determines that the schedule to meet the Phase 1 reduction is impracticable. This report is the City's Phase 1 PCP Alternative Schedule Request. This report provides the following required elements of a Phase 1 Alternative Schedule Request:

- A narrative of the reasons for the permittee's request for an alternative schedule, including information demonstrating the applicant's efforts and extent of progress made toward meeting the required phosphorus reductions in Table F-1 (presented in **Section 1** of this report);
- Analysis of the nonstructural controls implemented to date (**Section 2**);
- A description of the planned Phase 1 structural controls for which schedule adjustment is requested (**Section 3**);
- Estimated cost of the planned Phase 1 structural controls for which schedule adjustment is requested (**Section 4**);
- Affordability for taxpayers or ratepayers (as applicable), including a projection of sources and uses of funds, taking into consideration existing or potential financial capability and funding mechanisms (e.g., property taxes, stormwater rate changes, or stormwater utility fees) (**Section 4**); and
- A requested schedule to meet all phosphorus reduction requirements in Table F-1 (**Section 5**).

The City's phosphorus reduction requirement is the second largest in Massachusetts, and is only exceeded by Boston, a medium/large Phase I MS4 permittee. Of the 34 other small MS4s in the watershed, the City's Phase 1 PCP reduction requirement is larger than 33 of the small MS4's Phase 2 reduction requirements. The City's Phase 1 PCP reduction requirement exceeds 27 of the small MS4's total Phase 3 reduction requirements. This illustrates why it is impracticable for the City to meet their Phase 1 requirements in the same timeframe as other communities and why the City's unique situation more closely aligns with the MS4 General Permit's Phase 2 and Phase 3 Alternative Schedule Request descriptions.

Although this report is a Phase 1 Alternative Schedule Request, the City's uniquely large phosphorus reduction requirement positions the City for an Alternative Schedule Request that is more aligned with the Phase 2 Alternative Schedule Request factors. Rather than strictly affordability, the City's implementation schedule constraints also include site suitability; access and acquisition; timelines for planning, design, financing, procurement, and construction; timelines for permitting and public input processes; and scale of structural stormwater control measures (SCMs) required in conjunction with phasing considerations for other capital improvement projects. Therefore, while this Alternative Schedule Request provides the required Phase 1 elements, it also touches on the City's constraints consistent with requisite Phase 2 alternative schedule request elements.

# 1. PHASE 1 PCP PROGRESS

This section of the report provides information demonstrating the City's efforts and extent of progress made toward meeting their required Phase 1 phosphorus reductions per Table F-1. The requirements presented in the MS4 General Permit's Table F-1, and the City's progress to meet these requirements, are presented in Table 1-1 below.

**TABLE 1-1: PHASE 1 PCP COMPONENTS AND MILESTONES (MS4 GENERAL PERMIT TABLE F-1)**

| Item Number | Phase 1 of The PCP Component and Milestones | Completion Date (Years After Permit Effective Date) | Newton's Progress |
|---|---|---|---|
| 1-1 | Legal analysis | 2 years (June 2020) | Completed |
| 1-2 | Funding source assessment | 3 years (June 2021) | Completed |
| 1-3 | Define scope of PCP (PCP Area) baseline phosphorus load, phosphorus reduction requirement, and allowable phosphorus load | 4 years (June 2022) | Completed |
| 1-4 | Description of Phase 1 planned nonstructural controls | 5 years (June 2023) | Completed |
| 1-5 | Description of Phase 1 planned structural controls | 5 years (June 2023) | Completed |
| 1-6 | Description of Operation and Maintenance program for structural controls | 5 years (June 2023) | Completed |
| 1-7 | Phase 1 implementation schedule | 5 years (June 2023) | Completed |
| 1-8 | Estimated cost for implementing Phase 1 of the PCP | 5 years (June 2023) | Completed |
| 1-9 | Complete written Phase 1 PCP | 5 years (June 2023) | Completed |
| 1-10 | Full implementation of nonstructural controls | 5 years (June 2023) | Completed |
| 1-11 | Performance evaluation | 6 and 7 years (June 2024 and June 2025) | Completed |
| 1-12 | Performance evaluation; and full implementation of all structural controls to achieve 20% of required reduction | 8 years (June 2026) | *Planning* |
| 1-13 | Performance evaluation | 9 years (June 2027) | *Planning* |
| 1-14 | Performance evaluation; and full implementation of all structural controls to achieve 25% of required reduction | 10 years (June 2028) | *Planning* |

## 1.1 Phase 1 PCP

The City completed a Phase 1 PCP in June 2023. The Phase 1 PCP outlines potential implementation measures to achieve the Permit Year (PY) 10 phosphorus reduction milestone of 25% of the City's required reduction. The Phase 1 PCP also outlines associated implementation cost and schedule as well as an operation and maintenance (O&M) program for structural controls.

The MS4 General Permit defines Newton's total phosphorus load reduction requirement as 5,214 pounds/year. An evaluation determined that the City cannot achieve its required load reduction solely by treating stormwater runoff from municipal property, even if 100% of the generated load from municipal property was eliminated via treatment. To meet their required load reductions, the City needs a variety of strategies such as implementing regional SCMs on municipal property to treat a combination of municipal and private property runoff, accounting for existing private SCMs and new private SCMs through redevelopment or acquiring private property in strategic locations for retrofits. The Phase 1 PCP strategies focus on providing regional phosphorus treatment on municipal parcels and roadways. Regional controls are anticipated to treat a combination of municipal and private property runoff, treating stormwater from the municipal conveyance system. Runoff from private property enters the municipal system in many ways such as overland flow into municipal streets which is then collected and conveyed through the municipal system, or direct connections from private developments to the municipal system, among others.

Newton's Phase 1 PCP assessed 430 municipal parcels via desktop analysis for stormwater control measure retrofit potential. Of the 430 municipally owned parcels, 111 were identified as having stormwater retrofit potential. These 111 parcels were further reviewed and categorized into three groups: prioritized for Phase 1, pursuable, or not currently pursuable based on subsequent review. The evaluation prioritized 58 structural stormwater retrofit projects on 52 municipally owned properties for Phase 1 implementation. Additionally, 10 retrofit projects were identified within municipal rights-of-way, totaling 68 prioritized structural SCM projects for advancement and implementation to support the required Phase 1 load reduction requirement.

To implement the 68 prioritized structural SCM projects, 52 of the 430 City owned parcels would be disrupted by construction in 5 years (2023-2028). This is nearly 15% of the City's parcels, many of which are City schools and parks that would entail substantial concurrent impacts. The estimated cost to implement these structural SCM projects was estimated at approximately $112M (2023 dollars), with nearly $100M associated with implementation by 2026 (PY8) and the balance by 2028 (PY10).

The Phase 1 PCP outlined two implementation schedules: a Permit Timeline Schedule and a Constraints Schedule. These schedules are included in Appendix H of the City's Interim Phase 1 PCP, dated June 2023. The Permit Timeline Schedule included the implementation of all SCMs (existing and planned) within the Phase 1 PY8 and PY10 reduction timelines. To develop the Permit Timeline Schedule, the 68 planned structural SCM projects were grouped by project types based on project location, including school properties, parks and recreational area, roadways, and other municipal properties. Durations were then assigned to each project phase (design, permitting, bidding, etc.) based on the project's general size (small, medium, large, and extra-large). The Permit Timeline Schedule outlined 63 projects to be completed by Permit Year 8, and the remaining 5 projects completed for Permit Year 10. This schedule estimated that over 30 parks/recreational areas would undergo construction concurrently in 2025 and 2026, which presents significant challenges for public use of these vital community properties.

The City raised concerns regarding the feasibility of implementing the large number of Phase 1 planned SCMs based on the Permit Timeline Schedule. A second schedule, the Phase 1 Constraints Schedule, was prepared to outline a schedule that the City felt was feasible. This schedule considers the number and complexity of projects executed concurrently, adverse community impact, and total cost required to implement Phase 1 planned SCMs. The Constraints Schedule depicted an implementation timeline of approximately 55 years. The Phase 1 Constraints Schedule highlights the significant variation in timelines between what is required by the 5-year Permit Timeline Schedule and what the City found achievable. Additionally, the Constraint Schedule assumed all City stormwater funding would be expended in support

of phosphorus control implementation and existing programs; it does not account for other important stormwater infrastructure improvements and associated program management that the City needs to fund during this timeframe.

The Phase 1 Plan identified that the burden associated with implementing the approximately 68 projects anticipated for permit compliance within the 5-year permit timeline was not achievable or realistic given the burden associated with schedule, community impacts, and financial implications to the City. The Phase 1 Plan anticipated the submittal of this Phase 1 Alternative Schedule Request. Despite this, Newton continues to invest in advancing stormwater nutrient management; since the Phase 1 PCP was completed, the City has invested significantly in non-structural control planning, SCM planning and implementation, and programmatic nutrient management planning which greatly improved their anticipated implementation schedule, as further discussed in this report.

## 1.2 PY7 Performance Evaluation

A Performance Evaluation is required annually by the MS4 General Permit Appendix F to evaluate the effectiveness of the PCP by tracking changes in phosphorus load through implementation of stormwater control measures (SCMs) and development/redevelopment in the Charles River watershed (the Watershed). A PY6 Performance Evaluation was prepared by the City in June 2024 and submitted to EPA in September 2024. A PY7 Performance Evaluation has been prepared for submittal to EPA in September 2025. The following Table 1-2 summarizes the City's PY7 phosphorus exports and reductions.

**TABLE 1-2: PY7 PERFORMANCE EVALUATION PHOSPHORUS LOAD SUMMARY (LBS/YEAR)**

| Permit Requirements | |
|---|---|
| Baseline Load | 8,563 |
| Allowable Load | 3,349 |
| Required Load Reduction | 5,214 |
| Updated Requirements | |
| Increase/Reduction due to Development (2005 to June 2024) | -518.3 |
| Increase/Reduction due to Development (June 2024 to June 2025) | -3.8 |
| Updated Reduction Requirement | 4,691.9 |
| PY 8 (20% Load Reduction) | 938.4 |
| PY 10 (25% Load Reduction) | 1,173.0 |
| Existing Credits through PY7 | |
| Non-Structural | 51.8 |
| Structural | 112.1 |
| Total | 163.9 |
| Remaining Phosphorus Load Reduction Gap | |
| PY8 Reduction Remaining | 774.5 |
| PY10 Reduction Remaining | 1,009.1 |
| Additional Planned Credit | |
| Planned Structural (Identified Projects) | 161.9 |
| Planned Projects (TBD) | 847.2 |

The City's reduction requirement decreased from 5,214 lb/year (MS4 General Permit) to 4,691.9 lbs/year (PY7 Performance Evaluation) based on updated land use/land cover analysis. The City's baseline load was updated to 2021 using GIS data prepared by the University of Vermont (UVM) in conjunction with Charles River Watershed Association (CRWA) and to June 2025 on a site-by-site basis using permit application data.

The annual Performance Evaluations also summarize updated non-structural and structural phosphorus reduction credits. The City has implemented modifications to the non-structural program since Permit Year 5, primarily consisting of increased sweeping frequencies city-wide as well as of select streets, bike lanes and village centers. As a result of these changes, the existing non-structural SCM credit has increased from 50.1 to 51.8 lbs/year. Additionally, new municipal and private SCMs have since been accounted for. The City has documented private structural SCMs that have been permitted and constructed since May 2022, the date their stormwater regulations were revised to require annual inspection and maintenance reporting. A total of 521 private, structural SCMs have been permitted, tracked, and accounted. The additional municipal and private SCMs increase the existing structural SCM credit to 112.1 lbs/year.

Given non-structural and structural credits through PY7, there is still a significant gap to achieve the PY8 (June 2026) and PY10 (June 2028) reduction targets. This gap is anticipated to be met through structural SCM project implementation and/or increased non-structural operations. The PY7 performance evaluation documented several ongoing municipal structural SCMs projects that, as of June 2025, were being designed, permitted, and constructed. The PY7 performance evaluation also notes planned non-structural sweeping route changes that optimize sweeping operational efficiency.

These known, planned structural and non-structural SCMs were estimated to provide about 162 pounds/year of credit. However, an estimated Phase 1 reduction gap of 846.0 lbs/year remains. It is impracticable to meet this gap by June 2026 or June 2028 per the required Phase 1 timeline.

# 2. IMPLEMENTED NON-STRUCTURAL CONTROLS

Since submission of the City's Phase 1 PCP, the City has continued to evaluate their non-structural enhanced sweeping and leaf litter collection programs to identify possible improvements to make these programs more efficient and effective. The City has restructured their street sweeping routes and developed high priority routes. Beginning in Fall 2024, the City had planned to sweep these 10 priority routes weekly with a vacuum sweeper following a mechanical sweeper. However, equipment limitations with the vacuum sweeper were experienced early in the sweeping season. The City continued using mechanical sweepers and were able to sweep 9 of the 10 priority routes biweekly. An additional 2 non-priority routes were also swept biweekly, and 54 non-priority routes were swept at least monthly. Only 2 of the 65 routes were swept twice in the fall, therefore not meeting the monthly sweeping frequency.

The City is working diligently to optimize their fall sweeping program to increase their non-structural phosphorus reduction credit. They are tracking the number of miles swept every day of the week, and documenting this data in a calendar to better understand total miles swept with brooms down, timing, and equipment type. The City has ordered a new regenerative air sweeper (anticipated delivery in 2025) and is considering purchasing a mini sweeper, which would sweep protected bike lanes. The City is also currently re-evaluating their sweeping route efficiency. The project goal is to optimize their sweeping routes, which are currently based on their snow removal routes and rely on the driver to decide the best way to complete the route. The project will result in restructured sweeping routes with defined operations for the most efficient way of completing a route; alignment of sweeping routes with trash collection routes is also being considered. Finally, the City has updated their street sweeping Standard Operating Procedure (SOP).

The City has also evaluated their current sweeping program and potential modifications to their program under both the 2016 MS4 General Permit and 2024 Draft MS4 General Permit credit policies. The 2024 Draft MS4 General Permit provides less credit flexibility for Permittees. The Draft permit only provides minimum effort (sweeping twice per year), medium effort (sweeping every other week in the fall), or high effort (monthly sweeping March-August and weekly sweeping in the fall). The Draft permit no longer includes monthly sweeping as a creditable frequency or the annual frequency factor, which is a mechanism to credit sweeping activities that do not occur year-round. Finally, the Draft permit does not include the measured approach, which was included in the recommendations in the Clean Sweep Recommendations for New and Updated Credits for Street Cleaning in New Hampshire, published in 2022 with oversight from EPA. The measured approach would drastically increase non-structural phosphorus reduction credit, incentivizing regulated dischargers to maximize leaf litter collection operations, and provide the most meaningful impact on cleaner stormwater sooner.

Table 2-1 below presents a comparison of the City's PY7 non-structural management program using the 2016 MS4 GP and Draft 2024 MS4 GP credit policies. The Draft 2024 Draft MS4 GP results in significantly less credit based on proposed policy revisions. Based on the 2024 Draft MS4 GP policy, the City's phosphorus reduction credit for sweeping is estimated to be nearly 10 pounds/year (lbs/year) less than the current 2016 MS4 GP.

**TABLE 2-1: NEWTON SWEEPING CREDIT COMPARISON**

| Practice | PY7 Phosphorus Reduction Credit (lbs/yr) | |
|---|---|---|
| | 2016 MS4 GP | 2024 Draft MS4 GP |
| Mechanical Broom (Weekly) | 5.4 | 19.6 |
| Mechanical Broom (Monthly) | 39.9 | 16.0 |
| Organic Waste and Leaf Litter Collection | 6.5 | 6.5 |
| Total | 51.8 | 42.1 |

The City will continue to evaluate their sweeping program to maximize phosphorus pollutant removal while meeting the operation, maintenance and safety needs of the community. While it is anticipated that the City's non-structural phosphorus reduction credit will ultimately increase as a result of their program modifications, the magnitude of this increase is not anticipated to drastically impact the City's Phase 1 implementation schedule unless modifications to the MS4 General Permit credit policies are made.

# 3. PLANNED STRUCTURAL CONTROLS

## 3.1 Private Controls

The City has had strict, post-construction peak rate and volume attenuation standards in place since 2004. Their current stormwater management requirements are established by their Stormwater Management Ordinance last updated May 2, 2022, and their Stormwater Management and Erosion Control Rules and Regulations last updated April 14, 2022, which ensure that stormwater from development and redevelopment projects is adequately controlled. These requirements, summarized below, support the City's long-term phosphorus reduction efforts through private redevelopment. The City requires a stormwater management and erosion control permit for the following projects:

- Land Disturbance: Projects disturbing greater than 5,000 square feet of land.
- Minor Stormwater:
    - Any residential development or redevelopment with four or fewer units with land disturbance less than 0.5-acres.
    - Any residential, commercial, industrial, institutional, or municipal development or redevelopment creating 401-1,000 square feet of new impervious area.
    - New retaining walls and trench excavations requiring dewatering.
- Major Stormwater: Required for projects exceeding the Minor Stormwater thresholds.

The Minor and Major Stormwater Permit water quality- and quantity-related requirements include:

- Minor Stormwater:
    - Stormwater systems for new development and redevelopment sites shall retain the volume of runoff equivalent to, or greater than, two inches (2") multiplied by the net increase in impervious area. If the project proposes to tear down, dismantle, or remove a primary structure from its existing location such that a majority of the structural elements are replaced, two inches of runoff for all impervious area is required.
    - No net increase in volume or peak flow up to the 100-year event using NOAA Atlas 14 (8.78 inches of precipitation in 24 hours).
- Major Stormwater: In addition to meeting the Minor Stormwater requirements, Major Stormwater projects are required to meet the following additional requirements:
    - New Development:
        - Retain volume of runoff ≥ 2" multiplied by the total post-construction impervious area on the site.
        - Remove 90% TSS load generated from the total post-construction impervious area.
        - Calculate existing and proposed total phosphorus (TP) load and demonstrate 60% reduction generated from total post-construction impervious area.

- Redevelopment:
  - Retain volume of runoff ≥ 2″ multiplied by the total post-construction impervious area on the site.
  - Remove 80% TSS
  - Reduce 50% TP

Both Minor and Major Stormwater Projects are required to have a final inspection after construction and submit the following to receive a Stormwater Management Certificate of Compliance (SMCC) from the city engineer. The SMCC further assists in stormwater tracking and compliance.

- Certified as-builts with acknowledgement that the stormwater management system has been constructed in accordance with the stormwater management permit.
- Proof of recording the O&M plan at the South Middlesex County Registry of Deeds

Additionally, post-construction annual reporting on SCM O&M is required for Major Stormwater Permits. Annual inspection reports are required to be submitted to the Engineering Division by January 15th of the following year. These requirements went into effect Spring 2022; owners of SCMs constructed prior to April 2022 are not required to submit annual inspection and maintenance reports to the City, which limits the City's ability to take phosphorus reduction credit for these existing systems. Since the City introduced volume attenuation requirements in 2004, it is estimated that thousands of private SCMs providing phosphorus reduction were installed between 2004 and Spring 2022. However, since these SCMs pre-date the City's regulatory mechanism requiring annual inspection and maintenance report submission, the City cannot confidently certify that the SCMs are functioning as designed. The Phase 1 PCP did not account for any private SCMs. The PY6 and PY7 performance evaluations account for private SCMs permitted since April 2022. The proposed alternative schedule, described further in Section 5.2, includes an assumed annual phosphorus reduction credit for new (post-June 2025) private (re)development projects that will be required to submit annual O&M reports to the City.

## 3.2 Municipal Controls

As noted in Section 1.1, the City's Phase 1 PCP evaluated the 430 City owned parcels and identified over fifty for prioritization of SCM installation in support of PCP implementation. As part of the Phase 1 PCP, Woodard & Curran performed desktop site assessments utilizing available topographic, utility, and environmental resource mapping data to identify potential regional stormwater controls for phosphorus reduction treating a combination of municipal and private runoff. However, actual site conditions can impact the feasibility and/or prioritization of these locations prioritized for use in PCP implementation. Therefore, to support Phase 1 implementation, the City has advanced project planning and design due diligence to further investigate a substantial number of potential sites to refine and confirm the regional SCM implementation feasibility. These regional SCMs were primarily identified as subsurface infiltration systems, since infiltration SCMs provide the best phosphorus reduction cost-benefit. While there are other creditable subsurface SCM options that would not limit site operations, like subsurface sand filters or manufactured treatment cartridges, these treatment options typically have less favorable cost-benefit, since these SCMs provide about half the phosphorus reduction compared to infiltration practices. EPA approval of manufactured treatment systems for phosphorus reduction is also extremely limited, requiring specific approval by EPA.

Unfortunately, due diligence site investigations have identified constraints at several municipal properties that were anticipated to support Phase 1 phosphorus load reductions. These due diligence efforts have eliminated multiple planned infiltration SCMs as a viable treatment option. Test pits, utility surveys, and environmental risk assessments have identified high groundwater, deep drainage inverts which complicate water quality flow diversion and system hydraulics, and soil and groundwater contamination concerns. Soil and groundwater contamination concerns may include liability concerns, regulatory implications, public and environmental health, and cost. As part of these investigations, the City or their consultants have performed approximately 50 test pits, utility surveys and record plan reviews at over 10 sites, and environmental risk assessments at 20 sites. A memorandum documenting environmental risk-screening is included in Appendix C. Due diligence efforts are ongoing; this Alternative Schedule Request represents a snapshot of results to date. Newton will continue to advance due diligence efforts to identify and refine locations and treatment methods in conjunction with cost effective Phase 1 implementation planning. Formal site investigations will be performed by licensed land surveyors, competent soils professionals, and wetland scientists at sites that are anticipated to be feasible and effective for implementation following due diligence investigations.

The following sites have been investigated for implementation of regional SCMs. These sites are organized below by anticipated suitability for subsurface infiltration SCMs in Phase 1. Sites that are currently considered unsuitable may have further investigations conducted at a later time, and/or may be considered for non-infiltrating SCMs. The results of on-going investigations and future SCM implementation will be reported annually in performance evaluations.

**Potentially Suitable for Subsurface Infiltration**

1. Cabot Dog Park/East Side Parkway Median: Infiltration chambers systems at this site were estimated to provide about 14 pounds/year of phosphorus reduction. The City performed one test pit on January 16, 2025, to a depth of 89 inches; no standing water, weeping, or redox features were observed. The excavated soil consisted primarily of sand. Woodard & Curran performed one test pit on April 24, 2025, to a depth of 101 inches; no standing water, weeping, or redox features were observed. An infiltrometer test was performed at 40 inches with a beneficial infiltration rate result. The City also performed select utility survey to support due diligence planning. Utility survey identified drainage inverts within Newtonville Avenue that appear to be feasible for diversion to subsurface infiltration system. Based on information in the Massachusetts Energy & Environmental Affairs (EEA) Data Portal for Waste Site & Reportable Releases nearby soil contamination is a concern and may ultimately limit site suitability; however, the City and Woodard & Curran are advancing additional due diligence investigations.

2. Albemarle Park: Infiltration chambers at this site were estimated to provide about 41 pounds/year of phosphorus reduction. Albemarle Field is being renovated in two phases: Phase 1 is currently under construction, while Phase 2 is planned. Phase 2 includes the regional infiltration chambers planned in the PCP. Survey and 3 test pits were performed for Phase 1. For Phase 2, the City performed one test pit on April 2, 2025, to a depth of 84 inches; no standing water, weeping, or redox features were observed. The excavated soil consisted primarily of sand. Woodard & Curran performed two test pits on April 23 and 24, 2025. One test pit located southeast of the Gath Memorial Pool observed redox at 96 inches and standing water at 108 inches. The second test pit located south/southwest of the pool near Albemarle Road observed redox at 48 inches. Based on information in the Massachusetts Energy & Environmental Affairs (EEA) Data Portal for Waste Site & Reportable Releases and existing City data, nearby soil and groundwater contamination is a concern and may ultimately limit site suitability;

however, the City and Woodard & Curran are advancing additional due diligence investigations which are anticipated to include groundwater monitoring.

3. Elmwood Park: Infiltration chambers at this site were estimated to provide about 43 pounds/year of phosphorus reduction. The City performed one test pit on April 2, 2025, to a depth of 96 inches; no standing water, weeping, or redox features were observed. Woodard & Curran performed one test pit on April 23, 2025, to a depth of 100 inches; no standing water, weeping, or redox features were observed. An infiltrometer test was conducted at 40 inches with a beneficial infiltration rate result. The City performed a utility survey that found a deep existing drainage trunkline that would limit diversion potential; however, there may be opportunity to divert flow from Highland Avenue before it enters the deep trunkline. Based on information in the Massachusetts Energy & Environmental Affairs (EEA) Data Portal for Waste Site & Reportable Releases and existing City data, nearby soil and groundwater contamination is a concern and may limit site suitability. Treatment of flow from Highland Avenue was assessed in conjunction with site constraints and is anticipated to be limited to approximately 6 pounds/year of phosphorus reduction. The City and Woodard & Curran anticipate advancing additional due diligence investigations including but not limited to cost-benefit analysis.

4. Crystal Street/Lake Avenue: Infiltration chambers at this site are estimated to provide about 2.5 pounds/year of phosphorus reduction. The City performed two test pits on March 6, 2024, and prepared a construction bid package utilizing a topographic and utility survey. The construction-level design estimates the infiltration chambers will provide 3.3 pounds/year of phosphorus reduction. The City anticipates issuing this project for bid soon.

5. Bobby Braceland Park: Infiltration chambers at this site were estimated to provide about 6.5 pounds/year of phosphorus reduction. The City performed two test pits on July 11, 2025: one adjacent to the baseball field to a depth of 120 inches and the other adjacent to the parking lot to the depth of 120 inches. No standing water, weeping, or redox features were observed in the test pit near the baseball field, however redox features were observed in the test pit near the parking lot. The observed soils appeared suitable for infiltration. Additional due diligence investigations are anticipated to include utility investigations to assess the feasibility for upstream diversion of flow to a subsurface chambers infiltration system as well as the feasibility of diversion of alternate drainage networks nearby for increased load reduction. Environmental risk screening is also anticipated.

**Currently Unsuitable for Subsurface Infiltration**

1. Davis Playground: Infiltration chambers at this site were estimated to provide about 111 pounds/year of phosphorus reduction. The City performed one test pit on January 15, 2025, and Woodard & Curran performed one test pit on April 24, 2025. The January test pit revealed standing water at 120 inches, and the April test pit revealed redox at 84 inches and standing water at 108 inches. The City also performed a utility survey which identified drainage inverts within Waltham Street and Eden Avenue that appear to be feasible for diversion to subsurface infiltration chambers. Site constraints would result in less phosphorus load reduction than previously estimated. However, based on information in the Massachusetts Energy & Environmental Affairs (EEA) Data Portal for Waste Site & Reportable Releases, soil and groundwater contamination is a concern. Based on discussion with the City regarding potential environmental risk, further due diligence efforts have not been advanced at this site.

2. Craft Street DPW Yard: Infiltration chambers at this site were estimated to provide about 16 pounds/year of phosphorus reduction, as presented in the Phase 1 PCP. However, based on information in the Massachusetts Energy & Environmental Affairs (EEA) Data Portal for Waste Site & Reportable Releases and further discussions with the City, soil and groundwater contamination is a concern. Further due diligence efforts have not been advanced at this site.

3. Elliot Street DPW Yard: Infiltration chambers at this site were estimated to provide about 111 pounds/year of phosphorus reduction, as presented in the Phase 1 PCP. Similar to the Craft Street DPW Yard, soil and groundwater contamination is a concern based on information in the Massachusetts Energy & Environmental Affairs (EEA) Data Portal for Waste Site & Reportable Releases. Further due diligence efforts have not been advanced at this site.

4. Resource Recovery Center: Infiltration chambers at this site were estimated to provide about 18 pounds/year of phosphorus reduction. However, similar to the DPW yards, soil and groundwater contamination is a concern based on information in the Massachusetts Energy & Environmental Affairs (EEA) Data Portal for Waste Site & Reportable Releases. Additionally, review of record plans showed deep drainage infrastructure. Further due diligence efforts have not been advanced at this site.

5. Franklin Elementary School: Infiltration chambers at this site were estimated to provide about 18 pounds/year of phosphorus reduction. The City is redeveloping this site, including school reconstruction and on-site stormwater improvements in accordance with the City's Stormwater Management Ordinance and Regulations. Implementation of a regional infiltration SCM during construction would be a cost-effective solution. The City evaluated the feasibility of a regional infiltration SCM during schematic design of the school's redevelopment project. Samiotes Consultants, Inc., conducted a total of 12 test pits on January 16, 2024 (6 test pits) and April 1, 2024 (6 test pits). Utility and topographic survey was also performed. The existing drainage pipe within Derby Street, which would be diverted for treatment on the elementary school property, was found to have an invert lower than the site's estimated seasonal high groundwater table. The City evaluated raising the invert elevation of the existing drainage network to achieve groundwater separation, but this was found to be infeasible due to existing grade and the extent of the upstream drainage system. The City conceptually evaluated the feasibility of a subsurface sand filter for regional treatment, but the system was found to be cost prohibitive for the benefit it would provide.

6. Countryside School: An infiltration basin at this site was estimated in the Phase 1 PCP to provide about 3 pounds/year of phosphorus reduction. Similar to the Franklin Elementary School, the City is redeveloping this site to reconstruct the school and provide on-site stormwater improvements in accordance with local requirements. The City evaluated the feasibility of a regional infiltration SCM during design development. GZA GeoEnvironmental, Inc. performed 7 test pits on October 22, 2022, and observed shallow seasonal high groundwater and excavator refusal. The existing drainage pipe within Dedham Street, which would be diverted for treatment on the school property, was found to have an invert too deep for infiltration while still providing adequate separation to groundwater. The City evaluated raising the invert elevation of the existing drainage network to achieve groundwater separation, but this was found to be infeasible due to existing grade and the extent of the upstream drainage system. The City conceptually evaluated the feasibility of a subsurface sand filter for regional treatment, but the system was found to be cost prohibitive for the benefit it would provide.

7. Pellegrini Park: Infiltration chambers at this site were estimated to provide about 79 pounds/year of phosphorus load reduction. However, based on information in the Massachusetts EEA Data Portal for Waste Site & Reportable Releases, a groundwater contamination plume was identified adjacent to the park. This plume, caused by private industry, could be impacted by regional stormwater infiltration. To reduce City risk, SCM design at this site has not been advanced.

8. Newton Centre Playground: Three regional, infiltration SCMs were considered at different locations throughout the park. The estimated phosphorus load reduction for this site totaled about 81 pounds/year. The City and Woodard & Curran performed 8 test pits at this site on November 7, 2024. The City also performed select utility survey to support due diligence planning. The test pits revealed either high groundwater and/or unsuitable material at the three locations. The utility survey identified deep drainage infrastructure, also limiting the feasibility of infiltration practices in areas with high groundwater. Additionally, based on information in the Massachusetts Energy & Environmental Affairs (EEA) Data Portal for Waste Site & Reportable Releases and existing City data, nearby soil and groundwater contamination is a concern. SCM design at this site has not been advanced.

9. Pelham Street Parking Lot: Infiltration chambers at this site were estimated to provide about 3 pounds/year of phosphorus reduction. The City and Woodard & Curran performed one test pit on November 8, 2024. The City also performed select utility survey to support due diligence planning. The test pit revealed unsuitable material. Additionally, based on information in the Massachusetts Energy & Environmental Affairs (EEA) Data Portal for Waste Site & Reportable Releases and existing City data, nearby soil and groundwater contamination is a concern. The City is considering a non-infiltration SCM at this site, which is anticipated to limit the achievable phosphorus reduction.

10. Wellington Playground: Infiltration chambers at this site were estimated to provide about 37 pounds/year of phosphorus reduction. The City performed one test pit on January 15, 2025, and select utility survey. The test pit revealed standing water at 84 inches. Additionally, the utility survey identified deep drainage infrastructure, preventing adequate separation to groundwater for a proposed infiltration system. SCM design at this site has not been advanced.

11. Cabot Park Athletic Fields: Infiltration chambers at this site were estimated to provide about 60 pounds/year of phosphorus reduction. The City performed one test pit on January 16, 2025. The test pit revealed redox features at 36 inches. Infiltration chambers at this site are not anticipated to be feasible, since a minimum two-foot separation from groundwater to bottom of infiltration SCM is required. Additionally, based on information in the Massachusetts Energy & Environmental Affairs (EEA) Data Portal for Waste Site & Reportable Releases, nearby soil and groundwater contamination is a concern. SCM design at this site has not been advanced.

12. Pierce Elementary School: Infiltration chambers at this site were estimated to provide about 59 pounds/year of phosphorus reduction. The City performed one test pit in early 2025 near the playground that revealed weeping at 56" and shallow groundwater. Woodard & Curran performed one test pit further south near the parking lot on April 23, 2025; redox features were observed at 17 inches. Infiltration chambers at this site are not anticipated to be feasible. SCM design at this site has not been advanced.

13. Richardson Playground: Infiltration chambers at this site were estimated to provide about 23 pounds/year of phosphorus reduction. The City performed one test pit on July 11, 2025, and select utility survey. The test pit revealed standing water at 78 inches along with unsuitable material. Infiltration at this site is not anticipated to be feasible. SCM design at this site has not been advanced.

14. Ward Park: Infiltration chambers at this site were estimated to provide about 46 pounds/year of phosphorus reduction. The City performed one test pit on July 11, 2025, and select utility survey. No standing water, weeping, or redox features were observed in the test pit; however, the test pit revealed unsuitable material. Infiltration at this site is not anticipated to be feasible. Infiltration SCM design at this site has not been advanced. However, the City is considering this site for a subsurface sand filter SCM.

15. Wheeler Road Parking Lot: Infiltration chambers at this site were estimated to provide about 28 pounds/year of phosphorus reduction. The City did not perform test pits; however, select utility survey was performed and identified deep infrastructure. Diversion and treatment of existing drainage network is not anticipated to be feasible. Unsuitable material and high groundwater are also anticipated, based on nearby site conditions. Infiltration is not anticipated to be feasible at this site. SCM design at this site has not been advanced.

16. West Pine Street Parking Lot: Infiltration chambers at this site were estimated to provide about 18 pounds/year of phosphorus reduction. The City performed one test pit on July 11, 2025. The test pit revealed redox features at 54 inches, standing water at 66 inches, and unsuitable material. Infiltration chambers at this site are not anticipated to be feasible. SCM design at this site has not been advanced. However, the City is considering alternative SCM types at this site pending receipt of grant funding.

17. McGrath Park: An infiltration system adjacent to Washington Street was estimated to provide about 19 pounds/year of phosphorus reduction. The City performed select utility survey in the summer of 2025 and identified deep drainage infrastructure. Diversion and treatment of existing drainage network is not anticipated to be feasible. Infiltration is not anticipated to be feasible at this Site. SCM design at this site has not been advanced.

These regional infiltration SCMs were anticipated to be cost-effective phosphorus reduction solutions that could support the City's ability to meet Phase 1 PCP requirements. However, due diligence investigations have found that several of these regional infiltration SCMs, which were identified as having significant load reduction potential, may not be practicable. In other instances, field conditions indicate that treatment may be viable but will result in less significant phosphorus load reductions. The City continues to perform due diligence investigations to identify locations where phosphorus reduction can be implemented efficiently. These due diligence efforts will impact the City's ability to meet their phosphorus load reduction requirements within the regulatory Phase 1 timeframe and City's available funding mechanisms, necessitating a Phase 1 Alternative Schedule.

# 4. FUNDING MECHANISMS AND FINANCIAL CAPABILITY

The Phase 1 PCP estimated the total Phase 1 implementation cost in 2023 to be $142.24 million. The anticipated costs include those associated with on-going implementation of non-structural control measures, implementation (design, permitting, procurement and construction) of planned structural control measures, operation and maintenance of city-owned structural control measures, and management costs associated with the oversight of Phase 1 implementation, including tracking of private SCMs. The following Table 4-1 presents the cost for these program elements. This section describes the City's funding mechanisms and financial capability for implementing the Phase 1 PCP.

**TABLE 4-1: PHASE 1 PCP TOTAL COST SUMMARY**

| Non-Structural SCMs | + | Planned Structural SCMs | + | Municipal SCM O&M | + | Program Management | = | **Total =** |
|---|---|---|---|---|---|---|---|---|
| $14.85 million | | $111.98 million | | $11.66 million | | $3.75 million | | **$142.24 M** |

## 4.1 City Funding Mechanisms

The City has incrementally increased their stormwater utility fees for residential and commercial users. In 2019, the annual fee for family dwellings (1-4 units) was $100. Effective July 1, 2024, the annual fee was $140. The fee was again increased by approximately 6% to $148.54, effective July 1, 2025. Similarly, in 2019 the annual fee for all other properties was $0.047 per square foot of impervious area or $150 minimum. Effective July 1, 2024, the annual fee was $0.068 per square foot of impervious area or $150 minimum. Effective July 1, 2025, the fee was again increased by approximately 6% to $0.072 per square foot of impervious area or $150 minimum.

Revenue from the City's stormwater fees is used to fund existing costs associated with the enterprise fund. In FY2026, the Stormwater fund had an operating budget of $5,286,778 (exclusive of debt service), existing debt service of $469,037 (as of 6/30/2024), and planned capital improvement projects (not related to the PCP) of $3,481,380 (and overall planned CIP stormwater projects of approx. $20.4M). These costs are almost entirely paid by stormwater utility fees, leaving little to no additional revenue available to fund other capital projects. For this assessment, FY 2026 numbers referenced herein are based on information available at the time this Alternative Schedule Request and FCA were initiated; refer to Appendix A for additional reference information. The City's current debt service in the FY26 budget is $566,588; however, the modest change in debt service is not anticipated to have a substantive impact on the results of this assessment.

After significant financial analysis the City has committed to increasing their funding for phosphorus mitigation by $5 million each year. This funding is in addition to their current stormwater program funding for municipal staff, equipment, operations and maintenance, and it will be used specifically for phosphorus control planning, SCM due diligence and design, SCM operation and maintenance, and SCM construction. The City also currently funds approximately $3M annually to support non-structural phosphorus control implementation measures, outside of the stormwater fund.

This $5 million annual phosphorus mitigation funding commitment is a significant investment and further demonstrates the City's commitment to stormwater nutrient management. The City's commitment to invest an additional $5 million annually will allow the City to reduce phosphorus levels through disciplined planning, due diligence investigation, design, and construction. The City's financial commitment which will support phosphorus mitigation is over $8M annually, with over $14M committed to stormwater management annually (existing costs and phosphorus mitigation).

The City has been proactive in attempts to secure favorable funding from State and Local Agencies. However, the City has had minimal success in receiving loan or grant awards from these agencies and awards they have received are often small dollar value. Moreover, agencies like the MassDEP's Asset Management Grant program awarded the City a grant but proceeded to revise scope eligibility and exclude stormwater phosphorus reduction components. The City desires to leverage these valuable programs but agencies have made stormwater quality projects a low priority. Even though once implemented, these projects would have a tremendous positive impact on local water quality, improve public health, protect the environment, and eliminate discharges to waters of the state. This landscape presents a dilemma for the City as they are driven by regulatory requirements to comply.

As previously stated, the City's existing stormwater utility fees are not adequate to support large capital investment. If the City is required to proceed with the current Phase 1 PCP schedule, they would likely need to rely on General Obligation Bonds backed by Citywide property tax revenues. Enterprise funds like stormwater utilities typically secure debt by utilizing user fees and revenues of that utility. The City currently has net debt outstanding of $338,438,628 that is backed by Citywide property tax revenues. Adding the Phase 1 PCP structural SCM capital cost of $111.98M would increase the **City's overall net debt** to $450,418,628, a **33% increase**.

Moreover, using the cost of the Phase 1 PCP 25% reduction as the basis for Phase 2 and 3, the capital costs for Phases 2 and 3 would total approximately $336M (in 2023$). Costs associated with the PCP Phase 1, 2, and 3 would total $447,982,500 (in 2023$), significantly higher than the City's existing net debt outstanding. Costs for the full PCP compliance would increase the City's overall net debt to $786,421,128, an 132% increase from the net debt outstanding today.

If the City were to fund the Phase 1 PCP through stormwater fee revenues, a stormwater fee rate study would need to be performed to ensure fees are increased to a level that supports the expanded capital investment. This presents yet another issue with the compliance timeline associated with the Phase 1 PCP. In practical terms, if the City wanted to perform a stormwater fee study to support costs of this magnitude, they would procure a rate study consultant specialized in this type of analysis. By the time it takes the City to procure and contract with the rate consultant (~3 months), the rate consultant performs and completes the study (~6 months), and the City formally approves the study and adopts new stormwater fees (~2 months), the City would be at or exceeding Phase 1 PCP PY8 load reduction requirement timeline. Moreover, even if the City were to increase the stormwater fee substantially, it would take time (approximately a year) for the stormwater fund to realize increased revenues, likely exceeding the Phase 1 PCP PY10 load reduction timeline.

To contextualize the magnitude of impact to rate payers, the following presents a high level estimate of the increases to stormwater fees needed to pay for the Phase 1 PCP:

- Total Costs Associated with Phase 1 PCP: $142.24M
    - Financed at 4% interest for 20 years, **annual debt service payment = $10,466,268**
- Existing Residential stormwater fee revenue
    - Count of Residential Customers (per City provided data): 23,599
    - Flat Fee per Residential Customer, effective July 1, 2025: $148.54
    - Residential User Revenue = $3,505,395
- Existing Non-Residential stormwater fee revenue
    - Total Non-Residential Impervious Area Square Footage (per City provided data): 36,943,014
    - Non-Residential Rate per Impervious Area Square Foot, effective July 1, 2025: $0.072
    - Non-Residential User Revenue = $2,659,897
- Total Existing Stormwater Fee Revenues = $6,165,292

Using the details provided above, the City would need to increase their stormwater user fee revenues by $10,466,268 to a total of $16,631,560 to cover the debt service costs associated with both existing non-phosphorus stormwater programs and the Phase 1 PCP. This reflects approximately a 170% rate increase.

## 4.2 Financial Capability Assessment

The City has initiated an affordability analysis consistent with EPA's Clean Water Act Financial Capability Assessment Guidance. Taxpayer/ratepayer affordability is a required component of the Phase 1 Alternative Schedule Request. The City's Financial Capability Assessment (FCA) is provided in Appendix A.

Both alternatives detailed in the FCA guidance were completed. Alternative 1 considers standardized metrics to measure the financial impact of Clean Water Act controls. Because the FCA guidance is focused on CWA impacts alone (stormwater and sewer) and does not specifically allow for total water costs (drinking water, wastewater, and stormwater) to be considered under Alternative 1, two scenarios were presented. Scenario 1 accounts for CWA costs (sewer and stormwater). Scenario 2 accounts for total water costs (drinking water, sewer, and stormwater). Alternative 2 considers more detailed financial and rate models to evaluate impacts to residents' bills over time to assess various implementation components. Under Alternative 2, three scenarios were developed:

- Scenario 1 – Baseline Compliance Schedule: Assumes the current compliance timeline with projects achieving a 20% reduction by PY8 and 25% reduction by PY10.
- Scenario 2 – Full PCP Compliance Schedule: Considers further load reductions required in PCP Phases 2 and 3.
- Scenario 3 – Alternative Phase 1 Schedule: Developed to align with the City's Phase 1 PCP Alternative Schedule Request with an annual investment of $5M for Phase 1 PCP projects and additional O&M costs.

While the results of the FCA show the City is generally financially capable of implementing the regulatory requirements associated with the PCP, the cost per household becomes quite substantial over time. Considering costs associated with the full PCP requirements (phases 1, 2, 3), the cost per household goes from an estimated $2,343 in FY2026 to $4,754 in FY2045. Even though this reflects 2.34% of MHI when accounting for income growth, it still presents a very real and very substantial cost, particularly for the City's most vulnerable low-income residents. Additionally, issuing the amount of debt needed to fund the full PCP schedule for stormwater activities would more than double the City's debt burden – adding $447.98M (in 2023 dollars) to the existing $338.43M net debt outstanding. While the City is committed to reducing phosphorus levels and improving water quality, the high cost, short timeline, and number of projects needed to meet regulatory requirements of the PCP will be difficult or impossible to achieve in the required permit timeline.

For Alternative 2, Scenario 1, the cost per household goes from an estimated $2,343 in FY2026 to $2,904 in a short amount of time (FY2029). Under Scenario 1 the cost per household is approximately $3,166 in FY2045. This reflects the cost per household as a percentage of MHI ranging from 1.27% to 1.56%.

For Alternative 2, Scenario 2, the cost per household goes from an estimated $2,343 in FY2026 to $4,754 in FY2045. This reflects the cost per household as a percentage of MHI ranging from 1.27% to 2.34%.

For Alternative 2, Scenario 3, the cost per household goes from an estimated $2,329 in FY2026 to $2,889 by FY2045. This alternative provides for a more stable and predictable increase in costs over the long term. The cost per household as a percentage of MHI ranges from 1.26% to 1.42% between FY2026 and FY2045.

As part of the Financial Alternatives Analysis, the City further investigated the impacts of PCP Phase 1 on the lowest income residents. The cost per household as a percentage of MHI was recalculated for the lowest income Census Tracts and select populations. The lowest income Census Tract (3741) has a cost per household as a percentage of MHI of 1.46% and 2.25% for Alternative 1 – Scenario 1 and Alternative 1 – Scenario 2, respectively. Moreover, for householders aged 65 years or older in Census Tract 3732, the cost per household as a percentage of MHI is 3.22% and 4.98% for Alternative 1 – Scenario 1 and Alternative 1 – Scenario 2, respectively. At these levels, the impact of meeting the PCP Phase 1 requirements could be detrimental to these residents. This highlights the need for additional time to comply with the PCP Phase 1 requirements in a fiscally sustainable manner for all residents of the City of Newton.

## 4.3 State and Federal Funding Mechanisms

The City has explored multiple funding mechanisms to support phosphorus mitigation. Table 4-2 identifies the status of applicable grants, loans and earmarks the City has applied for to support stormwater nutrient management projects. A brief narrative of the City's results with applicable funding mechanisms is also included in this section. Pending applications are not included. It should be noted that state and federal funding mechanisms to support Appendix F requirements, in a significant capacity, seem to be limited.

**TABLE 4-2: STATE AND FEDERAL FUNDING MECHANISMS**

| Mechanism | Awarded (Yes/No) | Funded Amount | City Match |
|---|---|---|---|
| 2024 Asset Management Plan Grant | Yes[1] | $150,000 | $75,000 (Cash)<br>$25,000 (In-Kind) |
| 2024 MassDEP State Revolving Fund Loan | Yes[2] | $20,127,081 | N/A |
| FY24 CZM Coastal Habitat and Water Quality Grant | Yes | $99,992 | $5,000 (In-Kind) |
| FY25 Municipal Vulnerability Preparedness Grant | Yes | $1,267,995 | $184,270 |
| FY25 State Budget Earmark | Yes | $100,000 | $64,400 |
| FY25 CZM Coastal Habitat and Water Quality Grant | Yes[3] | $173,339 | $10,000 (Cash)<br>$8,714 (In-Kind) |
| *Total Awarded* | | $21,918,407 | $372,384 |
| 2025 MassDEP State Revolving Fund Loan | No | $16,913,657 | N/A |
| FY25 MA04 Community Project Funding | No | $1,000,000 | N/A |
| *Total Not Awarded* | | $17,913,657 | N/A |

1. Awarded, however, the awarding agency revised scope eligibility after award; therefore, no longer applicable to stormwater phosphorus reduction.
2. Awarded, however, City opted to decline funds. The projects that were submitted required due diligence investigations prior to advancing design and construction.
3. Awarded but City opted to decline funds to prioritize pursuing potential SRF projects which had been successful previously.

### 4.3.1 CZM Coastal Habitat and Water Quality Grant Program

The Charles River Watershed Association (CRWA), in partnership with the City, received grant approval in FY24 and FY25. In FY24, the CRWA and the City developed designs for green stormwater infrastructure to treat runoff into Cheesecake Brook, which discharges directly to the Charles River. Level of design varied from conceptual to final design, depending on the project / location. The FY25 grant which included further design advancement of limited stormwater phosphorus control projects was approved, but the City opted to decline funds to prioritize pursuing potential SRF-funded projects as the projects submitted for potential SRF funding were significant projects focused solely on stormwater phosphorus reduction and SRF funding had previously been awarded.

### 4.3.2 Massachusetts Municipal Vulnerability Preparedness (MVP) Grant Program

The City received a FY25 MVP grant for constructing subsurface flood storage and infiltration, bank restoration along Cheesecake Brook, and bioswales along the road edge to reduce erosion and treat runoff. The project is currently being constructed; however, project elements will provide limited nutrient control.

### 4.3.3 Massachusetts Earmark

The City received a Massachusetts Earmark from the American Rescue Plan Act (ARPA) appropriations for the Parks, Recreation, and Culture Department to improve infrastructure at Crystal Lake. A subsurface infiltration chamber system will be constructed to improve water quality.

### 4.3.4 SRF PEF

2024 SRF PEF – The City submitted a 2024 Project Evaluation Form (PEF) to MassDEP for their funding consideration under the Clean Water State Revolving Fund (SRF) program for construction of four regional SCMs. The estimated project cost submitted totaled approximately $20 million, including construction, contingency, construction administration, and police details. The City was included in the Draft Intended Use Plan (IUP). However, the City declined funding. Due diligence efforts at the locations included in the PEF had not been sufficiently advanced to support design completion in accordance with program timelines. Design associated with approx. $20M of associated construction would have been required to be completed, less than 1.5 years after the development of the Phase 1 PCP.

2025 SRF PEF - The City submitted a 2025 Project Evaluation Form (PEF) to MassDEP for their funding consideration under the Clean Water State Revolving Fund (SRF) program for construction of four regional SCMs. The estimated project cost submitted totaled nearly $17 million, including construction, contingency, construction administration, and police details. The City was not included in the Draft Intended Use Plan (IUP). It should be noted that no stormwater projects were included in the 2025 IUP.

### 4.3.5 SRF AMP

The City submitted a 2024 Asset Management Plan (AMP) application for funding under the Clean Water SRF program. This project was intended to support the City's PCP program by assessing existing private structural SCMs for phosphorus reduction credit through field verification and inspection to assess the cost-benefit for the City to inspect private SCMs for compliance with crediting requirements. Additionally, the SRF AMP scope includes attribute and condition assessment for high priority drainage infrastructure, to support regional SCM project planning, and a catch basin inlet cleaning operations plan, to support non-structural phosphorus reduction credit. While these scope items support the City's PCP, they also have additional co-benefits including infrastructure condition assessment for long-term replacement planning and inlet cleaning for flood reduction.

Funding was approved by the SRF program; however, a modified Project Approval Certificate (PAC) was received. MassDEP subsequently indicated that the awarded project scope is no longer fundable under the SRF AMP program with its focus on private, interconnected SCMs. The City continues to pursue SRF AMP funding; however, MassDEP AMP project eligibility criteria do not favor stormwater nutrient management components and scopes including NPDES compliance elements.

# 5. PROPOSED PHASE 1 ALTERNATIVE SCHEDULE

## 5.1 Interim Phase 1 PCP Schedules

As noted in Section 1.1, two implementation schedules were prepared and submitted with the Phase 1 PCP: a Permit Timeline Schedule and a Phase 1 Constraints Schedule. The Permit Timeline Schedule outlined the implementation schedule for planning structural controls to comply with the permit-defined timeline for PY8 and PY10 load reduction requirements. The Permit Timeline Schedule considered available yearly construction windows and balancing disturbance of municipal parcels resulting in 63 projects scheduled for PY8 compliance and 5 remaining projects for PY10 compliance. This schedule highlighted the impracticality of concurrently executing the number of projects necessary in the Phase 1 Permit required timeline of 5 years. The number of projects, their associated complexity and cost, along with community impacts present a significant schedule challenge for the City. Therefore, a Phase 1 Constraints Schedule was developed to better identify implementation schedule implications. The Constraints Schedule considered a typical number of concurrent projects managed (3) and further assumed the City's stormwater budget is solely utilized for structural SCM implementation and no external funding mechanisms would be utilized. The Constraints Schedule resulted in a timeline of approximately 55 years for Phase 1 implementation. As noted, this Constraints Schedule was developed to further inform both short-term and long-term phosphorus planning; the Constraints Schedule was not compliant with Permit required timeframes.

## 5.2 Proposed Phase 1 Alternative Schedule

The two previously developed Phase 1 PCP schedules were predicated on the implementation of specific, prioritized structural control opportunities that had been identified. However, as the City advances due diligence, these efforts have shown that field conditions significantly limit regional, structural SCM opportunities and treatment benefits. The preliminary, desktop analysis load reduction planning estimates are not anticipated to be achievable based on due diligence field investigations completed to date. Therefore, implementation schedule planning based on specific projects, as presented in the Phase 1 PCP schedules, and the MS4 General Permit Phase 1 alternative schedule request requirements, is not realistic for the City.

As a result of the previously prepared Phase 1 PCP implementation schedules and the structural SCM project planning and due diligence, presented in Section 3.2, a different implementation schedule method is presented in this Phase 1 Alternative Schedule Request. The following Proposed Phase 1 Alternative Schedule is based on the City's financial commitment of $5 million per year and associated annual phosphorus load reduction (lb/yr) achieved through the City's fiscal expenditure. This approach is intended to provide the City with project implementation flexibility, in the event that site constraints identified during due diligence investigations reduce the phosphorus load reduction potential of a particular project. As the City's phosphorus control program continues to be implemented, their goal is to match the proposed annual phosphorus reduction presented in this schedule. However, the achieved reduction might vary year by year as project due diligence, design, and construction cost estimates are advanced. This schedule approach provides the City with flexibility to achieve their proposed phosphorus reduction without being committed to specific projects and load reduction targets. Annual progress updates will be submitted to EPA via Performance Evaluations.

The Proposed Phase 1 Alternative Schedule is included in Appendix B. The proposed schedule is predicated on the City's PY7 Phase 1 Load Reduction Gap, presented in Table 5-1.

**TABLE 5-1: PHASE 1 LOAD REDUCTION GAP (LBS/YEAR)**

| | Load Reduction Requirement | Existing Reduction Credit | | Load Reduction Gap |
|---|---|---|---|---|
| | | Structural | Non-Structural | |
| PY8 | 938.4 | 112.1 | 51.8 | 774.5 |
| PY10 | 1,173.0 | | | 1,009.1 |

The proposed schedule projects the City to meet their 20% PY8 and 25% PY10 load reduction requirements in PY22 (2040) and PY27 (2045), respectively. This is a significant reduction in schedule, 10 years, from that presented in the PCP Phase 1 Constraints Schedule, further demonstrating the City's commitment to advancing phosphorus reduction. Table 5-2 represents the anticipated load reductions, at 5-year increments, based on the proposed Phase 1 Alternative Schedule approach.

**TABLE 5-2: PHASE 1 ALTERNATIVE SCHEDULE ADDITIONAL LOAD REDUCTION PROPOSED (LBS/YEAR)**

| 2030 | 2035 | 2040 | 2045 |
|---|---|---|---|
| 270.4 | 540.1 | 787.4<br><br>PY 8 Load Reduction Achieved (>774.5 lbs) | 1,016.5<br><br>PY 10 Load Reduction Achieved (>1,009.1 lbs) |

The following sections describe how the schedule was developed.

### 5.2.1 Annual Phosphorus Reduction Fiscal Commitment

An annual phosphorus reduction commitment is proposed for each permit year in the alternative schedule. This load reduction amount is based on the City's stormwater funding commitment of $5 million and an average construction and O&M cost per pound of phosphorus removed from the Phase 1 PCP prioritized projects.

$$Annual\ Phosphorus\ Reduction\ \left(\frac{lb}{year}\right) = \frac{Annual\ Capital\ Investment\ (\$/year)}{Average\ Construction\ \&\ O\&M\ Cost - Benefit\ \left(\frac{\$}{lb}\right)}$$

The Phase 1 PCP utilized both EPA Region 1's published unit costs in dollars per cubic foot of water quality volume ($/CF), as well as estimated unit costs developed by Woodard & Curran. This provided an anticipated range in both construction and total implementation (design plus construction) costs for planning purposes. Project cost-benefit estimates were prepared using the construction cost and estimated phosphorus reduction benefit. This proposed implementation schedule uses the average cost benefit for the prioritized projects based on EPA construction unit costs. This was estimated to be about $73,000 per pound of phosphorus removed. Since these were a 2023 estimate, an inflation rate of 3% is used each year to increase the cost per pound removed.

The O&M cost per pound of phosphorus removed is estimated using the Phase 1 PCP O&M cost for planned structural SCMs. This labor and equipment cost was estimated to be about $1.2 million in the Phase 1 PCP.

This cost does not include life cycle costs, which if incurred during the lifetime of this schedule could impact the overall schedule. The PCP planned structural SCMs were estimated to provide 1,422 pounds per year of phosphorus reduction, resulting in an initial 2023 O&M cost per pound of phosphorus of $845 lb/year. An inflation rate of 3% is used each year to increase the O&M cost per pound removed.

The City's funding commitment for new capital improvements is equal to the investment remaining after due diligence, program management, PCP Phase 2 and 3 planning, the previous years' cumulative maintenance of new SCMs, and project design are accounted for.

$$\begin{aligned} Capital\ Investment \\ = \$5\ Million - \text{Planning}/Due\ Diligence - Phase\ 2\ \&\ 3\ PCP\ Planning \\ - Previous\ Years' Cumulative\ Maintenance - Design \end{aligned}$$

These cost components and assumptions are described in more detail below. They are additional costs associated with implementation of the City's Phase 1 PCP and required PCP planning. These costs do not account for the City's current nutrient management, non-structural control implementation, maintenance of existing municipal SCMs, and general stormwater program investments which are funded separately from the $5 million annual commitment.

- SCM Planning and Due Diligence: Project planning and due diligence will determine what projects are advanced to design and construction through site investigations such as test pits, groundwater monitoring, contamination risk review, utility survey, and resource area delineations. These Phase 1 costs are assumed to be incurred between PY8 and PY18, at which time it is assumed that Phase 1 project site conditions will have been vetted. This cost component is included as a ladder, ranging from $200k (PY8) to $250k (PY9-PY12), and then back down to $200k (PY13-PY17) and $50k (PY18).

- Design: Design costs are estimated at 35% of the capital investment for construction starting in PY10, based on EPA Region 1's methodology for developing cost estimates for Opti-Tool. The PY8 and PY9 design fees are estimated as $750k, based on design contract estimates underway with the City.

- Phase 2 & 3 PCP Planning: A budgetary placeholder of $0.5 million was carried in PY9 and PY14 for preparation of the Phase 2 and 3 PCPs, respectively, totaling $1 million. It is unclear whether EPA will require these PCPs to be completed on schedule as outlined in the MS4 General Permit, or if they will allow delayed submission based on the proposed Phase 1 PCP alternative schedule. Therefore, budgetary placeholders for these planning documents have been factored into this schedule for planning purposes.

- Previous Years' Cumulative Maintenance: Maintenance costs are cumulative as new SCMs are constructed. Since the proposed annual phosphorus reduction (lb/yr) is a factor of annual O&M cost per pound removed, the maintenance cost from previous years' is subtracted from the $5 million commitment and not included in the remaining funds available for additional capital.

These costs, as well as average SCM unit costs, will continue to be reevaluated as part of annual performance evaluations and adjusted, as appropriate, throughout implementation of the alternative schedule. The proposed alternative schedule implementation cost is summarized in Table 5-3 below.

**TABLE 5-3: PROPOSED ALTERNATIVE SCHEDULE COST SUMMARY**

| Planning/ Due Diligence | + | Phase 2 & 3 PCP Planning | + | O&M | + | Design | + | Capital Investment | = | **Total =** |
|---|---|---|---|---|---|---|---|---|---|---|
| $2.25 M | | $1 M | | $6.64 M | | $21.39 M | | $63.26 M | | **$94.54 M** |

This cost is approximately $47.7 million less than the Phase 1 PCP cost presented in Table 4-1. The proposed alternative schedule does not account for funding the City's non-structural (catch basin cleaning and street sweeping) program. It also does not account for the City's current SCM maintenance program, in which they inspect and maintain their existing municipal SCMs, or the life cycle and management costs for existing and planned SCMs. Finally, the proposed alternative schedule is based on the City's PY7 performance evaluation load reduction gap, rather than the Phase 1 PCP gap, and it accounts for progress the City has already made toward their Phase 1 PCP requirements. Therefore, even when accounting for inflation, the total cost to implement planned structural SCMs has decreased since the Phase 1 PCP was developed. This demonstrates the City's commitment to progressing their phosphorus control program. The difference in cost between the Alternative Schedule and Phase 1 PCP is summarized in Table 5-4 below.

**TABLE 5-4: ALTERNATIVE SCHEDULE AND PHASE 1 PCP COST SUMMARY**

| | Alternative Schedule | Phase 1 PCP | Difference |
|---|---|---|---|
| Non-Structural | N/A | $14.85 M | $14.85 M |
| Planned Structural (Planning, Design & Construction) | $86.90 M | $111.98 M | $25.08 M |
| O&M | $6.64 M | $11.66 M | $5.02 M |
| Program Management | N/A | $3.75 M | $3.75 M |
| Phase 2 & 3 PCP | $1 M | N/A | -$1 M |
| Total Cost | $94.54 M | $142.24 M | $47.70 M |

### 5.2.2 Available Credit

Each year, it is anticipated that the City will increase their available phosphorus reduction credit via private redevelopment and municipal roadway projects. Municipal redevelopment phosphorus reduction and schedules vary more substantially each year and are therefore tracked and accounted for in annual performance evaluations. Upcoming, near future municipal redevelopment is accounted for in PY8 and PY9 in the proposed alternative schedule, but long-term municipal redevelopment is not included in the alternative schedule development.

Private redevelopment and municipal roadway projects are credit avenues which already occur and will continue to occur. An assumed average annual private redevelopment credit of 20 lbs/year is accounted for. This is based on tracking private SCMs from Spring 2022, when the City's stormwater standards were updated, to Spring 2025, when the PY7 performance evaluation was drafted. In this time, SCMs were

constructed that reduced phosphorus by about 87 lbs/year, averaging nearly 30 lbs/year. To be conservative, since this estimate only accounts for two years of data, the proposed alternative schedule uses an assumed 20 lbs/year of credit through redevelopment. Additionally, an assumed average annual municipal roadway project credit of 2 lbs/year is accounted for, based on the Phase 1 PCP and previous years' implementation of roadway projects.

It is likely that other credit avenues will result due to the City's PCP program, potentially including non-structural program refinement. However, these credits are not well defined due to uncertainty in draft MS4 General Permit credit policies and potential impact to City operations. Therefore, they are not accounted for in this proposed schedule, but they will be reevaluated as part of annual performance evaluations.

### 5.2.3 Planned Structural SCM Credit

The planned structural SCM phosphorus reduction credit is included in the Proposed Phase 1 Alternative Schedule as a stepped credit. The City is currently planning and conducting due diligence for new regional SCM projects, permitting and designing other projects, and constructing others. These projects are presented in Section 5 of the City's Performance Evaluations and Section 3.2 of this report. Phosphorus reduction credit is accounted towards the Phase 1 load reduction gap in the year that it is anticipated to be constructed. Therefore, the projects that the City completes construction on in PY8, estimated as 18.1 lbs/year in the PY7 Performance Evaluation, are credited this permit year. The credit that is undergoing permitting and design is delayed one year in the schedule, while the credit that is undergoing planning and due diligence is delayed two years, for the purpose of alternative schedule planning. This sequence is illustrated in Table 5-5 below.

**TABLE 5-5: PLANNING, DESIGN, AND CONSTRUCTION SCHEDULE SUMMARY**

| | | | | | |
|---|---|---|---|---|---|
| Planned Structural SCM Project Credit (lbs/yr) | Planning/Due Diligence | PY8 | PY9 | PY10 | PY11 |
| | Permitting/Design | PY8 | PY9 | PY10 | PY11 |
| | **Constructed Credit** | **PY8** | **PY9** | **PY10** | **PY11** |

By PY10, it is anticipated that planning and due diligence efforts will be adequately advanced, and the City's increased funding mechanisms will be established, so that the full $5 million commitment will be expended in support of PCP projects.

The City anticipates generally maintaining this 3-year project implementation sequence. However, unforeseen project complications or construction sequencing may impact timing. The City will continuously reevaluate their implementation schedule and document this in annual performance evaluations.

# 6. SCHEDULE OPPORTUNITIES

## 6.1 2024 Draft CII Permit Implications

The 2024 Draft National Pollutant Discharge Elimination System (NPDES) General Permit (GP) for Private Commercial, Industrial, and Institutional (CII) Stormwater Discharges in the Charles, Mystic, and Neponset River Watersheds in Massachusetts (the Draft CII GP) is anticipated to help reduce the City's phosphorus load reduction requirements. The Draft CII GP authorizes CII sites with equal to or greater than 1 acre of impervious cover to discharge stormwater to the Charles, Mystic, and/or Neponset River Watersheds. This permit requires the property owner/manager to implement a 65% phosphorus reduction from the CII properties in the Charles River Watershed, transferring that load reduction requirement from municipalities. It is unknown when this permit will be finalized and exactly what the phosphorus reduction implications will be for MS4s. Therefore, the transfer of load reduction responsibilities was not accounted for in this proposed Phase 1 Alternative Schedule. Any benefit from the CII GP is not anticipated to be realized during the Phase 1 permit timeline, however, in general, it is anticipated that the CII GP permit would shorten the City's Phase 1 Alternative Schedule when it is finalized. A memorandum documenting potential implications on the City's PCP program is included in Appendix D.

## 6.2 Existing Private SCM Tracking

The Phase 1 PCP accounted and credited municipal structural SCMs. Subsequent annual Performance Evaluations accounted and credited private structural SCMs permitted after Spring 2022, when the City's updated stormwater regulations, requiring annual inspection and maintenance reports, were enacted. It is anticipated that there are thousands of additional controls within the City that have not been accounted for, since the City began requiring stormwater volume mitigation (which provides phosphorus reduction) as early as 2004. If these controls are inspected and maintained as needed, and documented that they are functioning as intended, the City can account for them. However, the City does not have an enforcement mechanism to require private property owners to submit annual inspection and maintenance reports, since they were permitted prior to the requirement enactment in Spring 2022. It is anticipated that these existing SCMs are providing significant phosphorus reduction, which is unaccounted for based on the City's inability to mandate annual inspection and maintenance documentation. If there was flexibility in the Permit certification requirements, and in turn available crediting, the proposed alternative schedule to meet the Phase 1 requirements would be shorter.

## 6.3 Alternative Credit Methods

The MS4 General Permit allows for alternative methods and/or nutrient reduction factors to be proposed to EPA by a permittee. EPA will consider these proposed alternatives for calculating nutrient load reduction credit for structural and non-structural practices if the permittee submits adequate supporting documentation. EPA will review submissions and determine if the supporting documentation is considered adequate for nutrient reduction credit. Two alternative credit avenues that the City is considering include manufactured proprietary treatment systems, such as the Jellyfish Filter by Contech, and alternative street sweeping and/or organic waste and leaf litter collection nutrient reduction factors.

### 6.3.1 Proprietary Treatment

The Jellyfish Filter is approved for phosphorus reduction by many testing agencies, including the Washington State Department of Ecology's Technology assessment Protocol – Ecology (TAPE) program. While the Jellyfish Filter is typically more expensive to purchase, install, and maintain than traditional SCMs on a cost-benefit basis, it would allow permittees the opportunity to reduce phosphorus in areas where traditional SCMs are not feasible due to site constraints. The City is considering installation of Jellyfish Filters and will likely submit supporting documentation for phosphorus reduction credit to EPA.

### 6.3.2 Non-Structural Controls

The City has calculated their potential non-structural phosphorus reduction credit based on various credit and operational programs. The non-structural credit accounted for in this Phase 1 Alternative Schedule is 51.8 lbs/year, per the City's PY7 Performance Evaluation. Additionally, the City calculated phosphorus reduction based on their current sweeping operations and the Clean Sweep Technical Memorandum's measured-based organic matter collection credit program, and the credit is nearly 2,000 lbs/year. It is clear that the City's current sweeping credit is low compared to their potential based on scientific documentation and operational programs. It is anticipated that the City will continue to refine and invest in their operational program and work collaboratively with EPA towards EPA's refinement of their non-structural credit policies. Removal of leaf litter from streets in the fall, consistent with the Clean Sweep Technical Memorandum, will provide significant benefits to water quality in the shortest amount of time and will greatly improve the City's Phase 1 Alternative Schedule.

## 6.4 IDDE

Permittees are required to implement illicit discharge detection and elimination (IDDE) programs as part of their NPDES permits. It is our understanding that EPA will recalculate the watershed wide phosphorus reduction due to IDDE implementation following completion of all permittees' IDDE programs (10 years after the permit effective date). EPA has stated that the watershed wide phosphorus reduction estimated from IDDE implementation will be distributed among the permittees to reduce their required phosphorus reduction targets. This will follow IDDE program completion and be included in a future reissuance of the MS4 General Permit, or a permit modification. This is anticipated to shorten the City's Phase 1 PCP Alternative Schedule. However, the magnitude and exact timing of this reduction in requirements is currently unknown.

# 7. PHASE 2 ALTERNATIVE SCHEDULE REQUEST COMPONENTS

Although this is the Phase 1 Alternative Schedule Request, as discussed in the Executive Summary, the City's uniquely large phosphorus reduction requirement positions the City for an Alternative Schedule Request that is more consistent with the MS4 GP, Appendix F, Phase 2 description. Rather than strictly affordability, which is the primary qualifier for the Phase 1 Alternative Schedule Request, the City's implementation schedule constraints extend beyond the Phase 1 Alternative Schedule request elements and align with certain Phase 2 alternative schedule request elements described below.

- Suitability and availability of areas for siting and constructing structural controls, including, if appropriate, a review of third-party partnerships considered for within-watershed structural control sites.
    - The City evaluated all municipal parcels for SCM suitability as part of the Phase 1 PCP. The City is advancing SCM feasibility due diligence investigations at the sites listed in Section 3 of this report and coordinating with various municipal departments (Newton Public Schools; Parks, Recreation, and Culture; Planning; Public Buildings; Public Works; and Finance). In-situ field conditions found during due diligence efforts performed to date indicate substantial limitations to site suitability.
- Access and acquisition of real property rights for constructing and maintaining structural controls.
    - The City continues to evaluate options for access rights for inspecting and maintaining private structural controls in order to take phosphorus reduction credit for them.
    - The City is evaluating options for easements to allow for the installation and maintenance of regional municipal SCMs on private property.
- Timelines for the permittee's planning, design, financing, easement or property interest acquisition, and procurement for and construction of structural controls.
    - The City performed a preliminary evaluation of these timelines as part of the Phase 1 PCP Permit Timeline and Constraints Implementation Schedules. These accounted for Design Proposal and Procurement, Design Feasibility and Planning, Design Phase, Permitting, Construction Bidding, and Construction. Additionally, property types and seasons were considered in the implementation schedule. School projects were planned so that their construction phases would coincide with summer break, and the remaining projects were planned so the construction phase was within the typical construction months of April through November. Concurrent impacts on similar Park amenities were also considered and minimized. The resulting Permit Timeline schedule found that to complete the 68 prioritized projects in 5 years, the peak number of projects concurrently in the SCM Design phase was 31 projects, and the peak in construction was 37 projects. This presents feasibility challenges for the City since their municipal departments do not have the capacity to execute this many projects of such significant scale at once.
- Timelines for and constraints due to the federal, state and/or local approval(s) and permitting processes for structural controls.

  - Permitting timelines were considered in the City's Phase 1 PCP implementation schedules. Anticipated permitting durations were established for prioritized projects, based on project size, complexity, location, public outreach considerations and proximity to mapped regulated resource areas. Prioritized projects were designated with 1-, 2- or 3-month permitting durations, based on the aforementioned considerations; permitting durations were considered in the Phase 1 PCP implementation schedules.

- Anticipated phosphorus reductions due to the rate of redevelopment within the community and the degree to which future redevelopment may be reasonably anticipated to achieve the desired reductions in lieu of reliance upon structural controls by the permittee.

  - Anticipated phosphorus reductions due to reasonably anticipated private (re)development and municipal roadway projects have been accounted for in this proposed Phase 1 alternative schedule. As previously noted, the City is tracking and accounting for phosphorus reduction credits resulting from private redevelopment as of Spring 2022 when City regulations were updated. Annual data is limited, so conservative annual reductions (20 lbs/yr) are currently accounted for and will be adjusted, if appropriate, as additional data is obtained and documented though on-going Performance Evaluations.

  - Municipal property (re)development is accounted for annually in Performance Evaluations. It is not accounted for long-term in this proposed Phase 1 alternative schedule due to project schedule and scope variability and project reliance on funding related to other City capital improvement projects.

- Scale of structural BMP controls required and phasing considerations with other capital improvement projects that are being implemented by the permittee or other parties that impact the permittee, municipality or relevant taxpayers or ratepayers.

  - The City considered the scale of required structural SCMs with other planned capital improvement projects in the Phase 1 PCP implementation schedules. The City's Capital Improvement Plan (CIP) for fiscal years 2024 through 2028 was reviewed while developing the list of Phase 1 PCP prioritized project opportunities. If the identified retrofit opportunity could be reasonably aligned with the work outlined in the CIP, the opportunity was selected for Phase 1 prioritization. The CIP project timing was considered when developing the Phase 1 PCP implementation schedules to the maximum extent practicable.

# 8. SUMMARY

The City of Newton requires an Alternative Schedule for the implementation of their Phase 1 Phosphorus Control Plan required by Appendix F of the MS4 General Permit. Newton's Phase 1 phosphorus load reduction requirements of 938 lbs/yr (20%) by PY 8 and 1,173 lbs/yr (25%) by PY10, as defined in the MS4 General Permit, necessitate extensive planning to design, implement, and finance SCMs while minimizing associated disruption of municipal facilities and amenities. The City's Phase 1 load reduction exceeds 27 of the 34 small MS4's total TP reduction requirements through all phases. It is evident from this comparison that it is impracticable for the City to meet their Phase 1 load reduction requirements in the same timeframes as other communities.

The City of Newton has implemented non-structural control measures and continues to refine those measures to maximize nutrient reduction impacts; however non-structural control measure implementation only provides approximately 5% of the Phase 1 required load reduction, based on current credit policies. As a result, the City must rely significantly on the implementation of structural control measures to achieve phosphorus load reduction requirements.

The City's Phase 1 PCP predicted that the City could not feasibly execute the number of structural control projects necessary to achieve the required 25% reduction in the required timeline of 5 years. The number of projects, their associated complexity and cost, along with community impacts present a significant schedule challenge for the City. However, the City remains committed to phosphorus reduction and watershed improvements. As such, the City has advanced due diligence efforts at over 20 municipal locations in consideration of structural SCM implementation. The due diligence efforts have proven that site conditions provide additional challenges to the cost-effective implementation of phosphorus nutrient reduction. Many locations investigated are unsuitable for stormwater infiltration practices, allowing only significantly less cost-effective implementation measures. Newton must consider and balance responsible fiscal implementation, community impacts, and permit compliance as PCP implementation continues to advance.

Newton has made substantial investments toward the advancement of structural stormwater control measure implementation. The City has made a $5 million annual commitment, over and above existing stormwater fund and sustainable material management annual budgets, dedicated to the advancement of stormwater phosphorus control implementation. Due to the complexities of site conditions in the developed, heavily urbanized, and historic, City of Newton, an Alternative Schedule based on specific projects, as required by Appendix F is not practical; the City thoughtfully proposes a fiscally based alternative schedule to afford flexibility of implementation types and locations to support Phase 1 load reduction requirements. Moreover, the Alternative Schedule will allow the City to sustainably manage their Stormwater Enterprise fund by implementing predictable fee increases and ensuring an adequate revenue stream to invest in capital improvements. Newton's Phase 1 Alternative Schedule proposes achievement of 20% load reduction in 2040 and 25% reduction in 2045. With potential changes to EPA crediting policy and other opportunities outlined in Section 6, it is anticipated that nutrient reduction in stormwater discharges may be realized before 2040 and 2045. The City is committed to meeting this proposed Phase 1 alternative schedule, improving water quality, and investing in a cleaner Charles River.

# APPENDIX A: FINANCIAL CAPABILITY ASSESSMENT

# TECHNICAL MEMORANDUM

**TO:** Shawna Sullivan, Bernie McDonald (City of Newton, MA)

**CC:** Jonathan Yeo, Maureen Lemieux, Perry Rosenfield, Tom Fitzgerald (City of Newton, MA)
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**PREPARED BY:** Ethan Wilson (Woodard & Curran)

**DATE:** August 27, 2025

**RE:** Financial Capability Assessment for MS4 Permit Stormwater Phosphorus Controls

## 1. Introduction

Woodard & Curran has completed a Financial Capability Assessment (FCA) following EPA's 2024 Clean Water Act (CWA) Financial Capability Assessment Guidance. If the City of Newton (City) seeks an Alternative Schedule Request to EPA for MS4 compliance, this assessment is a requirement to support schedule negotiations. The FCA also provides key information for the City to evaluate affordability and impacts to rate payers/taxpayers of the costs to comply with the MS4 General Permit PCP implementation requirements.

This Technical Memorandum (TM) reviews the process and results under the three components of the FCA. Alternative 1 considers standardized metrics to measure the financial impact of CWA controls, including both stormwater and wastewater. These include a residential indicator to assess household costs; financial capability indicators (socioeconomic, debt, and financial); and the lowest quintile poverty indicator (LQPI). Alternative 2 considers more detailed financial and rate models to evaluate impacts to residents' bills over time and to assess various implementation components. EPA's guidance also recommends the LQPI to be considered under Alternative 2. The final component of the FCA is a financial alternatives assessment which allows for additional qualitative information to be provided in consideration of alternatives to reduce cost and limit impacts to the lowest-income households. Other metrics are included in the financial alternative assessment to provide a more detailed impact to the lowest income Census Tracts. The financial alternatives assessment will support the required FCA under both Alternative 1 and 2.

## 2. Data Sources and Assumptions

**Stormwater Costs:** The City established a dedicated Stormwater Enterprise Fund in 2006 to account for the operation and maintenance of stormwater activities. The City's stormwater fund currently provides regulatory support to ensure MS4 compliance, planning and implementing capital infrastructure improvements, oversees floodplain management, and supports climate resiliency. The stormwater enterprise is funded by stormwater fees, with residential owners paying a flat fee and all other property owners paying based on the amount of impervious area (or a minimum fee whichever is greater). The City's 2023 Annual Comprehensive Financial Report (ACFR) was used for the FCA to provide for existing operational and debt service costs. The City's FY2026-FY2030 Capital Improvement Plan (CIP) was used to include existing capital projects anticipated in the next five fiscal years (Attachment A).

Additional stormwater program costs include the estimated Phase 1 PCP Implementation operations & maintenance (O&M), and capital cost estimates provided from the *Interim Phase 1 Phosphorus Control Plan Report* dated June 2023. These costs include Non-Structural SCMs, Planned Structural SCM costs, O&M for existing and planned SCMs, and program management costs.

**Residential Share of Costs:** A component to calculate the residential indicator under Alternative 1 includes a factor to apply total current and projected costs to residential customers. EPA's CWA guidance uses the percentage of residential wastewater flows to total wastewater flows as this factor. Given limitations of available data, EPA's approach was modified for use in Alternative 1. The City provided a 2023 water consumption report which included the annual number of connections and usage by customer class (Attachment B). This report also separated usage associated with outdoor or irrigation meters. Residential customers used 2,204,649 Hundred Cubic Feet (HCF) of water, excluding outdoor use, and total usage among all customers was 2,585,791 HCF, excluding outdoor use. Approximately 85% of water use (excluding outdoor usage) was attributable to residential customers, and this factor was used in the residential indicator calculations.

**Water & Sewer Costs:** Water and sewer costs reference FY2026 budget documents, FY2023 ACFR, and 5-year Capital Improvement Plan (CIP) documents available on the City's website (with confirmation of accuracy). Projected future costs include standard cost escalations where appropriate.

## 3. Financial Capability Assessment Alternative 1

The FCA guidance is focused on CWA impacts alone (stormwater and sewer) and does not specifically allow for total water costs (drinking water, sewer, and stormwater) to be considered under Alternative 1. Because of this, two scenarios are presented in this section for Alternative 1. The first scenario accounts for CWA costs, sewer, and stormwater. The second scenario accounts for total water costs to show how results change when drinking water, sewer, and stormwater are included.

### 3.1 The Residential Indicator – Scenario 1 (Stormwater and Sewer Costs Only)

The Residential Indicator metric assesses the cost per household (CPH) as a percentage of the City's Median Household Income (MHI) to meet CWA regulatory requirements (under this scenario, for sewer and stormwater costs only). This first involves identification of the current and proposed program costs per household. The cost per household and MHI are then used to calculate the Residential Indicator. The outcome is then evaluated against EPA's benchmarks to determine if the CWA requirements produce a high, mid-range, or low financial impact to the City's residents.

EPA's FCA guidance is focused on CWA controls as it relates to wastewater and examples utilize wastewater costs and flow data. Given that stormwater management also falls under the CWA jurisdiction, the FCA guidance was adapted for this Task. This scenario considers the CWA costs associated with both wastewater and stormwater programs.

To calculate the cost per household, current annual O&M expenses (excluding depreciation) and annual debt service costs are added. Projected costs for annual O&M expenses and debt service for CWA compliance are also added. The sum of current and projected costs is added and multiplied by the residential share of water consumption (~85.3%). The outcome of this calculation is then divided by the

total occupied housing units from the most recent Census 5-Year American Community Survey data to determine the City's cost per household. Lastly, the cost per household is divided by MHI to calculate the Residential Indicator. The table below provides EPA's financial impact ranges to determine where the City scores.

**TABLE 1: RESIDENTIAL INDICATOR SCORE RANGES**

| Residential Indicator Financial Impact | Residential Indicator (CPH as % of MHI) |
|---|---|
| Low | Less than 1.0 Percent of MHI |
| Mid-Range | 1.0 to 2.0 Percent of MHI |
| High | Greater than 2.0 Percent of MHI |

Existing stormwater and sewer program costs from the FY2023 ACFR were used to develop the residential indicator cost per household using estimates previously discussed. Existing stormwater operating costs were $1,679,397 for the FY2023 cycle, excluding depreciation. $3,481,380 in cash funded (Stormwater Fund) capital projects for various improvements in FY2026 was added to the existing cost projection. The FY2026 cash funded capital projects exclude line items related to the PCP as these are accounted for separately in this analysis. Additionally, $469,037 was added for existing debt service (for FY2026 per debt service table as of 6/30/2024 provided by City, Attachment C). All existing stormwater program costs total $5,629,814 which include operating expenses, existing debt service, and cash funded capital. Existing sewer operating costs were $28,778,023 for the FY2023 cycle, excluding depreciation. Additionally, $1,749,537 was added for existing sewer debt service (for FY2026 per debt service table provided by City). $5,700,000 in cash funded (Sewer Fund) capital projects for two improvements in FY2026 was added to the existing cost projection. All existing sewer costs mentioned total $36,227,560. Total existing stormwater and sewer program costs are $41,857,374, considering FY2023 operating costs, FY2026 debt service requirements, and FY2026 capital expenditures.

Future projected costs are comprised of six main components as detailed in Table 2:

- Stormwater program Phase 1 PCP structural SCM capital project costs
- Stormwater program Phase 1 PCP non-structural SCM cost
- Stormwater fund capital costs provided in the City's 5-Year CIP
- Stormwater program Phase 1 PCP O&M costs
- Stormwater program Phase 1 PCP program management costs
- Sewer capital project costs provided in the City's 5-Year CIP

Phase 1 PCP planned capital and O&M costs for new SCMs were initially anticipated to be incurred over a five-year period beginning in FY2024 to meet the 25% required reduction by the end of Phase 1 on June 30, 2028 (FY2028). While some preliminary design work has progressed, existing budgets do not reflect the scale of planned structural SCMs costs to meet Phase 1 targets. Given that, the structural SCM costs will be incurred in FY2026 through FY2028 which is what is assumed for the FCA. The City must meet a 20% reduction by permit year 8 (FY2026) which is why the majority of capital costs are incurred in FY2026 with the cost of the remaining 5% reduction spread over FY2027 and FY2028. The five-year PCP Phase 1 capital

cost estimate totals $111,980,000 for planned structural SCMs. Given the significant upfront capital cost, it is assumed the City will utilize debt financing for a 20-year period. Additional costs associated with non-structural SCMs are anticipated to be about $3 million per year and are included in projected costs as they are higher than current operating budgets include. A summary of the total projected sewer and stormwater program costs are provided in the table below.

**TABLE 2: PROJECTED FUTURE STORMWATER AND WASTEWATER COSTS**

| Projected Costs | FY2026 | FY2027 | FY2028 | Total |
|---|---|---|---|---|
| Stormwater: | | | | |
| Phase 1 PCP Capital (Structural SCMs) | $98,860,000 | $10,000,000 | $3,120,000 | $111,980,000 |
| Phase 1 PCP Non-Structural SCMs (included in operating budget) | $3,000,000 | $3,000,000 | $3,000,000 | $9,000,000 |
| Stormwater Fund Capital Costs | $0[1] | $2,300,000 | $3,775,000 | $6,075,000 |
| Phase 1 PCP O&M Costs | $1,170,000 | $4,430,000 | $4,660,000 | $10,260,000 |
| Phase 1 PCP Program Management | $750,000 | $750,000 | $750,000 | $2,250,000 |
| Sewer: | | | | |
| Sewer Fund Capital Costs (Pump Station Upgrades and I&I Projects) | $0[2] | $3,700,000 | $6,537,000 | $10,237,000 |
| **Total** | **$103,780,000** | **$24,180,000** | **$21,842,000** | **$149,802,000** |

The projected sewer and stormwater program costs total $149,802,000 for FY2026 to FY2028. Total projected costs equal $23,565,824, annually. This assumes Phase 1 PCP Structural SCM capital costs are financed at 4% for a 20-year term. All other capital costs, additional annual O&M costs, and program management costs are cash funded during the three-year period. The total current and projected costs equal $65,423,198 for sewer and stormwater programs.

The total current and projected stormwater and sewer costs are then multiplied by a residential percentage factor to ultimately determine the residential share of total and current projected costs. Utilizing the 85.3% allocation of water usage, the residential share of total current and projected costs is $55,794,878. The City has a total of 31,730 households (per the latest 5-year Census American Community Survey estimates) equating to a cost per household of $1,758.

Annual Cost per Household as a Percentage of MHI: The City's MHI was retrieved from the Census Bureau's most recent 5-year American Community Survey (ACS) Estimates (2023). The City's MHI for this period was $184,989 which equates to an annual cost per household as a percent of MHI of 0.95%. Per EPA's score

[1] FY2026 Stormwater Fund Capital Costs of $3,481,380 are accounted for in current costs
[2] FY2026 Sewer Fund Capital Costs of $5,700,000 are accounted for in current costs

benchmarks for the residential indicator shown in the following table, the City scores Low impact on the residential indicator under Alternative 1 Scenario 1 (Sewer and Stormwater Costs Only).

**TABLE 3: RESIDENTIAL INDICATOR**

| FCA Benchmark Score | Cost per Household as % of MHI |
|---|---|
| Low | Less than 1.0% of MHI |
| Mid-Range | 1.0% to 2.0% of MHI |
| High | Greater than 2% of MHI |

## 3.2 Financial Capability Indicators

The indicators under this category – debt indicators, socioeconomic indicators, and financial management indictors – evaluate the financial capability of the City to support CWA regulatory requirements. This includes examination of the City's overall debt burden, socioeconomic conditions, and financial operations.

Debt indicators assess the current debt burden and ability to issue additional debt to finance CWA controls to comply with regulations. This includes assessment of the City's Bond ratings and overall net debt as a percentage of full market property value. The socioeconomic indicators are intended to assess the overall economic conditions of residents through review of the unemployment rate and median household income of the City. The final category, financial management indicators, seeks to evaluate the City's general ability to effectively manage financial operations. To evaluate this category, the property tax collection rate and property tax revenues as a percent of full market property value is calculated.

### *3.2.1 Debt Indicators*

Bond Rating: The following provides EPA's score benchmarks for a community's bond rating. The City maintains an Aaa rating from Moody's Investor Services, the highest rating available. The City scores Strong on EPA's bond rating indicator.

**TABLE 4: MOODY'S INVESTOR SERVICES RATING**

| FCA Benchmark Score | Moody's Rating |
|---|---|
| Weak | Ba, B, Caa, Ca, C |
| Mid-Range | Baa |
| Strong | Aaa, AA, A |

Overall Net Debt as a Percent of Full Market Property Value: The following table provides EPA's score benchmarks for this indicator. This indicator measures the debt burden on residents and ability of the City to issue additional debt. The indicator considers total net debt Citywide that is not repaid with any dedicated revenue source. The City currently has $311,476,029 in total net debt, excluding water & sewer enterprise debt that is directly repaid by those enterprise fund revenues. The City also has a proportionate share of debt from overlapping entities, the Massachusetts Water Resources Authority (MWRA) and the Massachusetts Bay Transportation Authority (MBTA). The City has a $7,817,338 share of the MWRA Water debt outstanding, $12,782,167 share of the MWRA Sewer debt outstanding, and a $6,363,094 share of the

MBTA debt outstanding. The City's overall net debt totals $338,438,628. The City's full market value of real property (excluding personal property) is $39,879,738,900, based on FY2024 data confirmed by City staff. The City has net debt of approximately 0.8% of full market property value. Therefore, the City scores Strong on this indicator.

**TABLE 5: NET DEBT AS A PERCENTAGE OF PROPERTY VALUE**

| FCA Benchmark Score | Percent of Property Value |
|---|---|
| Weak | Above 5% |
| Mid-Range | 2-5% |
| Strong | Below 2% |

### *3.2.2 Socioeconomic Indicators*

Unemployment Rate: The following table provides EPA's score benchmarks for this indicator. National and City unemployment rates were retrieved from the Bureau of Labor Statistics for the most recent calendar year (2024). The series selected was "Unemployment Rate Not Seasonally Adjusted, Across All Industries, All Occupations, 16 Years and Over, All Origins, All Races, Both Sexes, and All Education Levels." The National Unemployment Rate for 2024 was 4.0% and the City of Newton's Unemployment Rate was 3.4%, 0.6% lower than the National Rate. Given the City is ± 1 percentage point of the National Average, the City scores Mid-Range on this indicator.

**TABLE 6: UNEMPLOYMENT RATE OF COMMUNITY COMPARED TO NATIONAL**

| FCA Benchmark Score | Unemployment Rate |
|---|---|
| Weak | More than 1 percentage point above the National Average |
| Mid-Range | ± 1 percentage point of the National Average |
| Strong | More than 1 percentage point below the National Average |

Median Household Income: The following table provides EPA's score benchmarks for this indicator. National and City MHI figures were retrieved from the Census Bureau's most recent 5-year American Community Survey (ACS) Estimates (2023). The table selected was "Median Household Income in the Past 12 Months (in 2023 Inflation-Adjusted Dollars)." The National MHI for 2023 was $78,538 and the City of Newton's MHI was $184,989. Given the City's MHI is approximately 135% higher than the National Average, the City scores Strong on this indicator.

**TABLE 7: MEDIAN HOUSEHOLD INCOME (MHI) OF COMMUNITY COMPARED TO NATIONAL**

| FCA Benchmark Score | Median Household Income |
|---|---|
| Weak | More than 25% below National MHI |
| Mid-Range | ± 25% of the National MHI |
| Strong | More than 25% above National Average |

### *3.2.3 Financial Management Indicators*

Property Tax Revenues as a Percent of Full Market Property Value: The following table provides EPA's score benchmarks for this indicator. The full market value of real property and total property tax revenue utilize FY2024 data. In FY2024, the City's total assessed valuation was $39,879,738,900, excluding the assessed value of personal property. As Massachusetts law requires assessors to value all real and personal property on a fair cash basis annually, the assessed valuation reflects the full market value of real property. Total property tax revenue collections for FY2024 were $414,893,673, reflecting approximately 1.0% of full market property value. The property tax revenue collections may be slightly overstated for the purposes of the FCA as personal property was not excluded. The City scores Strong for this indicator.

**TABLE 8: PROPERTY TAX REVENUES AS A % OF PROPERTY VALUE**

| FCA Benchmark Score | Percent of Property Value |
|---|---|
| Weak | Above 4% |
| Mid-Range | 2-4% |
| Strong | Below 2% |

Property Tax Revenue Collection Rate: The following table provides EPA's score benchmarks for this indicator. Property taxes levied (excluding personal property) were $407,707,263 in FY2024. Based on the property tax revenue collected of $414,893,673 as referenced above, the City has a property tax collection rate of 101.8% for FY2024. The City scores Strong for this indicator.

**TABLE 9: PROPERTY TAX REVENUE COLLECTION RATE**

| FCA Benchmark Score | Tax Revenue Collection Rate |
|---|---|
| Weak | Below 94% |
| Mid-Range | 94-98% |
| Strong | Above 98% |

### *3.2.4 Financial Capability Indicators Summary*

Each of the six indicators presented in the previous sections received a score. These six scores are summarized to create a single Financial Capability Indicator Score. The benchmark scores of weak, mid-range, and strong reflect a numerical score of 1, 2, and 3, respectively. The average of all six numerical scores reflects the overall indicators score with an average score below 1.5 considered weak, a score between 1.5 and 2.5 considered mid-range, and a score above 2.5 considered strong. The following table provides a summary of the City's Financial Capability Indicators Score. Given that the City scored Strong on all indicators except for the unemployment rate indicator, the City has a Strong overall score of 2.8.

**TABLE 10: SUMMARY OF NEWTON'S FINANCIAL CAPABILITY INDICATORS**

| Indicator | Actual Value | Benchmark | Score |
|---|---|---|---|
| Bond Rating | Aaa | Strong | 3.0 |
| Overall Net Debt as a Percent of Full Market Property Value | 0.8% | Strong | 3.0 |
| Unemployment Rate | 3.4% | Mid-Range | 2.0 |
| Median Household Income | $184,989 | Strong | 3.0 |
| Property Tax Revenues as a Percent of Full Market Property Value | 1.0% | Strong | 3.0 |
| Property Tax Revenue Collection Rate | 101.8% | Strong | 3.0 |
| **City Indicators Score** | | | **2.8** |
| **Financial Capability Indicator Benchmarks** | | | **Strong** |

### 3.3 Financial Capability Matrix

The financial capability matrix combines the results of the residential indicator score and the financial capability indicators score to create a summary score. The following table illustrates how these indicators are reviewed. Following this matrix guidance, under Alternative 1 Scenario 1 the City shows that implementing the required CWA sewer and stormwater programs has a Low Impact. This is due to the Strong Financial Capability Indicators Score and a Residential Indicator score that has a Low Impact.

**TABLE 11: FINANCIAL CAPABILITY MATRIX SCORE**

| Financial Capability Indicators Score | Residential Indicator Score | | |
|---|---|---|---|
| | Low Impact (Below 1%) | Mid-Range (1% to 2%) | High Impact (Above 2%) |
| Strong (Above 2.5) | Low Impact | Low Impact | Medium Impact |
| Mid-Range (1.5 to 2.5) | Low Impact | Medium Impact | High Impact |
| Weak (Below 1.5) | Medium Impact | High Impact | High Impact |

### 3.4 Lowest Quintile Poverty Indicator Score

The lowest quintile poverty indicator (LQPI) considers six Census data points to assess the severity and prevalence of poverty within a given community. The following table provides each indicator, their weighting, and the comparison of National values to the City of Newton. Given that the City generally has low poverty characteristics and high household income, the Lowest Quintile Poverty Indicator has a score of 2.9 equating to a Low Impact.

**TABLE 12: LOWEST QUINTILE POVERTY INDICATOR SCORE**

| Indicator | Strong (Score =3) | Mid-Range (Score=2) | Weak (Score = 1) | Weight | National Value | City Value | City Compared to National | Score |
|---|---|---|---|---|---|---|---|---|
| LQPI #1: Upper Limit of Lowest Quintile Income | More than 25% above national value | ± 25% of national value | More than 25% below national | 50% | 32,232 | 72,901 | 126.2% | 3 |
| LQPI #2: Percentage of Population with Income Below 200% of Federal Poverty Level | More than 25% below national value | ± 25% of national value | More than 25% above national value | 10% | 28.5% | 9.0% | -68.3% | 3 |
| LQPI #3: Percentage of Households Receiving Food Stamps/SNAP Benefits | More than 25% below national value | ± 25% of national value | More than 25% above national value | 10% | 11.8% | 4.4% | -62.5% | 3 |
| LQPI #4: Percentage of Vacant Housing Units | More than 25% below national value | ± 25% of national value | More than 25% above national value | 10% | 10.4% | 5.4% | -48.5% | 3 |
| LQPI #5: Trend in Household Growth | >1% | 0%-1% | <0% | 10% | N/A | 0.6% | N/A | 2 |
| LQPI #6: Percentage of Unemployed Population 16 and Over in Civilian Labor Force | More than 25% below national value | ± 25% of national value | More than 25% above national value | 10% | 3.3% | 2.2% | -33.3% | 3 |
| **Lowest Quintile Poverty Score** | | | | | | | | **2.9** |

| Indicator | Strong (Score =3) | Mid-Range (Score=2) | Weak (Score = 1) | Weight | National Value | City Value | City Compared to National | Score |
|---|---|---|---|---|---|---|---|---|
| **Lowest Quintile Poverty Indicator Benchmarks**<br>Low Impact (Above 2.5)<br>Medium Impact (1.5 to 2.5)<br>High Impact (Below 1.5) | | | | | | | | **Low Impact** |

### 3.5 Expanded Financial Capability Assessment Matrix

The expanded financial capability assessment matrix combines the result of the FCA score (the residential and financial capability scores discussed in section 3.3) with the LQPI. The following table illustrates how these indicators are reviewed.

**TABLE 13: EXPANDED FINANCIAL CAPABILITY ASSESSMENT MATRIX**

| FCA Score (RI and FCI) | Lowest Quintile Poverty Indicator Score | | |
|---|---|---|---|
| | Low Impact (>2.5) | Mid-Range (1.5 to 2.5) | High Impact (<1.5) |
| Low Impact | Low Impact | Low Impact | Medium Impact |
| Medium Impact | Low Impact | Medium Impact | High Impact |
| High Impact | Medium Impact | High Impact | High Impact |

Given the City's Low Impact scores for the Financial Capability Matrix and LQPI, the City shows a Low Impact on the expanded financial capability assessment matrix. The EPA uses this score as one way to help determine where a community falls on their recommended implementation schedule benchmarks. With a Low Impact, the benchmark states that there should be a normal engineering/construction schedule. The benchmark for a Medium Impact has a total schedule generally up to 10 to 15 years and 15 to 20 years for a High Impact. Given the results of the LQPI cannot be modified, the City would need to have significantly different results on the Residential Indicator and Financial Capability Indicators to move to a Medium Impact under the FCA Alternative 1 Scenario 1. The Residential Indicator would have to have a High Impact with a Mid-Range Financial Capability Score or a Weak Financial Capability Score with a Mid-Range Residential Indicator.

### 3.6 Residential Indicator – Scenario 2 (Drinking Water, Sewer, Stormwater)

Alternative 1 Scenario 2 considers how the results of Alternative 1 Scenario 1 change when the total cost of water is included. If the cost of drinking water, sewer, and stormwater are included, the Residential Indicator changes to Mid-Range. With the addition of the FY2023 water operating expenses less depreciation of $17,448,388, FY2026 debt service of $3,667,034, and FY2026 water capital projects of $5,750,000, total current costs are $68,722,796. Additionally, adding the planned water capital projects for FY2027 and FY2028 (to align with the Phase 1 PCP timeline) of $17,850,000 results in total estimated capital costs of $146,142,000. As presented in Scenario 1, the Phase 1 PCP Structural SCM capital costs are debt financed at 4% for a 20-year period. All other capital costs, additional annual O&M costs, and program management costs are cash funded during the three-year period. The Total projected costs increase to $32,490,750. When

considering drinking water, sewer, and stormwater, the total current and projected costs increase from $65,423,198 to $101,213,546.

Following the same process described in Section 3.1, the residential share of total current and projected costs is $86,317,968 (attributing 85.3% of costs to residential users). This equates to a cost per household of $2,720 and cost per household as a percent of MHI of 1.47%. Given the residential cost per household is above 1% but less than 2% of MHI, the City's score would change to Mid-Range on the Residential Indicator under Scenario 2.

**TABLE 14: RESIDENTIAL INDICATOR – SCENARIO 2 (DRINKING WATER, SEWER, STORMWATER)**

| FCA Benchmark Score | Cost per Household as % of MHI |
|---|---|
| Low | Less than 1.0% of MHI |
| Mid-Range | 1.0% to 2.0% of MHI |
| High | Greater than 2% of MHI |

While the Residential Indicator does change when considering total water costs, there is no change to the financial capabilities indicators and the City would still have a Low Impact on the Financial Capability Matrix provided below.

**TABLE 15: FINANCIAL CAPABILITY MATRIX – SCENARIO 2 (DRINKING WATER, WASTEWATER, STORMWATER)**

| Financial Capability Indicators Score | Residential Indicator Score | | |
|---|---|---|---|
| | Low Impact (Below 1%) | Mid-Range (1% to 2%) | High Impact (Above 2%) |
| Strong (Above 2.5) | Low Impact | Low Impact | Medium Impact |
| Mid-Range (1.5 to 2.5) | Low Impact | Medium Impact | High Impact |
| Weak (Below 1.5) | Medium Impact | High Impact | High Impact |

## 4. Financial Capability Assessment Alternative 2

Alternative 2 of the FCA employs financial and rate model analyses to show year by year impacts of meeting CWA regulatory requirements. This allows the City to submit more detailed information to assist in developing a reasonable schedule for implementing CWA control measures. EPA has not recommended benchmark percentages of household income for Alternative 2 but intends to keep the percentage of household income spent within reasonable bounds when establishing compliance schedules. Alternative 2 also allows for drinking water, sewer, and stormwater costs to be included in financial models when costs are substantial. Given the City's drinking water and sewer costs are substantial, they are included in the financial model prepared under Alternative 2. The narrative below is accompanied by the dynamic financial model prepared for Alternative 2.

### 4.1. Operating & Maintenance Costs

Existing O&M costs provided in the Alternative 2 model were provided in the City's ACFR (for FY2021, FY2022, and FY2023) and the FY2025 & FY2026 departmental operating budgets. FY2025 and FY2026 budget documents were used to project the existing water, sewer, and stormwater expenditures. The FY2026 operating budgets for the sewer, water, and stormwater enterprise funds total $33,997,959, $25,709,282, and $5,286,778, respectively. The City's operating costs for all three utilities total $64,994,019. For Scenarios 1 and 2, additional O&M and program management costs associated with the PCP were also included in separate line items to account for the cost of maintaining additional infrastructure. O&M costs for Scenario 3 are different than in prior Scenarios to align with the Alternative Schedule Request. For Scenario 3, maintenance costs are cumulative as new SCMs are constructed, with the annual O&M based on a cost per pound of phosphorus removed. All existing operating expenditures are escalated annually by a rate of 2.5% or 3% in years following FY2026.

### 4.2. Capital Improvement Plans

A five-year Capital Improvement Plan (FY2026-FY2030) was available on the City's website and included in Attachment A. The Sewer capital investments include several projects to address Inflow and Infiltration (I/I) and a pump station upgrade project. Water capital investments include meter replacements and several water pipeline replacements. There are two capital programs considered for the stormwater utility, the existing City 5-year CIP and the costs associated with the Phase 1 PCP. The stormwater capital investments include a variety of drainage, dam, and pond projects. The capital costs associated with the Phase 1 PCP have a total cost of $111.98 million (in 2023$) through approximately 70 new regional structural control measure projects. The PCP projects listed on the City's 5-year CIP were excluded as this analysis accounts for the entire cost of the PCP Phase 1 separately. The City has to meet permit requirements of a 20% load reduction by the end of permit year (PY8) and a 25% load reduction by permit year 10 (PY10). The estimated cost associated with the PY8 requirement is $98.86 million in FY2026. The remaining $13.2 million is spread across FY2027 and FY2028 to meet the 25% load reduction by PY10. All of the PCP projects are projected to be designed and constructed in FY2026 except for 4 projects with varying design and construction schedules. Each of the prioritized PCP Phase 1 projects are split up by design (soft costs) and construction.

Scenario 3 takes a different approach to align with the City's Alternative Schedule Request. Capital costs for Scenario 3 are based upon the City's annual funding commitment of $5 million and an average construction and O&M cost per pound of phosphorus removed. The cost per pound utilized EPA published unit costs as well as estimated unit costs developed by Woodard & Curran. Scenario 3 also includes a budgetary placeholder of $0.5 million in PY9 (FY2027) and PY14 (FY2032) for preparation of the PCP Phase 2 and 3 planning. Additionally, the Alternative Schedule (Scenario 3) is based on the City's PY7 performance evaluation load reduction gap instead of the Phase 1 PCP gap, accounting for some progress already made to reduce phosphorus levels thereby reducing the total cost to implement planned structural SCMs.

Three scenarios were prepared as it relates to the Phase 1 PCP planned structural SCMs.

> **Scenario 1 – Baseline Compliance Schedule:** This scenario assumes the current compliance timeline with projects achieving a 20% reduction by PY8 and 25% reduction by PY10. The prioritized PCP projects follow the cost and timeline described above.

**Scenario 2 – Full PCP Compliance Schedule:** This scenario considers further load reductions required in PCP Phases 2 and 3. Phase 2 is estimated to require an additional 25% load reduction by 2033 and the final Phase 3 to require the remaining 50% load reduction by 2038. Future capital costs associated with these reduction requirements are based on the Phase 1 cost of $111.98M for a 25% reduction and escalated to the year incurred. Additional O&M costs are also included in this scenario to account for the maintenance costs associated with new controls put in place to meet Phases 2 and 3 requirements. O&M costs are based on the annual cost of $4,660,000 for the Phase 1 25% reduction and increased proportionately to meet further reductions in subsequent phases. These costs are based on 2023 estimates and are escalated to the year incurred, beginning in FY2029.

**Scenario 3 – Alternative Phase 1 Schedule:** This scenario was developed to align with the City's PCP Phase 1 Alternative Schedule Request to EPA. This schedule is based upon an annual investment from the City of $5,000,000 to address PCP Phase 1 targets (capital and O&M costs). This scenario assumes a ramp up period prior to the $5,000,000 annual investment. This scenario would have a ramp up period in FY2026 and FY2027 with a City investment of $950,000 and $3,587,000, respectively. The FY2027 investment of $3,587,000 includes approximately $17,000 in additional O&M costs, $3,070,000 in capital costs, and $500,000 in PCP Phase 2 planning costs. Under this scenario, it is estimated that the City would achieve the 20% reduction by FY2040 (PY22) and the full Phase 1 25% reduction by FY2045 (PY27). The capital costs associated with the PCP are assumed to be cash financed in FY2026 and FY2027 and debt financed in subsequent years. The PCP Phase 2 and Phase 3 planning costs are also assumed to be cash financed in FY2027 and FY2032, respectively.

The charts below provide a summary of the annual debt service and cash-funded capital for all three utilities. All of the projects associated with the Phase 1 PCP are estimated to be funded by General Obligation (GO) Bonding for a term of 20 years at a conservative interest rate of 4% (except for the cash funded costs under Scenario 3). All other capital costs are assumed to be funded by the respective enterprise fund/cash. Financing assumptions, terms, and rates can be changed within the Excel model to evaluate different options.

**FIGURE 1: SCENARIO 1 TOTAL WATER CAPITAL AND DEBT SERVICE COSTS**

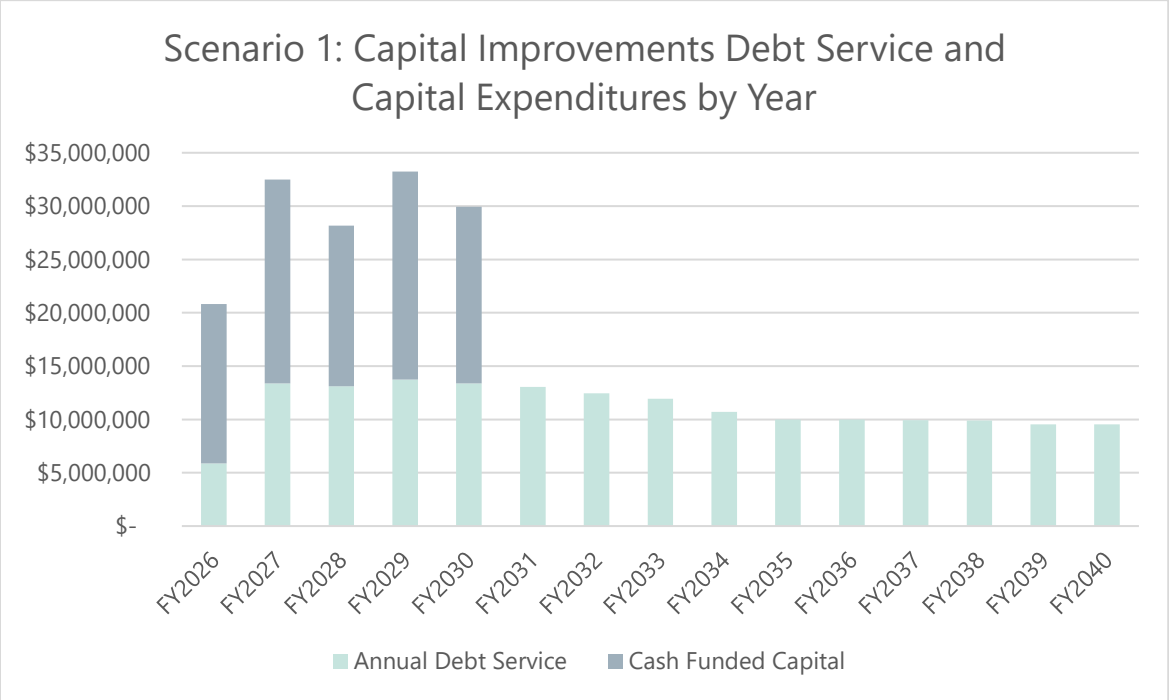


**FIGURE 2: SCENARIO 2 TOTAL WATER CAPITAL AND DEBT SERVICE COSTS**

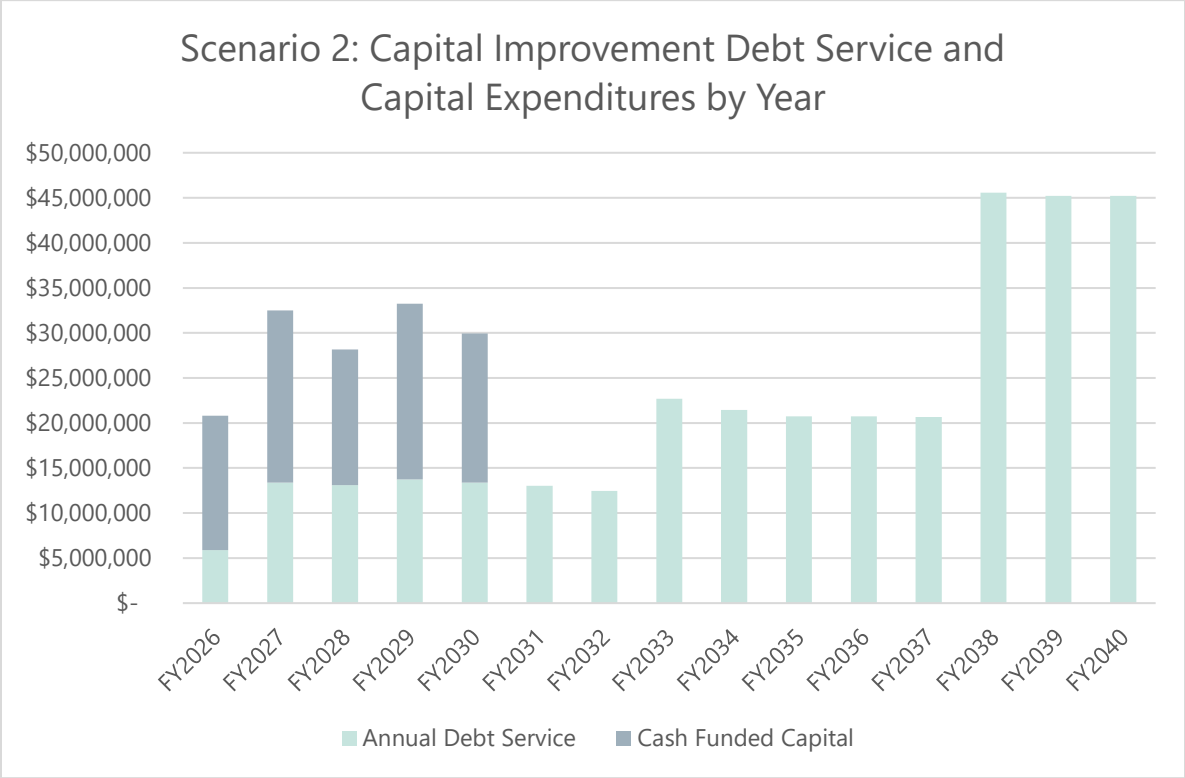
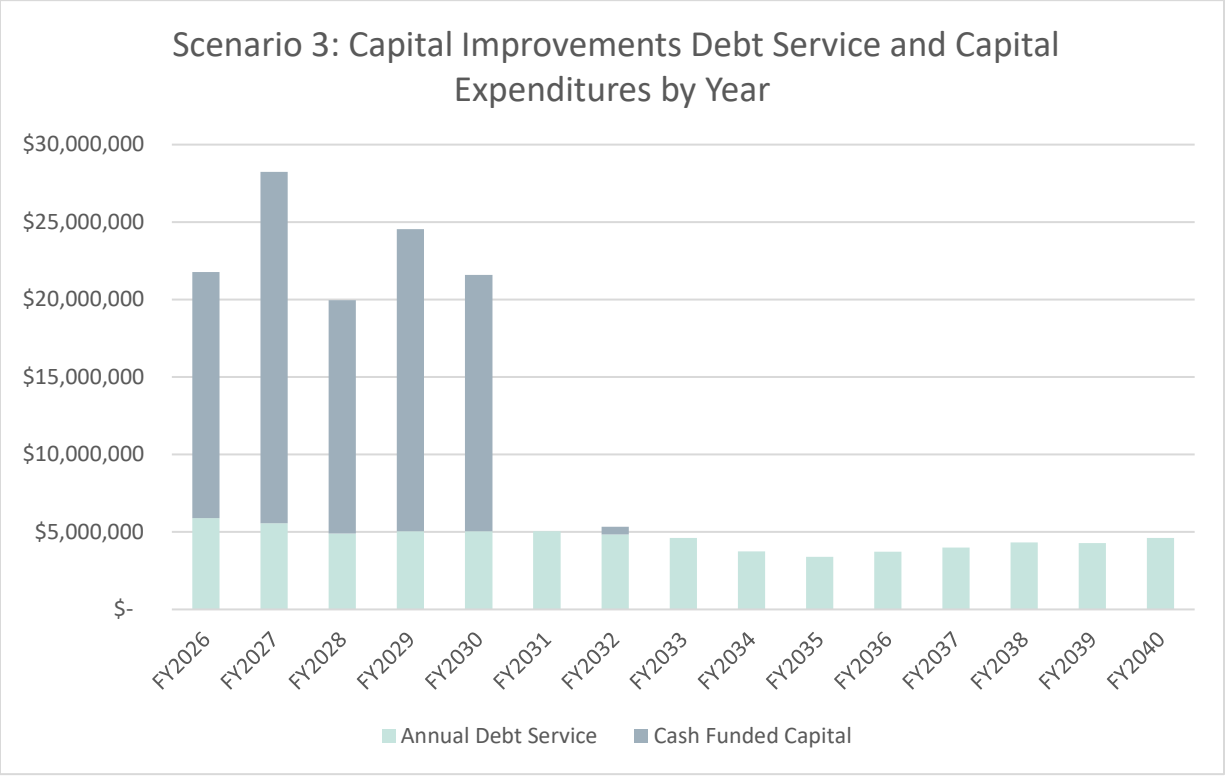


**FIGURE 3: SCENARIO 3 TOTAL WATER CAPITAL AND DEBT SERVICE COSTS**




### 4.3. Revenue Requirements

The revenue requirement includes all operational and capital program costs. This reflects the total amount of revenue needed to be generated by user fees or other revenue sources and does not include any allowance or additional set aside for reserves/retained earnings. For Scenario 1 (Baseline Compliance Schedule) the revenue requirement for water, sewer, and stormwater totals $87,261,007 in FY2026 and reaches $108,534,153 in FY2040. For Scenario 2 (full PCP Schedule) the revenue requirement is the same in FY2026 but reaches a peak in the near term of $166,476,250 in FY2040. Revenue requirements for Scenario 2 continue to rise over the longer term with annual costs ultimately exceeding $190,000,000 in FY2050 and beyond. For Scenario 3 (Alternative Schedule Request) the revenue requirement for water, sewer, and stormwater totals $86,761,007 in FY2026 and reaches $97,026,500 in FY2040. Attachment D provides an overview of the revenue requirements for water, sewer, and stormwater for the scenarios.

### 4.4. Overall Affordability Projection

Overall affordability was reviewed by consideration of the total cost per household of drinking water, sewer, and stormwater for each scenario. The full affordability projection is provided in Attachment E and discussed below.

To determine the cost per household, the total revenue requirement is first multiplied by the residential share of water flow (as previously discussed, 85.3%) to determine the residential share of the total revenue

requirement. The residential share is then divided by the Census Figure of the Total Number of Occupied Housing units to determine the cost per household. Assumptions in this forecast include housing units of 31,730, a growth rate in housing units of 0.15%, and a 0.5% growth rate in MHI, and existing CIP for water and sewer only through FY2030. The baseline scenario 1 shows that total water cost (sewer, water, stormwater) per household are significant (above 1% of MHI) in FY2026 and beyond. In the near term, the cost per household is 1.55% of MHI in FY2029 and peaks in FY2045 at 1.56% of MHI for Scenario 1. For the second scenario (full PCP schedule) the cost per household is 2.21% of MHI in FY2040 and reaches a peak of 2.34% of MHI in FY2045. At this level, the cost per household approaches levels historically considered unaffordable by EPA (generally costs more than 2% of MHI). For the third Scenario (Alternative Schedule Request), the cost per household reaches a near term high of 1.37% of MHI in FY2027 and reaches a peak of 1.42% of MHI in FY2045.

All of the scenarios show a relatively significant cost of total water per household. Additionally, the cost per household is unlikely to decrease given continued increases in operating expenses and required infrastructure capital investments. One way to help mitigate the costs per household is to leverage grant and loan funding for capital projects through programs like the State Revolving Fund (SRF). The City has submitted several Project Evaluation Forms (PEFs) in the past two years and it is recommended that the City continue to seek these valuable resources. Programs typically offer subsidized interest rates on long term debt which can be used to spread the cost of infrastructure investment over the assets useful life and more equitably pass costs to the City's current and future residents.

## 5. FCA Financial Alternatives Checklist

The City has added additional qualitative information in support of this FCA and Alternative Schedule Request by utilizing EPA's Financial Alternatives Checklist template. The Financial Alternatives Assessment is provided in Attachment F.

In addition to the Financial Alternatives Checklist, an analysis of the potential impacts on the City's lowest income residents was conducted. MHI for each Census Tract falling within Newton's City-limits was summarized by the 2023 ACS 5-year estimates. The cost per household as a percentage of MHI was then recalculated for the lowest income Census Tracts and select populations.

Census Tract 3741 has a MHI of $120,766 according to the 2023 ACS 5-Year estimates. This reflects the following:

- FCA Alternative 1 – Scenario 1 (Stormwater and Sewer Costs): Cost per Household as presented in Section 3.1 totals $1,758
    - Cost per Household as a percentage of MHI is 1.46% for Census Tract 3741
    - 1.46% of MHI reflects a Mid-Range score on the Residential Indicator
- FCA Alternative 1 – Scenario 2 (Water, Sewer, and Stormwater): Cost per Household as presented in Section 3.6 totals $2,720
    - Cost per Household as a percentage of MHI is 2.25% for Census Tract 3741
    - 2.25% of MHI reflects a High score on the Residential Indicatory

Census Tract 3732, for householders aged 65 years or older, has a MHI of $54,583 according to the 2023 ACS 5-Year estimates. This reflects the following:

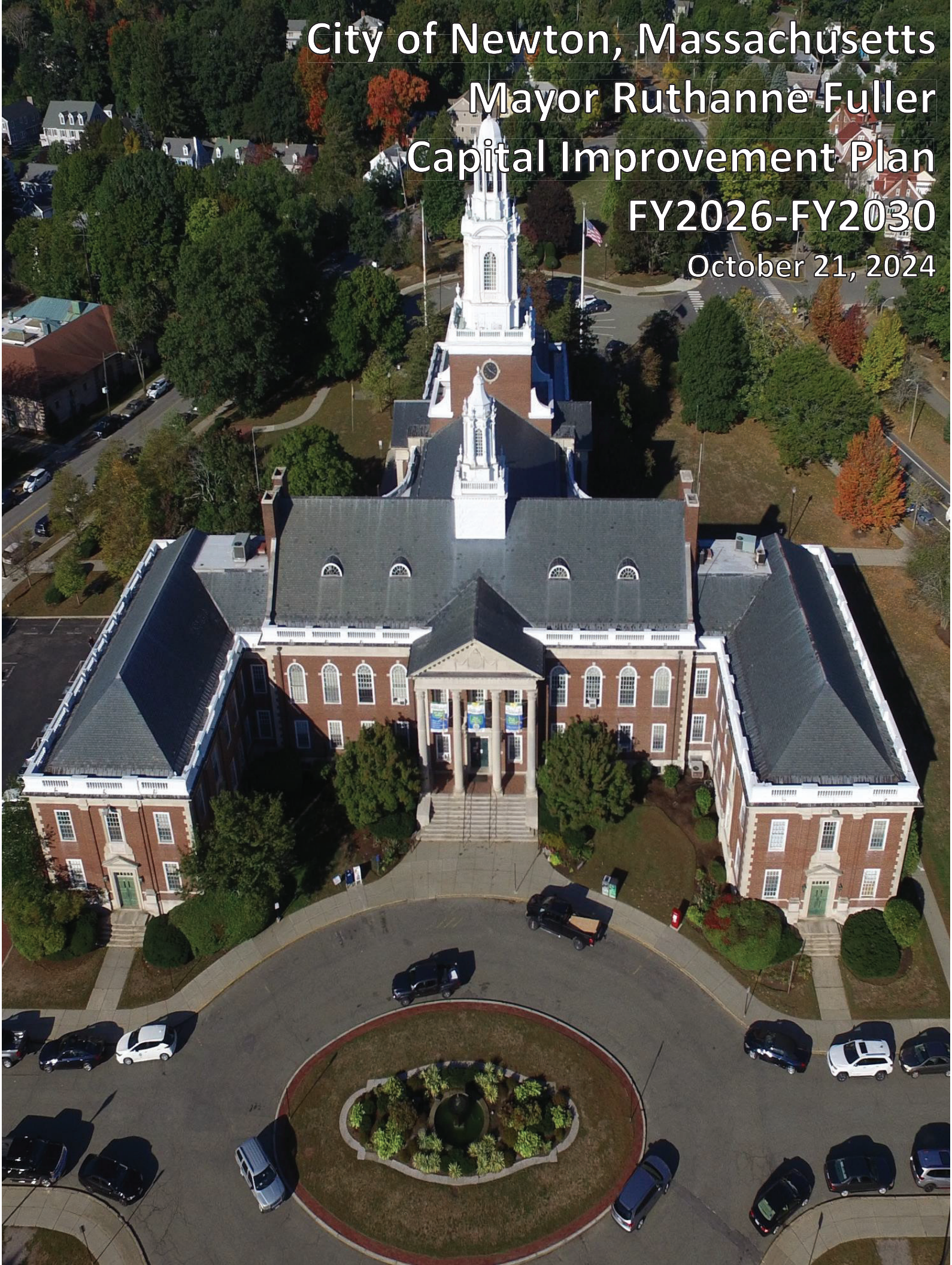
- FCA Alternative 1 – Scenario 1 (Stormwater and Sewer Costs): Cost per Household as presented in Section 3.1 totals $1,758
    - Cost per Household as a percentage of MHI is 3.22% for householders aged 65 years or older in Census Tract 3732
    - 3.22% of MHI reflects a High score on the Residential Indicator
- FCA Alternative 1 – Scenario 2 (Water, Sewer, and Stormwater): Cost per Household as presented in Section 3.6 totals $2,720
    - Cost per Household as a percentage of MHI is 4.98% for householders aged 65 years or older in Census Tract 3732
    - 4.98% of MHI reflects a High score on the Residential Indicatory

These examples help provide a picture of the significant impacts to the City's most vulnerable residents. With the Cost per Household as a percentage of MHI exceeding 2% and in some cases near 5%, the impact of meeting the PCP Phase 1 requirements could be detrimental to these residents. This highlights the need for additional time to comply with the PCP Phase 1 requirements in a fiscally sustainable manner for all residents of the City of Newton.

## 6. FCA Summary

While the results of the FCA show the City is generally financially capable of implementing the regulatory requirements associated with the PCP, the cost per household becomes quite substantial over time. Considering costs associated with the full PCP requirements, the cost per household goes from an estimated $2,343 in FY2026 to $4,376 in a short amount of time (FY2040). Even though this reflects 2.21% of MHI when accounting for income growth, it still presents a very real and very substantial cost, particularly for the City's most vulnerable low-income residents. Additionally, issuing the amount of debt needed to fund the full PCP schedule for stormwater activities would more than double the City's debt burden – adding $447.93M (in 2023 $) to the existing $338.88M net debt outstanding. While the City does desire to reduce phosphorus levels and improve water quality, the high cost, short timeline, and number of projects needed to meet regulatory requirements of the PCP will be difficult or impossible to achieve.

# ATTACHMENT A – NEWTON FIVE-YEAR CAPITAL IMPROVEMENT PLAN



# City of Newton, Massachusetts
# Mayor Ruthanne Fuller
# Capital Improvement Plan
# FY2026-FY2030
October 21, 2024

# FY2026–FY2030
# Capital Improvement Plan

**October 21, 2024**

**Transportation Network Improvement Program**

**Cooper Center for Active Living**

**Water, Sewer, Stormwater Infrastructure**

**New Lincoln-Eliot Elementary School**


## City of Newton, Massachusetts

### Mayor Ruthanne Fuller

# EXECUTIVE SUMMARY

Mayor Fuller's proposed capital investments in the next five years are significant and comprehensive. They will sustain our schools and students, refresh our public safety assets, help our older residents, improve our streets and sidewalks, address climate resiliency, revitalize our parks and recreation areas, and add to the vitality of our villages. Strategic investments in our water and sewer systems, based on a data driven analysis, will produce tangible results. Newton's wonderful schools, villages, parks, and facilities are fundamental, and they help define Newton. These assets support wonderful programs and services, and they enrich our daily lives and as such our resources are aligned with supporting these critical assets.

The investments in the next five years follow one of the busiest seven year periods of significant investment. Since January 2018, Mayor Fuller has invested more than $423 million in buildings and ground projects throughout Newton, of which more than $90 million came from the state and federal governments and utility companies. A number of these projects are complete such as the new home for our preschool, the Newton Early Childhood Program, the Gath Pool project, and new lights and upgrades to three athletic fields at our high schools. Other major projects are in varying stages of completion, including the Lincoln-Eliot, Horace Mann, Countryside and Franklin Elementary School Projects, the Cooper Center for Active Living, major upgrades to six athletic fields, and the comprehensive Police Facility Improvement Project. Furthermore, in addition to annual operating investments of $9.5 million in our transportation network, Mayor Fuller directed an additional $12 million of American Rescue Plan Act funds to improve roads, calm traffic, repair sidewalks, and make bicycling safer.

Under normal financial circumstances, the capital needs of Newton's infrastructure are greater than available resources. These last few years have been anything but normal. Significant national inflation, labor shortages, and scarcity of materials and equipment have coupled with strong market demand to produce public construction cost escalation of more than 30% over the past few years. While it appears that the construction market is beginning to cool off, there are no indications that deflation will occur. The sharp increase in costs will have the inevitable effect of stretching out our capital improvement funding plan. For complete renovations or rebuilds of major buildings, we will require a debt exclusion vote by Newtonians to make available the funding.

The City of Newton FY2026-FY2030 Capital Improvement Plan (CIP) is a mission and risk-based prioritized list of investments in the capital assets of the City of Newton. The prioritization plan reflects a thorough analysis of the City's capital needs, the vision and goals of each department along with the services they will provide over the coming years, and Mayor Ruthanne Fuller's twelve overarching goals:

- Ensuring academic excellence and educational equity
- Keeping Newton safe
- Making Newton more "all age" friendly with a focus on older adults
- Improving streets, sidewalks, and mobility & public buildings and infrastructure
- Preserving neighborhoods, increasing affordable housing, and diversifying housing options
- Promoting vibrant, walkable and financially robust village centers & commercial corridors
- Addressing climate change and sustaining our environment
- Protecting woods and open spaces & caring for our parks and recreation spaces

- Fostering art, culture, and community life
- Facilitating a healthy, accessible and supportive Newton
- Providing excellent and responsive City services
- Assuring the City's financial health and spending wisely

Capital improvements, as well as services and programs in the Operating Budget and Enterprise activities, all help the City Administration address needs in the twelve overarching goal areas. The Long-Range Financial Plan's thoughtful assumptions for future revenues and expenditures guide the level and timing of capital spending investments over the next five years.

Coming out of the pandemic, the Fuller Administration used several funding sources, including federal American Rescue Plan Act (ARPA) monies, for capital projects and non-capital programs to help the City reopen, recover, and rebound. A prime example is the Transportation Network Improvement Program which has received a total of $12 million in ARPA funds to help us address the backlog in pavement and sidewalk projects. Initially $2.5 million was used to mostly restore the loss of funding within the paving budget as a result of the revenue reductions created by the pandemic. An additional $7 million was designated to repave those roads in our neighborhoods which are in the poorest condition. Another $2.5 million in ARPA funding was designated to traffic calming to accelerate the City's efforts to address high priority traffic calming projects.

The capital assets of the City of Newton are both massive and varied. They include:

- Buildings: 83 Total – 25 schools, 13 public safety, 15 public works, 19 parks, recreation and culture, and 11 municipal buildings, totaling 3.0 million square feet and occupying 535 acres of land (about 4.6% of the total City)
- Roads, Sidewalks, and Traffic Signals: 274 miles of roads – 1,241 public streets and 196 private ways, 450 miles of sidewalks, 100 Signalized Intersections, 5,200 accessible sidewalk ramps
- Water, Sewer, and Storm Water Infrastructure: 319 miles of water mains, 300 miles of sewer lines, and 280 miles of storm drains, along with the valves, manholes, culverts, catch basins, pump stations, storage facilities and other associated features
- Parks and Recreational Facilities: 51 parks, 40 sports fields, 63 baseball/softball fields, 42playgrounds, 67 tennis courts, 26 basketball courts; 1 outdoor pool complex with 2 pools and a splash pad, 1 lake swim beach facility, 21,000 street trees, and 7 off-leash dog parks
- Motorized Vehicles & Equipment: 336 vehicles/major equipment for City operations, 87 police vehicles, and 40 Fire apparatus/vehicles.
- Information Technology: Storage area network, wired/wireless communications, hardware/software, and fiber optic cable to support 3,500 users

This FY2026-FY2030 Capital Improvement Plan includes 619 new and continuing projects totaling over $1.48 billion, not including projects in the out years without estimated costs at this time. During the next five-year period and including projects already funded, the CIP includes an investment of $644 million from a wide variety of funding sources.

Based on the overall projected capital spending in the FY2026-FY2030 CIP, non-excluded debt service as a percent of General Fund revenues will range from 5.2% to 5.5% for the next five years; this is in line with the City of Newton's financial guidelines. The specific projects, the overall costs, and the level of debt service will continue to be refined as we move forward annually.

The Fuller Administration continues to analyze the ongoing needs of the City's assets. While no new projects were added in the Supplemental CIP approved in April 2024, we added 290 new projects in this FY2026 – FY2030 Capital Improvement Plan compared to a year ago. Many updates were also made to project descriptions, costs, funding sources, time schedules and priorities, as well.

New Projects Added in the FY2026 – FY2030 CIP (October 2024)

There were 290 new projects added to the FY2026-FY2030 CIP. These include 275 buildings projects (in DPW, PRC, Fire, Police, and Library properties as well as Jackson Homestead), 9 Stormwater projects, 2 Water projects, 2 IT projects, 1 Sewer project and 1 Complete Streets project.

From February of 2024 to July of 2024, Public Buildings Commissioner Josh Morse conducted the field work needed to evaluate the existing conditions of all non-school municipal buildings. (This follows the field work last year for all school buildings.) The Commissioner's efforts were focused on the following asset categories:

- Roof
- Windows
- Masonry
- Accessibility
- Restrooms and Plumbing
- HVAC
- Electrical
- Fire Protection
- Finishes
- Site

The field work focused on evaluating the existing conditions of each of these asset categories. Visual inspections and the age of each asset were used to help establish the overall condition and percent life left. The visual inspections provided insight into the individual needs of each, and the Commissioner also used this opportunity to assess quantities needed for cost estimating purposes. Since building energy and sustainability elements have become standard, they are included in all applicable projects.

The FY2026-FY2030 CIP includes 275 new individual capital projects for over two dozen municipal buildings. Some projects replaced previous ones with new descriptions and cost estimates

To prioritize the projects with our scoring process, we thoroughly reviewed and applied the following resources:

- Ten years or more of building maintenance records
- Previous independent asset assessment reports
- Building plans and specifications
- Age of the existing asset
- Strategic planning documents such as the 2019 Building Electrification Phasing Plan

- Americans with Disabilities Act (ADA) and Section 504Transition Plan

**Cost Estimates:**

Total project budgets were developed based on taking the average of the unit costs provided by three independent professional cost estimators currently working on our large capital building projects.

In cases where unit costs did not apply, costs were determined based on the individual project scope and similar projects escalated to 2024 cost levels.

All projects include design and soft costs as needed.

## Purpose of Capital Improvement Planning

Capital improvement planning allows the leaders of the City of Newton to identify and prioritize capital needs, funding capacity and sources, and the impact of these investments on operations and the operating budget. Capital assets – buildings, streets and sidewalks, water, sewer & stormwater infrastructure, technology, and major equipment – are the essential physical foundation for providing services to our residents, businesses and non-profits. Preparing and adopting a comprehensive, multi-year and fiscally sustainable capital plan allows us to meet both the current and long-term needs of the City. It forces us to prioritize capital requests and develop a long-term, viable financial plan in a transparent manner as the capital needs and operating goals will always exceed our financial capacity.

## Funding

Capital assets with a life expectancy of 10 or more years that cost more than $150,000 are typically paid for through bond sales by the City of Newton.

Massachusetts municipal finance law limits the total amount of long-term debt that the City can incur for most purposes to not more than 5% of the City's equalized valuation (i.e., the taxable value of the real estate tax base). The City's current (September 2024) equalized valuation is approximately $40.5 billion, which means that the current statutory debt limit is approximately $2.0 billion. Current outstanding principal of bonded debt is significantly lower and approximates $350 million or 17% of the City's debt capacity.

In conjunction with the state statutory debt limit, the City of Newton has developed its own financial policy of having debt service on long term bonded debt range between 4.0% and 7.5% of the annual General Fund budget. Debt service, which includes both principal and interest, remains within the range established by this policy, totaling 5.1% of the Fiscal Year 2025 Municipal Budget.

We have made significant investments in capital assets in the last decade and need to continue to do so. A conscious decision was made to increase funding for capital assets as their deteriorated condition was impacting service delivery and quality of life. Debt payments for principal and interest on our bonds have grown from $8.3 million or 3% of revenues in FY2009 to $25.2 million or 5.1% in FY2025.

In addition to the bonded debt in the City's operating budget, significant capital investments are necessary in the water, sewer and stormwater infrastructure systems. The water, sewer and stormwater systems are in separate enterprise accounts rather than part of the City's General Fund because fees, rather than taxes, pay for these services. Capital investments in these systems are also often bonded and are paid by the enterprise accounts.

Further, the City includes appropriations within the City's operating budget, the Community Preservation Act, as well as the use of Free Cash to accomplish infrastructure improvements.

The City also leverages funding from the State and Federal government to pay for capital improvements. Funding sources range from the Massachusetts School Building Authority and the State Chapter 90 infrastructure funds to the Massachusetts Transportation Improvement Program (TIP) and the federal Community Development Block Grant (CDBG) program. Private developers also provide mitigation funds that help fund investments including street, sidewalk and traffic signal improvements, undergrounding of utilities, and water and sewer upgrades. ARPA funds and Free Cash also play an important role in helping fund certain capital projects.

The Fuller Administration will continue to utilize these different funding sources to further improve the City's infrastructure.

To ensure the continued health and sustainability of the City of Newton for decades to come, we must continue to base our strategic long-term financial plan on careful analysis, thoughtful deliberation and prudent decision-making. This definitive commitment to strategic long-term financial planning will continue to allow us to take actions and make investments that will better position the City of Newton to sustain its success and fulfill its mission of being a great place in which to raise a family, to work, to play, and to retire.

The decisions embedded in both the Financial Forecast and the Capital Improvement Plan allow the City of Newton to remain in a strong position with the ability to provide great schools and services.

## Methodology

The City significantly advanced the Capital Improvement Plan prioritization methodology in FY2013. The CIP became more holistic, thorough, systematic and transparent. It used a risk-based approach, incorporating two essential elements: probability of failure of the capital asset and the consequence of failure.

As with any planning process, there are opportunities to re-assess and make adjustments to the methodology. Several major changes were made six years ago by the Fuller Administration in the FY2020 - FY2024 CIP. Most importantly, the concept of linking the importance of the capital asset to the mission of the City and the department's work was incorporated. In addition, when considering the impact on mission, we added two new categories: the impact of the capital asset on (1) Newton's economic health and vibrancy and on (2) equity (e.g., socio-economic, race and ethnicity, geographic, age considerations) and accessibility. We broadened the "Energy Consumption/Conservation" category to "Energy Consumption, Conservation and Environmental Sustainability." We folded the category of "Property Damage" into the category of "Future Costs and/or Savings or Revenues," rather than have it be a standalone criterion. Those changes were continued for this FY2026-FY2030 CIP. The mathematical formula and the prioritization methodology can be found in the appendix.

As seen for the first time two years ago, the FY2026 – FY2030 CIP includes a tab section showing the individual project criteria ratings developed by the CIP Steering Committee.

As we did last year for the first time, the CIP sorts the Water, Sewer and Stormwater projects into a separate list. It is a growing category of projects that deserves direct attention.

## Overview of FY2026 – FY2030 Capital Investments

### ▪ Ensuring Academic Excellence and Educational Equity

Achieving the goals of academic excellence, educational equity, and social & emotional supports for our students requires quality teaching and learning environments. Newton Public Schools facilities should enhance students' ability to receive the highest quality learning experience; enable faculty and staff to perform at their highest ability in a secure, healthy, comfortable environment, conducive to teaching and learning; and allow the City's youngest residents to reach their full potential.

The Public Buildings Department and Newton Public Schools are working together on four major school projects currently. This work follows on the great success of the major investments in the Angier, Zervas, and Cabot Elementary Schools (all three funded by the 2013 Override votes), the Oak Hill Middle School addition, and the Newton Early Childhood Program new facility projects completed over the last decade.

The $53 million Lincoln-Eliot Elementary School project at 150 Jackson Road is currently under construction and is slated to be complete next summer with the educators and students moving in for the start of the school year in September 2025.

Design work continues on two elementary schools included in the 2023 Debt Exclusion Override votes – Countryside and Franklin Schools, as well as the Horace Mann Elementary School addition/renovation. The City Council approved the Fuller Administration plans and bonding authorization for all three projects.

Construction of the $76 million Countryside School, partially funded by the Massachusetts School Building Assistance Program, is expected to begin next year in the summer of 2025 and be completed by the summer of 2027. The $71.6 million Franklin School is also on the same time schedule. Both new schools may be completed in time for January 2027 occupancy after which the old schools will be demolished, and site work completed. Both school projects will result in the City receiving substantial federal tax credits for installation of geothermal heating/cooling systems. The $31.6 million Horace Mann School Project is currently on track to completed in time for students to move back in for September 2026 after using the Lincoln-Eliot School for swing space for one school year.

The two oldest Newton Public School buildings, Ward and Underwood Elementary Schools, will reach their centennials this decade. Both schools have low enrollment compared to our other elementary schools, outdated and undersized facilities, and are located on small NPS properties. Using a $100,000 allocation from the Fuller Administration tapping into ARPA funds, NPS conducted a detailed evaluation of the remaining eight elementary school facilities that have not received substantial renovation work (Ward, Underwood, Peirce, Mason-Rice, Burr, Williams,

Bowen, Memorial-Spaulding). The project was completed in 2024 and will assist the School Administration and School Committee in setting future priorities for school improvement projects.

The FY2026-FY2030 CIP also includes funding for critical building system improvement projects for school buildings such as roof and HVAC system replacements. Mayor Fuller will also docket requests this fall with the City Council to use Free Cash to complete $700,000 in high-priority school capital projects and $300,000 to install VOIP telephone systems in both high schools. Earlier this year, Mayor Fuller received City Council approval to spend $5.27 million in Free Cash for eight school facility improvement projects, some of which have been completed already (e.g. Mason-Rice School roof replacement and many bathroom upgrades) and others slated for 2025 completion (Peirce roof, Brown parking lot).

In addition to the school building work, the City has completed in the last few years major athletic field projects at both high schools. Lights were added for the first time at NNHS and on the NSHS Brandeis Field using $1.4 million in ARPA funds. By investing $5.6 million in Free Cash and $332K of ARPA funds, we replaced all three of the aging synthetic turf fields and tracks at both Newton South and Newton North High Schools. The City is in the process of adding a synthetic turf field at Albemarle, to serve as Newton North's second turf field, using $2.2 million in ARPA funding. Construction should begin in spring 2025 and will be ready to use in late 2025/early 2026.

- ## Keeping Newton Safe

Keeping Newton safe requires excellence in police, fire, building inspections, public health and emergency medical services. These in turn require capital investments in specialized equipment, vehicles, communications technology, and facilities. Newton has consistently been ranked as one of the safest cities in the country and is one of very few municipalities in Massachusetts with a Class 1 insurance rating for fire safety and services; the Fuller Administration is committed to continued excellence in public safety.

Key investments with Police and Fire Department facilities and major equipment are well underway.

The Fire Department is scheduled to take ownership of their new Fire Pumper Truck #7 in Spring

(NFPA) standards. Free Cash was approved over a year ago to fund that truck replacement, which has taken time for build/delivery. The City plans to use $1.8 million in Free Cash this fall to fund the next-in-line front-line equipment replacement, Ladder #3, which will then be ordered and take over a year for delivery. A $300,000 replacement for the 1989 Emergency Response Unit (ERU), a support vehicle which responds to large scale incidents, is expected in the fall of 2024.

Communications system improvements for both the Fire and Police Departments to greatly reduce dead spots and radio system issues inside buildings, using a simulcast system, are set to be completed in early 2025. Simulcast will assist in providing seamless communication and improved safety for Fire and Police personnel in a variety of building settings. Last year a window project was completed at Station 2, and an HVAC project was completed at Station 1, helping to improve these two stations. A $350,000 HVAC project at Station #2 is underway to convert staff areas in the station to heat pumps for improved heating and cooling.

Construction of $2 million in HVAC and roof improvements at the Police Headquarters were recently completed. A $640,000 investment from Free Cash last year was used to upgrade and

improve the information technology infrastructure for Police Headquarters. In spring 2024, the City Council approved the Fuller Administration request for $600,000 from Free Cash to pave the police headquarters parking lot and install security fencing. The paving work was recently completed, and the fencing project is expected to done this fall. Police vehicles are on their scheduled replacement plan with funding through the operating budget.

A $225,000 Fire and Police building security upgrade project is also planned for 2025 with a Fuller Administration request for the use of Free Cash this fall.

Significant building repairs, renovations, safety improvements and upgrades are in the planning stages for Newton Police Headquarters. The FY2026-FY2030 CIP includes a major project for the Newton Police headquarters three-building complex, including the garage and 25 Chestnut Street building. Using $500,000 in ARPA funds designated by the Fuller Administration, the City hired a public safety specialist design team to evaluate the facilities and create a design for the department to meet the demands of 21st century policing. This project will be wrapping up soon with a proposed project to expand significantly working and training space, including a new dispatch center that will support police, fire and EMS services.

While this large police facility project will need funding from a debt-exclusion override and thus will take some time to complete, Mayor Fuller will be deploying $300,000 in ARPA funds to make immediate improvements to the condition and function of the Police Headquarters locker rooms, restrooms, and weight room. These spaces are heavily used by the officers and staff of NPD, and as a result will have a very positive impact on the team.

- ## Making Newton More "All Age" Friendly with a Focus on Older Adults

The City's Department of Older Adult Services (formerly the Department of Senior Services), which had been headquartered at the former Senior Center in Newtonville, focuses on optimizing the quality of life for older adults and those who support them through welcoming, respectful and meaningful opportunities that empower older people to remain independent and vital.

Newton is at the threshold of a major advancement in serving this mission and being more age-friendly. With the $30.5 million Cooper Center for Active Living well into construction, the new facility on Walnut Street in Newtonville will open in Fall 2025. Our project team worked together with so many residents to design a world-class facility that is age-friendly, barrier-free, universally accessible, welcoming, inclusive, exciting, and attractive. The Fuller Administration deployed ARPA funding to work with a neighbor to acquire an adjacent parcel to allow for significantly more green space in the future than what had existed at the Senior Center/Cooper Center site previously. The Cooper Center building will be heated and cooled using all-electric equipment; we designed the facility to meet passive house standards to maximize thermal performance and minimize building air leakage. Beyond the wonderful passive and active recreational opportunities, and critical services for older residents that this facility will provide, it will also provide a hub for the performing and visual arts community which will enrich expand the programming opportunities for older adults and residents of all ages in the evening and on weekends.

Beyond the Cooper Center project, the CIP includes many projects covered in other sections to assist older adults in the community. These projects range from sidewalk and curb ramp

improvements, development of accessible pathways, as well as Over 55 Program offerings from Parks, Recreation, & Culture in other City facilities.

- **Improving Streets, Sidewalks and Mobility & Public Buildings and Infrastructure**

Capital improvements to the City's vast system of roads and sidewalks, water, sewer and stormwater systems, and public buildings will positively impact public safety, economic development, environmental sustainability, public accessibility, and Newton residents' quality of life.

The Transportation Network Improvement Program (formerly called the Accelerated Pavement Management Program) enters its ninth year in FY2026 with an annual $9.5 million investment to improve Newton's aging road network using a data-driven prioritization system. The program also includes a substantial commitment to traffic calming projects and sidewalk renovations based on an extensive analysis of Newton's 420 miles of sidewalk and curb ramp infrastructure.

To begin the Transportation Network Program, the City conducted an automated pavement inspection of all City streets to provide a Pavement Condition Index (PCI) for each roadway segment in the City. The PCI is a 0-100 rating system (100 being a roadway in new condition, and 0 being a roadway in extremely poor condition). The City used the inspection data to develop a proactive capital plan for our roadways. The plan utilizes prioritization strategies such as roadway condition, preventative maintenance, cost benefit value analysis, and complete street practices to determine the schedule for road improvements and which type of repair and maintenance technique is used. The program addresses road condition, intersection safety, accessibility, pedestrian and bicycle improvements, tree planting and new pavement markings, stormwater upgrades as well as rehabilitation of City-owned parking lots.

The accelerated program has already raised the average PCI in Newton from 62.5 to 72, which is more than halfway to the program's goal of 80. Streets are scanned every few years using the latest pavement assessment technology to continuously improve our roadway repair and maintenance program. Once the City reaches the 80 PCI level, the program can begin to shift to a "maintenance" mode rather than catching up after too many decades of underinvestment. A citywide street condition scanning is underway this fall 2024.

Significant progress has been made over the past few years on major thoroughfares. Significant repaving has been done on Washington, Walnut, Chestnut, Lowell, Waltham, Cherry, Centre, Crafts, Dedham, Woodward, Adams, California and Watertown Streets, as well as Commonwealth Avenue. In 2023 Mayor Fuller also allocated $8.5 million of ARPA funds for an accelerated neighborhood road paving project to supplement the City's accelerated road repair program during 2024 and 2025. Those funds are allowing us to repave those roads in our neighborhoods which are in the poorest condition (below 55 PCI), with substantial repaving already completed throughout the city. There are approximately 80 neighborhood roads spread across the City that had met the under 55 PCI classification. Some require a maintenance overlay while others need more substantial rehabilitation. Several dozen of these roads were completed in 2024 and more have been completed, or are in the process of being paved this fall 2024 with more on the calendar for 2025.

MassDOT's significant $34 million Needham Street reconstruction project is scheduled to be substantially complete by the end of 2024. It will significantly improve 1.7 miles of Needham Street in Newton for motorists, bicyclists, public transit users and pedestrians.

MassDOT has begun a Newton Corner Traffic Signal and Safety Improvements Project focused on both the I-90 Exit 127 off-ramps and the intersecting streets to the larger circle. The project's stated goal according to MassDOT is to identify, evaluate and develop concept level short-term improvement alternatives to address safety and operational deficiencies associated with the roadway. Given the traffic volume, congestion and known safety challenges in Newton Corner, this will be a high priority collaboration opportunity for the City of Newton. MassDOT is also beginning to examine possible larger long-term improvements to this area.

The Massachusetts Department of Conservation & Recreation has begun construction of a major "Complete Streets" makeover to Hammond Pond Parkway running from Route 9 to Beacon Street. This project will create a separated shared use path along the parkway for bicyclists and walkers and slim the vehicle travel lanes from four to two. This state-funded project of $11.3 million is expected to be completed in 2025.

The $4.6 million Commonwealth Avenue Carriageway project in Auburndale is now well into construction by MassDOT for the City. It will improve the roadway and create a shared-use path for pedestrians and bicycles on a redesigned and reconfigured carriageway. The path will connect the Charles River Trail at Lyons Field to a new shared-use path on the bridge over the Charles River to Weston. MassDOT will also reconstruct the Commonwealth Avenue/Auburn Street intersection into a roundabout and renovate the bridge crossing the Charles River into Weston.

The City maintains approximately 100 signalized locations, with the traffic signals ranging in age from 1958 to today. The traffic signal infrastructure is complex with many different types of signal equipment including those for ADA compliance. A past Traffic Signal Evaluation, and more recent prioritization planning, guides DPW's plans to upgrade the most inefficient, frustrating, and unsafe signal infrastructure. The primary goals are to reduce the number of vehicle/bicycle/pedestrian crashes, move traffic more smoothly, and have a system that can be maintained in an efficient and proactive manner. The top priority locations in the CIP for traffic signal infrastructure are the Beacon Street at Walnut Street (4 Corners), Commonwealth Avenue at Chestnut Street, Cherry Street at both Webster and Derby Streets, and Beacon Street at Chestnut Street intersections.

The City continues to invest capital funds to continuously replenish our fleet of larger equipment so it is safe, efficient, and operational. The Fleet Division purchases and maintains vehicles and equipment for all departments except the Fire Department. New purchases replace older less efficient trucks with modern ones that include clean burning, emission compliant technology. This CIP includes funds to continue to update the Department of Public Works fleet, with FY2025 targeted purchases of dump trucks, street sweepers, plow trucks, sidewalk tractors, backhoes and utility trucks. Fleet improvements are also planned for Parks, Recreation & Culture, Public

Buildings, and Forestry vehicles as well as Police and Fire. The City currently leases most of its sedans, all of which are electric sedans and hybrid/electric SUVs.

Using water, sewer, and stormwater funds from fees, the Department of Public Works Utilities Division is continuing the aggressive long-term program to improve the conditions of all three systems. A Multi-Year Water System Capital Improvement Program will continue to target replacement of leak-prone, aging pipelines and coordinating the work with scheduled street repairs. A list and map of the upgrades planned over the next five years is included in this CIP. Eliminating leaky pipes will help lower the "unaccounted-for water" in the system and decrease the City's Massachusetts Water Resource Authority (MWRA) assessments. In FY2025, Public Works expects to rehabilitate 15,000 LF of watermain at various locations throughout the city.

DPW has made significant progress (over 75% complete) in our program to replace all the City's 26,000 residential and commercial water meters. This project also includes a new online portal (a "dashboard") for tracking water use that all Newton water users can use for free. The new meters will ensure that the City is receiving timely and accurate reads for the actual water used in homes and businesses. The City and customers will be able to identify leaks easily and quickly, helping conserve water and prevent leaks and the ensuing high water bills.

Improvements to Newton's major water storage facility, the Waban Hill Covered Reservoir in Chestnut Hill built in 1891, were completed last year. This project included new valves, piping, and roofing systems. While we cleaned the four 2.5 million-gallon chambers, DPW will now undertake a structural assessment and improvements to the chambers themselves.

The Sewer System Capital Improvement Program continues into its eleventh year, systematically working across the City's 278-mile sewer system to address aging pipes, reduce inflow and infiltration (I&I), and decrease the growth in MWRA's sewer-based charges and assessments. To date, 112 miles of sewer main have been lined, 4,331 manholes rehabilitated, and 258 failed sewer mains excavated and replaced. This work has eliminated nearly 2.8 million gallons of sewage per day from reaching the MWRA's collection system and Deer Island Treatment Plant. After the eleven sewer project areas are completed in 2028/2029, the City will reassess the asset priorities, maintenance needs and set further targets for rehabilitation and I&I reduction.

The Utilities Division is using the recently completed study of all 11 sewer pump stations to begin a series of operational upgrades and renovations over several years. These are critical for our sewer system reliability. In FY2025 the first phase of this project will include a total replacement of the Oldham Road Pump station (near the intersection of Washington Street and Commonwealth Avenue), heating and ventilation in all the pump stations, and gate valve replacements at the Quinobequin Road and Elliott Street pump stations.

The City's Stormwater Infrastructure Improvement Program will significantly ramp up over the next five years. We will be improving the aging stormwater system and addressing federal and state regulatory requirements for Newton contained in the Federal Clean Water Act's "MS4" Program. (The Municipal Separate Storm Sewer System (MS4) Program by the United States Environmental Protection Agency and the Massachusetts Department of Environmental

Protection regulates stormwater runoff in cities and towns) The MS4 Program targets urban areas within impaired river basins such as the Charles River. Newton's stormwater projects include sediment removal from the City Hall Ponds, culvert replacements, the stabilization of several segments of Cheesecake Brook, an extension of drainage lines to the Union Street area in Newton Centre, Edmunds Brook spillway improvements, and DPW yard drainage work. Also, repairs will be made to the Bullough's Pond Dam to meet the state's Dam Safety requirements. New projects were added to this CIP to address EPA rules for control of phosphorus runoff into the Charles River. These projects at Pellegrini Field, Newton Centre Playground, and Pelham Street Parking Lot will feature underground storage systems to treat road and parking lot runoff. All these projects and program needs are funded by stormwater fees, with possible state low-interest loans.

The Public Buildings Department is responsible for the care and maintenance of 83 municipal and school buildings across the city, totaling 3 million square feet. The Public Buildings staff is managing many large school and municipal projects (e.g., Cooper Center, Lincoln-Eliot, Countryside, Franklin, Horace Mann, Fire and Police building improvements) over the next five years. In addition, Public Buildings is also undertaking solar facility installations in parking lots and on rooftops, Pellegrini Fieldhouse upgrades, and HVAC upgrades at the Newton Free Library. Public Buildings also manages thousands of work orders from small maintenance to mid-sized construction projects through the School Charter Maintenance and the Public Buildings Maintenance accounts.

- ## Preserving Neighborhoods, Increasing Affordable Housing, and Diversifying Housing Options

The Fuller Administration continues efforts to partner and financially support affordable housing development throughout the City. These efforts do not typically use CIP funding; the City instead uses funding from our newly established Affordable Housing Trust, our federal Community Development Block Grant (CDBG), HOME and Emergency Solutions grants, as well as our Inclusionary Zoning funds to leverage non-City affordable housing dollars. In addition, the City's Inclusionary Housing Ordinance is successful in requiring that new development includes a set percentage of units that are permanently affordable.

In 2021, the Fuller Administration helped lead the effort to create the Newton Affordable Housing Trust. The Affordable Housing Trust's mission is to preserve existing affordable housing units and create new ones that are affordable to low and moderate-income households (defined as households which make less than 80% of the Area Median Income (AMI)). The Trust has the ability to create a streamlined process to provide funding to new affordable housing projects and take advantage of development opportunities which might otherwise not be available to the City. Two major funding sources for the Trust are Community Preservation Act (CPA) funds and Inclusionary Zoning funds from developers. Newton's Community Preservation Committee members decided to allocate 35%in FY24 equaling $1.9 million of its annual budget to the Trust for affordable housing. In 2023, the Trust voted to use the funds for two projects: a proposal brought forward by FamilyAid to redevelop the Chetwynde Nursing Home into a transitional living facility for single parents and their children and a proposal from 2Life Communities for continued support of their Coleman House preservation project.

the FamilyAid proposal for the West Newton Family Navigation Center to construct an accessible pathway from Washington Street to the entrance of the building. This path will help parents with small children access the building on foot.

The Fuller Administration used ARPA funds to acquire a portion of the Walker Center property on Grove Street in Auburndale with the express purposes of providing future land area for the Williams School and developing the existing historic homes into affordable housing. In 2022 we received a state funded grant to do a feasibility analysis of the existing buildings at the Walker Center to determine future affordable housing options. After the analysis by Weston & Sampson, City Planning staff began in early 2024, working with the City Council's Real Property Reuse Committee to form a Joint Advisory Planning Group (JAPG) on the future of the property. Nine members were appointed to this group in August 2024 and will meet regularly throughout the fall 2024 to determine more specifically the best use for this property.

Recent affordable housing efforts that received CDBG, HOME, Inclusionary Zoning, Community Preservation Act and/or Affordable Housing Trust funding (and significant City staff assistance) include:

- West Newton Armory (construction expected to begin in early 2025 to redevelop the entire building and an addition into 43 units of deeply affordable housing for families)
- Housing Authority's Haywood House: 55 new affordable senior units
- 2Life Communities' Golda Meir Expansion: 68 new affordable senior units including nine units reserved for formerly homeless individuals
- 2Life Communities' Coleman House: Substantial preservation and rehabilitation of 146 affordable senior units, currently completing construction
- Cascap Inc.'s Nonantum Village Place: Rehabilitation and restoration of 35 affordable senior units, currently completing construction.

To assist our older resident homeowners on fixed and limited incomes be able to age in place and stay in Newton, we have enabled more expansive property tax deferrals for older adults. Newton has one of the most participants in the senior deferral program in the Commonwealth.

- ## Promoting Vibrant, Walkable and Financially Robust Village Centers and Commercial Corridors

Promoting vibrant village centers and commercial corridors that are both walkable and financially robust is an important goal with City-wide positive impacts. The City's investments in these areas come in a variety of forms from zoning reforms to physical improvements to roads, traffic signals, sidewalks, pedestrian and bicycle friendly streetscapes, beautification projects (including benches, lighting, trees and more) and updating our parking meters and kiosks. Funding for investments often also include those made by the state government (particularly MassDOT) and the private sector.

The Planning Department has been working very closely with the City Council Zoning and Planning Committee (ZAP) on a long-standing assignment to update aspects of Newton's zoning code. Since 2021, this effort has focused on the creation of new zoning for Newton's village center

districts. The goal of the effort has centered around creating vibrant villages by allowing for additional housing to be built above stores, adding both diverse housing opportunities and contributing to village center commerce. The Village Center Overlay District (VCOD) adopted in December 2023 applies to the commercial centers and immediately surrounding residential areas of 6 of Newton's village commercial centers, roughly under 4% of Newton total land area. Importantly, the village center zoning allows Newton to meet the State deadline for compliance with the MBTA Communities Law.

A number of transportation initiatives are underway to help make Newton safer and more enjoyable to travel, whether by car, by cycle or on foot. One initiative nearing completion is the development of a City-wide Bicycle/Pedestrian Master Plan. The Fuller Administration used ARPA funds to hire a specialized consultant that ran a public process to develop a plan that is being finalized this fall 2024.

Village Center Projects

The Pettee Square (Upper Falls) project, using a combination of ARPA funds from the Fuller Administration and state funds which the Fuller Administration garnered, will be completed this fall to transform this key village center location next to the Upper Falls Greenway, the Northland development in construction, and the upcoming new City splash park opening in 2025. These improvements will create an attractive, functional space for residents, businesses and Greenway users, while enhancing safety and accessibility for all users. The project includes:

- Intersection reconstruction and traffic calming measures that include a raised intersection and shorter crosswalks
- Landscaping and streetscape beautification
- Americans with Disabilities Act (ADA) accessibility improvements
- New traffic signal equipment to improve traffic operations
- Drainage and stormwater upgrades

The Newton Highlands Village Center Project design is also nearing completion, using $1 million in ARPA funds designated by the Fuller Administration. A two-year public process led by the Department of Public Works involving hundreds of stakeholders, and many meetings and input forums have allowed DPW to finalize a design this fall 2024. The design will be presented to the City Council for approval and then the City will be able to seek state funding for construction. The project includes:

- Improved sidewalks and roadways for all users with a focus on improving accessibility and safety
- Provided thriving community gathering spaces for residents, businesses, and visitors
- Beautified the area with art, benches, lighting, historic markers, and landscaping
- Activated and enhanced infrastructure including best management practices for storm water mitigation, phosphorus reduction and sustainability

Multi-Modal Transportation Projects

The Washington Street Pilot Project has also made major advances and is out to bid for construction in October 2024 after receiving City Council approval. Mayor Fuller allocated $2.77 million in ARPA funds to pilot changes to this 1 mile stretch of roadway from Chestnut to Lowell Streets in between West Newton Square and Newtonville. The goals include improving safety for drivers, bicyclists, pedestrians and shoppers, adding protected bike lanes, improving pedestrian accommodations and crossings, optimizing bus operations, promoting access to local businesses, and improving the aesthetics of the corridor.

The construction design of the Washington Street Pilot is deliberately structured to allow tweaks and modifications based on post-implementation results and data. Monitoring and data collection are anticipated to be done for three years post-implementation. Proposed changes to the pilot design will be communicated in advance to the City Council and major changes, such as adding or removing turn lanes, will come to the City Council for review and approval. We expect the pilot to stay in place until the permanent improvements are made to Washington Street. We expect that the pilot will provide demonstrable evidence to pursue and gain State Transportation Improvement Program (TIP) funding to make permanent, long-term changes to the roadway.

MassDOT has begun a Newton Corner Traffic Signal and Safety Improvements Project focused on both the I-90 Exit 127 off-ramps and the intersecting streets to the larger circle. The project's stated goal according to MassDOT is to identify, evaluate and develop concept level short-term improvement alternatives to address safety and operational deficiencies associated with the roadway. Given the traffic volume, congestion and known safety challenges in Newton Corner, this will be a high priority collaboration opportunity for the City of Newton. MassDOT has also begun a long-term planning study to "develop and analyze transportation alternatives to improve the Newton Corner I-90 Interchange, located at Exit 127 (formerly Exit 17)."

MassDOT has begun construction of major improvements to the Commonwealth Avenue Carriageway in Auburndale between Lyons Field and the Marriott Hotel. The project was designed by the City using a combination of CPA, operating budget and private funds. The project will create new green space and add a continuous walking and bicycle path where the roadway currently exists by rerouting vehicular traffic from north of the median to the south. The project helps link trail networks, including the Charles River Path, the Riverside Greenway trail network and an upcoming Route 30 shared use path running from Newton to Natick borders.

Plans to replace the former railroad bridge over the Charles River at Christina Street in Upper Falls are making progress. A new bicycle/pedestrian bridge will connect to an existing state DCR shared-use path in Needham, and a new park and pathway in Newton to be constructed as part of new developments. The City is working to finalize a land purchase from the Barry Price Center to enable safe access to the new bridge from Christina Street. The City is also working with the Town of Needham, MassDOT, DCR and Bullfinch Properties on the project. The City has received a $1.25 million state earmark from Rep. Ruth Balser to assist with design and construction and is expecting further state assistance to fund construction.

Mayor Fuller has remained very focused working with our state and federal delegation to help advance major accessibility improvements at the three Newton MBTA Commuter Rail Stations.

The MBTA has advanced design concepts for the work at the Newtonville Commuter Rail Station, and the City and its partners are advocating for state and federal funding for construction.

Sidewalk Improvements and Traffic Calming Projects

Last year DPW completed a comprehensive inventory of the condition and status of the city's sidewalk network infrastructure, including pedestrian curb ramps. DPW staff are using a specialized GIS tool created to simplify the inventorying and evaluation of the sidewalks and ramps. The inventory includes nearly 420 miles of sidewalks and over 5,000 pedestrian curb ramps. The project includes a prioritization matrix for reconstruction, construction or repair. Higher priority areas include school zones, village centers, parks, and community facility locations. The prioritization criteria takes into consideration ADA compliance and safe routes to schools. In FY2025, sidewalk improvements near schools included walking routes around Williams and Ward Schools. Sidewalk work around Underwood School started in FY2025 and will continue into FY2026. Sidewalk work will also begin around the Bowen School in FY2026.

The City has also been successful seeking state funding for Safe Routes to Schools projects, with two projects in the design stages. One is to implement bike and pedestrian safety improvements at the Parker Road and Route 9 intersection in support of students at the Oak Hill and Brown Middle Schools, Bowen Elementary School, and Newton South High School. The other is at the Crafts Street and Albemarle Road intersection where Day Middle School and Horace Mann Elementary School students traverse across heavy/fast traffic.

There are significant street safety improvements, traffic calming and pedestrian safety needs along the City's 300 miles of roads and at our 2500 intersections. The Fuller Administration has accelerated the pace of implementing traffic calming projects by increasing DPW operating funds and by designating $2 million in ARPA funding. Additional ARPA funds for traffic calming will be released this fall.

DPW's Transportation Operations team has developed a multi-factor prioritization system to evaluate the hundreds of street safety and traffic calming requests that come in from residents and City Councilors concerned about traffic volumes, speeds and safety. This data-driven evaluation process prioritizes the requests and is updated annually. Design improvements are specific to each location. The techniques include speed feedback displays, pedestrian actuated devices, new or improved pavement markings, and roadway geometry changes (e.g., moving curbs or using tactile techniques such as flexible posts).

Over the past two years, DPW has implemented permanent traffic calming measures at 8 locations plus added 20 Rapid Rectangular Flashing Beacons (RRFBs) for crosswalk safety. Eleven traffic calming projects are in design or construction, including raised table intersections at Waverley Ave/Franklin St and Brookline St/Hartman Rd (near Memorial Spaulding Elementary School).

- ## Addressing Climate Change and Sustaining our Environment

Under the Fuller Administration, the City of Newton is implementing its first-ever Climate Action Plan, a five-year plan for 2020-2024 that includes the long-term goal of a carbon-neutral Newton

by 2050. An updated Climate Action Plan ("CAP 2.0") is now under development for the 2025-2029 period.

The title of the Climate Action Plan is "Use Less and Green the Rest." Newton's Plan includes six areas of action:

- Adapting internal operations and working with partners;
- Promoting clean and renewable power;
- Greening Newton's transportation and streetscapes;
- Improving new construction and major renovations;
- Improving existing buildings; and,
- Reducing emissions associated with consumption and disposal.

While much of the focus of the Climate Action Plan is on changing behavior by residents, businesses, and developers with respect to their buildings and vehicles (where the vast majority of greenhouse gases are generated), there are several areas involving municipal assets where the Plan calls for new City investment using either operating or capital funds.

Energy use reduction and electrification are the backbones of our greenhouse gas (GHG) emissions reduction plan. The City is taking steps to ensure that new construction meets standards necessary to achieve carbon neutrality by 2050. This includes adoption of the State's Specialized Stretch Energy Code, which establishes a high energy efficiency standard. The City has also been approved by the State Department of Energy Resources for participation in the State's new Ten Communities Program, which allows the City to require electrification of all new and substantially renovated buildings, and has passed the related electrification ordinance. Additionally, the City has adopted language into the Zoning Ordinance requiring special-permitted large new construction to conduct an embodied carbon analysis to help further reduce emissions

Existing residential and commercial buildings in Newton are responsible for much of the City's GHG emissions. The City continues to work with homeowners to increase energy efficiency, reduce reliance on natural gas and heating oil, and increase the use of efficient electric appliances for heating, cooling, cooking, clothes drying, and hot water. The City and volunteer-led "Energy Coaching" program is helping educate and encourage homeowners, architects, and builders to install highly energy-efficient systems in place of fossil fuel systems wherever possible.

In addition to the "4 Our Future" campaign, which is focused on existing residential buildings, Newton's Energy and Climate Team is working with the City Council to develop a Building Emissions Reduction and Disclosure Ordinance (BERDO). BERDO is focused on large commercial buildings. BERDO would initially target 293 large commercial buildings, which account for 23% of the total emissions in the City of Newton.

<u>City Building Projects and Energy Retrofits</u>

The City has incorporated sustainable design principles into all new building projects, including school & municipal facilities and Complete Street projects. The Public Buildings Department has developed sustainable design principles for all projects in collaboration with the Design Review Committee. Our three newest schools– Angier, Zervas, and Cabot – are all highly sustainable facilities. The renovations of the Newton Early Childhood Program (NECP) facility (the former Horace Mann School) removed all fossil fuel sources for heating and cooling, the first school in Newton to be all-electric. In 2020, the Auburndale Library was decarbonized and made all electric

by removing the oil-fired steam boiler and installing heat pumps. The Cooper Center for Active Living new building as well as the Lincoln-Eliot, Franklin, Horace Mann, and Countryside Elementary School renovations and new buildings will all be all electric as well. The City will continue to replace fossil fuel HVAC systems at municipal and school facilities, including the Newton Free Library and Peirce Elementary School, the last school building on oil heat.

Newton has become a regional leader on solar electricity production. The City's solar arrays at the Rumford landfill and on municipal and school building roofs and parking lots generated over 6 million kilowatt hours (kwh) of electricity in FY 2024, saving the City over $1 million dollars. The City is in the process of completing the remaining Phase 3 solar projects which will produce another 2 million kWh of solar power. With the completion of Phase 3, the city's solar facilities will generate the equivalent of 40% of total municipal and school electricity use. Additional projects are planned at the Cooper Center and at the new school buildings (Lincoln-Eliot, Countryside and Franklin).

The City will be developing ground source heating and cooling (geothermal energy) at Countryside and Franklin School projects with the federal tax credits now available under the Inflation Reduction Act. The use of this technology for the first time is an exciting and meaningful step for the City.

The City has also invested a great deal of time, effort, and money in building-energy retrofits, sustainable design, and energy-efficient construction of our own school and municipal buildings. The City has been implementing energy-efficiency retrofits annually, often with State Green Communities Act grant funding, and will continue to do so. The City has received over $1.78 million in Green Communities grants and over $2.4 million in utility rebates related to these efforts. Twenty-five buildings and all municipal electric streetlights have been converted to LED lighting since 2013, saving 3 million kWh per year. Mayor Fuller has designated $100,000 in ARPA funds this fall to convert the remaining 70 gas street lamps to solar electric lamps in early 2025.

The City has completed the replacement of all passenger vehicles in the municipal fleet with electric cars and has been installing electric car charging stations at both municipal buildings and in city and school parking lots. There are currently 22 City-owned public chargers with two more in progress and 41 more planned or recommended. The Fuller Administration's policy is to install EV chargers at all new and renovated City buildings. Newton will use a combination of resources to fund the installations, including Eversource's Make-Ready Program and state grants expected from the recently approved state climate and infrastructure bills.

Recycling and Reuse

The City is taking action to offer services for Newton residents and businesses to reduce, reuse, and recycle materials. The City offers weekly curbside recycling collection and has a robust Resource Recovery Center on Rumford Avenue that collects over 25 material streams, including electronics, scrap metal, tires, and batteries.

Food waste is especially important to divert from the trash because it makes up approximately 30% of trash in Massachusetts and has a high carbon footprint. Newton has a preferred vendor for subscription curbside food waste collection, to which over 3,000 residents subscribe. Additionally, food waste drop-off is provided free to Newtonians at the Resource Recovery Center and three additional locations spread across the City. Aerobic composting or anaerobic digestion of food waste significantly reduces GHG emissions.

Newton DPW has collected textiles (e.g., clothing, shoes, sheets, towels) for several years, and added two additional drop-boxes and curbside collection upon request in 2021. Then, in 2022, Newton Public Schools launched a robust textile collection program with 14 collection boxes. In FY23, 150 tons of textiles were collected and, as a result, reduced GHG emissions and the use of electricity, water, and other resources.

A Long-Term Sustainable Materials Management Plan will be developed in 2024-2025 to further evaluate existing services and recommend future policy and program changes.

- **Protecting Woods and Open Spaces & Caring for our Parks and Recreational Spaces**

We have greatly accelerated projects to enhance and protect our natural and recreation resources. These projects are in keeping with Newton's Open Space & Recreation Plan (2020-2027), a collective vision for the City's open space and recreation spaces that establishes priorities and makes the City eligible to apply for certain State grant funds.

Newton has a substantial number of conservation areas, parks, sports fields, tennis courts, play structures, open spaces, trail networks, a lakefront swimming beach, and an outdoor pool complex. They require substantial upkeep, maintenance and continued investment. Significant renovation projects are funded through the Parks, Recreation and Culture Department's (PRC) operating budget, onetime ARPA funds, CPA funds, state grants and budget earmarks, and other sources. The Fuller Administration has prioritized renovation and improvements to aging elements of the City's park system and open space, including protecting Webster Woods in perpetuity.

**Gath Pool:** 2024 saw the completion of a $9.3 million major renovation and expansion of one of Newton's most important recreational facilities – Gath Pool. Gath is our sole outdoor public swimming pool welcoming over 30,000 swimmers each season. The leaking 60-year single pool was replaced with 2 swimming pools (a zero-entry recreation pool and a lap pool) and a splash pad. Indoor building improvements were also completed along with completely new treatment and pump systems. The summer 2024 season was a tremendous success, with large numbers of recreational and competitive swimmers. Memberships increase 28% in 2024 and the number of day passes doubled. The project was funded by the CPA and by Mayor Fuller with ARPA funds, and a state earmark from State Rep. Kay Khan.

**Athletic Field Renovations:** The City has greatly strengthened athletic field maintenance with large budgetary increases in the operating budget (a ten-fold increase) and our local sports groups are also contributing helpful maintenance funds. In addition, the Parks, Recreation and Culture (PRC) team is also undertaking major renovations, totaling $13.2 million, to three important athletic field complexes at Burr School, McGrath Park and Albemarle. Improved playing field conditions at these three important complexes will allow for increases in playing time for our school teams and youth sports leagues. The fields selected for major renovations were based on stakeholder group input, including youth sports leagues and school athletics leaders. The designs incorporated feedback received during community meetings which were held for each field project.

The grass field project as Burr School is now under construction and expected to be complete later in 2025. The grass field project at McGrath Park will be going out to bid this fall with construction in 2025. The major project at Albemarle covers the northern end of the complex and includes a new synthetic turf field for Newton North High School and community group use, plus grass fields, new light systems, pathways and six pickleball courts. It also includes a major

underground stormwater basin funded by a state grant to collect and treat Crafts Street runoff in addition to field infiltration. That project will go out to bid this fall and be constructed in 2025. Funding for the three projects comes from CPA, APRA and CDBG funds, a state grant, and private fundraising.

A $2.4 million synthetic turf field replacement and track resurfacing project was completed this summer at the Newton North Stadium. This caps off the multi-year $7.5 million program to replace the two turf fields at Newton South, one at North and add field lights to all three fields. The Albemarle project will add a second synthetic turf field for Newton North's use.

**Crystal Lake:** Crystal Lake is a precious gem situated in the center of the city. There are multiple projects recently completed or underway to improve shoreline and water quality conditions in the lake and to upgrade its busy swimming beach area. PRC, in coordination with the Conservation Commission, completed the $1.8 million shoreline, erosion control, and accessibility improvements to the Levingston Cove area. Crumbling stairs at Cronin's Cove were replaced this summer by DPW with new handrails to be added soon. PRC continues to evaluate possible public beach and park improvements with active community participation. Project goals include better connectivity throughout the park, a universal accessible design, protecting the lake and shore from pollution and erosion, and an improved guest experience.

**Playgrounds and Courts:** Playgrounds and courts (whether tennis, pickleball or basketball) are also receiving increased attention. Working with The Friends of Newton Tennis (FoNT), PRC has evaluated the 60+ tennis courts in the City to determine where crack sealing and/or resurfacing is needed. Over the past year, all 12 tennis courts at Newton South were resurfaced. Tennis courts at the Highlands (plus the basketball court) and Braceland Parks were also resurfaced this year. Rapidly growing in popularity, pickleball is a focus at the McGrath and Auburndale Cove courts that are strategically located at more distance from neighbors given the noise associated with the sport. We're thrilled to be bringing six purpose-built pickleball courts to our community as part of the Albemarle Park renovation slated for construction in 2025.

PRC conducts regular inspections of all 67 play structures to review structural integrity, accessibility, hardware condition and safety compliance. PRC continues to deploy in heavily used playgrounds surface matting over fibar to improve accessibility improvements. An accessible swing set was added this year at Williams School, with the help of a state grant. With the support of a fundraising effort by the Friends of Wellington Park, PRC added a new inclusive sensory dome play structure for this park in West Newton, with accessible surface matting to be added soon. A new playground structure was also installed at Forte Park in Nonantum. PRC is working with the Oak Hill Park community to design a new play structure to replace the aging one at Memorial Playground during 2025.

**Trail Improvements**: Trail improvement projects are also receiving investments by the City and partner organizations. PRC completed the construction of Phase 2 of the Marty Sender Riverwalk from Auburndale Cove to Commonwealth Avenue next to Lyons Field this summer using a MassTrails grant, a National Recreation and Parks grant, ARPA funds and private donations. This exciting new pathway features a lengthy boardwalk elevated above a wet-prone area with new plantings approved by the Conservation Committee. The Conservation Office also completed trail work at Norumbega Conservation Area and Kesseler Woods using ARPA, City and state grant funds.

**Spears Park Community Garden**: PRC has been working closely with a group that organized to bring the first community garden to the city's northside at Spears Park on Washington Street in Nonantum/Newton Corner. This community garden, which will be completed in 2025, will complement our other existing garden in Nahanton Park in the opposite side of the city.

**Projects Supported by State Earmark-Funds**: This year (FY2025 State Budget) we worked with our state delegation to secure $75,000 for Pellegrini Park and building improvements, $50,000 for the development of a Braceland Park master plan, $50,000 for landscaping along the Washington Street Pilot Project area, and $100,000 for Crystal Lake stormwater work. FY2024 State Budget earmarks, combined with ARPA funds, were used this year repair the Farlow Pond basin (Newton Corner), paint the Chaffin House in Farlow Park, and complete exterior and interior improvements to Pellegrini Fieldhouse in Nonantum.

**Urban Forestry Program:** The Urban Forestry Program in PRC works to preserve and expand a safe, healthy public tree population of approximately 21,000 trees. The City's Forestry staff, with help from contractors and the wonderful volunteers from the Newton Tree Conservancy, plant and care for young trees, prune trees of all ages, identify and remove dangerous trees and limbs, and complete stump removal and grinding. These investments have begun turning Newton greener, especially with strategically located planting efforts in low tree canopy areas. Our significant investments in new trees over the past decade need to be carefully nurtured to assure they grow and thrive into full canopy trees. The City allocated $250,000 in ARPA funds to purchase a new watering truck, to conduct pruning of young trees, and to address the backlog of mature street tree pruning. The FY2025 City Budget also reallocated funding from contract work to create three new Tree Maintenance Specialist positions that will enable the program to accomplish significantly more tree pruning and young tree care in-house.

## ▪ Fostering Arts, Culture and Community Life

Newton's vibrant community life, including myriad arts and cultural programs provided in partnership with numerous organizations, nourishes our souls, brings us together, breathes life into our villages and brings patrons to our restaurants and small businesses. The City plays a significant role in hosting these programs in public buildings and parks, supporting arts, culture, and community throughout the city and in our schools, and fostering collaboration between organizations. Take a stroll through the Newton Centre Green and you're bound to be regaled with a composition played on an outdoor painted piano, one of many in our parks. Visit Newton Centre Playground on a Sunday afternoon to see people and families dancing, singing along, and youngsters playing in the playgrounds while a band throws a melody. This is community!

To strengthen and grow arts and cultural opportunities in Newton, the City completed *CREATE NEWTON: Newton's Comprehensive Arts & Culture Plan* in December 2019. The goals and strategies laid out in this Plan offer a road map for advancing arts and culture in the city. The plan serves as a framework that allows major stakeholders to work together to implement the priority items and next steps. This past year, we reconvened key stakeholders to discuss progress in achieving plan goals, and how we can overcome hurdles together, and work cooperatively to support each other in our often-dovetailing missions.

To help the arts sector rebound from the pandemic, the City deployed $75,000 in ARPA funds for *Revitalize Creative Newton*, a grant program for the arts and culture sector of Newton to cover expenses related to reopening and resuming cultural programming and services. A recent

collaboration between the City of Newton, Newton Community Pride, the non-profit organization promoting and organizing arts and culture activities in the city, and the Heller School at Brandeis University, found about $19 million in arts/culture expenditures annually in the city and a significant social impact on attendees to events, including a reduction in feelings of isolation, strengthened community connection, increased cultural understanding and the promotion of happiness and well-being. The report spotlights how important a recent Mass State Recovery grant was in helping our Cultural Development Office reestablish programming to support the arts. Additionally, Mayor Fuller began in her first year in office to match the Mass Cultural Council annual grant in our operating budget to double the impact of these important cultural arts funds, a commitment she continued each year.

The Cultural Development staff (which Mayor Fuller expanded from one to two full-time employees) in the Parks, Recreation & Culture Department, plays a central role in organizing civic, artistic and cultural events and programs in the City, often in collaboration with other City departments and non-profit organizations. Major events include July 4th Celebrations, Harvest Fair, Family Fun Fest, Summer Concerts, and Halloween Window Painting, and many more. They also create public art projects such as Flutter (wooden painted butterflies in the parks), Artful Pianos, Shine Community Murals, Celebrate Newton Banners, City Hall art galleries and Art in Bloom Newton.

A major challenge for the Newton arts and cultural scene has been finding large performance venues that are readily available for non-school, community organizations. A new 500 seat community auditorium, the first in the City of Newton, is now under construction at 150 Jackson Road (the former Aquinas Junior College), the future home for the Lincoln-Eliot Elementary School. The performance venue, outfitted with a modern stage, accessible seating and high-quality sound and lighting, will serve as a combination community space on nights and weekends and elementary space for the new Lincoln-Eliot School during school times. The Office of Cultural Development will manage this new space beginning in the Fall 2025 in collaboration with Newton Public Schools.

The Cooper Center for Active Living under construction in the village center of Newtonville will also be a great facility to foster arts, culture and community life for all ages. It will have a dining and performance hall with a 250+ seat capacity and a gym and an elevated walking track for recreational gatherings. This wonderful new facility will open in 2025, most likely in the fall.

The Newton Free Library is one of the top circulation libraries in Massachusetts and a busy center for the City's community life. Now 30+ years old, the City has needed to adapt the building spaces to meet today's needs and to undertake facility maintenance projects. Following up on the $2 million dollar investment by Mayor Fuller of ARPA funds into the Children's Room expansion project done in 2022 the Public Buildings Department is undertaking a $1.2 million HVAC replacement to ensure comfort, especially on hot summer days. This all-electric system will ensure a stable, comfortable indoor climate for the entire building, including the Druker Auditorium, a key civic space.

The pandemic reinforced the importance of the arts and seems to have made a lasting impact on our joy of community. Our summer outdoor concerts attracted large crowds when outdoor gatherings were the only game in town, even with indoor spaces being available, the popularity of the concerts have not waned. What's more, we are seeing groups and families arrive with provisions from our local restaurants and cafes. The concerts are held at the open space adjacent

to the Newton Centre Playground, dubbed the Newton Centre Bowl. The hillside location lends itself to a great concert experience with stadium-like seating to take in the performances.

## ▪ Facilitating a Healthy, Accessible and Supportive Newton

Facilitating a healthy, accessible and supportive community includes a wide range of programs from quite a few departments, including the Health and Human Services Department (e.g., school nurses, community case managers, and vaccine clinics) to Older Adult Services to Parks, Recreation and Culture's programs for individuals with disabilities. It also includes physical accessibility improvements.

The Fuller Administration deployed over $6 million in ARPA, CARES, CDBG and other funds to assist those Newtonians who suffered disproportionately as a result of the pandemic. Newton's Annual Action Plan for FY2025 uses $3.7 million in Federal funds to support the production, preservation and rehabilitation of affordable housing, human services, and architectural access.

Mayor Fuller has also dedicated another $2 million in ARPA funds to support low-income residents and residents significantly impacted by the pandemic, both of which are disproportionately persons of color. This allocation of funds, in two parts, comes after the completion of a Community Needs Assessment in February 2022, which includes a series of short-term and long-term recommended actions. The report led to the City first making $250,000 available in low-barrier grants to pay for emergency expenses such as rent and utilities to address immediate hardships during the pandemic and then $1.75 million for the creation of Newton Thrive, the City's economic mobility initiative.

To successfully implement Newton Thrive, we have partnered with a terrific nonprofit, Economic Mobility Pathways (EMPath), to provide individualized support to 50 low-income Newton families on their journey to climb the economic ladder. Newton Thrive uses Mobility Mentoring, EMPath's evidence-based, trauma-informed, economic mobility coaching program to create lasting impact for families. Newton residents have been matched with an EMPath mentor with whom they regularly meet 1:1. Participants receive $250 monthly cash assistance while enrolled in the program for two years. This program is well underway and fully subscribed with 50 Newton families working with EMPath.

One of our important goals is to make a permanent impact on affordable housing availability and stability. These ARPA investments, coupled with the development of the West Newton Armory and our support of the good work of partners such as 2LifeCommunities, the Newton Housing Authority, the Newton Community Development Foundation, and MetroWest Collaborative Development, reinforces our forward momentum.

The City will receive more than $3.8 million over the next 15 years to help residents of Newton with substance use issues and to provide support and services for prevention, harm reduction, treatment, and recovery. These funds are Newton's share from a set of landmark settlements by Massachusetts with opioid manufacturers, distributors, and retail pharmacies. The Health & Human Services Department is working with the Newton Coalition for Community Wellness advisory group to help prioritize the use of the funds. Initiatives already underway include:

- Partnering with Newton-Wellesley Hospital Substance Use Services Clinic to provide care and support to Newtonians struggling with substance use disorder

- Installing opioid overdose rescue kits in Newton public buildings
- Offering prevention programs for Newton youth
- Providing resources to Newton community members of all ages, including Narcan, substance use education, and referrals to care.

Accessibility is a critical, ongoing goal and the CIP continues to determine priority rankings of capital projects based on accessibility considerations and the City's ADA coordinator is involved in each project's design. The City's ADA coordinator led the completion of the 2022 ADA/504 Transition Plan that highlights and prioritizes needed accessibility investments. The City is making a series of investments in accessibility capital projects throughout the Capital Improvement Plan. These include playground surface improvements and new accessible paths/trails at Cabot, Auburndale Cove, Lyons Field, and McGrath parks. The City has also designated $500,000 in ARPA funds to accelerate the critical work of making our community more accessible. This funding allowed for the recent completion of Commission On Disability priority projects, including design of new curb ramps in Newton Centre, completion of new curb ramps in Waban and Newtonville plus accessible playground matting in West Newton (Davis) and two locations in Auburndale (Cove and Williams).

A major milestone was reached last year with the opening of the first-ever, new permanent home in 2023 for the City-wide Newton Early Childhood Program (NECP) designed specifically for our preschoolers ages 3 to 5, both those who benefit from special education services and those that are typically developing. The inclusive program that provides all children with the opportunity to learn with and from each other currently has approximately 150 students and utilizes 14 classrooms. The inclusive program builds a lifelong foundation for respecting human differences, compassion, empathy and kindness. The program also serves 100 or more students on a part-time basis for services, including speech/language therapy, occupational therapy, and physical therapy. NECP has a total of 17 classrooms available, expanded individual and small group spaces, dedicated therapy spaces, easy van drop-off/pick-up, outdoor play space chosen for these students as well as flexible spaces to be able to support the needs of young children in Newton.

## ▪ Providing Excellent and Responsive City Services

Providing excellent and responsive City services is a core managerial task and technology is one of the key tools for ensuring its implementation. Hardware and software investments allow us, for example, to run our City's 311 System, road pavement condition analysis, and field inspections by multiple City departments.

We have invested heavily in our Information Technology hardware and software. Several major recent system improvements include the full conversion of the City's financial system to MUNIS and the implementation of a first-ever citywide Municipal Information and Permitting System called NewGov. NewGov integrates, streamlines and automates the multiple systems that City residents and businesses, as well as City staff, currently use. The new permitting system has been transformative for departments ranging from Inspectional Services and Planning to the Clerk's Office, Health & Human Services, Engineering, Fire and Assessing. NewGov provides online permit applications for residents, businesses and contractors (e.g., building, gas/electrical, restaurants) and allow them to track status and coordinate inspections and make payments.

Another key city service – water and sewer – is also going through a major technological transformation. A full replacement of all residential and commercial water meters and transponders that connect directly to the billing department is now 76% complete and due for full completion in 2025. A new online web portal will be available for customers to track their water usage and notify them of possible leaks.

One of the most critical software systems for the City's operations is the Newton 311 system. While many still call Newton 311 to ask for various issues to be resolved, many do use the software for computers and smartphones. This spring 2024, the City replaced our 12-year-old system and invested in a new one from a company called GoGov that is easier to use and more responsive to residents and property owners. GoGov also does a better job tracking requests.

The Customer Service Office is a primary feature of City Hall's responsiveness on a wide range of City issues. Our Customer Service team answers thousands of calls and visitor inquiries at the City Hall rotunda. They strive for courteous, valuable and high-quality services to residents, businesses and visitors. The team strives to answers phone calls within 15 seconds. They also play a valuable role during large events and emergency situations when the Emergency Operations Center is activated.

One critically important CIP project recently completed was the Clerk's Office purchase of new voting equipment. The new equipment was successfully tested and put into service in FY2024.

A recent business service improvement was made by the Treasury Department to implement a "Paymode-X" service to allow City suppliers and vendors to accept invoice payments electronically. In the last year, over 40% of all non-payroll related payments have been made electronically, resulting in cost savings and reductions in paper and materials related to the production and delivery of paper checks. Additionally, these payments are being delivered in a more secure manner.

The City has also made significant new investments in IT infrastructure and operations at the Newton Police Department. Mayor Fuller deployed approximately $1 million in funding and the NPD has undergone a significant IT transformation to make it more effective, safe, and state-of-the-art.

## ▪ Assuring the City's Financial Health and Spending Wisely

The FY2026 – FY2030 Financial Forecast delivered to the City Council on October 7, 2024 is a comprehensive strategy to ensure the City of Newton's fiscal health during this challenging economic and budgetary period and to prioritize spending on both capital assets and City operations. This Capital Improvement Plan (CIP) prioritizes capital spending on 600 plus projects to match the City's financial capabilities and make the City a better place for our residents and businesses.

In March 2024, the City once again received a "Aaa – Stable" rating - the highest possible - from Moody's Investors Service. That rating immediately made a positive impact. We issued a $28,160,000 30-year general obligation bond (including refunded 2014 bonds) at a highly advantageous net interest rate of 3.31%. A large number of banks bid on our bonds (11). We are saving a total of $1,080,629 over the remaining life of the refunded bonds.

We also issued a $50,075,000, 360-day bond anticipation note (a.k.a., a BAN) for a low net interest rate of 3.18%. The bond proceeds will provide funding for a portion of the rebuilds of the Franklin and Countryside Elementary Schools, the Gath Pool and athletic field improvement projects. The BAN proceeds will be used for construction costs for the new home for the Lincoln-Eliot Elementary School at 150 Jackson Road and for the Cooper Center for Active Living in Newtonville.

Maintaining our Aaa bond rating is critically important as it ensures the City receives the lowest interest rates on the bonds, we issue which in turn saves the City and our taxpayers' money. This bond rating also acknowledges the positive impact on the City of the Fuller Administration's balance between short- and long-term needs and between our lofty aspirations and our finite financial resources.

Stemming from decisions by the Federal Reserve, the City has been able to take in larger than usual amounts of interest income. We have taken advantage of this period of high interest income to fund ~~a~~ quite a few one-time expenses and projects via our higher than usual levels of Free Cash. This fall of 2024, we will be using Free Cash to purchase a fire ladder truck, replace several pieces of DPW construction equipment, and complete several small capital projects in both schools and City buildings. In turn, this reduces the need to bond these purchases and frees up debt capacity for other capital projects.

The Fuller Administration has a strong track record in capital project management. Through interdepartmental collaboration and analysis of materials, equipment, and construction market trends, city departments work closely with the financial team to ensure that project budgets are carefully and thoughtfully created and then adjusted in real-time. This process ensures that our project budgets accurately reflect market conditions which limits the uncertainty and allows for sound financial planning.

Throughout the construction phase, our staff are working to ensure that costs are controlled to the maximum extent possible. This requires careful analysis of proposed change orders, and continuous monitoring of project contingencies and cash flow projections.

These rigorous steps, coupled with incredible teams across multiple departments, allows the City to maintain stellar project and financial management results, with projects being on time and on budget despite inflation.

# CIP by Priority FY2026-FY2030 (Utilities Only)

| | | | | | | | | | Total | Total | Total | Total | Total | Total | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | $ 43,695,852 | $ 12,846,977 | $ 31,845,037 | $ 21,100,000 | $ 33,062,000 | $ 21,500,000 | $ 30,050,000 |
| Priority | Dept | Asset Category | Project Title | Project Description / Justification | Est Cost in FY2025 | Priority Factor | Funding Source | | Approved Funding | FY2025 to be Docketed/Approved | FY2026 | FY2027 | FY2028 | FY2029 | FY2030 |
| 1 | DPW/ Sewer | Sewer | Sewer Inflow/ Infiltration Project - Area 8 - Upper Falls, Highlands, Thompsonville & Oak Hill | Part of phased multi-year program to remove excess inflow and infiltration into sewer system. | $ 7,453,196 | 70.2 | MWRA Grant/Loan/Sewer Funds | | $ 7,453,196 | $ - | $ - | $ - | $ - | $ - | $ - |
| 2 | DPW/ Water | Water | Commercial & Residential Water Meter Replacement Project | Removal & Replacement of 125 commercial electromagnetic water meters sized 2”-8” diameter, +/-26,000 residential meters sized 5/8"-1 1/2", installation of new AMI system with customer portal. | $ 16,625,000 | 70.1 | Sewer Funds/Water Funds | | $ 16,625,000 | $ - | $ - | $ - | $ - | $ - | $ - |
| 3 | DPW/ Water | Water | Revised Lead and Copper Rule | EPA requires a complete system wide lead inventory to be submitted by 10/16/2024. This inventory will be used in determining future lead reduction efforts. | $ 100,000 | 65.2 | Reimbursable Grant | | $ - | $ 100,000 | $ - | $ - | $ - | $ - | $ - |
| 4 | DPW/ Storm | Storm | Bullough's Pond Dam | Complete State-Required repair work for dam safety. | $ 3,000,000 | 65.0 | Stormwater Funds | | $ 618,620 | $ - | $ 2,381,380 | $ - | $ - | $ - | $ - |
| 5 | DPW/ Water | Water | Replace Water Pipelines - Phase 8 | Cleaning and lining of water pipes to improve water quality, reduce water leakage and ensure pipe integrity and capacity. Precedes scheduled roadway paving. Project is currently Phase 8 of 20-phase program. Ward Street Phase I (Manet Rd to Waverley Ave). | $ 6,372,215 | 63.6 | MWRA Loan/Water Funds | | $ 6,372,215 | $ - | $ - | $ - | $ - | $ - | $ - |
| 6 | DPW/ Sewer | Sewer | Sewer Inflow/Infiltration Project - Area 9 Phase 1 - Waban, Upper Falls & Oak Hill | Part of phased multi-year program to remove excess inflow and infiltration into sewer system. | $ 4,200,000 | 62.4 | Sewer Funds | | $ 1,095,023 | $ 3,104,977 | $ - | $ - | $ - | $ - | $ - |
| 7 | DPW/ Sewer | Sewer | Sewer Inflow/Infiltration Project - Area 9 Phase 2 - Waban, Upper Falls & Oak Hill | Part of phased multi-year program to remove excess inflow and infiltration into sewer system. | $ 5,500,000 | 62.4 | Sewer Funds | | $ - | $ - | $ 4,200,000 | $ 2,200,000 | $ - | $ - | $ - |
| 8 | DPW/ Sewer | Sewer | Sewer Inflow/Infiltration Project - Area 9 Phase 3 - Waban, Upper Falls & Oak Hill | Part of phased multi-year program to remove excess inflow and infiltration into sewer system. | $ 3,300,000 | 61.4 | Sewer Funds | | $ - | $ - | $ - | $ - | $ 4,037,000 | $ - | $ - |
| 9 | DPW/ Storm | Storm | Update of Stormwater Infrastucture Improvement Plan | Update the City's Stormwater Infrastructure Improvement Plan (2015) | $ 250,000 | 60.2 | Grant/Stormwater | | $ - | $ 250,000 | $ - | $ - | $ - | $ - | $ - |
| 10 | DPW/ Sewer | Sewer | Pump Station Upgrades | Design and construct Sewer Pump Stations upgrades as part of 10-phase program. | $ 23,000,000 | 58.8 | Sewer Funds | | $ 4,710,490 | $ 1,200,000 | $ 1,500,000 | $ 1,500,000 | $ 2,000,000 | $ 2,000,000 | $ 2,000,000 |
| 11 | DPW/ Storm | Storm | Union Street Drainage | The extension of storm drains on Union Street to alleviate flooding and icing issues in the area of Herrick Road. | $ 850,000 | 56.3 | Stormwater Funds | | $ 100,000 | $ 750,000 | $ - | $ - | $ - | $ - | $ - |
| 12 | DPW/ Water | Water | Replace Water Pipelines - Phase 9 | Cleaning and lining of water pipes to improve water quality, reduce water leakage and ensure pipe integrity and capacity. Precedes scheduled roadway paving. Project will be in Phase 9 of 20-phase program. | $ 4,750,000 | 51.3 | MWRA Loan/Water Funds | | $ 4,750,000 | $ - | $ - | $ - | $ - | $ - | $ - |
| 13 | DPW/ Water | Water | Replace Water Pipelines - Phase 10 | Cleaning and lining of water pipes to improve water quality, reduce water leakage and ensure pipe integrity and capacity. Precedes scheduled roadway paving. Project will be in Phase 10 of 20-phase program. | $ 4,750,000 | 51.3 | MWRA Loan/Water Funds | | $ - | $ 4,750,000 | $ - | $ - | $ - | $ - | $ - |
| 14 | DPW/ Storm | Storm | Edmands Brook Drainage Basin | Design for flood mitigation and the reduction of Phosphorus for the NPDES MS4 Permit. | $ 1,404,000 | 49.5 | Other Funds/Stormwater | | $ 104,000 | $ - | $ 900,000 | $ - | $ - | $ - | $ - |
| 15 | DPW/ Storm | Storm | South Meadow Brook Culvert under Needham Street | Phase 1 - Inspection & assessment of Box Culvert. Phase 2 - Design & Rehabilitation of Box Culvert. | $ 3,205,000 | 48.2 | Stormwater Funds | | $ 280,000 | $ - | $ - | $ 500,000 | $ 2,425,000 | $ - | $ - |
| 16 | DPW/ Water | Water | Replace Water Pipelines - Phase 11 | Cleaning and lining of water pipes to improve water quality, reduce water leakage and ensure pipe integrity and capacity. Precedes scheduled roadway paving. Project will be in Phase 11 of 20-phase program. | $ 4,750,000 | 44.0 | MWRA Loan/Water Funds | | $ - | $ - | $ 4,750,000 | $ - | $ - | $ - | $ - |
| 17 | DPW/ Water | Water | Replace Water Pipelines - Phase 12 | Cleaning and lining of water pipes to improve water quality, reduce water leakage and ensure pipe integrity and capacity. Precedes scheduled roadway paving. Project will be in Phase 12 of 20-phase program | $ 4,750,000 | 44.0 | MWRA Loan/Water Funds | | $ - | $ - | $ - | $ 4,750,000 | $ - | $ - | $ - |
| 18 | DPW/ Sewer | Sewer | Sewer Inflow/Infiltration Project - Area 10 - Waban, Newton Highlands, Newton Centre, & Newton Corner | Part of phased multi-year program to remove excess inflow and infiltration into sewer system. | $ 4,888,308 | 44.0 | Sewer Funds | | $ 813,308 | $ 367,000 | $ - | $ - | $ - | $ 5,300,000 | $ - |
| 19 | DPW/ Sewer | Sewer | Sewer Inflow/Infiltration Project - Area 11 - Chestnut Hill, Newton Corner, Oak Hill, & Thompsonville | Part of phased multi-year program to remove excess inflow and infiltration into sewer system. | $ 4,000,000 | 39.6 | Sewer Funds | | $ 774,000 | $ - | $ - | $ - | $ - | $ - | $ 4,200,000 |
| 20 | DPW/ Storm | Storm | Hydrological Analysis of Cheesecake Brook | Flood risk analysis and resilient stormwater infrastructure plan | $ 325,000 | 39.5 | Stormwater Funds | | $ - | $ 325,000 | $ - | $ - | $ - | $ - | $ - |
| 21 | DPW/ Storm | Storm | Phosphorus Control Plan Phase 1 Project Designs for SRF 1, 2, and 3 Funding Cycles | Phosphorus reduction project to meet NPDES requirements | $ 6,000,000 | 39.4 | SRF Loan/Stormwater Funds | | $ - | $ 2,000,000 | $ - | $ 2,000,000 | $ - | $ 2,000,000 | $ - |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | DPW/ Storm | Storm | Phosphorus Control Plan Phase 1 - SRF 1: Newton Centre Playground Infiltration Basin | Phosphorus reduction project to meet NPDES requirements | $ 304,401 | **39.4** | SRF Loan/Stormwater Funds | $ - | $ - | $ 304,401 | $ - | $ - | $ - | $ - |
| 23 | DPW/ Storm | Storm | Phosphorus Control Plan Phase 1 - SRF 1: Newton Centre Playground Subsurface Infiltration | Phosphorus reduction project to meet NPDES requirements | $ 6,106,871 | **39.4** | SRF Loan/Stormwater Funds | $ - | $ - | $ 6,106,871 | $ - | $ - | $ - | $ - |
| 24 | DPW/ Storm | Storm | Phosphorus Control Plan Phase 1 - SRF 1: Pelham Street Parking Lot Subsurface Infiltration | Phosphorus reduction project to meet NPDES requirements | $ 583,337 | **39.4** | SRF Loan/Stormwater Funds | $ - | $ - | $ 583,337 | $ - | $ - | $ - | $ - |
| 25 | DPW/ Storm | Storm | Phosphorus Control Plan Phase 1 - SRF 1: Pellegrini Park Subsurface Infiltration | Phosphorus reduction project to meet NPDES requirements | $ 9,919,048 | **39.4** | SRF Loan/Stormwater Funds | $ - | $ - | $ 9,919,048 | $ - | $ - | $ - | $ - |
| 26 | DPW/ Storm | Storm | Evaluation, design and construction of Cheesecake Brook-Commonwealth Av. to the rear of 1600 Washington Street | Replace culvert headwall, remove remaining fieldstone channel walls to restore natural brook channel and provide buffer for nutrient removal (water quality). | $ 900,000 | **38.5** | Stormwater Funds | $ - | $ - | $ 200,000 | $ 700,000 | $ - | $ - | $ - |
| 27 | DPW/ Storm | Storm | Cheesecake Brook -1660 Washington St. to Watertown St. | Inspection & Assessment, Design and Rehabilitation of +/-6000 LF of Box Culvert. | $ 900,000 | **38.5** | Stormwater Funds | $ - | $ - | $ - | $ 200,000 | $ 700,000 | $ - | $ - |
| 28 | DPW/ Water | Water | Waban Hill Covered Reservoir Chambers | Rehabilitating storage chambers - add mixing system | $ 9,350,000 | **37.5** | Water Funds | $ - | $ - | $ 1,000,000 | $ 8,350,000 | $ - | $ - | $ - |
| 29 | DPW/ Storm | Storm | Cheesecake Brook-Watertown St. to Charles River | Inspection & Assessment, Design and Rehabilitation of Fieldstone Channel walls and floor. | $ 1,450,000 | **36.7** | Stormwater Funds | $ - | $ - | $ - | $ 150,000 | $ - | $ 1,300,000 | $ - |
| 30 | DPW/ Water | Water | Replace Water Pipelines - Phase 13 | Cleaning and lining of water pipes to improve water quality, reduce water leakage and ensure pipe integrity and capacity. Precedes scheduled roadway paving. Project will be in Phase 13 of 20-phase program. | $ 4,750,000 | **36.7** | MWRA Loan/Water Funds | $ - | $ - | $ - | $ - | $ 4,750,000 | $ - | $ - |
| 31 | DPW/ Water | Water | Replace Water Pipelines - Phase 14 | Cleaning and lining of water pipes to improve water quality, reduce water leakage and ensure pipe integrity and capacity. Precedes scheduled roadway paving. Project will be in Phase 14 of 20-phase program. | $ 4,750,000 | **36.7** | MWRA Loan/Water Funds | $ - | $ - | $ - | $ - | $ - | $ 4,750,000 | $ - |
| 32 | DPW/ Storm | Storm | Phosphorus Control Plan Phase 1 - SRF 2: Project Construction | Phosphorus reduction project to meet NPDES requirements | $ 18,000,000 | **34.4** | SRF Loan/Stormwater Funds | $ - | $ - | $ - | $ - | $ 18,000,000 | $ - | $ - |
| 33 | DPW/ Storm | Storm | Laundry Brook Culvert-Hull street to Bridges Avenue | Design and construction of culvert rehabilitation from Hull St to Bridges Ave. | $ 750,000 | **33.9** | Stormwater Funds | $ - | $ - | $ - | $ 750,000 | $ - | $ - | $ - |
| 34 | DPW/ Water | Water | Manet Rd pump station -Chestnut Hill pressure district | Upgrade pump station including adding a generator | $ 5,000,000 | **32.8** | Water Funds | $ - | $ - | $ - | $ - | $ - | $ 5,000,000 | $ - |
| 35 | DPW/ Water | Water | Replace Water Pipelines - Phase 15 | Cleaning and lining of water pipes to improve water quality, reduce water leakage and ensure pipe integrity and capacity. Precedes scheduled roadway paving. Project will be in Phase 15 of 20-phase program. | $ 4,750,000 | **32.1** | MWRA Loan/Water Funds | $ - | $ - | $ - | $ - | $ - | $ - | $ 4,750,000 |
| 36 | DPW/ Storm | Storm | Cheesecake Brook Roadway Culvert Crossings | Design & Construction of culvert improvements at Parsons, Cross and Eddy Street. | $ 750,000 | **32.0** | Stormwater Funds | $ - | $ - | $ - | $ - | $ - | $ 150,000 | $ 600,000 |
| 37 | DPW/ Storm | Storm | Laundry Brook Culvert-Parkview to Mass Pike | Rehabilitation +/-1000 LF Box Culvert based on FY 18 evaluation. | $ 650,000 | **30.9** | Stormwater Funds | $ - | $ - | $ - | $ - | $ 650,000 | $ - | $ - |
| 38 | DPW/ Sewer | Sewer | Sewer Inflow/Infiltration- Cheesecake and Laundry Brook Drainage | Investigation, Design & Construction of sewer laterals & manholes along interceptor sewers within Cheesecake and Laundry Brook Drainage Basins. | $ 2,000,000 | **30.3** | Sewer Funds | $ - | $ - | $ - | $ - | $ 500,000 | $ 1,000,000 | $ 500,000 |
| 39 | DPW/ Storm | Storm | Phosphorus Control Plan Phase 1 - SRF 3: Project Construction | Phosphorus reduction project to meet NPDES requirements | $ 18,000,000 | **29.5** | SRF Loan/Stormwater Funds | $ - | $ - | $ - | $ - | $ - | $ - | $ 18,000,000 |
| | | | | | **$ 198,386,376** | | | | | | | | | |

# CIP by Project Criteria FY2026-FY2030 (Utilities Only)

| | | | | | | Overall Condition Weight 2 | % Life Left as input Weight 1 | CONSEQUENCES OF FAILURE (IF NOT IMPLEMENTING PROGRAM) RATINGS AND WEIGHTS –0 (No Impact) to 10 (High Impact) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Weight | | | | | | | | | | Sum of Weights | |
| | | | | | | | | 9.0 | 6.0 | 8.0 | 10.0 | 6.0 | 7.0 | 6.0 | 6.0 | 6.0 | 64.0 | | |
| Priority | Dept | Asset Category | Project Title | Project Description / Justification | Est Cost in FY2025 | Overall Condition 0: Worse to 10: Best | % Life Left 0: Expired to 100: New | City Operations | Programs /Services | Costs/ Savings Ratio and Revenue | Codes/ Health & Safety | Community Vibrancy/ Economic Health | Quality of Life | Energy, Sustainability | Dept. Mission or Vision | Accessibility /Equity | % Life Left | Priority Factor | Funding Source |
| 1 | DPW/ Sewer | Sewer | Sewer Inflow/ Infiltration Project - Area 8 - Upper Falls, Highlands, Thompsonville & Oak Hill | Part of phased multi-year program to remove excess inflow and infiltration into sewer system. | $ 7,453,196 | 1 | 10% | 9 | 9 | 9 | 8 | 10 | 8 | 3 | 10 | 3 | 10% | 70.2 | MWRA Grant/Loan/Sewer Funds |
| 2 | DPW/ Water | Water | Commercial & Residential Water Meter Replacement Project | Removal & Replacement of 125 commercial electromagnetic water meters sized 2”-8” diameter, +/-26,000 residential meters sized 5/8"-1 1/2", installation of new AMI system with customer portal. | $ 16,625,000 | 2 | 10% | 10 | 10 | 10 | 6 | 10 | 8 | 3 | 10 | 9 | 10% | 70.1 | Sewer Funds/Water Funds |
| 3 | DPW/ Water | Water | Revised Lead and Copper Rule | EPA requires a complete system wide lead inventory to be submitted by 10/16/2024. This inventory will be used in determining future lead reduction efforts. | $ 100,000 | 1 | 10% | 8 | 8 | 5 | 10 | 5 | 5 | 6 | 10 | 7 | 10% | 65.2 | Reimbursable Grant |
| 4 | DPW/ Storm | Storm | Bullough's Pond Dam | Complete State-Required repair work for dam safety. | $ 3,000,000 | 1 | 10% | 10 | 8 | 3 | 10 | 7 | 8 | 1 | 10 | 6 | 10% | 65.0 | Stormwater Funds |
| 5 | DPW/ Water | Water | Replace Water Pipelines - Phase 8 | Cleaning and lining of water pipes to improve water quality, reduce water leakage and ensure pipe integrity and capacity. Precedes scheduled roadway paving. Project is currently Phase 8 of 20-phase program. Ward Street Phase I (Manet Rd to Waverley Ave). | $ 6,372,215 | 1 | 20% | 10 | 10 | 10 | 7 | 4 | 7 | 3 | 10 | 3 | 20% | 63.6 | MWRA Loan/Water Funds |
| 6 | DPW/ Sewer | Sewer | Sewer Inflow/Infiltration Project - Area 9 Phase 1 - Waban, Upper Falls & Oak Hill | Part of phased multi-year program to remove excess inflow and infiltration into sewer system. | $ 4,200,000 | 2 | 20% | 9 | 9 | 9 | 8 | 10 | 8 | 3 | 10 | 3 | 20% | 62.4 | Sewer Funds |
| 7 | DPW/ Sewer | Sewer | Sewer Inflow/Infiltration Project - Area 9 Phase 2 - Waban, Upper Falls & Oak Hill | Part of phased multi-year program to remove excess inflow and infiltration into sewer system. | $ 5,500,000 | 2 | 20% | 9 | 9 | 9 | 8 | 10 | 8 | 3 | 10 | 3 | 20% | 62.4 | Sewer Funds |
| 8 | DPW/ Sewer | Sewer | Sewer Inflow/Infiltration Project - Area 9 Phase 3 - Waban, Upper Falls & Oak Hill | Part of phased multi-year program to remove excess inflow and infiltration into sewer system. | $ 3,300,000 | 2 | 20% | 9 | 9 | 8 | 8 | 10 | 8 | 3 | 10 | 3 | 20% | 61.4 | Sewer Funds |
| 9 | DPW/ Storm | Storm | Update of Stormwater Infrastucture Improvement Plan | Update the City's Stormwater Infrastructure Improvement Plan (2015) | $ 250,000 | 3 | 10% | 8 | 10 | 8 | 10 | 7 | 8 | 8 | 10 | 0 | 10% | 60.2 | Grant/Stormwater |
| 10 | DPW/ Sewer | Sewer | Pump Station Upgrades | Design and construct Sewer Pump Stations upgrades as part of 10-phase program. | $ 23,000,000 | 3 | 30% | 8 | 9 | 8 | 8 | 9 | 9 | 8 | 10 | 7 | 30% | 58.8 | Sewer Funds |
| 11 | DPW/ Storm | Storm | Union Street Drainage | The extension of storm drains on Union Street to alleviate flooding and icing issues in the area of Herrick Road. | $ 850,000 | 2 | 20% | 6 | 8 | 6 | 9 | 8 | 6 | 6 | 8 | 6 | 20% | 56.3 | Stormwater Funds |
| 12 | DPW/ Water | Water | Replace Water Pipelines - Phase 9 | Cleaning and lining of water pipes to improve water quality, reduce water leakage and ensure pipe integrity and capacity. Precedes scheduled roadway paving. Project will be in Phase 9 of 20-phase program. | $ 4,750,000 | 3 | 30% | 10 | 10 | 10 | 7 | 4 | 7 | 3 | 10 | 3 | 30% | 51.3 | MWRA Loan/Water Funds |
| 13 | DPW/ Water | Water | Replace Water Pipelines - Phase 10 | Cleaning and lining of water pipes to improve water quality, reduce water leakage and ensure pipe integrity and capacity. Precedes scheduled roadway paving. Project will be in Phase 10 of 20-phase program. | $ 4,750,000 | 3 | 30% | 10 | 10 | 10 | 7 | 4 | 7 | 3 | 10 | 3 | 30% | 51.3 | MWRA Loan/Water Funds |
| 14 | DPW/ Storm | Storm | Edmands Brook Drainage Basin | Design for flood mitigation and the reduction of Phosphorus for the NPDES MS4 Permit. | $ 1,404,000 | 3 | 30% | 6 | 5 | 5 | 8 | 8 | 8 | 7 | 10 | 7 | 30% | 49.5 | Other Funds/Stormwater |
| 15 | DPW/ Storm | Storm | South Meadow Brook Culvert under Needham Street | Phase 1 - Inspection & assessment of Box Culvert.<br>Phase 2 - Design & Rehabilitation of Box Culvert. | $ 3,205,000 | 2 | 20% | 7 | 6 | 6 | 7 | 6 | 6 | 3 | 8 | 4 | 20% | 48.2 | Stormwater Funds |
| 16 | DPW/ Water | Water | Replace Water Pipelines - Phase 11 | Cleaning and lining of water pipes to improve water quality, reduce water leakage and ensure pipe integrity and capacity. Precedes scheduled roadway paving. Project will be in Phase 11 of 20-phase program. | $ 4,750,000 | 4 | 40% | 10 | 10 | 10 | 7 | 4 | 7 | 3 | 10 | 3 | 40% | 44.0 | MWRA Loan/Water Funds |
| 17 | DPW/ Water | Water | Replace Water Pipelines - Phase 12 | Cleaning and lining of water pipes to improve water quality, reduce water leakage and ensure pipe integrity and capacity. Precedes scheduled roadway paving. Project will be in Phase 12 of 20-phase program | $ 4,750,000 | 4 | 40% | 10 | 10 | 10 | 7 | 4 | 7 | 3 | 10 | 3 | 40% | 44.0 | MWRA Loan/Water Funds |
| 18 | DPW/ Sewer | Sewer | Sewer Inflow/Infiltration Project - Area 10 - Waban, Newton Highlands, Newton Centre, & Newton Corner | Part of phased multi-year program to remove excess inflow and infiltration into sewer system. | $ 4,888,308 | 4 | 40% | 9 | 9 | 9 | 8 | 5 | 8 | 3 | 10 | 3 | 40% | 44.0 | Sewer Funds |
| 19 | DPW/ Sewer | Sewer | Sewer Inflow/Infiltration Project - Area 11 - Chestnut Hill, Newton Corner, Oak Hill, & Thompsonville | Part of phased multi-year program to remove excess inflow and infiltration into sewer system. | $ 4,000,000 | 4 | 50% | 9 | 8 | 9 | 7 | 5 | 8 | 3 | 9 | 3 | 50% | 39.6 | Sewer Funds |
| 20 | DPW/ Storm | Storm | Hydrological Analysis of Cheesecake Brook | Flood risk analysis and resilient stormwater infrastructure plan | $ 325,000 | 2 | 20% | 9 | 8 | 5 | 8 | 8 | 9 | 6 | 9 | 4 | 100% | 39.5 | Stormwater Funds |
| 21 | DPW/ Storm | Storm | Phosphorus Control Plan Phase 1 Project Designs for SRF 1, 2, and 3 Funding Cycles | Phosphorus reduction project to meet NPDES requirements | $ 6,000,000 | 2 | 20% | 9 | 8 | 2 | 9 | 4 | 9 | 7 | 10 | 8 | 100% | 39.4 | SRF Loan/Stormwater Funds |
| 22 | DPW/ Storm | Storm | Phosphorus Control Plan Phase 1 - SRF 1: Newton Centre Playground Infiltration Basin | Phosphorus reduction project to meet NPDES requirements | $ 304,401 | 2 | 20% | 9 | 8 | 2 | 9 | 4 | 9 | 7 | 10 | 8 | 100% | 39.4 | SRF Loan/Stormwater Funds |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | DPW/ Storm | Storm | Phosphorus Control Plan Phase 1 - SRF 1: Newton Centre Playground Subsurface Infiltration | Phosphorus reduction project to meet NPDES requirements | $ 6,106,871 | 2 | 20% | 9 | 8 | 2 | 9 | 4 | 9 | 7 | 10 | 8 | 100% | **39.4** | SRF Loan/Stormwater Funds |
| 24 | DPW/ Storm | Storm | Phosphorus Control Plan Phase 1 - SRF 1: Pelham Street Parking Lot Subsurface Infiltration | Phosphorus reduction project to meet NPDES requirements | $ 583,337 | 2 | 20% | 9 | 8 | 2 | 9 | 4 | 9 | 7 | 10 | 8 | 100% | **39.4** | SRF Loan/Stormwater Funds |
| 25 | DPW/ Storm | Storm | Phosphorus Control Plan Phase 1 - SRF 1: Pellegrini Park Subsurface Infiltration | Phosphorus reduction project to meet NPDES requirements | $ 9,919,048 | 2 | 20% | 9 | 8 | 2 | 9 | 4 | 9 | 7 | 10 | 8 | 100% | **39.4** | SRF Loan/Stormwater Funds |
| 26 | DPW/ Storm | Storm | Evaluation, design and construction of Cheesecake Brook-Commonwealth Av. to the rear of 1600 Washington Street | Replace culvert headwall, remove remaining fieldstone channel walls to restore natural brook channel and provide buffer for nutrient removal (water quality). | $ 900,000 | 3 | 30% | 7 | 7 | 2 | 7 | 4 | 5 | 6 | 9 | 2 | 30% | **38.5** | Stormwater Funds |
| 27 | DPW/ Storm | Storm | Cheesecake Brook -1660 Washington St. to Watertown St. | Inspection & Assessment, Design and Rehabilitation of +/-6000 LF of Box Culvert. | $ 900,000 | 3 | 30% | 7 | 7 | 2 | 7 | 4 | 5 | 6 | 9 | 2 | 30% | **38.5** | Stormwater Funds |
| 28 | DPW/ Water | Water | Waban Hill Covered Reservoir Chambers | Rehabilitating storage chambers - add mixing system | $ 9,350,000 | 2 | 30% | 8 | 7 | 9 | 6 | 8 | 5 | 8 | 8 | 4 | 100% | **37.5** | Water Funds |
| 29 | DPW/ Storm | Storm | Cheesecake Brook-Watertown St. to Charles River | Inspection & Assessment, Design and Rehabilitation of Fieldstone Channel walls and floor. | $ 1,450,000 | 4 | 20% | 7 | 7 | 2 | 7 | 4 | 5 | 6 | 9 | 2 | 20% | **36.7** | Stormwater Funds |
| 30 | DPW/ Water | Water | Replace Water Pipelines - Phase 13 | Cleaning and lining of water pipes to improve water quality, reduce water leakage and ensure pipe integrity and capacity. Precedes scheduled roadway paving. Project will be in Phase 13 of 20-phase program. | $ 4,750,000 | 5 | 50% | 10 | 10 | 10 | 7 | 4 | 7 | 3 | 10 | 3 | 50% | **36.7** | MWRA Loan/Water Funds |
| 31 | DPW/ Water | Water | Replace Water Pipelines - Phase 14 | Cleaning and lining of water pipes to improve water quality, reduce water leakage and ensure pipe integrity and capacity. Precedes scheduled roadway paving. Project will be in Phase 14 of 20-phase program. | $ 4,750,000 | 5 | 50% | 10 | 10 | 10 | 7 | 4 | 7 | 3 | 10 | 3 | 50% | **36.7** | MWRA Loan/Water Funds |
| 32 | DPW/ Storm | Storm | Phosphorus Control Plan Phase 1 - SRF 2: Project Construction | Phosphorus reduction project to meet NPDES requirements | $ 18,000,000 | 3 | 30% | 9 | 8 | 2 | 9 | 4 | 9 | 7 | 10 | 8 | 100% | **34.4** | SRF Loan/Stormwater Funds |
| 33 | DPW/ Storm | Storm | Laundry Brook Culvert-Hull street to Bridges Avenue | Design and construction of culvert rehabilitation from Hull St to Bridges Ave. | $ 750,000 | 4 | 40% | 8 | 7 | 2 | 7 | 4 | 5 | 6 | 9 | 2 | 40% | **33.9** | Stormwater Funds |
| 34 | DPW/ Water | Water | Manet Rd pump station -Chestnut Hill pressure district | Upgrade pump station including adding a generator | $ 5,000,000 | 3 | 50% | 8 | 7 | 4 | 8 | 9 | 8 | 5 | 8 | 6 | 100% | **32.8** | Water Funds |
| 35 | DPW/ Water | Water | Replace Water Pipelines - Phase 15 | Cleaning and lining of water pipes to improve water quality, reduce water leakage and ensure pipe integrity and capacity. Precedes scheduled roadway paving. Project will be in Phase 15 of 20-phase program. | $ 4,750,000 | 5 | 60% | 10 | 10 | 10 | 6 | 3 | 6 | 3 | 10 | 2 | 60% | **32.1** | MWRA Loan/Water Funds |
| 36 | DPW/ Storm | Storm | Cheesecake Brook Roadway Culvert Crossings | Design & Construction of culvert improvements at Parsons, Cross and Eddy Street. | $ 750,000 | 2 | 20% | 4 | 4 | 2 | 6 | 2 | 6 | 4 | 5 | 2 | 20% | **32.0** | Stormwater Funds |
| 37 | DPW/ Storm | Storm | Laundry Brook Culvert-Parkview to Mass Pike | Rehabilitation +/-1000 LF Box Culvert based on FY 18 evaluation. | $ 650,000 | 4 | 50% | 6 | 7 | 4 | 6 | 4 | 5 | 6 | 9 | 2 | 50% | **30.9** | Stormwater Funds |
| 38 | DPW/ Sewer | Sewer | Sewer Inflow/Infiltration- Cheesecake and Laundry Brook Drainage | Investigation, Design & Construction of sewer laterals & manholes along interceptor sewers within Cheesecake and Laundry Brook Drainage Basins. | $ 2,000,000 | 3 | 30% | 5 | 5 | 5 | 5 | 2 | 4 | 3 | 6 | 3 | 30% | **30.3** | Sewer Funds |
| 39 | DPW/ Storm | Storm | Phosphorus Control Plan Phase 1 - SRF 3: Project Construction | Phosphorus reduction project to meet NPDES requirements | $ 18,000,000 | 4 | 40% | 9 | 8 | 2 | 9 | 4 | 9 | 7 | 10 | 8 | 100% | **29.5** | SRF Loan/Stormwater Funds |
| | | | | | **$ 198,386,376** | | | | | | | | | | | | | | |

# ATTACHMENT B – 2023 CONSUMPTION REPORT

# CITY OF NEWTON

## 2023 Consumption Report

Cycle District ROUTE Type Summ Code

| Service | Connections | Consumption | Replaced Usage | Amount Billed |
|---|---|---|---|---|
| | | C COMMERCIAL | | |
| 1WATR MET. WATER | 3,047 | 358,361 | 1,276 | 3,939,054.63 |
| 3GRDN MTR WATER | 4 | 127 | | 1,712.47 |
| STRMIA STORM IMP | 1,848 | | | 758,825.32 |
| ** Type C COMME | 4,899 | 358,488 | 1,276 | 4,699,592.42 |
| | | I INDUSTRIAL | | |
| 1WATR MET. WATER | 252 | 22,781 | | 247,052.01 |
| STRMIA STORM IMP | 180 | | | 111,164.92 |
| ** Type I INDUS | 432 | 22,781 | | 358,216.93 |
| | | R RESIDENT | | |
| 1WATR MET. WATER | 97,532 | 2,204,649 | 1,989 | 18,774,333.23 |
| 3GRDN MTR WATER | 17,736 | 385,501 | 546 | 5,171,979.03 |
| STRMIA STORM IMP | 2,112 | | | 923,906.36 |
| ** Type R RESID | 117,380 | 2,590,150 | 2,535 | 24,870,218.62 |
| **** Final Totals **** | 122,711 | 2,971,419 | 3,811 | 29,928,027.97 |

** END OF REPORT - Generated by Shawna Sullivan **

## ATTACHMENT C – DEBT SERVICE SCHEDULE AS OF 6/30/2024

**Debt Service Table as of 6/30/2024**

| FISCAL YEAR | GENERAL FUND | | CPA FUND | | STORMWATER FUND | | SEWER FUND | | WATER FUND | | ALL FUNDS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PRINCIPAL DUE | INTEREST DUE | PRINCIPAL DUE | INTEREST DUE | PRINCIPAL DUE | INTEREST DUE | PRINCIPAL DUE | INTEREST DUE | PRINCIPAL DUE | INTEREST DUE | PRINCIPAL DUE | INTEREST DUE |
| **2025** | $65,826,167 | $11,616,868 | $673,500 | $822,279 | $330,000 | $152,187 | $1,600,900 | $257,400 | $3,217,250 | $638,304 | $71,647,817 | $13,487,038 |
| **2026** | $14,951,867 | $8,542,346 | $670,000 | $824,903 | $332,800 | $136,237 | $1,514,200 | $235,337 | $3,086,230 | $580,804 | $20,555,097 | $10,319,627 |
| **2027** | $14,319,667 | $7,923,075 | $705,000 | $791,403 | $325,000 | $119,825 | $1,422,500 | $211,162 | $2,960,210 | $524,004 | $19,732,377 | $9,569,469 |
| **2028** | $14,024,667 | $7,333,992 | $740,000 | $756,153 | $305,000 | $103,825 | $1,415,000 | $186,987 | $2,426,690 | $466,754 | $18,911,357 | $8,847,710 |
| **2029** | $13,309,667 | $6,746,683 | $780,000 | $719,153 | $305,000 | $88,575 | $1,417,500 | $162,738 | $2,303,170 | $407,329 | $18,115,337 | $8,124,477 |
| **2030** | $13,090,667 | $6,196,337 | $820,000 | $680,153 | $290,000 | $73,325 | $1,302,000 | $138,338 | $2,172,150 | $347,279 | $17,674,817 | $7,435,431 |
| **2031** | $13,246,667 | $5,706,567 | $855,000 | $643,253 | $295,000 | $60,500 | $1,166,500 | $114,563 | $2,041,130 | $292,229 | $17,604,297 | $6,817,110 |
| **2032** | $13,346,666 | $5,241,015 | $895,000 | $604,753 | $295,000 | $48,050 | $673,500 | $91,313 | $2,046,130 | $237,029 | $17,256,296 | $6,222,158 |
| **2033** | $13,651,666 | $4,753,081 | $938,000 | $564,453 | $295,000 | $36,300 | $563,500 | $69,463 | $1,708,740 | $186,429 | $17,156,906 | $5,609,725 |
| **2034** | $13,646,666 | $4,300,323 | $970,000 | $526,813 | $235,000 | $25,000 | $245,000 | $50,650 | $938,370 | $137,950 | $16,035,036 | $5,040,735 |
| **2035** | $13,931,666 | $3,869,065 | $1,010,000 | $492,763 | $165,000 | $16,800 | $240,000 | $38,400 | $355,000 | $116,775 | $15,701,666 | $4,533,802 |
| **2036** | $12,956,666 | $3,448,406 | $1,040,000 | $462,163 | $165,000 | $10,700 | $240,000 | $28,800 | $365,000 | $108,550 | $14,766,666 | $4,058,619 |
| **2037** | $13,106,666 | $3,044,748 | $1,070,000 | $430,563 | $115,000 | $5,175 | $240,000 | $19,200 | $375,000 | $99,944 | $14,906,666 | $3,599,629 |
| **2038** | $12,736,666 | $2,639,252 | $1,100,000 | $397,963 | $115,000 | $1,725 | $240,000 | $9,600 | $380,000 | $90,944 | $14,571,666 | $3,139,483 |
| **2039** | $11,256,666 | $2,247,687 | $1,135,000 | $364,363 | $0 | $0 | $0 | $0 | $385,000 | $81,725 | $12,776,666 | $2,693,775 |
| **2040** | $7,236,666 | $1,893,798 | $755,000 | $328,900 | $0 | $0 | $0 | $0 | $395,000 | $71,456 | $8,386,666 | $2,294,154 |
| **2041** | $7,061,666 | $1,661,505 | $780,000 | $308,825 | $0 | $0 | $0 | $0 | $210,000 | $60,881 | $8,051,666 | $2,031,211 |
| **2042** | $6,905,000 | $1,427,781 | $800,000 | $287,938 | $0 | $0 | $0 | $0 | $215,000 | $54,144 | $7,920,000 | $1,769,863 |
| **2043** | $7,135,000 | $1,193,194 | $820,000 | $265,825 | $0 | $0 | $0 | $0 | $220,000 | $47,206 | $8,175,000 | $1,506,225 |
| **2044** | $7,355,000 | $952,581 | $845,000 | $242,369 | $0 | $0 | $0 | $0 | $225,000 | $40,575 | $8,425,000 | $1,235,525 |
| **2045** | $6,685,000 | $703,494 | $870,000 | $218,156 | $0 | $0 | $0 | $0 | $225,000 | $33,650 | $7,780,000 | $955,300 |
| **2046** | $6,020,000 | $495,463 | $895,000 | $193,188 | $0 | $0 | $0 | $0 | $230,000 | $26,725 | $7,145,000 | $715,375 |
| **2047** | $3,700,000 | $296,125 | $920,000 | $167,463 | $0 | $0 | $0 | $0 | $235,000 | $19,625 | $4,855,000 | $483,213 |
| **2048** | $2,555,000 | $171,988 | $945,000 | $140,981 | $0 | $0 | $0 | $0 | $95,000 | $12,350 | $3,595,000 | $325,319 |
| **2049** | $990,000 | $108,197 | $975,000 | $113,744 | $0 | $0 | $0 | $0 | $95,000 | $9,975 | $2,060,000 | $231,916 |
| **2050** | $835,000 | $74,753 | $1,000,000 | $85,550 | $0 | $0 | $0 | $0 | $95,000 | $7,481 | $1,930,000 | $167,784 |
| **2051** | $655,000 | $52,869 | $330,000 | $56,600 | $0 | $0 | $0 | $0 | $95,000 | $4,988 | $1,080,000 | $114,456 |
| **2052** | $525,000 | $33,063 | $350,000 | $43,400 | $0 | $0 | $0 | $0 | $95,000 | $2,494 | $970,000 | $78,956 |
| **2053** | $205,000 | $16,600 | $360,000 | $29,400 | $0 | $0 | $0 | $0 | $0 | $0 | $565,000 | $46,000 |
| **2054** | $210,000 | $8,400 | $375,000 | $15,000 | $0 | $0 | $0 | $0 | $0 | $0 | $585,000 | $23,400 |
| **TOTALS:** | **$311,476,029** | **$92,699,254** | **$24,421,500** | **$11,578,462** | **$3,567,800** | **$878,224** | **$12,280,600** | **$1,613,950** | **$27,190,070** | **$4,707,597** | **$378,935,999** | **$111,477,486** |

# ATTACHMENT D - REVENUE REQUIREMENTS FOR WATER, WASTEWATER, AND STORMWATER

| Revenue Requirement Projection - Scenario 1: Baseline Phase 1 Compliance Schedule | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Sewer Fund** | **FY2026** | **FY2027** | **FY2028** | **FY2029** | **FY2030** | **FY2031** | **FY2032** | **FY2033** | **FY2034** | **FY2035** |
| Operational Costs | $ 33,997,959 | $ 34,849,533 | $ 35,722,445 | $ 36,617,230 | $ 37,534,437 | $ 38,474,626 | $ 39,438,376 | $ 40,426,276 | $ 41,438,931 | $ 42,476,963 |
| Existing Debt Service | $ 1,749,537 | $ 1,633,662 | $ 1,601,987 | $ 1,580,238 | $ 1,440,338 | $ 1,281,063 | $ 764,813 | $ 632,963 | $ 295,650 | $ 278,400 |
| Capital Program Costs | $ 5,700,000 | $ 3,700,000 | $ 6,537,000 | $ 8,300,000 | $ 11,200,000 | $ - | $ - | $ - | $ - | $ - |
| Revenue Requirement | $ 41,447,496 | $ 40,183,195 | $ 43,861,432 | $ 46,497,468 | $ 50,174,775 | $ 39,755,689 | $ 40,203,189 | $ 41,059,239 | $ 41,734,581 | $ 42,755,363 |
| Annual Increase | 9.20% | -3.05% | 9.15% | 6.01% | 7.91% | -20.77% | 1.13% | 2.13% | 1.64% | 2.45% |
| | | | | | | | | | | |
| **Drinking Water Fund** | **FY2026** | **FY2027** | **FY2028** | **FY2029** | **FY2030** | **FY2031** | **FY2032** | **FY2033** | **FY2034** | **FY2035** |
| Operational Costs | $ 25,709,282 | $ 26,353,889 | $ 27,014,670 | $ 27,692,031 | $ 28,386,389 | $ 29,098,170 | $ 29,827,812 | $ 30,575,764 | $ 31,342,485 | $ 32,128,447 |
| Existing Debt Service | $ 3,667,034 | $ 3,484,214 | $ 2,893,444 | $ 2,710,499 | $ 2,519,429 | $ 2,333,359 | $ 2,283,159 | $ 1,895,169 | $ 1,076,320 | $ 471,775 |
| Capital Program Costs | $ 5,750,000 | $ 13,100,000 | $ 4,750,000 | $ 9,750,000 | $ 4,750,000 | $ - | $ - | $ - | $ - | $ - |
| Revenue Requirement | $ 35,126,316 | $ 42,938,103 | $ 34,658,114 | $ 40,152,530 | $ 35,655,818 | $ 31,431,529 | $ 32,110,971 | $ 32,470,933 | $ 32,418,805 | $ 32,600,222 |
| Annual Increase | 9.17% | 22.24% | -19.28% | 15.85% | -11.20% | -11.85% | 2.16% | 1.12% | -0.16% | 0.56% |
| | | | | | | | | | | |
| **Stormwater Fund** | **FY2026** | **FY2027** | **FY2028** | **FY2029** | **FY2030** | **FY2031** | **FY2032** | **FY2033** | **FY2034** | **FY2035** |
| Operational Costs | $ 5,286,778 | $ 5,418,947 | $ 5,554,421 | $ 5,693,282 | $ 5,835,614 | $ 5,981,504 | $ 6,131,042 | $ 6,284,318 | $ 6,441,426 | $ 6,602,461 |
| Existing Debt Service | $ 469,037 | $ 444,825 | $ 408,825 | $ 393,575 | $ 363,325 | $ 355,500 | $ 343,050 | $ 331,300 | $ 260,000 | $ 181,800 |
| Existing Capital Program Costs | $ 3,481,380 | $ 2,300,000 | $ 3,775,000 | $ 1,450,000 | $ 600,000 | $ - | $ - | $ - | $ - | $ - |
| Phase 1 PCP Costs | $ 1,450,000 | $ 9,743,669 | $ 13,383,629 | $ 14,474,406 | $ 14,609,656 | $ 14,748,287 | $ 14,890,384 | $ 15,036,033 | $ 15,185,324 | $ 15,338,347 |
| Revenue Requirement | $ 10,687,195 | $ 17,907,442 | $ 23,121,875 | $ 22,011,262 | $ 21,408,594 | $ 21,085,291 | $ 21,364,475 | $ 21,651,651 | $ 21,886,750 | $ 22,122,608 |
| Annual Increase | 42.62% | 67.56% | 29.12% | -4.80% | -2.74% | -1.51% | 1.32% | 1.34% | 1.09% | 1.08% |
| | | | | | | | | | | |
| **Total Revenue Requirement** | **$ 87,261,007** | **$ 101,028,740** | **$ 101,641,421** | **$ 108,661,260** | **$ 107,239,187** | **$ 92,272,509** | **$ 93,678,635** | **$ 95,181,822** | **$ 96,040,136** | **$ 97,478,193** |
| Annual Increase | 12.42% | 15.78% | 0.61% | 6.91% | -1.31% | -13.96% | 1.52% | 1.60% | 0.90% | 1.50% |

Scenario 1: Baseline Phase 1 Compliance Schedule

| Revenue Requirement Projection | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Sewer Fund** | **FY2036** | **FY2037** | **FY2038** | **FY2039** | **FY2040** | **FY2041** | **FY2042** | **FY2043** | **FY2044** | **FY2045** |
| Operational Costs | $ 43,541,007 | $ 44,631,716 | $ 45,749,759 | $ 46,895,819 | $ 48,070,601 | $ 49,274,824 | $ 50,509,226 | $ 51,774,565 | $ 53,071,615 | $ 54,401,172 |
| Existing Debt Service | $ 268,800 | $ 259,200 | $ 249,600 | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Capital Program Costs | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Revenue Requirement | $ 43,809,807 | $ 44,890,916 | $ 45,999,359 | $ 46,895,819 | $ 48,070,601 | $ 49,274,824 | $ 50,509,226 | $ 51,774,565 | $ 53,071,615 | $ 54,401,172 |
| Annual Increase | 2.47% | 2.47% | 2.47% | 1.95% | 2.51% | 2.51% | 2.51% | 2.51% | 2.51% | 2.51% |
| | | | | | | | | | | |
| **Drinking Water Fund** | **FY2036** | **FY2037** | **FY2038** | **FY2039** | **FY2040** | **FY2041** | **FY2042** | **FY2043** | **FY2044** | **FY2045** |
| Operational Costs | $ 32,934,134 | $ 33,760,041 | $ 34,606,675 | $ 35,474,558 | $ 36,364,223 | $ 37,276,218 | $ 38,211,103 | $ 39,169,454 | $ 40,151,860 | $ 41,158,926 |
| Existing Debt Service | $ 473,550 | $ 474,944 | $ 470,944 | $ 466,725 | $ 466,456 | $ 270,881 | $ 269,144 | $ 267,206 | $ 265,575 | $ 258,650 |
| Capital Program Costs | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Revenue Requirement | $ 33,407,684 | $ 34,234,985 | $ 35,077,619 | $ 35,941,283 | $ 36,830,679 | $ 37,547,099 | $ 38,480,247 | $ 39,436,660 | $ 40,417,435 | $ 41,417,576 |
| Annual Increase | 2.48% | 2.48% | 2.46% | 2.46% | 2.47% | 1.95% | 2.49% | 2.49% | 2.49% | 2.47% |
| | | | | | | | | | | |
| **Stormwater Fund** | **FY2036** | **FY2037** | **FY2038** | **FY2039** | **FY2040** | **FY2041** | **FY2042** | **FY2043** | **FY2044** | **FY2045** |
| Operational Costs | $ 6,767,523 | $ 6,936,711 | $ 7,110,129 | $ 7,287,882 | $ 7,470,079 | $ 7,656,831 | $ 7,848,252 | $ 8,044,458 | $ 8,245,569 | $ 8,451,709 |
| Existing Debt Service | $ 175,700 | $ 120,175 | $ 116,725 | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Existing Capital Program Costs | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Phase 1 PCP Costs | $ 15,495,195 | $ 15,655,965 | $ 15,820,754 | $ 15,989,663 | $ 16,162,794 | $ 16,340,254 | $ 16,522,150 | $ 16,708,594 | $ 16,899,699 | $ 17,095,581 |
| Revenue Requirement | $ 22,438,418 | $ 22,712,851 | $ 23,047,608 | $ 23,277,545 | $ 23,632,873 | $ 23,997,085 | $ 24,370,402 | $ 24,753,052 | $ 25,145,268 | $ 25,547,290 |
| Annual Increase | 1.43% | 1.22% | 1.47% | 1.00% | 1.53% | 1.54% | 1.56% | 1.57% | 1.58% | 1.60% |
| | | | | | | | | | | |
| **Total Revenue Requirement** | **$ 99,655,909** | **$ 101,838,752** | **$ 104,124,585** | **$ 106,114,647** | **$ 108,534,153** | **$ 110,819,008** | **$ 113,359,875** | **$ 115,964,277** | **$ 118,634,318** | **$ 121,366,038** |
| Annual Increase | 2.23% | 2.19% | 2.24% | 1.91% | 2.28% | 2.11% | 2.29% | 2.30% | 2.30% | 2.30% |

Scenario 1: Baseline Phase 1 Compliance Schedule

| Revenue Requirement Projection - Scenario 2: Full PCP Schedule Implementation (Phases 1, 2, and 3) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Sewer Fund** | **FY2026** | **FY2027** | **FY2028** | **FY2029** | **FY2030** | **FY2031** | **FY2032** | **FY2033** | **FY2034** | **FY2035** |
| Operational Costs | $ 33,997,959 | $ 34,849,533 | $ 35,722,445 | $ 36,617,230 | $ 37,534,437 | $ 38,474,626 | $ 39,438,376 | $ 40,426,276 | $ 41,438,931 | $ 42,476,963 |
| Existing Debt Service | $ 1,749,537 | $ 1,633,662 | $ 1,601,987 | $ 1,580,238 | $ 1,440,338 | $ 1,281,063 | $ 764,813 | $ 632,963 | $ 295,650 | $ 278,400 |
| Capital Program Costs | $ 5,700,000 | $ 3,700,000 | $ 6,537,000 | $ 8,300,000 | $ 11,200,000 | $ - | $ - | $ - | $ - | $ - |
| Revenue Requirement | $ 41,447,496 | $ 40,183,195 | $ 43,861,432 | $ 46,497,468 | $ 50,174,775 | $ 39,755,689 | $ 40,203,189 | $ 41,059,239 | $ 41,734,581 | $ 42,755,363 |
| Annual Increase | 9.20% | -3.05% | 9.15% | 6.01% | 7.91% | -20.77% | 1.13% | 2.13% | 1.64% | 2.45% |
| | | | | | | | | | | |
| **Drinking Water Fund** | **FY2026** | **FY2027** | **FY2028** | **FY2029** | **FY2030** | **FY2031** | **FY2032** | **FY2033** | **FY2034** | **FY2035** |
| Operational Costs | $ 25,709,282 | $ 26,353,889 | $ 27,014,670 | $ 27,692,031 | $ 28,386,389 | $ 29,098,170 | $ 29,827,812 | $ 30,575,764 | $ 31,342,485 | $ 32,128,447 |
| Existing Debt Service | $ 3,667,034 | $ 3,484,214 | $ 2,893,444 | $ 2,710,499 | $ 2,519,429 | $ 2,333,359 | $ 2,283,159 | $ 1,895,169 | $ 1,076,320 | $ 471,775 |
| Capital Program Costs | $ 5,750,000 | $ 13,100,000 | $ 4,750,000 | $ 9,750,000 | $ 4,750,000 | $ - | $ - | $ - | $ - | $ - |
| Revenue Requirement | $ 35,126,316 | $ 42,938,103 | $ 34,658,114 | $ 40,152,530 | $ 35,655,818 | $ 31,431,529 | $ 32,110,971 | $ 32,470,933 | $ 32,418,805 | $ 32,600,222 |
| Annual Increase | 9.17% | 22.24% | -19.28% | 15.85% | -11.20% | -11.85% | 2.16% | 1.12% | -0.16% | 0.56% |
| | | | | | | | | | | |
| **Stormwater Fund** | **FY2026** | **FY2027** | **FY2028** | **FY2029** | **FY2030** | **FY2031** | **FY2032** | **FY2033** | **FY2034** | **FY2035** |
| Operational Costs | $ 5,286,778 | $ 5,418,947 | $ 5,554,421 | $ 5,693,282 | $ 5,835,614 | $ 5,981,504 | $ 6,131,042 | $ 6,284,318 | $ 6,441,426 | $ 6,602,461 |
| Existing Debt Service | $ 469,037 | $ 444,825 | $ 408,825 | $ 393,575 | $ 363,325 | $ 355,500 | $ 343,050 | $ 331,300 | $ 260,000 | $ 181,800 |
| Existing Capital Program Costs | $ 3,481,380 | $ 2,300,000 | $ 3,775,000 | $ 1,450,000 | $ 600,000 | $ - | $ - | $ - | $ - | $ - |
| Phase 1 PCP Costs | $ 1,450,000 | $ 9,743,669 | $ 13,383,629 | $ 15,218,577 | $ 15,372,431 | $ 17,796,361 | $ 18,014,660 | $ 32,573,812 | $ 32,892,769 | $ 33,219,699 |
| Revenue Requirement | $ 10,687,195 | $ 17,907,442 | $ 23,121,875 | $ 22,755,434 | $ 22,171,370 | $ 24,133,365 | $ 24,488,752 | $ 39,189,430 | $ 39,594,194 | $ 40,003,960 |
| Annual Increase | 42.62% | 67.56% | 29.12% | -1.58% | -2.57% | 8.85% | 1.47% | 60.03% | 1.03% | 1.03% |
| | | | | | | | | | | |
| **Total Revenue Requirement** | **$ 87,261,007** | **$ 101,028,740** | **$ 101,641,421** | **$ 109,405,432** | **$ 108,001,962** | **$ 95,320,583** | **$ 96,802,912** | **$ 112,719,601** | **$ 113,747,580** | **$ 115,359,545** |
| Annual Increase | 12.42% | 15.78% | 0.61% | 7.64% | -1.28% | -11.74% | 1.56% | 16.44% | 0.91% | 1.42% |

| Revenue Requirement Projection | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Sewer Fund** | **FY2036** | **FY2037** | **FY2038** | **FY2039** | **FY2040** | **FY2041** | **FY2042** | **FY2043** | **FY2044** | **FY2045** |
| Operational Costs | $ 43,541,007 | $ 44,631,716 | $ 45,749,759 | $ 46,895,819 | $ 48,070,601 | $ 49,274,824 | $ 50,509,226 | $ 51,774,565 | $ 53,071,615 | $ 54,401,172 |
| Existing Debt Service | $ 268,800 | $ 259,200 | $ 249,600 | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Capital Program Costs | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Revenue Requirement | $ 43,809,807 | $ 44,890,916 | $ 45,999,359 | $ 46,895,819 | $ 48,070,601 | $ 49,274,824 | $ 50,509,226 | $ 51,774,565 | $ 53,071,615 | $ 54,401,172 |
| Annual Increase | 2.47% | 2.47% | 2.47% | 1.95% | 2.51% | 2.51% | 2.51% | 2.51% | 2.51% | 2.51% |
| | | | | | | | | | | |
| **Drinking Water Fund** | **FY2036** | **FY2037** | **FY2038** | **FY2039** | **FY2040** | **FY2041** | **FY2042** | **FY2043** | **FY2044** | **FY2045** |
| Operational Costs | $ 32,934,134 | $ 33,760,041 | $ 34,606,675 | $ 35,474,558 | $ 36,364,223 | $ 37,276,218 | $ 38,211,103 | $ 39,169,454 | $ 40,151,860 | $ 41,158,926 |
| Existing Debt Service | $ 473,550 | $ 474,944 | $ 470,944 | $ 466,725 | $ 466,456 | $ 270,881 | $ 269,144 | $ 267,206 | $ 265,575 | $ 258,650 |
| Capital Program Costs | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Revenue Requirement | $ 33,407,684 | $ 34,234,985 | $ 35,077,619 | $ 35,941,283 | $ 36,830,679 | $ 37,547,099 | $ 38,480,247 | $ 39,436,660 | $ 40,417,435 | $ 41,417,576 |
| Annual Increase | 2.48% | 2.48% | 2.46% | 2.46% | 2.47% | 1.95% | 2.49% | 2.49% | 2.49% | 2.47% |
| | | | | | | | | | | |
| **Stormwater Fund** | **FY2036** | **FY2037** | **FY2038** | **FY2039** | **FY2040** | **FY2041** | **FY2042** | **FY2043** | **FY2044** | **FY2045** |
| Operational Costs | $ 6,767,523 | $ 6,936,711 | $ 7,110,129 | $ 7,287,882 | $ 7,470,079 | $ 7,656,831 | $ 7,848,252 | $ 8,044,458 | $ 8,245,569 | $ 8,451,709 |
| Existing Debt Service | $ 175,700 | $ 120,175 | $ 116,725 | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Existing Capital Program Costs | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Phase 1 PCP Costs | $ 38,696,648 | $ 39,168,675 | $ 72,690,053 | $ 73,388,738 | $ 74,104,891 | $ 74,838,947 | $ 75,591,354 | $ 76,362,572 | $ 77,153,070 | $ 77,963,331 |
| Revenue Requirement | $ 45,639,871 | $ 46,225,561 | $ 79,916,907 | $ 80,676,620 | $ 81,574,970 | $ 82,495,778 | $ 83,439,606 | $ 84,407,030 | $ 85,398,640 | $ 86,415,040 |
| Annual Increase | 14.09% | 1.28% | 72.88% | 0.95% | 1.11% | 1.13% | 1.14% | 1.16% | 1.17% | 1.19% |
| | | | | | | | | | | |
| **Total Revenue Requirement** | **$ 122,857,362** | **$ 125,351,462** | **$ 160,993,884** | **$ 163,513,722** | **$ 166,476,250** | **$ 169,317,701** | **$ 172,429,079** | **$ 175,618,255** | **$ 178,887,690** | **$ 182,233,788** |
| Annual Increase | 6.50% | 2.03% | 28.43% | 1.57% | 1.81% | 1.71% | 1.84% | 1.85% | 1.86% | 1.87% |

| Revenue Requirement Projection - Scenario 3: Phase 1 Alternative Schedule ($5M/annual investment) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Sewer Fund** | **FY2026** | **FY2027** | **FY2028** | **FY2029** | **FY2030** | **FY2031** | **FY2032** | **FY2033** | **FY2034** | **FY2035** |
| Operational Costs | $ 33,997,959 | $ 34,849,533 | $ 35,722,445 | $ 36,617,230 | $ 37,534,437 | $ 38,474,626 | $ 39,438,376 | $ 40,426,276 | $ 41,438,931 | $ 42,476,963 |
| Existing Debt Service | $ 1,749,537 | $ 1,633,662 | $ 1,601,987 | $ 1,580,238 | $ 1,440,338 | $ 1,281,063 | $ 764,813 | $ 632,963 | $ 295,650 | $ 278,400 |
| Capital Program Costs | $ 5,700,000 | $ 3,700,000 | $ 6,537,000 | $ 8,300,000 | $ 11,200,000 | $ - | $ - | $ - | $ - | $ - |
| Revenue Requirement | $ 41,447,496 | $ 40,183,195 | $ 43,861,432 | $ 46,497,468 | $ 50,174,775 | $ 39,755,689 | $ 40,203,189 | $ 41,059,239 | $ 41,734,581 | $ 42,755,363 |
| Annual Increase | 9.20% | -3.05% | 9.15% | 6.01% | 7.91% | -20.77% | 1.13% | 2.13% | 1.64% | 2.45% |
| | | | | | | | | | | |
| **Drinking Water Fund** | **FY2026** | **FY2027** | **FY2028** | **FY2029** | **FY2030** | **FY2031** | **FY2032** | **FY2033** | **FY2034** | **FY2035** |
| Operational Costs | $ 25,709,282 | $ 26,353,889 | $ 27,014,670 | $ 27,692,031 | $ 28,386,389 | $ 29,098,170 | $ 29,827,812 | $ 30,575,764 | $ 31,342,485 | $ 32,128,447 |
| Existing Debt Service | $ 3,667,034 | $ 3,484,214 | $ 2,893,444 | $ 2,710,499 | $ 2,519,429 | $ 2,333,359 | $ 2,283,159 | $ 1,895,169 | $ 1,076,320 | $ 471,775 |
| Capital Program Costs | $ 5,750,000 | $ 13,100,000 | $ 4,750,000 | $ 9,750,000 | $ 4,750,000 | $ - | $ - | $ - | $ - | $ - |
| Revenue Requirement | $ 35,126,316 | $ 42,938,103 | $ 34,658,114 | $ 40,152,530 | $ 35,655,818 | $ 31,431,529 | $ 32,110,971 | $ 32,470,933 | $ 32,418,805 | $ 32,600,222 |
| Annual Increase | 9.17% | 22.24% | -19.28% | 15.85% | -11.20% | -11.85% | 2.16% | 1.12% | -0.16% | 0.56% |
| | | | | | | | | | | |
| **Stormwater Fund** | **FY2026** | **FY2027** | **FY2028** | **FY2029** | **FY2030** | **FY2031** | **FY2032** | **FY2033** | **FY2034** | **FY2035** |
| Operational Costs | $ 5,286,778 | $ 5,418,947 | $ 5,554,421 | $ 5,693,282 | $ 5,835,614 | $ 5,981,504 | $ 6,131,042 | $ 6,284,318 | $ 6,441,426 | $ 6,602,461 |
| Existing Debt Service | $ 469,037 | $ 444,825 | $ 408,825 | $ 393,575 | $ 363,325 | $ 355,500 | $ 343,050 | $ 331,300 | $ 260,000 | $ 181,800 |
| Existing Capital Program Costs | $ 3,481,380 | $ 2,300,000 | $ 3,775,000 | $ 1,450,000 | $ 600,000 | $ - | $ - | $ - | $ - | $ - |
| Phase 1 PCP Costs | $ 950,000 | $ 3,586,833 | $ 43,905 | $ 447,805 | $ 848,338 | $ 1,245,922 | $ 2,140,956 | $ 1,991,983 | $ 2,381,361 | $ 2,767,366 |
| Revenue Requirement | $ 10,187,195 | $ 11,750,605 | $ 9,782,151 | $ 7,984,662 | $ 7,647,276 | $ 7,582,926 | $ 8,615,048 | $ 8,607,601 | $ 9,082,786 | $ 9,551,627 |
| Annual Increase | 35.95% | 15.35% | -16.75% | -18.38% | -4.23% | -0.84% | 13.61% | -0.09% | 5.52% | 5.16% |
| | | | | | | | | | | |
| **Total Revenue Requirement** | **$ 86,761,007** | **$ 94,871,903** | **$ 88,301,697** | **$ 94,634,660** | **$ 93,477,869** | **$ 78,770,144** | **$ 80,929,208** | **$ 82,137,772** | **$ 83,236,172** | **$ 84,907,212** |
| Annual Increase | 11.77% | 9.35% | -6.93% | 7.17% | -1.22% | -15.73% | 2.74% | 1.49% | 1.34% | 2.01% |

| Revenue Requirement Projection | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Sewer Fund** | **FY2036** | **FY2037** | **FY2038** | **FY2039** | **FY2040** | **FY2041** | **FY2042** | **FY2043** | **FY2044** | **FY2045** |
| Operational Costs | $ 43,541,007 | $ 44,631,716 | $ 45,749,759 | $ 46,895,819 | $ 48,070,601 | $ 49,274,824 | $ 50,509,226 | $ 51,774,565 | $ 53,071,615 | $ 54,401,172 |
| Existing Debt Service | $ 268,800 | $ 259,200 | $ 249,600 | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Capital Program Costs | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Revenue Requirement | $ 43,809,807 | $ 44,890,916 | $ 45,999,359 | $ 46,895,819 | $ 48,070,601 | $ 49,274,824 | $ 50,509,226 | $ 51,774,565 | $ 53,071,615 | $ 54,401,172 |
| Annual Increase | 2.47% | 2.47% | 2.47% | 1.95% | 2.51% | 2.51% | 2.51% | 2.51% | 2.51% | 2.51% |
| | | | | | | | | | | |
| **Drinking Water Fund** | **FY2036** | **FY2037** | **FY2038** | **FY2039** | **FY2040** | **FY2041** | **FY2042** | **FY2043** | **FY2044** | **FY2045** |
| Operational Costs | $ 32,934,134 | $ 33,760,041 | $ 34,606,675 | $ 35,474,558 | $ 36,364,223 | $ 37,276,218 | $ 38,211,103 | $ 39,169,454 | $ 40,151,860 | $ 41,158,926 |
| Existing Debt Service | $ 473,550 | $ 474,944 | $ 470,944 | $ 466,725 | $ 466,456 | $ 270,881 | $ 269,144 | $ 267,206 | $ 265,575 | $ 258,650 |
| Capital Program Costs | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Revenue Requirement | $ 33,407,684 | $ 34,234,985 | $ 35,077,619 | $ 35,941,283 | $ 36,830,679 | $ 37,547,099 | $ 38,480,247 | $ 39,436,660 | $ 40,417,435 | $ 41,417,576 |
| Annual Increase | 2.48% | 2.48% | 2.46% | 2.46% | 2.47% | 1.95% | 2.49% | 2.49% | 2.49% | 2.47% |
| | | | | | | | | | | |
| **Stormwater Fund** | **FY2036** | **FY2037** | **FY2038** | **FY2039** | **FY2040** | **FY2041** | **FY2042** | **FY2043** | **FY2044** | **FY2045** |
| Operational Costs | $ 6,767,523 | $ 6,936,711 | $ 7,110,129 | $ 7,287,882 | $ 7,470,079 | $ 7,656,831 | $ 7,848,252 | $ 8,044,458 | $ 8,245,569 | $ 8,451,709 |
| Existing Debt Service | $ 175,700 | $ 120,175 | $ 116,725 | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Existing Capital Program Costs | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Phase 1 PCP Costs | $ 3,150,065 | $ 3,530,763 | $ 3,908,576 | $ 4,283,363 | $ 4,655,141 | $ 5,023,915 | $ 5,389,694 | $ 5,752,219 | $ 6,111,541 | $ 6,467,721 |
| Revenue Requirement | $ 10,093,288 | $ 10,587,649 | $ 11,135,429 | $ 11,571,245 | $ 12,125,220 | $ 12,680,746 | $ 13,237,945 | $ 13,796,677 | $ 14,357,111 | $ 14,919,430 |
| Annual Increase | 5.67% | 4.90% | 5.17% | 3.91% | 4.79% | 4.58% | 4.39% | 4.22% | 4.06% | 3.92% |
| | | | | | | | | | | |
| **Total Revenue Requirement** | **$ 87,310,779** | **$ 89,713,550** | **$ 92,212,407** | **$ 94,408,347** | **$ 97,026,500** | **$ 99,502,669** | **$ 102,227,419** | **$ 105,007,901** | **$ 107,846,161** | **$ 110,738,178** |
| Annual Increase | 2.83% | 2.75% | 2.79% | 2.38% | 2.77% | 2.55% | 2.74% | 2.72% | 2.70% | 2.68% |

Scenario 3: Phase 1 Alternative Schedule ($5M/annual investment)

# ATTACHMENT E - AFFORDABILITY PROJECTION

| Fiscal Year | FY2026 | FY2027 | FY2028 | FY2029 | FY2030 | FY2031 | FY2032 | FY2033 | FY2034 | FY2035 |
|---|---|---|---|---|---|---|---|---|---|---|
| Fiscal Year | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
| **Scenario 1 - Baseline Schedule** | | | | | | | | | | |
| **Revenue Requirements** | | | | | | | | | | |
| Sewer | $ 41,447,496 | $ 40,183,195 | $ 43,861,432 | $ 46,497,468 | $ 50,174,775 | $ 39,755,689 | $ 40,203,189 | $ 41,059,239 | $ 41,734,581 | $ 42,755,363 |
| Water | $ 35,126,316 | $ 42,938,103 | $ 34,658,114 | $ 40,152,530 | $ 35,655,818 | $ 31,431,529 | $ 32,110,971 | $ 32,470,933 | $ 32,418,805 | $ 32,600,222 |
| Stormwater | $ 10,687,195 | $ 17,907,442 | $ 23,121,875 | $ 22,011,262 | $ 21,408,594 | $ 21,085,291 | $ 21,364,475 | $ 21,651,651 | $ 21,886,750 | $ 22,122,608 |
| Total | $ 87,261,007 | $ 101,028,740 | $ 101,641,421 | $ 108,661,260 | $ 107,239,187 | $ 92,272,509 | $ 93,678,635 | $ 95,181,822 | $ 96,040,136 | $ 97,478,193 |
| **Residential Share of Water Flow** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** |
| **Residential Share of Revenue Requirements** | | | | | | | | | | |
| Sewer | $ 35,354,714 | $ 34,276,265 | $ 37,413,802 | $ 39,662,340 | $ 42,799,083 | $ 33,911,603 | $ 34,293,320 | $ 35,023,531 | $ 35,599,598 | $ 36,470,325 |
| Water | $ 29,962,748 | $ 36,626,202 | $ 29,563,371 | $ 34,250,108 | $ 30,414,413 | $ 26,811,094 | $ 27,390,658 | $ 27,697,706 | $ 27,653,241 | $ 27,807,990 |
| Stormwater | $ 9,116,177 | $ 15,275,048 | $ 19,722,959 | $ 18,775,607 | $ 18,261,531 | $ 17,985,753 | $ 18,223,898 | $ 18,468,858 | $ 18,669,397 | $ 18,870,585 |
| Total | $ 74,433,639 | $ 86,177,515 | $ 86,700,132 | $ 92,688,055 | $ 91,475,026 | $ 78,708,450 | $ 79,907,876 | $ 81,190,094 | $ 81,922,236 | $ 83,148,899 |
| **Number of Occupied Housing Units** | **31,778** | **31,825** | **31,873** | **31,921** | **31,969** | **32,017** | **32,065** | **32,113** | **32,161** | **32,209** |
| **Cost Per Household** | | | | | | | | | | |
| Sewer | $ 1,112.57 | $ 1,077.01 | $ 1,173.84 | $ 1,242.52 | $ 1,338.78 | $ 1,059.19 | $ 1,069.50 | $ 1,090.64 | $ 1,106.92 | $ 1,132.30 |
| Water | $ 942.89 | $ 1,150.85 | $ 927.54 | $ 1,072.97 | $ 951.38 | $ 837.41 | $ 854.23 | $ 862.51 | $ 859.84 | $ 863.36 |
| Stormwater | $ 286.87 | $ 479.97 | $ 618.80 | $ 588.19 | $ 571.23 | $ 561.76 | $ 568.35 | $ 575.13 | $ 580.50 | $ 585.88 |
| Total | $ 2,342.33 | $ 2,707.83 | $ 2,720.17 | $ 2,903.69 | $ 2,861.39 | $ 2,458.36 | $ 2,492.08 | $ 2,528.28 | $ 2,547.26 | $ 2,581.53 |
| **Median Household Income** | **$ 184,989** | **$ 185,914** | **$ 186,844** | **$ 187,778** | **$ 188,717** | **$ 189,660** | **$ 190,609** | **$ 191,562** | **$ 192,519** | **$ 193,482** |
| **Cost Per Household as a % of MHI** | | | | | | | | | | |
| Sewer | 0.60% | 0.58% | 0.63% | 0.66% | 0.71% | 0.56% | 0.56% | 0.57% | 0.57% | 0.59% |
| Water | 0.51% | 0.62% | 0.50% | 0.57% | 0.50% | 0.44% | 0.45% | 0.45% | 0.45% | 0.45% |
| Stormwater | 0.16% | 0.26% | 0.33% | 0.31% | 0.30% | 0.30% | 0.30% | 0.30% | 0.30% | 0.30% |
| **Total** | **1.27%** | **1.46%** | **1.46%** | **1.55%** | **1.52%** | **1.30%** | **1.31%** | **1.32%** | **1.32%** | **1.33%** |

Scenario 1: Baseline Phase 1 Compliance Schedule

| Fiscal Year | FY2036 | FY2037 | FY2038 | FY2039 | FY2040 | FY2041 | FY2042 | FY2043 | FY2044 |
|---|---|---|---|---|---|---|---|---|---|
| Fiscal Year | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 |
| **Scenario 1 - Baseline Schedule** | | | | | | | | | |
| **Revenue Requirements** | | | | | | | | | |
| Sewer | $ 43,809,807 | $ 44,890,916 | $ 45,999,359 | $ 46,895,819 | $ 48,070,601 | $ 49,274,824 | $ 50,509,226 | $ 51,774,565 | $ 53,071,615 |
| Water | $ 33,407,684 | $ 34,234,985 | $ 35,077,619 | $ 35,941,283 | $ 36,830,679 | $ 37,547,099 | $ 38,480,247 | $ 39,436,660 | $ 40,417,435 |
| Stormwater | $ 22,438,418 | $ 22,712,851 | $ 23,047,608 | $ 23,277,545 | $ 23,632,873 | $ 23,997,085 | $ 24,370,402 | $ 24,753,052 | $ 25,145,268 |
| Total | $ 99,655,909 | $ 101,838,752 | $ 104,124,585 | $ 106,114,647 | $ 108,534,153 | $ 110,819,008 | $ 113,359,875 | $ 115,964,277 | $ 118,634,318 |
| **Residential Share of Water Flow** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** |
| **Residential Share of Revenue Requirements** | | | | | | | | | |
| Sewer | $ 37,369,766 | $ 38,291,952 | $ 39,237,453 | $ 40,002,134 | $ 41,004,223 | $ 42,031,425 | $ 43,084,370 | $ 44,163,704 | $ 45,270,087 |
| Water | $ 28,496,754 | $ 29,202,442 | $ 29,921,209 | $ 30,657,914 | $ 31,416,569 | $ 32,027,675 | $ 32,823,651 | $ 33,639,471 | $ 34,476,072 |
| Stormwater | $ 19,139,971 | $ 19,374,062 | $ 19,659,609 | $ 19,855,746 | $ 20,158,841 | $ 20,469,513 | $ 20,787,953 | $ 21,114,353 | $ 21,448,914 |
| Total | $ 85,006,491 | $ 86,868,455 | $ 88,818,271 | $ 90,515,794 | $ 92,579,633 | $ 94,528,614 | $ 96,695,974 | $ 98,917,528 | $ 101,195,073 |
| **Number of Occupied Housing Units** | **32,257** | **32,306** | **32,354** | **32,403** | **32,451** | **32,500** | **32,549** | **32,598** | **32,647** |
| **Cost Per Household** | | | | | | | | | |
| Sewer | $ 1,158.48 | $ 1,185.29 | $ 1,212.74 | $ 1,234.52 | $ 1,263.56 | $ 1,293.27 | $ 1,323.68 | $ 1,354.81 | $ 1,386.67 |
| Water | $ 883.42 | $ 903.94 | $ 924.80 | $ 946.15 | $ 968.11 | $ 985.46 | $ 1,008.44 | $ 1,031.96 | $ 1,056.04 |
| Stormwater | $ 593.35 | $ 599.71 | $ 607.63 | $ 612.78 | $ 621.20 | $ 629.83 | $ 638.67 | $ 647.72 | $ 657.00 |
| Total | $ 2,635.25 | $ 2,688.94 | $ 2,745.17 | $ 2,793.45 | $ 2,852.86 | $ 2,908.56 | $ 2,970.79 | $ 3,034.49 | $ 3,099.71 |
| **Median Household Income** | **$ 194,449** | **$ 195,422** | **$ 196,399** | **$ 197,381** | **$ 198,368** | **$ 199,359** | **$ 200,356** | **$ 201,358** | **$ 202,365** |
| **Cost Per Household as a % of MHI** | | | | | | | | | |
| Sewer | 0.60% | 0.61% | 0.62% | 0.63% | 0.64% | 0.65% | 0.66% | 0.67% | 0.69% |
| Water | 0.45% | 0.46% | 0.47% | 0.48% | 0.49% | 0.49% | 0.50% | 0.51% | 0.52% |
| Stormwater | 0.31% | 0.31% | 0.31% | 0.31% | 0.31% | 0.32% | 0.32% | 0.32% | 0.32% |
| **Total** | **1.36%** | **1.38%** | **1.40%** | **1.42%** | **1.44%** | **1.46%** | **1.48%** | **1.51%** | **1.53%** |

| Fiscal Year | FY2045 |
|---|---|
| Fiscal Year | 2045 |
| | |
| **Scenario 1 - Baseline Schedule** | |
| | |
| **Revenue Requirements** | |
| Sewer | $ 54,401,172 |
| Water | $ 41,417,576 |
| Stormwater | $ 25,547,290 |
| Total | $ 121,366,038 |
| | |
| **Residential Share of Water Flow** | **85.30%** |
| | |
| **Residential Share of Revenue Requirements** | |
| Sewer | $ 46,404,199 |
| Water | $ 35,329,193 |
| Stormwater | $ 21,791,838 |
| Total | $ 103,525,230 |
| | |
| **Number of Occupied Housing Units** | **32,696** |
| | |
| **Cost Per Household** | |
| Sewer | $ 1,419.28 |
| Water | $ 1,080.55 |
| Stormwater | $ 666.51 |
| Total | $ 3,166.34 |
| | |
| **Median Household Income** | **$ 203,377** |
| | |
| **Cost Per Household as a % of MHI** | |
| Sewer | 0.70% |
| Water | 0.53% |
| Stormwater | 0.33% |
| **Total** | **1.56%** |

Scenario 1: Baseline Phase 1 Compliance Schedule

| Fiscal Year | FY2026 | FY2027 | FY2028 | FY2029 | FY2030 | FY2031 | FY2032 | FY2033 | FY2034 | FY2035 |
|---|---|---|---|---|---|---|---|---|---|---|
| Fiscal Year | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
| **Scenario 2 - Full PCP Implementation Schedule** | | | | | | | | | | |
| **Revenue Requirements** | | | | | | | | | | |
| Sewer | $ 41,447,496 | $ 40,183,195 | $ 43,861,432 | $ 46,497,468 | $ 50,174,775 | $ 39,755,689 | $ 40,203,189 | $ 41,059,239 | $ 41,734,581 | $ 42,755,363 |
| Water | $ 35,126,316 | $ 42,938,103 | $ 34,658,114 | $ 40,152,530 | $ 35,655,818 | $ 31,431,529 | $ 32,110,971 | $ 32,470,933 | $ 32,418,805 | $ 32,600,222 |
| Stormwater | $ 10,687,195 | $ 17,907,442 | $ 23,121,875 | $ 22,755,434 | $ 22,171,370 | $ 24,133,365 | $ 24,488,752 | $ 39,189,430 | $ 39,594,194 | $ 40,003,960 |
| Total | $ 87,261,007 | $ 101,028,740 | $ 101,641,421 | $ 109,405,432 | $ 108,001,962 | $ 95,320,583 | $ 96,802,912 | $ 112,719,601 | $ 113,747,580 | $ 115,359,545 |
| **Residential Share of Water Flow** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** |
| **Residential Share of Revenue Requirements** | | | | | | | | | | |
| Sewer | $ 35,354,714 | $ 34,276,265 | $ 37,413,802 | $ 39,662,340 | $ 42,799,083 | $ 33,911,603 | $ 34,293,320 | $ 35,023,531 | $ 35,599,598 | $ 36,470,325 |
| Water | $ 29,962,748 | $ 36,626,202 | $ 29,563,371 | $ 34,250,108 | $ 30,414,413 | $ 26,811,094 | $ 27,390,658 | $ 27,697,706 | $ 27,653,241 | $ 27,807,990 |
| Stormwater | $ 9,116,177 | $ 15,275,048 | $ 19,722,959 | $ 19,410,385 | $ 18,912,178 | $ 20,585,761 | $ 20,888,905 | $ 33,428,584 | $ 33,773,848 | $ 34,123,378 |
| Total | $ 74,433,639 | $ 86,177,515 | $ 86,700,132 | $ 93,322,833 | $ 92,125,674 | $ 81,308,458 | $ 82,572,884 | $ 96,149,820 | $ 97,026,686 | $ 98,401,692 |
| **Number of Occupied Housing Units** | **31,778** | **31,825** | **31,873** | **31,921** | **31,969** | **32,017** | **32,065** | **32,113** | **32,161** | **32,209** |
| **Cost Per Household** | | | | | | | | | | |
| Sewer | $ 1,112.57 | $ 1,077.01 | $ 1,173.84 | $ 1,242.52 | $ 1,338.78 | $ 1,059.19 | $ 1,069.50 | $ 1,090.64 | $ 1,106.92 | $ 1,132.30 |
| Water | $ 942.89 | $ 1,150.85 | $ 927.54 | $ 1,072.97 | $ 951.38 | $ 837.41 | $ 854.23 | $ 862.51 | $ 859.84 | $ 863.36 |
| Stormwater | $ 286.87 | $ 479.97 | $ 618.80 | $ 608.08 | $ 591.58 | $ 642.97 | $ 651.46 | $ 1,040.97 | $ 1,050.15 | $ 1,059.43 |
| Total | $ 2,342.33 | $ 2,707.83 | $ 2,720.17 | $ 2,923.57 | $ 2,881.75 | $ 2,539.57 | $ 2,575.20 | $ 2,994.13 | $ 3,016.91 | $ 3,055.08 |
| **Median Household Income** | **$ 184,989** | **$ 185,914** | **$ 186,844** | **$ 187,778** | **$ 188,717** | **$ 189,660** | **$ 190,609** | **$ 191,562** | **$ 192,519** | **$ 193,482** |
| **Cost Per Household as a % of MHI** | | | | | | | | | | |
| Sewer | 0.60% | 0.58% | 0.63% | 0.66% | 0.71% | 0.56% | 0.56% | 0.57% | 0.57% | 0.59% |
| Water | 0.51% | 0.62% | 0.50% | 0.57% | 0.50% | 0.44% | 0.45% | 0.45% | 0.45% | 0.45% |
| Stormwater | 0.16% | 0.26% | 0.33% | 0.32% | 0.31% | 0.34% | 0.34% | 0.54% | 0.55% | 0.55% |
| **Total** | **1.27%** | **1.46%** | **1.46%** | **1.56%** | **1.53%** | **1.34%** | **1.35%** | **1.56%** | **1.57%** | **1.58%** |

| Fiscal Year | FY2036 | FY2037 | FY2038 | FY2039 | FY2040 | FY2041 | FY2042 | FY2043 | FY2044 |
|---|---|---|---|---|---|---|---|---|---|
| Fiscal Year | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 |
| **Scenario 2 - Full PCP Implementation Schedule** | | | | | | | | | |
| **Revenue Requirements** | | | | | | | | | |
| Sewer | $ 43,809,807 | $ 44,890,916 | $ 45,999,359 | $ 46,895,819 | $ 48,070,601 | $ 49,274,824 | $ 50,509,226 | $ 51,774,565 | $ 53,071,615 |
| Water | $ 33,407,684 | $ 34,234,985 | $ 35,077,619 | $ 35,941,283 | $ 36,830,679 | $ 37,547,099 | $ 38,480,247 | $ 39,436,660 | $ 40,417,435 |
| Stormwater | $ 45,639,871 | $ 46,225,561 | $ 79,916,907 | $ 80,676,620 | $ 81,574,970 | $ 82,495,778 | $ 83,439,606 | $ 84,407,030 | $ 85,398,640 |
| Total | $ 122,857,362 | $ 125,351,462 | $ 160,993,884 | $ 163,513,722 | $ 166,476,250 | $ 169,317,701 | $ 172,429,079 | $ 175,618,255 | $ 178,887,690 |
| **Residential Share of Water Flow** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** |
| **Residential Share of Revenue Requirements** | | | | | | | | | |
| Sewer | $ 37,369,766 | $ 38,291,952 | $ 39,237,453 | $ 40,002,134 | $ 41,004,223 | $ 42,031,425 | $ 43,084,370 | $ 44,163,704 | $ 45,270,087 |
| Water | $ 28,496,754 | $ 29,202,442 | $ 29,921,209 | $ 30,657,914 | $ 31,416,569 | $ 32,027,675 | $ 32,823,651 | $ 33,639,471 | $ 34,476,072 |
| Stormwater | $ 38,930,810 | $ 39,430,404 | $ 68,169,122 | $ 68,817,157 | $ 69,583,449 | $ 70,368,898 | $ 71,173,984 | $ 71,999,197 | $ 72,845,040 |
| Total | $ 104,797,330 | $ 106,924,797 | $ 137,327,783 | $ 139,477,205 | $ 142,004,241 | $ 144,427,999 | $ 147,082,005 | $ 149,802,371 | $ 152,591,199 |
| **Number of Occupied Housing Units** | **32,257** | **32,306** | **32,354** | **32,403** | **32,451** | **32,500** | **32,549** | **32,598** | **32,647** |
| **Cost Per Household** | | | | | | | | | |
| Sewer | $ 1,158.48 | $ 1,185.29 | $ 1,212.74 | $ 1,234.52 | $ 1,263.56 | $ 1,293.27 | $ 1,323.68 | $ 1,354.81 | $ 1,386.67 |
| Water | $ 883.42 | $ 903.94 | $ 924.80 | $ 946.15 | $ 968.11 | $ 985.46 | $ 1,008.44 | $ 1,031.96 | $ 1,056.04 |
| Stormwater | $ 1,206.88 | $ 1,220.53 | $ 2,106.95 | $ 2,123.80 | $ 2,144.23 | $ 2,165.19 | $ 2,186.68 | $ 2,208.72 | $ 2,231.32 |
| Total | $ 3,248.78 | $ 3,309.76 | $ 4,244.49 | $ 4,304.47 | $ 4,375.90 | $ 4,443.92 | $ 4,518.80 | $ 4,595.49 | $ 4,674.03 |
| **Median Household Income** | **$ 194,449** | **$ 195,422** | **$ 196,399** | **$ 197,381** | **$ 198,368** | **$ 199,359** | **$ 200,356** | **$ 201,358** | **$ 202,365** |
| **Cost Per Household as a % of MHI** | | | | | | | | | |
| Sewer | 0.60% | 0.61% | 0.62% | 0.63% | 0.64% | 0.65% | 0.66% | 0.67% | 0.69% |
| Water | 0.45% | 0.46% | 0.47% | 0.48% | 0.49% | 0.49% | 0.50% | 0.51% | 0.52% |
| Stormwater | 0.62% | 0.62% | 1.07% | 1.08% | 1.08% | 1.09% | 1.09% | 1.10% | 1.10% |
| **Total** | **1.67%** | **1.69%** | **2.16%** | **2.18%** | **2.21%** | **2.23%** | **2.26%** | **2.28%** | **2.31%** |

| Fiscal Year | FY2045 |
|---|---|
| Fiscal Year | 2045 |
| | |
| **Scenario 2 - Full PCP Implementation Schedule** | |
| | |
| **Revenue Requirements** | |
| Sewer | $ 54,401,172 |
| Water | $ 41,417,576 |
| Stormwater | $ 86,415,040 |
| Total | $ 182,233,788 |
| | |
| **Residential Share of Water Flow** | **85.30%** |
| | |
| **Residential Share of Revenue Requirements** | |
| Sewer | $ 46,404,199 |
| Water | $ 35,329,193 |
| Stormwater | $ 73,712,029 |
| Total | $ 155,445,421 |
| | |
| **Number of Occupied Housing Units** | **32,696** |
| | |
| **Cost Per Household** | |
| Sewer | $ 1,419.28 |
| Water | $ 1,080.55 |
| Stormwater | $ 2,254.49 |
| Total | $ 4,754.32 |
| | |
| **Median Household Income** | **$ 203,377** |
| | |
| **Cost Per Household as a % of MHI** | |
| Sewer | 0.70% |
| Water | 0.53% |
| Stormwater | 1.11% |
| **Total** | **2.34%** |

Scenario 2: Full PCP Schedule Implementation

| Fiscal Year | FY2026 | FY2027 | FY2028 | FY2029 | FY2030 | FY2031 | FY2032 | FY2033 | FY2034 | FY2035 |
|---|---|---|---|---|---|---|---|---|---|---|
| Fiscal Year | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
| **Scenario 3 - Alternative Phase 1 Timeline** | | | | | | | | | | |
| **Revenue Requirements** | | | | | | | | | | |
| Sewer | $ 41,447,496 | $ 40,183,195 | $ 43,861,432 | $ 46,497,468 | $ 50,174,775 | $ 39,755,689 | $ 40,203,189 | $ 41,059,239 | $ 41,734,581 | $ 42,755,363 |
| Water | $ 35,126,316 | $ 42,938,103 | $ 34,658,114 | $ 40,152,530 | $ 35,655,818 | $ 31,431,529 | $ 32,110,971 | $ 32,470,933 | $ 32,418,805 | $ 32,600,222 |
| Stormwater | $ 10,187,195 | $ 11,750,605 | $ 9,782,151 | $ 7,984,662 | $ 7,647,276 | $ 7,582,926 | $ 8,615,048 | $ 8,607,601 | $ 9,082,786 | $ 9,551,627 |
| Total | $ 86,761,007 | $ 94,871,903 | $ 88,301,697 | $ 94,634,660 | $ 93,477,869 | $ 78,770,144 | $ 80,929,208 | $ 82,137,772 | $ 83,236,172 | $ 84,907,212 |
| **Residential Share of Water Flow** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** |
| **Residential Share of Revenue Requirements** | | | | | | | | | | |
| Sewer | $ 35,354,714 | $ 34,276,265 | $ 37,413,802 | $ 39,662,340 | $ 42,799,083 | $ 33,911,603 | $ 34,293,320 | $ 35,023,531 | $ 35,599,598 | $ 36,470,325 |
| Water | $ 29,962,748 | $ 36,626,202 | $ 29,563,371 | $ 34,250,108 | $ 30,414,413 | $ 26,811,094 | $ 27,390,658 | $ 27,697,706 | $ 27,653,241 | $ 27,807,990 |
| Stormwater | $ 8,689,677 | $ 10,023,266 | $ 8,344,175 | $ 6,810,916 | $ 6,523,127 | $ 6,468,236 | $ 7,348,636 | $ 7,342,284 | $ 7,747,617 | $ 8,147,538 |
| Total | $ 74,007,139 | $ 80,925,734 | $ 75,321,348 | $ 80,723,365 | $ 79,736,622 | $ 67,190,933 | $ 69,032,614 | $ 70,063,520 | $ 71,000,455 | $ 72,425,852 |
| **Number of Occupied Housing Units** | **31,778** | **31,825** | **31,873** | **31,921** | **31,969** | **32,017** | **32,065** | **32,113** | **32,161** | **32,209** |
| **Cost Per Household** | | | | | | | | | | |
| Sewer | $ 1,112.57 | $ 1,077.01 | $ 1,173.84 | $ 1,242.52 | $ 1,338.78 | $ 1,059.19 | $ 1,069.50 | $ 1,090.64 | $ 1,106.92 | $ 1,132.30 |
| Water | $ 942.89 | $ 1,150.85 | $ 927.54 | $ 1,072.97 | $ 951.38 | $ 837.41 | $ 854.23 | $ 862.51 | $ 859.84 | $ 863.36 |
| Stormwater | $ 273.45 | $ 314.95 | $ 261.79 | $ 213.37 | $ 204.05 | $ 202.03 | $ 229.18 | $ 228.64 | $ 240.90 | $ 252.96 |
| Total | $ 2,328.91 | $ 2,542.81 | $ 2,363.17 | $ 2,528.86 | $ 2,494.21 | $ 2,098.63 | $ 2,152.92 | $ 2,181.80 | $ 2,207.66 | $ 2,248.61 |
| **Median Household Income** | **$ 184,989** | **$ 185,914** | **$ 186,844** | **$ 187,778** | **$ 188,717** | **$ 189,660** | **$ 190,609** | **$ 191,562** | **$ 192,519** | **$ 193,482** |
| **Cost Per Household as a % of MHI** | | | | | | | | | | |
| Sewer | 0.60% | 0.58% | 0.63% | 0.66% | 0.71% | 0.56% | 0.56% | 0.57% | 0.57% | 0.59% |
| Water | 0.51% | 0.62% | 0.50% | 0.57% | 0.50% | 0.44% | 0.45% | 0.45% | 0.45% | 0.45% |
| Stormwater | 0.15% | 0.17% | 0.14% | 0.11% | 0.11% | 0.11% | 0.12% | 0.12% | 0.13% | 0.13% |
| **Total** | **1.26%** | **1.37%** | **1.26%** | **1.35%** | **1.32%** | **1.11%** | **1.13%** | **1.14%** | **1.15%** | **1.16%** |

Scenario 3: Phase 1 Alternative Schedule ($5M/annual investment)

| Fiscal Year | FY2036 | FY2037 | FY2038 | FY2039 | FY2040 | FY2041 | FY2042 | FY2043 | FY2044 | FY2045 |
|---|---|---|---|---|---|---|---|---|---|---|
| Fiscal Year | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 |
| **Scenario 3 - Alternative Phase 1 Timeline** | | | | | | | | | | |
| **Revenue Requirements** | | | | | | | | | | |
| Sewer | $ 43,809,807 | $ 44,890,916 | $ 45,999,359 | $ 46,895,819 | $ 48,070,601 | $ 49,274,824 | $ 50,509,226 | $ 51,774,565 | $ 53,071,615 | $ 54,401,172 |
| Water | $ 33,407,684 | $ 34,234,985 | $ 35,077,619 | $ 35,941,283 | $ 36,830,679 | $ 37,547,099 | $ 38,480,247 | $ 39,436,660 | $ 40,417,435 | $ 41,417,576 |
| Stormwater | $ 10,093,288 | $ 10,587,649 | $ 11,135,429 | $ 11,571,245 | $ 12,125,220 | $ 12,680,746 | $ 13,237,945 | $ 13,796,677 | $ 14,357,111 | $ 14,919,430 |
| Total | $ 87,310,779 | $ 89,713,550 | $ 92,212,407 | $ 94,408,347 | $ 97,026,500 | $ 99,502,669 | $ 102,227,419 | $ 105,007,901 | $ 107,846,161 | $ 110,738,178 |
| **Residential Share of Water Flow** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** | **85.30%** |
| **Residential Share of Revenue Requirements** | | | | | | | | | | |
| Sewer | $ 37,369,766 | $ 38,291,952 | $ 39,237,453 | $ 40,002,134 | $ 41,004,223 | $ 42,031,425 | $ 43,084,370 | $ 44,163,704 | $ 45,270,087 | $ 46,404,199 |
| Water | $ 28,496,754 | $ 29,202,442 | $ 29,921,209 | $ 30,657,914 | $ 31,416,569 | $ 32,027,675 | $ 32,823,651 | $ 33,639,471 | $ 34,476,072 | $ 35,329,193 |
| Stormwater | $ 8,609,575 | $ 9,031,265 | $ 9,498,521 | $ 9,870,272 | $ 10,342,812 | $ 10,816,676 | $ 11,291,967 | $ 11,768,565 | $ 12,246,615 | $ 12,726,274 |
| Total | $ 74,476,095 | $ 76,525,658 | $ 78,657,183 | $ 80,530,320 | $ 82,763,604 | $ 84,875,777 | $ 87,199,988 | $ 89,571,740 | $ 91,992,775 | $ 94,459,666 |
| **Number of Occupied Housing Units** | **32,257** | **32,306** | **32,354** | **32,403** | **32,451** | **32,500** | **32,549** | **32,598** | **32,647** | **32,696** |
| **Cost Per Household** | | | | | | | | | | |
| Sewer | $ 1,158.48 | $ 1,185.29 | $ 1,212.74 | $ 1,234.52 | $ 1,263.56 | $ 1,293.27 | $ 1,323.68 | $ 1,354.81 | $ 1,386.67 | $ 1,419.28 |
| Water | $ 883.42 | $ 903.94 | $ 924.80 | $ 946.15 | $ 968.11 | $ 985.46 | $ 1,008.44 | $ 1,031.96 | $ 1,056.04 | $ 1,080.55 |
| Stormwater | $ 266.90 | $ 279.55 | $ 293.58 | $ 304.61 | $ 318.72 | $ 332.82 | $ 346.92 | $ 361.02 | $ 375.13 | $ 389.24 |
| Total | $ 2,308.80 | $ 2,368.78 | $ 2,431.12 | $ 2,485.28 | $ 2,550.38 | $ 2,611.55 | $ 2,679.05 | $ 2,747.79 | $ 2,817.83 | $ 2,889.06 |
| **Median Household Income** | **$ 194,449** | **$ 195,422** | **$ 196,399** | **$ 197,381** | **$ 198,368** | **$ 199,359** | **$ 200,356** | **$ 201,358** | **$ 202,365** | **$ 203,377** |
| **Cost Per Household as a % of MHI** | | | | | | | | | | |
| Sewer | 0.60% | 0.61% | 0.62% | 0.63% | 0.64% | 0.65% | 0.66% | 0.67% | 0.69% | 0.70% |
| Water | 0.45% | 0.46% | 0.47% | 0.48% | 0.49% | 0.49% | 0.50% | 0.51% | 0.52% | 0.53% |
| Stormwater | 0.14% | 0.14% | 0.15% | 0.15% | 0.16% | 0.17% | 0.17% | 0.18% | 0.19% | 0.19% |
| **Total** | **1.19%** | **1.21%** | **1.24%** | **1.26%** | **1.29%** | **1.31%** | **1.34%** | **1.36%** | **1.39%** | **1.42%** |

Scenario 3: Phase 1 Alternative Schedule ($5M/annual investment)

# ATTACHMENT F - FINANCIAL ALTERNATIVES ANALYSIS CHECKLIST

| Financial Alternatives Analysis Worksheet - City of Newton, MA | | | |
|---|---|---|---|
| **Financial Alternatives Analysis** | **Describe how Financial Alternative has been implemented or considered. Where considered, include any plans from community to pursue Alternative** | **Where tools not pursued, describe any associated challenges with the Alternative (e.g., impact to bond rating, interest rate not favorable)** | **Describe outcomes of Alternative (e.g., grant applied for, loan not pursued)** |
| **1. Financing Options for Capital Costs:** | | | |
| a) Has the community discussed financing options, including timing, terms, and potential grants or forgiveness, with the responsible State Revolving Fund? | Yes, the City has discussed financing options with the Massachusetts Clean Water State Revolving Fund. The City has submitted Project Evaluation Forms (PEF) to enable application specifically for stormwater funding. | Amount of funding available within the CWSRF limits potential award amount. In calendar year 2025, MassDEP offered $890.8M to finance 25 new wastewater projects. | For the Callender year 2025 CWSRF Intended Use Plan (IUP), the City scored below the line of fundable projects for their PCP Structural Stormwater Control Implementation submission. |
| b) What additional funding sources beyond the SRF such as grants, low-cost loans, or extended term loans has the community considered? | The City has also considered grants and low-cost loans from the following funding sources: Costal Pollutant Remediation Grant, MS4 Municipal Assistance Grant Program, Section 604(b) Water Quality Management Planning Grant Program, Section 319 Water Quality Management Planning Grant Program, and the Massachusetts Municipal Vulnerability Preparedness Grant Program. | Several alternative grant programs have smaller maximum award amounts. | The City applied for and awarded a 2024 Asset Management Plan Grant from SRF. However, the awarding agency revised scope eligibility after award; therefore, making it no longer applicable to stormwater phosphorus reduction. The city applied for and was awarded a 2024 SRF loan, however, the City opted to decline funds; the projects that were submitted required due diligence investigations prior to advancing design and construction. The City applied for and was awarded a FY24 CZM Costal Habitat and Water Quality Grant. The City applied for and was awarded a FY25 Municipal Vulnerability Preparedness Grant. The City applied for and was awarded a FY25 State Budget Earmark. The City applied for and was awarded a FY25 CZM Costal Habitat and Water Quality Grant, however, the City opted to decline funds to prioritize pursuing potential SRF projects which had been successful previously. The City retains Woodard & Curran which provides strategic fiscal solutions to match potential funding sources to capital projects where possible. |
| c) Has the community considered special assessment districts to finance geographically defined project work? | Not applicable. The Phosphorus Control Plan requirements reflect Citywide improvements and are not localized to a particular geographic area. | Not applicable. | Not applicable. |

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|---|---|---|---|
| d) Has the community considered other revenue sources such as sales or property taxes, rental income from water tower leases, or other potential sources of support? | Given the scale of the proposed capital investment to address PCP regulatory requirements, the City may need to utilize Ad Valorem property tax as a revenue stream to demonstrate repayment on any financial note or bond issuance. The City does maintain a stormwater enterprise fund with revenue generated from stormwater fees which can be used for some capital improvements. | The Stormwater fee or ad valorem taxation would need to be raised in order to pledge debt service associated with the stormwater improvements. | Regular, modest, stormwater fee increases have occurred; however the significant fee increase necessary to address this scale of investment has not yet occurred. |
| e) Has the community evaluated how it can reduce overall operating and program costs? | Not applicable. | It is not feasible for the City to reduce overall operating costs as the capital projects included add infrastructure that the City will be responsible for operating and maintaining. Likewise, program costs associated with the PCP cannot be reduced because the costs associated with the program are regulatory requirements. | City continues to seek cost effective implementation; however due to existing site constraints, and regulations/crediting policies the city must to pursue less cost effective implementation measures to achieve reductions |
| > Other Considerations: | | | |
| **2. Rate Design:** | | | |
| a) In what ways has the community evaluated modifications to its rate structure that could increase revenue and/or reduce burden on the lowest income residents? | The City does have a water and sewer rate discount program for eligible residents meeting certain age and income levels. | Not applicable. | Not applicable. |
| b) Has the community prepared a forward-looking financial plan and rate analysis within the last five years? If so, was the plan implemented? | Not applicable. | Not applicable. | Not applicable. |

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|---|---|---|---|
| c) Does the community have identified separate rate structures for commercial, industrial, and wholesale customers reflecting their particular demands on the collection and treatment system? Has the utility considered tier-based rates? | The City does not have different rates for non-residential customers for water and sewer. The City does have different stormwater fees for non-residential and residential customers. Residential users pay a flat fee for stormwater while non-residential and multi-family over 4-units pay a stormwater fee based on impervious square footage The City does have tier-based rates for their water and sewer utilities. | Not applicable. | Not applicable. |
| d) Does the community use inclining block rates that charger higher per gallon rates for higher increments of use? | The City does utilize an inclining block rate structure for water and sewer usage. The stormwater fee is a flat fee for residential users and a fee per impervious square foot for commercial users. | Not applicable. | Inclining block rates already in use. |
| e) If charging a flat fee, has the community considered switching to a volumetric fee so that high-output customers pay for the wastewater they generate? | Not applicable. | Not applicable. | Not applicable. |
| > Other Considerations: | | | |
| **3. Ratepayer Support Options for Lower Income Residential Customers:** | | | |
| a) Does the community currently have, or looked into, setting up a CAP? | The City does offer customers with a 12-month payment plan to help ease impacts on residents. The 12-month payment plan offers payments in equal installments, or with a ballon payment and does not charge interest for either option. | The City does not have a formal CAP established. | 12-month payment plan offers some financial flexibility for customers. |
| b) If you have a CAP, what is the enrollment rate? What efforts have been made to ensure low-income households are informed about the program and enroll? Are there ways to make the application process easier for customers to enroll, e.g., by providing for enrollment in-person, online, and mail, in multiple languages, if appropriate; partnering with local organizations to help with outreach and enrollment; allowing for automatic enrollment or using proof of eligibility for other income-qualified benefits? | Not applicable. | Not applicable. | Not applicable. |

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|---|---|---|---|
| c) Has the community considered other types of customer support beyond a CAP for lower income residential customers? | Not applicable. | Not applicable. | Not applicable. |
| d) Are there policies in place to protect customers, including vulnerable populations, from shutoffs? | The City does not have a specific policy to protect vulnerable populations from shutoffs. However, the City's code does note the commissioner of public works may cut off the water supply unless such bill is due and unpaid from another and previous owner or occupant. This indicates the decision to cut off water supply is at the discretion of the commissioner of public works. | Not applicable. | The commissioner of public works may decide not to cut off water supply. |
| e) Does the community have reduced rates for vulnerable populations, such as seniors on fixed incomes? | The City of Newton does offer a Water and Sewer discount program to eligible taxpayers. Taxpayers over the age of 65 years old and with income below a specified amount are eligible for a 30% discount on their water and sewer bills. https://www.newtonma.gov/home/showpublisheddocument/38/638554274025570000 | Not applicable. | The City has implemented a discount program. |
| > Other Considerations: | | | |
| **4. Financial and Utility Management:** | | | |
| a) Is the utility accounted for as a proprietary/enterprise fund or a separate independent utility? | The City maintains separate proprietary enterprise funds to account for water, sewer, and stormwater. | The enterprise funds are also supported by the Public Works department to a degree. | The City has separate enterprise funds. |

| Financial Alternatives Analysis | Describe how Financial Alternative has been implemented or considered. Where considered, include any plans from community to pursue Alternative | Where tools not pursued, describe any associated challenges with the Alternative (e.g., impact to bond rating, interest rate not favorable) | Describe outcomes of Alternative (e.g., grant applied for, loan not pursued) |
|---|---|---|---|
| b) Are all rate revenues or other user charges used to fund the utility's operations? Do the rates charged recover the full cost of providing wastewater services (taking into consideration capital costs, operation and maintenance expenses, and environmental costs)? | All rate revenues and other user charges are sufficient to fully recover the cost of providing water, sewer, and stormwater services. The revenues recover all capital, operation and maintenance, and debt service expenses. | The user charges for the Stormwater fund are unlikely to be sufficient in the near future as the City works to meet regulatory compliance for the PCP. The capital costs anticipated to comply with the PCP would require the Stormwater fee to increase substantially. Within 3 to 5 years, annual debt service associated with just the capital costs of the PCP Phase 1 will top $9M annually (more than double the current stormwater operating revenues). | The City does run their utilities operations proactively. However, as stated the level of investment required for the PCP Phase 1 will place significant strain on the City's Stormwater fund. Existing stormwater fees will not support the PCP - the existing stormwater fee generates approximately $5-6M - the fee would effectively need to triple to cover existing costs and debt service costs for the PCP. |
| c) Does the utility have programs to optimize maintenance and asset management to reduce life cycle costs? | The City has applied for funding through SRF to implement Asset Management Planning. The City is committed to optimizing asset management and reduce life cycle cost where feasible. | Limited funding availability through the SRF program may extend or delay efforts to implement Asset Management programs. | The City applied for and was awarded a 2024 Asset Management Plan grant from SRF. However, the awarding agency revised scope eligibility after award; and therefore is no longer applicable to stormwater phosphorus reduction. |
| d) Are partnerships with other utilities, including joint procurement, or shared management and staffing arrangements, regionalization or consolidation options to proved economies of scale and reduce per customer costs feasible in this community? | Yes, the City is a member of the Massachusetts Water Resources Authority (MWRA) which provides wholesale water and sewer services. MWRA provides services to approximately 61 communities in Massachusetts. MWRA's members may realize economies of scale given the large member network. | Not applicable. | The City maintains a partnership with MWRA. |
| e) Has the utility or related municipality instituted a stormwater management program when evaluating long-term control plan schedules? If so, are impervious area-based stormwater fees used to fund the stormwater compliance costs? | The City has instituted a stormwater management program in order to comply with the PCP efforts and regulatory requirements. The City does have impervious area-based stormwater fees for non-residential users and a flat fee for residential users. | As stated, given the high capital cost anticipated with meeting the PCP regulatory requirements, the existing stormwater fees are inadequate to fully fund the cost of stormwater compliance. Beyond stormwater fee revenue, costs associated with PCP compliance remain an unfunded regulatory requirement. | The City is making good faith efforts to institute a stormwater management program and maintain regulatory compliance. However, the City will require financial assistance and/or schedule modifications to effectively implement their stormwater management program, ultimately improving public health and water quality. |

| Financial Alternatives Analysis | Describe how Financial Alternative has been implemented or considered. Where considered, include any plans from community to pursue Alternative | Where tools not pursued, describe any associated challenges with the Alternative (e.g., impact to bond rating, interest rate not favorable) | Describe outcomes of Alternative (e.g., grant applied for, loan not pursued) |
|---|---|---|---|
| f) Does the utility provide direct financial assistance (through rebates, upfront subsidies, or direct replacement of fixtures) for efficiency improvements including leak repairs or replacement of inefficient fixtures or appliances? | Not applicable. | Not applicable. | Not applicable. |
| > Other Considerations: | | | |

# APPENDIX B: PROPOSED PHASE 1 ALTERNATIVE SCHEDULE

Newton, Massachusetts
September 2025

# Phase 1 Phosphorus Control Plan Proposed Alternative Schedule

| | | PY8 - 2026 | PY9 - 2027 | PY10 - 2028 | PY11 - 2029 | PY12 - 2030 | PY13 - 2031 | PY14 - 2032 | PY15 - 2033 | PY16 - 2034 | PY17 - 2035 | PY18 - 2036 | PY19 - 2037 | PY20 - 2038 | PY21 - 2039 | PY22 - 2040 | PY23 - 2041 | PY24 - 2042 | PY25 - 2043 | PY26 - 2044 | PY27 - 2045 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Available Credit per Year (lbs/yr)** | Private Redevelopment | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| | Municipal Roadway Projects | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | **Sum** | **22** | **22** | **22** | **22** | **22** | **22** | **22** | **22** | **22** | **22** | **22** | **22** | **22** | **22** | **22** | **22** | **22** | **22** | **22** | **22** |
| **Planned Structural SCM Project Credit (lbs/yr)** | Planning/Due Diligence | 39.6 | 38.0 | 36.5 | 35.4 | 30.3 | 32.8 | 31.3 | 29.9 | 29.6 | 28.6 | 27.5 | 26.4 | 25.3 | 24.4 | 23.3 | 22.3 | 21.4 | 27.7 | - | - |
| | Permitting/Design | 28.2 | 39.6 | 38.0 | 36.5 | 35.4 | 30.3 | 32.8 | 31.3 | 29.9 | 29.6 | 28.6 | 27.5 | 26.4 | 25.3 | 24.4 | 23.3 | 22.3 | 21.4 | 27.7 | - |
| | **Constructed Credit** | **18.1** | **28.2** | **39.6** | **38.0** | **36.5** | **35.4** | **30.3** | **32.8** | **31.3** | **29.9** | **29.6** | **28.6** | **27.5** | **26.4** | **25.3** | **24.4** | **23.3** | **22.3** | **21.4** | **27.7** |
| Credit Sum per Year | | 40.1 | 50.2 | 61.6 | 60.0 | 58.5 | 57.4 | 52.3 | 54.8 | 53.3 | 51.9 | 51.6 | 50.6 | 49.5 | 48.4 | 47.3 | 46.4 | 45.3 | 44.3 | 43.4 | 49.7 |
| Cumulative Credit | | 40.1 | 90.3 | 151.9 | 211.9 | 270.4 | 327.8 | 380.1 | 434.9 | 488.2 | 540.1 | 591.6 | 642.2 | 691.7 | 740.1 | 787.4 | 833.8 | 879.1 | 923.4 | 966.8 | 1,016.5 |
| **Phase 1 Load Reduction Gap** | | **969.0** | **918.8** | **857.2** | **797.2** | **738.7** | **681.3** | **629.0** | **574.2** | **520.9** | **469.0** | **417.5** | **366.9** | **317.4** | **269.0** | **221.7** | **175.3** | **130.0** | **85.7** | **42.3** | **-7.4** |
| | | | | | | | | | | | | | | | | **PY8 Met** | | | | | **PY10 Met** |

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Average Construction & O&M Cost Benefit Estimate from PCP Priority Projects ($/pound of TP removed)** | | | | | | | | | | | | | | | | | | | | | |
| Construction Cost Benefit ($/lb removed) | | $81,000 | $84,000 | $87,000 | $90,000 | $93,000 | $96,000 | $99,000 | $102,000 | $106,000 | $110,000 | $114,000 | $118,000 | $122,000 | $126,000 | $130,000 | $134,000 | $139,000 | $144,000 | $149,000 | $154,000 |
| O&M Cost ($/lb removed) | | $930 | $960 | $990 | $1,020 | $1,060 | $1,100 | $1,140 | $1,180 | $1,220 | $1,260 | $1,300 | $1,340 | $1,390 | $1,440 | $1,490 | $1,540 | $1,590 | $1,640 | $1,690 | $1,750 |
| Total Construction + O&M Cost ($/lb) | | $81,930 | $84,960 | $87,990 | $91,020 | $94,060 | $97,100 | $100,140 | $103,180 | $107,220 | $111,260 | $115,300 | $119,340 | $123,390 | $127,440 | $131,490 | $135,540 | $140,590 | $145,640 | $150,690 | $155,750 |
| **Annual City Investment** | | | | | | | | | | | | | | | | | | | | | |
| Annual City Investment | | $950,000 | $3,587,000 | $5,000,000 | $5,000,000 | $5,000,000 | $5,000,000 | $5,000,000 | $5,000,000 | $5,000,000 | $5,000,000 | $5,000,000 | $5,000,000 | $5,000,000 | $5,000,000 | $5,000,000 | $5,000,000 | $5,000,000 | $5,000,000 | $5,000,000 | $5,000,000 |
| **Implementation Cost Components** | | | | | | | | | | | | | | | | | | | | | |
| Planning/Due Diligence | | $200,000 | $250,000 | $250,000 | $250,000 | $250,000 | $200,000 | $200,000 | $200,000 | $200,000 | $200,000 | $50,000 | - | - | - | - | - | - | - | - | - |
| PCP Phase 2 & 3 Planning | | - | $500,000 | - | - | - | - | $500,000 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cumulative Previous Years' O&M Cost | | - | $16,840 | $43,920 | $83,150 | $121,900 | $160,550 | $199,490 | $234,080 | $272,770 | $310,940 | $348,610 | $387,050 | $425,420 | $463,600 | $501,580 | $539,350 | $576,910 | $613,980 | $650,570 | $686,710 |
| **Design and Capital Improvements** | | | | | | | | | | | | | | | | | | | | | |
| Remaining Funds Available | | - | - | $4,706,080 | $4,666,850 | $4,628,100 | $4,639,450 | $4,100,510 | $4,565,920 | $4,527,230 | $4,489,060 | $4,601,390 | $4,612,950 | $4,574,580 | $4,536,400 | $4,498,420 | $4,460,650 | $4,423,090 | $4,386,020 | $4,349,430 | $4,313,290 |
| Design | | $750,000 | $750,000 | $1,220,080 | $1,209,850 | $1,199,100 | $1,202,450 | $1,062,510 | $1,182,920 | $1,173,230 | $1,163,060 | $1,192,390 | $1,195,950 | $1,185,580 | $1,175,400 | $1,165,420 | $1,155,650 | $1,146,090 | $1,137,020 | $1,127,430 | - |
| Capital Investment | Funds Appropriated | $2,070,000 | $3,486,000 | $3,457,000 | $3,429,000 | $3,437,000 | $3,038,000 | $3,383,000 | $3,354,000 | $3,326,000 | $3,409,000 | $3,417,000 | $3,389,000 | $3,361,000 | $3,333,000 | $3,305,000 | $3,277,000 | $3,249,000 | $3,222,000 | $4,314,000 | |
| **Annual Proposed Total Phosphorus Reduction (lbs/year)** | | | | | | | | | | | | | | | | | | | | | |
| Annual Phosphorus Reduction (lbs/year) | | 18.1 | 28.2 | 39.6 | 38.0 | 36.5 | 35.4 | 30.3 | 32.8 | 31.3 | 29.9 | 29.6 | 28.6 | 27.5 | 26.4 | 25.3 | 24.4 | 23.3 | 22.3 | 21.4 | 27.7 |

| **PY7 Phase 1 Load Reduction Gap** | |
|---|---|
| **PY8** | **774.5** |
| **PY10** | **1,009.1** |

# APPENDIX C: DUE DILIGENCE CONTAMINATION RISK REVIEW MEMORANDUM

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# MEMORANDUM

**TO:** Shawna Sullivan, Frank Nichols, and Eric Highers, City of Newton

**FROM:** Stephanie Kaiser and Michael van der Heijden, Woodard & Curran

**DATE:** May 5, 2025, Updated June 26, 2025

**RE:** PCP Implementation Due Diligence Environmental Contamination Risk-Screening Review

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The City of Newton is evaluating multiple locations throughout the City to infiltrate stormwater in an effort to reduce nutrient loading to the Charles River in accordance with MS4 Permit requirements for phosphorus control. Given the developed nature of the City, infiltrating stormwater has the potential to impact or exacerbate existing or former manufacturing/industrial sites with groundwater contamination. Localized water table mounding as a result of infiltrating stormwater can impact the local groundwater flow regime and, hence, potentially impact or exacerbate existing groundwater contamination distribution and change the risk to human health and the environment. Woodard & Curran has conducted a risk screening methodology to assist the City in making informed decisions regarding potential infiltration sites as it relates to the risk of potentially impacting or exacerbating an existing groundwater contamination condition. This memorandum presents the risk screening methodology used to develop a relative risk ranking of the candidate infiltration sites and the subsequent findings.

## Risk Screening Methodology

Twenty initial potential sites were screened for possible relative contamination risk related to stormwater infiltration (herein referred to as "infiltration site"). The twenty infiltration sites were selected based on their high phosphorus load reduction potential and City feedback related to future capital improvement projects, site suitability, and City operations. The following questions were used to assign a level of relative risk to each infiltration site. The reasons for selecting the risk screening questions are also listed. Figure 1, presented at the end of this memorandum, depicts the flow chart used in this assessment.

1. *Is the infiltration site listed with the Massachusetts Department of Environmental Protection (MassDEP) and has a Release Tracking Number (RTN)?*
    a. This database was reviewed to understand if there is a documented release of contamination in proximity to the infiltration site. This is critical to understand so that the resulting water table mounding from the infiltration does not impact or exacerbate an existing contaminant plume.
2. *Is the infiltration site within 1,000 feet of a known RTN?*
    a. 1,000 feet was used as a conservative distance whereby the water table mound resulting from infiltration would not likely reach.
3. *Is the infiltration site within 500 feet of a known RTN?*

a. 500 feet was used as a conservative distance whereby the water table mound resulting from infiltration may reach.

4. *Are the RTNs open, closed, or closed with conditions (i.e., closed with an Activity and Use Limitation [AUL])?*
    a. If a RTN is closed without an AUL, it is likely that there no longer are any contamination issues remaining at that site. If the RTN is closed with an AUL, it is likely that there are residual contamination issues remaining at that site. An AUL is typically an engineering or institutional control imposed by the MassDEP on a site to minimize exposure to residual contamination remaining after an active remediation.
5. *Is the infiltration site within 500 feet of a property with an AUL?*
    a. As mentioned above, if a RTN is closed without an AUL, it is likely that there no longer are any contamination issues remaining at that site. If the RTN is closed with an AUL, it is likely that there are residual contamination issues remaining at that site. This means that additional review would be needed to determine the nature and extent of residual contamination covered by the AUL.
6. Is the infiltration site adjacent to land zoned as manufacturing?
    a. In general, proximity to manufacturing facilities increases the risk for the presence of both known (i.e. has an RTN) or unknown (i.e. does not have an RTN) contamination.

A desktop review of documents available through the MassDEP Data Portal was conducted to identify infiltration sites that may pose a relative low, medium, or high risk of impacting or exacerbating a contaminated site. The desktop review included an evaluation of information on the type of contamination and regulatory status documented for the sites with RTNs in the MassDEP files. For the potential contaminated sites with no RTN (i.e. the low risk sites) a limited review of historical aerial photographs available through the City of Boston was conducted to evaluate if buildings were previously located at the sites, or if the aerial photos suggested historical filling or regrading, either of which could indicate the potential for contaminated fill materials to be present. A definition of low, medium, and high risk infiltration sites is provided below in the Screening Results section. Due diligence recommendations presented herein are specific to environmental considerations and do not consider additional engineering considerations.

More information about the waste site cleanup and the regulatory process is available on MassDEP's website.

Though the focus of this evaluation is on potential infiltration sites, it should be noted that limited potential non-infiltrating locations were included to understand potential for contamination, as it may impact engineering, construction and regulatory reporting. Additionally, potential stormwater locations, known to be of concern, were included as "control" locations to confirm that the results of the assessment were consistent with expectations.

**Screening Results**

Below is a definition of low, medium and high-risk infiltration sites.

Low Risk Infiltration Sites – No apparent risk to impact or exacerbate an existing contamination issue. No further due diligence is recommended.

Medium Risk Infiltration Sites – Some apparent risk to impact or exacerbate an existing contamination issue. Additional due diligence, such as a file review, database search, and site visit are recommended.

High Risk Infiltration Sites – There is a direct risk to impact or exacerbate an existing contamination issue. Additional due diligence activities are strongly recommended, including, but not limited to, possible groundwater sampling on the infiltration site, file review, modeling of the anticipated mounding impact to the groundwater flow direction, etc.

The results of this screening process and potential risk mitigation measures are summarized in Tables 1, 2, and 3 below. The estimated maximum potential total phosphorus (TP) reduction in pounds per year (lb/yr) and due diligence site investigation notes are provided for reference in the tables below. Site constraints are anticipated to limit TP reduction at many of these sites.

Note that the collection of soil and groundwater samples may trigger a MassDEP regulatory reporting requirement depending on the analytical results. Potential risk mitigation measures may increase project planning and execution duration and costs.

**TABLE 1: LOW RISK-RANKING SCREENING RESULTS AND POTENTIAL MITIGATION MEASURES**

| No. | Site | Risk Ranking | Risk-Ranking Considerations | Potential Risk Mitigation Measures | Estimated Max. TP Reduction (lb/yr) | Due Diligence Notes |
|---|---|---|---|---|---|---|
| 1 | Cold Spring Park | Low | No open RTNs within 1000 feet, no AULs within 500 feet, no current manufacturing zoning. | No further action is recommended. | 31 | No test pits or survey completed to date. Project consideration is non-infiltrating, location included in risk assessment due to project potential; risk assessment supports alternate SCMs. |
| 2 | Crystal Street / Lake Ave Intersection | Low | No open RTNs within 1000 feet, no AULs within 500 feet, no current manufacturing zoning. | No further action is recommended. | 3 | Planned for construction in 2025. |
| 3 | Hunnewell Playground | Low | No open RTNs within 1000 feet, no AULs within 500 feet, industrial zoning within 1000 ft but current occupants do not pose a risk. | No further action is recommended. | 16 | No test pits or survey completed to date. |
| 4 | Lyons Park | Low | No open RTNs within 1000 feet, no AULs within 500 feet, no current manufacturing zoning. | No further action is recommended. | 21 | No test pits or survey completed to date. Though project consideration is not infiltration, location included in risk assessment as a "control" project. |
| 5 | Nevada St / Schofield Dr / Bemis St Intersection | Low | No open RTNs within 1000 feet, no AULs within 500 feet, no current manufacturing zoning. | No further action is recommended. | 5 | Favorable test pits performed 6/2024. No survey completed. |
| 6 | Peirce School | Low | No open RTNs within 1000 feet, no AULs within 500 feet, no current manufacturing zoning. | No further action is recommended. | 59 | 4/2025 test pits revealed high groundwater; infiltration is not feasible. |

| No. | Site | Risk Ranking | Risk-Ranking Considerations | Potential Risk Mitigation Measures | Estimated Max. TP Reduction (lb/yr) | Due Diligence Notes |
|---|---|---|---|---|---|---|
| 7 | Richardson Playground | Low | No open RTNs within 1000 feet, no AULs within 500 feet, no current manufacturing zoning. | No further action is recommended. | 23 | No test pits or survey completed to date. |
| 8 | Stearns Park | Low | Only nearby open RTN is cross-gradient and more than 500 feet away. | No further action is recommended. | 48 | Test pits revealed high groundwater and landfill ash; infiltration is not anticipated to be feasible. |
| 9 | Ward Park | Low | No open RTNs within 1000 feet, no AULs within 500 feet, no current manufacturing zoning. | No further action is recommended. | 46 | No test pits or survey completed to date. |
| 10 | Wellington Playground | Low | No open RTNs within 1000 feet, no AULs within 500 feet, no current manufacturing zoning. | No further action is recommended. | 37 | 1/2025 test pit and utility survey revealed deep drainage infrastructure, limiting separation to groundwater. Infiltration is not anticipated to be feasible but may be further evaluated. |

**TABLE 2: MEDIUM RISK-RANKING SCREENING RESULTS AND POTENTIAL MITIGATION MEASURES**

| No. | Site | Risk Ranking | Risk-Ranking Considerations | Potential Risk Mitigation Measures | Estimated Max. TP Reduction (lb/yr) | Due Diligence Notes |
|---|---|---|---|---|---|---|
| 11 | Elmwood Park | Medium-Low | Only nearby open RTN (3-0021591) is on the other side of a highway (I-90) and contaminants (gasoline and petroleum constituents) are mobile. Regional groundwater flow is assumed to be to the north and therefore Elmwood Park is presumed to be hydraulically upgradient of this RTN and unlikely to be impacted. | Conduct a file review. If there is on-going groundwater monitoring at the RTN, periodically confirm that the groundwater flow direction hasn't changed significantly. This should be completed quarterly for the first year and semiannually for the second year. If there are no changes after the second year of groundwater flow direction monitoring at the RTN, cease the monitoring.<br>Test pits conducted at the Elmwood Park infiltration site showed the presence of ash/fill material. Ash and fill of unknown origins can leach metals into the groundwater, which may be exacerbated by infiltrating stormwater through the ash/fill material. There are three options to mitigate this risk.<br>1. Depending on the extent/volume of material, remove the ash/fill.<br>2. Collect a few samples of the ash/fill and send to a certified laboratory for Toxicity Characteristic Leaching Procedure (TCLP) testing. The TCLP test simulates the leachability of a material over time.<br>3. Install groundwater monitoring wells in the vicinity of the infiltration area and monitor groundwater quality over time. | 43 (TP load reduction being re-evaluated based on due diligence) | 4/2025 test pits revealed favorable depth to groundwater and ash/fill material. Utility survey revealed deep drainage infrastructure, limiting possible treatable area to Highland Ave. |

| No. | Site | Risk Ranking | Risk-Ranking Considerations | Potential Risk Mitigation Measures | Estimated Max. TP Reduction (lb/yr) | Due Diligence Notes |
|---|---|---|---|---|---|---|
| 12 | Albemarle Park | Medium | Open RTN (3-0050880) on site due to presence of historic fill. This site needs further engineering review to evaluate viability relative to design and construction considerations. If historical fill is present within the infiltration area, there is a potential for increased construction and/or environmental assessment costs. | Conduct a file review and review Sanborn maps to see if the source of the historic fill can be determined. Historic fill of unknown origins can leach metals into the groundwater, which may be exacerbated by infiltrating stormwater through the fill material. There are three options to mitigate this risk.<br>1. Depending on the extent/volume of material, remove the ash/fill.<br>2. Collect samples of the ash/fill and send to a certified laboratory for Toxicity Characteristic Leaching Procedure (TCLP) testing. The TCLP test simulates the leachability of a material over time.<br>3. Install groundwater monitoring wells in the vicinity of the infiltration area and monitor groundwater quality over time. | 41 (TP load reduction being re-evaluated based on due diligence) | 4/2025 test pits revealed differing groundwater elevations. Additional test pits are anticipated to understand potential system footprint and ash/fill implications. |
| 13 | Cabot Park | Medium | Open RTN (3-0034700) within 500 feet for a site with historic fill. Limited information is available in the MassDEP records. | Conduct additional due diligence, such as a file review, database search, and site visit. Determine the nature and extent of Historic Fill. | 60 (Athletic Fields; not anticipated to advance)<br>14 (Dog Park & Median) | 1/2025 test pit in athletic fields revealed high groundwater. 4/2025 test pit in dog park revealed favorable depth to groundwater and infiltration test results. Restricting soil layer may need to be removed. |

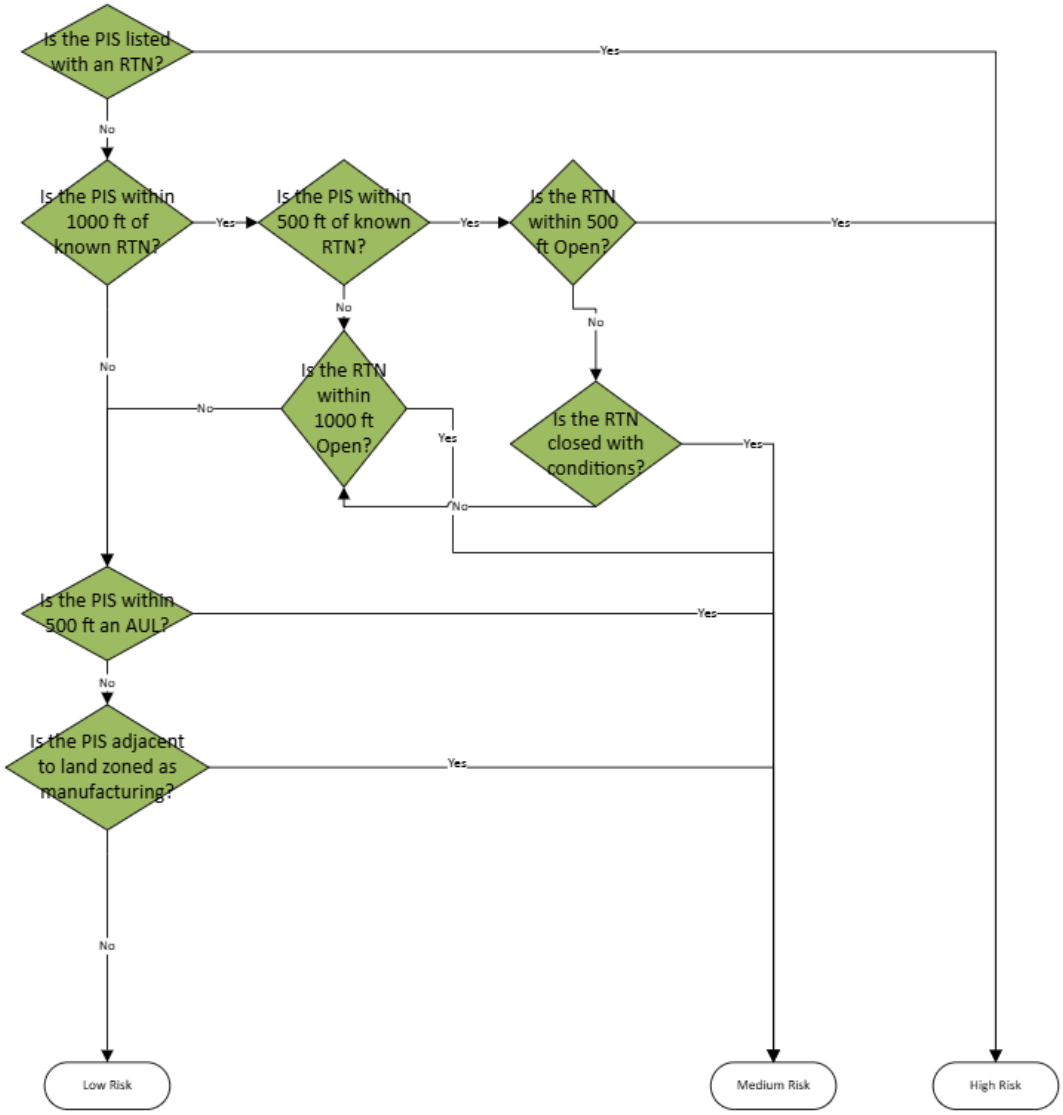
| No. | Site | Risk Ranking | Risk-Ranking Considerations | Potential Risk Mitigation Measures | Estimated Max. TP Reduction (lb/yr) | Due Diligence Notes |
|---|---|---|---|---|---|---|
| 14 | Craft St DPW Yard | Medium | Multiple closed RTNs (3-0001872) on site. Historical petroleum releases have been reported. | Conduct additional due diligence, such as a file review, database search, and site visit. Collect on-site soil and groundwater samples to determine the extent of residual petroleum contamination remaining on-site. | 11 | No test pits or survey completed to date. |
| 15 | Pelham St Parking Lot | Medium | Several open RTNs (3-0035940) associated with chlorinated solvents (i.e., chlorinated volatile organic compounds [CVOCs]) in groundwater are located within 500 feet. CVOCs are highly mobile and persistent in the environment. CVOCs can pose a risk to human health | Based on the interpreted groundwater flow direction as described in documents available on the MassDEP Data Portal, the RTNs are hydraulically cross-gradient of the infiltration site, potentially indicating a lower risk of groundwater contamination below the site. Conduct additional due diligence, such as a file review, database search, and site visit to determine groundwater flow direction. | 3 | 11/2024 test pit revealed substantial amount of fill/ash material. |

**TABLE 3: MEDIUM-HIGH AND HIGH RISK-RANKING SCREENING RESULTS AND POTENTIAL MITIGATION MEASURES**

| No. | Site | Risk Ranking | Risk-Ranking Considerations | Potential Risk Mitigation Measures | Estimated Max. TP Reduction (lb/yr) | Due Diligence Notes |
|---|---|---|---|---|---|---|
| 16 | Newton Centre Playground | Medium-High | Several open CVOC-related RTNs (3-0035940) located within 1,000 feet. | Inferred groundwater flow direction may put this infiltration site either hydraulically cross or downgradient of these RTN releases. Conduct additional due diligence, such as a file review, database search, and site visit to determine groundwater flow direction.<br>Test pits conducted in select locations within the Newton Center Playground infiltration site showed the presence of ash/fill material. Ash and fill of unknown origins can leach metals into the groundwater, which may be exacerbated by infiltrating stormwater through the ash/fill material. There are three options to mitigate this risk.<br>1. Depending on the extent/volume of material, remove the ash/fill.<br>2. Collect a few samples of the ash/fill and send to a certified laboratory for Toxicity Characteristic Leaching Procedure (TCLP) testing. The TCLP test simulates the leachability of a material over time.<br>3. Install groundwater monitoring wells in the vicinity of the infiltration area and monitor groundwater quality over time. | 81 | 11/2024 test pits revealed either high groundwater and/or ash/fill material. |
| 17 | Elliot St DPW Yard | Medium-High | Multiple closed RTNs on site. The site is the former location of a municipal incinerator and landfill. | Conduct additional due diligence, such as a file review, database search, and site visit. Install groundwater monitoring wells (minimum of three) to establish groundwater flow direction. Conduct test pits to determine the extent of ash and landfill limits. Collect samples of the ash/fill material and send to a certified laboratory for TCLP testing. Conduct a groundwater mounding analysis using the USGS Hantush analytical equation or equivalent. | 111 | No test pits or survey completed to date. Location included as a control site. |

| No. | Site | Risk Ranking | Risk-Ranking Considerations | Potential Risk Mitigation Measures | Estimated Max. TP Reduction (lb/yr) | Due Diligence Notes |
|---|---|---|---|---|---|---|
| 18 | Davis Playground | High | CVOCs in groundwater have been identified within 500 feet of the infiltration site, the source of which is unclear (RTNs 3-0037826 and 3-0021541). | Conduct additional due diligence, such as a file review, database search, and site visit. The direction of groundwater flow and potential impacts of the culverted brook running through the infiltration site should be established. Depending on the results of the file review and groundwater flow direction, conduct a groundwater mounding analysis using the USGS Hantush analytical equation or equivalent. Also, depending on the results of the file review, it may be necessary to install monitoring wells to confirm that CVOC contamination is not beneath the infiltration site. | 111 | 4/2025 test pit revealed favorable, but not ideal, groundwater depth. System size would restrict TP credit. |
| 19 | Newton Center Triangle Parking Lot | High | Several open CVOC-impacted RTNs (3-0035940) located within 500 feet. | Based on the interpreted groundwater flow direction, the infiltration site may be hydraulically downgradient of multiple RTNs indicating the potential for contaminated groundwater to exist below this infiltration site. Conduct additional due diligence, such as a file review, database search, and site visit to establish/verify groundwater flow direction. Depending on the results of the file review and groundwater flow direction, conduct a groundwater mounding analysis using the USGS Hantush analytical equation or equivalent. Also, depending on the results of the file review, it may be necessary to install monitoring wells to confirm that CVOC contamination is not beneath the infiltration site. | 16 | No test pits or survey completed to date. |
| 20 | Pellegrini Park | High | This infiltration site is in an assumed downgradient position relative to two open RTNs (3-0051142 and 3-0033794) associated with CVOC-impacted groundwater. | Conduct additional due diligence, such as a file review, database search, and site visit to establish/verify groundwater flow direction. Depending on the results of the file review and groundwater flow direction, conduct a groundwater mounding analysis using the USGS Hantush analytical equation or equivalent. Also, depending on the results of the file review, it may be necessary to install monitoring wells to confirm that CVOC contamination is not beneath the infiltration site. | 79 | No test pits or survey completed to date. |

**FIGURE 1: RISK SCREENING METHODOLOGY FLOW CHART**



# APPENDIX D: CII IMPLICATIONS MEMORANDUM

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# MEMORANDUM

**TO: Shawna Sullivan, Frank Nichols, and Eric Highers**

**FROM: Stephanie Kaiser, Zach Henderson, Carly Quinn**

**DATE: January 9, 2025**

**RE: Charles River Watershed Residual Designation Authority Implications**

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**Background**

Woodard & Curran, Inc. (W&C) performed a preliminary review of the 2024 Draft National Pollutant Discharge Elimination System (NPDES) General Permit (GP) for Private Commercial, Industrial, and Institutional (CII) Stormwater Discharges in the Charles, Mystic, and Neponset River Watersheds in Massachusetts (the Draft CII GP). This memorandum summarizes the anticipated implications the Draft CII GP may have on Newton's NPDES General Permit for Small Municipal Separate Storm Sewer Systems (MS4s) as it relates to the City's Phosphorus Control Plan. The Draft CII GP was published on October 31, 2024. The public comment period is open until January 29, 2025.

The Draft CII GP authorizes CII sites with equal to or greater than 1 acre of impervious cover to discharge stormwater to the Charles, Mystic, and/or Neponset River Watersheds. This permit is a Preliminary Designation and is a result of EPA exercising its residual designation authority (RDA). The Draft CII GP requires a 65% phosphorus reduction from the CII properties in the Charles River Watershed, among other requirements such as developing stormwater asset mapping, a Stormwater Pollution Control Plan (SPCP), and training.

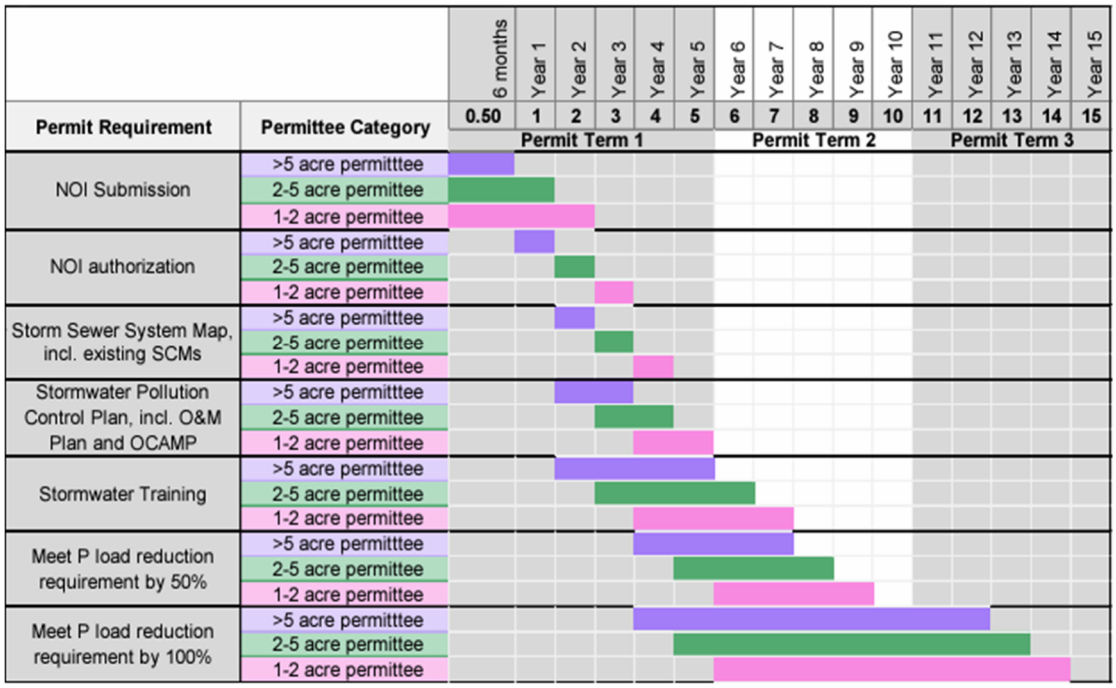
EPA published a fact sheet entitled "Improving Water Quality in the Charles River Watershed by Controlling Private Sources of Stormwater Pollution in Newton", dated September 2024. The fact sheet states that there are 167 CII parcels in Newton with greater than or equal to 1 acre of impervious cover. EPA estimates these 167 CII parcels contribute about 1,000 pounds per year (lbs/year) of the City's 8,560 lbs/year total generated phosphorus load. EPA estimated the load generated by the 167 CII properties using MassGIS 2016 Land Use Land Cover data. Therefore, it is understood that the 1,000 lbs/year of generated load is an estimate that will be updated as CII properties report on their impervious area and generated load. W&C can perform a more refined generated load estimate using 2021 Land Use Land Cover data if the City requests.

For the Draft CII GP, EPA has employed an adaptive management approach characterized by a structured process that allows for data collection followed by evaluation and further iteration. This iterative process aims to reduce uncertainty, enhance knowledge, and improve management practices over time. For example, multi-family housing units (five or more units) are excluded from the CII GP as they contribute significantly less phosphorus compared to other property types; however, these parcels may be included in the future through the adaptive management process. The impact of this process on the CII GP is uncertain, but it remains possible that additional parcels may be added to the CII GP.

**Schedule**

The implementation schedule for permit requirements varies depending on the CII property's impervious area (between 1-2 acres, 2-5 acres, or greater than 5 acres). Generally, CII GP Permittees are required to meet half (50%) of their required phosphorus load reduction within 6 years of the date of their authorization to discharge, or their Notice of Intent (NOI) authorization. Permittees are required to fully meet (100%) their phosphorus load reduction requirement within 11 years of their NOI authorization. The CII GP implementation schedule is presented in Table 1 below.

**Table 1: Draft CII GP Permit Requirement Schedule**




EPA also published a CII GP Fact Sheet that provides additional background information on the CII GP. Section 5.1.2.D.d on Page 52 of this fact sheet specifies that municipal load reduction responsibilities for MS4 Permittees will be lowered once a CII GP Permittee has established a Stormwater Pollution Control Plan (SCPC). SPCP's must be completed within 2 years after NOI authorization. Therefore, between 3 and 5 years after the Final CII GP effective date, as RDA permits complete their SCPCs, the City's MS4 load reduction responsibility may be reduced by about 650 lbs/year.

However, since the CII properties will be regulated under their own CII permit, EPA may consider CII properties to be treated like other non-traditional MS4 permittees (e.g. MassDOT and MassDCR), which have their own EPA NPDES permits and are therefore excluded entirely from municipal PCP areas. This would result in Newton's baseline load being reduced by an estimated 1,000 lbs/year and a proportional reduction in Newton's allowable load. Though the specific reduction in allowable load, and in turn, required load reduction is not defined, the MS4 GP established a 61% load reduction for Newton; therefore, the required load reduction

may be reduced by approximately 610 lbs/year. Though this may result in a slightly lower benefit to the City, this CII approach would reduce Newton's administrative credit tracking and accounting burden. W&C is seeking clarification from EPA on how the CII Permittee load reduction will impact municipalities, as language varies between the Draft CII GP and CII Fact Sheet.

The exact date on which a transfer of phosphorus load responsibility will occur depends on when the CII GP is finalized. Theoretically, if the CII GP is finalized by June 30, 2025, the load reduction responsibility transfer may occur between June 30, 2028 and June 30, 2030. The transfer of load responsibility is more likely to occur in PCP Phase 2 (July 1, 2028 – June 30, 2033) or in Phase 3 (July 1, 2033 – June 30, 2038). To aid municipalities in planning, EPA intends to develop and annually update a public facing dashboard that will show the planned and credited pollutant load reductions implemented by the CII properties. Alternatively, if CII properties are treated like other non-traditional MS4s, the baseline load reduction could be effective the same day the CII GP is finalized. However, it is anticipated that the CII GP may take years to finalize due to public comments. Therefore, the CII GP is not anticipated to affect the City's Phosphorus Control Plan (PCP) Phase 1 compliance deadline of June 30, 2028.

**Alternative Schedule Implications**

The CII GP implications will be considered in the City's Phase 1 PCP alternative schedule request, and overall phosphorus control planning. However, it is uncertain exactly when the load responsibility transfer will occur and how much phosphorus reduction will be removed from the City's responsibility. At this time, it is anticipated that the CII GP implications will provide a modest benefit to the City (perhaps 10%) however, that benefit could be realized at a much later time, likely during the final implementation Phase.

Woodard & Curran

woodardcurran.com