CAPITAL IMPROVEMENT PLAN

TOWN OF DUNSTABLE









FY25 - FY30

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GLOSSARY OF TERMS - CAPITAL IMPROVEMENT PLAN

Provided below are some of the commonly used terms in budget and capital planning and fiscal and debt management.

American Rescue Plan Act (ARPA): The American Rescue Plan Act of 2021, also referred to as ARPA, was signed into law by President Joseph Biden on March 11, 2021. ARPA is a $1.9 trillion Federal rescue package designed to ease the United States' recovery from the economic and health effects of the COVID-19 pandemic. The Act provides financial relief to state and local governments to support public health and promote economic recovery. The Act also provided funding for state and local governments to invest in local services, buildings, and infrastructure, such as water, sewer, and broadband services. The Town of Dunstable received a total of $1,017,179.96 ARPA funds.

Appropriation: A legal authorization granted by Town Meeting to expend money and incur obligations for specific public purposes.

Bond: A written promise to pay a specified sum of money (called the face value or principal amount) at a specified date or dates in the future (called the maturity date), together with periodic interest at a specified rate. The difference between a note and a bond is that the latter runs for a longer period of time and requires greater legal formality.

Bond Anticipation Note (BAN): Short-term interest-bearing notes issued by a government in anticipation of bonds to be issued at a later date. Notes are retired from proceeds from the bond issue to which they are related and/or from a cash payment and/or Town appropriation.

Capital Budget: A plan for capital expenditures for projects to be included during the first year of the capital improvement plan.

Capital Exclusion: A temporary increase in the tax levy to fund a capital project or make a capital acquisition. Exclusions require 2/3 vote of the entire Select Board and a majority vote in a town-wide election. The exclusion is added to the tax levy only during the year in which the project is being funded and may increase the tax levy above the levy ceiling.

Capital Improvement Fund: This fund was created at the 2024 Annual Town Meeting. The purpose of this Fund is to allow the Town to reserve funds for the acquisition of new equipment and/or the replacement of existing equipment (for which the Town may borrow money for a period of five years or more), and/or for building/facility improvements with a cost of less than $250,000 (for which the Town may borrow money for a period of five years of more). Only general fund capital that has been recommended in the Capital Improvement Plan (CIP) is eligible for funding in this manner.

Capital Improvement Plan (CIP): A financial planning and management tool that identifies public facility and equipment requirements and schedules them for funding and implementation on a multi-year basis.

Capital Project: Major, non-recurring expenditure involving one or more of the following: acquisition of land for a public purpose; construction of or addition to a facility such as a public building, water or sewer lines, play field, etc.; rehabilitation or repair of a building, facility, or equipment, provided the cost is $25,000 or more and the improvement will have a useful life of five years or more; purchase of equipment costing $25,000 or more, with a useful life of five years or more; and any planning, engineering, or design study related to an individual capital project. For the purposes of this plan, the Town has included projects less than $25,000 for transparency and planning purposes.

Chapter 90: Massachusetts General Laws Chapter 90, Section 34 authorizes the Commonwealth to allocate funds to municipalities, through the Transportation Bond Issue, for highway construction, preservation and improvement projects that create or extend the life of capital facilities; routine maintenance operations such as pothole filling and snow and ice removal are not covered. The formula for determining the Chapter 90 level of funding is based on a municipality's miles of public ways, population, and level of employment. Municipalities receive Chapter 90 reimbursement only for pre-approved projects.

Community Preservation Act (CPA): Enacted as Massachusetts General Laws Chapter 44B in 2000, CPA permits cities and towns accepting its provisions to establish a restricted fund from which monies can be appropriated only for a) the acquisition, creation and preservation of open space; b) the

acquisition, preservation, rehabilitation, and restoration of historic resources; and c) the acquisition, creation and preservation of land for recreational use; d) the creation, preservation and support of community housing; and e) the rehabilitation and restoration of open space, land for recreational use and community housing that is acquired or created using monies from the fund. The local program is funded by a local surcharge of up to 3 percent on real property tax bills and funds from the state generated from registry of deeds fees. The voters of Dunstable approved a 3 percent surcharge.

Community Preservation Fund: A special revenue fund established pursuant to Massachusetts General Laws Chapter 44B to receive all monies collected to support a community preservation program, including but not limited to, tax surcharge receipts, proceeds from borrowings, funds received from the Commonwealth, and proceeds from the sale of certain real estate.

Debt Exclusion: A temporary increase in the Town's levy limit (and possibly the levy ceiling) to exclude the payment of debt from the limits of Proposition 2½. The debt service is added to the levy limit for the life of the debt only. To place a debt exclusion question on the ballot requires a 2/3 vote of the entire Select Board. The debt exclusion question requires a majority vote by voters for passage.

Debt Service: The amount paid annually to cover the cost of both principal and interest on a debt issuance until its retirement.
Fiscal Year: The twelve-month financial period used by the Town beginning July 1 and ending June 30 of the following calendar year. The Town’s fiscal year is numbered according to the year in which it ends.

Free Cash: Free cash is the amount of the General Fund unassigned fund balance that may be used as a source to fund appropriations. The Massachusetts Department of Revenue certifies the amount of “free cash” resulting from closing the financial books as of June 30, the end of the fiscal year. Free cash may only be used as an appropriation source after the certification process by the Department of Revenue is complete. For example, the July 1, 2023, certified amount may be used to fund supplemental appropriations voted during fiscal year 2024 or applied as a revenue source to support the fiscal 2025 appropriations that may be voted in the spring of 2024.

FY: Fiscal Year

General Fund: The fund into which the general (non-earmarked) revenues of the municipality are deposited and from which money is appropriated to pay the general expenses of the municipality. Infrastructure: The underlying foundation or basic framework of an organization or system, e.g., roads, bridges, buildings, land, and natural resources.

Information Technology Infrastructure: The hardware and software that support information requirements, including computer workstations and associated software, network and communications equipment, and system-wide devices.

Override: A permanent increase of the Town's levy limit when a majority of voters in an election approve such an override. The override amount becomes part of the levy base when setting the next year's levy limit. To place an Override question on the ballot, requires a majority vote of the Select Board.

Pay-As-You-Go: A term used to describe the financial policy of a government which finances all its capital outlay from current revenues rather than by borrowing. A government which pays for some improvements from current revenues and others by borrowing is said to be on a partial or modified pay-as-you-go basis.

Proposition 2½: That measure which limits municipal property taxes to 2½ percent of the community's full and fair cash value (levy ceiling), and which limits the amount of revenue a municipality can raise through property taxes (levy limit) to 2½ percent each year, plus a factor for new growth. A municipality may exceed its levy limit in two ways: override or debt exclusion.

INTRODUCTION

Over the course of the last several months, the Town of Dunstable has compiled a comprehensive 5-year Capital Improvement Plan (CIP) for FY24-FY28. The CIP provides a strategic roadmap to improving and maintaining the Town's infrastructure, facilities, recreational and historic assets. This plan encompasses a wide range of areas, including:

Infrastructure Improvements

The Town recognizes that our roads, public buildings, and other assets help define our Town and its character. By proactively planning and investing in the maintenance and repair of these assets, we can effectively extend their lifespan and reduce the need for larger, more costly repairs in the future.

Public Spaces and Facilities

The Town's conservation and recreational areas, Town Common, and library are the heart of the community. Other Town buildings like the Fire and Police Stations, and Town Hall are critical in delivering high-quality services to the community. Maintaining, upgrading, and expanding these spaces create opportunities for recreation, community events, and other activities.

Transportation Improvements

Through planning efforts, the Town has identified projects to improve safety and accessibility for all users of our transportation network including our streets and trails. Seeing these projects through from design to implementation helps promote the safe use of alternative modes of transportation and further increase access to the Town's many recreational, off-road trails.

Vehicles and Equipment

Routine maintenance and regular replacement of the Town's vehicle fleet is crucial for safety, reliability, and operational effectiveness.

By strategically allocating resources to these key Town areas, we not only address immediate needs but also lay the foundation for the future success of the Town.

Capital Budget and Capital Projects

A capital budget is distinct from an operating budget in that the items included in a capital budget are typically large or infrequent expenses, such as renovation of a building or acquisition of a new dump truck, whereas an operating budget includes recurring expenses or are modest in magnitude, such as supplies or vehicle maintenance. A capital budget identifies the resources to be used to fund a series of capital projects. In many instances, communities establish minimum dollar thresholds for projects to be included in a CIP.

The Massachusetts Association of Town Finance Committees defines capital projects as major, non-recurring expenditures, for one of the following purposes:

Acquisition of land for a public purpose

Construction of a new facility or external expansion or major rehabilitation of an existing one. Examples of such town facilities include public buildings, water lines, roads and playing fields

Purchase of vehicles or major equipment items

Planning, feasibility, engineering or design study related to a capital project or to a capital improvement program consisting of individual projects

Equipment for public improvements when they are first constructed such as furniture, office equipment, or playground equipment

Major equipment which is expensive and has a relatively long life such as a fire apparatus, garbage trucks, and construction equipment.

Capital Plan

According to the Massachusetts Department of Revenue (DOR), a capital plan is a blueprint for planning a community's capital expenditure and "one of most important responsibilities of local government officials." Putting together multiple years of capital spending into a plan, instead of looking at each year in isolation, has multiple benefits including:

- Impacts on the operating budget can be minimized through thoughtful debt management
- High-cost repairs and emergency acquisitions can be reduced by implementing regular vehicle and equipment replacement schedules, and by undertaking major facilities improvements, such as replacing roofs, before a problem becomes chronic and damage occurs
- Large scale, ambitious public improvements can be phased over multiple years
- Critical parcels of land can be purchased before costs increase
- Costly mistakes created by lack of coordination - such as paving a street one year and then cutting into it the next year to install a water line – can be avoided
- Methodical progress can be made toward meeting community goals

TOWN OF DUNSTABLE'S CAPITAL ASSETS

Property and Facilities

A variety of Town departments and boards/committees are responsible for the management, maintenance, and upkeep of Town buildings and facilities. Ongoing, regular maintenance is necessary to ensure quality services and a safe working environment.

Name	Location
Fire Station	28 Pleasant Street
Police Station	23 Peasant Street
Town Shed	107 Pleasant Street
Highway Garage	589 Pleasant Street
Town Hall	511 Main Street
Dunstable Free Public Library	588 Main Street
Salmon Brook Well #1 and #2	711 Main Street

Parks and Open Space

The Town of Dunstable, mainly through its Conservation Commission, owns a rich variety of open space, conservation, and recreational areas enjoyed by residents for active and passive recreation, preserving open space and the character of the community.

Name	Town/Department/Committee
91 River Street Property	Town
Alexander Estates Open Space	Town
Amos Kendall Conservation Area	Conservation Commission
Bacon Conservation Area	Conservation Commission
Bahsler Forest Conservation Area	Conservation Commission
Best Triangle Parcel	Town/Conservation Commission

Biron Conservation Area	Conservation Commission
Blanchard Hill	Water
Blanchard Hill Conservation Area	Town/Conservation Commission
Century Way Lot - Century Way	Town
Chapman Conservation Area	Conservation Commission
Craven Conservation Area	Conservation Commission
Curtis Conservation Area	Conservation Commission
Drummey Parcel	Conservation Commission
Dump Parcels - Depot	Town
English Wildlife Refuge	Conservation Commission
Farnsworth Wildlife Refuge	Conservation Commission
Flat Rock Hill Conservation Area	Conservation Commission
Fox Run Parcel Conservation Area	Town/Conservation Commission
Gage Town Forest	Town Forest Committee
Gardner Conservation Area	Town/Conservation Commission
Goldthwaite Conservation Area	Conservation Commission
Helen Sawyer Hogg Conservation Area	Conservation Commission
Holmes Conservation Area	Conservation Commission
Horsehill Field	Town
Howard's Brook Conservation Area	Conservation Commission
Joint Grass Brook Conservation Area	Conservation Commission
Kennedy Conservation Area	Conservation Commission
Keyes Meadow Conservation Area	Conservation Commission
Larter Family Memorial Field	Town/Parks/Recreation
Meeting House Hill Conservation Area	Conservation Commission
Mixed Use District - Pleasant Street	Town
New Town Well Field	Water
Old Town Well Field/Old Town Scales	Town
Parkhurst Street Conservation Area	Conservation Commission
Pierce Town Forest	Town Forest Committee
Pond Street Parcel	Town
Proctor-Grater Lumber Lots	Town/Conservation Commission

Sargent Conservation Area	Conservation Commission
Shaw Conservation Area	Conservation Commission
Spaulding Proctor Reservation	Conservation Commission
Stoddard Conservation Area	Conservation Commission
Stone Arch Bridge Conservation Area	Conservation Commission
Tercentennary Reservation - Sawyer	Conservation Commission
Town Fields and Common	Town
Triangle Parcel - Hollis Street	Town
Unkety Brook Conservation Area	Conservation Commission
Unkety Woods Preserve	Conservation Commission
Urqhart Conservation	Conservation Commission
Whippoorwill Wildlife Refuge-English	Conservation Commission
Woods Parcel	Conservation Commission

Town Cemeteries

There are 5 historic cemeteries within the Town of Dunstable. Central Cemetery is a public, nonsectarian cemetery open to all Dunstable residents. The Meeting House Hill Cemetery, located on the east end of Main Street, and the Rideout Cemetery on Fletcher Street are both closed to further burials. The Swallow Cemetery on Brook Street and the Blood Cemetery on River Street have limited remaining lots which are available to members of those families.

Name	Location
Blood Cemetery	River Street
Meeting House Hill Cemetery	Main Street
Central Cemetery	Main Street
Swallow Cemetery	Brook Street
Rideout Cemetery	Fletcher Street

Roads and Related Infrastructure

Dunstable has limited infrastructure supplying public water with approximately 100 connections mostly to residences but also to the Swallow Union Elementary School, municipal facilities, and other

properties proximate to Town Center.

According to MassDOT's 2022 Road Inventory Year End Report, there are 41.5 miles of Town-owned roadway in Dunstable with 1.04 miles of unaccepted road, totaling 42.54 miles. There are limited sidewalk connections in Town however, planning efforts continue to identify priority areas for sidewalks to enhance safety and accessibility for pedestrians, bicycles, and all travelers.

Information Technology Infrastructure

Device Type	Workstations	Servers	Firewalls	Total
Counts	34	3	3	40

POSSIBLE FUNDING SOURCES FOR COMMUNITIES

There are a number of ways to finance municipal capital improvement projects. Some of the most common methods are:

Local Resources

Municipal Indebtedness: The most commonly used method of financing large capital projects is general obligation bonds (also known as "GO Bonds"). They are issued for a period of time ranging from 5 to 30 years, during which time principal and interest payments are made. Making payments over time has the advantage of allowing the capital expenditures to be amortized over the life of the project. Funding sources used to pay back the debt can include:

- **Bonds funded within the tax limits of Proposition 2 ½**: Debt service for these bonds must be paid within the tax levy limitations of Proposition 2 ½. Funds used for this debt must be carefully planned in order to not negatively impact the annual operating budget.

- **Bonds funded outside the tax limits of Proposition 2½**: Debt service for these bonds is paid by increasing local property taxes in an amount needed to pay the annual debt service. Known as a Debt Exclusion or Exempt Debt, this type of funding requires approval by 2/3 vote of the local appropriating authority (Town Meeting) and approval by a majority of

voters participating in a ballot vote. Prior to the vote, the impact on the tax rate must be determined so voters can understand the financial implications.

Capital Outlay / Pay as You Go: Pay as You Go capital projects are funded with current revenues (typically tax levy or free cash) and unexpended balances in previously approved projects. The entire cost is paid off within one year so no borrowing takes place. A project funded with current revenues will cost less than if it were funded by general obligation bonds because there are no interest costs. However, funds to be used for this purpose must also be carefully planned in order to not negatively impact the annual operating budget. For this reason, Pay as You Go capital projects are typically lower in value than projects funded by borrowing.

- **Free Cash**: Represents the remaining, unrestricted funds from operations of the previous fiscal year, including unexpended free cash from the previous year, actual receipts in excess of revenue estimated on the tax recapitulation sheet, and unspent amounts in budget line items. Unpaid property taxes and certain deficits reduce the amount that can be certified as free cash. The calculation of free cash is based on the June 30 balance sheet, which is submitted by the community's auditor, accountant, or comptroller. Free cash is not available for appropriation until certified by the State Director of Accounts.

Capital Outlay / Expenditure Exclusion: Expenditure Exclusion projects are similar to Pay as You Go, above, except taxes are raised outside the limits of Proposition 2 ½ and are added to the tax levy only during the year in which the project is being funded. As with a Debt Exclusion, Expenditure Exclusion funding requires approval by 2/3 vote of the local appropriating authority (Town Meeting) and approval by a majority of voters participating in a ballot vote. Prior to the vote, the impact on the tax rate must be determined so voters can understand the financial implications. Capital outlay expenditures may be authorized for any municipal purpose for which the town would be authorized to borrow money.

Capital Stabilization Fund: Local officials can set aside money in a stabilization fund – outside of the general fund - to pay for all or a portion of future capital projects. A majority vote of Town Meeting is required to appropriate money into the fund and a 2/3 vote to appropriate money out of this fund.

Sale of Surplus Real Property: Pursuant to Massachusetts General Laws, when real estate is sold, the proceeds must first be used to pay any debt incurred in the purchase of the property. If no debt is outstanding, the funds "may be used for any purpose or purposes for which the town, city, or district is authorized to incur debt for a period of five years or more...except that the proceeds of a sale in excess of five hundred dollars of any park land by a town, city, or district shall be used only by said town, city, or district for acquisition of land for park purposes or for capital improvements to park land" (MGL Chapter 44, Section 63).

Special Purpose Funds: Communities also have established numerous "Special Purpose Accounts" for which the use is restricted for a specific purpose, including investment in department facilities and equipment. There are numerous state statutes that govern the establishment and use of these separate accounts. Examples include ambulance funds, recreation funds, the sale of cemetery lots, and off-street parking fees accounts.

CPA Funds: CPA allows communities to create a local Community Preservation Fund for open space protection, historic preservation, affordable housing and outdoor recreation. Community preservation monies are raised locally through the imposition of a surcharge of not more than 3% of the tax levy against real property, and municipalities must adopt CPA by ballot referendum. To date, 195 municipalities in the state have adopted CPA. Each CPA community creates a local Community Preservation Committee (CPC) upon adoption of the Act, and this five-to-nine member board makes recommendations on CPA projects to the community's legislative body.

Federal, State, and Private Grants and Loans

Other revenue sources may include grants or loans from federal, state, or private sources. For example, federal money is used for bridge and roadway projects listed on the State Transportation Improvement Plan. Private funds are sometimes available from "Friends of..." groups for local libraries or councils on aging. However, the Commonwealth provides the most opportunities for funding through various programs.

Key State funding sources for the Town of Dunstable include, but are not limited to:

Massachusetts Chapter 90 Roadway Funds: Each year, the Massachusetts Department of Transportation (MassDOT) allocates funds to cities and towns for roadway construction, maintenance, or improvement. Funds may also be used for other work incidental to roadway work, such as the construction of a garage to house related vehicles or the purchase of related vehicles, equipment, and tools. Chapter 90 is a 100% reimbursable program. Funding is accomplished through the issuance of transportation bonds and apportioned to municipalities based on three factors: 1) accepted road miles, 2) population, and 3) total employment within the municipal borders. Road miles is the most heavily weighted factor at 58.33%; the others are each weighted at 20.83%.

State Revolving Fund (SRF) Loan Program: The State Revolving Fund (SRF) offers affordable loan options to cities and towns to improve water supply infrastructure and drinking water safety; and to help them to comply with federal and state water quality requirements that deal with wastewater treatment plants and collection systems, while addressing issues such as watershed management priorities, stormwater management, and green infrastructure. Additionally, the SRF supplies financial assistance to address communities with septic system problems.

MassWorks Infrastructure Program: This is a competitive grant program through the Executive Office of Housing and Economic Development that provides capital funds for municipalities and other eligible public entities to complete public infrastructure projects that support and accelerate economic and housing development throughout the Commonwealth and/or address roadway safety concerns.

Municipal Vulnerability Preparedness (MVP) Program: This program from the Executive Office of Energy and Environmental Affairs (EEA) supports municipalities as they plan for and implement climate resiliency projects. Grants are available to assess vulnerabilities and create action plans. Once that step is complete, municipalities can seek additional grant money annually for implementation of capital and other projects. The Town of Dunstable is now in the process of creating a MVP Plan which will then open the door for this grant opportunity.

Community Compact IT grant program: Through the Community Compact Cabinet, this program offers grants of up to $200,000 for “one-time capital needs such as technology infrastructure, upgrades and/or purchases of equipment or software.

Incidental or one-time costs related to the capital purchase such as planning, design, installation, implementation and initial training are eligible."

Green Communities Division grants: The Department of Energy Resources provides grants through its Green Communities Division intended to reduce energy use through clean energy projects, including vehicle/equipment, building, and school facilities projects. For example, projects may include HVAC upgrades, solar, energy audits, idle reduction technology, lighting retrofits, window/door weatherization, hybrid/electric vehicles, and vehicle charging stations, to name a few.

CAPITAL PLANNING PROCESS - FY26

The Town of Dunstable's capital planning process ensures that major capital investments are evaluated, prioritized, and aligned with the town's long-term needs and financial capacity. This process begins with an email memo issued by the Town Administrator to all town departments, boards, and committees, inviting them to submit capital project requests. Each request must be accompanied by a completed Capital Project Request Form, which includes more detailed information about the project's purpose, cost, and anticipated benefits. Departments are encouraged to provide supporting documentation, such as cost estimates, timelines, and assessments of the project's impact on operations and services.

Once all requests are submitted, the Town Administrator convened meetings with department heads to review and discuss the proposals. These discussions focus on clarifying project details, evaluating the urgency and necessity of each request, and identifying potential funding sources. The information gathered will next be presented to the Capital Planning Committee, which evaluates and prioritizes the proposed projects, based on community benefit, need, and financial feasibility.

The prioritized list of projects will then be submitted to the Select and Advisory Boards for review. This collaborative approach ensures that Dunstable's capital improvement plan reflects a balanced and strategic investment in the town's infrastructure and services.

The Town Administrator's email memo is below:

From: Jason Silva
Sent: Friday, August 30, 2024 10:36 AM
To: Jason Silva <jsilva@dunstable-ma.gov>
Cc: Sue Fayne <sfayne@dunstable-ma.gov>
Subject: Capital Improvement Plan - Department Project Requests

Hi All:

As we begin the budgeting process for the upcoming fiscal year, it is time to consider and plan for our capital projects to address our most pressing needs. The development of a thoughtful and comprehensive capital improvement plan is crucial to ensuring that the Town's needs are met in a strategic, thoughtful, and fiscally responsible manner.

To that end, I am requesting each department submit their capital project requests for the upcoming budget cycle. These requests should include descriptions of the proposed projects, including objectives, expected outcomes, estimated costs, timelines, and any potential funding sources or partnerships that could support the project.

I've attached the same forms we've used in prior years. Please complete the excel spreadsheet with no more than 5 projects under $25,000 and 5 projects above $25,000. For all projects above $25,000, and any projects under $25,000, that are priorities for the coming year, please complete the more detailed narrative form that is also attached. Capital requests projected for FY27-FY30 should be included in your requests, as needed, but don't require the more detailed project descriptions at this time. Feel free to use the forms you've submitted last year as a baseline for this coming year's requests, if those prioritize still align.

Please submit your capital project requests by Monday, September 16. Following receipt of your requests, I'll work to schedule meetings with each of you to review and discuss your submittals and prioritize them further based on the Town's capital needs and available resources.

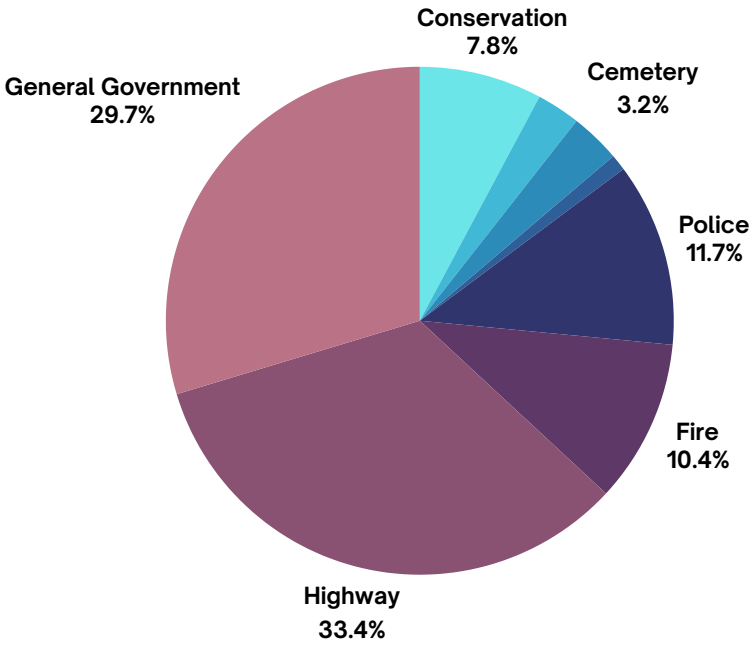
Thank you for your attention to this important process. Should you have any questions or require additional information, please do not hesitate to reach out.

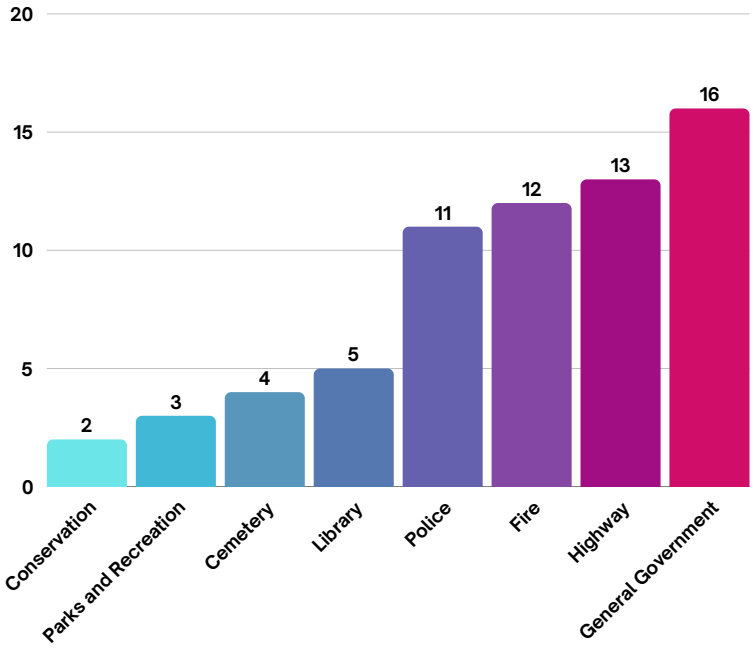
Jason Silva
Town Administrator
Town of Dunstable
(978) 743-6340
www.dunstable-ma.gov

Overall, 66 project requests are included in the CIP based on the capital request forms submitted, requests reviewed and discussed at meetings, and other project needs identified through local planning efforts or known conditions. All total, the projects are a combined cost of over $16 million.
In the coming weeks and months, the Capital Planning Committee will review the requested capital projects, as they do every year, for FY26 and will determine the need of each request and make recommendations on projects to fund.

Department	Project Count	Total Cost	Cost as % of Total
Conservation	2	$1,286,308	7.99%
Parks and Recreation	3	$457,750	2.84%
Cemetery	4	$160,000	3.27%
Library	5	$168,500	1.05%
Police	11	$1,926,928	11.97%
Fire	12	$1,710,550	10.63%
Highway	13	$5,503,572	34.19%
General Government	16	$4,885,613	30.35%
Total	**66**	**$16,099,221**	**100.00%**

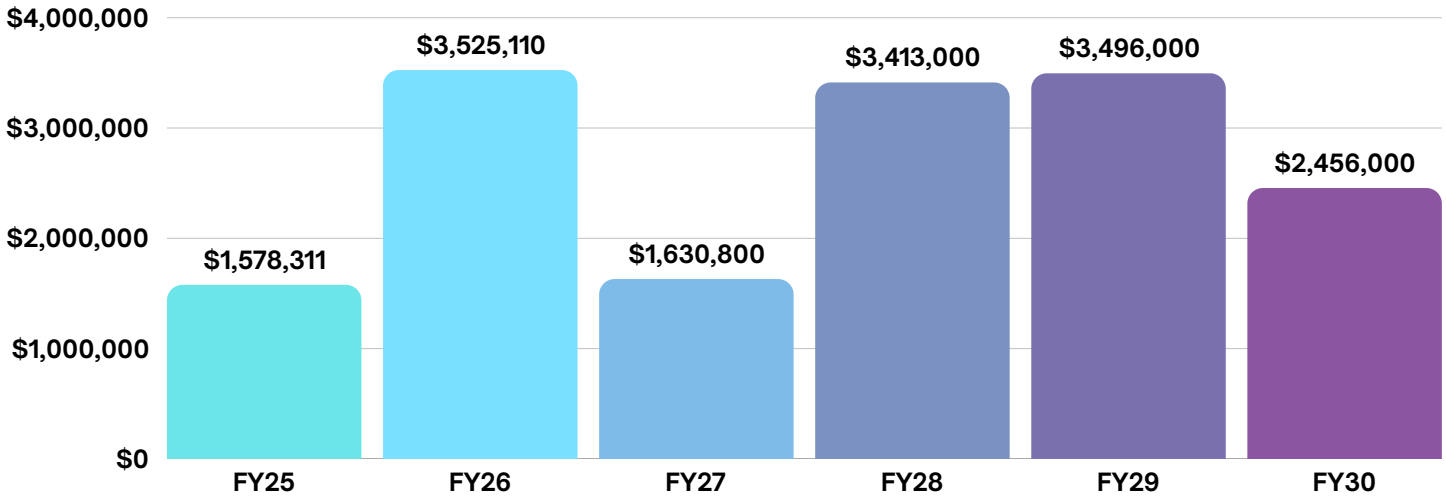
Departmental Breakdown





Annually, and throughout the year, the Town of Dunstable should routinely assess the capital project priorities and adjust based on a variety of factors: the availability of funding, grant funding opportunities, unanticipated need, and adjustment of priorities. The CIP is a living and breathing document that should be evaluated and revised on a regular basis.

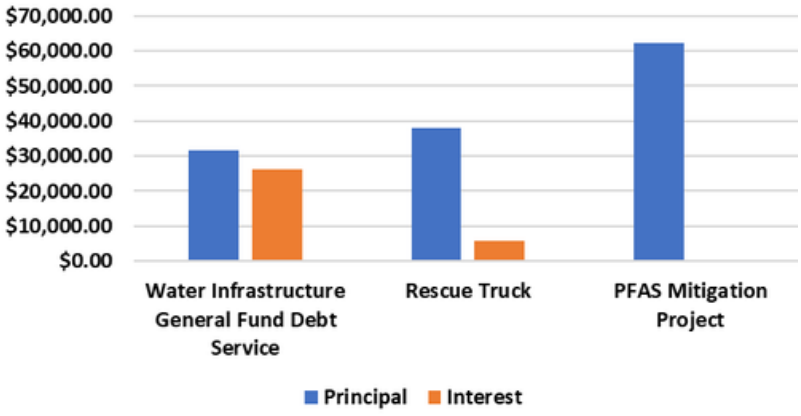
As the CIP is currently construed, the capital investments included by fiscal year are significantly more than what the Town has typically been able to fund.

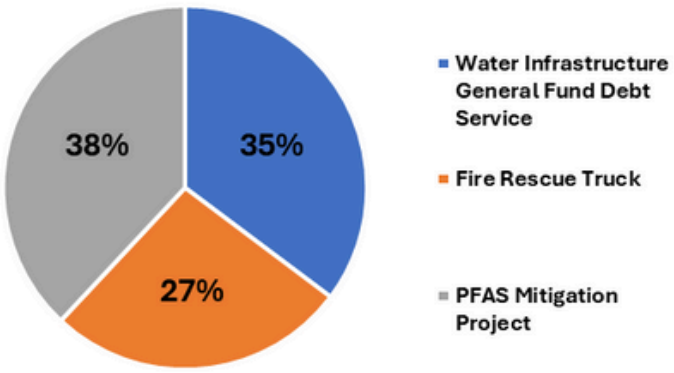


DEBT SERVICE SCHEDULE

Historically, Dunstable has funded major capital improvements through debt exclusion overrides. There is excluded debt service currently for water infrastructure improvements, a fire rescue truck, and for the first time in FY26 Phase 1 of the PFAS Mitigation Project.

Projects	2026 Principal	2026 Interest	2027 Principal	2027 Interest	2028 Principal	2028 Interest	2029 Principal	2029 Interest
Water Infrastructure Bond	$62,993.48	$52,437.23	$64,490.77	$50,956.88	$66,024.59	$49,441.35	$67,594.88	$47,889.78
1/2 of WIB Debt Service	$31,496.74	$26,218.62	$32,245.39	$25,478.44	$33,012.30	$24,720.68	$33,797.44	$23,944.89
Rescue Truck	$38,113.00	$5,659.78	$38,113.00	$5,659.78	$38,113.00	$5,659.78		
PFAS Mitigation	$62,293.00		$62,293.00		$62,293.00		$62,293.00	
TOTAL	**$131,902.74**	**$31,878.40**	**$132,651.39**	**$31,138.22**	**$133,418.30**	**$30,380.46**	**$96,090.44**	**$23,944.89**

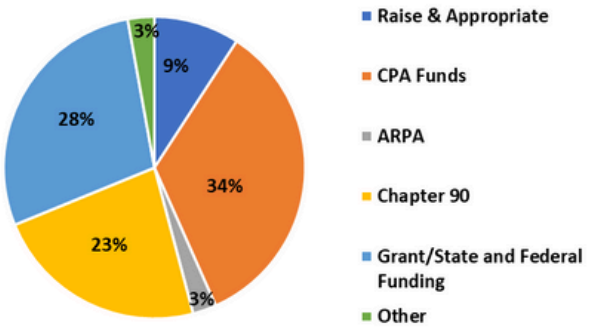




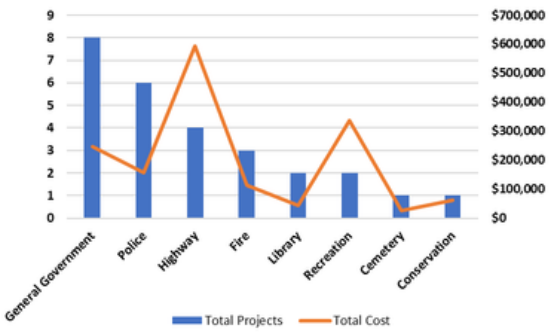
FY25 Capital Projects Overview

General Government Projects	
Town Hall - Air Handling Unit Replacement	$8,914
Town Hall - Boiler Repairs	$16,410
Town Hall - Roof and Chimney Repairs	$20,000
Town Hall Offices Carpet Replacement	$20,000
Town Center Trail Loop Feasibility Study	$20,000
Town Hall and Police Station Server Replacement	$29,979
Bandstand Renovation	$31,300
Union Building Exterior Architectural Design	$100,000
Police Department Projects	
Police Station Gutter Improvements	$844
Speed Trailer	$8,291
Police Vests	$8,438
Police Station Floor Replacement	$13,855
Police Cruiser Replacement	$61,000
Police Station Window and Door Replacement	$65,000
Fire Department Projects	
Building Repairs and Renovation	$15,750
Personal Protective Equipment	$48,000
Chief's Vehicle	$50,000
Highway Department Projects	
Highway Garage Heating Unit Replacement	$6,088
Street Paving	$125,000
Joint Grass Brook Culvert	$200,000
Freightliner Plow Truck	$262,384
Cemetery Projects	
Cemetery Pickup Truck	$25,000
Conservation Projects	
Woodward's Mill Dam	$61,308
Library Projects	
Replace exterior doors	$12,000
Replace wood and wood frames of windows	$31,000
Recreation Projects	
Larter Field Well Repairs (5 and 7)	$11,940
Tennis Court Relocation and Construction	$325,810
TOTAL Capital	**$1,578,311**

Funding Source	Amount
Raise & Appropriate	$144,990
CPA Funds	$539,058
ARPA	$39,850
Chapter 90	$362,384
Grant/State and Federal Funding	$447,029
Other	$45,000



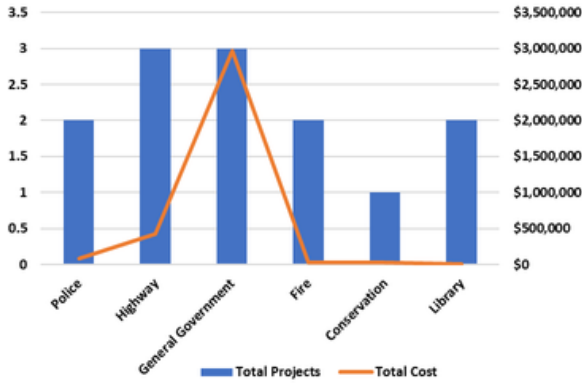
Department	Total Projects	Total Cost
General Government	8	$246,603
Police	6	$157,428
Highway	4	$593,472
Fire	3	$113,750
Cemetery	1	$25,000
Library	2	$43,000
Recreation	2	$337,750
Conservation	1	$61,308



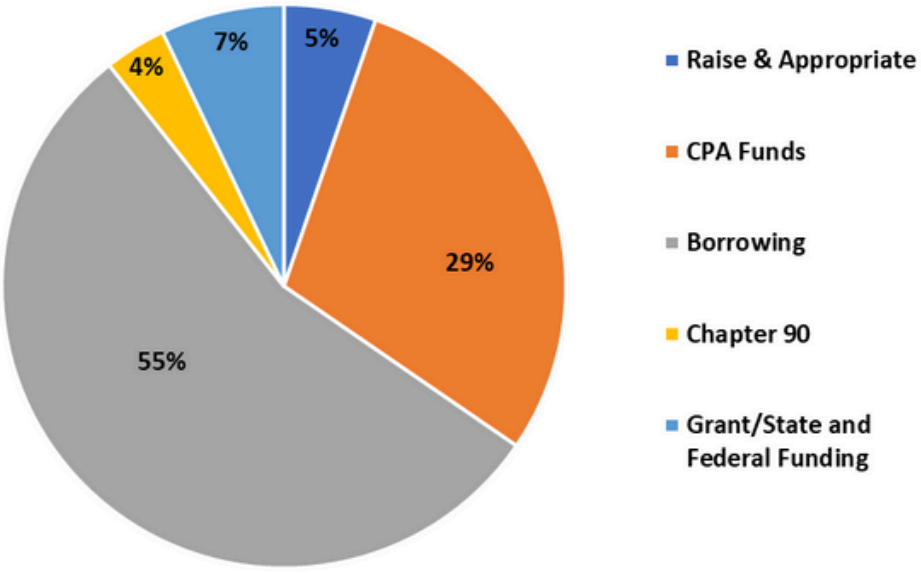
FY26 Capital Projects Overview

General Government Projects	
Union Building Exterior Restoration	$1,032,750
PFAS Mitigation Project - Phase 1	$1,931,260
Computer Replacements	$2,000
Police Department Projects	
Police Cruiser Replacement	$60,000
Taser Replacements	$19,500
Fire Department Projects	
Personal Protective Equipment	$4,000
Mobile Radios (truck)	20,000
Highway Department Projects	
Street Paving	$125,000
Joint Grass Brook Culvert	$250,000
Spreader/Sander	$50,100
Conservation Projects	
Woodward's Mill Dam	$25,000
Library Projects	
Community Room - Emergency Lighting	$2,500
Electrical Upgrades - Exterior Lighting	$3,000
TOTAL Capital	**$3,525,110**

Department	Total Projects	Total Cost
Police	2	$79,500
Highway	3	$425,100
General Government	3	$2,966,010
Fire	2	$24,000
Conservation	1	$25,000
Library	2	$5,500



Funding Source	Amount
Raise & Appropriate	$186,100
CPA Funds	$1,032,750
Borrowing	$1,931,260
Chapter 90	$125,000
Grant/State and Federal Funding	$250,000



FY25-FY30 CAPITAL IMPROVEMENT PLAN

	Project Name	Projected	Projected	Projected	Projected	Projected	Projected
General Government		**FY25**	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
1	Town Hall - Air Handling Unit Replacement	$8,914					
2	Town Hall - Boiler Repairs	$16,410					
3	Town Hall - Roof and Chimney Repairs	$20,000					
4	Town Hall Offices Carpet Replacement	$20,000					
5	Town Center Trail Loop Feasibility Study	$20,000					
6	Town Hall Server Replacement	$29,979					
7	Bandstand Renovation	$31,300					
8	Union Building Exterior Architectural Design	$100,000					
9	Union Building Exterior Restoration		$1,032,750				
10	PFAS Mitigation Project - Phase 1		$1,931,260				
11	PFAS Mitigation Project - Phase 2				$1,550,000		
12	Town Hall HVAC Unit			$60,000			
13	Town Hall Meeting Room Floors - Refinish			$15,000			
14	Town Website Upgrade			$20,000			
15	Computer Replacements		$2,000	$2,000	$2,000	$2,000	$2,000
16	Assessing Software Upgrade			$20,000			
	TOTAL	**$246,603**	**$2,966,010**	**$117,000**	**$1,552,000**	**$2,000**	**$2,000**

Police		**FY25**	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
~~1~~	~~Police Station Gutter Improvements~~	~~$844~~					
2	Speed Trailer	$8,291					
3	Police Vests	$8,438			$10,000		
4	Police Station Floor Replacement	$13,855					
5	Police Cruiser Replacement	$61,000	$60,000	$60,000	$60,000	$60,000	$60,000
6	Police Station Window and Door Replacement	$65,000					
7	Taser Replacements		$19,500				
8	Police Station Addition				$100,000	$600,000	$600,000
9	Repave Parking Lot			$35,000	$35,000		
10	Police Station Vinyl Siding			$55,000			
11	ATV Trailer					$15,000	
	TOTAL	**$157,428**	**$79,500**	**$150,000**	**$205,000**	**$675,000**	**$660,000**

Fire		FY25	FY26	FY27	FY28	FY29	FY30
1	Building Repairs and Renovation	$15,750					
2	Personal Protective Equipment	$48,000	$4,000	$4,000	$4,000	$4,000	$4,000
3	Chief's Vehicle	$50,000					
4	Mobile Radios (truck)		20,000				
5	Body Armour - 4 sets			$4,800			
6	Vehicle Extrication Equipment			$25,000			
7	Repave Parking Lot				$50,000		
8	Portable Radios (on-person)				$102,000		
9	Forestry Truck				$300,000		
10	Backup Repeater					$50,000	
11	Engine 6 Replacement					$1,000,000	
12	Self Contained Breathing Apparatus						$25,000
	TOTAL	**$113,750**	**$24,000**	**$33,800**	**$456,000**	**$1,054,000**	**$29,000**
	TOTAL Public Safety	**$271,178**	**$103,500**	**$183,800**	**$661,000**	**$1,729,000**	**$689,000**

Highway		FY25	FY26	FY27	FY28	FY29	FY30
1	Highway Garage Heating Unit Replacement	$6,088					
2	Street Paving	$125,000	$125,000	$125,000	$125,000	$125,000	$125,000
3	Joint Grass Brook Culvert	$200,000	$250,000				
4	Freightliner Plow Truck	$262,384					
5	Spreader/Sander		$50,100				
6	Highway Garage Windows			$15,000			
7	Swallow Union School to Library Sidewalk			$40,000	$400,000		
8	Pleasant Street Sidewalk - Post Office to Town Center			$750,000			
9	Water Main Extension - Hillcrest - Main to hydrant				$230,000		
10	Water Main Extension - Main to Hillcrest				$370,000		
11	Main Street/Lowell Street Intersection					$600,000	
12	Main Street/Oak Street Intersection					$500,000	
13	Water Main Extension - Main to Lowell Street					$540,000	$540,000
	TOTAL	**$593,472**	**$425,100**	**$930,000**	**$1,125,000**	**$1,765,000**	**$665,000**

Cemetery		FY25	FY26	FY27	FY28	FY29	FY30
1	Cemetery Pickup Truck	$25,000					
2	Rideout Cemetery Stone Retaining Wall			$50,000			
3	Central Cemetery Stone Wall Repair			$10,000			
4	Storage Shed at Central Cemetery				$75,000		
	TOTAL	**$25,000**	**$0**	**$60,000**	**$75,000**	**$0**	**$0**

Conservation		FY25	FY26	FY27	FY28	FY29	FY30
1	Woodward's Mill Dam	$61,308	$25,000	$100,000			
2	Drew Landing Boardwalk						$1,100,000
	TOTAL	**$61,308**	**$25,000**	**$100,000**	**$0**	**$0**	**$1,100,000**
	TOTAL Public Works	**$679,780**	**$450,100**	**$1,090,000**	**$1,200,000**	**$1,765,000**	**$1,765,000**

Library		FY25	FY26	FY27	FY28	FY29	FY30
1	Replace exterior doors	$12,000					
2	Replace wood and wood frames of windows	$31,000					
3	Community Room - Emergency Lighting		$2,500				
4	Electrical Upgrades - Exterior Lighting		$3,000				
5	HVAC Replacement			$120,000			
	TOTAL	**$43,000**	**$5,500**	**$120,000**	**$0**	**$0**	**$0**

Recreation		FY25	FY26	FY27	FY28	FY29	FY30
1	Larter Field Well Repairs (5 and 7)	$11,940					
2	Tennis Court Relocation and Construction	$325,810					
3	Larter Field Pavilion			$120,000			
	TOTAL	**$337,750**	**$0**	**$120,000**	**$0**	**$0**	**$0**
	TOTAL Library and Recreation	**$380,750**	**$5,500**	**$240,000**	**$0**	**$0**	**$0**

TOTAL Capital	**$1,578,311**	**$3,525,110**	**$1,630,800**	**$3,413,000**	**$3,496,000**	**$2,456,000**
Total Capital FY25-FY30	**$16,099,221**					

FY25 CAPITAL PROJECT NARRATIVES

General Government

Town Hall – Air Handling Unit Replacement
The air handling unit for heating and cooling the first-floor office space at Town Hall failed. Due to this, the 3.5 ton air handler was replaced with a new unit. This project was $8,914 and was paid for with ARPA funds.



Town Hall – Boiler Repairs
Over the course of the year, there were a several projects necessary to upgrade the boilers at Town Hall. The circulation pump failed requiring the removal and installation of a new pump. This failure also caused damage below to the office spaces on both floors. The temperature and





pressure valve was also replaced along with the expansion tank and auto feeder. There was also work to tie the temperature and pressure valve into the condensate line to avoid water penetration into the lower floors. All total, the work cost $16,410 and was paid for with ARPA funds.



Town Hall – Roof and Chimney Repairs

Last year, during two major storm events, the roof at Town Hall suffered leaks in two areas of the building. One area of the roof, at the Town Hall Elevator Hoist Way Ventilation Cap (the "chimney") at the back portion of the building, was temporarily repaired. This repair was critical as the Town's server room, housing all the Town's digital infrastructure, is directly under this portion of the roof. To avoid additional leaks and damage to the roof, its computer infrastructure, and the building's interior, the Town is planning to seek bids for a permanent repair of the Town Hall Elevator Hoist Way Ventilation Cap and adjacent portion of the slate roof. The scope of work will include the following:

- Removal of the brick veneer on the exterior of the Elevator Hoist Way Ventilation Cap
- Maintain and repair, as-needed frame of Elevator Hoist Way Ventilation Cap
- Replace the plywood Elevator Hoist Way Ventilation Cap with cement board
- Reapply new brick veneer
- Reflash around the Elevator Hoist Way Ventilation Cap area

This project will be funded by $20,000 of Community Preservation Act funds which have already been allocated to this project.







Town Hall Offices Carpet Replacement
Due to the water damage caused by the failure of the boilers' circulation pump, the carpets on both floors of Town Hall need to be replaced. This work is anticipated to be completed in FY25 and will be paid for by our property and general liability insurer, MIIA.



Town Center Trail Loop Feasibility Study
The feasibility study for the Town Center Trail Loop will continue the Town's work to explore the development of a trail loop through Dunstable's historic Town Center, advancing the recommendations in Walk Dunstable, the Dunstable Master Plan, and Dunstable's Complete Streets Prioritization Plan. This project will consist of significant community engagement, coordination with local regulatory bodies, and on-site analysis to assess potential opportunities and constraints. The goal is to gather information and input to ensure that the project aligns with community interests and environmental and historic preservation concerns.

The feasibility study and outreach efforts seek to accomplish the following:

- Gauge community and regulatory body support for the trail loop.
- Conduct outreach with property owners to assess interest in providing easements.
- Identify and address environmental and historical concerns related to the trail's placement.
- Perform fieldwork to understand the physical feasibility of creating a complete trail loop.

This project is being funded by $20,000 of Community Preservation Act funds which have already been allocated to the project.


Participants of the 8/30/23 walk audit navigate Pleasant Street.



Town Hall and Police Station Server Replacement
Through a Community Compact Cabinet IT Grant in the amount of $29,979, the Town was able to implement disaster recovery enhancements at Town Hall and the Police Station including the installation of new host servers, virtual machines, and backup and disaster recovery upgrades.



Bandstand Renovation
The Town has made improvements to the Town Common Bandstand through a state budget earmark in the amount of $75,000. These improvements have included the bandstand roof, stairs, floor, and railings. The Town has a remaining balance of $31,300 that it intends to utilize in FY25 to complete the renovation of the bandstand. These improvements are anticipated to include additional repairs to the floor and roof, lattice, lighting, and trim.



Union Building Exterior Architectural Design
The Town continues to advance the project to restore the exterior of the Union Building. Through a Request for Qualifications process, the Town selected Gienapp Architects to develop design documents for the exterior restoration of the building.



As a reminder, the Select Board has created a Union Building Rehabilitation Committee responsible for leading the effort to develop a restoration plan and to identify viable reuse options. Gienapp Architects has started their work, and will be working closely with the Committee to complete the design work which will include:

- Drafting construction documents and bid specifications for the exterior restoration of the Union School Building.
- Assisting the Town through the bid and selection process.

- Construction oversight through site visits, final inspection, and regular communication with the contractor and Town throughout construction.

Police Department

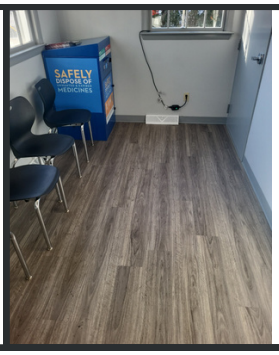
Police Station Gutter Improvements
The Town replaced sections of old, aging gutters on the Police Station. The old gutters were damaged and leaking in several areas. The gutters were funded through the annual capital improvement appropriation.

Speed Trailer
The Police Department purchased a new speed limit radar sign trailer that is currently being utilized as a speeding deterrent throughout Town. It is being used to raise awareness and encourage compliance with speed limits. It also is a tool for the department to collect traffic data to assist in identifying needs and problem areas. The trailer was funded through special article funds approved at Town Meeting. The total cost of the trailer was $8,291.



Police Vests
The Town is contractually obligated to purchase new bullet proof vests for all full-time officers upon their expiration based on the manufacturer's recommendation. More importantly, the Town is committed to provide its officers with new vests to keep them as safe as possible to meet current safety standards with the newest available technology in body armor. The new vests were funded by ARPA funds.

Police Station Floor Replacement
The floor at the Police Station was replaced and paid for through special article funds approved at Town Meeting. The total cost of the project was $13,855. The project involved removing and disposing of old VCT flooring and cove base, followed by repairing and leveling the subfloor.





New flooring was then installed in designated areas and carpet tiles were installed in three rooms.

Police Cruiser Replacement
Police cruiser 52 was replaced with a new vehicle. The old cruiser had close to 100,000 miles and 4000 hours on the motor. The vehicle was purchased in 2020 which made it the oldest in the fleet.



Police Station Window and Door Replacement
The Town is utilizing a combination of state budget earmark funds and money from the annual capital improvement appropriation. The project involves replacing 10 windows (2 picture, 5 single-hung, 3 double-hung) and 2 exterior doors at the Police Station. The work includes removing existing windows, doors, and trim, inspecting and repairing any rotted wood in the rough openings, and installing waterproofing membranes for proper sealing. New windows and doors will be installed per manufacturer specifications with new exterior trim and reinstalled siding.



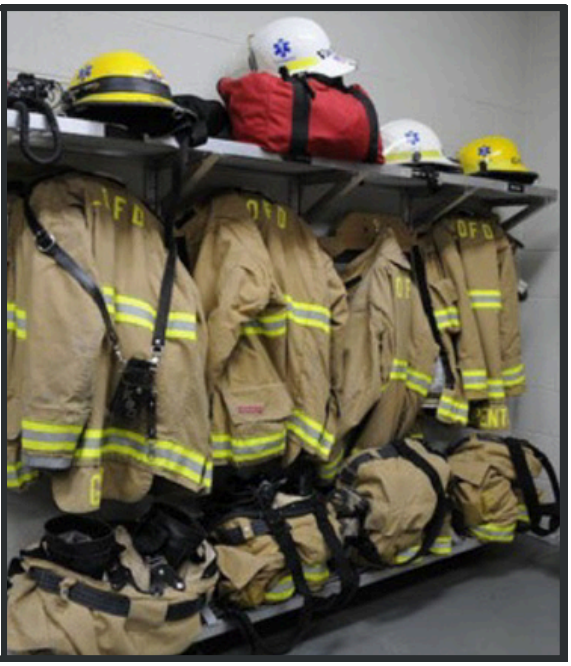
Fire Department

Building Repairs and Renovation
The Town performed an exterior envelope condition study on Fire Station. As part of the findings report, it was noted that the building lacks a ridge beam and rafter ties which has led to structural issues such as roof sagging and outward thrusting of the CMU exterior walls. This “rafter thrust” has occurred due to live and dead loads on the roof, causing the ridge to sag and the walls to bow outward. To prevent further damage, water



intrusion, and potential structural failure, the Town installed temporary rafter ties in the attic to counteract rafter thrust and temporary posts beneath the roof ridge to reduce sagging. These measures aim to stabilize the structure until permanent repairs can be made. This project was funded through a Public Safety ARPA Earmark secured from the state.

Firefighters Personal Protective Equipment
The Town allocated $16,000 in our annual capital improvement appropriation as well as $32,000 in a state budget earmark purchase PPE for Town firefighters. Firefighter standards mandate departments have two full sets of PPE per firefighter. Currently, the Fire Department does not meet this requirement, needing approximately 10 more sets to comply. Having two full sets for each firefighter on duty allows a member to properly decontaminate and dry their gear in between incidents and still have another set to use if another incident or call takes place. In addition, PPE gear should be replaced every ten years.



Fire Chief's Command Vehicle
The FY24 State Budget included an earmark in the amount of $25,000 to support the acquisition of a new command vehicle for the Fire Chief. This, along with an ARPA Public Safety Earmark, was used to purchase the vehicle. The old Fire Chief's vehicle was a 2015 Ford Explorer police interceptor with over 64,000 miles. The transmission had already been replaced once and the vehicle experienced significant wear and tear. The vehicle is used as the command vehicle for all incidents within the Town and in any of our mutual aid communities, as needed. The vehicle carries the Chief's personal protective equipment and emergency communications radios as well as the command board. The command board allows the Department to organize incident tactical priorities



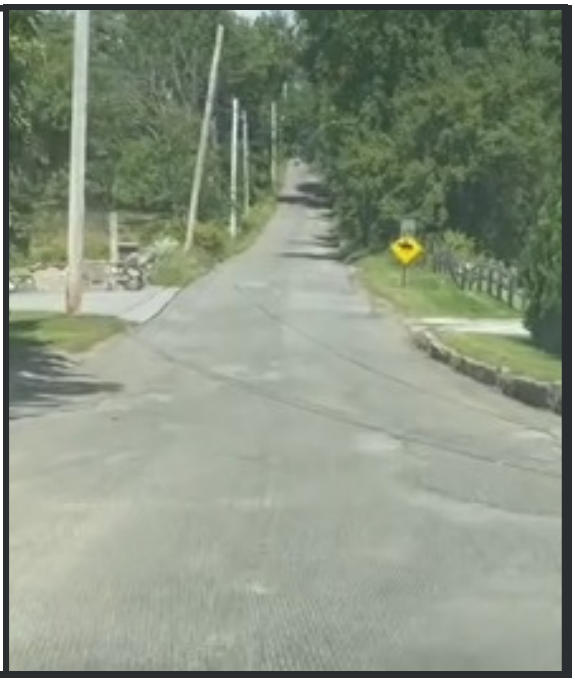
and most importantly track where firefighters are operating while on scene. The vehicle also carries a self-contained breathing apparatus, two fire extinguishers and a full complement of emergency medical equipment including an AED so the Chief can handle minor fire and medical emergencies either before the arrival of Fire Department personnel or if there are simultaneous calls at once.

Highway Department

Highway Garage Heating Unit Replacement
This project involved replacing an existing natural gas space heater. This work included connecting the new unit to the existing gas piping and flue system, completing all necessary wiring, and removing the old unit.



Street Paving
The Highway Department budget includes an annual allocation of $45,5000 for street paving throughout the Town. The Town also receives Chapter 90 funds from the state. Per the legislatively established formula, the amount of funding a municipality receives is based on local road mileage (58.33%), population (20.83%), and employment (20.83%). Local road mileage is gathered from MassDOT's Road Inventory File. In FY2025, the Town of Dunstable is slated to receive $184,722 in Chapter 90 funding. This fiscal year, the Highway Department paved a portion of High Street, Jamie and Adams Road.



Freightliner Plow Truck
The Highway Department is purchasing a new Freightliner Plow Truck to replace one of its aging plow trucks. The truck is being paid for by using Chapter 90 state funds.

Joint Grass Brook Culvert
The Joint Grass Brook Culvert on Main Street needs replacement. The Town secured a $250,000 state budget earmark to begin the design of the project, and it is now working with Hoyle Tanner engineers to provide comprehensive design and bid-phase services for the project. During the design phase, tasks include site visits, wetland delineations, hydrologic and hydraulic analyses, preparation of detailed plans and reports, permitting, utility coordination, and grant application support, along with stakeholder and public engagement. The bid phase includes assisting with advertisement, managing the bid process, issuing addenda, and evaluating bids to ensure compliance.



Cemetery Department

Pick-Up Truck
The Cemetery Department is planning to acquire a pick-up truck using cemetery trust funds in FY25. The Town is in the process of preparing a Invitation for Bids for this purchase.

Conservation Commission

Woodward's Mill Dam
The Phase II Assessment of the dam has been completed and was funded by the Community Preservation Act in the amount of $61,308. There were deficiencies identified with the dam in June 2021 following a report by Haley and Aldrich. The report was requested after the Town observed sinkholes developing in proximity of the dam. The Phase II report includes design and rehabilitation alternatives for the Town to consider and implement.



Library

Window and Door Replacement
At the library, window frames and trim, fascia, and soffits are deteriorating and in need of repair. The Town has secured a $43,000 state budget earmark to fund building improvements which we anticipate including replacement, repair, and installation of the exterior doors and windows, as needed and other building repairs.



Recreation Commission

Larter Field Well Repairs
Larter Field relies on 7 shallow point wells to supply water to its irrigation system. Each of the wells are approximately 30 feet deep. Last year, 5 of the 7 wells were renovated. This project replaced the last two remaining wells. These repairs were funded by the Community Preservation Act.

Tennis Court Relocation and Construction
This project is in progress and includes the construction of (3) tennis/ (6) pickle ball courts at Larter Field. It is being funded by the Community Preservation Act.



FY26 DEPARTMENTAL PROJECT SUBMITTALS



GENERAL GOVERNMENT

GROTON WATER SYSTEM EXPANSION

TOWN OF GROTON, MASSACHUSETTS

TOWN MANAGER
MARK W. HADDAD

BOARD OF WATER COMMISSIONERS
JOHN J. MCCAFFREY JR. - CHAIR
GREG R. FISHBONE - VICE CHAIR
JAMES L. GMEINER - MEMBER

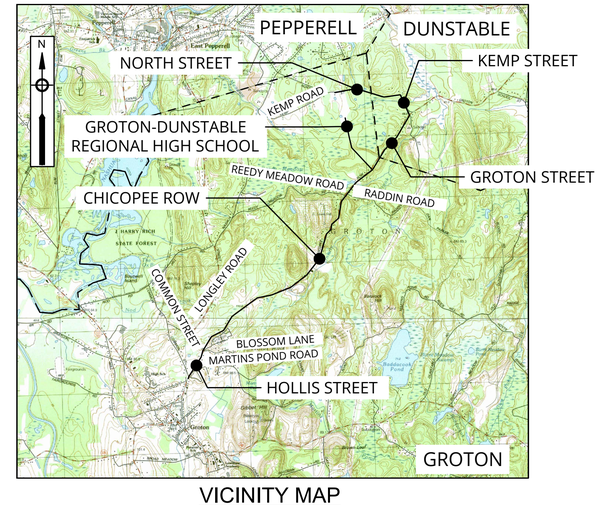
WATER DEPARTMENT SUPERINTENDENT
THOMAS D. ORCUTT

SENIOR WATER TECHNICIAN
STEPHEN KNOX
MICHAEL MACEACHERN
ROBERT MALONEY

WATER DEPARTMENT OFFICE ASSISTANT
ANN LIVEZEY

WATER DEPARTMENT BUSINESS MANAGER
LAUREN CRORY

FOR REVIEW
JUNE 2024



VICINITY MAP
1"= 4000'

ENVIRONMENTAL PARTNERS
— An Apex Company —

LIST OF DRAWINGS

G-1 DRAWING INDEX AND GENERAL NOTES

C-1 WATER SYSTEM EXPANSION DESIGN PLAN - 01
HOLLIS STREET STA 00+00 - 08+96

C-2 WATER SYSTEM EXPANSION DESIGN PLAN - 02
HOLLIS STREET STA 08+96 - 15+50
CHICOPEE ROW STA 15+50 - 30+72

C-3 WATER SYSTEM EXPANSION DESIGN PLAN - 03
CHICOPEE ROW STA 30+72 - 52+04

C-4 WATER SYSTEM EXPANSION DESIGN PLAN - 04
CHICOPEE ROW STA 52+04 - 73+40

C-5 WATER SYSTEM EXPANSION DESIGN PLAN - 05
CHICOPEE ROW STA 73+40 - 95+57

C-6 WATER SYSTEM EXPANSION DESIGN PLAN - 06
CHICOPEE ROW STA 95+57 - 117+08

C-7 WATER SYSTEM EXPANSION DESIGN PLAN - 07
CHICOPEE ROW STA 117+08 - 138+12

C-8 WATER SYSTEM EXPANSION DESIGN PLAN - 08
CHICOPEE ROW STA 138+12 - 160+42

C-9 WATER SYSTEM EXPANSION DESIGN PLAN - 09
CHICOPEE ROW STA 160+42 - 161+13
GROTON STREET STA 161+13 - 180+84

C-10 WATER SYSTEM EXPANSION DESIGN PLAN - 10
GROTON STREET STA 180+84 - 189+50
KEMP STREET STA 189+50 - 199+08

C-11 WATER SYSTEM EXPANSION DESIGN PLAN - 11
KEMP STREET STA 199+08 - 216+90

C-12 WATER SYSTEM EXPANSION DESIGN PLAN - 12
KEMP STREET STA 216+90 - 217+50
NORTH STREET STA 217+50 - 236+52

C-13 WATER SYSTEM EXPANSION DESIGN PLAN - 13
GROTON-DUNSTABLE REGIONAL HIGH SCHOOL WATER SERVICE

C-14 WATER SYSTEM EXPANSION DESIGN PLAN - 14
GROTON-DUNSTABLE REGIONAL HIGH SCHOOL WATER SERVICE

CD-1 WATER DETAILS I

CD-2 WATER DETAILS II

CD-3 ENVIRONMENTAL CONTROL AND WATER DETAILS

CD-4 PAVING AND RESTORATION DETAILS

B-1 TREATMENT BUILDING EXTERIOR ELEVATIONS

M-1 NOTES AND LEGEND

M-2 MECHANICAL SCHEDULE

M-3 PROCESS MECHANICAL PLAN

M-4 PROCESS MECHANICAL SECTIONS

M-5 CHEMICAL FEED SCHEMATICS

M-6 MECHANICAL DETAILS I

M-7 MECHANICAL DETAILS II

TMP TRAFFIC MANAGEMENT PLAN

I CHEMICAL BOOSTER STATION

GENERAL NOTES

1. BASE MAP INFORMATION SHOWN ON DESIGN SHEETS IS TAKEN FROM A FIELD INSTRUMENT SURVEY PERFORMED BY ENVIRONMENTAL PARTNERS IN MARCH OF 2023 TO MARCH OF 2024. WETLAND INFORMATION IS TAKEN FROM A DELINEATION PERFORMED BY PINEBROOK CONSULTING IN AUGUST OF 2023 TO MARCH OF 2024 AND MASSGIS WHERE NOTED.
2. IN AREAS WHERE CONSTRUCTION ACTIVITIES ARE ANTICIPATED TO OCCUR WITHIN PRIVATE PROPERTY, PROPERTY LINE LOCATIONS ARE TO BE REVIEWED WITH THE TOWN OF GROTON PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
3. THE CONTRACTOR SHALL NOT STORE ANY APPARATUS, MATERIALS, SUPPLIES, OR EQUIPMENT ON DRAINAGE STRUCTURES, PRIVATE PROPERTY, OR WITHIN 100 FEET OF WETLANDS, UNLESS DIRECTED TO DO SO BY THE CONTRACT DOCUMENTS.
4. NORTH DIRECTION SHOWN IS APPROXIMATE.
5. ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY DIG SAFE AT LEAST 72 HOURS IN ADVANCE, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO ANY EXCAVATION.
6. DO NOT SCALE DRAWINGS UNLESS OTHERWISE NOTED. WRITTEN DIMENSIONS AND STATIONING SHALL PREVAIL. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
7. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
8. THE CONTRACTOR SHALL RESTORE ALL PUBLIC AND PRIVATE PROPERTY TO ITS PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST TO THE OWNER.
9. ALL EXISTING STORM DRAIN LINES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE. THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER, SHALL REPAIR ANY EXISTING STORM DRAIN LINES OR CULVERTS DAMAGED DURING CONSTRUCTION.
10. IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48-HOUR NOTIFICATION TO THE RESPECTIVE UTILITY COMPANY. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACING OF UTILITIES.
11. ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. INJURY TO ANY SUCH STRUCTURE CAUSED BY, OR RESULTING FROM, THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY AND THE OWNER.
12. THE CONTRACTOR IS TO TAKE SPECIAL CARE NOT TO DAMAGE TREES, BUSHES, PLANTS, FLOWERS, STONEWALLS, FENCES, ETC. WITHIN THE CONSTRUCTION AREA UNLESS THEY ARE NOTED TO BE REMOVED. CONTRACTOR SHALL REPLACE ALL DAMAGED ITEMS AT NO COST TO OWNER.
13. CONTRACTOR SHALL REMOVE AND REPLACE, OR REPAIR, ALL CURBS, SIDE WALKS, PAVEMENT AND OTHER ITEMS DAMAGED BY THEIR CONSTRUCTION ACTIVITIES TO AT LEAST THEIR ORIGINAL CONDITION, AND TO THE SATISFACTION OF THE TOWN AND ENGINEER.
14. ANY TRAFFIC SIGNAL EQUIPMENT (LIGHTS, CONDUITS, LOOP DETECTORS, ETC.) DISTURBED SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AS DIRECTED BY THE OWNER AT THE CONTRACTOR'S EXPENSE.
15. THE CONTRACTOR SHALL INSTALL AND MAINTAIN TRAFFIC CONTROL DEVICES AS NECESSARY AND IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
16. THE CONTRACTOR SHALL BE REQUIRED TO FURNISH AND MAINTAIN A TELEPHONE NUMBER WHERE THE CONTRACTOR CAN BE REACHED 24 HOURS A DAY, 7 DAYS A WEEK.
17. THE LOCATION AND LIMITS OF ALL ON-SITE WORK AND STORAGE AREAS SHALL BE REVIEWED/COORDINATED WITH, AND ACCEPTABLE TO THE TOWN OF GROTON. THE CONTRACTOR SHALL LIMIT THEIR ACTIVITIES TO THESE AREAS.
18. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR WORK IN ROADWAYS. THE CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO ALL PERMITS AS AN INTEGRAL PART OF THE WORK.
19. THE CONTRACTOR SHALL HANDLE GROUNDWATER, WHERE ENCOUNTERED, IN AN APPROVED MANNER. DURING ANY DEWATERING, THE CONTRACTOR SHALL USE STONE AROUND THE SUCTION END TO MINIMIZE DISCHARGE OF TRENCH MATERIALS. THE DISCHARGED WATER SHALL PASS THROUGH FILTER FABRIC.
20. THE CONTRACTOR SHALL PLACE TEMPORARY TRENCH PAVEMENT AS DESCRIBED IN DRAWINGS AND SPECIFICATIONS. PAVING OF ALL TRENCHES IS REQUIRED AT THE END OF EACH WORK WEEK.
21. ALL TRAFFIC MANAGEMENT CONTROL DEVICES, INCLUDING VARIABLE MESSAGE BOARDS, BARRELS, CONES, AND SIGNAGE, SHALL BE FURNISHED AND DEPLOYED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
22. DURING CONSTRUCTION ON LOCAL ROADS, ONE LANE OF THE ROAD SHALL BE KEPT OPEN AT ALL TIMES.

LEGEND

EXISTING

DESCRIPTION	LINETYPE
BUILDINGS	#35
CONTOURS - MAJOR	10
CONTOURS - MINOR	7
CURB	
DRAINAGE UNDERGROUND	D D
ELECTRIC OVERHEAD WIRES	OHW
ELECTRIC UNDERGROUND	E E
SANITARY SEWER	S S
GAS LINE	G G
EDGE OF PAVEMENT	
FENCES	
PROPERTY LINES	
VEGETATION	
WATER SYSTEMS - UNDERGROUND	W W
WETLAND BUFFER - 50'	50
WETLAND BUFFER - 100'	100
WETLAND LIMIT	WL
STONE WALL	

DESCRIPTION	MARKER
CATCH BASIN	
DRAIN MANHOLE	D
SANITARY SEWER MANHOLE	S
GUY-WIRE UTILITY POLE	
MAILBOX	
UTILITY POLE	
WETLAND FLAG	
ELECTRIC MANHOLE	E
GAS GATE	
WATER GATE	
HYDRANT	
SIGN	
CONIFEROUS TREE	
DECIDUOUS TREE	
TREE STUMP	
TEMPORARY BENCH MARK	
WATER SHUTOFF	
GAS METER	

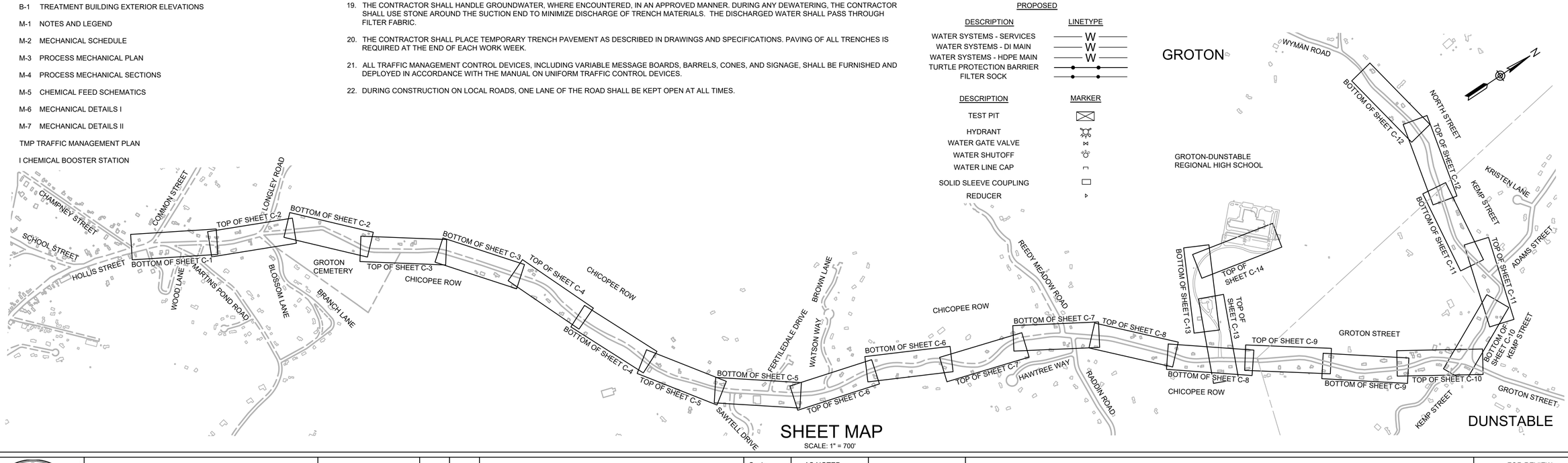
PROPOSED

DESCRIPTION	LINETYPE
WATER SYSTEMS - SERVICES	W
WATER SYSTEMS - DI MAIN	W
WATER SYSTEMS - HDPE MAIN	W
TURTLE PROTECTION BARRIER	
FILTER SOCK	

DESCRIPTION	MARKER
TEST PIT	
HYDRANT	
WATER GATE VALVE	
WATER SHUTOFF	
WATER LINE CAP	
SOLID SLEEVE COUPLING	
REDUCER	

ABBREVIATIONS

AC	ASBESTOS-CEMENT
BCLC	BITUMINOUS CONCRETE LIP CURB
BM	BENCHMARK
BIT	BITUMINOUS
C	COVER
CC	CONCRETE CURB
CI	CAST IRON
CMP	CORRUGATED METAL PIPE
CONC.	CONCRETE
CPP	CORRUGATED PLASTIC PIPE
D	DRAIN
DI	DUCTILE IRON
DIPS	DUCTILE IRON PIPE SIZE
EOP	EDGE OF PAVEMENT
FE	IRON
G	GAS
G.C	GRANITE CURB
G.G	GAS GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
HICK	HICKORY
HW	HARDWOOD
INV.	INVERT
IP	IRON PIPE
L.S.	LANDSCAPE
MAP	MAPLE
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
S	SEWER
STL	STEEL
UNK.	UNKNOWN
U.P.	UTILITY POLE
V.C	VITRIFIED CLAY
W	WATER
W.G	WATER GATE VALVE
T	TELEPHONE
TILES	VITRIFIED CLAY
TYP.	TYPICAL



SHEET MAP

SCALE: 1" = 700'

MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	JUNE 2024
Job No.	23005533
Designed by	TWS
Drawn by	BJC
Checked by	TWS
Approved by	TWS

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ENVIRONMENTAL PARTNERS — An Apex Company

GROTON WATER SYSTEM EXPANSION
GROTON, MA

DRAWING INDEX AND GENERAL NOTES

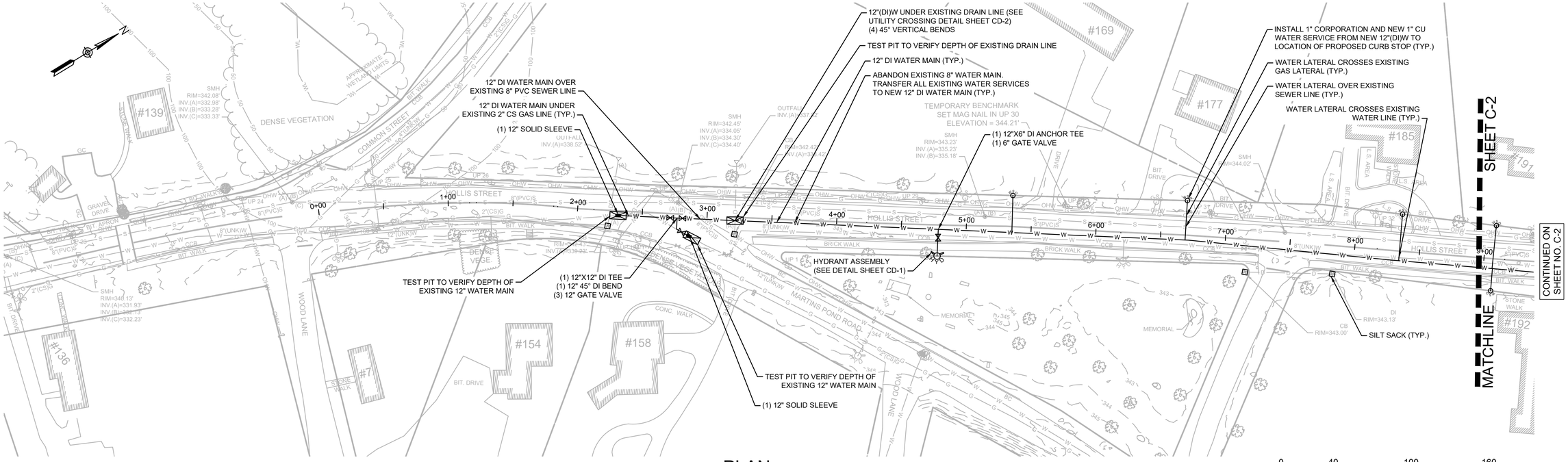
FOR REVIEW

Sheet No. G-1

Drawing file: I:\Groton\30\6\23005533 - Emerg Water Main Design\03 Design\Drawings\23005533 Emerg Water Main Design_G-Sheets.dwg Plot: Date: Jun 03,2024-5:28pm

WATER MAIN NOTES

1. ALL HYDRANT BRANCHES SHALL HAVE VALVES AS SHOWN ON THE HYDRANT DETAIL.
2. LOCATION OF ALL HYDRANTS SHALL BE VERIFIED BY THE GROTON FIRE DEPARTMENT, ENGINEER AND WATER DISTRICT PRIOR TO DIGGING FOR INSTALLATION.
3. MINIMUM COVER OVER THE PROPOSED WATER MAIN, SERVICES, AND APPURTENANCES SHALL BE 5'-0" UNLESS OTHERWISE NOTED OR DIRECTED BY ENGINEER. WHERE NECESSARY, NEW WATER MAINS SHALL BE INSTALLED AT A GREATER DEPTH TO CLEAR OBSTACLES SHOWN ON THE DRAWINGS AT NO ADDITIONAL COST TO THE OWNER. MINIMUM CLEARANCES TO UTILITIES, AS SHOWN ON THE DRAWINGS SHALL BE MAINTAINED.
4. TEST PITS TO LOCATE EXISTING UTILITIES MAY BE ORDERED BY THE ENGINEER TO DETERMINE WHETHER TO RAISE OR LOWER THE PROPOSED WATER MAIN TO CLEAR EXISTING UTILITIES OR MEET EXISTING WATER MAINS.
5. EXISTING SERVICES SHALL NOT BE CONNECTED TO THE PROPOSED WATER MAIN UNTIL SATISFACTORY PRESSURE TEST AND DISINFECTION RESULTS HAVE BEEN RECEIVED BY THE ENGINEER AND ACCEPTED BY THE ENGINEER.
6. EXISTING WATER MAINS OR SERVICES SHALL NOT BE ABANDONED WITHOUT THE APPROVAL OF THE OWNER. WATER SERVICE SHALL NOT BE INTERRUPTED MORE THAN 4 HOURS WITHOUT PRIOR APPROVAL OF THE OWNER.
7. ANY HYDRANT WHICH IS NOT IN SERVICE SHALL BE COVERED WITH A SECURELY FASTENED BURLAP BAG (OR EQUAL).
8. THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES OR HYDRANTS WHICH HOLD WATER IN THE SYSTEM. THE OWNER WILL, ON 24 HOURS NOTICE FROM THE CONTRACTOR, OPEN AND/OR CLOSE ANY VALVES OR HYDRANTS REQUIRED FOR DRAINING OR ADMITTING WATER TO THE VARIOUS SECTIONS OF THE WATER MAINS.
9. OPEN TRENCHES MUST BE BACK FILLED AT THE END OF THE WORKDAY OR COVERED WITH STEEL PLATES AND RAMPED AS APPROVED BY THE ENGINEER AND TOWN. WORK ON STATE ROADS SHALL BE COMPLETED IN ACCORDANCE WITH MASSDOT ACCESS PERMIT.
10. THE CONTRACTOR IS REQUIRED TO NOTIFY AND COORDINATE WITH THE RESIDENTS ALL WATER MAIN SHUT DOWNS 24 HOURS IN ADVANCE.
11. ALL EXISTING WATER SERVICES SHALL BE CONNECTED TO PROPOSED WATER MAIN. NEW SERVICE TO RUN FROM MAIN TO LOCATION OF EXISTING CURB STOP (AT MINIMUM). REPLACE EXISTING CURB STOP AND BOX AND CONNECT TO EXISTING WATER SERVICE ON OWNER'S SIDE.
12. CONCRETE THRUST BLOCKS AND MEGALUG (OR APPROVED EQUAL) MECHANICAL JOINT RESTRAINTS ARE REQUIRED AT ALL TEES, BENDS, PLUGS AND HYDRANTS.
13. WATER SERVICES SHALL BE INSULATED IN AREAS WHERE CONNECTION TO EXISTING WATER SERVICE IS LESS THAN 5 FEET DEEP.
14. VALVE DECOMMISSIONING - CLOSE VALVE, REMOVE AND LEGALLY DISPOSE OF GATE BOX, FILL HOLE, AND PAVE ACCORDING TO TYPICAL TRENCH DETAIL.
15. SLEEVES, NIPPLES, AND ACCESSORIES NECESSARY FOR CONNECTIONS BETWEEN EXISTING AND NEW PIPES MAY NOT BE SHOWN IN DETAIL. FURNISH AND INSTALL ITEMS NECESSARY FOR CONNECTING TO EXISTING MAINS AND AS INDICATED ON THE CONTRACT DOCUMENTS.
16. CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF ALL MATERIAL REMOVED FROM THE TRENCH DURING CUTTING AND CAPPING OF EXISTING WATER MAINS.
17. EXCEPT WHERE OTHERWISE DIRECTED, 18" MINIMUM CLEARANCE SHALL BE PROVIDED BETWEEN THE NEW MAINS AND OTHER UTILITIES WHERE THEY CROSS. WHERE NEW MAIN PASSES UNDER UTILITIES, IT SHALL CROSS WITHOUT THE USE OF BENDS, TO THE EXTENT PRACTICABLE.
18. DUST CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
19. THE OVERNIGHT STORAGE OF MATERIALS, SUPPLIES AND EQUIPMENT MUST BE APPROVED BY THE OWNER AND ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A "STAGING AREA" FOR PIPES, SUPPLIES, MATERIALS, AND EQUIPMENT.
20. CONTRACTOR SHALL COORDINATE FINAL LOCATIONS OF CURB STOPS WITH THE ENGINEER AND OWNER.
21. MAINTAIN WATER MAIN MINIMUM HORIZONTAL DISTANCE OF 10 FEET FROM SEWER MAINS.



PLAN
SCALE:1" = 40'

0 40 100 160
SCALE: 1" = 40'

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ENVIRONMENTAL PARTNERS
— An Apex Company —

MARK	DATE	DESCRIPTION

Scale	1" = 40'
Date	JUNE 2024
Job No.	23005533
Designed by	TWS
Drawn by	BJC
Checked by	TWS
Approved by	TWS

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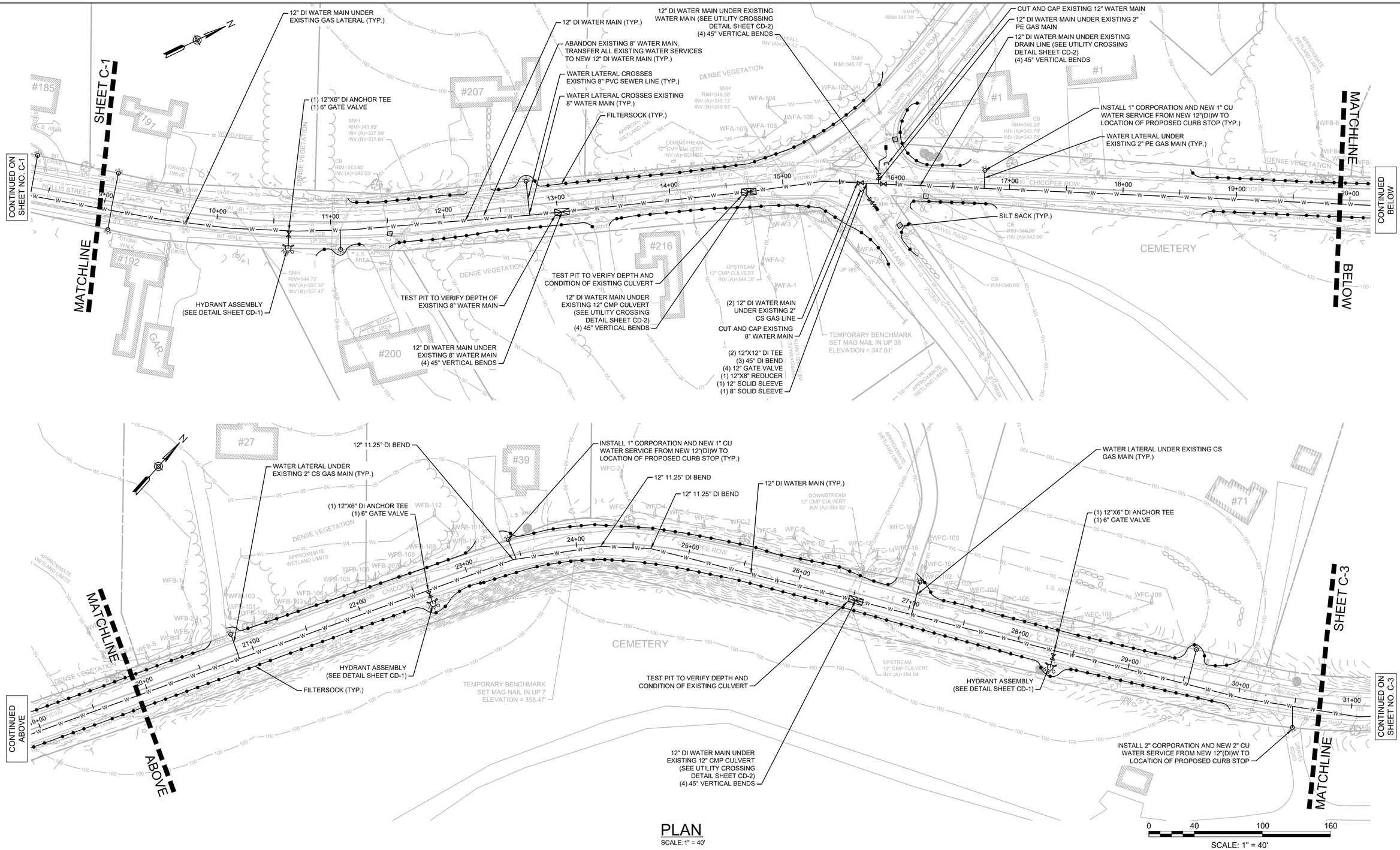
GROTON WATER SYSTEM EXPANSION
GROTON, MA

WATER SYSTEM EXPANSION DESIGN PLAN - 01
HOLLIS STREET STA 00+00 - 08+96

FOR REVIEW

Sheet No.
C-1

Drawing file: I:\Groton\30622\035533 - Emerg Water Main Design\03 Design\Drawings\22035533 Emerg Water Main Design_ Water-Main-Design-Sheets.dwg Plot Date: Jun 03,2024-5:28pm



PLAN
SCALE:1" = 40'

MARK	DATE	DESCRIPTION

Scale	1" = 40'
Date	JUNE 2024
Job No.	23005533
Designed by	TWS
Drawn by	BJC
Checked by	TWS
Approved by	TWS

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ENVIRONMENTAL PARTNERS — An Apex Company

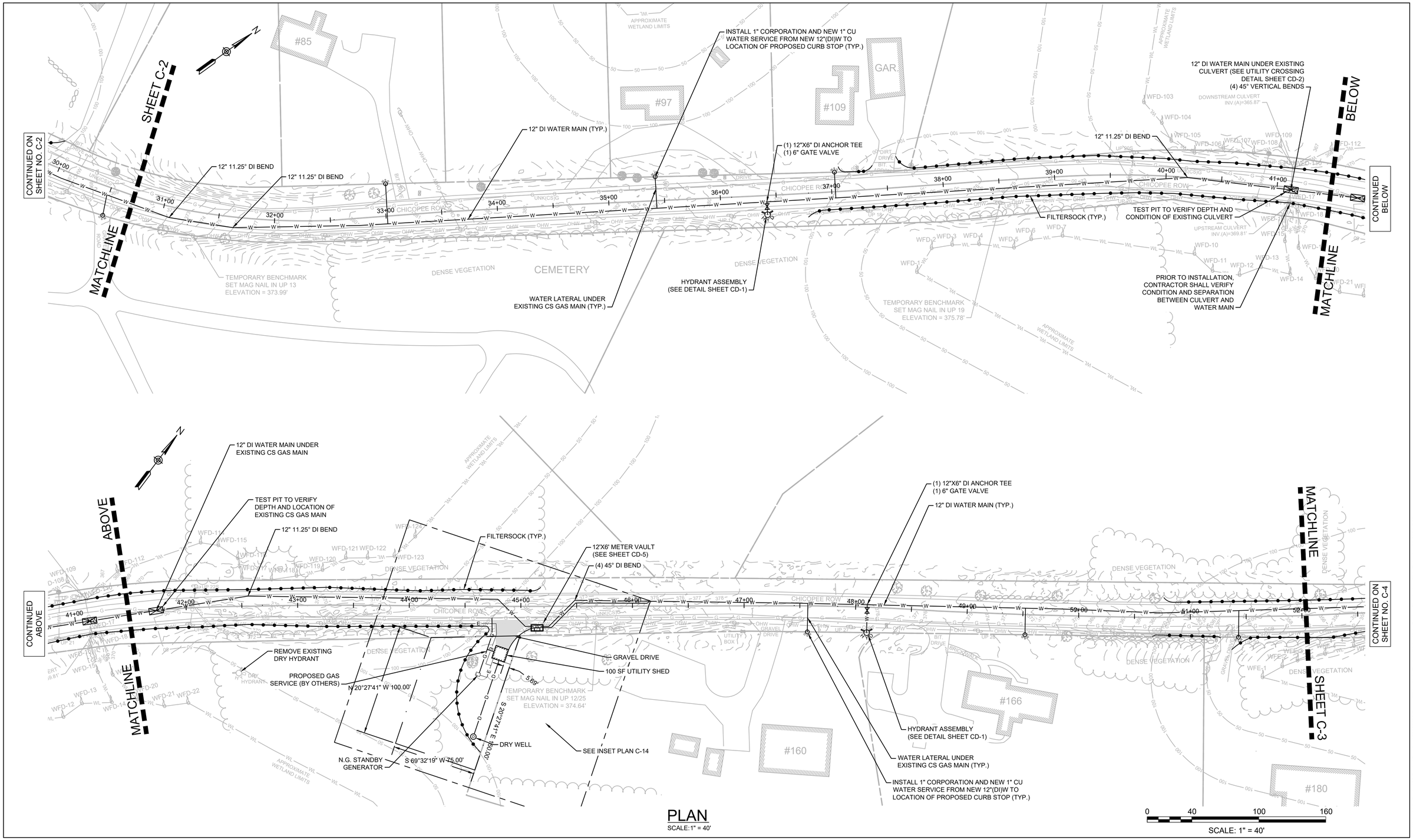
GROTON WATER SYSTEM EXPANSION
GROTON, MA

WATER SYSTEM EXPANSION DESIGN PLAN - 02
HOLLIS STREET STA 08+96 - 15+50
CHICOPEE ROW STA 15+50 - 30+72

FOR REVIEW

Sheet No.
C-2

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PLAN
SCALE:1" = 40'

ENVIRONMENTAL PARTNERS
— An Apex Company —

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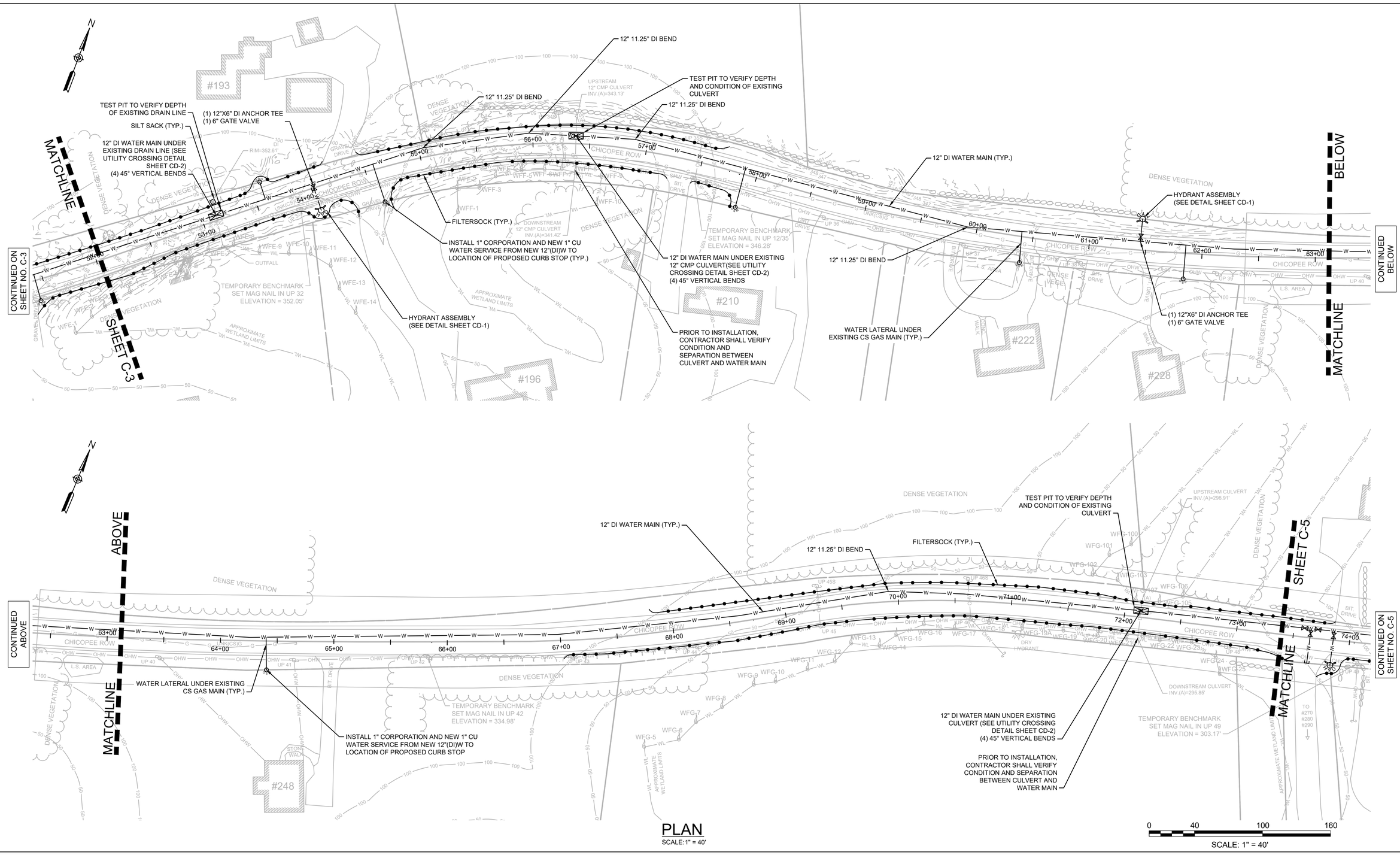
GROTON WATER SYSTEM EXPANSION
GROTON, MA

WATER SYSTEM EXPANSION DESIGN PLAN - 03
CHICOPEE ROW STA 30+72 - 52+04

FOR REVIEW

Sheet No.
C-3

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PLAN

SCALE:1" = 40'

			Scale	1" = 40'
			Date	JUNE 2024
			Job No.	23005533
			Designed by	TWS
			Drawn by	BJC
			Checked by	TWS
MARK	DATE	DESCRIPTION	Approved by	TWS

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GROTON WATER SYSTEM EXPANSION
GROTON, MA

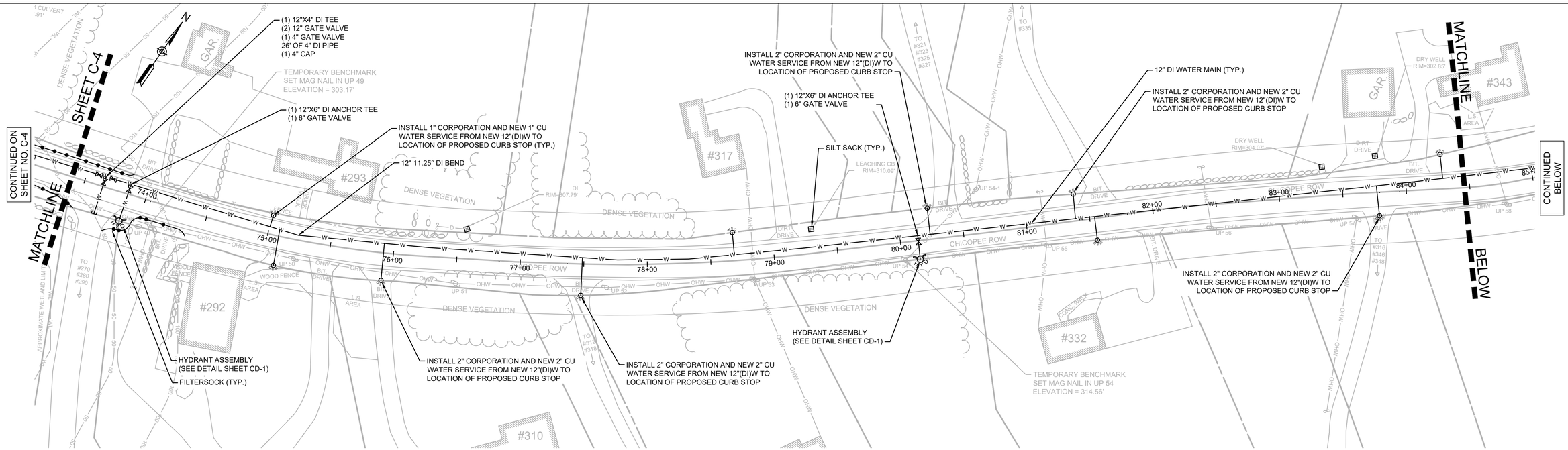
WATER SYSTEM EXPANSION DESIGN PLAN - 04
CHICOPEE ROW STA 52+04 - 73+40

FOR REVIEW

Sheet No.

C-4

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PLAN
SCALE:1" = 40'

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ENVIRONMENTAL PARTNERS
— An Apex Company —

MARK	DATE	DESCRIPTION

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Drawn by	BJC
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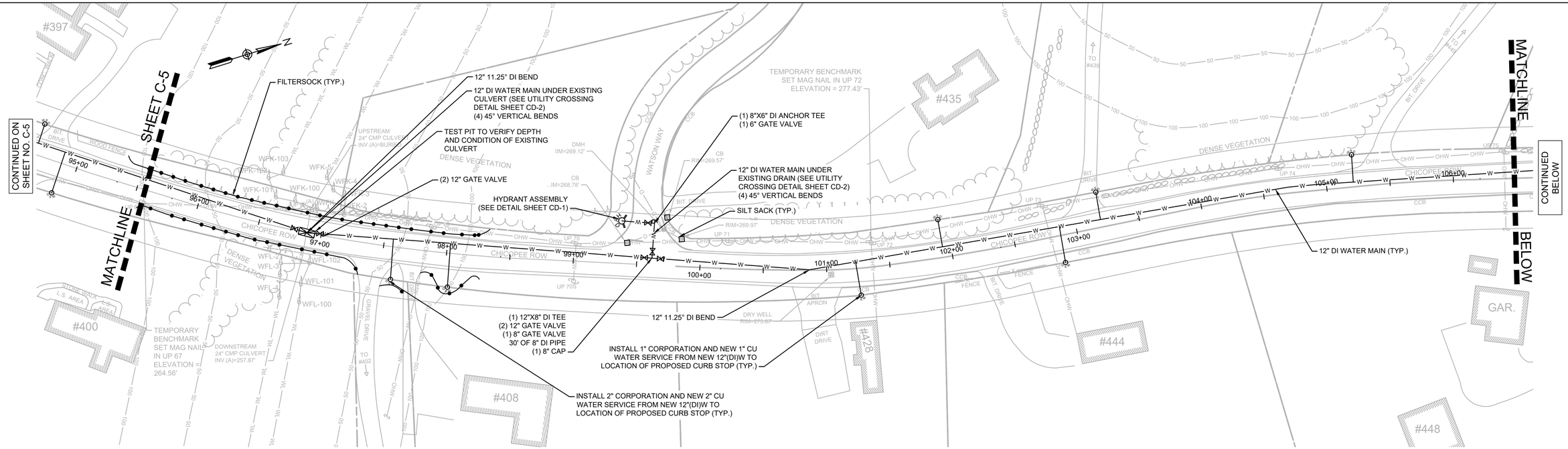
GROTON WATER SYSTEM EXPANSION
GROTON, MA

WATER SYSTEM EXPANSION DESIGN PLAN - 05
CHICOPEE ROW STA 73+40 - 95+57

FOR REVIEW

Sheet No.
C-5

Drawing file: I:\Groton.306\23035533 - Emerg Water Main Design\03 Design\Drawings\23035533 Emerg Water Main Design_Water-Main-Design-Sheets.dwg Plot Date: Jun 03,2024-5:29pm



PLAN
SCALE:1" = 40'

ENVIRONMENTAL PARTNERS
— An Apex Company —

MARK	DATE	DESCRIPTION

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Checked by	TWS
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GROTON WATER SYSTEM EXPANSION
GROTON, MA

WATER SYSTEM EXPANSION DESIGN PLAN - 06
CHICOPEE ROW STA 95+57 - 117+08

FOR REVIEW

Sheet No.
C-6

Drawing file: I:\Groton,306\23005533 - Emerg Water Main Design\03 Design\Drawings\23005533 Emerg Water Main Design_Water-Main-Design-Sheets.dwg Plot Date: Jun 03,2024-5:30pm

CONTINUED ON SHEET NO. C-6

SHEET C-6

MATCHLINE

CONTINUED BELOW

MATCHLINE

BELOW

CONTINUED ABOVE

ABOVE

SHEET C-8

CONTINUED ON SHEET NO. C-8

INSTALL 1" CORPORATION AND NEW 1" CU WATER SERVICE FROM NEW 12"(DI)W TO LOCATION OF PROPOSED CURB STOP (TYP.)

12" 11.25° DI BEND

HYDRANT ASSEMBLY (SEE DETAIL SHEET CD-1)

SILT SACK (TYP.)

TEST PIT TO VERIFY DEPTH OF EXISTING DRAIN LINE

12" DI WATER MAIN (TYP.)

(1) 12"X6" DI ANCHOR TEE
(1) 6" GATE VALVE

WATER MANHOLE WITH AIR RELIEVE VALVE (SEE DETAIL CD-5)

12" DI WATER MAIN UNDER EXISTING DRAIN LINE (SEE UTILITY CROSSING DETAIL SHEET CD-2)
(4) 45° VERTICAL BENDS

TEMPORARY BENCHMARK
SET MAG NAIL IN UP 87
ELEVATION = 333.08'

TEMPORARY BENCHMARK
SET MAG NAIL IN UP 90S
ELEVATION = 311.61'

TEMPORARY BENCHMARK
SET MAG NAIL IN UP 99S
ELEVATION = 277.39'

(1) 12"X12" DI TEE
(3) 12" GATE VALVE
40' OF 12" DI PIPE
(1) 12" CAP

12"X8" REDUCER

(1) 8"X6" DI ANCHOR TEE
(1) 6" GATE VALVE

INSTALL 1" CORPORATION AND NEW 1" CU WATER SERVICE FROM NEW 12"(DI)W TO LOCATION OF PROPOSED CURB STOP (TYP. OF 4)

INSTALL 1" CORPORATION AND NEW 1" CU WATER SERVICE FROM NEW 8"(DI)W TO LOCATION OF PROPOSED CURB STOP

(1) 8"X8" DI TEE
(3) 8" GATE VALVE
47' OF 8" DI PIPE
(1) 8" CAP

8" DI WATER MAIN

FILTERSOCK (TYP.)

HYDRANT ASSEMBLY (SEE DETAIL SHEET CD-1)

#508 #526 #528 #535 #549 #30 #559 #569 #575 #585 #4 #9 #18 #622

CHICOPEE ROW

DENSE VEGETATION

RAYDIN ROAD

REEDY MEADOW ROAD

APPROXIMATE WETLAND LIMITS

PLAN

SCALE:1" = 40'

0 40 100 160

SCALE: 1" = 40'

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ENVIRONMENTAL PARTNERS
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MARK	DATE	DESCRIPTION

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GROTON WATER SYSTEM EXPANSION
GROTON, MA

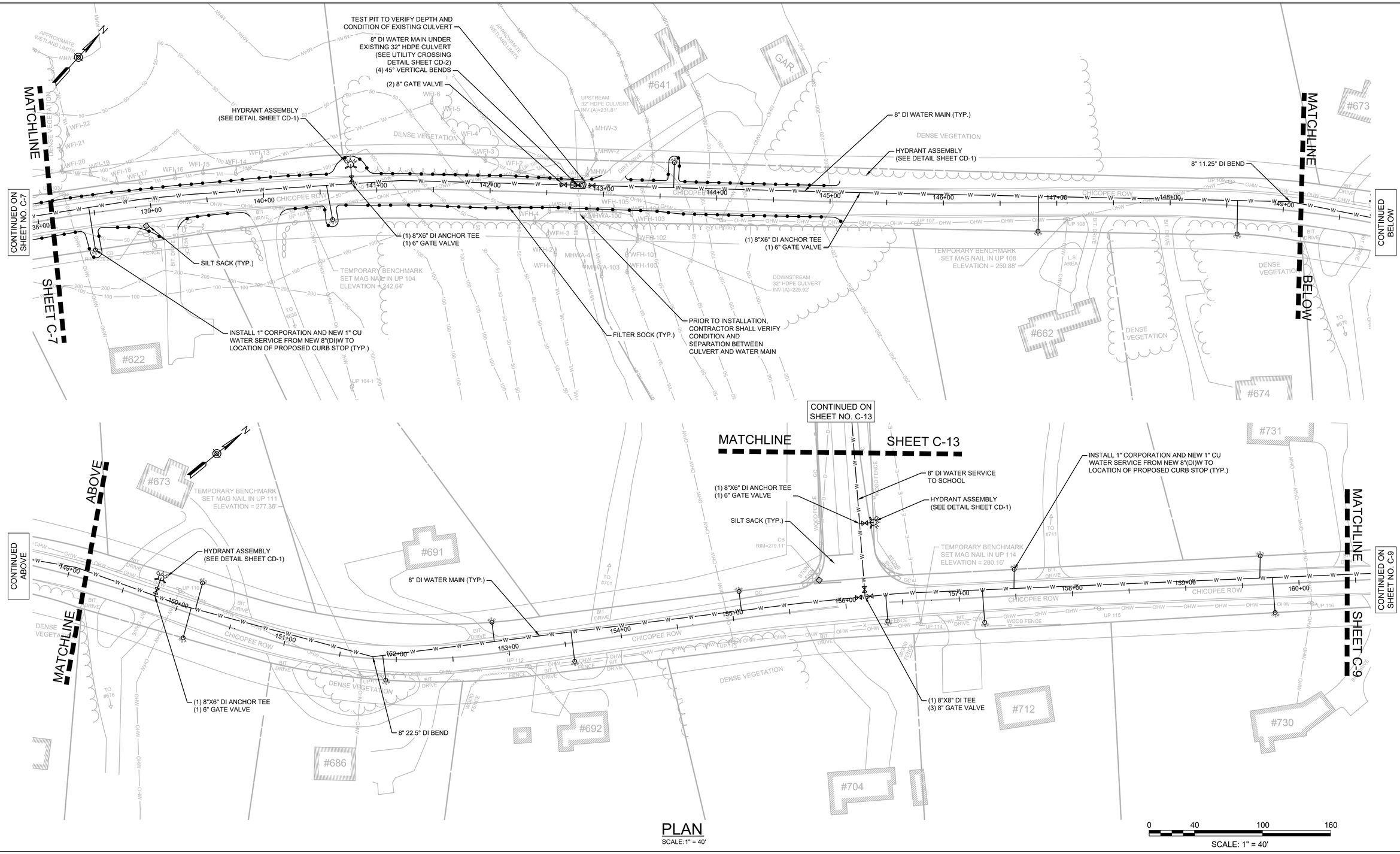
WATER SYSTEM EXPANSION DESIGN PLAN - 07
CHICOPEE ROW STA 117+08 - 138+12

FOR REVIEW

Sheet No.

C-7

Drawing file: I:\Groton.306\23005533 - Emerg Water Main Design\03 Design\Drawings\23005533 Emerg Water Main Design_Water-Main-Design-Sheets.dwg Plot Date: Jun 03,2024-5:30pm



ENVIRONMENTAL PARTNERS
— An Apex Company —

MARK	DATE	DESCRIPTION

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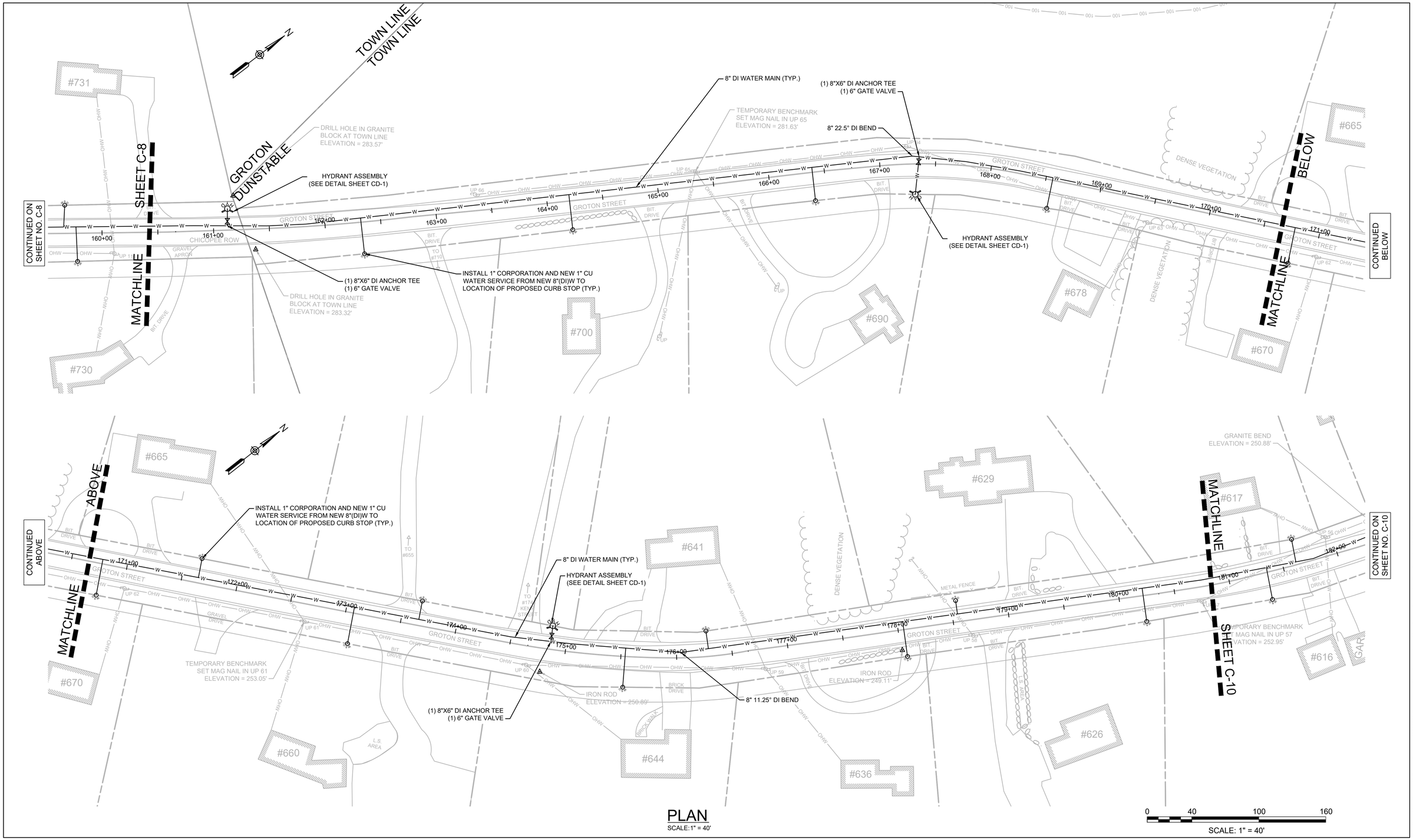
GROTON WATER SYSTEM EXPANSION
GROTON, MA

WATER SYSTEM EXPANSION DESIGN PLAN - 08
CHICOPEE ROW STA 138+12 - 160+42

FOR REVIEW

Sheet No.
C-8

Drawing file: I:\Groton.30\6223035533 - Emerg Water Main Design\03 Design\Drawings\223035533 Emerg Water Main Design_Water-Main-Design-Sheets.dwg Plot: Date: Jun 03,2024-5:38pm



PLAN
SCALE: 1" = 40'

0 40 100 160
SCALE: 1" = 40'

MARK	DATE	DESCRIPTION

Scale	1" = 40'
Date	JUNE 2024
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ENVIRONMENTAL PARTNERS
— An Apex Company —

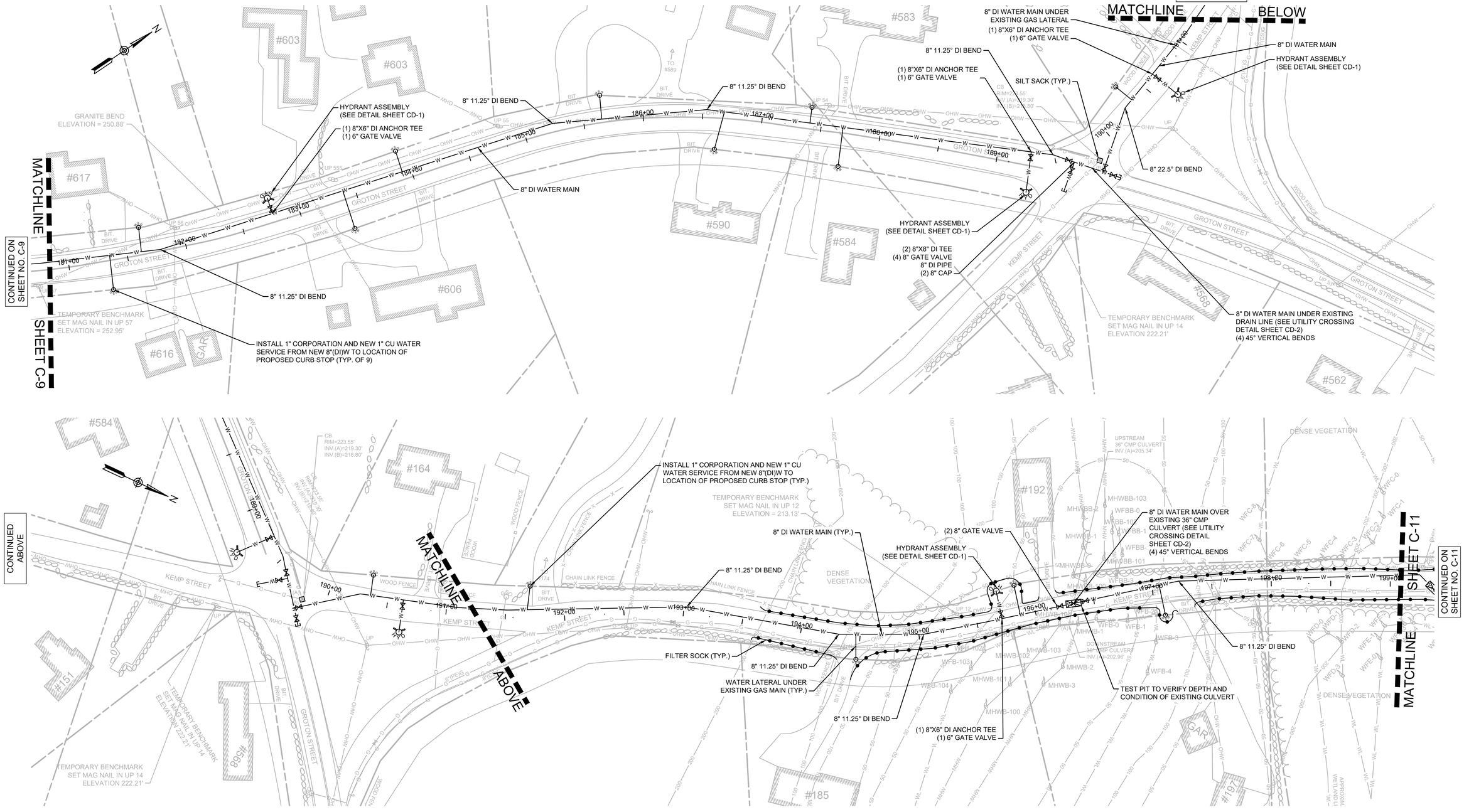
GROTON WATER SYSTEM EXPANSION
GROTON, MA

WATER SYSTEM EXPANSION DESIGN PLAN - 09
CHICOPEE ROW STA 160+42 - 161+25
GROTON STREET STA 161+13 - 180+84

FOR REVIEW

Sheet No.
C-9

Drawing file: I:\Groton 3060\23005533 - Emerg Water Main Design\03 Design\Drawings\23005533 Emerg Water Main Design_Water-Main-Design-Sheets-dwg Plot Date: Jun 03,2024-5:38pm



PLAN
SCALE: 1" = 40'

0 40 100 160
SCALE: 1" = 40'

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ENVIRONMENTAL PARTNERS
— An Apex Company —

MARK	DATE	DESCRIPTION

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GROTON WATER SYSTEM EXPANSION
GROTON, MA

WATER SYSTEM EXPANSION DESIGN PLAN - 10
GROTON STREET STA 180+84 - 189+50
KEMP STREET STA 189+50 - 199+08

FOR REVIEW

Sheet No.
C-10

Drawing file: I:\Groton.306\23005533 - Emerg Water Main Design\03 Design\Drawings\23005533 Emerg Water Main Design_Water-Main-Design-Sheets.dwg Plot Date: Jun 03,2024-5:31pm

CONTINUED ON SHEET NO. C-10

CONTINUED BELOW

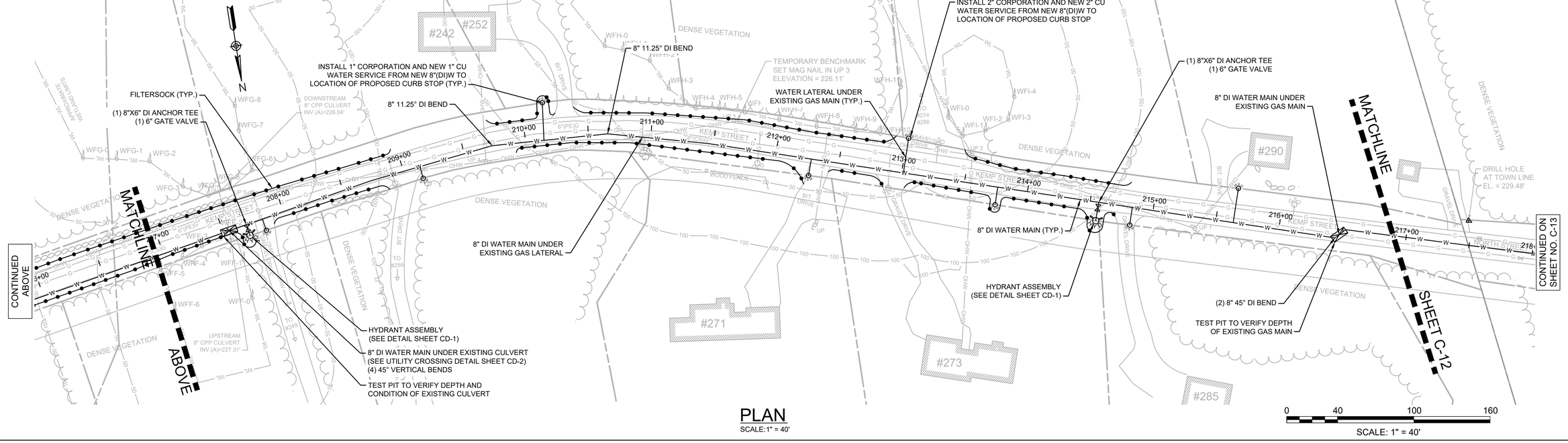
SHEET C-10

MATCHLINE

(2) 8" 45° DI BEND
8" DI WATER MAIN UNDER EXISTING GAS MAIN
(4) VERTICAL 8" DI BENDS
TEST PIT TO VERIFY DEPTH OF EXISTING GAS MAIN
INSTALL 1" CORPORATION AND NEW 1" CU WATER SERVICE FROM NEW 8"(DI)W TO LOCATION OF PROPOSED CURB STOP (TYP.)
WATER LATERAL UNDER EXISTING GAS MAIN (TYP.)
(1) 8"X6" DI ANCHOR TEE
(1) 6" GATE VALVE
8" 11.25° DI BEND
8" 22.5° DI BEND
8" 45° DI BEND
HYDRANT ASSEMBLY (SEE DETAIL SHEET CD-1)
(1) 8"X8" DI TEE
(3) 8" GATE VALVE
30' OF 8" DI PIPE
(1) 8" CAP
TEMPORARY BENCHMARK SET MAG NAIL IN UP 47 ELEVATION = 228.37'
8" DI WATER MAIN (TYP.)
SILT SACK (TYP.)
8" DI WATER MAIN UNDER EXISTING GAS MAIN
(2) 8"(DI)W UNDER EXISTING DRAIN LINE (SEE UTILITY CROSSING DETAIL SHEET CD-2)
(4) 45° VERTICAL BENDS
FILTERSOCK (TYP.)
TEMPORARY BENCHMARK SET MAG NAIL IN UP 6/23/44
#197
#212
#232
KEMP STREET
ADAMS STREET
DENSE VEGETATION

MATCHLINE

BELOW



MATCHLINE

ABOVE

CONTINUED ABOVE

SHEET C-12

CONTINUED ON SHEET NO. C-13

PLAN

SCALE: 1" = 40'

0 40 100 160

SCALE: 1" = 40'

GROTON • MASSACHUSETTS • FAITH HOPE BIBLE LABOR 1655

ENVIRONMENTAL PARTNERS
— An Apex Company —

MARK	DATE	DESCRIPTION

Scale	1" = 40'
Date	JUNE 2024
Job No.	23005533
Designed by	TWS
Drawn by	BJC
Checked by	TWS
Approved by	TWS

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

GROTON WATER SYSTEM EXPANSION
GROTON, MA

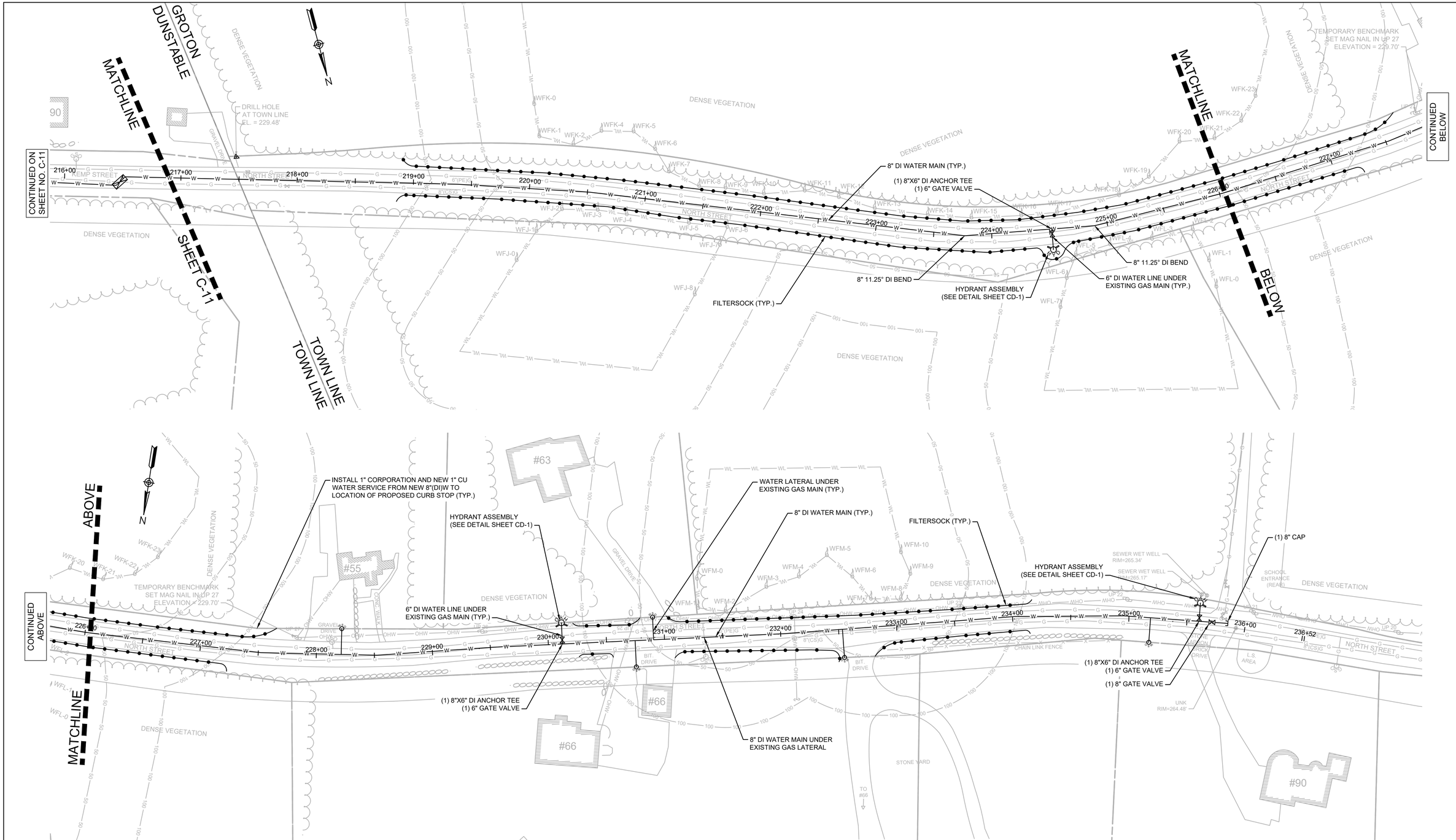
WATER SYSTEM EXPANSION DESIGN PLAN - 11
KEMP STREET STA 199+08 - 216+90

FOR REVIEW

Sheet No.

C-11

Drawing file: C:\Users\local_Brennan.Cummings\Temp\AcPublish_10\3928\2\2035533 Emerg Water Main Design_Water-Main-Design-Sheets-2.dwg Plot Date: Jun 03,2024-5:33pm



PLAN

SCALE: 1" = 40'

0 40 100 160

SCALE: 1" = 40'

GROTON • MASSACHUSETTS
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1655

ENVIRONMENTAL PARTNERS
— An Apex Company —

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GROTON WATER SYSTEM EXPANSION
GROTON, MA

WATER SYSTEM EXPANSION DESIGN PLAN - 12
KEMP STREET STA 216+90 - 217+50
NORTH STREET STA 217+50 - 236+52

FOR REVIEW

Sheet No.

C-12

Drawing file: C:\Users\local_Brennan.Cummings1\Temp\AcPublish_10392\82\20035533 Emerg Water Main Design_Water-Main-Design-Sheets-2.dwg Plot: Date: Jun 03,2024-5:34pm

CONTINUED ON SHEET NO. C-8

CONTINUED BELOW

MATCHLINE SHEET C-8

MATCHLINE BELOW

8"(DI)W CROSSES EXISTING ELECTRIC LINE (SEE UTILITY CROSSING DETAIL SHEET CD-2)

8" 11.25° DI BEND

SILTSACK (TYP.)

8" 11.25° DI BEND

8" DI WATER SERVICE (TYP.)

8" 22.5° DI BEND

TEMPORARY BENCHMARK
SET MAG NAIL IN UP 114
ELEVATION = 280.16'

CB
RIM=282.78'
INV.(A)=278.61'

DMH
RIM=283.00'
INV.(A)=272.50'
INV.(B)=278.33'
INV.(C)=271.83'

UNK
RIM=285.17'

#704 #712 #711 #701

CONTINUED ON SHEET NO. C-8

MATCHLINE ABOVE

CONTINUED ABOVE

8" DI WATER SERVICE (TYP.)

SILTSACK (TYP.)

TEST PIT TO VERIFY DEPTH OF EXISTING DRAIN LINE

8" DI WATER MAIN UNDER EXISTING DRAIN LINE (SEE UTILITY CROSSING DETAIL SHEET CD-2) (4) 45° VERTICAL BENDS

8" 22.5° DI BEND

8" DI W OVER EXISTING DRAIN LINE (SEE UTILITY CROSSING DETAIL SHEET CD-2)

8" 11.25° DI BEND

8" 11.25° DI BEND

8" 11.25° DI BEND

8" 11.25° DI BEND

HYDRANT ASSEMBLY (SEE DETAIL SHEET CD-1)

CB
RIM=283.39'
INV.(A)=278.89'

CB
RIM=280.20'
INV.(A)=275.53'

CB
RIM=271.63'
INV.(A)=266.63'

CB
RIM=262.29'
INV.(A)=258.04'

DMH
RIM=277.96'
INV.(A)=274.79'

DMH
RIM=280.13'
INV.(A)=267.63'
INV.(B)=275.46'
INV.(C)=267.21'

DMH
RIM=261.64'
INV.(A)=257.31'
INV.(B)=257.64'
INV.(C)=256.64'

TEMPORARY BENCHMARK
SET MAG NAIL IN STONE WALL
ELEVATION = 275.05'

CORNER OF ARROW
AT SPEED HUMP
ELEVATION = 271.67'

TEST PIT TO VERIFY DEPTH
OF EXISTING DRAIN LINE

8" DI WATER MAIN UNDER EXISTING
DRAIN LINE (SEE UTILITY
CROSSING DETAIL SHEET CD-2)
(4) 45° VERTICAL BENDS

8" 11.25° DI BEND

8" 11.25° DI BEND

(1) 8"X6" DI ANCHOR TEE
(1) 6" GATE VALVE

HYDRANT ASSEMBLY
(SEE DETAIL SHEET CD-1)

8" DI WATER MAIN CROSSES EXISTING
ELECTRIC LINE (SEE UTILITY
CROSSING DETAIL SHEET CD-2)

FILTER SOCK (TYP.)

DMH
RIM=285.00'
INV.(A)=271.17'
INV.(B)=281.00'
INV.(C)=271.25'

DMH
RIM=283.28'
INV.(A)=269.28'
INV.(B)=278.61'
INV.(C)=269.20'

UNK
RIM=260.52'

TEMPORARY BENCHMARK
SET MAG NAIL IN STONE WALL
ELEVATION = 258.22'

MATCHLINE SHEET C-14

CONTINUED ON SHEET NO. C-14

PLAN

SCALE:1" = 40'

0 40 100 160

SCALE: 1" = 40'

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ENVIRONMENTAL PARTNERS
— An Apex Company —

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GROTON WATER SYSTEM EXPANSION
GROTON, MA

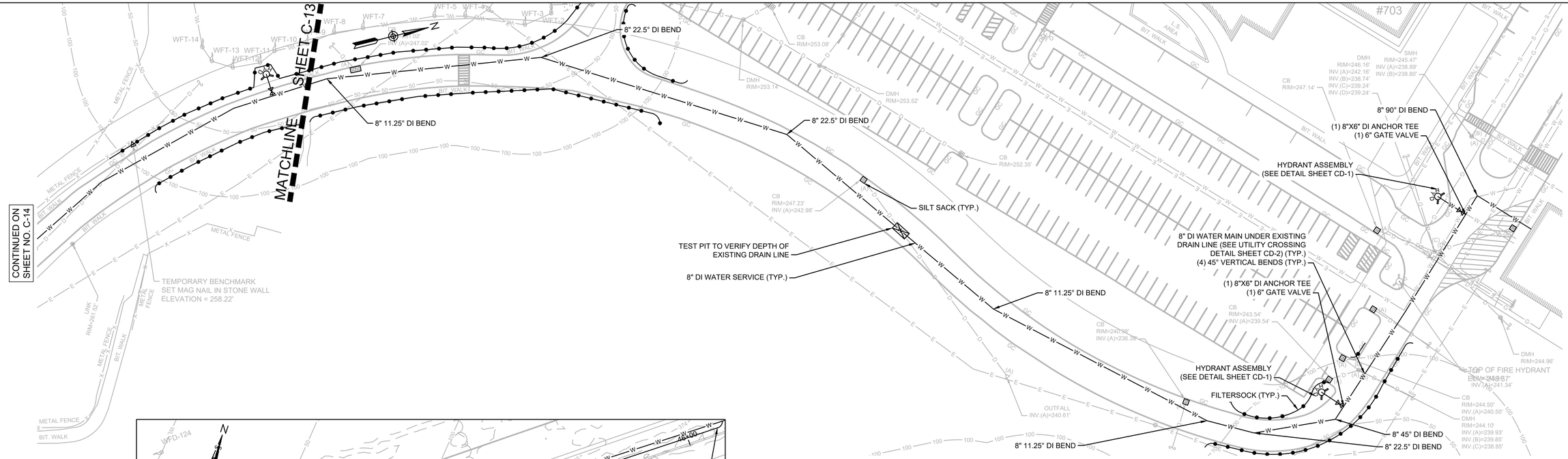
WATER SYSTEM EXPANSION DESIGN PLAN - 13
GROTON-DUNSTABLE REGIONAL HIGH SCHOOL WATER SERVICE

FOR REVIEW

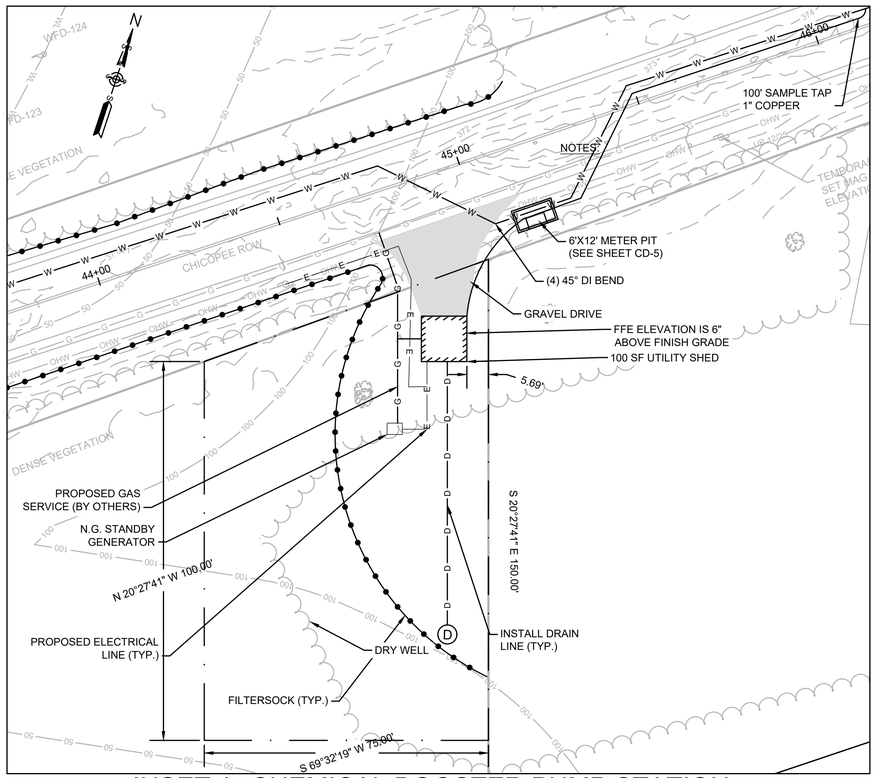
Sheet No.

C-13

Drawing file: C:\Users\local_Brennan.Cummings\Temp\AcPublish_10\8282\23035533 Emerg Water Main Design_Water-Main-Design-Sheets-2.dwg Plot Date: Jun 03,2024-5:34pm



PLAN
SCALE:1" = 40'



INSET A: CHEMICAL BOOSTER PUMP STATION
SCALE: 1" = 20'

MARK	DATE	DESCRIPTION

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Checked by	TWS
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ENVIRONMENTAL PARTNERS — An Apex Company

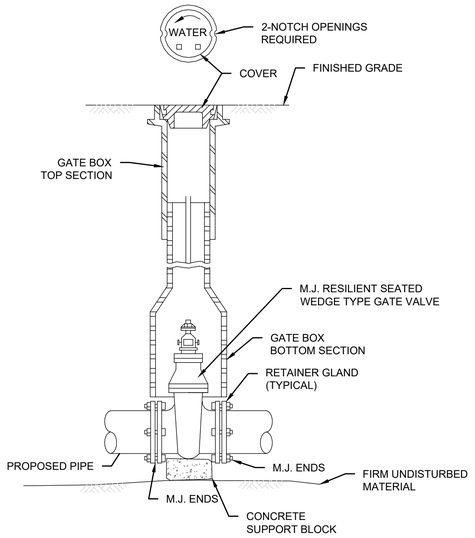
GROTON WATER SYSTEM EXPANSION
GROTON, MA

WATER SYSTEM EXPANSION DESIGN PLAN - 14
GROTON-DUNSTABLE REGIONAL HIGH SCHOOL WATER SERVICE

FOR REVIEW

Sheet No.
C-14

Drawing file: C:\Users\local_Brennan.Cummings\Temp\Acl-Publish_10\8260\23035533 Emerg Water Main Design_Water-Main-Design-Sheets-2.dwg Plot Date: Jun 03,2024-5:34pm

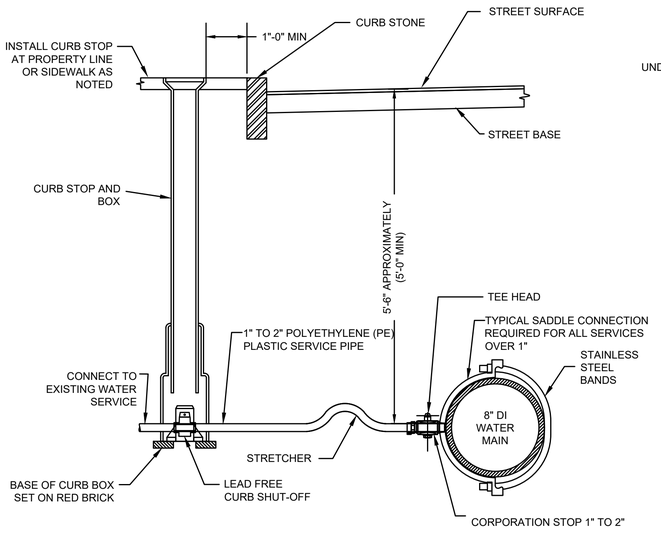


NOTES:

1. ALL EXCAVATION, BACKFILLING AND PAVING SHALL BE IN ACCORDANCE WITH THE TOWN OF GROTON REQUIREMENTS.
2. WATER GATE COVER SHALL HAVE A MINIMUM HEIGHT OF 3.5 INCHES AND A MINIMUM WEIGHT OF 13 POUNDS, BRAND NAME BIBBY-STE-CROIX OR EQUAL.
3. VALVES SHALL HAVE A 2-INCH SQUARE OPERATING NUT, AND BE OPEN LEFT (COUNTER-CLOCKWISE TO OPEN)

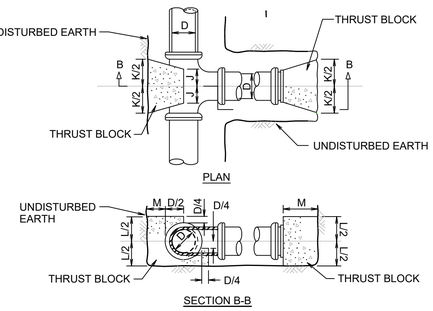
GATE VALVE AND VALVE BOX DETAIL

SCALE: N.T.S.



TYPICAL 1" TO 2" WATER SERVICE CONNECTION

SCALE: N.T.S.



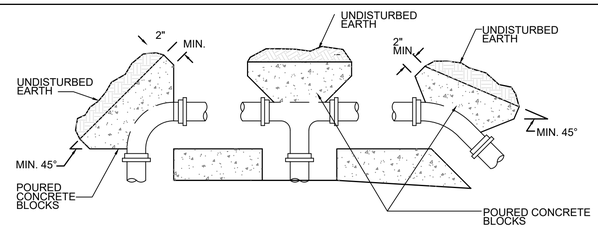
NOTES:

1. ALL CONCRETE SHALL BE 3000 PSI @ 28 DAYS (CLASS 'A' CONCRETE).
2. DIMENSIONS SHOWN ARE MINIMUM AND ARE BASED UPON SOIL PRESSURE OF 1500 PSF AND TOTAL PRESSURE OF 250 PSI. TOTAL PRESSURE IS WORKING PRESSURE PLUS SURGE PRESSURE.
3. THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH.

TABLE OF DIMENSIONS							
D (in)	4	6	8	10	12	14	16
J (in)	6	6	7	9	10	12	22
K (in)	16	16	20	26	32	36	64
L (in)	16	16	21	24	29	34	61
M (in)	11	11	14	16	19	22	39

CONCRETE THRUST BLOCK DETAIL AT TEE/PLUG

SCALE: N.T.S.



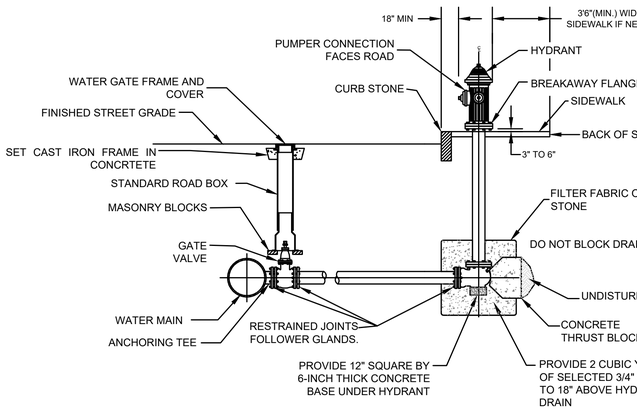
NOTES:

PLAN VIEWS

1. SPECIFIC THRUST BLOCK DESIGN SHALL CONFORM TO AWWA GUIDELINES.
2. PLACE 4 mil. POLYETHYLENE BETWEEN CONCRETE AND FITTING (CONCRETE SHALL NOT INTERFERE WITH JOINT).
3. MINIMUM CONCRETE THICKNESS SHALL BE 12 INCHES.
4. THRUST BLOCK ORIENTATION SHALL BE SUCH THAT THE CENTER OF THE FITTING CORRESPONDS WITH THE CENTER OF THE THRUST BLOCK.
5. THE MINIMUM ALLOWABLE ANGLE (EITHER VERTICAL OR HORIZONTAL) SHALL BE 45 DEGREES.

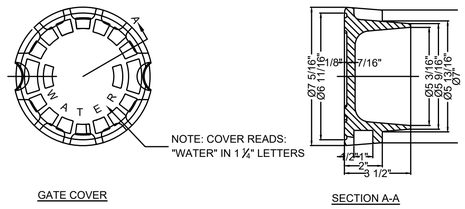
CONCRETE THRUST BLOCK DETAIL AT BEND

SCALE: N.T.S.



FIRE HYDRANT INSTALLATION

SCALE: N.T.S.



GATE COVER

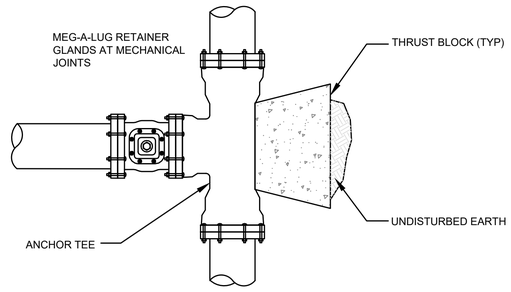
SECTION A-A

NOTES:

1. WATER GATE COVER SHALL HAVE A MINIMUM HEIGHT OF 3.5 INCHES AND MINIMUM WEIGHT OF 13 POUNDS, BRAND NAME BIBBY-STE-CROIX OR EQUAL.

WATER GATE COVER

SCALE: N.T.S.



TYPICAL ANCHOR TEE INSTALLATION

SCALE: N.T.S.

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ENVIRONMENTAL PARTNERS — An Apex Company —

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GROTON WATER SYSTEM EXPANSION
GROTON, MA

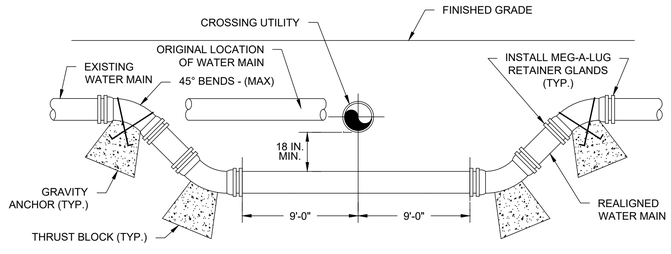
WATER DETAILS I

FOR REVIEW

Sheet No.

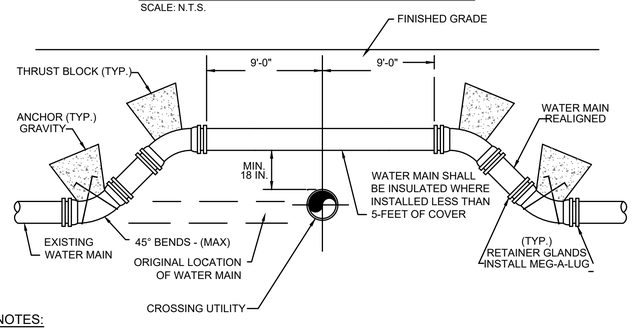
CD-1

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WATER MAIN LOWERING DETAIL

SCALE: N.T.S.

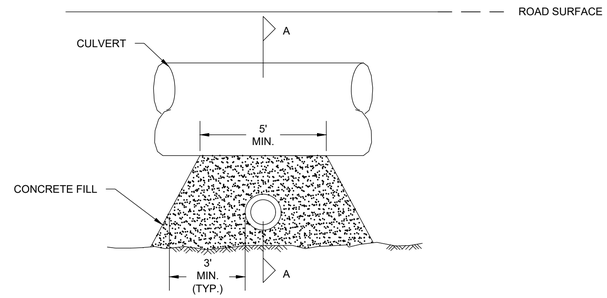


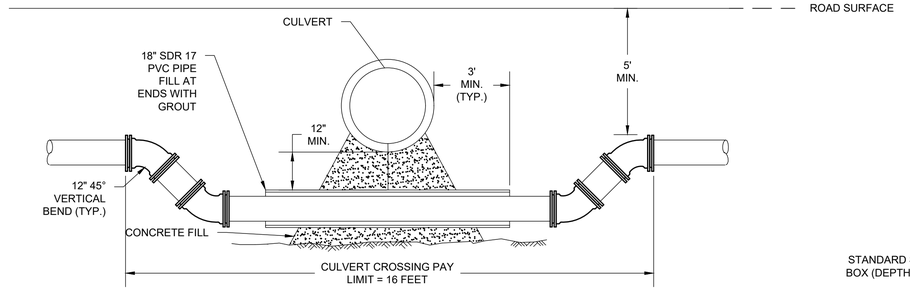
NOTES:

1. ALL FITTINGS AND JOINTS IN LOWERING AREA TO BE RESTRAINED.
2. WHEN IT IS IMPOSSIBLE TO OBTAIN HORIZONTAL OR VERTICAL SEPARATION AS INDICATED IN THE DETAIL ABOVE, BOTH THE WATER AND THE SEWER SHOULD BE ENCASED IN REINFORCED CONCRETE FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CROSSING.
3. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH POLYETHYLENE ENCASEMENT WHEN CONTACTING CONTROL DENSITY FILL.
4. IN AREAS WHERE 18-INCH SEPARATION ARE NOT ACHIEVABLE, 2" PIPE INSULATION SHALL BE INSTALLED ON BOTH THE CROSSING UTILITY AND THE PROPOSED WATER MAIN AT CROSSING POINT. OWNER AND ENGINEER MUST APPROVE IN WRITING PRIOR TO INSTALLATION.

WATER MAIN RAISING DETAIL

SCALE: N.T.S.





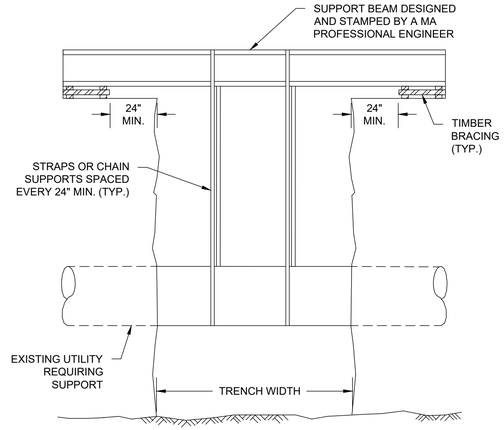
SECTION A-A

NOTES:

1. PROVIDE SUPPORT OF EXCAVATION AND BRACING FOR THE CULVERT. CONTRACTOR TO PROVIDE TEMPORARY SUPPORT PLAN TO ENGINEER AND MASSDOT PRIOR TO BEGINNING WORK. ANY DAMAGE TO THE CULVERT WILL BE REPAIRED TO AT THE CONTRACTOR'S EXPENSE.
2. PROVIDE DEWATERING IN BYPASS PLAN FOR APPROVAL IF IT IS DETERMINED CULVERT CANNOT REMAIN DURING WATER MAIN INSTALLATION.
3. PROVIDE THRUST BLOCKS (NOT SHOWN) AS CALLED OUT ON WATER MAIN LOWERING DETAIL ON CD-2.
4. PIPE INSTALLED UNDERNEATH CULVERT MUST BE ONE CONTINUOUS PIPE.

CULVERT SECTION DETAIL

SCALE: N.T.S.

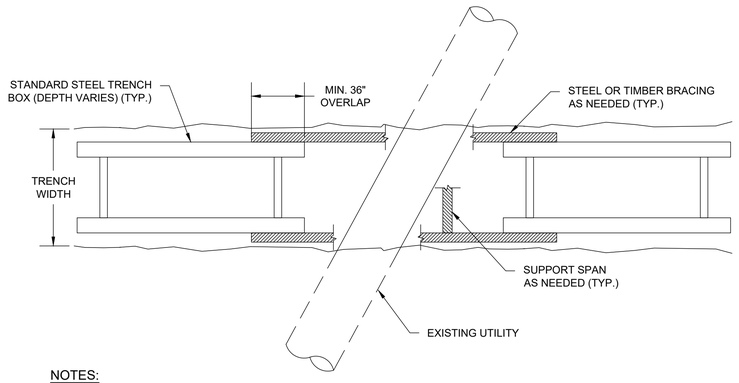


NOTES:

1. DRAWING SHOWN AS SCHEMATIC FOR REFERENCE ONLY. CONTRACTOR SHALL PROVIDE AN ENGINEERED STAMPED PLAN COMPATIBLE WITH ITS HEALTH AND SAFETY AND OSHA STANDARDS.
2. INSTALL TWO SUPPORTS FOR EVERY BELL END OR FITTING CONNECTION.

TYPICAL SUBGRADE PIPE SUPPORT

SCALE: N.T.S.



NOTES:

1. DRAWING SHOWN AS SCHEMATIC FOR REFERENCE ONLY. CONTRACTOR SHALL PROVIDE AN ENGINEERED STAMPED PLAN COMPATIBLE WITH ITS HEALTH AND SAFETY AND OSHA STANDARDS.
2. CONTRACTOR SHALL FURNISH, PLACE, AND MAINTAIN SHEETING, SHORING, AND BRACING AT ALL LOCATIONS NECESSARY TO SUPPORT THE SIDES OF EXCAVATION AND TO PREVENT DANGER TO PERSONS OR DAMAGE TO PAVEMENTS, FACILITIES, UTILITIES, OR STRUCTURES.
3. CARE SHALL BE TAKEN IN PLACING AND MOVING TRENCH BOXES, MOVEABLE SHEETING, SHORING OR PLATES TO PREVENT MOVEMENT OF THE EXISTING UTILITY.

TYPICAL SUPPORT OF EXCAVATION AT UTILITY CROSSING

SCALE: N.T.S.

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GROTON WATER SYSTEM EXPANSION
GROTON, MA

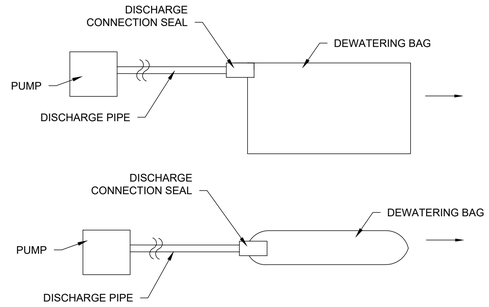
WATER DETAILS II

FOR REVIEW

Sheet No.

CD-2

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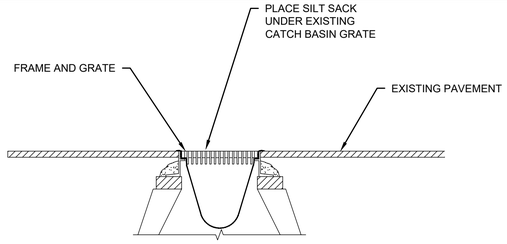


NOTES:

1. DEWATERING BAG SIZE AND QUANTITY SHALL BE AS NEEDED TO ADEQUATELY FILTER ALL PUMP EFFLUENT FROM DEWATERING ACTIVITIES. CONTRACTOR SHALL PROVIDE A REDUNDANT BAG ON SITE AT ALL TIMES.
2. EACH BAG SHALL HANDLE A 2", 3", OR 4" DISCHARGE HOSE.
3. DISCHARGE HOSES CAN BE PLACED ALONG ANY EDGE BY MAKING A SMALL INCISION INTO THE FABRIC, INSERTING THE HOSE, AND THEN CLAMPING THE FABRIC TO THE HOSE VIA WIRE, TIES, CLAMP, ROPE OR SIMILAR TO CREATE A GOOD SEAL.
4. CONTRACTOR SHALL AVOID DISCHARGING MULTIPLE PIPES INTO ONE BAG.

DEWATERING BAGS

SCALE: N.T.S.

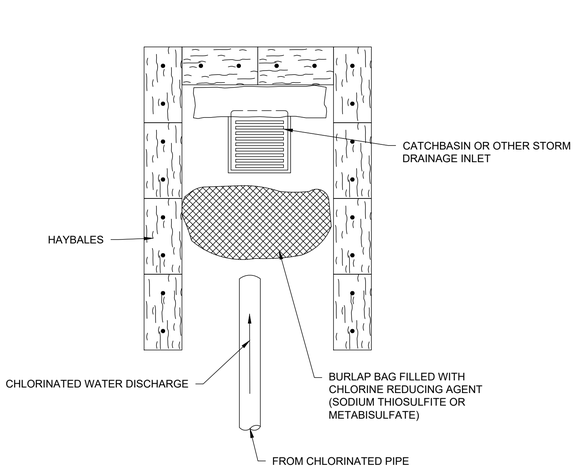


NOTES:

1. SILT SACKS SHALL BE INSPECTED WEEKLY AND ACCUMULATED SILT REMOVED TO ALLOW CATCH BASIN TO FUNCTION PROPERLY.
2. HIGH CAPACITY SILT SACK AS MANUFACTURED BY ACF ENVIRONMENTAL OR APPROVED EQUAL.

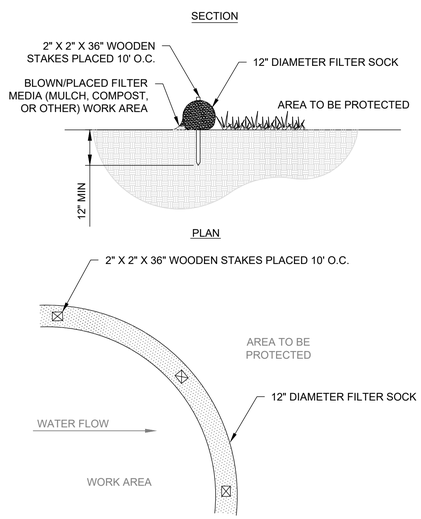
SEDIMENTATION CONTROL AT CATCH BASINS SILT SACKS

SCALE: N.T.S.



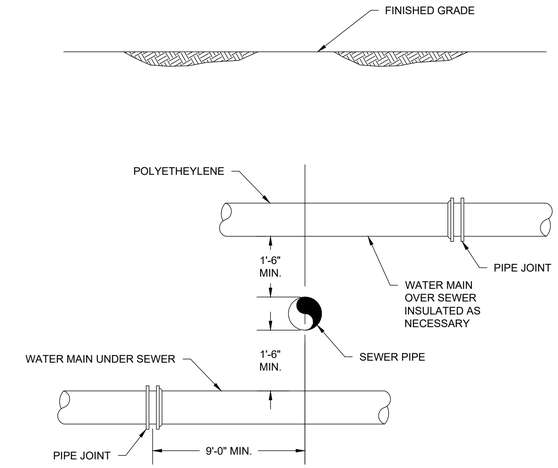
DECHLORINATION DETAIL

SCALE: N.T.S.



12" DIAMETER FILTER SOCK (AS REQUIRED)

SCALE: N.T.S.



NOTES:

1. SEWERS SHALL BE KEPT REMOTE FROM WATER SUPPLY PIPING AND STRUCTURES. WHEREVER FEASIBLE, WATER MAINS SHOULD BE LAID AT A MINIMUM HORIZONTAL DISTANCE OF 10 FEET FROM SEWER MAINS. IF LOCAL CONDITIONS PREVENT THIS, THE ELEVATIONS OF THE CROWN OF THE SEWER PLACED AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN.
2. WHENEVER SEWERS MUST CROSS UNDER WATER MAINS, THE CROWN OF THE SEWER SHOULD BE PLACED A MINIMUM OF 18 INCHES BELOW THE INVERT OF THE WATER MAIN. IN ADDITION, THE WATER MAIN MUST BE CONSTRUCTED WITH ONE FULL LENGTH OF PIPE CENTERED ABOVE THE CROSSING. THE WATER PIPE SHALL HAVE MECHANICAL JOINTS FOR A MINIMUM DISTANCE OF 9 FEET ON EACH SIDE OF THE CROSSING.
3. WHEN IT IS IMPOSSIBLE TO OBTAIN HORIZONTAL OR VERTICAL SEPARATION AS STIPULATED ABOVE, BOTH THE WATER AND THE SEWER PIPING SHALL BE CONSTRUCTED SUCH THAT THE PIPE JOINTS ARE PLACED AS FAR AWAY FROM THE CROSSING AS POSSIBLE AND THE PIPE CROSSING SHALL BE ENCASED IN CONTROL DENSITY FILL FOR A DISTANCE OF 10 FEET ON ALL SIDES OF THE CROSSING.
4. ALL METALLIC PIPE CONTACTING CDF SHALL BE INCASED IN POLYETHYLENE WRAP TO PREVENT CORROSION.

TYPICAL SEWER CROSSING

SCALE: N.T.S.

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ENVIRONMENTAL PARTNERS
— An Apex Company —

MARK	DATE	DESCRIPTION		
			Scale	AS NOTED
			Date	JUNE 2024
			Job No.	23005533
			Designed by	TWS
			Drawn by	BJC
			Checked by	TWS
			Approved by	TWS

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

GROTON WATER SYSTEM EXPANSION
GROTON, MA

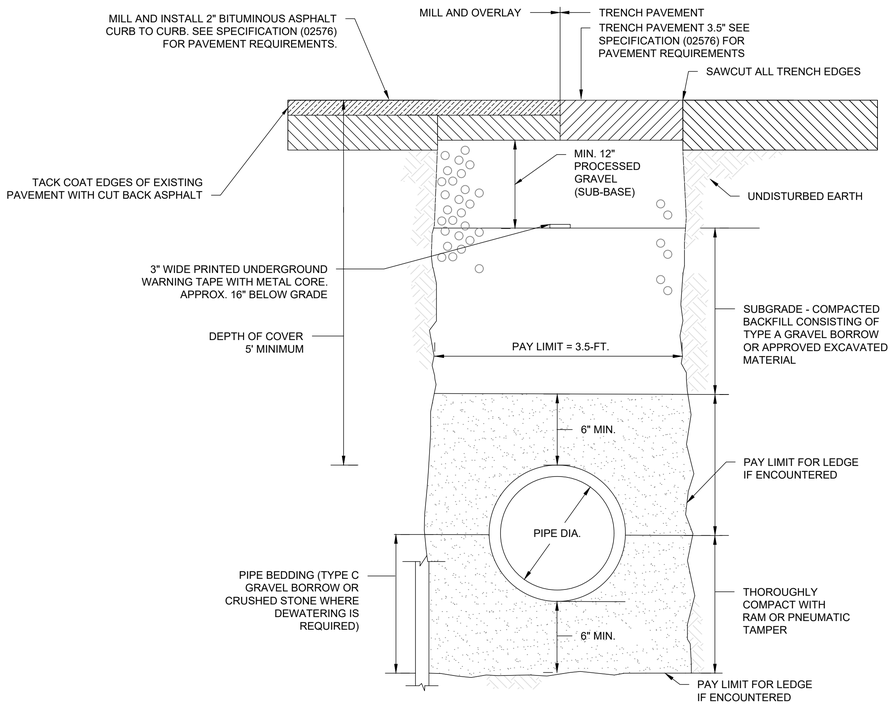
ENVIRONMENTAL CONTROL AND WATER DETAILS

FOR REVIEW

Sheet No.

CD-3

Drawing file: C:\Users\local_Brennan.Cummings\Temp\AcPublish_10392\8220255533 Emerg Water Main Design_Civil-Details.dwg Plot Date: Jun 03,2024-5:35pm

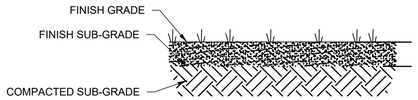


NOTES:

1. PAVEMENT INSTALLED BEYOND PAYMENT LINE MUST BE PRE-APPROVED BY THE ENGINEER.
2. THE FINISHED SURFACE OF THE MIXTURE, AFTER COMPACTION, SHALL BE TRUE TO THE ESTABLISHED LINE AND GRADE OF THE EXISTING PAVEMENT.
3. ANY GRASS AREAS DISTURBED SHALL BE GRADED, LOAMED TO A DEPTH OF 4 INCHES AND SEEDED. WHERE NO GRASS OCCURS USE 6" PROCESSED GRAVEL.
4. INSTALL 3.5" TRENCH PAVEMENT WEEKLY AT A MINIMUM, OR IN ADVANCE OF INCLEMENT WEATHER AS DIRECTED BY THE ENGINEER.
5. INSTALL PERMANENT MILL AND OVERLAY ONCE THE TEMPORARY TRENCH PAVEMENT HAS BEEN IN PLACE FOR 90 DAYS, OR THROUGH A WINTER SETTLEMENT PERIOD.

TYPICAL WATER MAIN TRENCH DETAIL (PAVED)

SCALE: N.T.S.

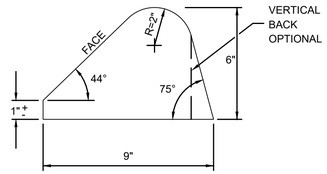


NOTES:

1. SEED MIX SHALL BE NEW ENGLAND CONSERVATION SEED MIX, FREE OF FERTILIZERS.

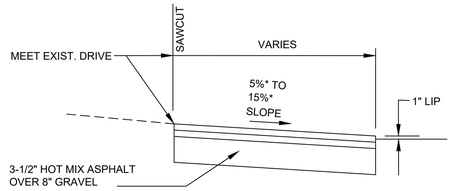
RESTORATION OF GROWTH

SCALE: N.T.S.

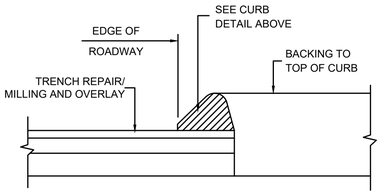


CURB DETAIL

CURB MUST MEET CONNECTICUT D.O.T. STANDARDS
FORM 817 - SECTION 8.15 FOR BITUMINOUS CONCRETE CURBING

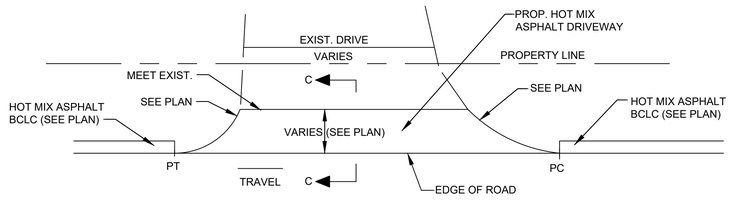


SECTION C-C



BITUMINOUS CONCRETE LIP CURBING

SCALE: N.T.S.



PLAN

BITUMINOUS CONCRETE DRIVEWAY

SCALE: N.T.S.

PAVEMENT RESTORATION SCHEDULE		
ROADWAY	TEMPORARY	PERMANENT
HOLLIS STREET	3.5" PAVEMENT SEE DETAIL THIS SHEET	2" FULL WIDTH MILL AND OVERLAY SEE DETAIL THIS SHEET
CHICOPEE ROW	3.5" PAVEMENT SEE DETAIL THIS SHEET	2" FULL WIDTH MILL AND OVERLAY SEE DETAIL THIS SHEET
GROTON-DUNSTABLE REGIONAL HIGH SCHOOL	3.5" PAVEMENT SEE DETAIL THIS SHEET	2" FULL WIDTH MILL AND OVERLAY SEE DETAIL THIS SHEET
GROTON STREET	3.5" PAVEMENT SEE DETAIL THIS SHEET	2" FULL WIDTH MILL AND OVERLAY SEE DETAIL THIS SHEET
KEMP STREET	3.5" PAVEMENT SEE DETAIL THIS SHEET	2" FULL WIDTH MILL AND OVERLAY SEE DETAIL THIS SHEET
NORTH STREET	3.5" PAVEMENT SEE DETAIL THIS SHEET	2" FULL WIDTH MILL AND OVERLAY SEE DETAIL THIS SHEET

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ENVIRONMENTAL PARTNERS
— An Apex Company —

MARK	DATE	DESCRIPTION

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Job No.	23005533
Designed by	TWS
Drawn by	BJC
Checked by	TWS
Approved by	TWS

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GROTON WATER SYSTEM EXPANSION
GROTON, MA

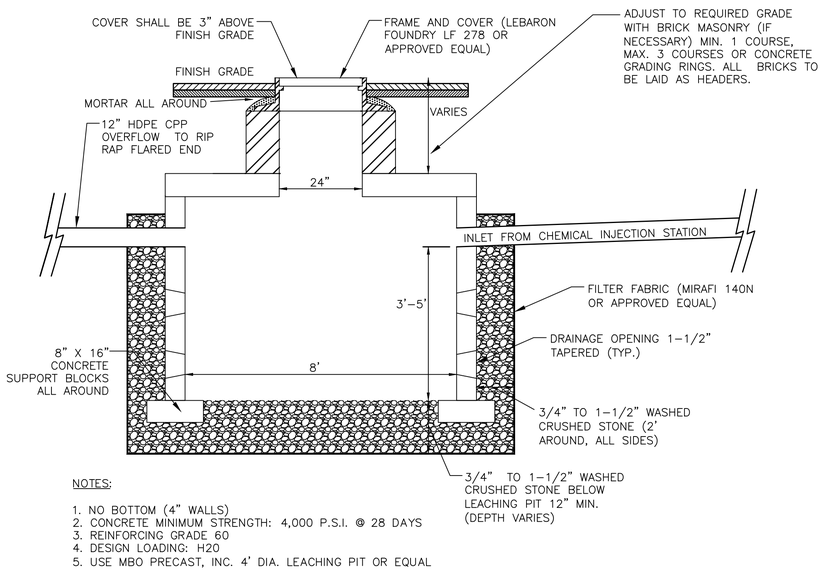
PAVING AND RESTORATION DETAILS

FOR REVIEW

Sheet No.

CD-4

Drawing file: C:\Users\bcull_Brennan.Cummings\Temp\AcPublish_10\03282\23035533 Emerg Water Main Design_Civil-Details.dwg Plot Date: Jun 03,2024-5:35pm

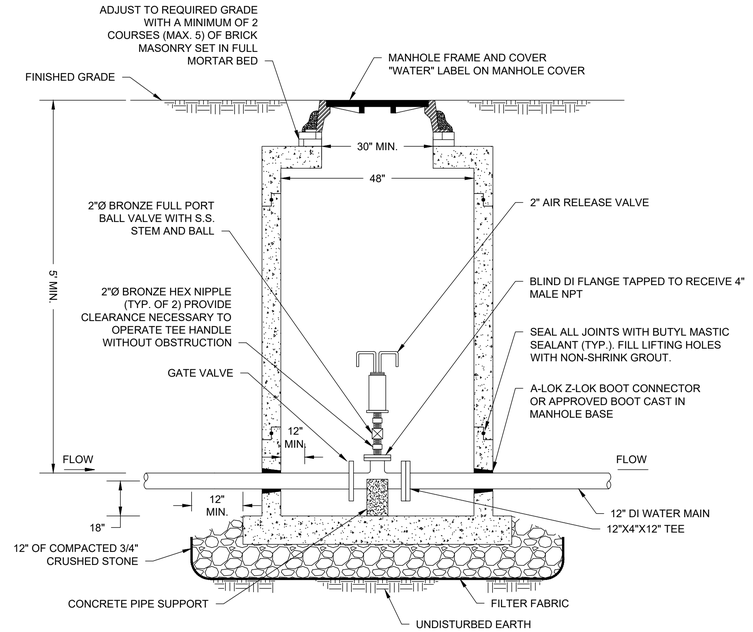


NOTES:

1. NO BOTTOM (4" WALLS)
2. CONCRETE MINIMUM STRENGTH: 4,000 P.S.I. @ 28 DAYS
3. REINFORCING GRADE 60
4. DESIGN LOADING: H20
5. USE MBO PRECAST, INC. 4' DIA. LEACHING PIT OR EQUAL

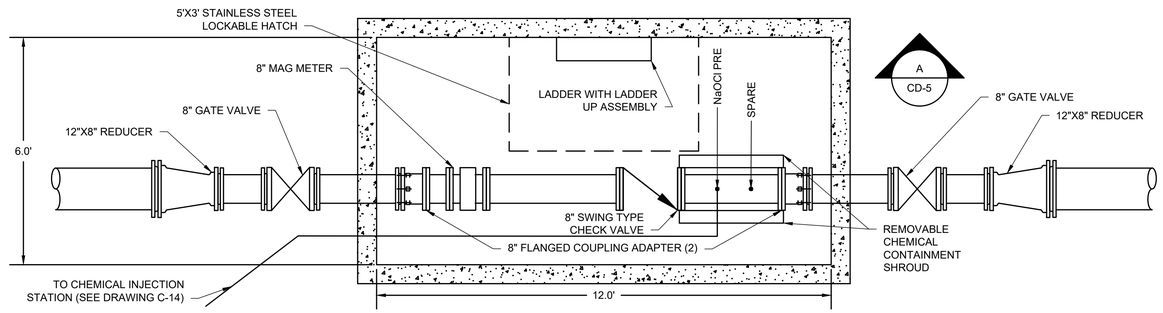
DRY WELL DETAIL

SCALE: N.T.S.



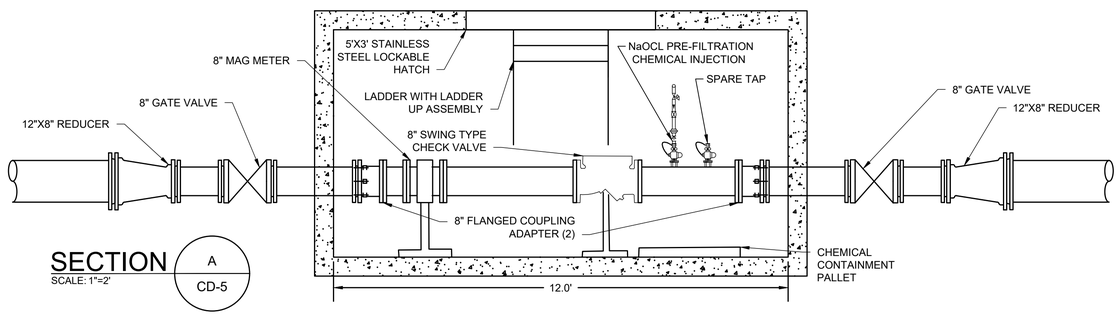
AIR/RELEASE VALVE MANHOLE DETAIL

SCALE: N.T.S.



PLAN

SCALE: N.T.S.



SECTION A / CD-5

SCALE: 1"=2'

MARK	DATE	DESCRIPTION		
			Scale	AS NOTED
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ENVIRONMENTAL PARTNERS — An Apex Company

GROTON WATER SYSTEM EXPANSION
GROTON, MA

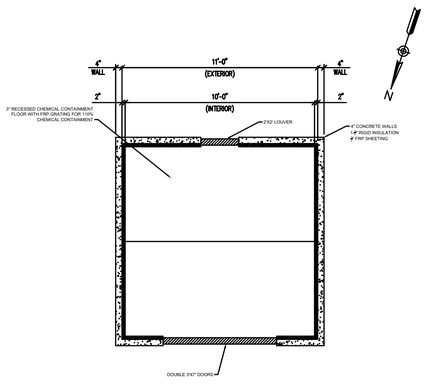
CIVIL DETAILS I

FOR REVIEW

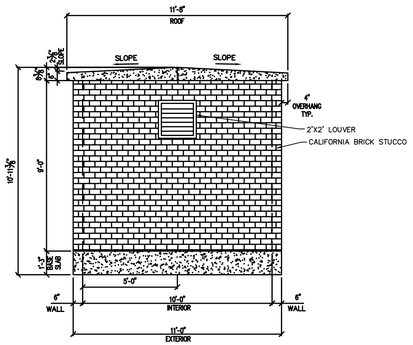
Sheet No.

CD-5

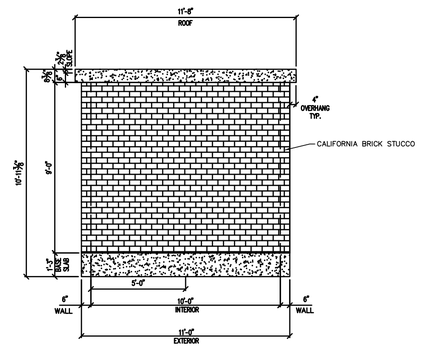
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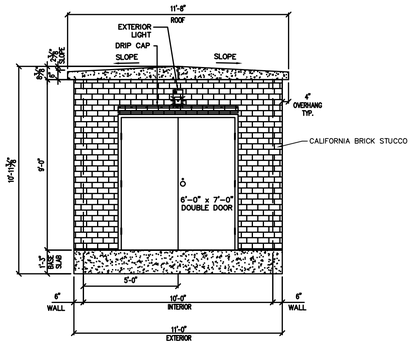
PLAN VIEW
(ROOF REMOVED FOR CLARITY)



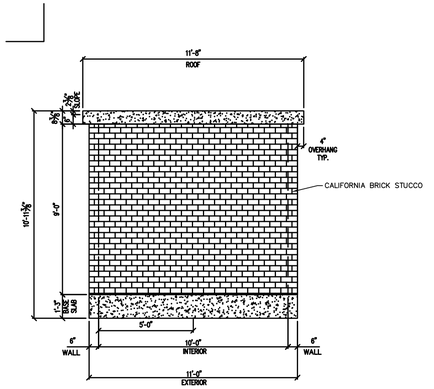
SOUTH ELEVATION



EAST ELEVATION



NORTH ELEVATION



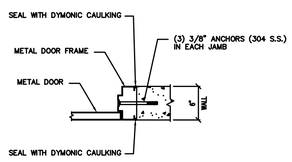
WEST ELEVATION

GENERAL NOTES:

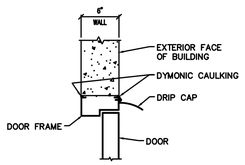
2. CONCRETE COMPRESSIVE STRENGTH: 5,000 PSI @ 28 DAYS.

3. STRUCTURAL SHALL BE WET CAST USING A SELF COMPACTING CONCRETE MIX.

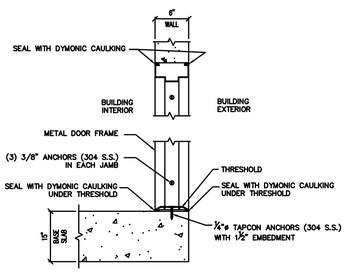
4. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE/VERIFY ALL PENETRATIONS REQUIRED FOR ALL EQUIPMENT INSTALLED INSIDE AND OUTSIDE OF THE BUILDING.



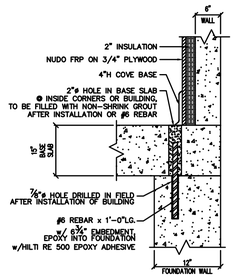
DOOR JAMB SECTION
(N.T.S.)



SECTION @ DOOR HEADER
(N.T.S.)



TYPICAL DOOR JAMB DETAIL
(N.T.S.)



BUILDING ANCHORING DETAIL
(N.T.S.)

FINISH SCHEDULE

AREA	COATING TYPE	COLOR
BUILDING EXTERIOR ROOF	(2) COATS OF GAF TOPCOAT	WHITE
BUILDING EXTERIOR WALLS	(1) COAT OF THOROSEAL & CALIFORNIA BRICK STUCCO	RED BRICK
BUILDING INTERIOR WALLS	F.R.P. ON 3/4 " PLYWOOD & 2" RIGID INSULATION W/ 4" H COVE BASE	WHITE
BUILDING INTERIOR FLOOR	SIKAGARD 62 HIGH GLOSS SEALER	GRAY
BUILDING DOORS & FRAMES	(2) COATS OF SHERWIN WILLIAMS SHER-CRYL HPA	SLATE GRAY
Llouvers	MILL FINISH	MILL FINISH
CONSTRUCTION SEALANT	TREMCO DYMONIC CAULKING	LIMESTONE

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ENVIRONMENTAL PARTNERS — An Apex Company —

MARK	DATE	DESCRIPTION

Scale	1/4"=1'
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Job No.	23005533
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Drawn by	BJC
Checked by	TWS
Approved by	TWS

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GROTON WATER SYSTEM EXPANSION
GROTON, MA

TREATMENT BUILDING EXTERIOR ELEVATIONS

FOR REVIEW

Sheet No.

B-1

Drawing file: C:\Users\bcull_Brennan.Cummings\Temp\AcPublish_10352\B22035533 Emerg Water Main Design_M-Sheets.dwg Plot Date: Jun 03,2024-5:35pm

PROCESS MECHANICAL NOTES

1. THE REQUIREMENTS INCLUDED IN THESE NOTES ARE SUPPLEMENTARY TO THE CONTRACT, GENERAL CONDITIONS, TECHNICAL REQUIREMENTS, AND OTHER REQUIREMENTS SPECIFIED HEREIN.
2. MOUNTING DETAILS PROVIDED ARE GENERIC FOR EQUIPMENT AND DEVICES OF VARIOUS MANUFACTURERS. THE INSTALLING CONTRACTOR MUST STRICTLY COMPLY WITH MANUFACTURER'S INSTRUCTION IN THE INSTALLATION OF THESE DEVICES. IF THERE ARE ANY ENGINEERING ISSUES THEY MUST BE REFERRED TO THE ENGINEER PRIOR TO INSTALLATION.
3. IT IS NOT THE INTENT OF THESE DRAWINGS TO PORTRAY EVERY DETAIL OF THE REQUIRED WORK. THE CONTRACTOR SHALL PROVIDE THE EQUIPMENT AND SYSTEMS COMPLETE SO THAT WHEN ASSEMBLED AND INSTALLED IN THE WORK, THEY SHALL OPERATE AND PERFORM AS DESCRIBED HEREIN.
4. COORDINATE THE WORK REQUIRED BY THESE DRAWINGS ("M" SERIES) WITH THE WORK REQUIRED BY OTHER DRAWINGS.
5. THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES WHICH HOLD WATER IN THE SYSTEM, UNLESS GRANTED APPROVAL TO DO SO BY THE TOWN OF GROTON.
6. ALL WALL AND FLOOR SLEEVES SHALL BE LARGE ENOUGH TO ACCOMMODATE FLANGES AS REQUIRED. FLOOR SLEEVES SHALL PROJECT AT LEAST 4–IN ABOVE FINISH FLOOR UNLESS OTHERWISE SHOWN. IF SLEEVES ARE TO BE SEALED, PROVIDE GROOVED COUPLING PIPING CONNECTION TO FACILITATE INSTALLATION AND REMOVAL OF PIPING.
7. ALL PIPE PENETRATIONS THROUGH INTERIOR AND EXTERIOR WALLS AND FLOORS SHALL BE SEALED WATERTIGHT.
8. SMALL PIPING (SAMPLE, SERVICE WATER, ETC.) IS SHOWN DIAGRAMMATICALLY: FIELD–ROUTING SUBJECT TO APPROVAL OF THE ENGINEER. SMALL PIPE ROUTING MUST NOT INTERFERE WITH ACCESS TO OR OPERATION OF ANY OTHER PIPE, VALVE, EQUIPMENT, OR BUILDING SYSTEM.
9. ALL PROCESS EQUIPMENT, INCLUDING PUMPS, SHALL BE ISOLATED FROM PIPING LOADS AND DYNAMICS BY FLEXIBLE CONNECTORS IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS AND SPECIFICATIONS.
10. ALL PIPING, VALVES, EQUIPMENT, ETC. SHALL BE LABELED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE LOCATION FOR ALL WALL PENETRATIONS WITH THE VARIOUS TRADES. WALL PIPES AND WALL SLEEVES SHALL BE REQUIRED FOR ALL PIPE PENETRATIONS THROUGH CONCRETE WALLS WHETHER SHOWN ON THE DRAWINGS OR NOT. ALL WALL AND FLOOR SLEEVES SHALL BE LARGE ENOUGH TO ACCOMMODATE FLANGES, IF REQUIRED.
12. PROVIDE EXPANSION JOINTS WITH CONTROL RODS FOR ALL EXPOSED PIPING CROSSING STRUCTURAL EXPANSION JOINTS.
13. ALL SLEEVE TYPE COUPLINGS ON PRESSURE PIPING SHALL BE HARNESSED UNLESS OTHERWISE INDICATED. WHERE COUPLINGS ARE PROVIDED TO PROVIDE AXIAL FLEXIBILITY, PIPING MUST BE SECURELY RESTRAINED.
14. MATERIALS AND WORKMANSHIP FURNISHED UNDER THIS CONTRACT SHALL BE A STANDARD, HIGH–GRADE QUALITY, AND OF THE BEST WORKMANSHIP AND DESIGN. ALL LIKE PARTS OF EQUIPMENT OF THE SAME SIZE OR CAPACITY SHALL BE INTERCHANGEABLE. SUITABLE PROVISION SHALL BE MADE FOR EASY ADJUSTMENT OR REPLACEMENT OF ALL PARTS REQUIRING ADJUSTMENT OR REPLACEMENT.
15. ALL MECHANICAL LAYOUTS ARE GENERALLY DIAGRAMMATIC AS SHOWN ON THESE DRAWINGS. THE WORK OF THE VARIOUS TRADES SHALL BE COORDINATED TO AVOID INTERFERENCE AND TO SECURE MAXIMUM HEAD ROOM. PARTICULAR ATTENTION IS DRAWN TO CONGESTED SPACES INSIDE AND OUTSIDE OF THE STRUCTURES. IF, IN THE INTEREST OF COORDINATION AND EXPEDIENCY, IT BECOMES NECESSARY TO DEVELOP "INTERFERENCE DRAWINGS" (DEFINED AS DRAWINGS EMBODYING THE WORK OF TRADES INVOLVED, ILLUSTRATING DETAILS OR CONSTRUCTION PROPOSED BY THE CONTRACTOR AND ARRANGEMENT OF ACTUAL EQUIPMENT AND APPARATUS PURCHASED), SUCH DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR AND SHALL BE COORDINATED WITH OTHER TRADES AT NO ADDITIONAL EXPENSE TO THE OWNER.
16. THE INSTALLATION OF FACILITIES AND APPURTENANT WORK SHALL BE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF ALL FEDERAL, STATE, AND MUNICIPAL CODES AND REGULATIONS GOVERNING THE WORK. IN INSTANCES WHERE THE REQUIREMENT OF DRAWINGS AND SPECIFICATIONS ARE IN EXCESS OF THE REQUIREMENTS OF THE APPLICABLE CODES AND REGULATIONS, AND ARE PERMITTED THEREUNDER, THEN, IN SUCH INSTANCES, THE REQUIREMENTS OF THE CONTRACT DOCUMENTS SHALL GOVERN, UNLESS DIRECTED OTHERWISE IN WRITING BY THE ENGINEER.
17. UNLESS OTHERWISE SPECIFIED, NEAT BRASS PLATE, OR OTHERWISE SUITABLE MATERIAL, HAVING THE SERIAL NUMBER, THE MAKE, HORSEPOWER, CAPACITY, SPEED, AND OTHER PERTINENT DATA, AND ANY IMPORTANT OPERATING OR MAINTENANCE INSTRUCTIONS, PERMANENTLY AND CLEARLY MARKED ON THE PLATE, SHALL BE MOUNTED ON EACH ITEM OF EQUIPMENT. ALL IMPORTANT PARTS OF EQUIPMENT, AS DIRECTED BY ENGINEER/OWNER SHALL BE STAMPED FOR IDENTIFICATION AND LOCATION.
18. ALL NECESSARY ANCHOR BOLTS, NUTS, WASHERS, SETTING TEMPLATES, AND SUCH OTHER PARTS SHALL BE PROVIDED AS REQUIRED FOR THE PROPER INSTALLATION OF THE WORK, AND WHEREVER PRACTICABLE, THEY SHALL BE BUILT IN AS THE WORK PROGRESSES. THE PARTS SHALL BE OF THE MATERIALS SPECIFIED, AND WHERE NOT SPECIFIED OR INDICATED, THEY SHALL BE OF APPROVED TYPES AND MATERIALS FOR EACH APPLICATION. THE SETTING OF ANCHOR BOLTS BY DRILLING AND GROUTING WILL NOT BE PERMITTED.
19. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT CONFORMANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER, AS APPROVED, TRULY LEVEL AND PLUMB, AND SHALL BE PROVIDED COMPLETE WITH ALL NECESSARY PIPING, FITTINGS, VALVES, CONTROLS, WIRING, AND APPURTENANCES AND ACCESSORIES SO THE EQUIPMENT WILL BE LEFT COMPLETE AND IN SATISFACTORY OPERATION. PARTICULAR CARE SHALL BE TAKEN IN THE INSTALLATION OF PUMPS IN ORDER TO PREVENT A STRAIN ON THE PIPING OR PUMP FLANGES AND THE CONTRACTOR SHALL INSURE THE CORRECT ALIGNMENT OF SHAFTS, COUPLINGS, AND BEARINGS.
20. ALL WEDGES, SHIMS, FILLING PIECES, KEYS, PACKING, GROUT, OR OTHER MATERIALS NECESSARY TO PROPERLY ALIGN, LEVEL, AND SECURE APPARATUS IN PLACE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. ALL PARTS INTENDED TO BE PLUMB OR LEVEL MUST BE PROVEN EXACTLY SO. ANY GRINDING NECESSARY TO BRING PARTS TO PROPER BEARING AFTER ERECTION SHALL BE DONE AT THE EXPENSE OF THE CONTRACTOR.
21. THE CONTRACTOR SHALL PROVIDE ALL OPENINGS, CHANNELS, CHASES, ETC. AS REQUIRED TO COMPLETE THE WORK UNDER THIS CONTRACT, TOGETHER WITH THOSE REQUIRED BY OTHER CONTRACTORS.
22. CONTRACTOR SHALL PROVIDE RESTRAINT OF ALL EXPANSION JOINTS/FLEX CONNECTORS WITH TIE–RODS.
23. CONTRACTOR SHALL SUBMIT PIPING LAYOUT DIAGRAMS TO THE ENGINEER FOR APPROVAL PRIOR TO ANY PIPING INSTALLATION. PIPING LAYOUT DIAGRAMS SHALL SHOW DIMENSIONS OF ALL VALVES, FITTINGS, PIPE RUNS, AND SUPPORTS.
24. ALL PIPING SYSTEMS AND EQUIPMENT SHALL BE ADEQUATELY AND SAFELY SUPPORTED. CONTRACTOR SHALL DESIGN, PROVIDE, AND INSTALL ALL SUPPORTS AS REQUIRED BY THE PIPING AND EQUIPMENT PROVIDED. AT A MINIMUM, ALL PIPING SYSTEMS SHALL BE SUPPORTED PER THE REQUIREMENTS OF MANUFACTURER'S STANDARDIZATION SOCIETY (MSS) SP–58 AND MSS SP–69. SUPPORT DESIGN SHALL ACCOMMODATE ALL STATIC AND OPERATIONAL CONDITIONS TO WHICH THE PIPING AND EQUIPMENT MAY BE SUBJECTED. SUPPORTS SHALL BE IN ADDITION TO THOSE SHOWN ON THE CONTRACT DRAWINGS.

MECHANICAL PROCESS LEGEND

VALVES, COUPLING, & APPURTENANCES

- BURIED GATE VALVE
- BURIED PLUG VALVE
- BALL VALVE
- VENTED BALL VALVE
- BUTTERFLY VALVE
- ELECTRIC ACTUATED BUTTERFLY VALVE
- BALL CHECK VALVE
- SWING CHECK VALVE
- WAFER CHECK VALVE
- DIAPHRAGM VALVE
- HYDROPNEUMATIC ACTUATED DIAPHRAGM VALVE
- GATE VALVE
- KNIFE GATE VALVE
- PINCH VALVE
- PLUG VALVE
- MUD VALVE
- NEEDLE VALVE
- SOLENOID VALVE
- SLEEVE TYPE COUPLING
- SPLIT SLEEVE ADAPTER
- FLANGED COUPLING ADAPTER
- EXPANSION JOINT (METAL)
- FLEX CONNECTOR/EXPANSION JOINT (RUBBER)
- EXPANSION JOINT (REDUCING)
- QUICK CONNECT
- MAGMETER
- TURBINE FLOWMETER
- PRESSURE REDUCING VALVE
- BACK PRESSURE VALVE
- VACUUM BREAKER
- RELIEF VALVE
- COMBINATION VALVE
- PRESSURE INDICATOR (LIQUID SERVICE)
- PRESSURE INDICATE TRANSMITTER (LIQUID SERVICE)
- PRESSURE INDICATOR (AIR SERVICE)
- FLOW SWITCH
- PRESSURE SWITCH
- ANT–SIPHON VALVE
- TEMPERATURE INDICATOR
- SAMPLE TAP
- REDUCER/INCREASER
- STRAINER
- UNION
- FLEXIBLE HOSE
- CENTRIFUGAL PUMP
- DIAPHRAGM METERING PUMP
- HOSE/PERISTALTIC METERING PUMP
- ROTAMETER
- DIAPHRAGM ISOLATOR (GAUGE GUARD)
- CALIBRATION COLUMN
- VENT
- VENT
- 4 FUNCTION VALVE
- EJECTOR
- DRAIN
- FLEX COUPLING (CHEMICAL SERVICE)
- FLOAT SWITCH
- ULTRASONIC LEVEL SENSOR
- SUBMERSIBLE MIXER
- SUBMERSIBLE CENTRIFUGAL PUMP
- VERTICAL TURBINE PUMP
- SAFETY SHOWER
- AIR FILTER/INSECT SCREEN
- DRYWELL
- DIFFERENTIAL PRESSURE INDICATOR TRANSMITTER
- PROXIMITY SWITCH

PIPE AND FITTINGS

DOUBLE LINE	SINGLE LINE
	PIPE
SIDE UP DOWN	SIDE UP DOWN ELBOW (90)
SIDE UP DOWN	SIDE UP DOWN ELBOW (45)
SIDE BRANCH DOWN BRANCH UP DOWN	SIDE UP DOWN TEE
	WYE
	CROSS
	RED (CONC)
	RED (ECC)
	FLANGE
	PIPE END
	PIPE BREAK

PIPE AND FITTING SYMBOLOGY SHOWN ABOVE IS FOR FLANGED DUCTILE IRON PIPE. SYMBOLOGY FOR OTHER PIPING SYSTEMS IS SIMILAR. END CONNECTIONS DENOTE JOINING TECHNOLOGY.

- MECHANICAL JOINT
- WELDED
- SOCKET WELD
- SINGLE LINE (JOINING TECHNOLOGY VARIES)

LINE DESIGNATIONS

- PROPOSED
- EXISTING, OTHER DISCIPLINE OR OUT OF FUNCTION
- UNDERGROUND OR BELOW ELEVATION IN VIEW

PROCESS STREAM ABBREVIATIONS

DR	DRAIN
FW	FINISHED WATER
NaOCl	SODIUM HYPOCHLORITE
oPO4	ORTHOPHOSPHATE
NaOH	SODIUM HYDROXIDE
RW	RAW WATER
V	VENT

PIPING AND TUBING MATERIALS

CI	CAST IRON PIPE
CPVC	CHLORINATED POLYVINYL CHLORIDE PIPE
CS	CARBON STEEL
CU	COPPER
DI	DUCTILE IRON PIPE
FEP	FLUORINATED ETHYLENE PROPYLENE
FRP	FIBERGLASS REINFORCED PLASTIC PIPE
GALV	GALVANIZED STEEL
HDPE	HIGH DENSITY POLYETHYLENE
HOSE	FLEXIBLE HOSE
PE	POLYETHYLENE
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
SS	STAINLESS STEEL PIPE OR TUBING
S	STEEL

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ENVIRONMENTAL PARTNERS — An Apex Company —

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GROTON WATER SYSTEM EXPANSION
GROTON, MA

NOTES AND LEGEND

FOR REVIEW

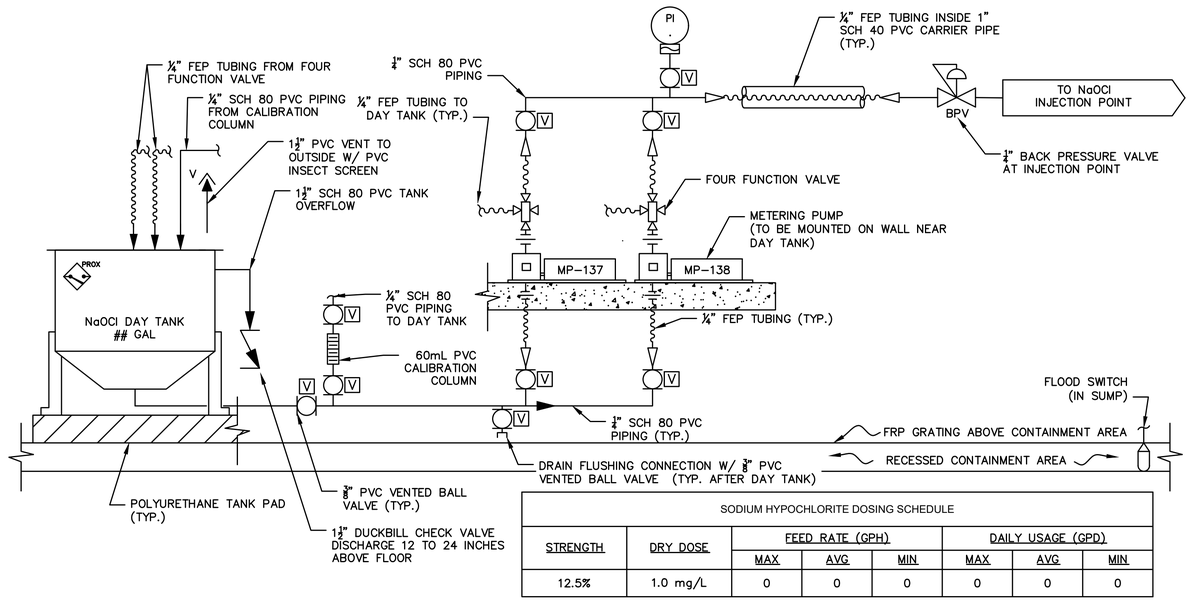
Sheet No.

M-1

Drawing file: C:\Users\bcall_Brennan.Cummings\Temp\AcPublish_10\9228\23035533 Emerg Water Main Design_M-Sheets.dwg Plot Date: Jun 03,2024-5:35pm

SODIUM HYPOCHLORITE PUMP SCHEDULE											
P&ID TAG NUMBER	DESCRIPTION	LOCATION	TYPE	RATING POINTS	DRIVE	MOTOR			VOLTAGE			REMARKS
						HP	RPM	ENCL	VAC	Hz	Ph	
MP-137	NaOCl METERING PUMP	SODIUM HYPOCHLORITE STORAGE AREA	MECHANICALLY ACTUATED DIAPHRAGM	TBD	VARIABLE	25 WATTS AT MAXIMUM SPEED			120	60	1	ELECTRICAL PLUG CONNECTION
MP-138	NaOCl METERING PUMP	SODIUM HYPOCHLORITE STORAGE AREA	MECHANICALLY ACTUATED DIAPHRAGM	TBD	VARIABLE	25 WATTS AT MAXIMUM SPEED			120	60	1	ELECTRICAL PLUG CONNECTION

CHEMICAL FEED TANK SCHEDULE				
DESCRIPTION	LOCATION	TYPE	STORAGE VOLUME (GAL)	MAX. DIAMETER (IN)
NaOCl DAY TANK	SODIUM HYPOCHLORITE STORAGE AREA	POLYETHYLENE	TBD	TBD



SODIUM HYPOCHLORITE DOSING SCHEDULE								
STRENGTH	DRY DOSE	FEED RATE (GPH)			DAILY USAGE (GPD)			
		MAX	AVG	MIN	MAX	AVG	MIN	
12.5%	1.0 mg/L	0	0	0	0	0	0	

SODIUM HYPOCHLORITE PIPING SCHEMATIC

SCALE: NTS

GENERAL CHEMICAL FEED PROCESS MECHANICAL NOTES:

1. ALL CHEMICAL FEED SYSTEMS SHALL COMPLY WITH THE CHEMICAL SAFETY AND CONTROL STRATEGY FOR CRITICAL CHEMICAL FEED SYSTEMS AS DESCRIBED IN SECTION 6.1.3 OF THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION GUIDELINES FOR PUBLIC WATER SYSTEMS.
2. ALL NEW CHEMICAL FEED LINES, VENT LINES, AND PLANT WATER LINES SHALL BE SUPPORTED AS REQUIRED.
3. CONTAINMENT AREAS SHALL PROVIDE AT LEAST 110% SECONDARY CONTAINMENT.
4. FINISH ALL EXPOSED FACES OF CONTAINMENT AREA WITH CHEMICAL PROTECTIVE COATING.
5. ALL NEW CHEMICAL FEED LINES SHALL BE COLOR CODED, LABELED WITH CHEMICAL NAME, AND SHOW ARROW FOR DIRECTION OF FLOW.
6. PIPING AND EQUIPMENT SUPPORTS SHALL BE INSTALLED FOLLOWING MANUFACTURER'S RECOMMENDATIONS FOR THE INTENDED SERVICE. MATERIALS OF CONSTRUCTION SHALL BE COMPATIBLE WITH NaOH AND NaOCl.
7. ALL WORK SHALL BE IN ACCORDANCE WITH MADEP CROSS CONNECTION REQUIREMENTS.
8. PROVIDE A VENT FOR EACH CHEMICAL STORAGE TANK. VENT SHALL BE FITTED WITH A GOOSE NECK AND 24-MESH CORROSION RESISTANT INSECT SCREEN. VENT SHALL SLOPE BACK TOWARD TANK. CHEMICAL DAY TANK VENT SHALL BE COMPLETELY SEPARATE FROM BULK TANK VENT. REFER TO INDIVIDUAL PIPING SCHEMATICS FOR SIZING.
9. ALL EQUIPMENT REQUIRING VENTING TO ATMOSPHERE SHALL DISCHARGE ABOVE GRADE AND SHALL HAVE VENTS LOCATED AWAY FROM ANY BUILDING OPENINGS, AIR INTAKES, AND PARKED VEHICLES.
10. PIPE ROUTING IS TO BE DETERMINED IN THE FIELD EXCEPT AS SHOWN ON PIPING SCHEMATICS. PIPE ROUTING MUST NOT INTERFERE WITH ACCESS TO OPERATION OF ANY OTHER PIPE, VALVE, OR EQUIPMENT. PIPING SHALL NOT BE INSTALLED ABOVE ELECTRICAL EQUIPMENT AND CONTROL PANELS.
11. PIPING SHALL BE INSTALLED TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT APPLYING STRESS TO THE EQUIPMENT OR PIPING.
12. PVC WYE STRAINERS SHALL BE INSTALLED AT A MINIMUM OF 1'-0" OFF THE FINISHED FLOOR. REFER TO INDIVIDUAL CHEMICAL FEED PIPING SCHEMATICS FOR SIZES.
13. SUCTION AND INLET REDUCERS/INCREASERS SHALL BE PROVIDED, AS REQUIRED, AT TRANSFER PUMP CONNECTIONS TO PROPOSED CHEMICAL PIPING SYSTEMS.
14. PIPE UNIONS SHALL BE INSTALLED AT ALL PIPING CONNECTIONS TO AND FROM EQUIPMENT AND AS SHOWN ON PIPING SCHEMATIC.
15. TUBING CARRIER CONTAINMENT PIPE SHALL BE SCH. 40 PVC SOLVENT WELD JOINTS. CONTRACTOR SHALL MAKE ALL CHANGES IN DIRECTION OF THE CARRIER PIPE BY BENDING THE PIPE (MIN. 18" RADIUS) AND INSTALL "PULL BOXES" AT 15' INTERVALS ALONG THE ENTIRE LENGTH OF CONTAINMENT PIPING. PULL BOX SHALL INCLUDE TEE WITH THREADED CAP FOR ACCESS TO TUBING.
16. ALL CALIBRATION COLUMNS SHALL BE INSTALLED FOR GRAVITY FILL BY DAY TANK.
17. LIQUID LEVEL GAUGE PIPING SHALL BE TEED OFF OUTLET AND SUPPORTED BY A UNSTRUT SYSTEM.
18. LEVEL SWITCH – EACH DAY TANK AND EACH BULK TANK
19. SODIUM HYPOCHLORITE VALVES SHALL BE VENTED BALL VALVE TYPE.
20. METERING PUMPS WILL BE RESET LOCALLY FOLLOWING SCADA ALARM INITIATED SHUTDOWN.
21. METERING PUMPS IN MANUAL MODE SHALL ACTIVATE LOCAL STROBE LIGHT VISUAL ALARM.
22. SPARE PARTS SHALL BE AVAILABLE FOR ALL FEEDERS TO REPLACE PARTS THAT ARE SUBJECT TO WEAR AND DAMAGE, SUCH AS ANTI-SIPHON VALVES, BELTS, TUBING, ETC.
23. SODIUM HYPOCHLORITE SHALL MEET THE LATEST EDITION OF ANSI/AWWA B300-04 (AWWA STANDARD FOR HYPOCHLORITES) AND NSF 60, AS REFERENCED IN THE STANDARD OPERATING PROCEDURE.
24. A PAIR OF RUBBER GLOVES, AN APRON OR OTHER PROTECTIVE CLOTHING, SPLASH GOGGLES, AND FACEMASK SHALL BE PROVIDED FOR EACH OPERATOR PER MATERIAL SAFETY DATA SHEETS (MSDS) AND OSHA 29CFR1910.
25. STANDARD OPERATING PROCEDURES AND MSDS SHEETS SHALL BE POSTED IN WELL PUMP STATION FOLLOWING CONSTRUCTION AND ALL OTHER ACCESSORIES SHALL BE PROVIDED TO MEET OSHA STANDARDS.
26. THE SUCTION FEED LINES SHALL SLOPE UPWARDS FROM THE DAY TANKS TO THE METERING PUMP TO AVOID AIR-ENTRAPMENT.
27. SPILL ABSORBENT SHALL BE STORED ONSITE FOR ANY UNCONTROLLED DISCHARGES.
28. PROVIDE TYPICAL WALL PENETRATION AT ALL PROCESS MECHANICAL PIPING WALL PENETRATION LOCATIONS INCLUDING VENT PIPES AND CHEMICAL FILL PIPE. ROOF PENETRATIONS NOT ALLOWED.
29. PROVIDE LABELS FOR EACH TANK FURNISHED AND INSTALLED. LABEL CHEMICAL NAME, CHEMICAL FORMULA, UN NUMBER, AND NFPA PLACECARD.
30. REFER TO INSTRUMENTATION PLANS FOR INSTRUMENTATION DETAILS.
31. CONTRACTOR SHALL PROVIDE CHEMICAL FOR START-UP, CHECK-OUT, TESTING, AND AS REQUIRED BY THE SPECIFICATIONS. REMAINDER OF CHEMICAL SHALL BE PROVIDED TO OWNER.
32. REFER TO PLUMBING PLANS FOR EMERGENCY EYEWASH AND SAFETY SHOWER DETAILS AND COORDINATION.
33. CHEMICAL METERING PUMPS AND DAY TANKS SHALL BE POSITIONED TO PROVIDE A FLOODED SUCTION CONDITION FOR THE CHEMICAL METERING PUMPS.

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ENVIRONMENTAL PARTNERS — An Apex Company —

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GROTON WATER SYSTEM EXPANSION
GROTON, MA

CHEMICAL FEED SCHEMATIC

FOR REVIEW

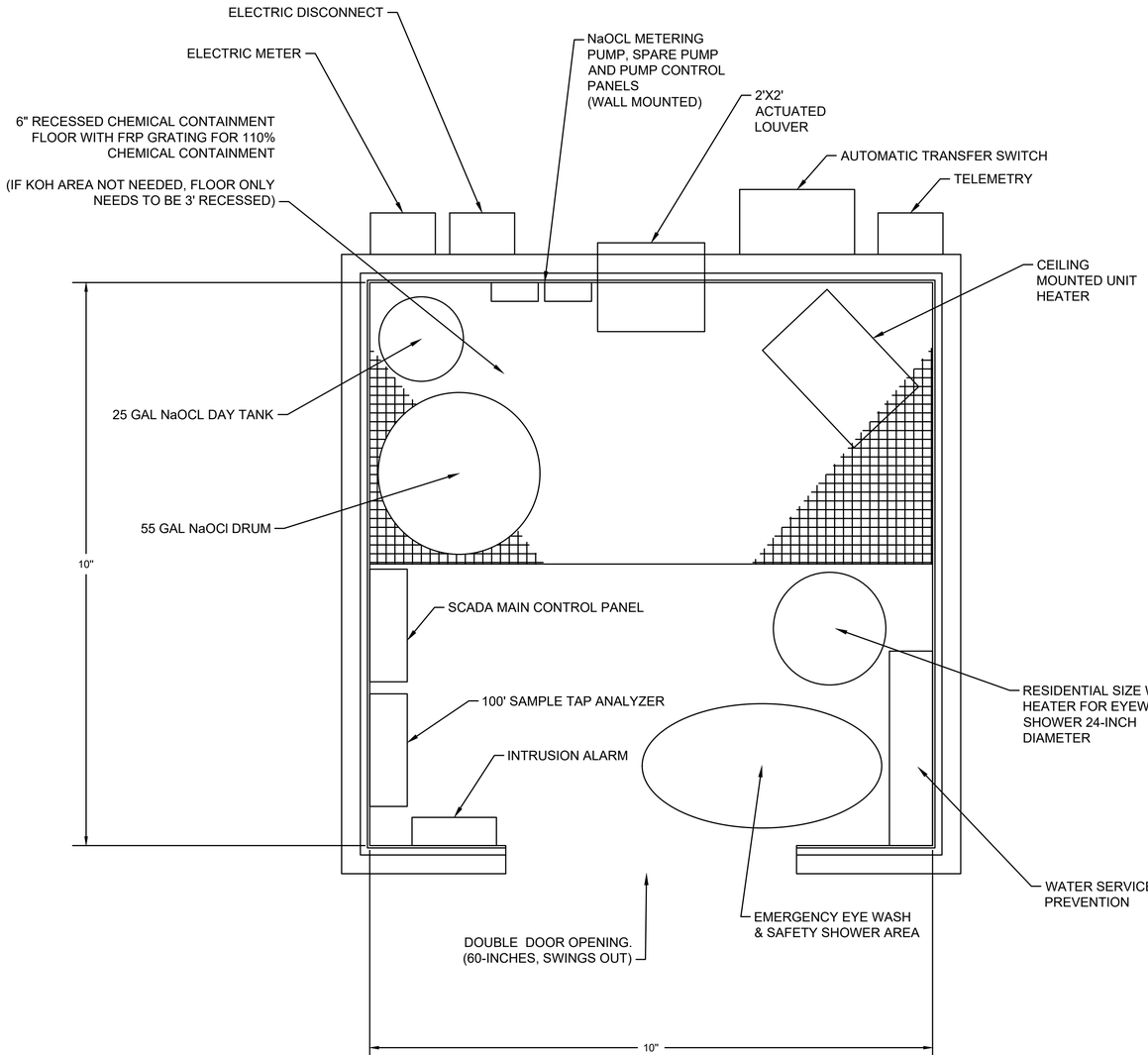
Sheet No.

M-2

Drawing file: C:\Users\local_Brennan.Cummings\Temp\AcPublish_10\2026\23035533 Emery Water Main Design_M-Sheets.dwg Plot: Date: Jun 03,2024-5:35pm

NOTES:

1. SOME CHEMICAL FEED PIPING NOT SHOWN FOR CLARITY. REFERENCE MECHANICAL SECTIONS FOR DETAILED PIPING LAYOUT AND ELEVATIONS.
2. CHEMICAL, SAMPLE LINE, AND PLANT SERVICE WATER ROUTING IS TO BE DETERMINED BY THE CONTRACTOR EXCEPT AS SHOWN ON PIPING SCHEMATICS. PIPE ROUTING SHALL BE ACCEPTED BY ENGINEER/TOWN BEFORE INSTALLATION. PIPE ROUTING MUST NOT INTERFERE WITH ACCESS TO OPERATION OF ANY OTHER PIPE, VALVE, OR EQUIPMENT. PIPING SHALL NOT BE INSTALLED ABOVE ELECTRICAL EQUIPMENT AND CONTROL PANELS.
3. CONTRACTOR SHALL SUBMIT A CHEMICAL AREA LAYOUT PLAN INDICATING TANKS, PUMPS, AND EQUIPMENT PAD LOCATIONS FOR ENGINEER/OWNER APPROVAL PRIOR TO INSTALLATION.
4. REFER TO M-5 FOR CHEMICAL FEED PIPING SCHEMATICS.
5. PROVIDE TYPICAL WALL PENETRATION AT ALL PROCESS MECHANICAL PIPING WALL PENETRATION LOCATIONS INCLUDING VENT PIPES, CHEMICAL FILL PIPE, AND PRESSURE RELIEF/SURGE ANTICIPATOR.
6. PROVIDE LABELS FOR EACH TANK FURNISHED AND INSTALLED.



CHEMICAL INJECTION STATION PLAN

SCALE: 3/4" = 1'-0"

ENVIRONMENTAL PARTNERS — An Apex Company

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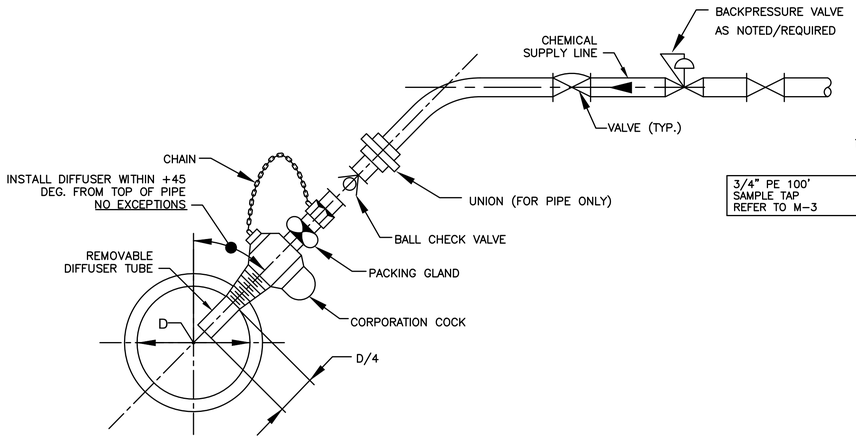
GROTON WATER SYSTEM EXPANSION
GROTON, MA

PROCESS MECHANICAL PLAN

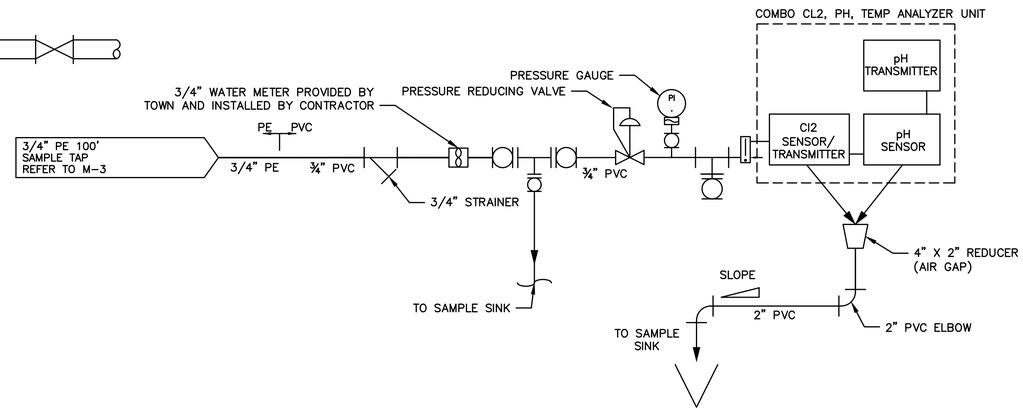
FOR REVIEW

Sheet No. M-3

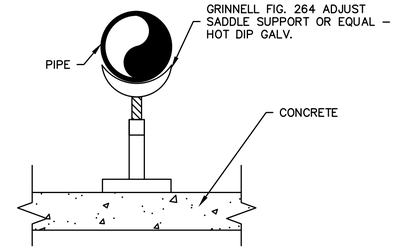
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CHEMICAL INJECTION
SCALE: NTS



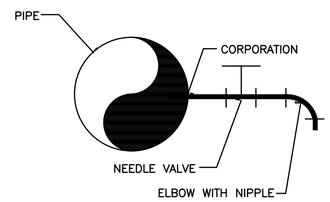
100' SAMPLE TAP PIPING SCHEMATIC
SCALE: NTS



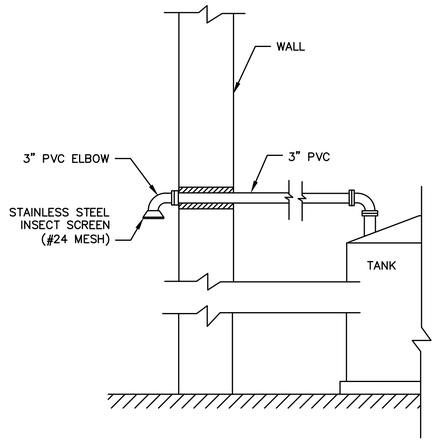
NOTES:

1. ALL METAL SHALL BE HOT DIPPED GALVANIZED.

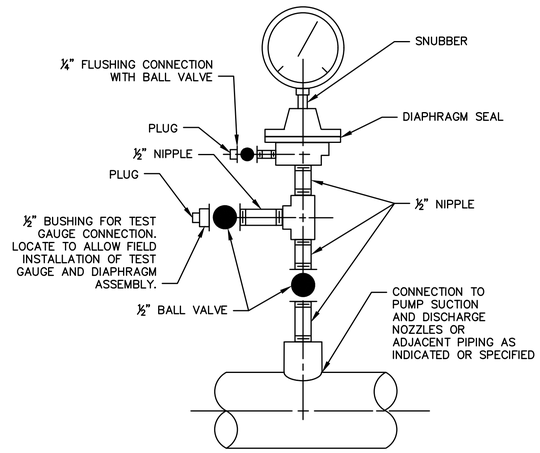
STANDARD PIPE SUPPORT
SCALE: NTS



SAMPLE TAP DETAIL
SCALE: NTS



CHEMICAL TANK VENT



PRESSURE GAUGE MOUNTING DETAIL FOR LIQUID PIPING
SCALE: NTS

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ENVIRONMENTAL PARTNERS
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GROTON WATER SYSTEM EXPANSION
GROTON, MA

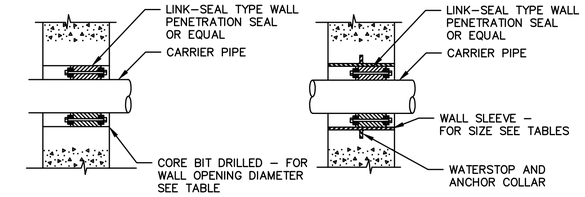
MECHANICAL DETAILS I

FOR REVIEW

Sheet No.

M-4

Drawing file: C:\Users\bcal_Brennan.Cummings\Temp\AcPublish_10392\8\22035533 Emerg Water Main Design_M-Sheets.dwg Plot Date: Jun 03,2024-5:35pm



EXISTING CONCRETE WALL
SCALE: NTS

NEW CONCRETE WALL
SCALE: NTS

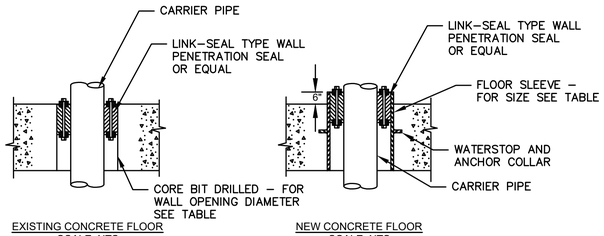
DUCTILE IRON CARRIER PIPE NOMINAL SIZE	DUCTILE IRON CARRIER PIPE O.D.	WALL SLEEVE SIZE	CORE DRILLED I.D.
2"	2.50"	4"	4"
4"	4.80"	8"	8"
6"	6.90"	10"	10"
8"	9.05"	12"	12"
10"	11.10"	14"	14"
12"	13.20"	16"	16"
16"	17.40"	20"	20"
18"	19.50"	24"	24"
24"	25.80"	30"	29"

COPPER TUBING NOMINAL SIZE	COPPER TUBING PIPE O.D.	WALL SLEEVE SIZE	CORE DRILLED I.D.
1/2"	0.625"	2"	2"
3/4"	0.875"	2"	2"
1"	1.13"	3"	3"
1–1/4"	1.38"	3"	3"
1–1/2"	1.63"	3"	3"
2"	2.13"	4"	4"

NOTES:

1. SIZES SHOWN ARE FOR DUCTILE IRON PIPE AND COPPER TUBING, FOR OTHER MATERIALS AND PIPE SIZES CONSULT MANUFACTURER'S SPECIFICATIONS.
2. SOME APPLICATIONS MAY REQUIRE STANDARD WALL CASTINGS.
3. FOR WATER–TIGHT APPLICATIONS, PROVIDE NON–SHRINK GROUT ON EXTERIOR (NON–WATER SIDE) OF LINK–SEAL TYPE WALL PENETRATION.
4. LINK SEAL COMPONENTS SHALL BE STAINLESS STEEL.

TYPICAL WALL PENETRATION
SCALE: NTS



EXISTING CONCRETE FLOOR
SCALE: NTS

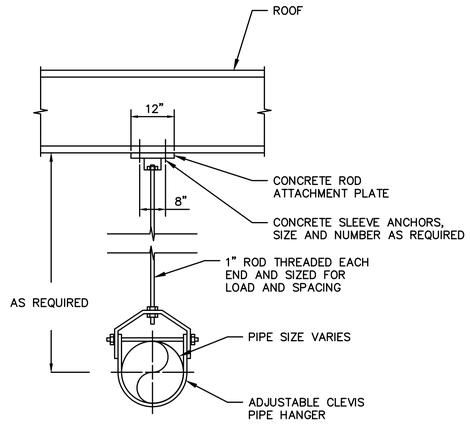
NEW CONCRETE FLOOR
SCALE: NTS

CARRIER PIPE NOMINAL SIZE	CARRIER PIPE O.D.	FLOOR SLEEVE SIZE	CORE DRILLED I.D.
1 1/2"	1.625"	3"	3"
2"	2.50"	4"	4"
4"	4.80"	8"	8"
6"	6.90"	10"	10"
8"	9.05"	12"	12"
16"	17.40"	20"	20"
18"	19.50"	24"	24"
24"	25.80"	30"	29"

NOTES:

1. SIZES SHOWN ARE FOR DUCTILE IRON PIPE, FOR OTHER MATERIALS AND PIPE SIZES CONSULT MANUFACTURER'S SPECIFICATIONS.

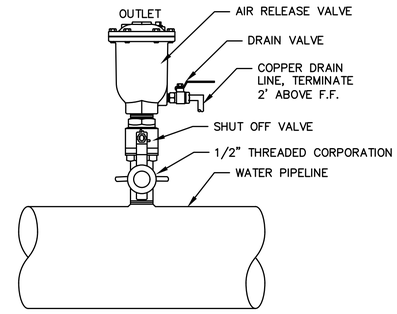
TYPICAL PIPE SLAB PENETRATION DETAIL
SCALE: N.T.S.



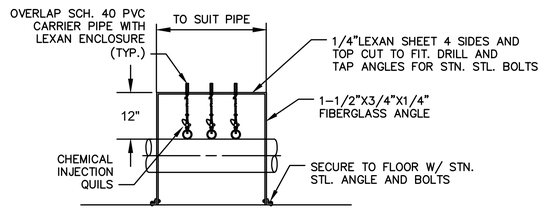
PIPE HANGER DETAIL
SCALE: N.T.S.

NOTES:

1. FOR PIPE SIZES CONSULT MANUFACTURER'S SPECIFICATIONS. REFER TO SECTION 11200 FOR ADDITIONAL REQUIREMENTS.
2. PIPE SUPPORT CALCULATIONS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 11200.
3. ALL COMPONENTS OF PIPE SUPPORT SYSTEM (EXCEPT EXPANSION BOLTS) SHALL BE HOT–DIPPED GALVANIZED STEEL.



AIR RELEASE / VACUMM VALVE
SCALE: N.T.S.



CHEMICAL FEED CORPORATION GUARD FLOOR MOUNTED
SCALE: N.T.S.

NOTES:

1. PROVIDE CORP. GUARD ON EACH SIDE OF PIPING (TOTAL OF 2)

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GROTON WATER SYSTEM EXPANSION
GROTON, MA

MECHANICAL DETAILS II

FOR REVIEW

Sheet No.
M-5

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GROTON WATER SYSTEM EXPANSION PROJECT

Regional Water System Improvements – Phase 1

ENVIRONMENTAL PARTNERS

— An Apex Company —

BACKGROUND

- In 2022, the Groton Dunstable Regional High School (GDRHS) sampled for PFAS6 in the school's well. Results came in well above the Maximum Contaminant Level enforced by MassDEP.
  - The cause of the contamination was a 2003 fire on the athletic field track that was extinguished with Aqueous Film Forming Foam (AFFF), a known PFAS contamination contributor.

- MassDEP has also sampled the surrounding private wells along Groton Street and Kemp Street. Several have high levels of PFAS6.
  - MassDEP notified the GDRHS that they are responsible for the PFAS6 contamination and must provide a solution to all impacted residents.

PROJECT OBJECTIVES

- Representatives from the School District and Towns of Groton, Dunstable, and Pepperell met several times to evaluate all the feasible options.

- Primary Goal:
  - Provide clean water, less than four parts per trillion (ppt) PFAS, to GDRHS and impacted private properties as quickly as possible.

- Secondary Goal:
  - Improve the water systems of the three communities in this area by expanding municipal fire protection, head off a potential PFAS plume spread, and increase water system resilience by establishing emergency interconnections between the three systems.

Evaluating the Need for a Regional Solution

- All three communities working together provides three important benefits:
  - Divides up the overall project cost between three communities.
  - Increases the visibility of the problem at the State level for approvals and potential funding.
  - Expedites the solution implementation.

- All three communities have different challenges that this project can address.
  - PFAS Containment
  - Water Source Treatment
  - Water System Redundancy & Resiliency

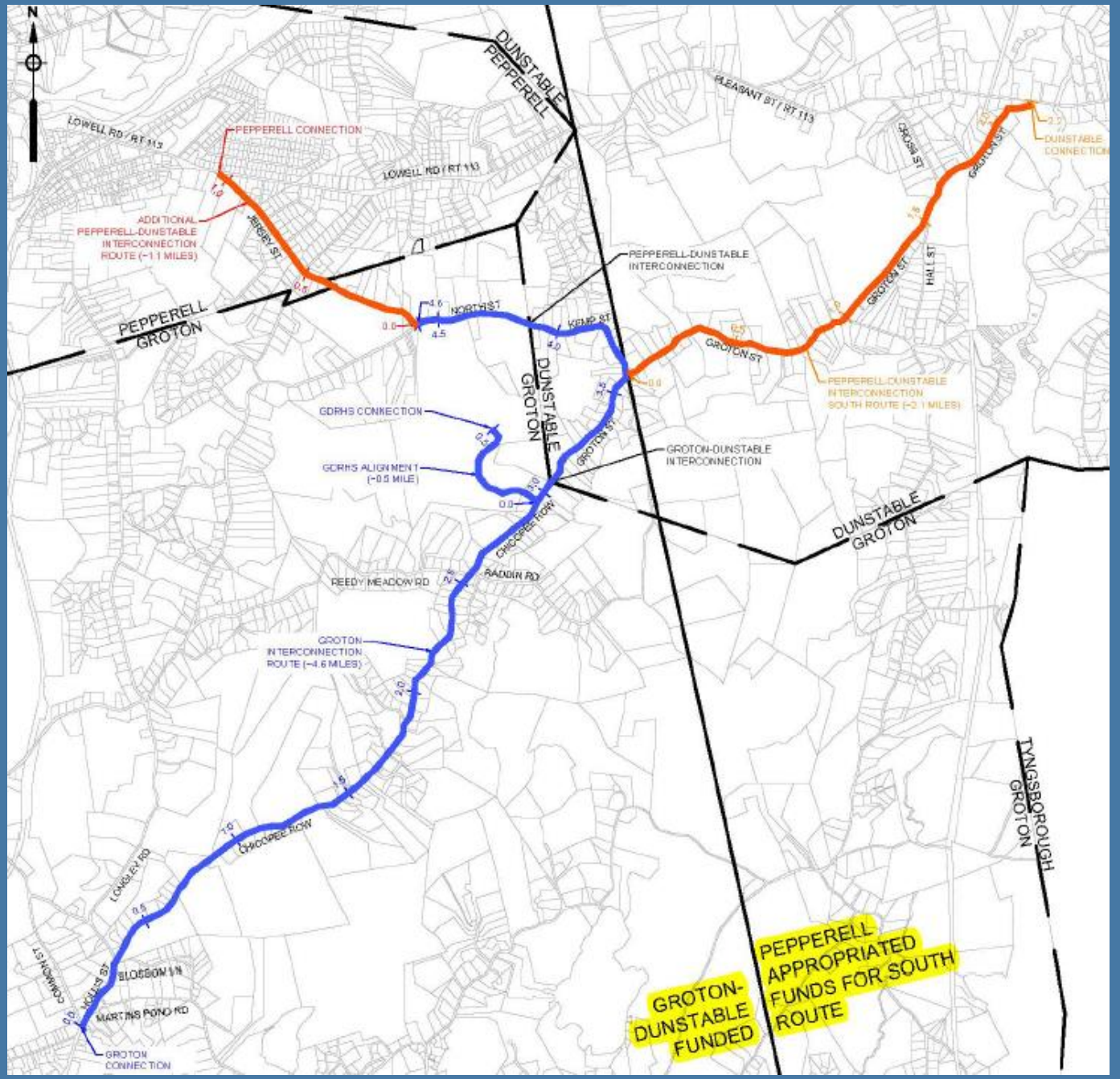
- Regional Water System Solution
  - Phase 1: Expand the Groton System up Chicopee Row and loop around the school to North Street.
  - Phase 2: Connect the three Water Systems through North Street.

Regional Water System Solution

Phasing

- Phase 1 (in Blue) solves the primary objective and provides clean water as quickly as possible to the GDRHS. (1-2 years)

- Phase 2 (in Orange) solves the secondary goals and enables redundancy and system resiliency to all three water systems. (3-5 years)



Funding For The Project

- Article 12 of the 2023 Spring Town Meeting appropriated $16.7 million for PFAS Remediation at the Groton Dunstable Regional High School.
- Article 9 at the 2023 Fall Town Meeting approved a Proposition 2½ Debt Exclusion.
- A Special Election on November 7, 2023, approved the Debt Exclusion.
- A Drinking Water State Revolving Fund (DWSRF) loan application was filed in August 2023, and this project was selected in January 2024.
- The State loan will fund the project at an expected 0% interest rate.

Groton Water System Expansion (Phase 1): Implementation Timeline

Aug. 2023

SRF Application filed for the Groton Water System Extension $12.8M

Oct.-Nov. 2023

Groton Fall Town Meeting/Special Election approves Prop. 2 ½ override for borrowed funds

Jan. 2024

SRF Intended Use Plan (IUP) released by DEP

Oct. 2024

Construction on the Groton Water System Expansion begins

Spring 2025

Earliest water service could be provided to the GDRHS

Fall 2025

Earliest water Service could be provided to all impacted Properties

Winter 2025

Earliest Phase 1 project could conclude

Regional Solution (Phase 2): Implementation Timeline

Sep. 2023

Groton & Dunstable Selectboards agree to pursue Regional Solution

Sep.-Dec. 2023

$3.1M in funding negotiated with the Intermunicipal Agreement between Groton & Dunstable

2024 - 2025

Pepperell & Dunstable move forward with their WMA and ITA permitting

Aug. 2025

Pepperell submits an SRF application for funding the Phase 2 project as the Environmental Justice Community

Fall 2025

Groton, Dunstable & Pepperell Fall Town meetings appropriate borrowing funds (as necessary)

Spring 2026

Phase 2 Construction begins

Fall 2027

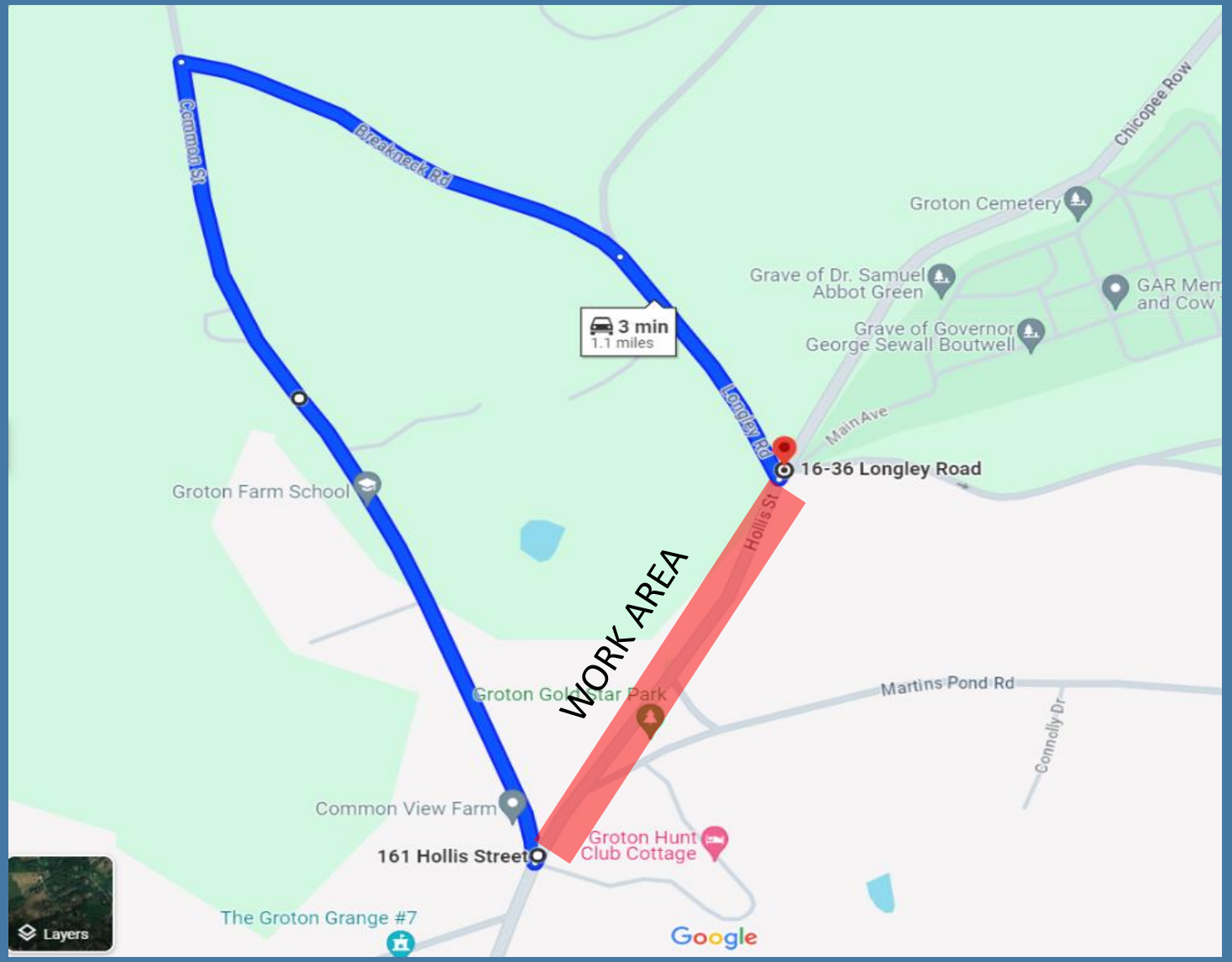
Phase 2 Construction concludes

Groton Water System Expansion: Construction Times

- Construction impacting the traveled way will be limited to night work along the entire alignment. (9 PM – 5 AM). Work nights will be Sunday through Thursday.
- The Contractor may have multiple crews deployed at any given time.
- Roads under construction will be detoured. Only local traffic and emergency vehicles will be permitted.
- The Groton and Dunstable Police will provide traffic control during work hours.
- Electronic message boards will be utilized to alert drivers of potential hazards and detours.

Groton Water System Expansion: Detour Routes

- For Work on Hollis Street:
  - Detour through Common Street to Breakneck Road to Longley Road
  - 1.1 Miles (3 min) detour



Groton Water System Expansion: Detour Routes

- For Work on Chicopee Row between Hollis Street and Ready Meadow:
  - Detour through Longley Road to Ready Meadow
  - 2.8 Miles (6 min) detour



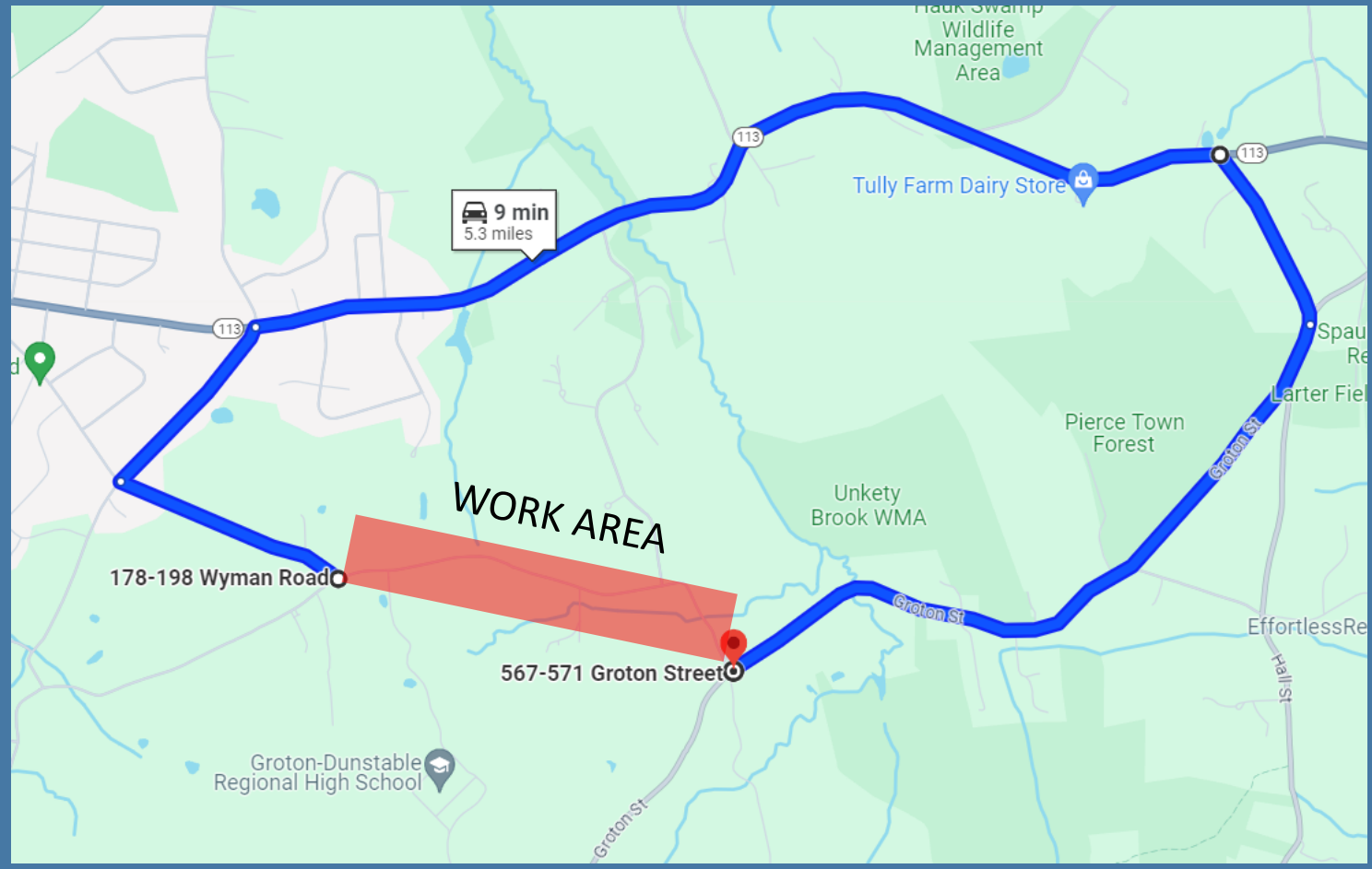
Groton Water System Expansion: Detour Routes

- For Work on Chicopee Row between Ready Meadow and Kemp Street
  - Detour through Ready Meadow to Nashua Road to Kemp Street
  - 4.1 Miles (9 min) detour



Groton Water System Expansion: Detour Routes

- For Work on Kemp Street and North Street
  - Detour through Groton Street to Route 113 to East Street to North Street
  - 5.3 Miles (9 min) detour



Groton Water System Expansion: Water Main Installation

- The water main will be installed via an open-cut trench method.
  - The trench will be approximately 5 feet wide by 6 feet deep.
  - All water main will be installed within the paved surface of the road.

- Water services will be extended to the property line off the paved service.
  - These areas will be marked out in advance, and attempts will be made to communicate with the homeowner regarding the ideal location.
  - All impacted soil will receive new loam & seed.

- Hydrants will be installed within the Right-of-Way and have been coordinated with the Fire Department.

Groton Water System Expansion: Roadway Conditions

- The contractor will excavate the water main trench into a dump truck and then backfill with suitable materials at the end of the day. All unsuitable and excess trench materials shall be removed from the project site and disposed of properly. No trenches shall be left open at the end of each work day.

- On Thursdays, the Contractor will pave all trenches to grade with asphalt.

- This pavement will be temporary and will hold for a minimum of 90 days to allow the trench to settle and to wear from additional construction activity.

- Upon project conclusion, the entire roadway width will be repaved with new asphalt.

Groton Water System Expansion: Homeowner Actions

- Connecting to the water system is optional.
  - Regardless of your connection status, It is recommended that you call your home insurance provider as you may receive a significant discount for being in proximity to the municipal fire protection system.

- Impacted properties affected by PFAS6 contamination directly related to Aqueous Film Forming Foam (fire fighting Foam) used at the High School, shall have their Water Connection Fee, Plumbers costs and installation costs waived.

- Properties along the water main route will have a reduced connection fee of $2,000.00 up through December 2026.

- The process for connecting to Town Water is provide in an attachment at you enter the PAC and is posted on the Town of Groton web site.

THANK YOU

Questions?

ENVIRONMENTAL PARTNERS

— An Apex Company —

April 2024

DIV. 01 - *GENERAL REQUIREMENTS*		REMARKS
Project management, supervision,	$5,000	
Temporary Facilities, access, disposal	$20,000	
SUBTOTAL	**$25,000**	

DIV. 04 - *MASONRY*		REMARKS
Repointing of Brick Chimney and Foundation	$10,000	
SUBTOTAL	**$10,000**	

DIV. 06 - *WOOD, PLASTICS, AND COMPOSITES*		REMARKS
Replace door pediments South elevation	$6,000	
Replace missing mouldings	$5,000	
Fascia and soffit repairs	$30,000	
Epoxy consolidation repairs of wood trim and mouldings	$4,500	
Replacement of deteriorated wood trim and mouldings	$8,500	
Selectively replace wood siding	$1,600	
Clapboard work at window head pediments	$7,600	
SUBTOTAL	**$63,200**	

DIV. 07 - *THERMAL AND MOISTURE PROTECTION*		REMARKS
Replacement of broken and missing slate	$3,000	
Head flashing at window and door head pediments	$25,500	
Replace roofing at horizontal cornice of front pediment	$20,000	
SUBTOTAL	**$48,500**	

DIV. 08 - OPENINGS		
Restore tri-part window in façade pediment include replacing missing window	$8,000	
SUBTOTAL	**$8,000**	

DIV. 09 - *FINISHES*		REMARKS
Strip and dispose of lead-containing paint. Prim, and paint all woodwork.	$375,000	
SUBTOTAL	**$375,000**	

DIV. 10 - *SPECIALTIES*		REMARKS
Restore original flagpole	$6,000	
SUBTOTAL	**$6,000**	

SUBTOTAL	**$535,700**
General Conditions: +	$53,570
HARD COST SUBTOTAL	**$589,270**
Overhead + Profit: +	$58,927
CONSTRUCTION COST SUBTOTAL	**$648,197**
Contingency: +	$64,820
Architecture/Engineering Fees: +	$106,953
GRAND TOTAL	**$819,969**
Inflationary escalation from 12.2021 to 2025	**$163,994**
COMBINED TOTAL	**$983,963**

ASSESSING CAPITAL

Vicki Tidman

From: Jeff Leone <jeff.leone@catalisgov.com>
Sent: Tuesday, June 27, 2023 4:46 PM
To: Jason Bastow; Vicky Tidman
Subject: RE: Customer List
Attachments: Dunstabel, MA_AP5 Upgrade.pdf

Hi Vicki,

Here is the AP5 Upgrade proposal for Dunstable. I also included the option for the town to have Patriot Host the database. The Town would not need to provide and maintain a Server with this option.

AP5 Upgrade Cost = $9,750.00
Annual Maintenance & Support = $6,075.00 (Classic Annual fee Transfer)
AP5 Hosted Database Option = $2,780.00 (Optional)

Please review attached.

Thanks,

Jeff

Jeff Leone | Regional Sales Manager
Patriot Properties a Catalis Company
Ph: 781.476.2035
catalisgov.com

CATALIS
TAX & CAMA, INC

From: Jason Bastow <jbastow@catalisgov.com>
Sent: Tuesday, June 27, 2023 8:09 AM
To: Vicky Tidman <vtidman@dunstable-ma.gov>
Cc: Jeff Leone <jeff.leone@catalisgov.com>
Subject: RE: Customer List

Hi Vicki,

I am sure you need it! It has been pretty cloudy / raining the last few days here as well.

Thanks for the update on the numbers. I am CCing Jeff on this thread as he can work with you on the AP5 Upgrade Proposal.

Dunstable, MA – Currently on Classic 4.7.5, SQL 2017, 40PP and 1358RE, Classic WebPro

Thanks

Jason Bastow I Senior Project Manager, CAMA
Patriot Properties, A Catalis Company
(D) 781.476.2008
(M) 239.707.0200
jbastow@catalisgov.com I LinkedIn

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TAX & CAMA, INC

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From: Vicky Tidman <vtidman@dunstable-ma.gov>
Sent: Tuesday, June 27, 2023 7:35 AM
To: Jason Bastow <jbastow@catalisgov.com>
Subject: Re: Customer List

WARNING: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Morning,

We have 40 active Personal Property accounts and
approximately 1,358 Real Estate accounts.

And I would be interested in getting a quote on the AssessPro upgrade.

Can you please order sone sunshine!!

Vicki

From: Jason Bastow <jbastow@catalisgov.com>
Sent: Monday, June 26, 2023 4:03:58 PM
To: Vicky Tidman
Subject: Customer List

Hi Vicki,

I was hoping you could answer a couple of questions for me.

What is your total # of Active PP Accounts
What is you total # of Open RE Parcels

Are you interested in getting a quote on upgrading to AssessPro 5?

Thanks

Jason Bastow | Senior Project Manager, CAMA
Patriot Properties, A Catalis Company
(D) 781.476.2008
(M) 239.707.0200
jbastow@catalisgov.com | LinkedIn

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TAX & CAMA, INC

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POLICE DEPARTMENT

DEPT: Police

SUBMITTED BY: Chief Hoar

Number	Project Description	Estimated Cost	Anticipated Useful Life (in years)	Priority (pick from drop down menu)	# of Quotes Received (pick from drop down menu)	ITEMS TO CONSIDER (PLACE "X' IN EACH BOX THAT APPLIES): Emergency	Public Safety Issue	To Maintain Service	Grant Opps Exist	Dept has Matching Funds	Enhances Services	Additional Information
1	New Cruiser	60,000.00	4.0	1				x				
2	Station Paving	57,000-61,000	20.0	2	2		x	x				
3	Station Siding	55,000.00	20-30	2				x				
4	Station Addition/Public Safety Addition	1,000,000.00	30.0	1				x				
5												
1	New Taser's	19,200.00	5yr-8yr	2	1		x	x				
2	New ATV Trailer	15,000.00	15.0	4			x	x				
3	BP Vest's	10,000.00	5.0	2			x	x				Contractual
4												
5												

Form 1. Individual Project Proposal Description and Justification

Prepared By:_____Chief Hoar_____ Date Prepared:_____9/20/24_____

Project Title:_____New Cruiser_____ Program Area:_____

1. **Project Description:** Give a brief (1-2 paragraph) description of what the project entails. Provide basic information, such as the location, size, acreage, floor area, capacity, etc., and any other information that is relevant to what is being proposed.

Car 56 is the oldest car in the fleet. It is a 2013 Ford Taurus with over 94K miles and 4600 engine hours. That amount of hours on an engine is equivalent to 152K miles. This car will be traded in and replaced by the line car (#52) which is our oldest marked car. It currently has 89K miles.

2. **Project Justification:** Why is the project needed? What is being used today? Can it be repaired instead? Is the cost of renting, repairing, etc. more expensive than the purchase of a new item?

Car 52 was purchased in 2020 and will be out of warranty shortly. It has been in the shop recently for issues with the motor that were luckily covered. By replacing this car and making it the new unmarked we will no longer have any vehicles that are not hybrids.

3. **Planning Context:** Is the project referenced in any Town plan, such as the Master Plan, previous year's CIP, Town planning or scoping study, etc.?

No

4. **Schedule:** If the project will take several years to complete, outline the schedule here and on Form 2. If applicable, be sure to include work done in prior years, including studies or other planning, and refer to previous Town Meeting item.

No

5. **Coordination:** If the project is dependent upon one or more other CIP projects, identify them and indicate what the relationship among the projects is. If the project is not dependent upon, but should be linked to one or more other CIP projects, identify them and indicate what the relationship among the projects is.

No

6. **Previous Town Meeting Action:** If the project has previously been included in the Warrant for a Town Meeting, indicate the year, the warrant article number, and the Town Meeting action. Indicate the action taken even if the article was indefinitely postponed, referred for further study, or defeated.

---

7. **Project Category:** Indicate what category and subcategory below best describes the project (indicate more than one if applicable).

Category I – Replacements

a. Replacement of a broken or unserviceable capital facility to preserve current level of service.
b. Replacement of a deteriorating facility is less expensive now than in the future.
c. Replacement of a facility with a high level of deterioration or community support.

Category II – Upgrades

d. Upgrade to reduce urgent threats to public safety and health.
e. Project will result in improved efficiency or net savings.
f. Project is required to meet governmental requirements
g. Project has a high level of community support

Category III – Expansions

h. Expansion will provide existing levels of service to new development recently completed or under construction.
j. Expansion will maintain a level of service standard adopted by the Select Board.
k. Expansion is required to meet governmental requirements.
l. Expansion will provide existing levels of service to projected future developments.

---

8. **Project Priority:** Rank the project's priority within your department on a scale of 1 to 5, with 1 being the most important and 5 being the least important. (Note: The highest priority does not have to occur in the nearest year, and priorities do not necessarily follow in chronological order. It may be that your most important project may not be needed or may not be ready for action until three years from now).

1

---

9. **Estimated Cost: $**
Amounts shown here should agree with Form 2. For projects that will take more than one year, list each year separately and then show total.

$60K will cover the cost of the new vehicle and the transfer of the existing equipment from the old to the new.

---

10. **Basis of Cost Estimate:** Check one of the following. If you want to provide more detail on the estimate, do so by following with a narrative indicating the type of estimate.

_____ Cost of comparable facility or equipment

_____ Rule of thumb indicator, unit costs

_____ Cost estimate from engineer, architect, or vendor

_____ Bids received

__X___ Preliminary estimate (e.g. no other basis for estimate, guesstimate)

Spoke with reps from both McGovern Ford and Global who gave a rough idea on the costs. No written quotes.

---

11. **Alternate Financing:** Include an amount and a source here only if it is a source other than real estate tax levy. Complete this section only if you know of a specific source, such as a state or federal grant.

New vehicle would be eligible for green communities grant is it is still available.

---

12. **Estimated Annual Debt Service or Lease Payment (if applicable):**

$_____ for _____ years.

---

13. **Anticipated Increase/Decrease in Annual Revenues as a Result of the Project (if applicable):** $ _____. Explain below.

---

10. **Is this a Special Opportunity?** __x_ NO _____ YES (If yes, explain below).

---

11. **What is the estimated life of the proposed project?**

4 years.

Attach all back up information supporting the proposed project available including quotes/estimates, scope of work, and photos

Authorized Department Head Signature

Date 9/20/24

Form 1. Individual Project Proposal Description and Justification

Prepared By: Chief Erik Hoar Date Prepared: 9/20/24

Project Title: Station Paving Program Area:

1. **Project Description:** Give a brief (1-2 paragraph) description of what the project entails. Provide basic information, such as the location, size, acreage, floor area, capacity, etc., and any other information that is relevant to what is being proposed.

Re pave the upper and lower lots. Add additional pavement in the upper lot by the side door to increase parking area. Add additional pavement to the rear lot near the storage trailer and dumpster.

2. **Project Justification:** Why is the project needed? What is being used today? Can it be repaired instead? Is the cost of renting, repairing, etc. more expensive than the purchase of a new item?

The parking lot is beginning to deteriorate. The edges are beginning to break away and large cracks are beginning to develop. Adding the extra parking spots in the rear is needed due to the high volume of cars in the area of the PD. At times there is so much traffic due to the farmhouse it is difficult and sometimes dangerous in the upper lot. There have also been times that there is no parking available for residents trying to come to the PD.

3. **Planning Context:** Is the project referenced in any Town plan, such as the Master Plan, previous year's CIP, Town planning or scoping study, etc.?

Was requested in FY25 Capital requests.

4. **Schedule:** If the project will take several years to complete, outline the schedule here and on Form 2. If applicable, be sure to include work done in prior years, including studies or other planning, and refer to previous Town Meeting item.

5. **Coordination:** If the project is dependent upon one or more other CIP projects, identify them and indicate what the relationship among the projects is. If the project is not dependent upon, but should be linked to one or more other CIP projects, identify them and indicate what the relationship among the projects is.

If the station was to receive an addition in the rear of the building in the near future part of this paving could be eliminated from the bid lowering the cost, but would needed to be added to the cost of an addition later.

---

6. **Previous Town Meeting Action:** If the project has previously been included in the Warrant for a Town Meeting, indicate the year, the warrant article number, and the Town Meeting action. Indicate the action taken even if the article was indefinitely postponed, referred for further study, or defeated.

No

---

7. **Project Category:** Indicate what category and subcategory below best describes the project (indicate more than one if applicable).

Category I – Replacements

a. Replacement of a broken or unserviceable capital facility to preserve current level of service.
b. Replacement of a deteriorating facility is less expensive now than in the future.
c. Replacement of a facility with a high level of deterioration or community support.

Category II – Upgrades

d. Upgrade to reduce urgent threats to public safety and health.
e. Project will result in improved efficiency or net savings.
f. Project is required to meet governmental requirements
g. Project has a high level of community support

Category III – Expansions

h. Expansion will provide existing levels of service to new development recently completed or under construction.
j. Expansion will maintain a level of service standard adopted by the Select Board.
k. Expansion is required to meet governmental requirements.
l. Expansion will provide existing levels of service to projected future developments.

---

8. **Project Priority:** Rank the project's priority within your department on a scale of 1 to 5, with 1 being the most important and 5 being the least important. (Note: The highest priority does not have to occur in the nearest year, and priorities do not necessarily follow in chronological order. It may be that your most important project may not be needed or may not be ready for action until three years from now).

---

9. **Estimated Cost: $**
Amounts shown here should agree with Form 2. For projects that will take more than one year, list each year separately and then show total.

Received two preliminary quotes. One for $56K and one for $52K. This does not include having the lot re lined and replacing signage. I believe an additional $5K will be needed to finish the project for a total of $57K-$61K. These prices could change due to the increasing and decreasing cost of material, Prevailing Wage, and possibility of using the state bid to complete the job.

---

10. **Basis of Cost Estimate:** Check one of the following. If you want to provide more detail on the estimate, do so by following with a narrative indicating the type of estimate.

_____ Cost of comparable facility or equipment

_____ Rule of thumb indicator, unit costs

_____ Cost estimate from engineer, architect, or vendor

___x__ Bids received

_____ Preliminary estimate (e.g. no other basis for estimate, guesstimate)

Also spoke with Pepperell PD who had there parking lot done this year which is slightly larger and there cost was around $65K. (There highway department did the striping)

---

11. **Alternate Financing:** Include an amount and a source here only if it is a source other than real estate tax levy. Complete this section only if you know of a specific source, such as a state or federal grant.

---

12. **Estimated Annual Debt Service or Lease Payment (if applicable):**

$_____ for _____ years.

---

13. **Anticipated Increase/Decrease in Annual Revenues as a Result of the Project (if applicable):** $ _____. Explain below.

---

10. **Is this a Special Opportunity?** _x_ NO _____ YES (If yes, explain below).

11. What is the estimated life of the proposed project?

20yrs

Attach all back up information supporting the proposed project available including quotes/estimates, scope of work, and photos

Authorized Department Head Signature

Date 9/20/24

Proposal

D and D Asphalt Paving Inc
P.O.Box 371
Chelmsford. MA 01824

978-453-1006, 978-453-1008 fax

PROPOSAL FOR:

Dunstable Police Department 23 Pleasant Street Dunstable, MA 01827	Job Phone 978-6498891	Date 9/10/2024

SCOPE OF WORK

Replace existing asphalt parking lot approx 1172 sq. yds.

-Replace existing asphalt and expand to rear of lot, as discussed, on both sides.
-Remove existing asphalt an dispose.
-Remove dirt-loam materials in area to expand and dispose.
-Install gravel base to achieve proper grade and water management, as needed.
-Fine grade and compact gravel.
-Install two coats of asphalt:
1 ½ inches of state binder course asphalt and compact.
1 ½ inches of state top course asphalt and compact.
-Apply tack and sand to joints.

*Signed, returned proposal, and 50% deposit is required prior to work being scheduled.
*If you accept this proposal and would like to be added to our scheduled work, please sign and return the proposal, with a check for 50% of the total job cost. Once both are received, you will be added to our schedule. Please e-mail Jonathan Martins at jmartins@ddasphaltpavinginc.com, with any questions you may have.
*Any change in scope of work will necessitate a change in price.
*Price is based on current FOB prices at the asphalt plants and are not guaranteed. Any change will result in a change to this price. Asphalt plants are not offering any price protection on previously quoted work.
*Permit from the city/town is needed and will be an additional fee added to the final invoice.
*A police detail will be required for this scope of work and will be an extra charge added to the final invoice.

TOTAL $55,960.00

*We are fully Insured*Safety and traffic controlled by others. *If necessary Keying and Sweeping by others. *Any change in scope of work/mobilizations,may result a change in price.*This work is based on 1 Mobilization unless stated otherwise.*If required this quote does NOT included any finish landscaping once work is complete,unless otherwise stated*All work is based on weather permitting.

Jonathan Martins
781-759-3757 mobile
jmartins@ddasphaltpavinginc.com

Customer Acceptance/Date:_____

Shattuck Paving
188 Elm Street, Suite 3
Milford, NH 03055
603-654-5695
shattuckpave@gmail.com | shattuckpaving.com

RECIPIENT:

The Dunstable Police Dept
23 Pleasant Street
Dunstable, Massachusetts 01827

Quote #23168

Sent on	09/16/2024
Total	**$52,233.00**

Product/Service	Description	Qty.	Total
Commercial Paving	Quote to repave driveway (9694 SF). Excavate loam, add gravel, grade and pave extension (240 SF). Mortar 2 sewer main frame and grates. Remove existing trench drain install dry well as noted below and on attached picture. Saw-cut and excavate area identified and dispose of materials off-site (area 9934 SF). Supply and install processed gravel in proposed area (area 9934 SF). Install leaching catch basin. Fine grade, compact and layout proposed area (area 9934 SF). Supply and install a bituminous asphalt binder course at 2 inches and wearing course at 1 inch compacted in the proposed area (area 9934 SF). (Note: If any additional gravel above and beyond specified amount is required, an additional cost of $20/ton along with additional trucking, excavation and installation fees will be applicable.)	1	$52,233.00

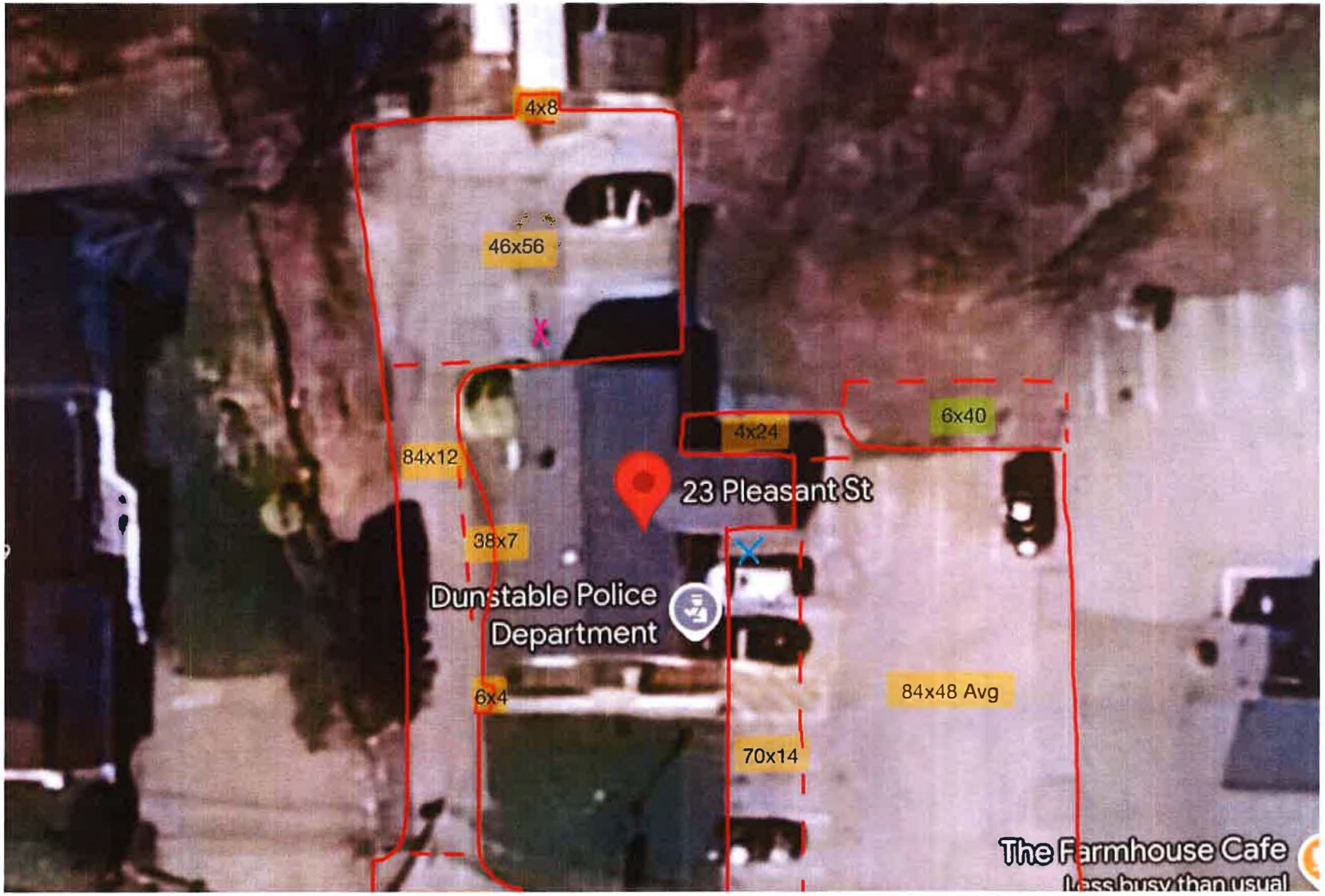
Total **$52,233.00**

This quote is valid for the next 15 days, the quote price is valid for first available schedule date, after which values may be subject to change. The price is based on one mobilization. We do require a 50% deposit for all paving jobs prior to the services being rendered. We do accept Visa, MasterCard and Discover. A 3.5% fee is charged for all credit card purchases. 20% of the deposit is retained for jobs canceled within 21 days of the schedule date. A finance charge of 2.5% per month will be charged on all accounts over 30 days past due. Also, legal fees will be added if it is necessary to submit the account to an attorney for collection. Customers will be charged for police detail fees if this service is required. Customers are also responsible for applying for a New Hampshire DOT driveway permit if they reside on a state road. Any deviations from above specifications will become an extra charge over and above the estimate. Loam and landscaping to be completed by property owner unless agreed upon in contract. M Shattuck Paving is not responsible for any

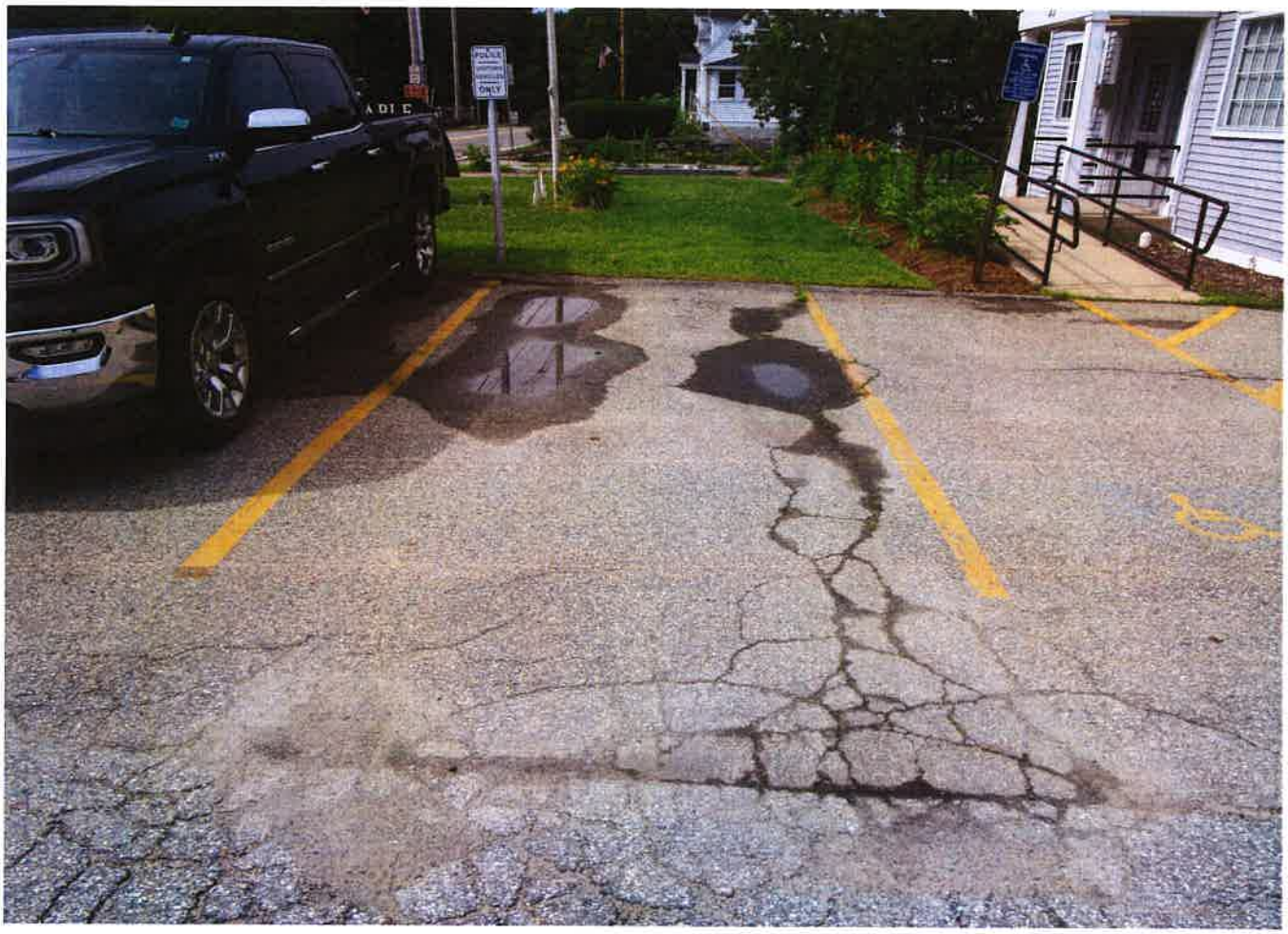
46x56=2576
4x8=32
8x40=320
70x14=980
84x48=4032
4x24=96
Total 9694 sqft
Repave DW
Sawcut 64 ft

Remove Existing trench drain, install dry well

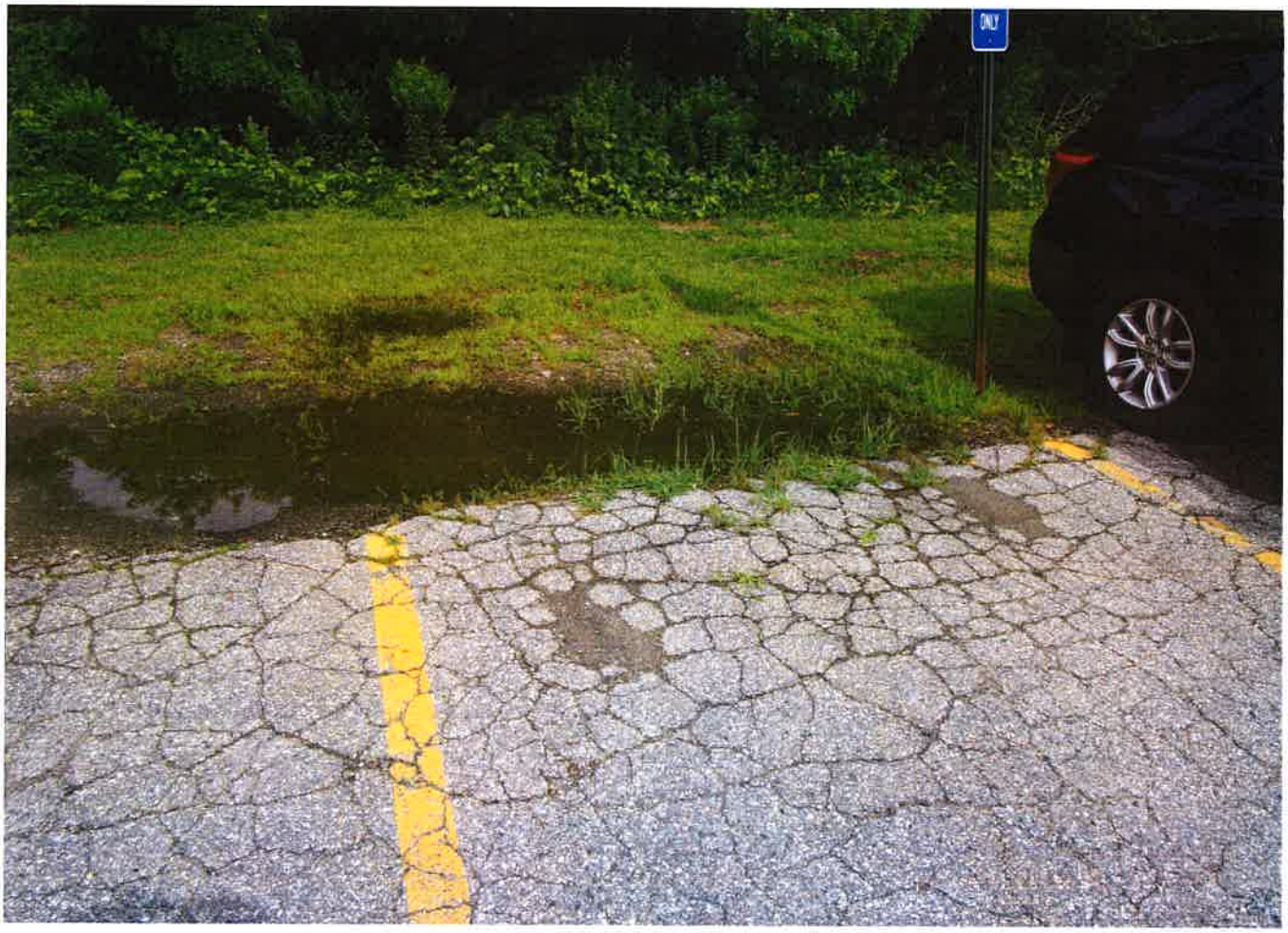
Reset 2 Sewer Main Structures




DUNSTABLE
POLICE


POLICE
ONLY




ONLY









Form 1. Individual Project Proposal Description and Justification

Prepared By: Chief Erik Hoar Date Prepared: 9/20/24

Project Title: New_Siding Program Area:

1. **Project Description:** Give a brief (1-2 paragraph) description of what the project entails. Provide basic information, such as the location, size, acreage, floor area, capacity, etc., and any other information that is relevant to what is being proposed.

Replace current vinyl siding. Current siding will be 24 years old next year.

2. **Project Justification:** Why is the project needed? What is being used today? Can it be repaired instead? Is the cost of renting, repairing, etc. more expensive than the purchase of a new item?

The exterior of the building is beginning to deteriorate. Several areas of the siding are cracking, faded, and stained. Other than the Town Hall, the Police Department is the most visited town building. Keeping the stations appearance up to date is a reflection on the town. New siding would come with new vapor barrier and insulation that may help with energy savings. In addition we are in process of replacing the windows and doors at the station and this would complete outside renovations of the building.

3. **Planning Context:** Is the project referenced in any Town plan, such as the Master Plan, previous year's CIP, Town planning or scoping study, etc.?

This project was presented for funding last year.

4. **Schedule:** If the project will take several years to complete, outline the schedule here and on Form 2. If applicable, be sure to include work done in prior years, including studies or other planning, and refer to previous Town Meeting item.

5. **Coordination:** If the project is dependent upon one or more other CIP projects, identify them and indicate what the relationship among the projects is. If the project is not dependent upon, but should be linked to one or more other CIP projects, identify them and indicate what the relationship among the projects is.

Depending on the possibility of an addition we could wait till then to make sure the siding is the same on the entire building.

6. **Previous Town Meeting Action:** If the project has previously been included in the Warrant for a Town Meeting, indicate the year, the warrant article number, and the Town Meeting action. Indicate the action taken even if the article was indefinitely postponed, referred for further study, or defeated.

7. **Project Category:** Indicate what category and subcategory below best describes the project (indicate more than one if applicable).

Category I – Replacements

a. Replacement of a broken or unserviceable capital facility to preserve current level of service.
b. Replacement of a deteriorating facility is less expensive now than in the future.
c. Replacement of a facility with a high level of deterioration or community support.

Category II – Upgrades

d. Upgrade to reduce urgent threats to public safety and health.
e. Project will result in improved efficiency or net savings.
f. Project is required to meet governmental requirements
g. Project has a high level of community support

Category III – Expansions

h. Expansion will provide existing levels of service to new development recently completed or under construction.
j. Expansion will maintain a level of service standard adopted by the Select Board.
k. Expansion is required to meet governmental requirements.
l. Expansion will provide existing levels of service to projected future developments.

8. **Project Priority:** Rank the project's priority within your department on a scale of 1 to 5, with 1 being the most important and 5 being the least important. (Note: The highest priority does not have to occur in the nearest year, and priorities do not necessarily follow in chronological order. It may be that your most important project may not be needed or may not be ready for action until three years from now).

2

9. **Estimated Cost: $**
Amounts shown here should agree with Form 2. For projects that will take more than one year, list each year separately and then show total.

THIS WAS FROM LAST YEAR: Spoke with Michael Cortner at Express roofing who came out to look at the building. They are not providing quotes for siding now due to being a year out with work and the monthly increase in material costs. He stated that it would be around $45K if done today and would expect that number to go up in the future. **Maybe $55K now.**

10. **Basis of Cost Estimate:** Check one of the following. If you want to provide more detail on the estimate, do so by following with a narrative indicating the type of estimate.

_____ Cost of comparable facility or equipment

_____ Rule of thumb indicator, unit costs

_____ Cost estimate from engineer, architect, or vendor

_____ Bids received

___X__ Preliminary estimate (e.g. no other basis for estimate, guesstimate)

11. **Alternate Financing:** Include an amount and a source here only if it is a source other than real estate tax levy. Complete this section only if you know of a specific source, such as a state or federal grant.

12. **Estimated Annual Debt Service or Lease Payment (if applicable):**

$_____ for _____ years.

13. **Anticipated Increase/Decrease in Annual Revenues as a Result of the Project (if applicable):** $ _____. Explain below.

10. **Is this a Special Opportunity?** _X_ NO _____ YES (If yes, explain below).

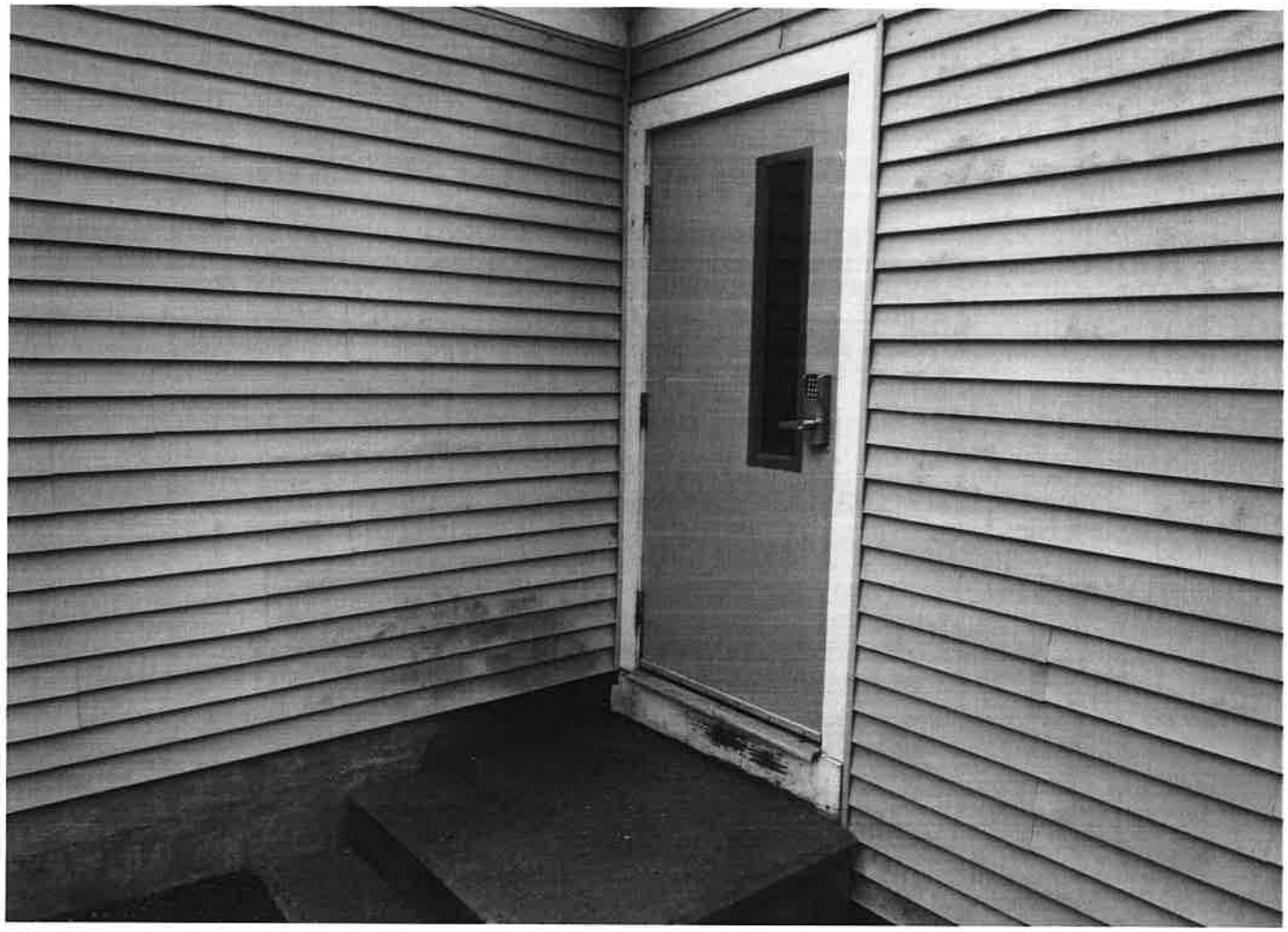
11. **What is the estimated life of the proposed project?**

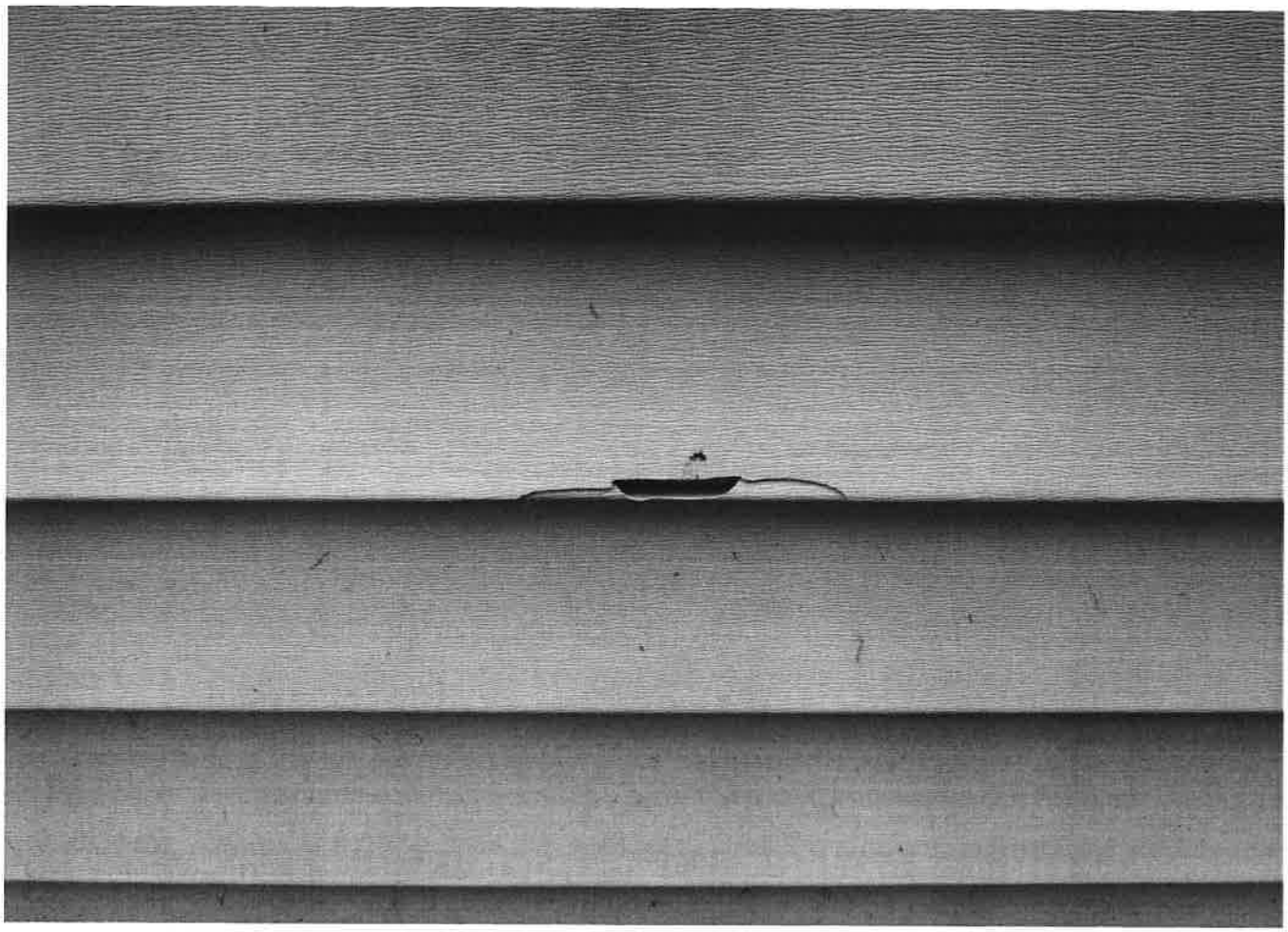
20-30 years.

Attach all back up information supporting the proposed project available including quotes/estimates, scope of work, and photos

Authorized Department Head Signature

Date 7/20/24





Form 1. Individual Project Proposal Description and Justification

Prepared By:_____Cief Erik Hoar_____ Date Prepared:____9/20/24_____

Project Title:_____Station Addition_____ Program Area:_____

1. **Project Description:** Give a brief (1-2 paragraph) description of what the project entails. Provide basic information, such as the location, size, acreage, floor area, capacity, etc., and any other information that is relevant to what is being proposed.

Add an addition to the rear of the police station. This would include garage space, office space, and storage. The addition would be approximately 36x28 and add an additional 1,008 sq feet. We would need a study to complete this project and see if there is room to move the septic, which is currently located where the addition would go.

2. **Project Justification:** Why is the project needed? What is being used today? Can it be repaired instead? Is the cost of renting, repairing, etc. more expensive than the purchase of a new item?

We are currently using the buildings space to the max. We are out of room in the evidence rooms and almost completely full in the records room and after a much-needed purge. Having indoor storage for cruisers would be a huge plus especially in the winter. Our outside storage areas (shed and trailer) are also full. We also rely on the highway department to store some of our bigger items like the light tower and traffic signs at their facility on River St.

3. **Planning Context:** Is the project referenced in any Town plan, such as the Master Plan, previous year's CIP, Town planning or scoping study, etc.?

Was requested in last year's capital requests.

4. **Schedule:** If the project will take several years to complete, outline the schedule here and on Form 2. If applicable, be sure to include work done in prior years, including studies or other planning, and refer to previous Town Meeting item.

This would be a multi-year project. We would need a study, survey, septic plan and building plans all before construction could begin.

5. **Coordination:** If the project is dependent upon one or more other CIP projects, identify them and indicate what the relationship among the projects is. If the project is not dependent upon, but should be linked to one or more other CIP projects, identify them and indicate what the relationship among the projects is.

No

6. **Previous Town Meeting Action:** If the project has previously been included in the Warrant for a Town Meeting, indicate the year, the warrant article number, and the Town Meeting action. Indicate the action taken even if the article was indefinitely postponed, referred for further study, or defeated.

None

7. **Project Category:** Indicate what category and subcategory below best describes the project (indicate more than one if applicable).

Category I – Replacements

a. Replacement of a broken or unserviceable capital facility to preserve current level of service.
b. Replacement of a deteriorating facility is less expensive now than in the future.
c. Replacement of a facility with a high level of deterioration or community support.

Category II – Upgrades

d. Upgrade to reduce urgent threats to public safety and health.
e. Project will result in improved efficiency or net savings.
f. Project is required to meet governmental requirements
g. Project has a high level of community support

Category III – Expansions

h. Expansion will provide existing levels of service to new development recently completed or under construction.
j. Expansion will maintain a level of service standard adopted by the Select Board.
k. Expansion is required to meet governmental requirements.
l. Expansion will provide existing levels of service to projected future developments.

8. **Project Priority:** Rank the project's priority within your department on a scale of 1 to 5, with 1 being the most important and 5 being the least important. (Note: The highest priority does not have to occur in the nearest year, and priorities do not necessarily follow in chronological order. It may be that your most important project may not be needed or may not be ready for action until three years from now).

1

9. **Estimated Cost: $**
Amounts shown here should agree with Form 2. For projects that will take more than one year, list each year separately and then show total.

I believe the study and plans would cost around $100K and $850K for the building (this would include other improvements to the existing structure (windows, doors, siding, gutters).

10. **Basis of Cost Estimate:** Check one of the following. If you want to provide more detail on the estimate, do so by following with a narrative indicating the type of estimate.

_____ Cost of comparable facility or equipment

_____ Rule of thumb indicator, unit costs

_____ Cost estimate from engineer, architect, or vendor

_____ Bids received

___X__ Preliminary estimate (e.g. no other basis for estimate, guesstimate)

11. **Alternate Financing:** Include an amount and a source here only if it is a source other than real estate tax levy. Complete this section only if you know of a specific source, such as a state or federal grant.

12. **Estimated Annual Debt Service or Lease Payment (if applicable):**

$_____ for _____ years.

13. **Anticipated Increase/Decrease in Annual Revenues as a Result of the Project (if applicable):** $ _____. Explain below.

10. **Is this a Special Opportunity?** _X_ NO _____ YES (If yes, explain below).

11. **What is the estimated life of the proposed project?**

30 yrs

Attach all back up information supporting the proposed project available including quotes/estimates, scope of work, and photos

Authorized Department Head Signature

Date 9/20/24

Form 1. Individual Project Proposal Description and Justification

Prepared By: Chief Hoar Date Prepared: 9/20/24

Project Title: New Taser's Program Area:

1. **Project Description:** Give a brief (1-2 paragraph) description of what the project entails. Provide basic information, such as the location, size, acreage, floor area, capacity, etc., and any other information that is relevant to what is being proposed.

Replacement of our current X26 Taser's which are now 7 years old with the newer Taser 7. X26 Tasers came out in 2013 and are now 3 generations behind in technology. They will be out of warranty next year.

2. **Project Justification:** Why is the project needed? What is being used today? Can it be repaired instead? Is the cost of renting, repairing, etc. more expensive than the purchase of a new item?

Police use of force and de-escalation is a hot topic with in the news. The Taser provides us with both of those options. Often situations can be de-escalated by just presenting a Taser during volatile situation and can sometimes be utilized during situations where a high level of force could be used reducing injury to a subject and the possibility of liability to the department and town.

3. **Planning Context:** Is the project referenced in any Town plan, such as the Master Plan, previous year's CIP, Town planning or scoping study, etc.?

This request is not needed this year but would be needed in the FY27 budget.

4. **Schedule:** If the project will take several years to complete, outline the schedule here and on Form 2. If applicable, be sure to include work done in prior years, including studies or other planning, and refer to previous Town Meeting item.

No

5. **Coordination:** If the project is dependent upon one or more other CIP projects, identify them and indicate what the relationship among the projects is. If the project is not dependent upon, but should be linked to one or more other CIP projects, identify them and indicate what the relationship among the projects is.

No

6. **Previous Town Meeting Action:** If the project has previously been included in the Warrant for a Town Meeting, indicate the year, the warrant article number, and the Town Meeting action.

Indicate the action taken even if the article was indefinitely postponed, referred for further study, or defeated.

None

---

7. **Project Category:** Indicate what category and subcategory below best describes the project (indicate more than one if applicable).

Category I – Replacements

a. Replacement of a broken or unserviceable capital facility to preserve current level of service.
b. Replacement of a deteriorating facility is less expensive now than in the future.
c. Replacement of a facility with a high level of deterioration or community support.

Category II – Upgrades

d. Upgrade to reduce urgent threats to public safety and health.
e. Project will result in improved efficiency or net savings.
f. Project is required to meet governmental requirements
g. Project has a high level of community support

Category III – Expansions

h. Expansion will provide existing levels of service to new development recently completed or under construction.
j. Expansion will maintain a level of service standard adopted by the Select Board.
k. Expansion is required to meet governmental requirements.
l. Expansion will provide existing levels of service to projected future developments.

---

8. **Project Priority:** Rank the project's priority within your department on a scale of 1 to 5, with 1 being the most important and 5 being the least important. (Note: The highest priority does not have to occur in the nearest year, and priorities do not necessarily follow in chronological order. It may be that your most important project may not be needed or may not be ready for action until three years from now).

2

---

9. **Estimated Cost: $**
Amounts shown here should agree with Form 2. For projects that will take more than one year, list each year separately and then show total.

$19,200 will cover the cost of all needed items to upgrade to the newer Taser 7.
(BASED ON THIS YEARS PRICING)

---

10. **Basis of Cost Estimate:** Check one of the following. If you want to provide more detail on the estimate, do so by following with a narrative indicating the type of estimate.

_____ Cost of comparable facility or equipment

_____ Rule of thumb indicator, unit costs

_____ Cost estimate from engineer, architect, or vendor

_____ Bids received

__x___ Preliminary estimate (e.g. no other basis for estimate, guesstimate)

Attached are the price lists from Taser. The circled items are what will be needed.

---

11. **Alternate Financing:** Include an amount and a source here only if it is a source other than real estate tax levy. Complete this section only if you know of a specific source, such as a state or federal grant.

---

12. **Estimated Annual Debt Service or Lease Payment (if applicable):**

$_____ for _____ years.

---

13. **Anticipated Increase/Decrease in Annual Revenues as a Result of the Project (if applicable):** $ _____. Explain below.

---

10. **Is this a Special Opportunity?** __x_ NO _____ YES (If yes, explain below).

---

11. **What is the estimated life of the proposed project?**

5-8 years

Attach all back up information supporting the proposed project available including quotes/estimates, scope of work, and photos

Authorized Department Head Signature

9/20/24
Date

Enter keyword or SKU number

/s/cart/0a6Dp0000001TfNIAU)

HOME (/S/) PRODUCTS SUPPORT (HTTPS://MY.AXON.COM/S/CONTACTSUPPORT) ORDERS (/S/ORDERSUMMARY/ORDERSUMMARY/DEFAULT) ABOUT (HTTP://MY.AXON.COM/S/STORE-ABOUT)

Filters Best Match

41 - 51 of 51 Items

Sort By Best Match

Filters Clear All

Category

TASER 7

- HANDLES (1)
- BATTERIES (8)
- HOLSTERS (21)
- CARTRIDGES (8)



AXON TASER - SAFARILAND THIGH RIG MOUNT
SKU# 20292
$91.40
QTY 1 +
ADD TO CART



AXON TASER 7 - HANDLE - HIGH VIS GRN LASER CLASS 3R YLW
SKU# 20008
$2,097.00
QTY 1 +
ADD TO CART



AXON TASER - SINGLE BAY BATTERY DATAPORT - NORTH AMERICA
SKU# 74208
$398.05
QTY 1 +
ADD TO CART



AXON TASER 7 - HOLSTER - SAFARILAND LH
SKU# 20068
$80.10
QTY 1 +
ADD TO CART



AXON TASER - SIX BAY BATTERY DATAPORT
SKU# 74209
$1,368.50
QTY 1 +
ADD TO CART



AXON TASER 7 - HOLSTER - BLADE-TECH LH WITH INNER TMMS
SKU# 20159
$94.90
QTY 1 +
ADD TO CART



AXON TASER - SAFARILAND BELT CLIP
SKU# 20293
$39.95
QTY 1 +
ADD TO CART



AXON TASER - TARGET - CONDUCTIVE HALT HYBRID
SKU# 80089
$171.10
QTY 1 +
ADD TO CART

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Chat with Axon



AXON TASER 7 - HOLSTER - SAFARILAND LEG DROP+CART CARR LH
SKU# 100104
$177.95
QTY 1 +
ADD TO CART



AXON TASER - DOCK POWER SUPPLY - 120W 16VDC (T7 AB3 AB2 AF2)
SKU# 100142
$135.40
QTY 1 +
ADD TO CART



AXON TASER - DISCONNECT BATTERY COILED BELT LOOP ATTCHMNT
SKU# 100118
$12.00
QTY 1 +
ADD TO CART



AXON TASER - HOLSTER - BLACKHAWK S.T.R.I.K.E. PLATFORM AMB
SKU# 100735
$19.20
QTY 1 +
ADD TO CART



AXON TASER - TRAINING - ENHANCED HALT SUIT V2
SKU# 100623
$750.00
QTY 1 +
ADD TO CART



AXON TASER - DISCONNECT BATTERY WRIST STRAP AND KEY RING
SKU# 20033
$11.45
QTY 1 +
ADD TO CART



AXON TASER 7 - CARTRIDGE - LIVE CLOSE QUART (12-DEGREE) NS
SKU# 22176
$40.25
QTY 1 +
ADD TO CART



AXON TASER 7 - BATTERY PACK - NON-RECHARGEABLE
SKU# 20020
$79.93
QTY 1 +
ADD TO CART



AXON TASER - HOLSTER ATCH - BLADE-TECH TMMS OUT LG MOLLE-LOK
SKU# 20187
$39.20
QTY 1 +
ADD TO CART



AXON TASER 7 - CARTRIDGE - INERT CLOSE QUART (12-DEGREE) NS
SKU# 22181
$53.50
QTY 1 +
ADD TO CART



AXON TASER 7 - HOLSTER - BLADE-TECH LH
SKU# 20066
$94.90
QTY 1 +
ADD TO CART



AXON TASER 7 - CARTRIDGE - HALT CLOSE QUART NS
SKU# 22178
$40.25
QTY 1 +
ADD TO CART

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AXON TASER 7 - HOLSTER - BLACKHAWK LH
SKU# 20067
$94.90
QTY 1 +
ADD TO CART



AXON TASER - HOOK-AND-LOOP TRAINING (HALT) SUIT
SKU# 20050
$889.46
QTY 1 +
ADD TO CART



AXON TASER 7 - HOLSTER - SAFARILAND BSKT WEAVE RH+CART CARR
SKU# 20164
$94.90
QTY 1 +
ADD TO CART



AXON TASER 7 - HOLSTER - SAFARILAND RH+CART CARRIER
SKU# 20160
$94.90
QTY 1 +
ADD TO CART



AXON TASER 7 - HOLSTER - SAFARILAND BSKT WEAVE LH+CART CARR
SKU# 20165
$94.90
QTY 1 +
ADD TO CART



AXON TASER 7 - HOLSTER - BLADE-TECH RH
SKU# 20061
$94.90
QTY 1 +
ADD TO CART



AXON TASER 7 - CARTRIDGE - LIVE STANDOFF (3.5-DEGREE) NS
SKU# 22175
$40.25
QTY 1 +
ADD TO CART



AXON TASER - TARGET - CONDUCTIVE PROFESSIONAL RUGGEDIZED
SKU# 80087
$177.89
QTY 1 +
ADD TO CART



AXON TASER - HOOK-AND-LOOP TRAINING (HALT) SUIT KIT SHIELD
SKU# 20056
$45.65
QTY 1 +
ADD TO CART



AXON TASER 7 - CARTRIDGE - HALT STANDOFF NS
SKU# 22177
$40.25
QTY 1 +
ADD TO CART



AXON TASER 7 - HOLSTER - BLACKHAWK RH
SKU# 20062
$94.90
QTY 1 +
ADD TO CART



AXON BODY - DOCK POWERCORD - NORTH AMERICA
SKU# 71019
$11.77
QTY 1 +
ADD TO CART

OR

1 2 3

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AXON TASER 7 - TRN CARTRIDGE ALLIGATOR CLIP SO (3.5 DEGREE)
SKU# 20028
$67.30
QTY 1 +
ADD TO CART



AXON TASER 7 - CARTRIDGE CARRIER - S.O. TECH POUCH SOFT
SKU# 20058
$22.80
QTY 1 +
ADD TO CART

OR



AXON TASER 7 - HOLSTER - S.O. TECH AMBIDEXTROUS
SKU# 20060
$94.90
QTY 1 +
ADD TO CART

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Chat with Axon

Form 1. Individual Project Proposal Description and Justification

Prepared By: Chief Erik Hoar Date Prepared: 9/20/24

Project Title: New ATV Trailer Program Area:

---

1. **Project Description:** Give a brief (1-2 paragraph) description of what the project entails. Provide basic information, such as the location, size, acreage, floor area, capacity, etc., and any other information that is relevant to what is being proposed.

Replace existing ATV trailer which is 21 years old (2003). The trailer that was originally purchased is not appropriate or functional for ATV's. It is actually a snowmobile trailer which is difficult to load and unload ATV's. The new trailer will be 81/2 by 14 which will easily store and transport both ATV's as well as other equipment if needed.

---

2. **Project Justification:** Why is the project needed? What is being used today? Can it be repaired instead? Is the cost of renting, repairing, etc. more expensive than the purchase of a new item?

The trailer is in a state of disrepair and is currently not operable.

---

3. **Planning Context:** Is the project referenced in any Town plan, such as the Master Plan, previous year's CIP, Town planning or scoping study, etc.?

No

---

4. **Schedule:** If the project will take several years to complete, outline the schedule here and on Form 2. If applicable, be sure to include work done in prior years, including studies or other planning, and refer to previous Town Meeting item.

No

---

5. **Coordination:** If the project is dependent upon one or more other CIP projects, identify them and indicate what the relationship among the projects is. If the project is not dependent upon, but should be linked to one or more other CIP projects, identify them and indicate what the relationship among the projects is.

No

6. **Previous Town Meeting Action:** If the project has previously been included in the Warrant for a Town Meeting, indicate the year, the warrant article number, and the Town Meeting action. Indicate the action taken even if the article was indefinitely postponed, referred for further study, or defeated.

No

7. **Project Category:** Indicate what category and subcategory below best describes the project (indicate more than one if applicable).

Category I – Replacements

a. Replacement of a broken or unserviceable capital facility to preserve current level of service.
b. Replacement of a deteriorating facility is less expensive now than in the future.
c. Replacement of a facility with a high level of deterioration or community support.

Category II – Upgrades

d. Upgrade to reduce urgent threats to public safety and health.
e. Project will result in improved efficiency or net savings.
f. Project is required to meet governmental requirements
g. Project has a high level of community support

Category III – Expansions

h. Expansion will provide existing levels of service to new development recently completed or under construction.
j. Expansion will maintain a level of service standard adopted by the Select Board.
k. Expansion is required to meet governmental requirements.
l. Expansion will provide existing levels of service to projected future developments.

8. **Project Priority:** Rank the project's priority within your department on a scale of 1 to 5, with 1 being the most important and 5 being the least important. (Note: The highest priority does not have to occur in the nearest year, and priorities do not necessarily follow in chronological order. It may be that your most important project may not be needed or may not be ready for action until three years from now).

4

9. **Estimated Cost: $**
Amounts shown here should agree with Form 2. For projects that will take more than one year, list each year separately and then show total.

Waiting on an Estimate.

10. **Basis of Cost Estimate:** Check one of the following. If you want to provide more detail on the estimate, do so by following with a narrative indicating the type of estimate.

_____ Cost of comparable facility or equipment

_____ Rule of thumb indicator, unit costs

_____ Cost estimate from engineer, architect, or vendor

_____ Bids received

__x___ Preliminary estimate (e.g. no other basis for estimate, guesstimate)

11. **Alternate Financing:** Include an amount and a source here only if it is a source other than real estate tax levy. Complete this section only if you know of a specific source, such as a state or federal grant.

12. **Estimated Annual Debt Service or Lease Payment (if applicable):**

$_____ for _____ years.

13. **Anticipated Increase/Decrease in Annual Revenues as a Result of the Project (if applicable):** $ _____. Explain below.

10. **Is this a Special Opportunity?** _x_ NO _____ YES (If yes, explain below).

11. **What is the estimated life of the proposed project?**

15 yrs

Attach all back up information supporting the proposed project available including quotes/estimates, scope of work, and photos

Authorized Department Head Signature

Date 9/20/24

FORM 2. FIVE YEAR SUMMARY

DEPARTMENT_____

Description	2026	2027	2028	2029	2030	Cost
Total Costs						

Featherlite Inc

Quote: 377
Printed: 9/23/2024

Quote Prepared For

Featherlite Customer Service

Featherlite, Inc.
P.O. Box 320
Hwy. 63 & 9
Cresco IA 52136

Bus. 563-547-6000
800 800-800-1230
Fax 563-547-6100

Internet Web www.fthr.com

Bill To Dealer

021337
The Cheshire Horse
8 Whittemore Farm Road
Swanzey, NH 03446

Bus. (603)358-3001
Fax (603)355-8275

Email fthr@cheshirehorse.com

Ship To Dealer

021337
The Cheshire Horse
8 Whittemore Farm Road
Swanzey, NH 03446

Bus. (603)358-3001
Fax (603)355-8275

Email fthr@cheshirehorse.com

Sales Person Josh Diemer

Bus. (563)547-6027

Thank-you for your business.

Email: jdiemer@fthr.com

Entered 09/23/2024 **ShipVIA**
Revised 09/23/2024 **FOB**
Est.Comp **Terms**
Quote Valid for 30 **Days**

Qty	Trailer No.	Description	Price Each	ItemTotal
1	1610-6714	1610 utility 6'7" x 14' x 6' base	19,002.00	19,002.00

Part No.	Description	Qty	U/M	Price Per	Extended	Action Cde
16106714B	1610 utility 6'7" x 14' x 6' base	1	EA			
P1609	Utility closed 6'7" wide X 14' long X 6' high	1	EA			
F1315	Tandem axle 3.5K rubber torsion. Includes (4) GY tire/rim ST205/75R15 LRD 5 hole silver aluminum wheels. (To add a spare use code 91161)	1	EA			
F1860	Axle lube type - easy lube	1	EA			
F8096	Carrier spare tire for bumper pulls mounted inside low on front wall (Change to code 98092 if a higher mounting position is desired)	1	EA			
F8015	Coupler 2" (10,000#) Drag trailers with A-frames	1	EA			
F8281	Jack crank type with wheel	1	EA			
F1700	Electric brake	1	EA			
F7392	Light LED 12V/20W strip 1" x .25" x 24" white 6000K	1	EA			
F7405	Switch in dressing room	1	EA			

Continued...

F7532	Light package for drag trailers with colored LED lenses (Includes (11) 3/4" round clearance lights & 4 stop/turn lights)	1	EA			
F8080	Floor 23/32" Featherlite Advantage wood w/ underneath black lining p/ft	17	EA			
F8216	Ramp rear full height & width w/Advantage Wood and spring assist	1	EA			
F7041	Vent 2-way aluminum side	1	EA			
F8252	Standard style pressure latch hasp	1	EA			
F3576	Door camper square cornered 32" with deadbolt w/o window or screen	1	EA			
F7944	Nose V drag	1	EA			
F1600	Side sheets .040 taped with riveted seams	37	EA			
F3960	Sheet white	1	EA			
F1100	Not framed for ac/vent	1	EA			
F7630	Gravel guard up 24"	1	EA			
F2338	Lining 7/16" advantage wood (On walls) (Cannot be removed unless replacing with code 92209 -.040 screwed to all posts)	37	EA			
	Subtotal of Standard Options				**17,855.00**	
P1639	Utility closed 6'7" wide X 14' long X 7' high	1	EA	705.00	705.00	* Added
91161	Tire/rim GY ST205/75R15 LRD 5 hole silver aluminum.	1	EA	442.00	442.00	* Added

Items Sub Total **19,002.00**

Accepted this ____Day of _____, _____

Signature _____ **Date** _____

Above prices subject to change without notice.

Quoted with Software Version: 4.13 Price Book Date: 9/10/2024

Quote Total **19,002.00**

FFB

FEATURE | FUNCTION | BENEFIT

FEATHERLITE TRAILERS

BUMPER PULL REC/UTILITY TRAILER | MODEL 1610



Versatile best describes the Model 1610 rec/utility trailer. The enclosed trailer is ideal for hauling all types of cargo, including motorcycles, ATVs, construction equipment, tools, lawn mowers, furniture, antiques, and more! Length options range from 8' to 18' with a 6'7" width. The 1610 has a variety of options, so you can customize it to your needs.

PRODUCT SPECIFICATIONS

Trailer width of 6'7"; Interior height options of 4'10" to 7'

Lengths of 8', 10', 12', 14', 16' or 18'

32" square cornered camper door with deadbolt

Full height & width rear ramp with spring assist

23/32" Featherlite Advantage wood floor with black lining underneath

7/16" wood lining on walls

White exterior sheets; multiple other colors optional

One LED dome light with switch

3500# axles (Single on 8'-12' lengths, Tandem on 14'-18' lengths)

TRAILER HIGHLIGHTS

- Durable all-aluminum construction
- Aluminum wheels standard
- Rear ramp
- Camper door
- Premium Goodyear® tires standard
- Aerodynamic v-nose
- Gravel guard
- Standard E-Z Lube axles
- LED clearance lights & wraparound LED stop/turn lights
- One-piece wiring harness
- 2-way aluminum side vent standard
- Customize with Perfect Fit™ System
- 10+3 warranty*: 10 years structural & 3 years hitch-to-bumper

OPTIONS

- Aluminum floor
- Cable assist rear ramp
- Colored side sheets
- Dual colored side sheets
- E-track
- Load lights
- Nudo® flooring
- Overhead cabinets
- Rear ramp extension
- Roof vents
- Surface mount tie downs
- White aluminum lining

FFB

FEATURE | FUNCTION | BENEFIT

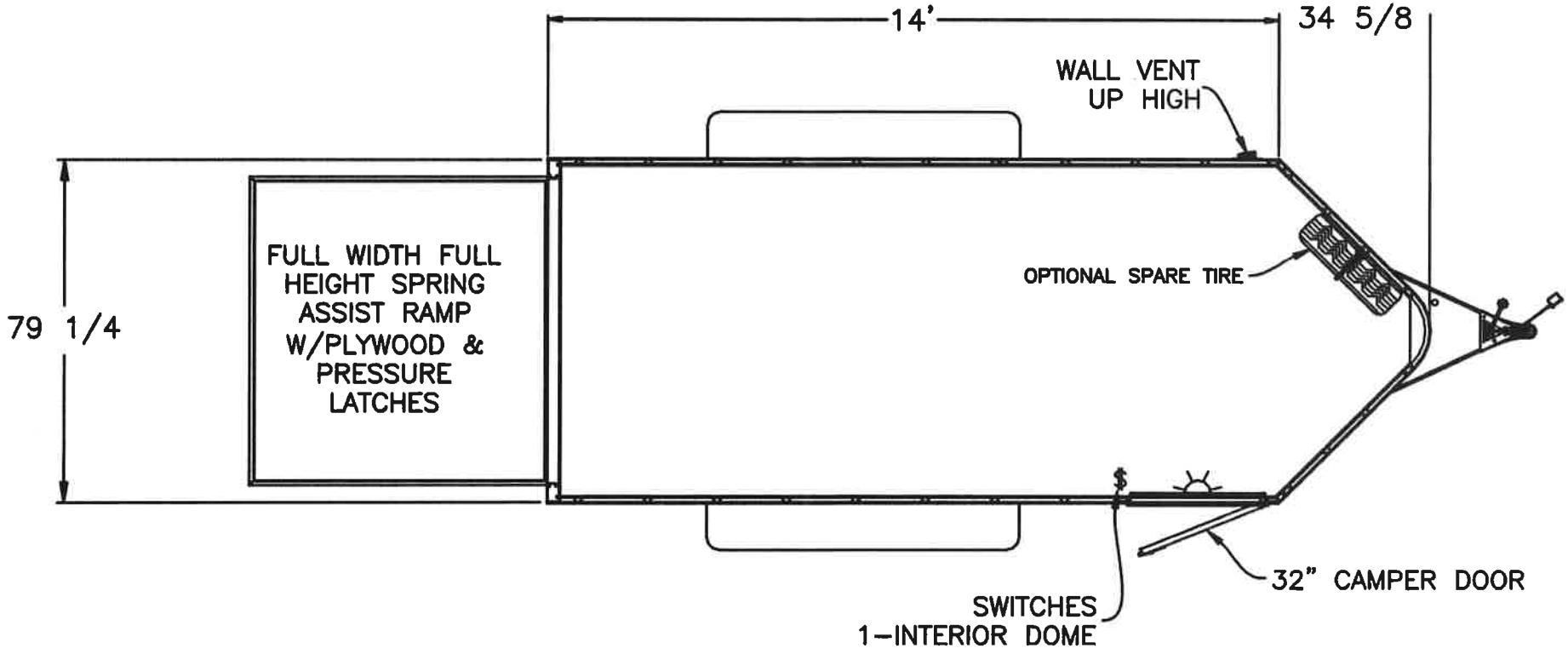
FEATHERLITE TRAILERS.

BUMPER PULL REC/UTILITY TRAILER | MODEL 1610

FEATURE	FUNCTION	BENEFIT
Aluminum Construction	Featherlites are made with an all-aluminum frame and skin.	With just routine maintenance, aluminum construction has higher resistance to rust and corrosion and in the long run, they hold their value longer. It's also lighter weight, increasing your payload capacity and making for a smoother tow.
Uni-Body Design	All components of the Featherlite trailer from side posts to roof rails to roof bows to cross members are engineered into a uni-body design.	The uni-body design makes the trailer stronger and more durable for the long haul.
Featherlite Advantage Flooring	Model 1610 includes the Featherlite Advantage wood flooring standard.	The Advantage floor is sturdy and moisture resistant; it won't soak up water or warp like untreated plywood can. The floor has a thermally fused protective liner underneath to better protect the cargo.
Wiring Harness	One-piece wiring harness is standard.	With Featherlite trailers, all wires are bundled in a protective jacket, known as the Featherlite wiring harness. Wire harnesses provide a watertight seal, protect against wire wear and tear and make connecting them to your vehicle easy. Without the harness, the individual wires would hang loose and unprotected.
Roof Rail	2" roof rail is standard.	You'll find a sturdy 2" radius aluminum roof rail on Featherlite's enclosed aluminum cargo trailers. The roof rail is strong and looks great too.
Aerodynamic Nose	The 1610 features a standard aerodynamic v-nose.	Better aerodynamics during hauling creates a smoother tow.

FOR FULL ARRAY OF FLOORPLANS, VISIT WWW.FTHR.COM.

*10-year limited structural warranty on frame and superstructure. 3-year limited warranty on all other parts manufactured and installed by Featherlite. Some exclusions apply. Ask dealer for details. **Trailer may be shown with options.


14'
34 5/8
WALL VENT
UP HIGH
79 1/4
FULL WIDTH FULL
HEIGHT SPRING
ASSIST RAMP
W/PLYWOOD &
PRESSURE
LATCHES
OPTIONAL SPARE TIRE
32" CAMPER DOOR
SWITCHES
1-INTERIOR DOME

Form 1. Individual Project Proposal Description and Justification

Prepared By: Chief Erik Hoar Date Prepared: 9/20/24

Project Title: New Vest's Program Area:

1. **Project Description:** Give a brief (1-2 paragraph) description of what the project entails. Provide basic information, such as the location, size, acreage, floor area, capacity, etc., and any other information that is relevant to what is being proposed.

Out fitting all officers of the department with new bullet proof vest. The current vests will expire in August of 2028 and we are contractually obligated to provide new ones when they expire to full time officers. Part time officers should also be included in the purchase. They face the same dangers as full time officers while working.

2. **Project Justification:** Why is the project needed? What is being used today? Can it be repaired instead? Is the cost of renting, repairing, etc. more expensive than the purchase of a new item?

To provide our officers with new body armor per the contract and to keep them as safe as possible with the newest technology in body armor.

3. **Planning Context:** Is the project referenced in any Town plan, such as the Master Plan, previous year's CIP, Town planning or scoping study, etc.?

No

4. **Schedule:** If the project will take several years to complete, outline the schedule here and on Form 2. If applicable, be sure to include work done in prior years, including studies or other planning, and refer to previous Town Meeting item.

NA

5. **Coordination:** If the project is dependent upon one or more other CIP projects, identify them and indicate what the relationship among the projects is. If the project is not dependent upon, but should be linked to one or more other CIP projects, identify them and indicate what the relationship among the projects is.

NA

6. **Previous Town Meeting Action:** If the project has previously been included in the Warrant for a Town Meeting, indicate the year, the warrant article number, and the Town Meeting action. Indicate the action taken even if the article was indefinitely postponed, referred for further study, or defeated.

This has been approved at prior town meetings.

7. **Project Category:** Indicate what category and subcategory below best describes the project (indicate more than one if applicable).

Category I – Replacements

a. Replacement of a broken or unserviceable capital facility to preserve current level of service.
b. Replacement of a deteriorating facility is less expensive now than in the future.
c. Replacement of a facility with a high level of deterioration or community support.

Category II – Upgrades

d. Upgrade to reduce urgent threats to public safety and health.
e. Project will result in improved efficiency or net savings.
f. Project is required to meet governmental requirements
g. Project has a high level of community support

Category III – Expansions

h. Expansion will provide existing levels of service to new development recently completed or under construction.
j. Expansion will maintain a level of service standard adopted by the Select Board.
k. Expansion is required to meet governmental requirements.
l. Expansion will provide existing levels of service to projected future developments.

8. **Project Priority:** Rank the project's priority within your department on a scale of 1 to 5, with 1 being the most important and 5 being the least important. (Note: The highest priority does not have to occur in the nearest year, and priorities do not necessarily follow in chronological order. It may be that your most important project may not be needed or may not be ready for action until three years from now).

9. **Estimated Cost:**
Amounts shown here should agree with Form 2. For projects that will take more than one year, list each year separately and then show total.

Based on what we paid last year $14K will cover new vests for all the officers of the department including part-timers. In the past we have not included part time officers in the vest program but I feel that they should be offered the same level of protection as full-time officers. They are out on the street performing the same job and should not be wearing hand me down vest that are out of date.

---

10. **Basis of Cost Estimate:** Check one of the following. If you want to provide more detail on the estimate, do so by following with a narrative indicating the type of estimate.

_____ Cost of comparable facility or equipment

_____ Rule of thumb indicator, unit costs

_____ Cost estimate from engineer, architect, or vendor

_____ Bids received

__x_ Preliminary estimate (e.g. no other basis for estimate, guesstimate)

---

11. **Alternate Financing:** Include an amount and a source here only if it is a source other than real estate tax levy. Complete this section only if you know of a specific source, such as a state or federal grant.

---

12. **Estimated Annual Debt Service or Lease Payment (if applicable):**

$_____ for _____ years.

---

13. **Anticipated Increase/Decrease in Annual Revenues as a Result of the Project (if applicable):** $ _____. Explain below.

---

10. **Is this a Special Opportunity?** _X_ NO _____ YES (If yes, explain below).

---

11. What is the estimated life of the proposed project?

5yrs

Attach all back up information supporting the proposed project available including quotes/estimates, scope of work, and photos

Authorized Department Head Signature

Date 9/20/24



FIRE DEPARTMENT

	DEPT:	Fire									
	SUBMITTED BY:	Chief William Farrell									
						ITEMS TO CONSIDER (PLACE "X' IN EACH BOX THAT APPLIES):					
Number	Project Description	Estimated Cost	Anticipated Useful Life (in years)	Priority (pick from drop down menu)	# of Quotes Received (pick from drop down menu)	Emergency	Public Safety Issue	To Maintain Service	Grant Opps Exist	Dept has Matching Funds	Enhances Services	Additional Information
1	FEMA Forestry Truck Grant Match	15,000.00	20+	1	1	x	x	x	x		x	
2	Fire Pumper E6 Replacement	1,000,000.00	20+	4	3	x	x	x			x	
3	Mobile Radios (trucks)	40,000.00	15.0	2	1	x	x	x			x	
4	Portable Radios (25) (on-person)	102,000.00	15.0	3	1	x	x	x	x		x	
5	Body Armour (4 Sets)	4,800.00	5.0	5	1	x	x	x	x		x	
1												
2												
3												
4												
5												

Form 1. Individual Project Proposal Description and Justification

Prepared By: William Farrell Date Prepared: 9/12/2024

Project Title: Chief of Department Program Area: Equipment

---

1. **Project Description:** Give a brief (1-2 paragraph) description of what the project entails. Provide basic information, such as the location, size, acreage, floor area, capacity, etc., and any other information that is relevant to what is being proposed.

$15,000 requested to cover the matching portion of a FEMA Fire Act Grant for a new forestry truck, if we are successful in the grant process.

---

2. **Project Justification:** Why is the project needed? What is being used today? Can it be repaired instead? Is the cost of renting, repairing, etc. more expensive than the purchase of a new item?

The current apparatus is a 1986 military surplus and is well past its life span. The truck is becoming a maintenance issue and costing us money each year.

---

3. **Planning Context:** Is the project referenced in any Town plan, such as the Master Plan, previous year's CIP, Town planning or scoping study, etc.?

I do not believe so.

---

4. **Schedule:** If the project will take several years to complete, outline the schedule here and on Form 2. If applicable, be sure to include work done in prior years, including studies or other planning, and refer to previous Town Meeting item.

N/A

---

5. **Coordination:** If the project is dependent upon one or more other CIP projects, identify them and indicate what the relationship among the projects is. If the project is not dependent upon, but should be linked to one or more other CIP projects, identify them and indicate what the relationship among the projects is.

N/A

---

6. **Previous Town Meeting Action:** If the project has previously been included in the Warrant for a Town Meeting, indicate the year, the warrant article number, and the Town Meeting action. Indicate the action taken even if the article was indefinitely postponed, referred for further study, or defeated.

N/A

---

7. **Project Category:** Indicate what category and subcategory below best describes the project (indicate more than one if applicable).

Category I – Replacements

a. Replacement of a broken or unserviceable capital facility to preserve current level of service.
b. Replacement of a deteriorating facility is less expensive now than in the future.
c. Replacement of a facility with a high level of deterioration or community support.

Category II – Upgrades

d. Upgrade to reduce urgent threats to public safety and health.
e. Project will result in improved efficiency or net savings.
f. Project is required to meet governmental requirements
g. Project has a high level of community support

Category III – Expansions

h. Expansion will provide existing levels of service to new development recently completed or under construction.
j. Expansion will maintain a level of service standard adopted by the Select Board.
k. Expansion is required to meet governmental requirements.
l. Expansion will provide existing levels of service to projected future developments.

---

8. **Project Priority:** Rank the project's priority within your department on a scale of 1 to 5, with 1 being the most important and 5 being the least important. (Note: The highest priority does not have to occur in the nearest year, and priorities do not necessarily follow in chronological order. It may be that your most important project may not be needed or may not be ready for action until three years from now).

1

---

9. Estimated Cost: $
Amounts shown here should agree with Form 2. For projects that will take more than one year, list each year separately and then show total.

$15,000

---

10. Basis of Cost Estimate: Check one of the following. If you want to provide more detail on the estimate, do so by following with a narrative indicating the type of estimate.

___x__ Cost of comparable facility or equipment

_____ Rule of thumb indicator, unit costs

_____ Cost estimate from engineer, architect, or vendor

_____ Bids received

_____ Preliminary estimate (e.g. no other basis for estimate, guesstimate)

---

11. Alternate Financing: Include an amount and a source here only if it is a source other than real estate tax levy. Complete this section only if you know of a specific source, such as a state or federal grant.

Federal Grant.

---

12. Estimated Annual Debt Service or Lease Payment (if applicable):

$_____ for _____ years.

---

13. Anticipated Increase/Decrease in Annual Revenues as a Result of the Project (if applicable): $ _____. Explain below.

---

10. Is this a Special Opportunity? ___ NO __X___ YES (If yes, explain below).

2025 FEMA Fire ACT Grant

11. What is the estimated life of the proposed project?

20 + Years.

Attach all back up information supporting the proposed project available including quotes/estimates, scope of work, and photos

_____ _____
Authorized Department Head Signature Date

FORM 2. FIVE YEAR SUMMARY

DEPARTMENT_____

Description	2026	2027	2028	2029	2030	Cost
Total Costs						



HIGHWAY DEPARTMENT

Town of Dunstable, MA

Property

Property Quick Search

PROPOSED REPLACEMENT CULVERT



EXISTING CULVERT



Fletcher St
Mill St
Main St
Joint Grass Brook
Woodland Dr
Swallow Ln
Oak St
Mid Tra
to S
Br

11-40
11 46 1
11-24
11-25
11-27
11-26
11-52
11-46
11-41
11-23-5
11-42
11-21
11-55
11-56
11-20
11-43
11-45
11-23-3
11-23-1
11-23-2
11-19-1
11-19
11-44
11-66
11-67
11-18-4
11-68
11-23
11-18
11-18C
11-4

Google (https://www.google.com/maps/@42.689441,-71.49471,17z?hl=en-US)
(http://www.mapgeo.io)
42.689441,-71.49471
Map data ©2023 Google 50 m
Report a map error (https://www.google.com/maps/@42.6865545,-71.5047308,17z/data=!10m1!1e1!12b1?source=apiv3&rapsrc=apiv3)

OPTION 3 - ALUMINUM BOX

Item	Description	Unit	Amount	Unit Cost	Total
1	NEW ALUMINUM BOX (INC. HEADWALLS/WINGWALLS)	U	1	$ 110,000.00	$ 110,000.00
2	WATER DIVERSION	U	1	$ 70,000.00	$ 70,000.00
3	ROADWAY WORK	U	1	$ 60,000.00	$ 60,000.00
4	PIPE REMOVAL	U	1	$ 15,000.00	$ 15,000.00
5	MAINTENANCE OF TRAFFIC	U	1	$ 15,000.00	$ 15,000.00
6	UNIFORMED OFFICERS	HR	200	$ 120.00	$ 24,000.00
7	EROSION CONTROL	U	1	$ 5,000.00	$ 5,000.00
8	MOBILIZATION	u	1	$ 30,000.00	$ 30,000.00

SUBTOTAL	$ 329,000.00
CONTINGENCY (20%)	$ 65,800.00
CONSTRUCTION TOTAL	$ 394,800.00
SURVEY	$ 10,000.00
GEOTECHNICAL	$ 40,000.00
DESIGN ENGINEERING	$ 115,000.00
BID PHASE	$ 7,000.00
CONSTRUCTION ENG (12%)	$ 47,000.00
ENGINEERING TOTAL	$ 219,000.00
PROJECT TOTAL	$ 613,800.00
SERVICE LIFE (YEARS)	50
COST PER YEAR	$ 12,276.00

BILLING RATE ESTIMATE

\\htaman-file\hsg\1_PROJECTS\Dunstable-MA\0-BD\Main Street Culvert Design\[LH Bill_Design Phase.xlsx]BID

CLIENT : DUNSTABLE, MA
PROJECT: MAIN STREET OVER JOINTGRASS BROOK
PROJECT #: 21.412801.XX
DATE: 9/29/2023

DESIGN PHASE SERVICES

Calc. By: JCR
Check By: DML/AML

TASK DESCRIPTIONS	PRINCIPAL ENGINEER $260.00 STJ/TMC	SENIOR PROJECT MANAGER $225.00 AML	PROJECT MANAGER $185.00 DML	PROJECT MANAGER $185.00 JCR	SENIOR PROJECT ENGINEER $165.00 KMH/JFMS	LAND ACQUISITION SPECIALIST $120.00 EB	STAFF ENGINEER $124.00	ENGINEER $112.00 JAH/LS/CKC	SENIOR ENVIRONMENTAL COORDINATOR $187.00 KRP	ENVIRONMENTAL COORDINATOR $118.00 JET/CLD	PUBLIC OUTREACH COORDINATOR $165.00	SENIOR CADD DESIGNER $146.00 TAG	PROJECT ASSISTANT $107.00 AV/DR	TOTAL HOURS	TOTAL BILLING RATE COSTS
	HOURS BY BILLING RATE CLASSIFICATION ($/Hour)														
														0	$ -
D-1. PROJECT START-UP														0	$ -
PROJECT SET-UP	1			1									1	3	$ 552.00
INTERNAL KICK-OFF MEETING	1	1	1	1	1			3	1	1		1		11	$ 1,807.00
SUBCONSULTANT COORDINATION		2		4										6	$ 1,190.00
														0	$ -
D-2. SITE VISIT				4				4						8	$ 1,188.00
														0	$ -
D-3. WETLAND RESOURCE DETERMINATION								4	4	20				28	$ 3,556.00
														0	$ -
D-4. PREPARE THE PROJECT NOTIFICATION FORM (PNF)				2					2	4				8	$ 1,216.00
														0	$ -
D-5. PERFORM IPAC AND NMFS DATABASE SEARCHES									1	2				3	$ 423.00
														0	$ -
D-6. PREPARE HYDRAULIC REPORT														0	$ -
HYDROLOGY					1			2						3	$ 389.00
HYDRAULICS (EXISTING AND PROPOSED)		8			20			40						68	$ 9,580.00
SCOUR ANALYSIS		2			4			8						14	$ 2,006.00
PREPARE REPORT		4		2	8			8						22	$ 3,486.00
RESPOND TO AND ADDRESS MASSDOT COMMENTS		4		4	4			4						16	$ 2,748.00
														0	$ -
D-7. PREPARE PROJECT SUMMARY LETTER		1		2									4	7	$ 1,023.00
														0	$ -
D-8. PRESENT PROJECT AT PUBLIC INFORMATION MEETING		1		2									4	7	$ 1,023.00
PREPARE PRESENTATION		2		2				4						8	$ 1,268.00
PRESENT AT MEETING		3		3										6	$ 1,230.00
PREPARE MEETING NOTES		1		2										3	$ 595.00
														0	$ -
D-9. COORDINATE PROPOSED DETOUR WITH CLIENT			2	2								8		12	$ 1,908.00
														0	$ -
D-10. PREPARE STORMWATER REPORT		4		8				8	4	8				32	$ 4,968.00
														0	$ -
D-11. RESERVED														0	$ -
														0	$ -
D-12. PREPARE AND SUBMIT NOI		2		6					8	28				44	$ 6,360.00
														0	$ -
D-13. PROVIDE NOI REVIEW SERVICES				6					8	4				18	$ 3,078.00
														0	$ -
D-14. UTILITY COORDINATION	4		8	8								4		24	$ 4,584.00
														0	$ -
D-15. PREPARE DESIGN PLANS														0	$ -
STRUCTURE LAYOUT				2				4						6	$ 818.00
BRIDGE FABRICATOR COORDINATION				2				2						4	$ 594.00
ROADWAY DESIGN	4			2	16			40						62	$ 8,530.00
CONTRACT PLANS				26				78				72		176	$ 24,058.00
ESTIMATE OF COST				4	4			16						24	$ 3,192.00
PROJECT SPECIFICATIONS		8		16									4	28	$ 5,188.00
QA		8												8	$ 1,800.00
														0	$ -
														0	$ -
D-16. SUBMIT TO MASSDOT FOR CHAPTER 85 REVIEW														0	$ -
SUBMISSION				2										2	$ 370.00
COMMENT RESPONSES	2	2		4	4			4						16	$ 2,818.00
														0	$ -
D-17. ATTEND TWO MEETINGS WITH TOWN			5	5										10	$ 1,850.00
														0	$ -
D-18. PREPARE DRAFT EASEMENTS AND EASEMENT PLAN			2	4		8						8		22	$ 3,238.00
														0	$ -
D-19. PREPARE CONTRACT DOCUMENTS		2	2	4				8				16		32	$ 4,792.00
														0	$ -
D-20. PREPARE CRMAG APPLICATION			4	4									8	16	$ 2,336.00
														0	$ -
D-21. OVERALL PROJECT MANAGEMENT				4										4	$ 740.00
														0	$ -
D-22. PSQAP				2										2	$ 370.00
														0	$ -
														0	$ -
TOTAL LABOR HOURS	12	55	24	140	62	8	0	237	28	67	0	109	21	763	
TOTAL BILLING RATE COSTS	$3,120.00	$12,375.00	$4,440.00	$25,900.00	$10,230.00	$960.00	$0.00	$26,544.00	$5,236.00	$7,906.00	$0.00	$15,914.00	$2,247.00		$114,872.00

REIMBURSABLE EXPENSES:

TRAVEL- MILEAGE, ETC.	$25
POSTAGE & COMMUNICATION	$100
PRINTING	$50
LODGING AND MEALS	$0
CONSUMABLES	$0
TESTING EQUIPMENT RENTAL	$0
Other	$0
SUBTOTAL:	$175

SUBCONSULTANTS:

SURVEY	$10,000
GEOTECH	$40,000
(SUBCONSULTANT)	$0
(SUBCONSULTANT)	$0
(SUBCONSULTANT)	$0
SUBTOTAL:	$50,000

TOTAL BILLING RATE COSTS		$114,872
SUBCONSULTANTS:		
includes admin. Fee of	0%	$50,000
SUBTOTAL BILLING RATE COSTS, SUBCONSULTANTS:		$164,872
REIMBURSABLE EXPENSES:		
includes admin. fee of	0%	$175
TOTAL:		**$165,047**
SAY		**$ 165,000**

BILLING RATE ESTIMATE

\\htaman-file\hsg\1_PROJECTS\Dunstable-MA\0-BD\Main Street Culvert Design\[LH Bill_Design Phase.xlsx]BID

CLIENT : DUNSTABLE, MA
PROJECT: MAIN STREET OVER JOINTGRASS BROOK
PROJECT #: 21.412801.XX
DATE: 9/29/2023

Calc. By: JCR
Check By: DML/AML

BID PHASE SERVICES

TASK DESCRIPTIONS	HOURS BY BILLING RATE CLASSIFICATION ($/Hour)													TOTAL HOURS	TOTAL BILLING RATE COSTS
	NOT USED $0.00	SENIOR PROJECT MANAGER $225.00 AML	NOT USED $0.00	NOT USED $0.00	PROJECT MANAGER $185.00 JCR	NOT USED $0.00	NOT USED $0.00	NOT USED $0.00	NOT USED $0.00	NOT USED $0.00	NOT USED $0.00	NOT USED $0.00	PROJECT ASSISTANT $107.00 DA		
														0	$ -
B-1 BID PHASE SERVICES														0	$ -
PREPARE ADVERTISEMENT FOR BIDS					1								2	3	$ 399.00
DISTRIBUTE SETS OF CONTRACT DOCUMENTS					2								4	6	$ 798.00
PRE-BID MEETING		2			4									6	$ 1,190.00
ISSUE ADDENDUM		2			2								1	5	$ 927.00
ATTEND VIRTUAL BID OPENING		1			1								1	3	$ 517.00
REVIEW BIDS		2			2									4	$ 820.00
RECOMMENDATION TO AWARD LETTER		1			1									2	$ 410.00
PREPARE NOTICE OF AWARD		1			1								1	3	$ 517.00
REVIEW BONDS AND INSURANCE		1			1									2	$ 410.00
PREPARE AGREEMENT		1			2								1	4	$ 702.00
														0	$ -
														0	$ -
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														0	$ -
TOTAL LABOR HOURS	0	11	0	0	17	0	0	0	0	0	0	0	10	38	
TOTAL BILLING RATE COSTS	$0.00	$2,475.00	$0.00	$0.00	$3,145.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,070.00		$6,690.00

REIMBURSABLE EXPENSES:

TRAVEL- MILEAGE, ETC.	$40
POSTAGE & COMMUNICATION	$0
PRINTING	$50
LODGING AND MEALS	$0
TESTING EQUIPMENT RENTAL	$0
FIELD SUPPLIES	$0
Other	$0
SUBTOTAL:	$90

SUBCONSULTANTS:

(SUBCONSULTANT)	$0
(SUBCONSULTANT)	$0
(SUBCONSULTANT)	$0
(SUBCONSULTANT)	$0
(SUBCONSULTANT)	$0
SUBTOTAL:	$0

TOTAL BILLING RATE COSTS		$6,690
SUBCONSULTANTS:		
includes admin. Fee of	0%	$0
SUBTOTAL BILLING RATE COSTS, SUBCONSULTANTS:		$6,690
REIMBURSABLE EXPENSES:		
includes admin. fee of	0%	$90
TOTAL:		**$6,780**
SAY		**$7,000**

J.C. Madigan, Inc.

TRUCK EQUIPMENT SPECIALISTS

GBPC Budget Quote

Quote Date: 12/20/2024

Presented in accordance with Greater Boston Police Council Cooperative Procurement Program/MAPC.
Contract# GBPC 2022-Aftermarket - Pricing valid through: April 30, 2025 Current contract available upon request.

To: TOWN OF DUNSTABLE
HIGHWAY DEPARTMENT

DUNSTABLE, MA 01827

Qty	Item	Description	Unit Price
1	3623	EVEREST HEAVY DUTY 11' POWER REVERSING PLOW - TRIP EDGE	$16,500.00
1	3629	UPGRADE POWER REVERSING PLOW TO VORTEX MOLDBOARD	$1,500.00
1	3616	EVEREST JAW COUPLER ATTACHMENT - FOR SNOW PLOW	$500.00
1	3656	HIWAY SPREADER - 10' - 304 Stainless Steel	$25,000.00
1	3659	INTEGRAL STAINLESS SIDE EXTENSION ON SPREADER	$800.00
1	3661	EXTENDED GREASE LINES AND IDLERS - reccomended for dump applications	$1,000.00
1	3666	SANDER SPILL SHIELD - 304 Stainless	$1,300.00
1	3676	(1) STAINLESS STEEL or POLY LIGHT BAR - with S/T & Flashers - LED	$2,500.00
1	3674	(2) 4" FLOOD LIGHT - HEATED LED	$1,000.00

Subtotal:	$50,100.00
Trade:	
Discount:	
Net Due:	$50,100.00

Quotation prepared by: _____

This is a quotation on the goods named, subject to the conditions noted below:
(Describe any conditions pertaining to these prices and any additional terms of the agreement.
You may want to include contingencies that will affect the quotation.)

To accept this quotation, sign here and return: _____

Greater Boston Police Council
MAPC
2023 Cooperative Procurement Specifications

Town of Dunstable
511 Main ST
Dunstable, MA 01827

8/5/2024

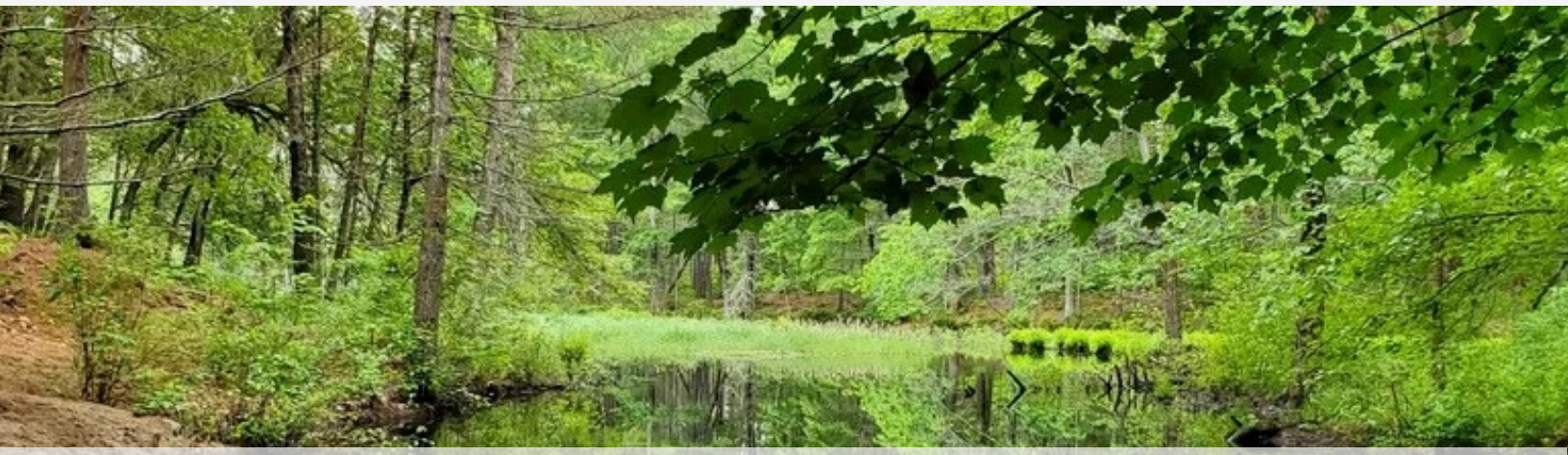
Re: Quotation for 2025 Freightliner 108SD Plow Truck

Item #	Item Description	Cost
F108	Freightliner 108SD	$ 92,710.00
9	Cummins L9 330 hp 1000 lb ft tq	$ 9,555.00
14	Allison 3500 RDS	$ 7,296.00
17	18,000 lb front axle	$ 5,801.00
27	30,000 lb rear axle	$ 9,044.00
35	120,000 ksi 11 1/8" x 3 9/16" x 7/16" HD Frame Rail	$ 1,669.00
38	24 inch integral front frame extension	$ 968.00
42	Horizontal aftertreatment device with vertical pipe	$ 1,149.00
51	Exterior sun visor (painted same as cab)	$ 492.00
65	Exhaust brake	$ 326.00
67	Driver controlled differential lock	$ 1,355.00
68	Trailer brake connections air to rear of frame	$ 1,270.00
70	Body circuit switches 6	$ 1,633.00
78	Heated duel mirrors with remote	$ 399.00
90	Plow light wiring to front frame w/ cab switch	$ 254.00
94	Heated windshield	$ 435.00
392	Cummins engine warranty 5 years/100K miles	$ 4,053.00
403	Towing 5 years ($1,200.00 cap per event)	$ 1,200.00
522	3/4" Plate with D rings	$ 1,500.00
732	11' Dump Body	$ 25,000.00
746	SS Asphalt door x 3	$ 6,600.00
747	Air operated tail gate	$ 1,000.00
753	Electric load cover	$ 3,850.00
757	Oak side boards	$ 1,000.00
764	SS side ladder	$ 445.00
767	Flip style locks	$ 1,500.00
773	SS Body Upgrade	$ 21,000.00
791	Front pump hydraulic system	$ 10,500.00
796	Upgrade low fluid alarm shutoff	$ 975.00
797	Upgrade to SS hydraulic tank	$ 1,525.00
1195	HD Plow frame power tilt with lights and controls	$ 12,800.00
1227	Everest V type plow	$ 18,500.00
1246	Upgrade plow lights to LED	$ 700.00
1260	Power Reverse controls	$ 2,750.00
1314	Manual spreader control valve	$ 4,850.00

1322	Upgrade SS line to rear	$	1,750.00
1325	(2) 4" LED flood lights	$	1,300.00
1389	Poly fenders	$	1,600.00
1497	Lighting Two front two rear	$	3,630.00
	Total	**$**	**262,384.00**

Advantage Truck Group
411 Hartford Turnpike
Shrewsbury, MA 01545
Rich Coutu

Town of Dunstable



CONSERVATION COMMISSION

TABLE 2 - PRELIMINARY ESTIMATES OF COSTS[a]
WOODWARDS MILL DAM

Alternatives	High[b]	Average[b]	Low[b]
Maintain Pond and Dam			
Estimated Total Short-Term Cost for Repairs	$ 470,000	$ 390,000	$ 310,000
Avg. Annual maintenance (per year)	$ 5,000	$ 4,000	$ 3,000
Estimated Total 30-year Cost	$ 620,000	$ 510,000	$ 400,000
Decommision Dam	$ 530,000	$ 440,000	$ 350,000
Rehabilitate or Replace Downstream Concrete Walls			
ALT. A: Repair by Refacing	$ 1,400,000	$ 1,000,000	$ 700,000
ALT. B: New Wall Downstream of Existing	$ 1,500,000	$ 1,000,000	$ 700,000
ALT. C: Wall Demolition and Replacement	$ 4,300,000	$ 2,900,000	$ 1,900,000

[a] Estimated financial costs are in 2024 dollars, are based on concepts that are not designed, and are intended to provide preliminary, order-of-magnitude costs for qualitative comparison of alternatives, decision making, and planning. Refer to text of SA's Report for more information.

[b] Low, average, and high costs are estimated from low, high, and average unit costs. Average costs shown are not the average of the high and low estimates. We recommend using average costs for comparision of alternatives, but using high costs for short-term budgeting. Planning for future costs should consider inflation and cost escalation from the estimated costs shown in 2024 dollars.

Original Work:
By: J. Turner Date: October 25, 2024
Checked By: RSS Date: October 25, 2024

Project: Number: 010-23-017 Sheet 1 of 1
Name: Woodwards Mill Dam
ID No. MA1539
Dunstable, MA
Subject: **Figure 8 - Decision Tree**

GOALS	ALTERNATIVE SOLUTIONS		BENEFITS	COSTS/RISKS
Minimize Short-Term Cost	**Do Nothing for Dam, other than Repair Raceway Top Slab**	• Repair void in raceway crown to reduce risk to vehicles and public safety on Rte. 113 as soon as practicable, within a year	• Reduces risk of roadway failure (sinkhole) due to loss of soil into the raceway • Minimizes Short Term Financial Outlay	• Estimated short-term cost = $15,000 • Dam will continue to deterioriate and eventually fail. Failure of Dam or downstream concrete walls jeopardizes public safety. • MA DCR Office of Dam Safety unlikely to allow Do Nothing
Reduce Long-Term Dam-Safety Risks and Costs	**Decommission Dam**	• Remove spillway weir to lower pond elevation; • Remove sediment, if needed, for channel to raceway invert; • Repoint upstream stone masonry walls; • Fill sinkholes behind upstream walls;	• Reduces future inspection and maintenance costs • Reduces Town's liability • Meets Regulatory requirements • Some shallow pond or wetland may remain	• Estimated avg. short-term cost = $440k • Estimated avg. 30-yr. add'l cost = $0 • Smaller pond or wetland; might reduce recreational oportunities • Historical/cultural impacts uncertain
Maintain a Pond	**Repair Dam** Address Regulatory Requirements, Deficiencies, and/or Threats to Dam Safety	• Repair upstream stone masonry wall (repointing and excavation and backfill); • Repair sinkholes in crest; • Restore low-level outlet operability; • Rehabilitate downstream concrete walls (below); • Remove trees and brush; • Prepare Emergency Action Plan and Operation and Maintenance Plan	• Maintains pond for recreation, aesthetics and historic resources (if Dam and/or pond are considered historic) • Meets Regulatory requirements • Improves operability • Reduces risk of dam breach • Increases Town's preparedness	• Estimated avg. short-term cost = $390k • Estimated avg. 30-yr. maintenance = $120k • Estimated total avg. 30-year cost = $510k • Significant additional future cost needed after 30-years to replace or remove dam • Higher risk (liability, etc.), as Significant Hazard Potential Dam, than decommissioning
Maintain Rte. 113	**Repair or Replace Downstream Concrete Walls** *	**ALT A: Repair/Reface Concrete Walls** • Evaluate concrete by coring and lab testing • Remove deterioriated concrete; • Pour new concrete facing; • Replace concrete wall over raceway;	• Maintains Pleasant St. (Rte. 113); • Maintains walls and raceway; • Maintains existing footprint;	• Estimated avg. short-term cost = $1M • Integrity of interior concrete uncertain; may affect repair feasibility or longevity • Higher risk of quantity changes and cost increases during construction
		ALT B: New Concrete Wall Downstream of Existing • Construct new wall retained by tiebacks through existing wall into foundation soils; • Replace concrete wall over raceway;	• Maintains Pleasant St. (Rte. 113); • Maintains walls and raceway; • Potentially greater longevity compared to repair; • Less disruption of Pleasant St. compared to replacing walls	• Estimated avg. short-term cost = $1M • Expands footprint downstream
		ALT C: Remove and Replace Concrete Walls • Significant demolition, excavation, and reconstruction of similar geometry.	• Maintains Pleasant St. (Rte. 113); • Maintains walls and raceway; • Potentially greater longevity compared to repair;	• Estimated avg. short-term cost = $2.9M • Significant disruption of Pleasant St. and traffic during construction

* The downstream concrete walls are components of the Dam and therefore require repair as part of repairing/maintaining the Dam for dam safety purposes. If the Dam is decommissioned, however, the downstream concrete walls would be solely retaining walls for the roadway embankment and would no longer be regulated as dam components. In the later case, the downstream walls should be repaired for the purpose of maintaining Rte. 113.

Copyright © 2024 Stephens Associates Consulting Engineers, LLC
Revisions:
By: Date:
By: Date:
SACE 00-1 (v. 1) 1/00

NOTE: The purpose of this Decision Tree is to aid the Town in understanding and evaluating conceptual options related to Woodwards Mill Dam. This Decision Tree should be considered in conjunction with SA's Report. Estimated costs for design, permitting and construction are based on conceptual designs and are intended to provide orger-of-magnitude costs for qualitative comparison of alternatives and are in today's dollars (2024).

Stephens Associates Consulting Engineers
Insightful, Cost-saving Solutions for Buildings and Infrastructure
Structural
Geotechnical
Hydrology & Hydraulics
www.stephensengineers.com
668 Main Street, Wilmington, MA 01887 (978) 988-2115



RECREATION

	DEPT:											
	SUBMITTED BY:											
						ITEMS TO CONSIDER (PLACE "X' IN EACH BOX THAT APPLIES):						
Number	Project Description	Estimated Cost	Anticipated Useful Life (in years)	Priority (pick from drop down menu)	# of Quotes Received (pick from drop down menu)	Emergency	Public Safety Issue	To Maintain Service	Grant Opps Exist	Dept has Matching Funds	Enhances Services	Additional Information
1	Larter field shade structure/ Pavillion with steel tables and bences	120,000.00	60 years		3							Larter has no protection from the sun or rain
2												Larter has no structures for shade/ events/ seating etc. Larter has increasing use by the
3												
4												
5												
1												
2												
3												
4												
5												



LIBRARY

	DEPT:	Library											
	SUBMITTED BY:	Maureen Strauss											
						ITEMS TO CONSIDER (PLACE "X' IN EACH BOX THAT APPLIES):							
Number	Project Description	Estimated Cost	Anticipated Useful Life (in years)	Priority (pick from drop down menu)	# of Quotes Received (pick from drop down menu)	Emergency	Public Safety Issue	To Maintain Service	Grant Opps Exist	Dept has Matching Funds	Enhances Services	Additional Information	
1	Exterior Lights	$3,000.00	10.0	1	1		X						1
2	Emergency Electrical Lighting in Community Room	$2,500.00	10.0	2	1		X						2
3	Replace Electric Room and Children's Area Outside Doors	$6500.00	10.0	3	1		X						3
4	Replace Front Door with Handicap Accessibility*	$10,000.00	10.0	4	1		X					* will have locksmith evaluate first to determine if other less expensive options are available	4
5													5
1	Wood Rot along Exterior Windows, Fascia, and Soffits	$25,000 - $40, 000	10.0	1	1			X					
2	HVAC	$80,000- 120,000	10.0	2	1			X					
3													
4													
5													

Town of Dunstable
FY26-FY30 Capital Improvement Plan

Form 1. Individual Project Proposal Description and Justification

Prepared By:____Maureen Strauss. Date Prepared:9/13/24____

Project Title:_Electrical Program Area:_Community Room

1. **Project Description:** Give a brief (1-2 paragraph) description of what the project entails. Provide basic information, such as the location, size, acreage, floor area, capacity, etc., and any other information that is relevant to what is being proposed.

Emergency lights in Community room are not working.

2. **Project Justification:** Why is the project needed? What is being used today? Can it be repaired instead? Is the cost of renting, repairing, etc. more expensive than the purchase of a new item?

Patron safety

3. **Planning Context:** Is the project referenced in any Town plan, such as the Master Plan, previous year's CIP, Town planning or scoping study, etc.?

No

4. **Schedule:** If the project will take several years to complete, outline the schedule here and on Form 2. If applicable, be sure to include work done in prior years, including studies or other planning, and refer to previous Town Meeting item.

5. **Coordination:** If the project is dependent upon one or more other CIP projects, identify them and indicate what the relationship among the projects is. If the project is not dependent upon, but should be linked to one or more other CIP projects, identify them and indicate what the relationship among the projects is.

6. **Previous Town Meeting Action:** If the project has previously been included in the Warrant for a Town Meeting, indicate the year, the warrant article number, and the Town Meeting action.

Indicate the action taken even if the article was indefinitely postponed, referred for further study, or defeated.

---

7. **Project Category:** Indicate what category and subcategory below best describes the project (indicate more than one if applicable).

Category I – Replacements

a. Replacement of a broken or unserviceable capital facility to preserve current level of service.
b. Replacement of a deteriorating facility is less expensive now than in the future.
c. Replacement of a facility with a high level of deterioration or community support.

Category II – Upgrades

d. Upgrade to reduce urgent threats to public safety and health.
e. Project will result in improved efficiency or net savings.
f. Project is required to meet governmental requirements
g. Project has a high level of community support

Category III – Expansions

h. Expansion will provide existing levels of service to new development recently completed or under construction.
j. Expansion will maintain a level of service standard adopted by the Select Board.
k. Expansion is required to meet governmental requirements.
l. Expansion will provide existing levels of service to projected future developments.

Commented [1]:

---

8. **Project Priority:** Rank the project's priority within your department on a scale of 1 to 5, with 1 being the most important and 5 being the least important. (Note: The highest priority does not have to occur in the nearest year, and priorities do not necessarily follow in chronological order. It may be that your most important project may not be needed or may not be ready for action until three years from now).

This is #2 priority

---

9. **Estimated Cost: $**
Amounts shown here should agree with Form 2. For projects that will take more than one year, list each year separately and then show total.

$2500.00

---

10. **Basis of Cost Estimate:** Check one of the following. If you want to provide more detail on the estimate, do so by following with a narrative indicating the type of estimate.

_____ Cost of comparable facility or equipment

_____ Rule of thumb indicator, unit costs

_____ Cost estimate from engineer, architect, or vendor

_____ Bids received

___X__ Preliminary estimate (e.g. no other basis for estimate, guesstimate)

---

11. Alternate Financing: Include an amount and a source here only if it is a source other than real estate tax levy. Complete this section only if you know of a specific source, such as a state or federal grant.

---

12. Estimated Annual Debt Service or Lease Payment (if applicable):

$_____ for _____ years.

---

13. Anticipated Increase/Decrease in Annual Revenues as a Result of the Project (if applicable): $ _____. Explain below.

---

10. Is this a Special Opportunity? __X_ NO _____ YES (If yes, explain below).

---

11. What is the estimated life of the proposed project?

10 years

Attach all back up information supporting the proposed project available including quotes/estimates, scope of work, and photos

_____ _____
Authorized Department Head Signature Date

FORM 2. FIVE YEAR SUMMARY

DEPARTMENT_____

Description	2026	2027	2028	2029	2030	Cost
Total Costs						

Town of Dunstable
FY26-FY30 Capital Improvement Plan

Form 1. Individual Project Proposal Description and Justification

Prepared By:____Maureen Strauss. Date Prepared:9/13/24____

Project Title:_Outside Doors Program Area:_Electrical and Children's Area Doors

1. **Project Description:** Give a brief (1-2 paragraph) description of what the project entails. Provide basic information, such as the location, size, acreage, floor area, capacity, etc., and any other information that is relevant to what is being proposed.

Fire inspector recommended replacing electrical room and children's area doors as locks do not work.

2. **Project Justification:** Why is the project needed? What is being used today? Can it be repaired instead? Is the cost of renting, repairing, etc. more expensive than the purchase of a new item?

Patron safety

3. **Planning Context:** Is the project referenced in any Town plan, such as the Master Plan, previous year's CIP, Town planning or scoping study, etc.?

No

4. **Schedule:** If the project will take several years to complete, outline the schedule here and on Form 2. If applicable, be sure to include work done in prior years, including studies or other planning, and refer to previous Town Meeting item.

5. **Coordination:** If the project is dependent upon one or more other CIP projects, identify them and indicate what the relationship among the projects is. If the project is not dependent upon, but should be linked to one or more other CIP projects, identify them and indicate what the relationship among the projects is.

6. **Previous Town Meeting Action:** If the project has previously been included in the Warrant for a Town Meeting, indicate the year, the warrant article number, and the Town Meeting action. Indicate the action taken even if the article was indefinitely postponed, referred for further study, or defeated.

---

7. **Project Category:** Indicate what category and subcategory below best describes the project (indicate more than one if applicable).

Category I – Replacements

a. Replacement of a broken or unserviceable capital facility to preserve current level of service.
b. Replacement of a deteriorating facility is less expensive now than in the future.
c. Replacement of a facility with a high level of deterioration or community support.

Category II – Upgrades

d. Upgrade to reduce urgent threats to public safety and health.
e. Project will result in improved efficiency or net savings.
f. Project is required to meet governmental requirements
g. Project has a high level of community support

Category III – Expansions

h. Expansion will provide existing levels of service to new development recently completed or under construction.
j. Expansion will maintain a level of service standard adopted by the Select Board.
k. Expansion is required to meet governmental requirements.
l. Expansion will provide existing levels of service to projected future developments.

Commented [1]:

---

8. **Project Priority:** Rank the project's priority within your department on a scale of 1 to 5, with 1 being the most important and 5 being the least important. (Note: The highest priority does not have to occur in the nearest year, and priorities do not necessarily follow in chronological order. It may be that your most important project may not be needed or may not be ready for action until three years from now).

This is #3 priority

---

9. **Estimated Cost: $**
Amounts shown here should agree with Form 2. For projects that will take more than one year, list each year separately and then show total.

$6500.00

---

10. Basis of Cost Estimate: Check one of the following. If you want to provide more detail on the estimate, do so by following with a narrative indicating the type of estimate.

_____ Cost of comparable facility or equipment

_____ Rule of thumb indicator, unit costs

_____ Cost estimate from engineer, architect, or vendor

_____ Bids received

___X__ Preliminary estimate (e.g. no other basis for estimate, guesstimate)

---

11. Alternate Financing: Include an amount and a source here only if it is a source other than real estate tax levy. Complete this section only if you know of a specific source, such as a state or federal grant.

---

12. Estimated Annual Debt Service or Lease Payment (if applicable):

$_____ for _____ years.

---

13. Anticipated Increase/Decrease in Annual Revenues as a Result of the Project (if applicable): $ _____. Explain below.

---

10. Is this a Special Opportunity? __X_ NO _____ YES (If yes, explain below).

---

11. What is the estimated life of the proposed project?

10 years

Attach all back up information supporting the proposed project available including quotes/estimates, scope of work, and photos

_____ _____
Authorized Department Head Signature Date

FORM 2. FIVE YEAR SUMMARY

DEPARTMENT_____

Description	2026	2027	2028	2029	2030	Cost
Total Costs						

Town of Dunstable
FY26-FY30 Capital Improvement Plan

Form 1. Individual Project Proposal Description and Justification

Prepared By:____Maureen Strauss. Date Prepared:9/13/24____

Project Title:_Outside Rot Replacement Program Area:_Replace Rot around windows, fascia, and soffit

1. **Project Description:** Give a brief (1-2 paragraph) description of what the project entails. Provide basic information, such as the location, size, acreage, floor area, capacity, etc., and any other information that is relevant to what is being proposed.

Rot is along windows, fascia, and soffits

2. **Project Justification:** Why is the project needed? What is being used today? Can it be repaired instead? Is the cost of renting, repairing, etc. more expensive than the purchase of a new item?

To maintain property; animals are nesting in many of the areas.

3. **Planning Context:** Is the project referenced in any Town plan, such as the Master Plan, previous year's CIP, Town planning or scoping study, etc.?

No

4. **Schedule:** If the project will take several years to complete, outline the schedule here and on Form 2. If applicable, be sure to include work done in prior years, including studies or other planning, and refer to previous Town Meeting item.

5. **Coordination:** If the project is dependent upon one or more other CIP projects, identify them and indicate what the relationship among the projects is. If the project is not dependent upon, but should be linked to one or more other CIP projects, identify them and indicate what the relationship among the projects is.

6. **Previous Town Meeting Action:** If the project has previously been included in the Warrant for a Town Meeting, indicate the year, the warrant article number, and the Town Meeting action. Indicate the action taken even if the article was indefinitely postponed, referred for further study, or defeated.

---

7. **Project Category:** Indicate what category and subcategory below best describes the project (indicate more than one if applicable).

Category I – Replacements

a. Replacement of a broken or unserviceable capital facility to preserve current level of service.
b. Replacement of a deteriorating facility is less expensive now than in the future.
c. Replacement of a facility with a high level of deterioration or community support.

Commented [1]:

Category II – Upgrades

d. Upgrade to reduce urgent threats to public safety and health.
e. Project will result in improved efficiency or net savings.
f. Project is required to meet governmental requirements
g. Project has a high level of community support

Category III – Expansions

h. Expansion will provide existing levels of service to new development recently completed or under construction.
j. Expansion will maintain a level of service standard adopted by the Select Board.
k. Expansion is required to meet governmental requirements.
l. Expansion will provide existing levels of service to projected future developments.

---

8. **Project Priority:** Rank the project's priority within your department on a scale of 1 to 5, with 1 being the most important and 5 being the least important. (Note: The highest priority does not have to occur in the nearest year, and priorities do not necessarily follow in chronological order. It may be that your most important project may not be needed or may not be ready for action until three years from now).

This is #1 priority

---

9. **Estimated Cost: $**
Amounts shown here should agree with Form 2. For projects that will take more than one year, list each year separately and then show total.

$25,000.00 - $40,000

---

10. Basis of Cost Estimate: Check one of the following. If you want to provide more detail on the estimate, do so by following with a narrative indicating the type of estimate.

_____ Cost of comparable facility or equipment

_____ Rule of thumb indicator, unit costs

____X_ Cost estimate from engineer, architect, or vendor

_____ Bids received

___ Preliminary estimate (e.g. no other basis for estimate, guesstimate)

---

11. Alternate Financing: Include an amount and a source here only if it is a source other than real estate tax levy. Complete this section only if you know of a specific source, such as a state or federal grant.

---

12. Estimated Annual Debt Service or Lease Payment (if applicable):

$_____ for _____ years.

---

13. Anticipated Increase/Decrease in Annual Revenues as a Result of the Project (if applicable): $ _____. Explain below.

---

10. Is this a Special Opportunity? __X_ NO _____ YES (If yes, explain below).

---

11. What is the estimated life of the proposed project?

10 years

Attach all back up information supporting the proposed project available including quotes/estimates, scope of work, and photos

_____ _____
Authorized Department Head Signature Date

FORM 2. FIVE YEAR SUMMARY

DEPARTMENT_____

Description	2026	2027	2028	2029	2030	Cost
Total Costs						

Town of Dunstable
FY26-FY30 Capital Improvement Plan

Form 1. Individual Project Proposal Description and Justification

Prepared By:____Maureen Strauss. Date Prepared:9/13/24____

Project Title:_HVAC Program Area:_New HVAC System

1. **Project Description:** Give a brief (1-2 paragraph) description of what the project entails. Provide basic information, such as the location, size, acreage, floor area, capacity, etc., and any other information that is relevant to what is being proposed.

HVAC system is dated and inconsistent/insufficient

2. **Project Justification:** Why is the project needed? What is being used today? Can it be repaired instead? Is the cost of renting, repairing, etc. more expensive than the purchase of a new item?

Patron comfort

3. **Planning Context:** Is the project referenced in any Town plan, such as the Master Plan, previous year's CIP, Town planning or scoping study, etc.?

No

4. **Schedule:** If the project will take several years to complete, outline the schedule here and on Form 2. If applicable, be sure to include work done in prior years, including studies or other planning, and refer to previous Town Meeting item.

5. **Coordination:** If the project is dependent upon one or more other CIP projects, identify them and indicate what the relationship among the projects is. If the project is not dependent upon, but should be linked to one or more other CIP projects, identify them and indicate what the relationship among the projects is.

6. **Previous Town Meeting Action:** If the project has previously been included in the Warrant for a Town Meeting, indicate the year, the warrant article number, and the Town Meeting action.

Indicate the action taken even if the article was indefinitely postponed, referred for further study, or defeated.

---

7. **Project Category:** Indicate what category and subcategory below best describes the project (indicate more than one if applicable).

Category I – Replacements

a. Replacement of a broken or unserviceable capital facility to preserve current level of service.
b. Replacement of a deteriorating facility is less expensive now than in the future.
c. Replacement of a facility with a high level of deterioration or community support.

Category II – Upgrades

d. Upgrade to reduce urgent threats to public safety and health.
e. Project will result in improved efficiency or net savings.
f. Project is required to meet governmental requirements
g. Project has a high level of community support

Category III – Expansions

h. Expansion will provide existing levels of service to new development recently completed or under construction.
j. Expansion will maintain a level of service standard adopted by the Select Board.
k. Expansion is required to meet governmental requirements.
l. Expansion will provide existing levels of service to projected future developments.

Commented [1]:

---

8. **Project Priority:** Rank the project's priority within your department on a scale of 1 to 5, with 1 being the most important and 5 being the least important. (Note: The highest priority does not have to occur in the nearest year, and priorities do not necessarily follow in chronological order. It may be that your most important project may not be needed or may not be ready for action until three years from now).

This is #2 priority

---

9. **Estimated Cost: $**
Amounts shown here should agree with Form 2. For projects that will take more than one year, list each year separately and then show total.

$80,000.00 - $120,000

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10. **Basis of Cost Estimate:** Check one of the following. If you want to provide more detail on the estimate, do so by following with a narrative indicating the type of estimate.

_____ Cost of comparable facility or equipment

_____ Rule of thumb indicator, unit costs

____X_ Cost estimate from engineer, architect, or vendor

_____ Bids received

___ Preliminary estimate (e.g. no other basis for estimate, guesstimate)

---

11. Alternate Financing: Include an amount and a source here only if it is a source other than real estate tax levy. Complete this section only if you know of a specific source, such as a state or federal grant.

---

12. Estimated Annual Debt Service or Lease Payment (if applicable):

$_____ for _____ years.

---

13. Anticipated Increase/Decrease in Annual Revenues as a Result of the Project (if applicable): $ _____. Explain below.

---

10. Is this a Special Opportunity? __X_ NO _____ YES (If yes, explain below).

---

11. What is the estimated life of the proposed project?

10 years

Attach all back up information supporting the proposed project available including quotes/estimates, scope of work, and photos

_____ _____
Authorized Department Head Signature Date

FORM 2. FIVE YEAR SUMMARY

DEPARTMENT_____

Description	2026	2027	2028	2029	2030	Cost
Total Costs						

Town of Dunstable
FY26-FY30 Capital Improvement Plan

Form 1. Individual Project Proposal Description and Justification

Prepared By:____Maureen Strauss. Date Prepared:9/13/24____

Project Title:_Electrical in Community Room Program Area:_____

1. **Project Description:** Give a brief (1-2 paragraph) description of what the project entails. Provide basic information, such as the location, size, acreage, floor area, capacity, etc., and any other information that is relevant to what is being proposed.

Emergency lights are not working in Community Room

2. **Project Justification:** Why is the project needed? What is being used today? Can it be repaired instead? Is the cost of renting, repairing, etc. more expensive than the purchase of a new item?

Patron safety

3. **Planning Context:** Is the project referenced in any Town plan, such as the Master Plan, previous year's CIP, Town planning or scoping study, etc.?

No

4. **Schedule:** If the project will take several years to complete, outline the schedule here and on Form 2. If applicable, be sure to include work done in prior years, including studies or other planning, and refer to previous Town Meeting item.

5. **Coordination:** If the project is dependent upon one or more other CIP projects, identify them and indicate what the relationship among the projects is. If the project is not dependent upon, but should be linked to one or more other CIP projects, identify them and indicate what the relationship among the projects is.

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Indicate the action taken even if the article was indefinitely postponed, referred for further study, or defeated.

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7. **Project Category:** Indicate what category and subcategory below best describes the project (indicate more than one if applicable).

Category I – Replacements

a. Replacement of a broken or unserviceable capital facility to preserve current level of service.

b. Replacement of a deteriorating facility is less expensive now than in the future.

c. Replacement of a facility with a high level of deterioration or community support.

Category II – Upgrades

d. Upgrade to reduce urgent threats to public safety and health.

e. Project will result in improved efficiency or net savings.

f. Project is required to meet governmental requirements

g. Project has a high level of community support

Category III – Expansions

h. Expansion will provide existing levels of service to new development recently completed or under construction.

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Commented [1]:

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This is #2 priority

---

9. **Estimated Cost: $**
Amounts shown here should agree with Form 2. For projects that will take more than one year, list each year separately and then show total.

$2,500.00

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10. **Basis of Cost Estimate:** Check one of the following. If you want to provide more detail on the estimate, do so by following with a narrative indicating the type of estimate.

_____ Cost of comparable facility or equipment

_____ Rule of thumb indicator, unit costs

_____ Cost estimate from engineer, architect, or vendor

_____ Bids received

___X__ Preliminary estimate (e.g. no other basis for estimate, guesstimate)

---

11. Alternate Financing: Include an amount and a source here only if it is a source other than real estate tax levy. Complete this section only if you know of a specific source, such as a state or federal grant.

---

12. Estimated Annual Debt Service or Lease Payment (if applicable):

$_____ for _____ years.

---

13. Anticipated Increase/Decrease in Annual Revenues as a Result of the Project (if applicable): $ _____. Explain below.

---

10. Is this a Special Opportunity? __X_ NO _____ YES (If yes, explain below).

---

11. What is the estimated life of the proposed project?

10 years

Attach all back up information supporting the proposed project available including quotes/estimates, scope of work, and photos

_____ _____
Authorized Department Head Signature Date

FORM 2. FIVE YEAR SUMMARY

DEPARTMENT_____

Description	2026	2027	2028	2029	2030	Cost
Total Costs						