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The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Robert R. Scott, Commissioner

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December 11, 2025

Her Excellency, Governor Kelly A. Ayotte
and the Honorable Council
State House
Concord, New Hampshire 03301

INFORMATIONAL ITEM

Pursuant to the MtBE Remediation Fund Implementation Plan, the New Hampshire Department of Environmental Services (NHDES) is providing an annual summary report for fiscal year 2025.

Respectfully Submitted,

Robert R. Scott
Commissioner

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2025 MtBE Settlement Funds Annual Report

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September 2025

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EXECUTIVE SUMMARY

The New Hampshire Department of Environmental Services (NHDES) established the MtBE Remediation Bureau (Bureau) in 2014. The Bureau was established using settlement funds obtained from the state's Methyl tertiary-Butyl Ether (MtBE) lawsuit. The terms of the settlements require that the funds be used to address MtBE contamination in New Hampshire. NHDES accomplishes this in accordance with a memorandum of understanding (MOU) between NHDES and the New Hampshire Department of Justice signed October 31, 2013.

One of the more important aspects of the remediation program is the implementation of permanent solutions to MtBE contaminated water supplies. Typically, the options for permanent solutions involve construction of additional drinking water infrastructure such as the extension of water lines, development of new water supplies, water supply treatment or replacement of MtBE contaminated water supply wells. During state fiscal year (FY) 2025, the Bureau completed a water line extension in Lee and continued work on a water line extension in Epping. These projects involve several miles of water line extensions that will be added to existing water systems and will connect hundreds of users of contaminated water supplies to safe, regulated, potable water supply systems. Additional information on these projects is included in the appendices.

The drinking water supply sampling program has been very active this year and supports all other Bureau program efforts by providing information on the extent and occurrence of MtBE contamination as well as other naturally occurring and human-caused contamination. This data is useful when defining the scope of water line extensions, investigating the extent of groundwater contamination and determining the need for water supply well treatment. Since inception of the program, over 16,692 water supply samples have been collected, with MtBE being detected in 1,267 water supplies.

The Bureau has completed a number of large-scale remedial projects. As of the end of FY25, approximately 22,190 tons of contaminated soil have been removed and disposed of or treated at appropriately permitted solid waste facilities.

The prevention program seeks to prevent and reduce MtBE threats to New Hampshire aquifers. The two major classes of gasoline releases that are currently being addressed under this program are underground storage tank and motor vehicle recycling facility (MVRF) releases. Underground storage tank releases of gasoline are the largest single source of MtBE contamination in New Hampshire. To address underground storage tanks, the Bureau developed an underground storage tank removal program that is designed to remove higher risk tanks and to expedite investigation of releases. As of the end of FY25, 387 tanks have been removed. The average age of the tanks that have been removed is approximately 30 years and many of the tank systems had failed secondary containment or spill prevention system components, or were of high-risk single wall tank or piping construction. Removal of these older, and in many cases financially neglected, tank systems before releases occur is a highly cost effective and prudent aquifer protection measure, as well as a means to conduct a very comprehensive contamination investigation.

The tank removal program has benefits beyond release prevention. Removal of tank systems has facilitated a number of large-scale remedial cleanups where previously inaccessible MtBE-contaminated soil continued to serve as a source of groundwater and soil vapor contamination. The resultant removal of residual contamination sources created reinvestment and resale opportunities at a number of properties.

The motor vehicle recycling facility (MVRF) release prevention program is working actively with the Automotive and Truck Recycling Association of New Hampshire to reduce gasoline releases. As of the end of FY25, over 70% of all active, licensed MVRFs have participated in the program. The program has provided spill prevention equipment to 89 of the MVRFs. This is a large percentage of the most active facilities and should help to significantly improve existing practices and reduce gasoline releases in the future. In addition to the purchase of spill prevention equipment and maintenance kits for that equipment, the Bureau continues to implement a concrete spill containment pad installation program. About a third (39 facilities) of the active MVRF in New Hampshire have participated in this program. The spill containment pads are installed in areas used for gasoline transfers, car dismantling and gasoline storage. The projects combine investigation, remediation and release prevention activities as appropriate.

Program assistance has spanned the entire State. Figure 1 graphically depicts the geographical locations of assistance that has been provided through FY25.

INTRODUCTION

In 2003, the New Hampshire Department of Justice (NHDOJ) sued several refiners and suppliers of gasoline seeking damages for the statewide problem of methyl-tertiary butyl ether (MtBE) contamination. The State settled with all but one of the defendants. After deductions from the settlement payments for eligible legal fees and other costs, the court-ordered settlements set aside $81,630,000 for remediation of MtBE contamination. This fund would later be designated the MtBE settlement funds. In 2013, NHDOJ went to trial against ExxonMobil Corporation, the remaining defendant. In April 2013, after three months of trial, the jury awarded the State of New Hampshire $236,372,644, plus pre-judgment interest. On October 2, 2015, the New Hampshire Supreme Court affirmed the jury verdict and later rejected ExxonMobil's motion to reconsider the Court's ruling. ExxonMobil filed a petition for writ of certiorari with the U.S. Supreme Court on January 20, 2016. The U.S. Supreme Court denied the petition in a decision that was released on May 16, 2016. In June of 2016, ExxonMobil Corporation deposited $307,174,716 into the New Hampshire Drinking Water and Groundwater Trust Fund (DWGTF), which was established by SB 380 for this express purpose. Immediately following the deposit, 10% of the award was transferred to the State's revenue stabilization account, in accordance with State law, leaving $276,455,444 in the DWGTF. Administration of the DWGTF is conducted in accordance with RSA Chapter 485-F, effective March 31, 2016.

The MtBE settlement funds are separate and distinct from the DWGTF and are managed under the terms of the settlement agreements and a memorandum of understanding (MOU) between NHDES and NHDOJ signed October 31, 2013. The MOU outlines an interdepartmental approach to the expenditure and administration of the MtBE settlement funds and calls for quarterly

reporting by NHDES to NHDOJ. As the DWGTF activities are reported per RSA 485-F, this annual report will not discuss the DWGTF in any further detail.

During program formation and through FY25, requests for budgets and staffing were approved by the Governor and Executive Council and the Fiscal Committee of the General Court with all subsequent budgets being authorized via the regular legislative operational budget process. Program activities discussed in the request included:

- Installation and improvement of public water supply infrastructure in areas having significant MtBE contamination.
- Investigation and remediation of existing contamination.
- Testing at-risk private water wells.
- Implementation of measures to prevent further MtBE contamination.

Program activities have spanned the entire state. Figure 1 graphically depicts the geographical locations of the assistance that has been provided through FY25.

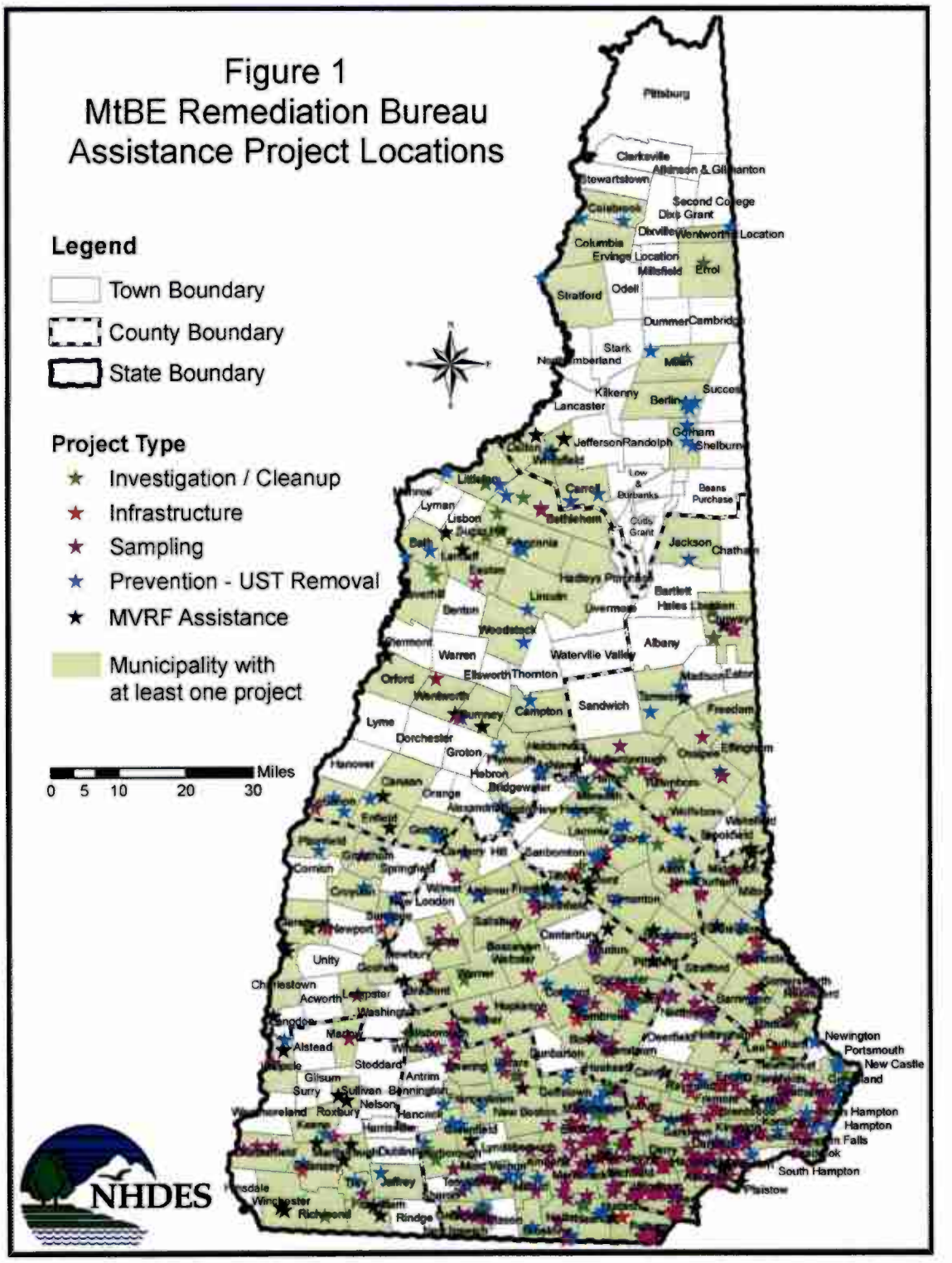


Figure 1
MtBE Remediation Bureau
Assistance Project Locations
Legend
Town Boundary
County Boundary
State Boundary
Project Type
Investigation / Cleanup
Infrastructure
Sampling
Prevention - UST Removal
MVRF Assistance
Municipality with
at least one project
Miles
0 5 10 20 30
NHDES

Challenges and Methods for Identifying and Mitigating MtBE Impacts to Groundwater

MtBE does not readily biodegrade allowing it to persist in New Hampshire drinking water aquifers. MtBE has not been a component of gasoline sold in New Hampshire since the State's January 1, 2007 MtBE ban.

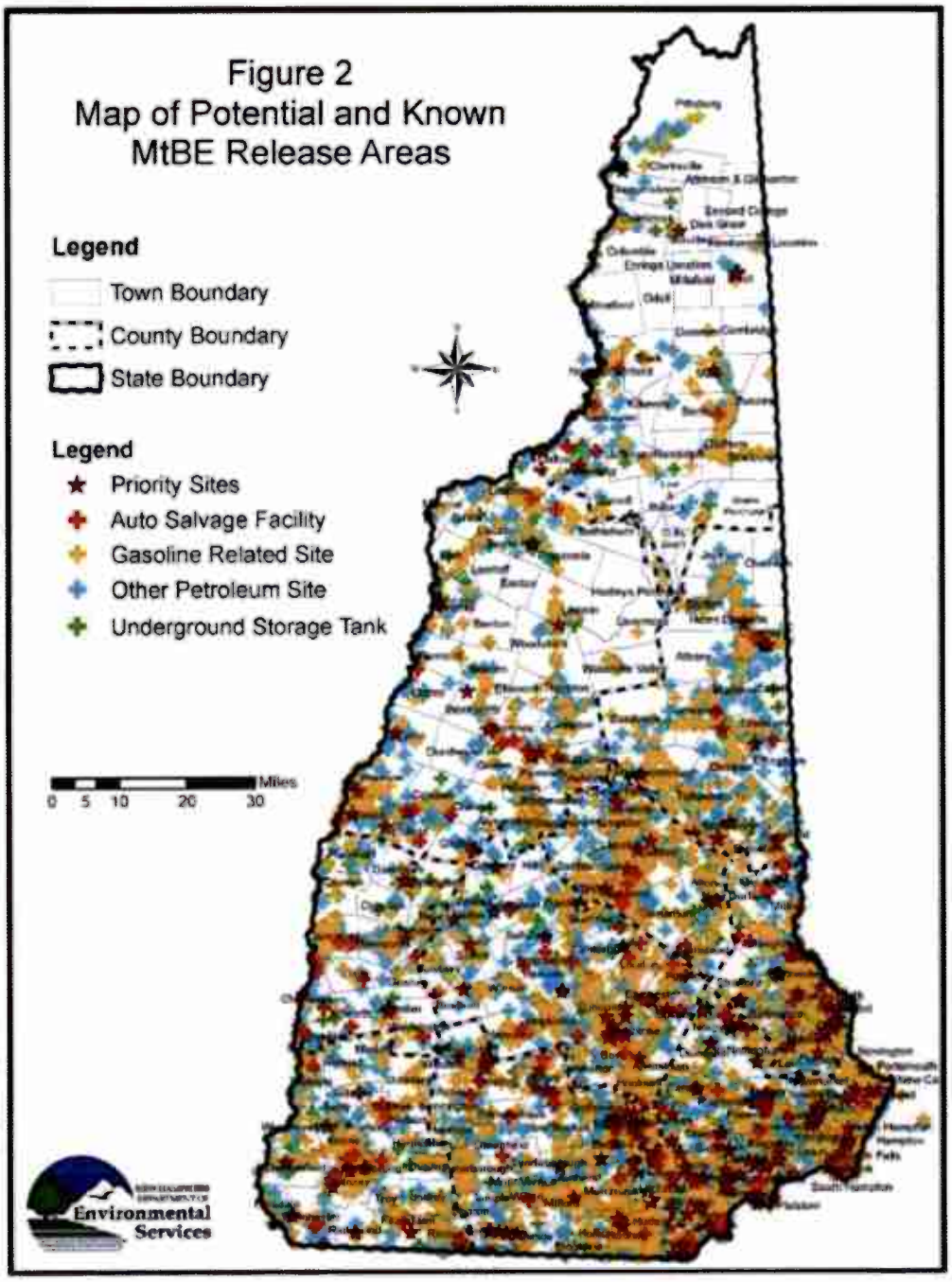
MtBE is a potential carcinogen and causes objectionable taste and odor in drinking water when present at high concentrations. MtBE remains a common non-naturally occurring contaminant detected in drinking water supplies in New Hampshire. A 2005 study conducted by the U.S. Geological Survey (USGS) and NHDES in Rockingham County found MtBE present in detectable concentrations in 40% of public wells tested and in 21% of private wells (J.D. Ayotte, Argue and McGarry, 2005). A follow-up study, published in 2008, confirmed that MtBE contamination of public and private wells is still a statewide problem and likely present at detectable levels in approximately 10% of southeastern New Hampshire wells (Trends in MtBE Concentrations in Private Wells in Southeast, NH: 2005 to 2015, ES&T, 1/11/2017, vol. 51, issue 3, pp. 1168-1175). As a result of its prevalence and harmful properties, reduction of MtBE concentrations in our aquifers remains a priority.

Based on a review of data for the known sites, the most common source of MtBE contamination is releases from underground storage tank systems (USTs) and, less important but still significant, gasoline releases from auto salvage operations (during gasoline transfers or storage).

UST releases are typically identified during closure of the tanks and piping or during environmental investigations prompted by property acquisitions. As a result, there may be UST releases that have not been identified at facilities still in operation and under long-term stable ownership. Routine NHDES inspection of operating tank systems and pending closure of outdated tank systems over the coming years may reveal additional gasoline release sites. Discovery of sites and cleanup of existing sites is a priority for protection of New Hampshire aquifers. These sites typically contain subsurface areas of gasoline-contaminated soil. This soil contamination slowly leaches out MtBE and other gasoline contaminants into groundwater over time. Restoration of the impacted aquifer is accelerated by the removal of this ongoing source of groundwater contamination.

Further complicating the problem is the presence of old gasoline containing MtBE. If this gasoline is not properly managed, additional MtBE can be released to New Hampshire aquifers. Old gasoline is present in junked cars that have not been used since 2007 or in inactive and abandoned underground storage tanks. Motor vehicle salvage yards end up managing cars with old gasoline. In addition, in practically every community in the state, there are locations where old cars have been abandoned, as well as unlicensed "junkyards" where old vehicles are stored without having their fluids removed. There are also a surprising number of underground storage tanks still in the ground and containing pre-2007 gasoline. These tanks exist at former retail gasoline stations that were shut down due to low profit margins, many of which were

converted to auto sales or repair businesses. There were no requirements to remove tanks until 1986, so many of the tanks that discontinued operation prior to the effective date of the regulations may still be in the ground. Additionally, every year legacy gasoline tanks that were covered over and forgotten are discovered during unrelated excavation activities.



MtBE impacts to New Hampshire's groundwater have been numerous and varied. Addressing these impacts and preventing further degradation of groundwater quality requires a variety of approaches that need to be implemented in concert. To that end, NHDES established the MtBE

Remediation Bureau (Bureau) to identify, investigate, remediate and mitigate the effects of past and potentially ongoing releases of MtBE-containing gasoline and to reduce the potential for further releases of MtBE-containing gasoline to the environment. The bureau is staffed with professional engineers, geologists and scientists who are working together to implement a comprehensive MtBE corrective action work plan.

ESTABLISHMENT OF THE MtBE REMEDIATION BUREAU

The Bureau was established in April 2014 and was substantially staffed by September 2015. At that time, the Bureau developed programs needed to achieve its mission, and established the necessary contracts and claims/payment processes. The following sections discuss the overall progress that has been made in implementation of these programs to address MtBE contamination in New Hampshire.

Program Essentials – Reimbursement Process

MtBE site investigation, remediation, prevention and drinking water infrastructure construction projects are efficiently funded with MtBE settlement funds by the direct reimbursement of environmental consultants, engineers and contractors working for the affected entities. This process leverages business and private sector resources to accomplish more than could be completed solely with program resources and contracts. The reimbursement system model has been operational for several years and has proven highly successful and efficient for the Bureau and closely tracks the experiences of the State's existing Oil Discharge and Disposal Cleanup Fund (ODD Fund).

Program Essentials - Contracts

The MtBE Remediation Program has contracts in place for laboratory services, environmental consultants, installation of water treatment systems and spill response/underground storage tank removal. A brief discussion of each of the contracts follows.

A multi-year emergency response contract is in place with Clean Harbors Environmental Services for field work related to the remediation of real-time spills and releases of contaminants.

NHDES also continued to contract with Advanced Radon Mitigation, allowing the use of MtBE settlement funds for the expedited installation and service of point of entry (POE) water treatment systems associated with MtBE-impacted drinking water supply wells.

The bureau awarded two multi-year environmental consulting service contracts in FY24 during NHDES' regularly scheduled periodic consultant interview process. Ransom Consulting, LLC and Nobis Group will provide services related to the investigation and remediation of MtBE-contaminated sites.

Public Outreach

The NHDOJ/NHDES MOU included the development of a detailed implementation plan, which was finalized after extensive input from the public on MtBE settlement funds-eligible activities and programs.

Existing programs have matured since implementation in 2014 and no new MtBE settlement funded programs have been initiated; therefore, additional public outreach beyond project specific and residential water supply sampling communications was not necessary in FY25.

PROGRESS ON IMPLEMENTATION PLAN ELEMENTS

The Implementation Plan describes an integrated approach to addressing the MtBE challenges that were discussed in the previous sections of this report. The four main elements of the plan are:

- Installation and improvement of public water supply infrastructure in areas having significant MtBE contamination.
- Investigation and remediation of MtBE-contaminated sites.
- Testing at-risk private water wells.
- Implementation of measures to prevent further MtBE contamination.

Integration of the plan elements is important to improving the overall effectiveness of the program. For example, removal of underground storage tanks, which is a prevention-related project, also serves to eliminate physical obstacles that can hinder remediation and investigation efforts. Sampling of water wells can help to define the extent of contamination associated with a contaminated site and assists in determining the scope of any water line extension project that might be necessary to address MtBE-impacted supply wells. The following sections describe each work-plan element. It is important to note that the integrated nature of the program magnifies the benefits of the individual plan elements.

Site Investigation and Remediation

Gasoline-impacted soils in contact with the water table create long-term sources of MtBE contamination of aquifers because the contaminants slowly and continuously leach from the contaminated soil into the surrounding groundwater. When this contaminated groundwater flows away from the gasoline release site, nearby water supplies and additional portions of the aquifer become contaminated. To minimize impacts from gasoline releases, the timely identification, investigation and remediation of gasoline-contaminated soil (i.e., source area) is essential. In fact, the most cost-effective method of minimizing the total amount of MtBE released to New Hampshire's aquifers, after prevention of the spill in the first place, is the removal of contaminant source areas. This is because it is easier and less expensive to address a relatively small volume of contaminated soil than an enormous volume of groundwater.

Removal of the source areas immediately reduces the release of high concentrations of contaminants into the aquifer. This allows the concentration of MtBE and other contaminants to more rapidly attenuate over time as a result of dilution and microbial degradation. The process of reducing the contamination in the aquifer by these attenuation processes cannot truly begin until the ongoing release of contamination from source areas is mitigated. Biodegradation is a very slow process for MtBE, which is why minimization of the amount of MtBE released into New Hampshire aquifers is a crucial part of NHDES' approach to remediation of MtBE impacts to New Hampshire's groundwater resource.

To accomplish this objective, the bureau funds the following:

- Soil boring and soil sampling programs to delineate source areas.
- Monitoring well installation and investigative activities to define the extent of groundwater contamination.
- Drinking water well sampling.
- Removal of underground storage tanks to facilitate remediation.
- Remediation of contamination.

As of the end of FY25, NHDES has completed remedial projects in 50 municipalities throughout the state. These projects typically involved the removal of underground storage tanks and contaminated soil that was inaccessible prior to tank system removal. Approximately 22,190 tons of contaminated soil have been removed and properly disposed. It is noteworthy that most of the remedial projects were completed at sites that were also eligible for one of the state's petroleum reimbursement funds and that the cleanups had the added benefit of reducing the state's long-term liabilities under those funds.

The project case study of the Foreast Transportation property in Milan (see Appendix A-16) describes a site that involved many of these measures.

Photo of contaminated soil excavation at Foreast Transportation.

Identification of Impacted Private Water Supply Wells - Private Well Sampling

Based on a review of the existing New Hampshire data on MtBE occurrence, it has been estimated that 8% of all private drinking water wells in New Hampshire have been contaminated with MtBE. Additional contaminated water supplies may be discovered as additional property is developed, commercial and industrial properties are transferred to other parties, unlicensed junkyards are discovered, additional water supply wells are installed as part of property development and "end of life" tank systems are removed or replaced. To reduce public health impacts from MtBE in drinking water, the sampling program seeks to identify the impacted water supplies.

Public water supplies are routinely monitored, and the monitoring results are provided to NHDES on a quarterly basis. Private drinking water wells are not routinely tested and, if testing is conducted, volatile organic contaminant analysis that would identify MtBE contamination is rarely performed. The sampling program fills this void by collecting and analyzing drinking water supplies in areas where MtBE may be detected based on information available in the state's geographic information system (GIS) and contaminated sites database.

Photo of water treatment system that addresses complex MtBE contamination issue.

As of the end of June 2025, volatile organic compound (VOC) samples have been collected from 16,692 wells in 228 different municipalities. Table 1 summarizes the data for municipalities where more than 20 samples have been collected. Municipalities with 20 or more sampled wells typically contain established sampling districts where the bureau conducted targeted sampling in areas with known releases of gasoline or other contaminants. Municipalities with fewer than 20 samples are usually associated with samples collected for homeowners who reached out to the bureau expressing concern about MtBE or other contamination. Treatment systems have been installed whenever requested by the property owners with water wells with contamination exceeding the State's AGQS.

Table 1- MtBE Detections in Water Supply Wells (as of 6/30/2025)

Note: table only displaying data for municipalities where > 20 samples have been collected.

TOWN	TOTAL SAMPLES	NON DETECT	MTBE < AGQS	MTBE ≥ AGQS	DETECTION RATE
Amherst	1131	1106	25	0	2.21%
Atkinson	252	205	46	1	18.65%
Auburn	122	115	7	0	5.74%
Barnstead	45	45	0	0	0.00%
Barrington	136	127	9	0	6.62%
Bedford	1585	1514	71	0	4.48%
Belmont	42	36	6	0	14.29%
Bow	49	46	3	0	6.12%
Bradford	37	36	1	0	2.70%
Brentwood	39	37	2	0	5.13%
Brookline	27	27	0	0	0.00%
Candia	49	45	4	0	8.16%
Center Harbor	35	35	0	0	0.00%
Chester	126	114	12	0	9.52%
Chesterfield	22	22	0	0	0.00%
Chichester	96	89	7	0	7.29%
Concord	36	36	0	0	0.00%
Danbury	55	52	2	1	5.45%
Danville	110	73	36	1	33.64%
Deerfield	29	26	3	0	10.34%
Deering	25	25	0	0	0.00%
Derry	436	339	84	13	22.25%
Dover	41	38	3	0	7.32%
Durham	86	86	0	0	0.00%
East Kingston	68	65	3	0	4.41%
Epping	139	111	28	0	20.14%
Epsom	88	75	13	0	14.77%
Exeter	27	26	1	0	3.70%
Fremont	158	141	17	0	10.76%
Gilford	32	30	2	0	6.25%
Goffstown	48	43	5	0	10.42%
Greenfield	21	20	1	0	4.76%
Greenland	142	141	1	0	0.70%
Hampstead	304	269	34	1	11.51%
Hampton	60	55	5	0	8.33%
Hampton Falls	46	33	13	0	28.26%
Hanover	31	31	0	0	0.00%
Henniker	144	134	10	0	6.94%
Hillsborough	257	233	24	0	9.34%
Hollis	286	279	7	0	2.45%

Hooksett	458	449	9	0	1.97%
Hopkinton	61	52	9	0	14.75%
Hudson	227	225	2	0	0.88%
Kensington	20	20	0	0	0.00%
Kingston	182	151	31	0	17.03%
Lebanon	20	20	0	0	0.00%
Lee	41	40	1	0	2.44%
Litchfield	378	309	68	1	18.25%
Londonderry	1707	1641	64	2	3.87%
Loudon	235	207	28	0	11.91%
Madbury	132	121	11	0	8.33%
Manchester	24	20	4	0	16.67%
Meredith	28	26	2	0	7.14%
Merrimack	724	700	24	0	3.31%
Middleton	39	30	8	1	23.08%
Milford	29	29	0	0	0.00%
Mont Vernon	151	139	12	0	7.95%
Moultonborough	137	137	0	0	0.00%
Nashua	42	42	0	0	0.00%
New Boston	88	88	0	0	0.00%
New Durham	57	46	11	0	19.30%
New Ipswich	189	153	36	0	19.05%
Newfields	29	29	0	0	0.00%
Newton	168	129	39	0	23.21%
North Hampton	50	46	4	0	8.00%
Northwood	202	154	48	0	23.76%
Nottingham	128	115	12	1	10.16%
Pelham	302	272	30	0	9.93%
Plaistow	471	399	70	2	15.29%
Rochester	132	127	5	0	3.79%
Rollinsford	88	86	2	0	2.27%
Rumney	31	30	1	0	3.23%
Rye	41	38	3	0	7.32%
Salem	272	243	29	0	10.66%
Salisbury	58	48	10	0	17.24%
Sandown	191	175	16	0	8.38%
Strafford	48	35	13	0	27.08%
Stratham	266	234	29	3	12.03%
Sutton	32	31	1	0	3.13%
Undifferentiated	554	525	29	0	5.23%
Weare	228	209	19	0	8.33%
Wilton	112	110	2	0	1.79%
Windham	887	842	45	0	5.07%
TOTAL	**15,721**	**14,482**	**1,212**	**27**	**7.88%**

To illustrate the typical scope of a sampling district, Figure 3 below depicts the Derry Sampling District. Additional information on the Derry Sampling District is contained in the case study in Appendix A-2.

Figure 3 – Derry Sampling District

Permanent Solutions for Contaminated Water Supplies

Immediate response actions taken to address drinking water contamination have typically involved provisions of bottled water and eventually the installation of point-of-entry treatment (POE) systems. These solutions require constant attention and maintenance. The cumulative costs to maintain POEs are significant and there are contaminant exposure risks if the POEs are not properly maintained or when water use patterns change significantly. As a result, POE installation and provision of bottled water are not the preferred long-term solutions to water quality problems. To ensure that permanent solutions to contaminated water supplies are implemented whenever feasible, NHDES has established a program that assists with the extension of public water supply lines to contaminated properties or the improvement of public water infrastructure when it is cost-effective and necessary to address MtBE contamination problems.

In some cases, a public water system may be contaminated with MtBE. The solution to the contamination may be the installation of a treatment system, interconnection of the public water system to another system or the installation of an alternative water supply well. NHDES continues to evaluate all known MtBE-contaminated water supplies to determine whether it is appropriate to implement a permanent solution involving water distribution system expansion or development of other water supply infrastructure.

There are 16 drinking water supply infrastructure projects currently in the construction phase or completed. These projects include 15 water main extension/water service connection projects and one municipal supply well replacement project. The status of these projects is as follows:

- Fourteen water main extension/water service connection projects completed in Derry (3), Salem (2), Tilton, Epsom, Southern New Hampshire, Atkinson, Rochester Windham, Tilton, Plaistow and Lee.
- One water line extension/water service connection project in final construction phase in Epping.
- One water well relocation project in Dover.

Right: *Ledge probes for the Windham water line extension.*

Please see appendices A-3 through A-13 for additional detail regarding water supply infrastructure projects currently in the design phase, construction phase or completed in the following municipalities: Derry, Rochester (Little Falls), Windham, Southern New Hampshire Water Project, Dover, Lee, Epsom, Swanzey, Tilton, Rochester (Crown Point Road/Strafford Road Area) and Epping.

In Dover, the bureau assisted the city with the replacement of its Griffin Well. The Griffin Well is contaminated with MtBE that originated from the Madbury Metals recycling facility. The Bureau funded the construction of a test well, completion of a replacement well pump test to determine its vulnerability to the contaminant plume, construction and connection of a replacement well to the distribution system and follow-up studies on the impact of artificial

river water recharge on the contaminant plume dynamics. See Appendix A-6 for more details on the Dover project.

In North Conway, the water district sought to replace a water supply well that was damaged during a flood. Unfortunately, the proposed location was determined to exist near an MtBE contamination plume. The Bureau funded a pump test and groundwater sampling program which determined an appropriate location that was later permitted and constructed.

Prevention

Identification and Removal of Underground Storage Tanks (UST)

To address undetected UST gasoline releases and facilitate more effective site investigations and remedial actions at existing sites, the MtBE Remediation Bureau developed a UST removal program that targets removal of the worst of New Hampshire's underground storage tank systems (older tanks, tanks not in service, high-risk single-wall systems, facilities ceasing operations and other tank systems considered to represent a risk for MtBE release to groundwater). This program helps expedite the removal of tank systems that represent a potential source of ongoing or future releases and provides a means to assist facility owners who have limited financial capacity to complete the necessary tank removals and reduce the risk of potentially costly releases.

Implementation of the UST removal program creates opportunities to:

- Remove leaking tank to investigate and remediate past releases.
- Remove or otherwise remediate contaminated soil.
- Remove substandard UST systems before a release occurs.

Tank Removal by the Numbers

- 387 underground storage tanks removed.
- Average tank age – 30 years old.
- 22,190 tons of contaminated soil removed.
- 182 Small business, residential or government-owned facilities assisted.

By the end of the fiscal year, NHDES had removed 387 UST systems by using the State of New Hampshire's tank removal contract or via private contractors working under the reimbursement process, and approximately 22,190 tons of contaminated soil was removed during these projects.

The average age of the tanks removed by the program is 30 years and the majority of the tank or piping systems that were removed were the more leak prone single wall systems. The interest in UST removal projects is high and NHDES is actively scheduling additional UST system removals.

As part of the efforts to address underground storage tank issues via this program, NHDES has reached out to municipalities and other state agencies that have obsolete and potentially leaking tank systems. As of the end of FY25, tank removal and/or remedial assistance has been provided to the towns of Conway, Kingston, Lancaster, Mason, Meredith, Pembroke, Plainfield, Richmond and Shelburne and the cities of Berlin, Concord, Dover, Exeter and Nashua. NHDES has also removed or provided reimbursement for the removal of underground tanks on behalf of the Marine Patrol Division of New Hampshire Department of Safety, Franconia State Park, New Hampshire Department of Health and Human Services, New Hampshire Department of Corrections and New Hampshire Department of Transportation.

Images below feature, from left to right: a 50' vintage dispenser, post removal; a tank top uncovered during UST removal; a Tank that was buried under the water table after controlled float out of the excavation; USTs prior to removal from tank graves.

Motor Vehicle Recycling Facility Spill Prevention Assistance

Motor Vehicle Recycling Facilities (MVRFs) collect, transfer, store and use automobile fluids when they recycle cars. Poor fluid management practices during the recycling process can result in spills of MtBE-containing gasoline that can contaminate groundwater. NHDES has found that consistent implementation of Best Management Practices (BMPs) minimizes releases of MtBE-containing gasoline to aquifers by reducing spills and releases. Since MVRF program assistance inception, NHDES has purchased gasoline spill prevention equipment and had the equipment delivered to 89 MVRFs that process a substantial percentage of the end-of-life vehicles in New Hampshire. The spill prevention equipment minimizes the potential for gasoline spills, facilitates the recycling of gasoline and improves the safe handling of a highly flammable material.

In addition to the purchase of spill prevention equipment, the bureau developed a concrete spill containment pad installation program. About one-third (39 facilities) of the active MVRF in New Hampshire have participated in this program to date. The spill containment pads were installed in areas used for gasoline transfers, vehicle dismantling or gasoline storage. The concrete pads were located in the most active portions of the MVRFs and before installation of the pads, existing gasoline contamination issues, if any, were identified and addressed. As a result, the projects combined investigation, remediation and release prevention activities as appropriate.

Project case studies for the UST Removal and MVRF spill prevention equipment initiatives are provided in Appendix A-13 and A-14, respectively. Pictures of the spill prevention equipment (Gas Buggy™), an integrated gas tank drill, gasoline transfer and storage system, are provided below.

Images feature: Warren's picking up a gas buggy to save the State on delivery charges; members of the Automotive and Truck Recyclers Association (ATRA) and NHDES next to their equipment; gas buggy and drill system.

PROGRAM FINANCIAL STATUS

Table 2 summarizes the financial status of the program. Approximately $3.3 million has been expended in fiscal year 2025. Since program inception in 2014, nearly all expenditures have funded actual cleanup work, water supply sampling and notification, water supply infrastructure improvement, extension and replacement projects, MtBE Remediation Bureau labor costs associated with sampling and project management, and other direct services. The remainder of the expenditures pay for building rent, Office of Information Technology support services and other routine expenses necessary for program operation. There remains approximately $2.9 million in Settlement Funds as of June 30, 2025.

Table 2 - Program Expenses - FY 2025

	FY 2025 Expenses
Operating Expenses	
Salary	$784,769
Benefits	$437,148
Current Expense	$26,244
Building Rent	$4,880
Transfers to OIT	$104,714
Transfers to General Services	$57,664
Equipment	$6,488
Telecommunications	$9,865
Indirect Costs	$91,305
Other Expenses	$1,922
Contractual	$183,737
MtBE Fund Reimbursements	$1,566,445
Total Expenses:	**$3,275,181**
Total Spent Since Inception: $76.975 million	

Table 3 - Work in Progress – Large Projects Only

Project Name	Estimated Construction Cost	Approved Work Scopes for Construction	Paid	Status
Epping Tim & Joni's Towing/Auto Recycling	$9,828,000	$7,469,306.30	$7,139,633.59	Revised estimated construction cost approved by NHDOJ

Note: Table 3 summarizes large projects that are ongoing but have not been completed as of the end of the fiscal year. Additional smaller projects have been approved and are either lumped together in the table or are omitted. This table includes the estimated total cost of the listed projects, the existing approved budgets, and the amounts paid as of June 30, 2025.

APPENDICES

A-1: Case History – Richmond Four Corners Store

Overview

Richmond Four Corners Store operated as a country store and retail fuel station from the early 1900s until 2013. Over that time, at least five underground storage tanks had been located at the property. In 1992, high levels of gasoline contamination were detected in a neighbor's water supply well. An investigation was completed and point-of-entry treatment systems (POEs) were installed to treat five impacted area water supplies. Several site cleanup efforts were undertaken, including a 225-cubic yard soil excavation in 1995 and operation of a groundwater pump and treatment system from 2004 to 2008. Full remediation of the site failed during these previous attempts because access to a significant quantity of contaminated soil was blocked by the presence of an operating underground storage tank (UST) and piping system.

At A Glance

NHDES Site#: 199206008

Site Location: 3 Winchester Road, Richmond

Bureau Actions: Contaminated Soil Removal

MtBE Fund Cost: $395,000

Outcomes:

- Leaking tank system removed.
- 2,800 tons of petroleum contaminated soil removed and properly disposed of.
- Completion of a supplemental site investigation and reinstallation of monitoring wells destroyed during the remediation.
- Treatment systems maintained at contaminated water supplies.

In 2013, the Richmond Four Corners Store shut down. In 2014, the property mortgage holder initiated the foreclosure process by conducting an environmental due diligence investigation.

MtBE Remediation Bureau Investigation and Remediation Actions

The Town of Richmond, the property owner and the Southwest Regional Planning Commission worked together to apply for brownfields assistance to remove the existing UST system from the property in 2014. The Town was very engaged with this project due to back taxes, the central location of the property and the boarded-up/in-foreclosure nature of the store. The Bureau quickly became involved with these initial discussions and, collectively, the decision was made to proceed with a joint project that combined the removal of the tank system using brownfields funding, and excavation of soil contamination that surrounded the tank system using MtBE Settlement funding.

Richmond Four Corners Store contaminated soil excavation in July 2014.

Soil contamination extending under the existing building foundation could not be removed and was left in place. The Town of Richmond subsequently acquired the site for back taxes and held a community charrette with Southwest Regional Planning Commission to consider possible future uses of the property. In 2015, Richmond received brownfields funding for the demolition of the dilapidated building, which made it possible to remove the remaining contaminated soil. The remaining contamination (1,835 tons of contaminated soil) was removed in November 2015, using MtBE settlement funds.

Project Status

The property is now set for redevelopment. The Town of Richmond is marketing the property to developers for future uses compatible with its central location in town. Groundwater quality has continued to improve since the UST removal and impacted soil excavation and this reduction in contamination levels will prompt recovery of area property values and reduce long-term costs for maintenance of water treatment units.

A-2: Case History – Derry Sampling District

Overview

The Derry Sampling District was created to address concerns about the presence of an MtBE contamination plume in an area with a high density of private water supply wells. A geographical information system (GIS) analysis of the area found a large number of automobile-related businesses, several known contaminated water supply wells, an existing gas station and dry-cleaner release site.

NHDES discussed a proposed sampling approach with municipal officials and notified local elected officials prior to initiation of work. Letters were then sent to property owners in the sampling district. Based on initial sampling results, follow up canvassing of the Blunt Road and Route 28 area was conducted because of the large number of contaminated water supplies found in these areas.

At A Glance

NHDES Site#: 199512007

Site Location: Derry

Bureau Actions: Drinking Water Well Sampling

MtBE Fund Cost: Nearing completion, $2.34 million

Outcomes:

- 225 wells sampled.
- 64 Contaminated water supplies.
- 9 POEs installed.
- 9 homes provided with bottled water.

Sampling Results – MtBE

Fifty-seven percent of the property owners elected to participate in this voluntary sampling program and 225 samples were collected and analyzed (multiple rounds collected to evaluate trends). MtBE was detected in 64 samples of these water supplies. Ten water supplies exceed the State's drinking water standard, and two additional water supplies exceeded the State's notification standard of 5 ppb.

Sampling Results – Other

NHDES also provided the option for property owners to have sampling crews collect conventional and radiological samples for analysis. The analyses are paid for by the property owners due to restrictions on the use of MtBE settlement funds. However, sample analysis identified additional, significant water quality concerns in the area. Specifically, of the 17 properties requesting additional testing, 16 exceeded one or more of the State's water quality standards. The following contaminants were detected: arsenic (two properties over standards), chloride (one property over standards), copper (three properties over standards), E. coli or total coliform (six properties over standards), lead (nine properties over standards), manganese (six properties over standards), radon (five properties over standards) and uranium (one property over standards). The Bureau referred the property owners to other programs at NHDES for information on these compounds and provided advice on proper wellhead construction when the well caps were missing or improperly secured.

Water Treatment and Risk Reduction

NHDES offered bottled water to all the properties with wells contaminated with significant levels of MtBE. NHDES subsequently installed POE systems for all property owners whose wells contained MtBE concentrations over the state standard except for one property owner who declined the offer of assistance.

Project Status

Continued investigation and monitoring were referred to other Bureaus pursuing potential responsible party for other related site discharge contaminants.

A-3: Case History – Derry Water Main Extension Project

Water Line Extension

NHDES and Derry worked closely together to create a permanent solution for MtBE impacted properties. Derry recently invested in an extension of the water system and an upgrade of a pump station. This made it possible to extend the Derry drinking water system to the impacted area. The water line extension has multiple benefits. For the State, the water line extension eliminates the costs and maintenance challenges imposed by the large number of individual POEs (paid for by the State's Gasoline Remediation and Elimination of Ethers Fund).

The water line extension benefits Derry in multiple ways. In addition to addressing the MtBE-contaminated water supplies, the proposed water line extension will connect the isolated Woodlands Community water system to Derry's core water system. Derry owns the Woodlands Community water system; this system currently has both water quality (corrosivity) and capacity problems. Connection of the Woodlands system to Derry's core system will solve both problems.

At A Glance

NHDES Site#: 199512007

Site Location: Derry

Bureau Actions: Water Main Extension and Service Connections

MtBE Fund Cost: $3.0 million

Outcomes:

- 15,000 LF water main installed.
- 20 water service connections.
- Multiple POEs and water supply wells decommissioned.

While Derry will need to fund the additional costs required to interconnect, the MtBE-related funding of the overall project makes it possible to achieve Derry's objective of elimination of this inefficient, duplicative water system.

Project Status

The Derry town council approved the water line extension project April 5, 2016, and project groundbreaking took place on September 8, 2016. The project was completed in the spring of 2020.

A-4: Case History – Little Falls Cooperative Mobile Home Park

Overview

The 30-unit Little Falls Cooperative Mobile Home Park is located in Rochester and is immediately downgradient of a motor vehicle recycling facility and a gas station. Gasoline releases from the junkyard resulted in MtBE-contamination of the groundwater. The groundwater contamination plume impacted the water supply of Little Falls Cooperative. The Cooperative obtained its water from four wells and the mobile homes were each connected to one of the four wells. The water system was unregulated because no single well served more than 25 people. Two of the wells were contaminated with MtBE and there was concern that the other wells could become contaminated in the future, particularly if one or more of the existing wells was taken out of service. The former water system had additional problems that needed to be addressed, such as the location of three of the wells in an area subject to flooding and high concentrations of metals. The City of Rochester water line runs by the entrance of the mobile home park. NHDES approved a project to extend Rochester's water line and to connect each of the mobile homes to the municipal water system. In October 2015, contractors working for NHDES completed the water line extension, providing clean, safe drinking water to the homeowners.

At A Glance

NHDES Site#: 201009016

Site Location: Little Falls MHP Cooperative in Rochester

Bureau Actions: Water Line Extension

MtBE Fund Cost: Approximately $640,122

Outcomes:

- 1,400 LF water main installed.
- 30 homes connected to Rochester water system.
- Road repaved to address connection road cuts.
- Multiple POEs and water supply wells decommissioned.

Images feature: water installation workers in a trench box; successful pressure testing of installed piping.

Fourteen-hundred feet of water line, a central metering pit and individual metering pits for each house were installed. The total project cost was within the engineer's original project estimate.

Project Status

Following completion of the water line, the water supply wells were unnecessary and provided a potential conduit for migration of contamination. The Bureau funded the decommissioning of the water supply wells and well houses in 2016. In 2017, after successful conclusion of the one-year warranty period, the project was complete.

A-5: Case History – Windham Water Line Extension

Overview

Gasoline releases from the former Waterhouse Country Store contaminated a number of water supplies in Windham. The MtBE contamination extended to the north and additional off-site water supplies had become contaminated over time.

The Bureau funded a water line extension from Pennichuck Water Work Inc.'s (Pennichuck) water system to the impacted water supplies.

At A Glance

NHDES Site#: 199511021

Site Location: Windham

Bureau Actions: Water line extension to address MtBE contaminated water supplies.

MtBE Fund Cost: $1.4 million

Outcomes:

- 1.2 miles of water line installed.
- 6 contaminated water supplies connected to Pennichuck water system.
- Hudson pump station upgraded and reliability enhanced.
- Multiple POEs and water supply wells decommissioned.

Project Status and Schedule

During the execution of the project, deficiencies in the Hudson pump station were identified. This critical pump station conveys water from the Pennichuck water system to Windham. The pump station had insufficient capacity to ensure reliable service to the additional properties. In fact, the fire suppression system pumps were running routinely to keep up with existing water demand. Running the fire suppression system pumps was highly undesirable and inefficient because the pumps dramatically increased system water pressures, which then had to immediately be reduced. NHDES approved a project to expedite necessary upgrades to the pump station. It was a complex project, since the pump station needed to be bypassed using temporary pumps to ensure uninterrupted service during the work. The upgrades were completed on time and on budget, without any significant interruption of water service.

The water line extension was completed in 2016. All connections to the impacted properties have been made. The existing water supply wells have been decommissioned and the point-of-entry treatment systems were removed. A follow-up project, funded by a Drinking Water SRF loan, further extended the water line to a small, nearby subdivision with an arsenic-contaminated water supply.

Windham continues to have serious quantity and quality issues with their water supply. The bedrock aquifer is high in arsenic and radon and relatively low-yield. During the 2016 drought, at least 30 drinking water supply wells needed to be re-drilled to increase water yield. The water line extension brought Pennichuck water to the Route 111 and Mammoth Road intersection, providing better drinking water quality to that area of Windham and additional fire protection options for the future.

A-6: Case History – Southern New Hampshire Water Project

Overview

There are MtBE-contaminated drinking water supplies in Plaistow and Windham, and Salem has a major municipal water supply aquifer (Turner Campbell well aquifer) that is MtBE-contaminated. The drinking water contamination in Plaistow caused by the Plaistow Lido gas station site is the worst in the state in terms of the length of time it has been contaminated and the sheer number of water supply wells impacted. NHDES had provided funding to Plaistow and Salem to evaluate solutions to the MtBE contamination problems. The chosen solution was to extend potable water from Manchester south through Derry and Windham to Salem, then east through Atkinson to Plaistow. This Southern New Hampshire Water Project addresses contamination at the former Klemm's Mobil Store in Windham, the Turner Campbell well field in Salem and at multiple properties in Plaistow.

At A Glance

NHDES Site#: 198903017 & 201605008

Site Location: Atkinson, Derry, Hampstead, Plaistow, Salem and Windham

Bureau Actions: Interconnection of multiple water systems to address MtBE contamination issues in Plaistow, Salem and Windham

MtBE Fund Cost: $7.3 million

Outcomes:

- Construction of the Atkinson, Derry, Salem, Windham and Plaistow (P1) components of the Southern New Hampshire Water project are complete
- Construction of the P4 component in Plaistow was completed in 2024.

Major contributory funding is being provided by the Drinking Water and Groundwater Trust Fund (DWGTF) as the project also solves insufficient drinking water source issues in Atkinson, Hampstead, Salem and Windham. Because of the dual nature of the benefits of the water line extension, MtBE settlement funds could not pay for the entire project.

The Plaistow component consists of four elements – construction of new water main with conversion of an existing fire suppression system (Contract P1), construction of a pump station on East Road in Plaistow (Contract P2), construction of a water storage tank on Sweet Hill Road in Plaistow (Contract P3) and construction of water service connections to MtBE impacted properties in Plaistow (Contract P4). Settlement funds were used to support the design component for all four of these elements. The construction of each component is being funded as follows: P1 – split between settlement funds and DWGTF; P2 – DWGTF; P3 – DWGTF; and P4 – settlement funds.

Project Status and Schedule

Construction of the Atkinson, Derry, Salem and Windham components of the Southern New Hampshire Water project are complete. Construction of P1, P2, P3 and P4 water service connections are also complete.

A-7: Case History – City of Dover Municipal Water Well Replacement

Overview

The City of Dover's Griffin municipal water supply well was shut down in 2016 due to the presence of MtBE and other contaminants. The Griffin well is located in a key drinking water aquifer in Dover along with another water supply well, the Ireland well. These two wells supply a substantial portion of Dover's drinking water needs.

To address the contaminated water supply well, the bureau provided funding for Dover to complete a series of comprehensive investigations of the contaminant plume (originating from an auto shredder facility). The investigations were essential for proper location of the replacement well and to evaluate the potential threat to the Ireland well. Next, the bureau funded the installation of a new well and completion of a pumping test. The construction of water lines and ancillary structures and treatment system changes necessary to connect the new well to Dover's water system were funded following a successful pump test.

At A Glance

NHDES Site#: 198401044

Site Location: Dover

Bureau Actions: Investigation of MtBE contamination and replacement of municipal water supply well.

MtBE Fund Cost: Approximately $1.51 million.

Outcomes:

- Groundwater contamination extensively investigated.
- Pump test completed.
- Municipal water supply well replaced and connected to water distribution system.
- Artificial recharge pilot test completed.
- New municipal well pump, support building and treatment brought online.

Project Status and Schedule

By the end of 2016, the investigations and replacement well pump test were completed. In 2017, the connection of the new well to Dover's water system was completed.

A-8: Case History - Lee Water Line Extension

Overview

Gasoline releases from the Lee Circle Mobil gas station resulted in MtBE contamination of drinking water wells at properties east, west and south of the traffic circle. The gasoline release is believed to have been one of the largest in the state. Efforts to remediate the release included the second largest remedial petroleum related excavation ever in the state, as well as dual phase gasoline extraction. Bedrock groundwater is contaminated over 1,000 feet deep in some areas making it impossible to completely address the contamination without operation of an expensive, long-term pump and treat system. Productive discussions between the towns of Lee and Durham, the University of New Hampshire and NHDES resulted in a consensus on a permanent, comprehensive solution to provide MtBE impacted properties with potable water. Both MtBE settlement funds and Drinking Water Groundwater Trust Funds will contribute to this effort. MtBE funds will be used for the following three components: construction of a water main extension to the Lee Traffic Circle; improvements to the existing University of New Hampshire (UNH)/Durham water system; and construction of a booster pump station. Drinking Water Groundwater Trust Funds will be used to upgrade a water treatment plant located at UNH in Durham. (Note that MtBE funds will also finance a prorated portion of water treatment plant upgrade costs.)

The project will reduce the State's costs for operating existing drinking water treatment systems at contaminated properties around the traffic circle and would address concerns about additional contaminated water supplies from future traffic circle area development. The availability of municipal drinking water would also help address blighted properties around the traffic circle such as the former Come 'n Go Getty station.

At A Glance

NHDES Site#: 199203034
Site Location: Durham and Lee
Bureau Actions: Water line extension to address MtBE contaminated water supplies.
MtBE Fund Cost: $5.49 million
Outcomes: In progress

Project Status and Schedule

Upgrades to the water treatment plant at UNH Durham, construction of UNH water main improvements and construction of a water main extension (to the Lee traffic circle) are complete. Construction of the booster pump station in Durham was completed in June 2025.

A-9: Case History - Epsom Water Line Extension

Overview

In 2016 NHDES commissioned a feasibility study to address MtBE contamination at several water supply wells located in the Epsom traffic circle area. Results of the study recommended a water main extension along with other water system improvements. Subsequently, NHDES agreed to fund construction of a water main extension to the Epsom traffic circle; a water system study to assess operation of existing and proposed system components; and development of a water system asset management plan.

The project will reduce the State's costs for operating existing drinking water treatment systems at contaminated properties around the traffic circle and address concerns about additional contaminated water supplies from future traffic circle area development. The availability of municipal drinking water will also help address blighted properties around the traffic circle.

At A Glance

NHDES Site#: 199203034

Site Location: Epsom

Bureau Actions: Water line extension and water system improvements to address MtBE contaminated water supplies.

MtBE Fund Cost: $1.3 million

Outcomes:

- 4,000 feet of water line installed.
- 5 contaminated water supplies connected to Epsom Village District water system.
- Multiple POEs and water supply wells decommissioned.

Project Status and Schedule

This project was successfully bid in February 2019 and a contractor was selected. Construction commenced in the fall of 2019 and completed in spring 2020.

A-10: Case History – Pine Grove Mobile Home Park

Overview

The original bedrock supply wells located at the mobile home park were abandoned in 1988 due to MtBE impact from an off-site petroleum release. At that time, two shallow overburden wells were installed to provide potable water to the homes in the park. However, these new overburden wells occasionally provided insufficient water during drought periods and, in December of 2016, the park requested assistance from NHDES because one of the wells was dry.

In response, NHDES funded:

- A hydrogeologic study to identify favorable locations for new bedrock wells to supplement the existing overburden wells.
- Installation of three new bedrock supply wells - two of which were found to have favorable conditions for connection to the existing water system.
- Construction of a new pump house, storage tank and well controls.
- Connection of the new bedrock water supply wells to the park's existing water system.

At A Glance

NHDES Site#: 198500041 & 201712010

Site Location: Pine Grove Mobile Home Park in Swanzey

Bureau Actions: Well Installation and Water Line Extension

MtBE Fund Cost: Approximately $584,172

Outcomes:

- Hydrogeologic Investigation to identify new well locations.
- Installation of 3 bedrock wells, 2 of which contained adequate water production.
- Construction of a new pump house and well controls.
- Water line installation to connect new wells to existing system.

Images feature: drillers installing one of the supply wells; field technician conducting a pump test.

Project Status

After the installation of the new water supply wells and pump house construction that was completed in 2020, the Pine Grove Mobile Home Park was able to utilize additional resources and apply for a loan from the Drinking Water State Revolving Loan Fund and grant from the Drinking Water and Groundwater Trust Fund. That funding was used for other necessary repairs to the system to identify and replace old water main piping and service connections and completed in January 2021.

A-11: Case History – Tilton Water Line Extension

Overview

Gasoline releases from the former Fluffy's Convenience Store gas station resulted in MtBE contamination of drinking water wells on Beach Street and Laconia Road in Tilton. In 2016 NHDES commissioned a feasibility study to establish the extent of MtBE contamination and to develop preliminary design parameters to extend a municipal water supply line to affected properties. Results of the study recommended a water main extension of approximately 1,100 feet and NHDES subsequently agreed to contribute MtBE settlement funds to that effort. This project was successfully bid, and work commenced in 2018. The water main was installed and activated in 2018 but final cleanup was not completed until 2022 due to delays by the contractor. The private wells that were contaminated with MtBE were decommissioned with the exception of two wells which are now used as monitoring wells for the Fluffy's site.

The project has eliminated the State's costs of operating drinking water treatment systems at seven MtBE contaminated properties in the area and has addressed water supply concerns related to future development.

At A Glance

NHDES Site#: 198903004

Site Location: Tilton

Bureau Actions: Water line extension to address MtBE contaminated water supplies.

MtBE Fund Cost: $155,000

Outcomes:

- 1,100 feet of water line installed.
- 7 contaminated water supplies connected to the Lochmere Village Water District system.
- Multiple POEs removed.

Project Status and Schedule

This project was completed in May 2022.

A-12: Case History – Rochester Water Line Extension

Overview

In 2016 NHDES commissioned a water main extension feasibility study to address MtBE contamination at private water supply wells in the Crown Point Road/Strafford Road area of Rochester. Results of the study showed three possible routes for a water main extension. The MtBE Remediation Bureau subsequently offered to fund design and construction of the least costly route ($2.3 million) and allow these funds to be used for Rochester's preferred option. This amount was subsequently increased to $3.3 million as a result of an updated cost analysis conducted in 2020. The City of Rochester has secured other funding for this project from a combination of federal, state, municipal and private sources.

The water main extension will be constructed from Fillmore Boulevard to Bickford Road to Walnut Street to MtBE impacted properties on Crown Point Road/Strafford Road.

The project will reduce the State's costs for operating existing drinking water treatment systems at contaminated properties in the Crown Point Road/Strafford Road area of Rochester and will address concerns about additional contaminated water supplies from future development in the area.

At A Glance

NHDES Site#: 200409112

Site Location: Rochester

Bureau Actions: Water line extension to address MtBE contaminated water supplies.

MtBE Fund Cost: $3.3 million

Outcomes:

- 10,000 feet of water line installed.
- 10 contaminated water supplies connected to the Rochester water system.
- Multiple POEs and water supply wells decommissioned.

Project Status and Schedule

Construction of the water line was completed in 2024.

A-13: Case History – Epping Water Line Extension

Overview

In 2018 NHDES commissioned a water main extension feasibility study to address MtBE impacts at more than a dozen private water supply wells in the Jenness Road area of Epping. Results of the study identified three possible routes for the water main. NHDES subsequently offered to fund:

- Design and construction of the least costly option (approx. $3.1 million) while permitting Epping to apply these funds to its preferred option.
- Design of an associated water treatment plant.
- A prorated portion of water treatment plant construction. The existing plant required upgrades to provide water to the MtBE impacted properties. In addition to MtBE settlement funds, Epping will utilize other sources of funding (NHDES Trust Fund, NHDES Drinking Water State Revolving Fund, Community Development Block Grant, Rural Development) for water main and water treatment plant construction.

In 2019 and 2020 additional MtBE impacted properties were identified in areas adjacent to the initial water main extension route through extensive water sampling. As a result, the water main configuration was expanded to serve these areas.

In 2020 and 2021, water modeling conducted to evaluate water flow characteristics of the new water main configuration revealed substandard water volumes and water pressures not evident in preliminary design work.

To address these deficiencies, the project incorporated the upgrade of an existing water main and construction of a booster pump station, respectively.

The project will reduce the State's costs for operating existing drinking water treatment systems at contaminated properties in the Jenness Road area of Epping and will address concerns about additional contaminated water supplies from future development in the area.

At A Glance

NHDES Site#: 200412055 and 200502026

Site Location: Epping

Bureau Actions: Water line extension to address MtBE contaminated water supplies.

MtBE Fund Cost: $9.8 million

Outcomes:

- 4 miles of water line installed.
- 64 contaminated water supplies connected to Epping water system.
- Multiple POEs and water supply wells decommissioned.

Project Status and Schedule

Work related to the existing water main, new water main and water service connections is substantially complete while construction of the booster pump station is ongoing. Final completion of all four elements of this project is anticipated for December 2025.

A-14: Case History – Underground Storage Tank Removal Program

Overview

The Bureau began the Underground Storage Tank (UST) removal program on October 1, 2014, and has overseen the removal of 387 tanks as of the end of FY25.

Site Selection

UST removal projects are selected to address tanks that pose a threat to New Hampshire aquifers. The tanks that have been removed to date fall into the following categories:

- Tanks that had been out of use for a significant period of time.
- Tanks with problematic installations or obsolete components.
- Tanks that prevent access to contaminated soil.
- Tanks at retail facilities that are terminating gasoline sales operations.

Tanks that are not in use typically are not as well maintained as operating tanks. For example, the sumps are not routinely opened, and monthly inspections are no longer conducted. Since maintenance of these tanks decreases and the tanks become a liability for the property owners and the environment, removal of the tanks is a priority.

Older tank systems with obsolete components or substandard installations are also a priority for removal. For example, many of these types of tank systems have either single wall piping or tanks. Current rules require the use of substantially more release-resistant double wall systems. There may also be tank system installations that are particularly problematic. The New Hampshire Marine Patrol's tank system in Gilford was a prominent example of this type of situation. The tank was installed below the water table and the tank sumps typically were filled with water. In a situation like this, any spill or overflow of gasoline will immediately impact groundwater.

Release Prevention

One of the key objectives of the UST removal program is to prevent the future release of gasoline. The value of UST system removal as a means of preventing additional aquifer contamination was demonstrated by these initial projects. The Gulbicki's Towing project, for example, revealed the ongoing release of gasoline from the out-of-use tank system. According to the consultant, the USTs were filled by groundwater through holes in the vent lines. The contaminated water was then discharged in the vicinity of the former dispenser island through the fuel lines. With the removal of the USTs and elimination of the ongoing discharge in 2014, continued monitoring of groundwater quality has shown improvement with VOC concentrations decreasing in samples from site monitoring wells.

At the Richmond Four Corners Store, the piping system was leaking, and the property owner was unaware of this ongoing leak. If the tank system had been returned to active use, additional gasoline would have been released in an area with vulnerable private water supplies. Removal of the tank system and contaminated soil reduced long-term State ODD fund liabilities and accelerated aquifer restoration for the center of the Town of Richmond.

As previously noted, the Marine Patrol tank sumps were frequently full of water and posed no impediment to gasoline releases to the aquifer. Removal of the tank system before a significant release occurred was highly desirable. As can be seen from these situations, removal of unnecessary, unwanted and high-risk UST systems has a number of benefits to the State, as well as property owners.

Submerged Marine Patrol Tank exposed for removal. The hold down straps were broken, and the tank was floated so that water would not get in the tank during cleaning.

Remedial Progress

Significant remedial progress was made at 33 of the facilities with historical petroleum impact and new releases were identified at 37 facilities. At other facilities that did not have historical petroleum contamination or ongoing remediation, it was common to remove relatively small amounts of contaminated soil encountered during tank system removal.

Approximately 22,190 tons of contaminated soil have been removed from remedial sites addressed by the program. Several of the sites were located in areas with impacted drinking water wells and remedial efforts will have a significant positive impact on water quality in the affected aquifers.

Program Status

As NHDES becomes aware of additional non-compliant tanks and/or abandoned tanks, removals are scheduled based on risk of release.

A-15: Case History – MVRF Release Prevention Program

Overview

At A Glance

Site Location: Statewide

Bureau Actions: Established work group, created assistance application process, delivery of spill prevention equipment and initiation of impervious concrete pad program.

MtBE Fund Cost: Approximately $4.3M.

Outcomes:

- 200+ spill prevention devices delivered to date.
- 89 MVRF participating (approximately 80% of licensed facilities.
- 41 concrete spill containment pad projects completed.
- Approximately 1,000 tons of contaminated soil being removed for concrete pad projects.

Motor Vehicle Recycling Facilities (MVRF) provide an essential service to the state by recycling end-of-life vehicles, thereby making inexpensive used parts available to consumers. As part of this service, it is necessary to handle significant volumes of automotive fluids which, if handled improperly, can result in a risk to groundwater. NHDES developed an assistance program to help ensure that best practices in the management of automotive fluids are in place. To ensure that the MVRF assistance program is both cost effective and pragmatic, NHDES and the Automotive and Truck Recyclers Association of New Hampshire (ATRA) established a joint work group. After a series of well-attended and thoughtful meetings in 2015, a consensus decision was made to create a grant program that reimburses the cost to purchase spill prevention equipment. Working together with ATRA and the work group was essential and ensured that the spill prevention equipment (WEN Industries Gas Buggy fuel tank drill, gasoline transfer and mobile storage tank system, drain tables and equipment maintenance kits) and concrete spill containment pad projects meshed with MVRF operations while minimizing the risk of spills.

Spill Prevention Equipment

New Hampshire MVRFs have a long history of working with WEN Industries, an in-state manufacturer of vehicle recycling spill prevention equipment. Because of the strong relationship between in-state recyclers, ATRA and WEN Industries, it was possible for ATRA to negotiate a significant volume discount on WEN's spill prevention equipment. ATRA also encouraged its members located close to WEN's manufacturing facility to pick up the equipment to save on shipping costs. Additionally, ATRA managed the State's reimbursement request paperwork for the applicants. This greatly simplified the equipment procurement process. All the spill prevention equipment is now in use at participating MVRFs.

Although the spill prevention equipment assistance is focused on the minimization of MtBE-containing gasoline spills, a significant side benefit is improvements in gasoline transfer safety. In the past, there have been burns and fatalities when gasoline was transferred without considering the potential for sparks (i.e. hand drill use, etc.); these types of injuries will be

minimized with the new equipment. Feedback from Brian Lee, owner of White Mountain Auto Brokers, indicates that there is another unexpected benefit of the spill prevention program – namely faster fluid transfer. Mr. Lee reports achieving safer transfers and fewer spills, and all at a lower total labor cost.

Spill Containment Pads

An important spill management best management practice is the installation of impervious concrete pads in fluids management areas. Approximately one third (39 facilities) of the active MVRFs in New Hampshire applied for participation in this assistance program. The spill containment pads have been installed in areas used for gasoline transfers, car dismantling, car crushing or gasoline storage. The concrete pads were located in the most active portions of the MVRFs and before installation of the pads, existing gasoline contamination issues, if any are identified, are addressed. As a result, the projects combined investigation, remediation and release prevention activities, as appropriate.

As of the end of FY25, concrete pads have been successfully installed at 39 facilities. Prior to pad installation, geotechnical and contamination identification field work was completed. At the Epping Auto Salvage facility, contamination was identified and over 400 tons of contaminated soil was removed in 2016. Continued groundwater quality monitoring has shown a general decrease in MtBE concentrations. Cleanup was also completed at Murray's prior to pad installation.

Images feature: A concrete spill-prevention pad installed by the program. Note the positive limiting barrier (PLB) in the photo. The PBL consists of grooves in the concrete designed to trap spills until they can be cleaned up; a gas buggy and fuel tank drill system being picked up by Warren's Auto Body.

Program Status

NHDES continues to implement release prevention opportunities when identified.

A-16: Case History – MtBE Investigation in Milan

Overview

In 2011, the homeowner at 224 Milan Hill Road discovered that their water smelled like petroleum. A sample was collected and two petroleum-related compounds, benzene and MtBE, were detected above Ambient Groundwater Quality Standards. Using funding from the Petroleum Remediation Fund Program, NHDES assisted with the installation of a treatment system to provide the residence with potable water. However, the source of the petroleum impact to the well was not known and the project was referred to the MtBE Remediation Bureau.

At A Glance

NHDES Site#: 198909045

Site Location: 239 Milan Hill Rd, Milan

Bureau Actions: Source Investigation and Impacted Soil Removal

MtBE Fund Cost: $400,805

Outcomes:

- Identified the source of impact to residential water supply.
- 3,000 tons of petroleum contaminated soil excavated.
- Treatment system maintained at the contaminated water supply and investigation into other potential water sources conducted.

History

Based on Town records, the 224 Milan Hill Road property has been a residential home since its development in 1897; however, the property across the street at 239 Milan Hill Road was historically a bus maintenance garage. This property is currently occupied by Foreast Transportation, Inc. (Foreast), which is a school bus contracting company using the property for bus storage and maintenance. Following interviews with residents and a review of NHDES records, it was determined that an underground storage tank (UST) system was formerly located on the Foreast property. The owner of Foreast stated that before purchasing the property in 2000 they were assured in writing that there were no USTs on the property and were not aware of any sources of petroleum contamination. They also had liability concerns and were reluctant to proceed with environmental sampling.

MtBE Remediation Bureau Investigation and Remediation Actions

MtBE Remediation Bureau staff met with the owner of Foreast and explained that there was funding assistance to investigate potential sources of MtBE impact to New Hampshire's groundwater. In addition to funding an investigation, if the source of MtBE impact was identified on the property, there would also be assistance to remediate the contamination. After easing some of the financial concerns with the understanding that NHDES would be able to fund the investigation, the owner agreed to allow access to their property.

The initial phase of investigation consisted of a site area reconnaissance and records review followed by a geophysical survey and test pit excavation program to determine if the USTs were still in place or had been removed. NHDES records indicated that the tanks had been removed in 1991; however, the removal was conducted by the previous property owner and there was

no assessment provided as to whether the USTs had leaked. However, a clue was provided in the closure documents that stated one of the two USTs had been taken out of service the year prior due to "failure," a tacit indication that a leak may have occurred. The geophysical survey and test pit investigation confirmed that the USTs had been removed and soil samples confirmed the historical petroleum release with elevated field screening results and petroleum related compounds above Soil Remediation Standards in samples collected just above the bedrock surface. Bedrock was encountered at relatively shallow depths ranging from 1 to 12.5 feet below the ground surface (see photos below).

Following the discovery of petroleum-impacted soil, NHDES and the property owner agreed to proceed with a source area soil boring delineation program followed by excavation of the impacted soil. The MtBE Remediation Bureau engaged one of the Initial Response Contractors to conduct the excavation.

Soon after breaking ground, it became apparent that the volume of impacted soil was larger than originally estimated from the soil boring delineation program due to the undulating bedrock surface and areas of deeper bedrock missed by the soil borings. Ultimately, the excavation occupied an area of approximately 11,250 square feet and extended from the maintenance building across the property and beneath Milan Road.

The project lasted 33 days and resulted in the removal of approximately 3,000 tons of petroleum impacted soil.

These photos show the contaminated soil being excavated. Note: In the picture at the bottom, you can see that the excavation extended to the uneven bedrock surface

Current Status

Following completion of the source area cleanup effort, bedrock monitoring wells were installed on the Foreast property to assess the on-site groundwater quality and provide monitoring points for continued sampling. NHDES also authorized comprehensive private water well sampling in the vicinity of the impacted property to identify any other potentially impacted private water wells. The results of the area sampling did not find other impacted supply wells beyond the 224 Milan Hill Road property well. NHDES is aiding the off-site property owner with the impacted supply well by supplying a point-of-entry treatment system to remove the contaminants while we evaluate other potential drinking water sources, since it will take some time for the bedrock groundwater quality to improve after this initial remediation work. Following extensive geophysical evaluations of the impacted supply well at 224 Milan Hill Road and a neighboring property which did not have an impacted supply well, it was determined that an alternative clean and reliable bedrock water supply well would be difficult to source.

A-17: Case History – MtBE Investigation in Winchester

Overview

J & G Service has been in operation as a gasoline station, service garage and salvage yard since at least 1969. Over the past decade, poor management led to many violations at the facility. Ultimately, the underground storage tank (UST) facility failed to meet the 2015 upgrade requirements and was prohibited by NHDES to continue storing gasoline (i.e. red-tagged) in 2019. Violations and lack of management at the salvage yard caused complaints by residents to the Town of Winchester and the permit to operate the salvage yard was not renewed in 2020. In 2021, after heavy rains, the property flooded resulting in a release of petroleum products from drums and storage tanks on the property. NHDES conducted an emergency response, deployed absorbent pads/boom and removed several thousand gallons of petroleum products from the site in an attempt to mitigate the releases. NHDES issued an Administrative Order regarding the many violations and the case was forwarded to the Attorney General where the final adjudication ended with an enforcement judgement against the property owner. The property was essentially abandoned by late 2022 and ultimately, the Town of Winchester took ownership of the property via tax deed in 2022.

At A Glance

NHDES Site#: 199411023

Site Location: 7 Route 10, Winchester

Bureau Actions: UST Removal and Salvage Yard Investigation

MtBE Fund Cost: $100,000

Outcomes:

- Removal of abandoned gasoline UST which represent threat of release.
- Removal identified a release and established Petroleum Remediation funding for continued investigation and remediation
- Investigation into other potential impact from the salvage yard conducted in conjunction with the Brownfields investigation.

Investigation and Remediation Actions

With the Town of Winchester taking ownership of the property, work to resolve the many compliance violations and conduct investigations began in earnest in December 2022.

The initial phase of investigation consisted of a general site clean-up by the Town. This included removal and proper disposal of thousands of used tires, removal of numerous salvage vehicles, trucks and RVs, and consolidation and disposal of various solid wastes and recycling of appropriate materials. NHDES, using our contractor, closed the three USTs abandoned on the site in December 2022. During the closure, petroleum impacts were detected in the soil and groundwater which appeared to be from the original USTs on the property dating to 1969. As a result, a LUST site has been established by the Oil Remediation and Compliance Bureau and corrective actions are ensuing. The MtBE Remediation Bureau is using its contractor to conduct a Site Investigation of the salvage yard operation area to determine if MtBE releases are present.

It is expected that the Site Investigation will be conducted in late winter or early spring. NHDES' Brownfields Program is also assisting in the investigation and remedial efforts at the property.

These photos show the 2021 flood and general state of disrepair and abandonment prior to the town taking the property by tax deed.

Current Status

Extensive investigation work has been completed and the Town of Winchester agreed to coordinate cleanup effort using Brownfields Grant funding which will put the town in a better position to market the property for sale and redevelopment.