Department of Environmental Conservation

Division of Environmental Remediation

Environmental Restoration
Record of Decision
Ford Garage Site
Town of Gorham,
Ontario County, New York
Site Number B-00153-8

March 2005

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* DENISE M. SHEEHAN, *Acting Commissioner*

DECLARATION STATEMENT
ENVIRONMENTAL RESTORATION RECORD OF DECISION

Ford Garage Environmental Restoration Site
Town of Gorham, Ontario County, New York
Site No. B-00153-8

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for the Ford Garage site, an environmental restoration site. The selected remedial program was chosen in accordance with the New York State Environmental Conservation Law and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Ford Garage environmental restoration site, and the public's input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened releases of hazardous substances and/or petroleum products from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential significant threat to public health and/or the environment.

Description of Selected Remedy

Based on the results of the Site Investigation/Remedial Alternatives Report (SI/RAR) for the Ford Garage site and the criteria identified for evaluation of alternatives, the NYSDEC has selected limited excavation and in-situ bioremediation as the remedy for the site. The components of the remedy are as follows:

- Limited removal of contaminated soils in source areas to prevent further groundwater contamination;
- Decommissioning (excavation and removal) of an abandoned dug well at the site that evidently had been used for waste oil disposal;
- Excavation of floor drainage system piping to determine the possible presence of a buried oil/water separator or sump and removal, if necessary;

- In-situ bioremediation of soils and groundwater to reduce contaminant concentrations in the saturated zone;

- Covering the entire site with an asphalt pavement cover to limit exposure to contaminants in surface soil;

- Further evaluation of the potential for vapor intrusion into the adjoining Old Mill House Restaurant Building and mitigation via installation of a basement floor slab and sub-slab ventilation system, if necessary;

- Development of a site management plan to address residual contamination and any use restrictions;

- Imposition of institutional controls in the form of an environmental easement;

- Certification of the institutional and engineering controls; and

- An operation, maintenance, and monitoring program to track remedial progress and confirm its effectiveness.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy selected for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective.

MAR 3 1 2005

Date

Dale A. Desnoyers, Director
Division of Environmental Remediation

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RECORD OF DECISION

Ford Garage Site
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SECTION 1: <u>SUMMARY AND PURPOSE OF THE RECORD OF DECISION</u>

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the Ford Garage Environmental Restoration Project. The presence of hazardous substances has created threats to human health and/or the environment that are addressed by this remedy.

The 1996 Clean Water/ Clean Air Bond Act provides funding to municipalities for the investigation and cleanup of brownfields. Under the Environmental Restoration (Brownfields) Program, the state provides grants to municipalities to reimburse eligible costs for site investigation and remediation activities; up to 90 percent on-site and 100 percent off-site. Once remediated the property can then be reused.

As more fully described in Sections 3 and 5 of this document, the former use of the site as an automobile service station and gasoline filling station has resulted in the disposal of hazardous substances, including petroleum-related volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs). These hazardous substances have contaminated the soil and groundwater at the site, and have resulted in:

- a threat to human health associated with potential exposure to contaminated soil and groundwater, as well as potential inhalation of contaminated indoor air at an adjoining restaurant/residential building or at any future buildings at the site; and

- an environmental threat associated with the impacts of contaminants to soil and groundwater.

To eliminate or mitigate these threats, the NYSDEC has selected the following remedy to allow for restricted commercial use of the site:

- Limited removal of contaminated soils in source areas to prevent further groundwater contamination;

- Decommissioning (excavation and removal) of an abandoned dug well at the site that evidently had been used for waste oil disposal;

- Excavation of floor drainage system piping to determine the possible presence of a buried oil/water separator or sump and removal, if necessary;

- In-situ bioremediation of soils and groundwater to reduce contaminant concentrations in the saturated zone;

- Covering the entire site with an asphalt pavement cover to limit exposure to contaminants in surface soil;

- Further evaluation of the potential for vapor intrusion into the adjoining Old Mill House Restaurant Building and mitigation via installation of a basement floor slab and sub-slab ventilation system, if necessary;

- Development of a site management plan to address residual contamination and any use restrictions;

- Imposition of institutional controls in the form of an environmental easement;

- Certification of the institutional and engineering controls; and

- An operation, maintenance, and monitoring program to track remedial progress and confirm its effectiveness.

The selected remedy, discussed in detail in Section 8, is intended to attain the remediation goals identified for this site in Section 6. The remedy must conform with officially promulgated standards and criteria that are directly applicable, or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, criteria and guidance are hereafter called SCGs.

SECTION 2: SITE LOCATION AND DESCRIPTION

The Ford Garage site is located at 2624 Main Street (Route 245) in the Town of Gorham, Ontario County (see Figure 1). The site is approximately 0.385 acres in size and is currently vacant. It is located in the central hamlet area of the Town. The surrounding area consists of mixed commercial and residential properties. Flint Creek is located approximately 300 feet to the west of the site.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

The site was formerly improved with an approximate 3,600 square foot one-story building that was reportedly constructed in 1918. Due to its dilapidated condition, the building was demolished in 2001 as part of this project in order to safely evaluate subsurface conditions beneath the floor slab.

Historic use of this facility as an automobile service and filling station resulted in the disposal of hazardous substances. There are no records or reports of spills during the site's operation. However, past leakage from underground petroleum storage tanks and piping systems/filling areas is evident. Other potential sources of contamination identified at the site include a floor drainage system and subsurface vehicle lift unit in the former building. Waste oil dumping is also suspected to have occurred to the ground surface behind the building and to an abandoned dug well in the rear of the property. In addition, an adjacent gasoline station is present to the east of the site (hydraulically upgradient) and may have contributed to site contamination.

3.2: Remedial History

There have been no known environmental investigations or remedial actions to address hazardous substance disposal at the site prior to the site investigation discussed in this ROD.

SECTION 4: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past owners and operators, waste generators, and haulers.

Since no viable PRPs have been identified, there are currently no ongoing enforcement actions. However, legal action may be initiated at a future date by the state to recover state response costs should PRPs be identified. The Town of Gorham will assist the state in its efforts by providing all information to the state which identifies PRPs. The Town will also not enter into any agreement regarding response costs without the approval of the NYSDEC.

SECTION 5: SITE CONTAMINATION

The Town of Gorham has recently completed a site investigation/remedial alternatives report (SI/RAR) to determine the nature and extent of any contamination by hazardous substances at this environmental restoration site.

5.1: Summary of the Site Investigation

The purpose of the SI was to define the nature and extent of any contamination resulting from previous activities at the site. The SI was conducted between May 2002 and December 2004. The field activities and findings of the investigation are described in the SI report.

The following activities were conducted during the SI:

- Research of historical information;
- Completion of a land survey for the site;
- A magnetic locator survey to determine possible underground tank locations;
- Hydraulic testing of piping associated with the former building floor drain to determine the discharge location(s);

- Evaluation and collection of one sample of viscous light non-aqueous phase liquid (LNAPL) from an abandoned dug well at the site;

- Collection of 26 surface soil samples to identify and delineate potential contaminant exposure concerns;

- Excavation of 11 test pits for a visual and analytical evaluation of subsurface soils in suspect source areas;

- Installation of 48 soil borings and 10 monitoring wells for analysis of soils and groundwater as well as physical properties of soil and hydrogeologic conditions; and

- Evaluation of potential impacts of site-related contaminants to indoor air at the adjacent restaurant/residential building, including collection of one sample of water in the basement sump.

To determine whether the soil and groundwater, contain contamination at levels of concern, data from the investigation were compared to the following SCGs:

- Groundwater, drinking water, and surface water SCGs are based on NYSDEC "Ambient Water Quality Standards and Guidance Values" and Part 5 of the New York State Sanitary Code.

- Soil SCGs are based on the NYSDEC "Technical and Administrative Guidance Memorandum (TAGM) 4046; Determination of Soil Cleanup Objectives and Cleanup Levels".

- One Background surface soil sample was taken from a nearby location that is unaffected by historic or current site operations. This samples was analyzed for SVOCs and inorganics. The results of the analysis were used to assist in the evaluation of data from the SI (Table 1) to determine appropriate site remediation goals.

Based on the SI results, in comparison to the SCGs and potential public health and environmental exposure routes, certain media and areas of the site require remediation. These are summarized below. More complete information can be found in the SI report.

5.1.1: <u>Site Geology and Hydrogeology</u>

Soils identified at the site during this investigation consist of heterogeneous fill material from the ground surface to depths ranging from 1.5 feet to 15.5 feet below grade overlying a native glacial till. The fill material generally consists of reworked soil (i.e., silt, sand, gravel, clay) with lesser amounts of brick, glass, ash, slag, concrete, wood, metal, and occasionally empty metal containers and automobile parts. The glacial till primarily consists of sandy silt with lesser amounts of gravel and clay. Shale bedrock was encountered at depths ranging from 5 to 17 feet below grade.

Groundwater was generally encountered within 3 to 10 feet below the ground surface. Groundwater generally flows to the west, northwest toward Flint Creek. The average hydraulic gradient was calculated to be 0.03 ft./ft. Hydraulic conductivity was calculated to range from 0.48 to 3.61 feet/day. Using an estimated soil porosity range of 0.35 to 0.5, groundwater velocity at the site is estimated to range from 0.1 to 0.15 feet/day (i.e., 36.5 to 54.8 ft./year).

There is public water serving the area and groundwater is not being utilized for drinking water purposes.

5.1.2: Nature of Contamination

As described in the SI report, many soil and groundwater sediment samples were collected to characterize the nature and extent of contamination. As summarized in Table 1, the main categories of contaminants that exceed their SCGs are volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs). Inorganics (metals) were also detected at levels above SCGs.

The VOCs of concern are petroleum-related compounds, such as benzene, toluene, ethylbenzene, xylenes, and MTBE. These compounds vary in their toxicity with benzene and MTBE being more toxic. Benzene is also a known human carcinogen. These compounds volatilize readily into air and generally dissolve only slightly into groundwater.

The SVOCs of concern are also primarily petroleum-related and include polycyclic aromatic hydrocarbons (PAHs). Many of the PAH compounds detected at the site are carcinogenic. PAHs do not volatilize readily into air nor do they dissolve easily in water. PAHs tend to absorb onto soil particles.

The above organic compounds will biodegrade both aerobically and anaerobically, but generally biodegrade faster in an aqueous setting under aerobic conditions. Other factors such as advection, dispersion, sorption, and diffusion result in decreased concentrations with distance from source areas.

Many of the inorganics detected above SCGs at the site (e.g., arsenic, calcium, iron, magnesium, zinc) were at concentrations similar to or below those of the background sample and can be attributed to naturally occurring conditions. In some instances, elevated concentrations of specific inorganics detected on-site (e.g., arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc) may be indicative of impacts attributable to historic site operations. These inorganics generally have limited mobility, do not readily degrade, and are persistent in the environment.

5.1.3: Extent of Contamination

This section describes the findings of the investigation for all environmental media that were investigated.

Chemical concentrations are reported in parts per billion (ppb) for water and parts per million (ppm) for soil. For comparison purposes, where applicable, SCGs are provided for each medium.

Table 1 summarizes the degree of contamination for the contaminants of concern in waste materials (LNAPL), surface soil, subsurface soil, and groundwater and compares the data with the SCGs for the site. The following are the media which were investigated and a summary of the findings of the investigation.

Waste Materials

Viscous LNAPL was identified in an abandoned dug well at the northwest end of the site (see Figure 2). Sampling revealed that approximately one to two inches of this thick black oily material was present on top of groundwater inside the well. Analytical results indicate the LNAPL contains 2,900 ppm of diesel range organics (DRO) and 2.5 ppm of gasoline range organics (GRO). There are no applicable SCGs for these analytes. Target list compounds detected above groundwater SCGs in the LNAPL sample are listed in Table 1 and include acetone, 2-butanone, toluene, xylenes, iron, and lead.

The LNAPL appears to be limited in extent to the dug well as it was not identified in soil borings or test pits completed adjacent to the well. It appears likely that this well was used for disposal of waste oil in the past. No contaminants were identified above SCGs in samples located hydraulically downgradient of the dug well.

Surface Soil

A total of 26 surface soil samples were collected during this project. Sample locations are shown on Figure 3.

Six surface soil samples (SS-1 through SS-6) were initially collected from areas north of the building, including an area of visual staining (SS-3). These samples were analyzed for VOCs, SVOCs, PCBs, pesticides, and inorganics. Based on elevated detections of SVOCs and/or inorganics in several of these samples, additional samples were collected to better define the horizontal and vertical extent of these impacts. Surface soil samples were also collected in a drainage ditch that leads from the site toward Flint Creek. One background surface soil sample was collected from a nearby residential property located across Flint Creek from the site. The background sample was analyzed for SVOCs and inorganics to assist in the evaluation of surface soil data against SCGs.

The highest elevated detections were limited to the locations of Samples SS-1, SS-3, SS-3a (at a depth of 6-12 inches - directly beneath location SS-3) and SS-4. The compounds detected above SCGs are listed on Table 1. The magnitude of the exceedences was up to 540 times the SCG for SVOCs (benzo(a)pyrene at 33 ppm in sample SS-3 vs. SCG of 0.061 ppm and the background sample level of 0.65 ppm) and up to 26 times the SCG for metals (copper at 1,310 ppm in sample SS-1 vs. SCG of 50 ppm and the background sample level of 16.4 ppm).

In order to assist in the evaluation of potential exposure concerns associated with SVOCs in surface soil, the data was reduced to total carcinogenic PAH (cPAH) concentrations and benzo(a)pyrene (BAP) toxicity equivalents for each sample location. This information is provided on Figure 3. The only sample locations with total cPAHs in excess of 5 ppm and/or BAP toxicity equivalents in excess of 1 ppm are locations SS-3, SS-3a, and SS-4. For comparison purposes, the background sample location had a total cPAH concentration of 4.02 ppm and a BAP toxicity equivalent of 0.86 ppm.

The pesticide aldrin was detected in one surface soil location (SS-3) at a level slightly above the SCG (0.091 ppm vs. SCG of 0.041 ppm). No other pesticides were detected in surface soil samples at levels above SCGs. This single low-level pesticide detection is not considered significant. VOCs and PCBs were not detected in surface soil samples at levels above SCGs.

Subsurface Soil

A total of 41 subsurface soil samples were collected during this project and analyzed for some or all of the following analytes: VOCs, SVOCs, PCBs, pesticides, and/or inorganics. Sample depths ranged from 1.5 to 16 feet below grade. One sample was collected from the tank pit following removal of the underground storage tank (UST, see Section 5.2), 11 were collected from test pits (designated with a TP prefix on Figure 4), and 29 were collected from soil borings (designated with a TB prefix on Figure 4).

Areas with subsurface soil sample detections of VOCs and SVOCs that exceed SCGs are shown on Figures 5 and 6, respectively. The magnitude of the exceedences was up to 358 times the SCG for VOCs (total xylenes at 430 ppm in sample TB-20 vs. SCG of 1.2 ppm) and up to 655 times the SCG for SVOCs (benzo(a)pyrene at 40 ppm in sample TB-10 vs. SCG of 0.061 ppm). The maximum level of total VOCs (including tentatively identified compounds (TICs)) was 1,039 ppm in sample TP-3 vs. the SCG of 10 ppm. The maximum level of total SVOCs (including TICs) was 1,898 ppm in sample TP-10 vs. the SCG of 500 ppm.

Inorganics detected in subsurface soil samples that exceed SCGs are generally attributed to the area geology and are not considered site contaminants of concern (i.e., arsenic, calcium, magnesium, nickel, and zinc). One sample location (TP-10) contained more elevated inorganic detections that could potentially be attributable to site contamination, including copper (219 ppm vs. SCG of 50 ppm), lead (1,510 ppm vs SCG of 500 ppm), mercury (0.28 ppm vs. SCG of 0.2 ppm), and zinc (2,070 ppm vs. SCG of 50 ppm)..

PCBs and pesticides were not detected in subsurface soil samples at levels above SCGs.

Groundwater

A total of 10 groundwater monitoring wells were installed as part of this project (designated with a MW prefix on Figure 4). These include seven one-inch diameter wells installed in the overburden soils (MW-1 through MW-7) and three two-inch diameter wells installed at the bedrock/overburden interface (MW-8 through MW-10). The well screens were positioned to intercept the groundwater table. Screened intervals are generally in the range of 3 to 13 feet below grade, except for MW-10, which is screened from 10 to 20 feet below grade.

Two rounds of groundwater samples were collected from each of these wells and analyzed for some or all of the following analytes: VOCs, SVOCs, PCBs, pesticides, and/or inorganics. The first round of groundwater samples was collected in November 2002 for wells MW-1 through MW-5 and in

September 2003 for wells MW-6 through MW-10. The second round of groundwater samples was collected in September 2003 for wells MW-1 through MW-5 and in November 2003 for wells MW-6 through MW-10.

Groundwater samples from each of the wells, except MW-9, contained VOC detections above SCGs in at least one of the rounds. Groundwater samples from wells MW-2, MW-3, MW-5, MW-6, and MW-8 contained SVOC detections above SCGs in at least one of the rounds. The magnitude of the exceedences was up to 876 times the SCG for VOCs (total xylenes at 4,380 ppb in the November 2002 sample from MW-2 vs. SCG of 5 ppb) and up to 300 times the SCG for SVOCs (bis(2-ethylhexyl)phthalate at 1,500 ppb in the September 2003 sample from MW-5 vs. SCG of 5 ppb).

The maximum level of total VOCs (including TICs) was 7,535 ppb in the November 2002 sample from MW-3. The maximum level of total SVOCs (including TICs) was 2,465 ppb in the September 2003 sample from MW-5. There are no groundwater SCGs for total VOCs or SVOCs. Isometric contaminant contours for total VOCs (including TICs) and total SVOCs (including TICs) are depicted on Figures 7 and 8, respectively, based on the September 2003 sampling data.

Inorganics detected in groundwater samples that exceed SCGs are generally attributed to the area geology and are not considered site contaminants of concern (i.e., barium, iron, magnesium, manganese, and sodium). Thallium was detected in 3 well locations (MW-2, MW-3, and MW-5) at concentrations above SCGs. The magnitude of the exceedences for thallium was up to 20 times the SCG (10.4 ppb in the November 2002 sample from MW-3 vs. SCG of 0.5 ppb). The only known use of thallium that may be applicable to the site and adjoining properties could be past use as a pesticide to control rodents and insects (such use was banned in 1972); however, the exact source of thallium in site groundwater is unknown.

PCBs and pesticides were not detected in groundwater samples at levels above SCGs.

Vapor Intrusion

Based on the presence of VOCs in soils and groundwater immediately adjacent to the adjoining Old Mill House Restaurant to the west, vapor intrusion into the indoor air of this building is suspected. In April 2003, a pre-sampling site inspection was performed to evaluate the layout and physical condition of the building and to inventory chemical storage that could contribute to indoor air impacts.

The building has an unfinished basement with an earthen floor. A 275-gallon heating oil tank was identified in the basement and a heating oil odor and elevated PID readings were noted in its vicinity. It was determined that without a floor slab present, an evaluation of vapor intrusion from contaminated soils and groundwater to indoor air would be inconclusive due to the likely interference of VOC vapors from the heating oil tank. Therefore, no indoor air samples were collected at that time. As the heating oil tank is no longer in use, further assessment will be conducted to evaluate whether indoor air in this building may be impacted by VOC migration from contaminated soils and/or groundwater.

A sample of water present in the basement sump was collected for analysis of VOCs and SVOCs to help evaluate whether it may contribute to possible indoor air impacts. No compounds were identified in the sump water sample. However, data collected from sump water that is open to the atmosphere does not necessarily correlate to groundwater, which is believed to be contaminated beneath the building based on results from adjacent monitoring wells MW-5 and MW-6.

Adjoining Gasoline Station

A gasoline station is present on the property adjoining the site to the east. Soils and groundwater contaminated with petroleum compounds at levels above SCGs are known to have been present on this site, which is located hydraulically upgradient to the Ford Garage site. Petroleum contamination attributable to the adjoining gasoline station could have potentially migrated onto the Ford Garage site in the saturated zone and comingled with the contamination originating at the site.

Contaminated soils were recently excavated and removed from the adjacent gasoline station site by the owner. In-situ bioremediation is also reportedly planned on this adjacent site to address residual contamination. Based on recent groundwater sampling data on the adjacent site, it does not appear likely that it will continue to act as a significant source of on-going contamination to the Ford Garage site.

5.2: <u>Interim Remedial Measures</u>

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the SI/RAR. The Town of Gorham performed the following IRMs as part of this project.

In June 2001, the Town removed and properly disposed of a 275-gallon aboveground fuel oil storage tank, a fuel oil-fired furnace system, nine 55-gallon drums containing waste oil, and several miscellaneous containers of new and used automotive fluids.

In October 2001, the Town demolished the building at the site. Due to the building's poor structural integrity, demolition was necessary in order to safely investigate soil and groundwater conditions beneath its footprint.

In May 2002, an in-ground hydraulic lift unit was removed from the northern portion of the former building (see Figure 2). The test pit created during removal of the lift unit is identified as TP-1 on Figure 4. Based on analytical testing, hydraulic oil was determined to have been released to surrounding soils from past leakage of the lift unit.

In August 2002, a 550-gallon fuel oil underground storage tank (UST) and associated piping were removed and transported off site to a permitted disposal facility. The former tank location is shown on Figure 2. The tank integrity/condition was reported to be good with no evidence of holes or punctures. Following the removal, surrounding soils were evaluated for evidence of past leakage, including field PID screening techniques. Based on this evaluation, one soil sample was collected from the north tank pit wall at a depth of approximately 5 feet below grade (the area that exhibited the highest PID reading) and analyzed for VOCs and SVOCs. No VOCs were identified in this soil sample that exceeded SCGs. Two SVOCs were detected at or above their SCGs (naphthalene at 13 ppm vs. SCG of 13 ppm and 2-methylnaphthalene at 42 ppm vs. SCG of 36.4 ppm).

5.3: **Summary of Human Exposure Pathways:**

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the human exposure pathways can be found in Section 6.1 of the SI/RA report.

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

The source of contamination is the location where contaminants were released to the environment (any waste disposal area or point of discharge). Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

There are no confirmed complete pathways that are known to exist either on-site or off-site at this time. Public water serves the area; therefore, ingestion of contaminated groundwater is unlikely. The following receptor population potentially may be exposed to site contaminants:

- Existing and future occupants of the adjacent Old Mill House Restaurant building to the west;

- Persons in contact with contaminated surface soils identified on the northern portion of the site;

- Future site workers during excavation/construction activities; and

- Occupants of any future buildings at the site.

The primary potential pathways of exposure to site contaminants include the following:

- Inhalation of VOCs from contaminated soil and groundwater migration into indoor air;

- Direct contact or incidental ingestion of contaminated soils;

- Inhalation of contaminated dust generated during construction activities; and
- Direct contact or ingestion of contaminated groundwater.

Existing potential exposure pathways require remediation and/or controls. Since it is expected that this property will be developed for reuse, remediation and/or controls will also be required to mitigate the potential future exposure pathways.

5.4: Summary of Environmental Impacts

This section summarizes the existing and potential future environmental impacts presented by the site. Environmental impacts include existing and potential future exposure pathways to fish and wildlife receptors, as well as damage to natural resources such as aquifers and wetlands.

The Fish and Wildlife Impact Analysis, which is included in Section 6.2 of the SI report, presents a detailed discussion of the potential for impacts from the site to fish and wildlife receptors.

No significant fish or wildlife resources were identified at or immediately adjacent to the site due primarily to residential and commercial development in the area.

The nearest water body is Flint Creek, which is located approximately 300 feet west of the site and flows northerly. The only site-related contaminant identified in the monitoring well installed nearest to Flint Creek (MW-10, approximately 115 feet east of the creek) was MTBE at a maximum concentration of 69 ppb. The concentration of MTBE generally decreases with distance from the source area and is not expected to adversely impact fish and aquatic wildlife associated with Flint Creek at these low levels.

A stormwater drainage ditch is located immediately west of the northwest portion of the site and drains to Flint Creek. This ditch intermittently contains surface water during periods of high runoff from precipitation events. Surface soil samples collected in this ditch as part of this SI were analyzed for SVOCs and inorganics. Results were similar to, and in many instances lower than, those from the background soil sample described in Section 5.1.3. The type and concentrations of contaminants were also similar to those detected in other off-site surface soil sample locations at cross-gradient or upgradient positions from the site. Surface soils in this ditch, therefore, do not appear to have been adversely impacted by contaminants attributable to the site.

Site contamination has impacted the groundwater resource present in the overburden and upper bedrock at the site and adjacent areas to the west.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS AND THE PROPOSED USE OF THE SITE

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous substances disposed at the site through the proper application of scientific and engineering principles.

The proposed future use for the Ford Garage site is commercial, specifically as a paved parking lot for the downtown area of the Hamlet of Gorham.

The remediation goals for this site are to eliminate or reduce to the extent practicable:

- exposures of persons at or around the site to VOCs and SVOCs in soils and groundwater;
- the release of contaminants from soil into groundwater that may create exceedances of groundwater quality standards; and
- the release of contaminants from subsurface soil and groundwater into indoor air through soil vapor.

Further, the remediation goals for the site include attaining to the extent practicable, SCGs for soil and groundwater.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy must be protective of human health and the environment, be cost-effective, and comply with other statutory requirements. Potential remedial alternatives for the Ford Garage Site were identified, screened and evaluated in the RA report which is available at the document repositories established for this site.

A summary of the remedial alternatives that were considered for this site are discussed below. The present worth represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 10 years was used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 10 years if remediation goals are not achieved.

7.1: Description of Remedial Alternatives

The following potential remedies were considered to address the contaminated soils and groundwater at the site.

Alternative 1: No Further Action

The No Further Action alternative recognizes remediation of the site conducted under previously completed IRMs. To evaluate the effectiveness of the remediation completed under the IRMs, only continued monitoring is necessary. This alternative would leave the site in its present condition and would not provide any additional protection to human health or the environment.

Alternative 2: Natural Attenuation, Decommission Dug Well, Excavate Drainage Line, Institutional Controls (ICs), Engineering Controls (ECs), and Long-Term Monitoring (LTM)

Present Worth: $180,892
Capital Cost: $95,360
Annual OM&M:
(Years 1-2): $16,500
(Years 3-10): $8,100
Time to Implement: . . . . 6 - 12 Months

This alternative would include the following elements:

- The petroleum contaminated soils and groundwater at the site would be allowed to naturally attenuate. This remedy assumes that biodegredation is occurring naturally at the site and has the potential to reduce the contamination that is present over the long term. Long-term monitoring (LTM) would be implemented to ensure that natural attenuation processes are occurring at the site and adequately enabling the contamination to reduce over time.

- The dug well would be decommissioned (excavated and removed) and the viscous oil detected on well water would be removed.

- The possible presence of a buried oil/water separator or sump connected to the piping associated with the former floor drain would be evaluated by excavation. If necessary, the floor drain piping and any associated buried structures or grossly impacted media would be removed.

- Institutional controls (ICs) would be imposed in the form of an environmental easement that would require compliance with an approved site management plan (SMP) to address residual contamination and any use restrictions.

- Engineering Controls (ECs) would include the construction of an impervious cover (i.e., asphalt paved parking lot) over the site to reduce the risk of exposure to contaminants in surface soil. Further evaluation of the potential for vapor intrusion to the Old Mill House Restaurant and any other buildings to be developed on the site would be conducted during the implementation of the remedy.

The time to design and implement this remedy is expected to be 6 to 12 months. However, the remediation goals may not be met for many years.

Alternative 3: In-Situ Bioremediation, Natural Attenuation, Decommission Dug Well, Excavate Drainage Line, ICs, ECs, and LTM.

Present Worth: $286,472
Capital Cost: $200,940

Annual OM&M:
(Years 1-2): *$16,500*
(Years 3-10): *$8,100*
Time to Implement: . . . . *12 - 18 Months*

This remedy would include all of the elements described under Alternative 2 discussed above. In addition, in-situ bioremediation would be used to enhance remediation of contamination in saturated soils and groundwater over the majority of the plume area. A suitable combination of peroxide compound or oxygen enhancing agent and biological aid (such as CL Solutions' Petrox™ and Panther Technologies' Permeox Plus) would be injected at a grid consisting of approximately twenty (20) 1-inch ID PVC well locations set on 35-foot centers over the contaminated portion of the site (i.e., source areas and associated plume). It is estimated that four or five monthly applications would be needed. The results of the first monthly application would be used as a pilot study, and modifications to the remedial system would be made as deemed necessary.

The time to design this remedy is expected to be 6 to 12 months and it is expected to take up to 6 months to implement. The remediation goals for saturated soils and groundwater should be met within one to two years. Remediation goals for unsaturated soils in source areas may take several years to achieve.

Alternative 4: Limited Soil Removal, In-Situ Bioremediation, Natural Attenuation, Decommission Dug Well, Excavate Drainage Line, ICs, ECs, and LTM.

Present Worth: *$354,512*
Capital Cost: *$268,980*
Annual OM&M:
(Years 1-2): *$16,500*
(Years 3-10): *$8,100*
Time to Implement: . . . . *12 - 18 Months*

This remedy would include all of the elements described under Alternative 3 discussed above. In addition, limited excavation and off-site disposal of contaminated soils in the unsaturated zone (i.e., above the groundwater table) would be performed in source areas at the site. As an exception, unsaturated petroleum-contaminated soil along the southern-most portion of the site would be left in-place, due to the recently installed improvements (sidewalk) and buried utilities that are present in this area. However, if subsequent long-term monitoring were to indicate that this area of unsaturated petroleum-contaminated soil is continually re-contaminating groundwater, then corrective actions would be required to aggressively remediate unsaturated petroleum-contaminated soil in this area.

For estimating purposes, it is presumed that approximately 300 cubic yards (i.e., approximately 495 tons) of contaminated soil would be removed from the unsaturated zone and disposed off-site at a regulated facility (i.e., landfill) as a non-hazardous petroleum-contaminated soil waste. Source areas where petroleum contaminated soil is anticipated to be removed from the unsaturated zone include the areas of the former pump dispensers, former USTs, the in-ground hydraulic lift, and the dug well.

The time to design this remedy is expected to be 6 to 12 months and it is expected to take up to 6 months to implement. The remediation goals for saturated soils and groundwater should be met within one to two years. Remediation goals for some limited areas of unsaturated soils may take several years to achieve.

Alternative 5: Full Excavation, In-Situ Bioremediation, Decommission Dug Well, Excavate Drainage Line, ICs, ECs, and LTM.

Present Worth: *$889,472*
Capital Cost: *$803,940*
Annual OM&M:
(Years 1-2): *$16,500*
(Years 3-10): *$8,100*
Time to Implement: . . . . *18 - 24 Months*

This remedy would include all of the elements described under Alternative 3 above, except that natural attenuation would not be necessary. In addition, all contaminated soil in the saturated and unsaturated zones (including surface soil) exceeding SCGs would be removed. The removed soil would be transported and disposed off-site at a regulated facility (i.e., landfill). Water removed to dewater the excavation would be treated and discharged to the publically-owned treatment works in Canandaigua, New York, which would likely assist in achieving groundwater SCGs.

Contaminated soils would be removed to the top of bedrock, which generally is encountered between 8 feet and 12 feet below the existing ground surface. It is anticipated that shoring of portions of the excavation would be required. Confirmatory soil samples would be collected from the excavation. The excavation would then be backfilled with approved fill material (e.g., clean soil, crushed stone, etc.). In-situ bioremediation would be implemented as described under Alternative 3 to address any residual groundwater contamination.

ICs associated with this remedy would be reduced to limitations on groundwater use until SCGs are met. The potential for vapor intrusion into the adjoining Old Mill House Restaurant building and any future buildings to be developed on the site would also be evaluated..

The time to design this remedy is expected to be 6 to 12 months and it is expected to take up to 12 months to implement. The remediation goals are expected to be met upon completion of the remedy for the majority of contaminated soils and within an additional one to two years for groundwater.

7.2 Evaluation of Remedial Alternatives

The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375, which governs the remediation of environmental restoration projects in New York State. A detailed discussion of the evaluation criteria and comparative analysis is included in the RA report.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for selection.

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the NYSDEC has determined to be applicable on a case-specific basis.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

7. Cost-Effectivness. Capital costs and operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision. The costs for each alternative are presented in Table 2.

This final criterion is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

8. Community Acceptance - Concerns of the community regarding the SI/RA reports and the PRAP have been evaluated. The responsiveness summary (Appendix A) presents the public comments received and the manner in which the NYSDEC addressed the concerns raised. In general, the public comments received were supportive of the selected remedy.

SECTION 8: SUMMARY OF THE SELECTED REMEDY

Based on the Administrative Record (Appendix B) and the discusssion presented below, the NYSDEC is proposing Alternative 4: Limited Soil Removal, In-Situ Bioremediation, Natural Attenuation, Decommission Dug Well, Excavate Drainage Line, Institutional Controls (ICs), Engineering Controls (ECs), and Long-Term Monitoring (LTM) as the remedy for this site. The elements of this remedy are described at the end of this section.

The selected remedy is based on the results of the SI and the evaluation of alternatives presented in the RAR. Alternative 4 was selected because, as described below, it satisfies the threshold criteria and provides the best balance of the primary balancing criteria described in Section 7.2.

It will achieve the remediation goals for the site by removing the soils that present the greatest risk of exposure to public health and the environment, greatly reducing the source of contamination to groundwater, and creating the conditions needed to restore groundwater quality to the extent practicable. Alternatives 2, 3, and 5 also comply with the threshold selection criteria, but in the cases of Alternatives 2 and 3, to a lesser degree or with lower certainty.

Because Alternatives 2, 3, 4, and 5 all satisfy the threshold criteria, the five balancing criteria are particularly important in selecting a final remedy for the site.

Alternatives 2, 3, and 4 all have limited short-term impacts which can easily be controlled. Alternative 5 presents more substantial short term impacts to site workers and the community and are less easily controlled. The time needed to achieve the remediation goals is longest for Alternative 2 and shortest for Alternative 5.

Achieving long-term effectiveness is best accomplished by excavation and removal of the contaminated overburden soils (Alternatives 4 and 5). Alternative 4 will include the removal of the most severely impacted source area soils above the water table and will utilize in-situ bioremediation to address residual contaminated soils in the saturated zone. Alternative 5 would be a comprehensive excavation and removal of nearly all soils exceeding SCGs above and below the water table; however, in-situ bioremediation would still be performed to address residual groundwater contamination. The long-term effectiveness of Alternatives 2 and 3, which rely on MNA and in-situ bioremediation alone, is less certain and could take many years to achieve remediation goals.

Alternatives 2, 3, 4, and 5 all result in some degree of reduced toxicity, mobility, and/or volume of the contamination present. Alternatives 4 and 5 result in the immediate reduction of contaminant source volume at the site, with Alternative 5 being most significant. Under Alternative 5, since all contaminated soils would be removed, the toxicity would remain at a new location (i.e., landfill) and treatment or biodegredation at that location would be required to reduce the toxicity. The time frame for contaminant reduction at the site would be longest for Alternatives 2 and 3.

Alternatives 2, 3, and 4 are all readily implementable. Alternative 5 would present many challenges in regard to spatial requirements, buried utilities, and substantive technical permit requirements.

The costs of the alternatives increase steadily from Alternatives 2 through 4, as each provide additional benefit in regard to the expedient reduction of contaminant toxicity and volume from the site. Alternative 5 would be significantly more expensive and the increased costs are excessive in relation to the benefits gained. The removal of source area soils associated with Alternative 4 could result in a reduced monitoring period, which may ultimately make the cost of this remedy more comparable to that of Alternative 3.

The estimated present worth cost to implement the remedy is $354,512. The cost to construct the remedy is estimated to be $268,980 and the estimated average annual operation, maintenance, and monitoring costs for years 1-2 is $16,500 and years 3-10 is $8,100.

The elements of the selected remedy are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program.

2. Limited excavation and off-site disposal of contaminated soils in the unsaturated zone (i.e., above the groundwater table) will be performed in source areas at the site, including the areas of the former pump dispensers, former USTs, the in-ground hydraulic lift, and the dug well (see Figure 9). As an exception, unsaturated petroleum-contaminated soil along the southern-most portion of the site will be left in-place, due to the recently installed improvements (sidewalk) and buried utilities that are present in this area. Natural attenuation and other factors, such as advection, dispersion, sorption, and diffusion are likely to limit contamination that could potentially leach from remaining contaminated unsaturated soils into the saturated zone. However, if subsequent long-term monitoring is to indicate that this area of unsaturated petroleum-contaminated soil is continually re-contaminating groundwater, then corrective actions will be required to aggressively remediate unsaturated petroleum-contaminated soil in this area.

3. The dug well will be decommissioned (excavated and removed) and the viscous oil detected on well water will be removed and properly disposed of in accordance with applicable regulations.

4. The possible presence of a buried oil/water separator or sump connected to the piping associated with the former floor drain will be evaluated by excavation. If necessary, the floor drain piping and any associated buried structures or grossly impacted media will be removed and properly disposed of in accordance with applicable regulations.

5. In-situ bioremediation will be used to enhance remediation of contamination in saturated soils and groundwater over the majority of the plume area. A suitable combination of peroxide compound or oxygen enhancing agent and biological aid (such as CL Solutions' Petrox™ and Panther Technologies' Permeox Plus) will be injected at a grid consisting of approximately twenty (20) 1-inch ID PVC well locations set on 35-foot centers over the contaminated portion of the Site (i.e., source areas and associated plume - see Figure 9). It

is estimated that four or five monthly applications will be needed. The results of the first monthly application will be used as a pilot study, and modifications to the remedial system will be made as deemed necessary.

6. Since the remedy results in contamination above unrestricted levels remaining at the site, a site management plan (SMP) will be developed and implemented . The SMP will include the institutional controls and engineering controls to: (a) address residual contaminated soils that may be excavated from the site during future redevelopment. The plan will require soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations; (b) reduce the risk of exposure to contaminants in surface soil via construction of an asphalt paved parking lot; (c) evaluate the potential for vapor intrusion into the former Old Mill House Restaurant building and any future buildings developed on the site, including provision for mitigation of any impacts identified; (d) provide for the operation and maintenance of the components of the remedy; (e) monitor the groundwater quality via several existing and/or additional monitoring wells as deemed necessary by the NYSDEC; and (f) identify any use restrictions on site development or groundwater use.

7. The SMP will require the property owner to provide an Institutional Control/Engineering Control (IC/EC) certification, prepared and submitted by a professional engineer or environmental professional acceptable to the Department annually or for a period to be approved by the NYSDEC. This submittal will certify that the institutional controls and engineering controls put in place, are unchanged from the previous certification and nothing has occurred that will impair the ability of the control to protect public health or the environment or constitute a violation or failure to comply with any operation and maintenance or soil management plan.

8. Imposition of an institutional control in form of an environmental easement that will: (a) require compliance with the approved site management plan, (b) limit the use and development of the property to commercial or industrial uses only; (c) restrict use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH; and, (d) require the property owner to complete and submit to the NYSDEC the IC/EC certification

SECTION 9: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the Ford Garage environmental restoration process, a number of Citizen Participation activities were undertaken to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

- Repositories for documents pertaining to the site were established.

- A public contact list, which included nearby property owners, elected officials, local media and other interested parties, was established.

- A Citizen Participation Plan was prepared in March 2002.
- A Fact Sheet was mailed in May 2002 announcing the beginning of fieldwork at the site.
- A Fact Sheet was mailed in February 2005 announcing the public meeting and availability of the PRAP for public review.
- A public comment period was held from February 14 through March 30, 2005 to receive input on the PRAP from any interested parties.
- A public meeting was held on March 3, 2005 to present and receive comments on the PRAP.
- A responsiveness summary (Appendix A) was prepared to address the comments received during the public comment period for the PRAP.

TABLE 1
Nature and Extent of Contamination
May 2002 - January 2004

WASTE (LNAPL)	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[c] (ppb)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Acetone	1,200	50	1 of 1
	2-Butanone	370	50	1 of 1
	Toluene	310	5	1 of 1
	Total Xylenes	19	5	1 of 1
Inorganics	Iron	1,230	300	1 of 1
	Lead	714	25	1 of 1
SURFACE SOIL	**Contaminants of Concern**	**Concentration Range Detected (ppm)[b]**	**SCG[c] (ppm)[b]**	**Frequency of Exceeding SCG**
Semivolatile Organic Compounds (SVOCs)	Benzo(a)pyrene	ND - 33	0.061 or MDL	16 of 26
	Benzo(k)fluoranthene	ND - 28	0.220 or MDL	6 of 26
	Benzo(b)fluoranthene	ND - 35	0.220 or MDL	10 of 26
	Benzo(a)anthracene	ND - 37	0.224 or MDL	8 of 26
	Chrysene	ND - 42	0.4	6 of 26
	Dibenzofuran	ND - 17	6.2	1 of 26
	Dibenz(a,h)anthracene	ND - 0.37	0.014 or MDL	2 of 26
	Indeno(1,2,3-cd)pyrene	ND - 20	3.2	2 of 26
	Naphthalene	ND - 31	13	1 of 26
	Pyrene	ND - 71	50	1 of 26
	Phenanthrene	ND - 100	50	1 of 26
	Fluoranthene	ND - 83	50	1 of 26
	Total SVOCs & TICs	190 - 942.2	500	2 of 26
Pesticides	Aldrin	ND - 0.091	0.041	1 of 6

TABLE 1
Nature and Extent of Contamination (Continued)

SURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[b]	SCG[c] (ppm)[b]	Frequency of Exceeding SCG
Inorganics	Arsenic	1.4 – 30.7	3-12 (7.5)	1 of 24[d]
	Barium	41.2 – 475	15-600 (300)	0 of 24[d]
	Cadmium	ND – 23.5	0-0.1 (10)	2 of 24[d]
	Calcium	12,100 – 162,000	130-35,000	11 of 24[d]
	Chromium	3.1 – 51.2	1.5-40 (50)	1 of 24[d]
	Copper	7.7 – 1,310	1-50 (25)	6 of 24[d]
	Lead	5.8 – 2,210	200-500	6 of 24[d]
	Magnesium	3,860 – 67,900	100-5,000	21 of 24[d]
	Mercury	ND – 0.92	0.001-0.2 (0.1)	11 of 24[d]
	Nickel	5.2 – 46.8	0.5-25 (13)	2 of 24[d]
	Thallium	ND – 5.	NA	0 of 24[d]
	Zinc	28.7 – 1,010	9-50 (20)	23 of 24[d]
SUBSURFACE SOIL	**Contaminants of Concern**	**Concentration Range Detected (ppm)[b]**	**SCG[c] (ppm)[b]**	**Frequency of Exceeding SCG**
Volatile Organic Compounds (VOCs)	Ethylbenzene	ND -27	5.5	6 of 41
	Toluene	ND - 38	1.5	1 of 41
	Total Xylenes	ND - 430	1.2	14 of 41
	1,2,4-Trimethylbenzene*	ND - 140	10	4 of 41
	1,3,5-Trimethylbenzene*	ND - 21	3.3	1 of 41
	Total VOCs & TICs	ND - 1,039	10	16 of 41

TABLE 1
Nature and Extent of Contamination (Continued)

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[b]	SCG[c] (ppm)[b]	Frequency of Exceeding SCG
Semivolatile Organic Compounds (SVOCs)	Benzo(a)pyrene	ND - 40	0.061 or MDL	4 of 38
	Benzo(k)fluoranthene	ND - 14	0.220 or MDL	2 of 38
	Benzo(b)fluoranthene	ND - 72	0.220 or MDL	2 of 38
	Benzo(a)anthracene	ND - 48	0.224 or MDL	3 of 38
	Chrysene	ND - 44	0.4	3 of 38
	Dibenz(a,h)anthracene	ND - 0.66	0.014 or MDL	1 of 38
	Indeno(1,2,3-cd)pyrene	ND - 9	3.2	2 of 38
	Naphthalene	ND - 54	13	4 of 38
	2-Methylnaphthalene	ND - 79	36.4	4 of 38
	Pyrene	ND - 68	50	1 of 38
	Fluoranthene	ND - 72	50	1 of 38
	Total SVOC & TICs	270 - 1,898	500	1 of 38
Inorganics	Arsenic	2.7 - 14.5	3-12 (7.5)	2 of 16[d]
	Barium	23.9 - 230	15-600 (300)	0 of 16[d]
	Calcium	ND - 47,600	130-35,000	3 of 16[d]
	Copper	8.7 - 219	1-50 (25)	1 of 16[d]
	Lead	3.5 - 1,510	200-500	1 of 34[d]
	Magnesium	1,700 - 28,000	100-5,000	8 of 16[d]
	Mercury	ND - 0.28	0.001-0.2 (0.1)	1 of 16[d]
	Nickel	10 - 57.5	0.5-25 (13)	8 of 16[d]
	Thallium	ND - 4.1	NA	0 of 16[d]
	Zinc	ND - 2,070	9-50 (20)	9 of 16[d]

TABLE 1
Nature and Extent of Contamination (Continued)

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b]\c (ppb)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Benzene	ND - 520	1	9 of 20
	Ethylbenzene	ND - 1,300	5	9 of 20
	Isopropylbenzene	ND - 89	5	7 of 20
	Methyl tert-butyl ether	ND - 440	10	13 of 20
	Toluene	ND - 90	5	6 of 20
	Total Xylenes	ND - 4,380	5	8 of 20
	1,2,3-Trimethylbenzene*	ND - 350	5	3 of 20
	1,2,4-Trimethylbenzene*	ND - 1,100	5	2 of 20
	1,3,5-Trimethylbenzene*	ND - 220	5	2 of 20
Semivolatile Organic Compounds (SVOCs)	Naphthalene	ND - 150	10	7 of 15
	Bis(2-ethylhexyyl)phthalate	ND - 1,500	5	3 of 15
Inorganics	Barium	332 - 1,100	1,000	1 of 4
	Iron	868 - 37,300	300	4 of 4
	Magnesium	33,500 - 86,400	35,000	3 of 4
	Manganese	254 - 3,960	300	3 of 4
	Sodium	25,100 - 63,900	20,000	4 of 4
	Thallium	ND - 10.4	0.5	3 of 4

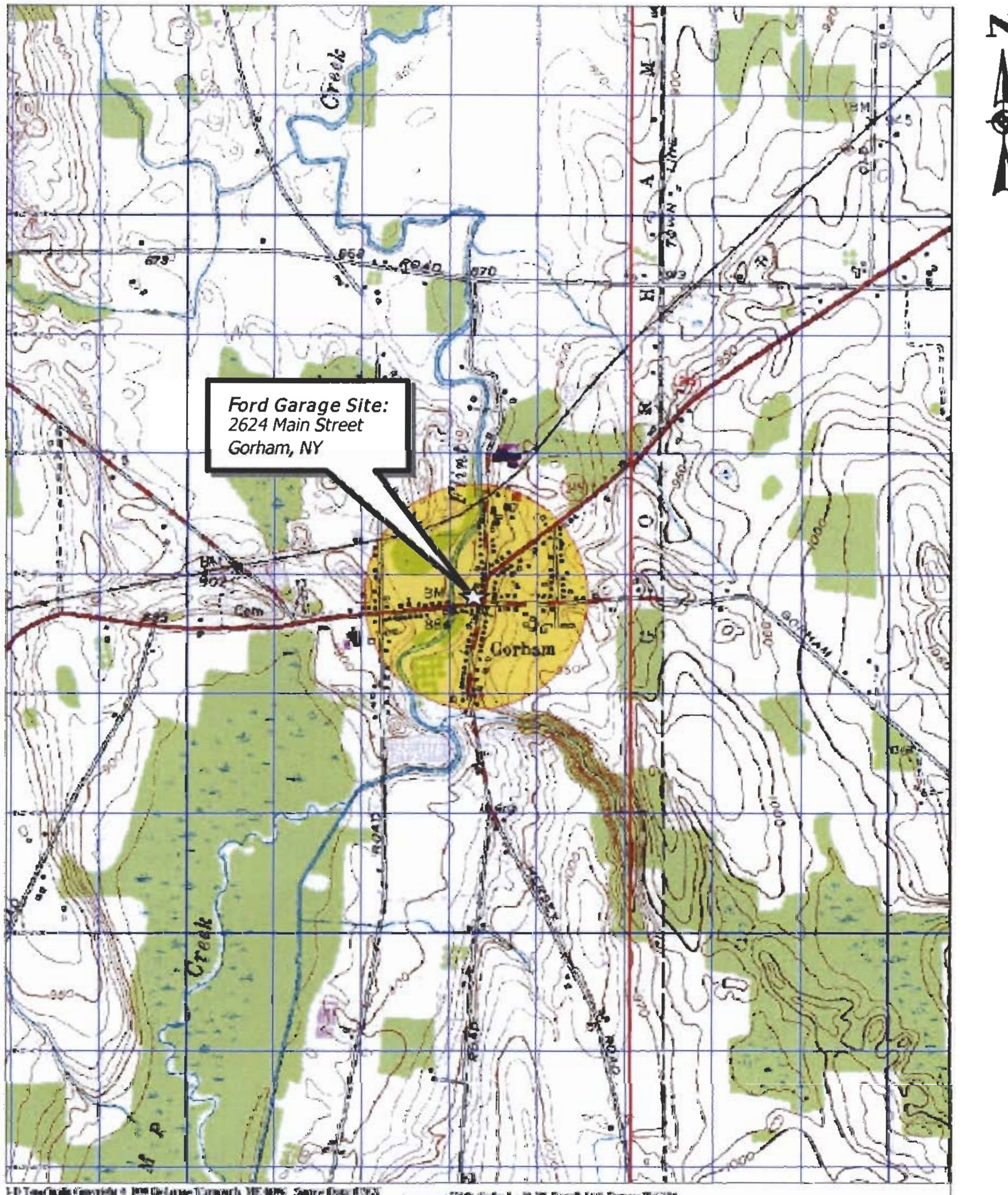
[a] ppb = parts per billion, which is equivalent to micrograms per liter, ug/L, in water;
[b] ppm = parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
[c] SCG = standards, criteria, and guidance values; TAGM 4046 for soil; TOGs 1.1.1 for groundwater and NAPL
[d] Evaluated against the higher of the typical background range (shown first in the SCG column) or the recommended soil cleanup objective (shown in parentheses in the SCG column), both of which are referenced in TAGM 4046 or in 1995 "proposed" TAGM 4046

ND - Not detected above reported analytical laboratory detection limit
MDL = method detection limit
* Compound was listed as a tentatively identified compound (TIC)

Table 2
Remedial Alternative Costs

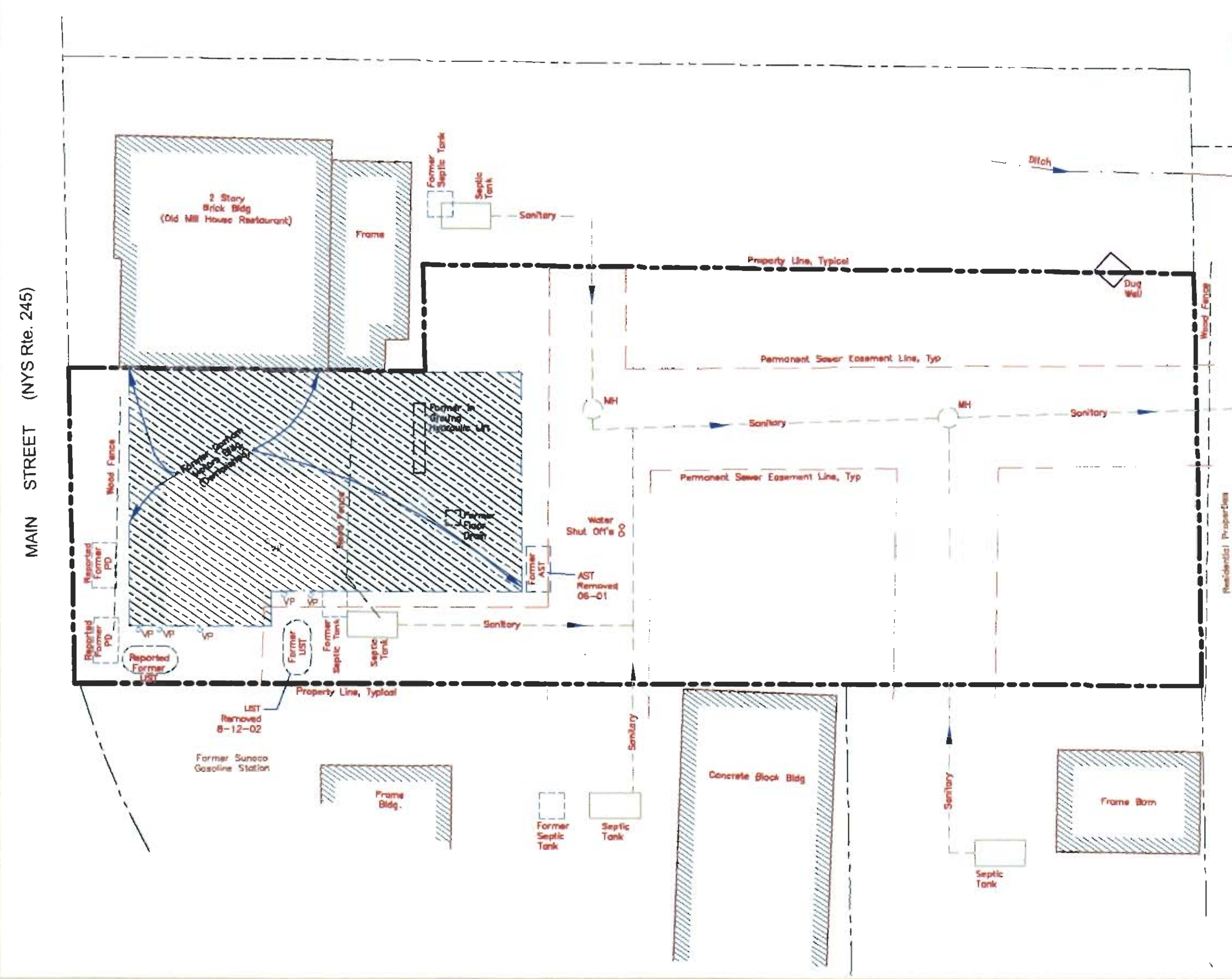
Remedial Alternative	Capital Cost	Annual OM&M	Total Present Worth
1. No Further Action	$0	$0	$0
2. Monitored Natural Attenuation, ...	$95,360	$16,500/$8,100*	$180,892
3. In-Situ Bioremediation (ISB), ...	$200,940	$16,500/$8,100*	$286,472
4. Limited Excavation, ISB, ...	$268,980	$16,500/$8,100*	$354,512
5. Full Excavation, ISB, ...	$803,940	$16,500/$8,100*	$889,472

* Annual OM&M costs are estimated to be $16,500 for the first 2 years and $8,100 for years 3 through 10.



Drawing Produced From: 3-D TopoQuads, DeLorme Map Co., referencing USGS quad maps Stanley (NY) 1990; and Rushville (NY) 1990. Site Lat/Long: N42°47.95' – W79°7.73'

March 2005 Prepared by Day Environmental, Inc. SCALE **1" = 2000'**	**New York State Department of Environmental Conservation** **Division of Environmental Remediation**	PROJECT TITLE **Ford Garage, Site No. B-00153-8** **Environmental Restoration Project** **Town of Gorham, Ontario County** Record of Decision DRAWING TITLE **SITE LOCATION MAP**	**FIGURE 1**



LEGEND:

AST	Above Ground Storage Tank
UST	Underground Storage Tank
PD	Pump Dispenser
VP	Apparent Location Of Vent Pipe Or Fillport
MH	Manhole

NOTES:

1. Site plan produced from a map by Freeland-Parrinello Land Surveyors entitled "Plan Of Land Of Town Of Gorham, Being Part Of Town Lot 5 In The Hamlet Of Gorham, Town Of Gorham, Ontario County, NY" dated June 12, 2002 and from a portion of an undated map depicting the installation of the existing public graywater sanitary sewer system.

March 2005

Drawing Prepared by Day Environmental, Inc.

SCALE 1" = 20'

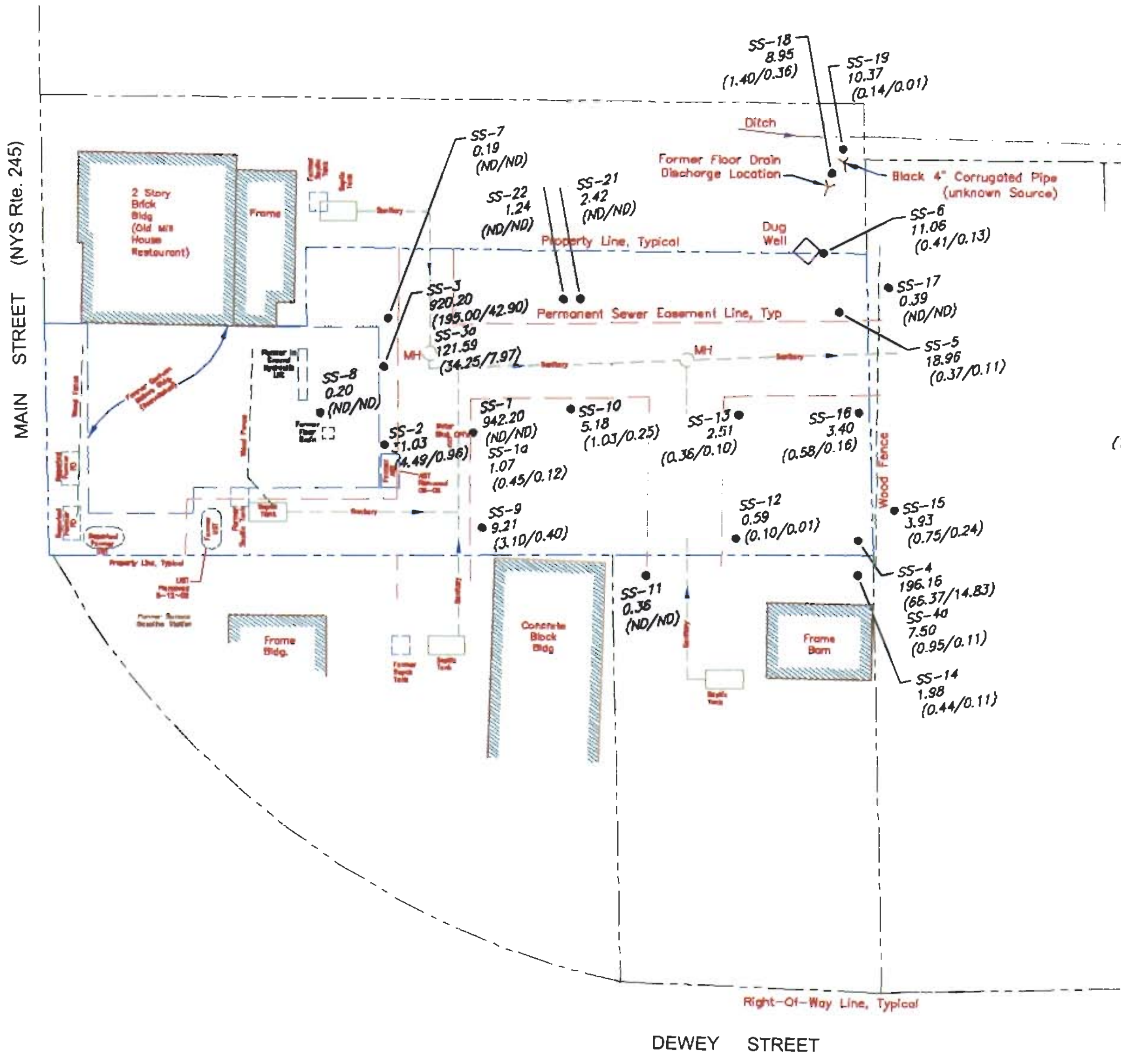
New York State Department of Environmental Conservation

Division of Environmental Remediation

PROJECT TITLE Ford Garage, Site No. B-00153-8
Environmental Restoration Project
Town of Gorham, Ontario County, New York
Record of Decision

DRAWING TITLE Site Plan

FIGURE 2



LEGEND:

SS-3 ● 920.20 (195.00/42.90)	Approximate Surface Soil Sample Location with Total SVOCs (including TICs) in ppm (Total cPAH/Total BAP Toxicity Equivalent in ppm)
AST	Above Ground Storage Tank
UST	Underground Storage Tank, Former Or Suspected Tank
PD	Pump Dispenser, Former Or Suspected Location
MH	Manhole
VP	Vent Pipe
ND	Not Detected
cPAH	Carcinogenic Polyaromatic Hydrocarbon
BAP	Benzo(a)pyrene

NOTES:

1. Site plan produced from a map by Freeland–Parrinello Land Surveyors entitled "Plan Of Land Of Town Of Gorham, Being Part Of Town Lot 5 In The Hamlet Of Gorham, Town Of Gorham, Ontario County, NY" dated June 12, 2002, a partial tax map provided by the town of Gorham and from a portion of an undated map depicting the installation of the existing public graywater sanitary sewer system.

2. Surface Soil Sample locations were determined by tape–measure from surveyed property corners, and should be considered accurate to the degree implied by the method used.

3. An offsite background sample (#71/BG) was collected at a 0–6" depth interval at 2670 Route 245, Gorham NY. The sample had a total SVOC concentration of 13.05 ppm, a total cPAH concentration of 4.02 ppm, and a total BAP toxicity equivalent of 0.86 ppm.

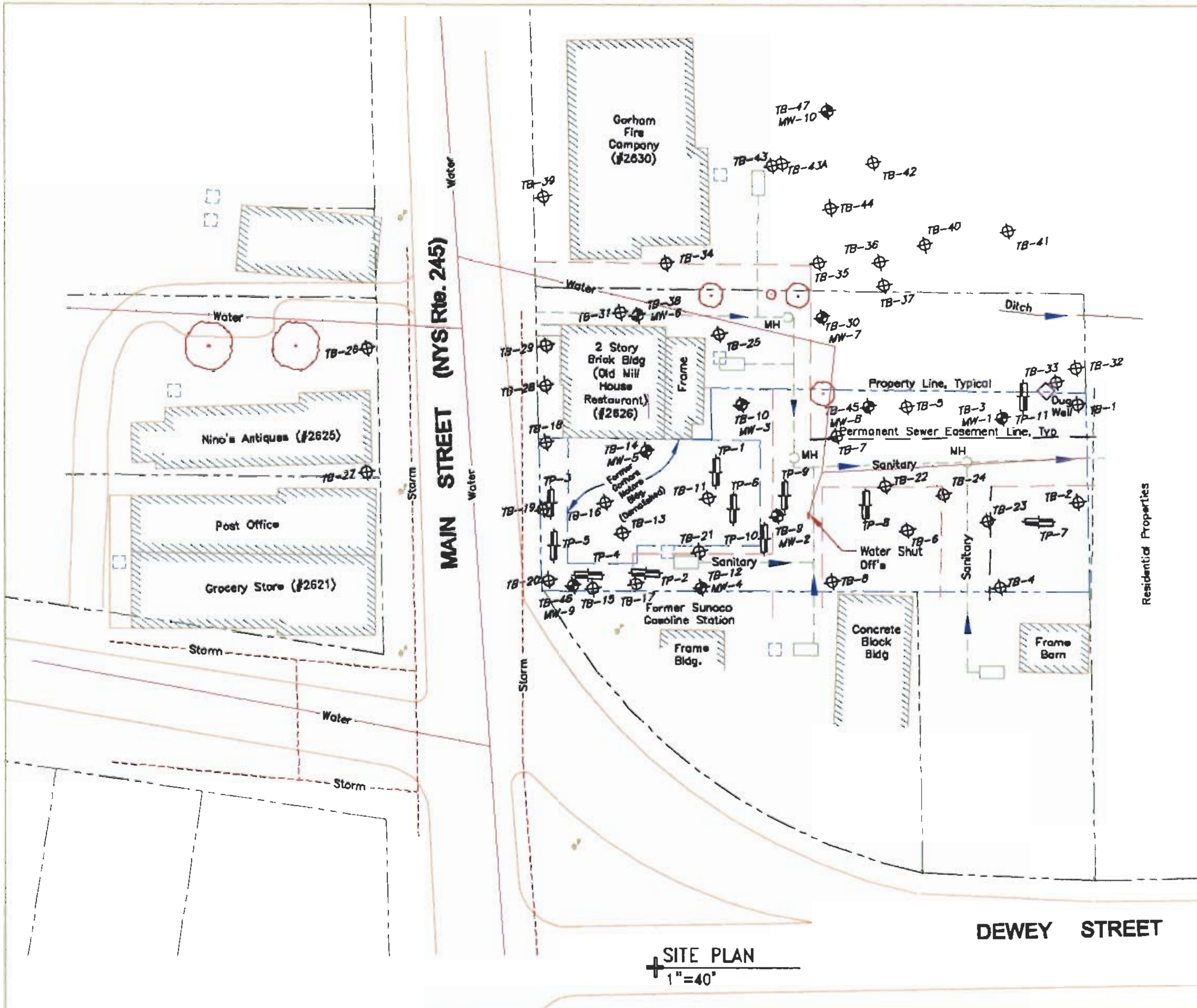
March 2005
Drawing Prepared by Day Environmental, Inc.
1" = 30'

New York State Department of Environmental Conservation
Division of Environmental Remediation

Ford Garage, Site No. B-00153-8
Environmental Restoration Project
Town of Gorham, Ontario County, New York
Record of Decision

Surface Soil Sample Locations with SVOC data

FIGURE 3



LEGEND:

- TP-7 — Approximate Test Pit Location
- TB-8 — Approximate Location Of Test Boring With Label
- TB-10 MW-3 — Approximate Location Of Monitoring Well With Label
- MH — Manhole
- Septic Tank
- Former Septic Tank

NOTES:

1. Site plan produced from a map by Freeland–Parrinello Land Surveyors entitled "Plan Of Land Of Town Of Gorham, Being Part Of Town Lot 5 In The Hamlet Of Gorham, Town Of Gorham, Ontario County, NY" dated June 12, 2002 and from a portion of an undated map depicting the installation of the existing public graywater sanitary sewer system.
2. Test boring and test pit locations were determined by tape–measure from surveyed property corners, monitoring wells located by instrument survey. Locations should be considered accurate to the degree implied by the method used.

March 2005

Drawing Prepared by Day Environmental, Inc.

1" = 40'

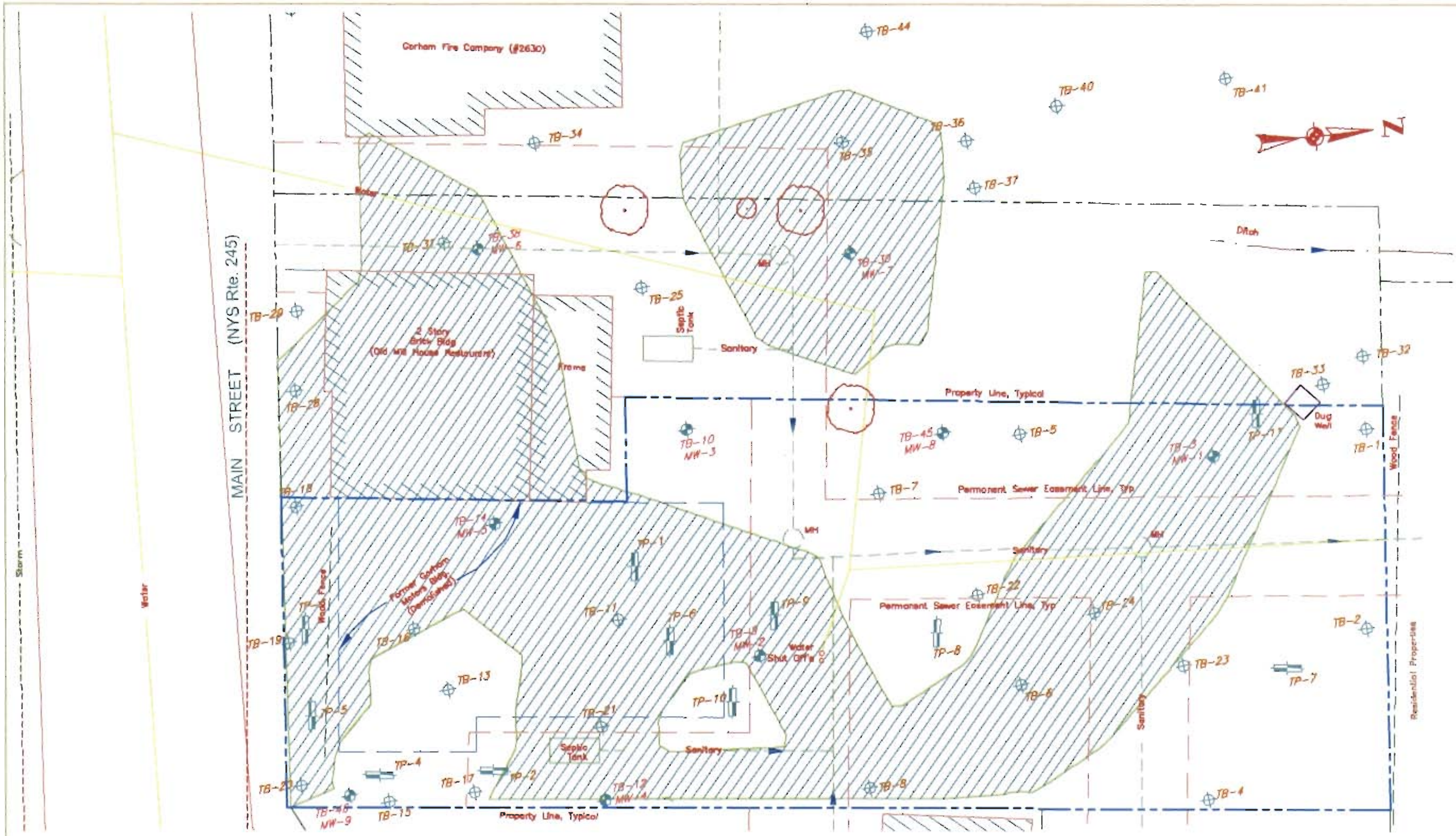
New York State Department of Environmental Conservation

Division of Environmental Remediation

Ford Garage, Site No. B-00153-8
Environmental Restoration Project
Town of Gorham, Ontario County, New York
Record of Decision

Cumulative Subsurface Test Location Plan

FIGURE 4



SITE PLAN
1"=20'

LEGEND:

- TB-10 MW-3 — Approximate Location Of Monitoring Well With Label
- TB-31 — Approximate Location Of Test Boring
- TP-2 — Approximate Location Of Test Pit
- Approximate Limits of Subsurface Soil That Exceeds SCGs for VOC's

NOTES:

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Ford Garage, Site No. B-00153-8
Environmental Restoration Project
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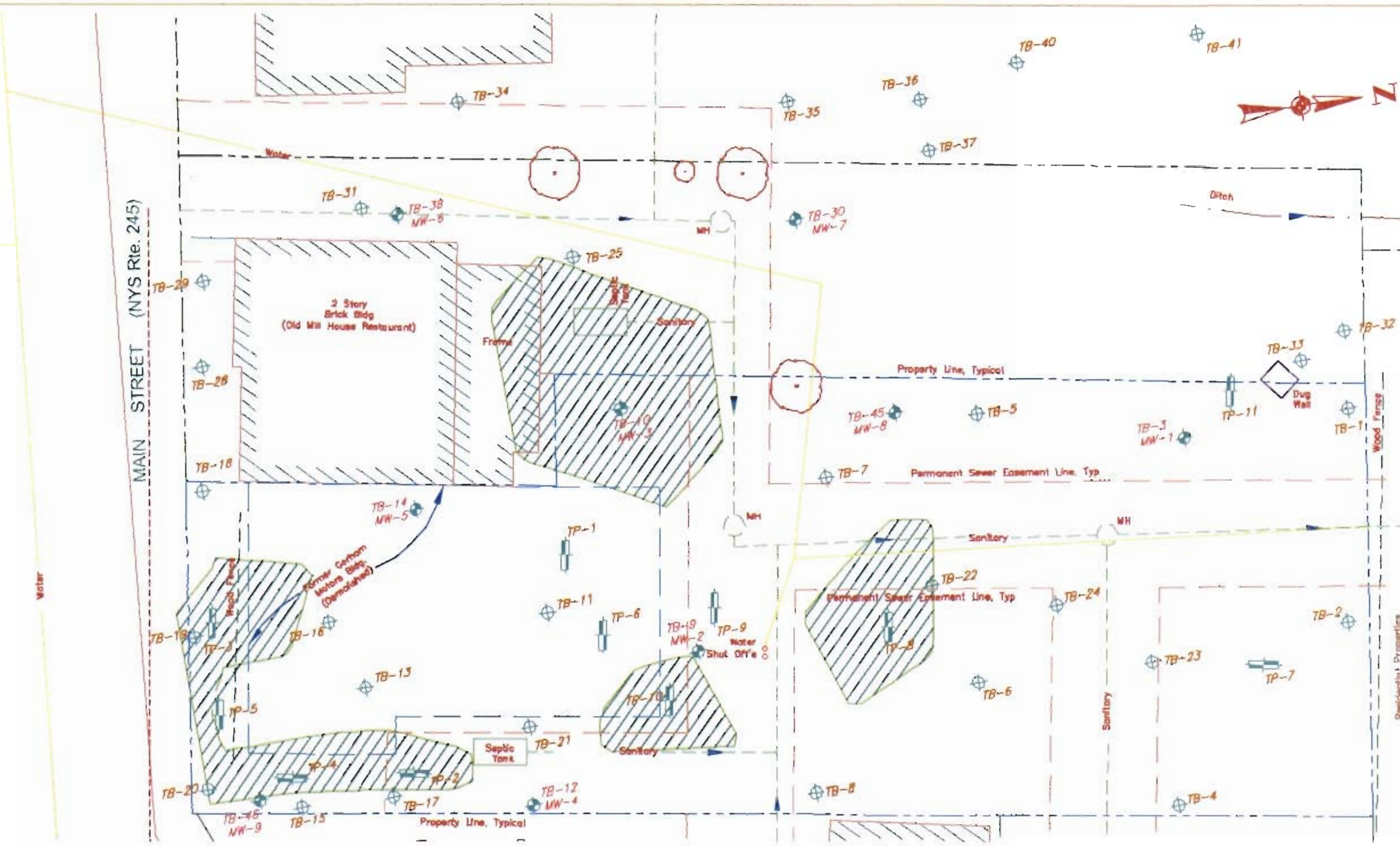
Record of Decision

Approximate Areas of Subsurface Soil Exceeding SCGs For VOCs.

FIGURE 5



SITE PLAN
1"=20'

LEGEND:

- TB-10 MW-3 — Approximate Location Of Monitoring Well With Label
- TB-31 — Approximate Location Of Test Boring
- TP-2 — Approximate Location Of Test Pit
- Approximate Limit of Subsurface Soil That Exceeds SCGs for SVOC's

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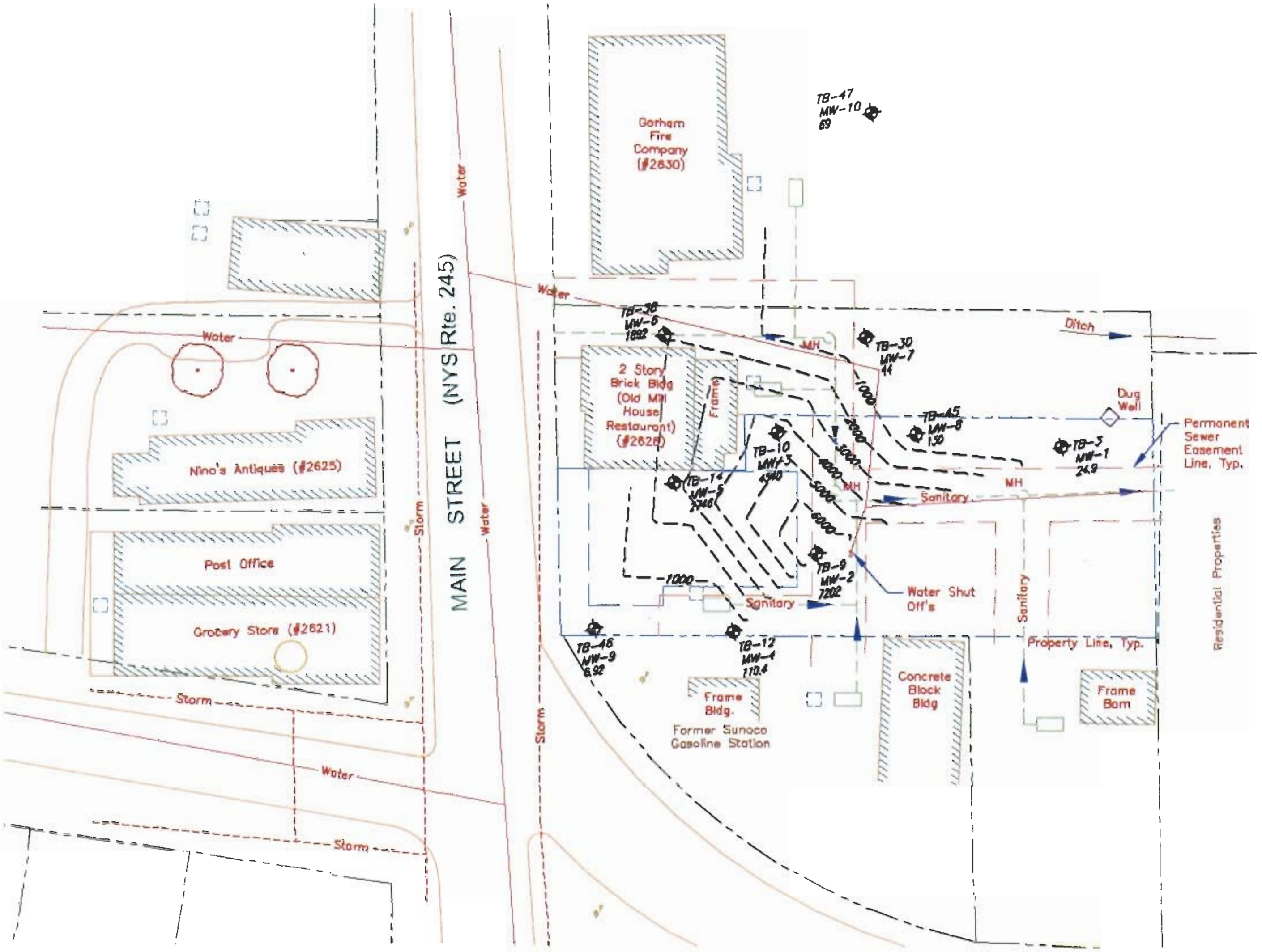
Ford Garage, Site No. B-00153-8
Environmental Restoration Project
Town of Gorham, Ontario County, New York
Record of Decision
Approximate Areas of Subsurface Soils Exceeding SCGs for SVOCs

FIGURE 6



SITE PLAN
1"=40'

LEGEND:

- TB-10 MW-3 4540 — Approximate Location Of Monitoring Well with Label and Total TCL and TIC VOCs Measured in Parts Per Billion on September 16–18, 2003
- 2000 — Isometric Contour Line in Parts Per Billion
- TIC — Tentatively Identified Compound
- VOC — Volatile Organic Compound
- MH — Manhole
- Septic Tank
- Former Septic Tank

NOTES:

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2. Monitoring wells located by instrument survey and should be considered accurate to the degree implied by the method used.

March 2005

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New York State Department of Environmental Conservation
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Ford Garage, Site No. B-00153-8
Environmental Restoration Project
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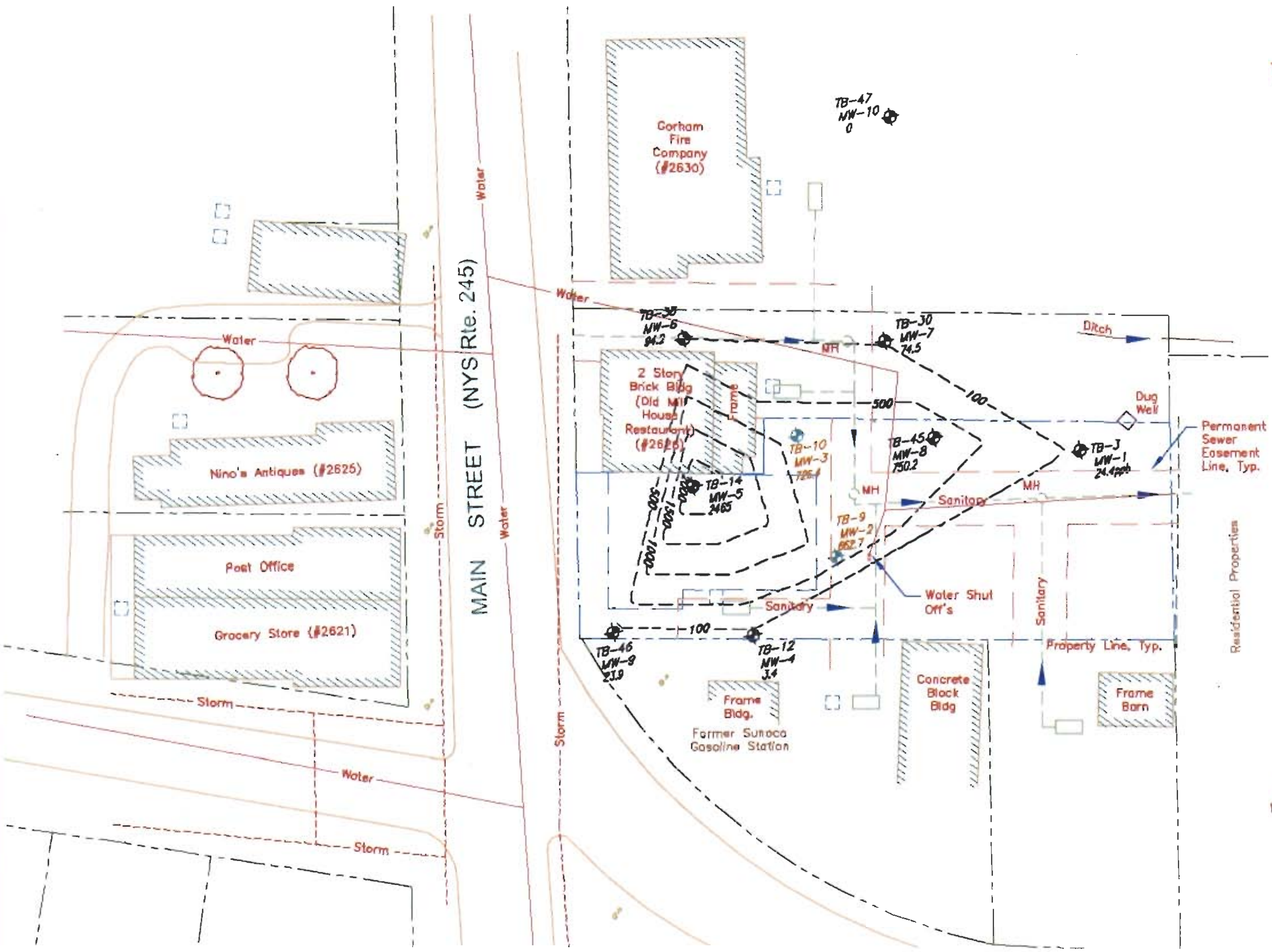
Record of Decision

Total VOCs (including TICs) in Groundwater (9-03 Samples)

FIGURE 7



SITE PLAN
1"=40'

LEGEND:

⌖	Approximate Location Of Monitoring Well With Label and Total TCL and TIC SVOCs Measured in Parts Per Billion on September 16–18, 2003
100 — — —	Isometric Contour Line in Parts Per Billion
TCL	Target Compound List
TIC	Tentatively Identified Compound
SVOC	Semi-Volatile Organic Compound
MH	Manhole
▭	Septic Tank
⬚	Former Septic Tank

NOTES:

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March 2005

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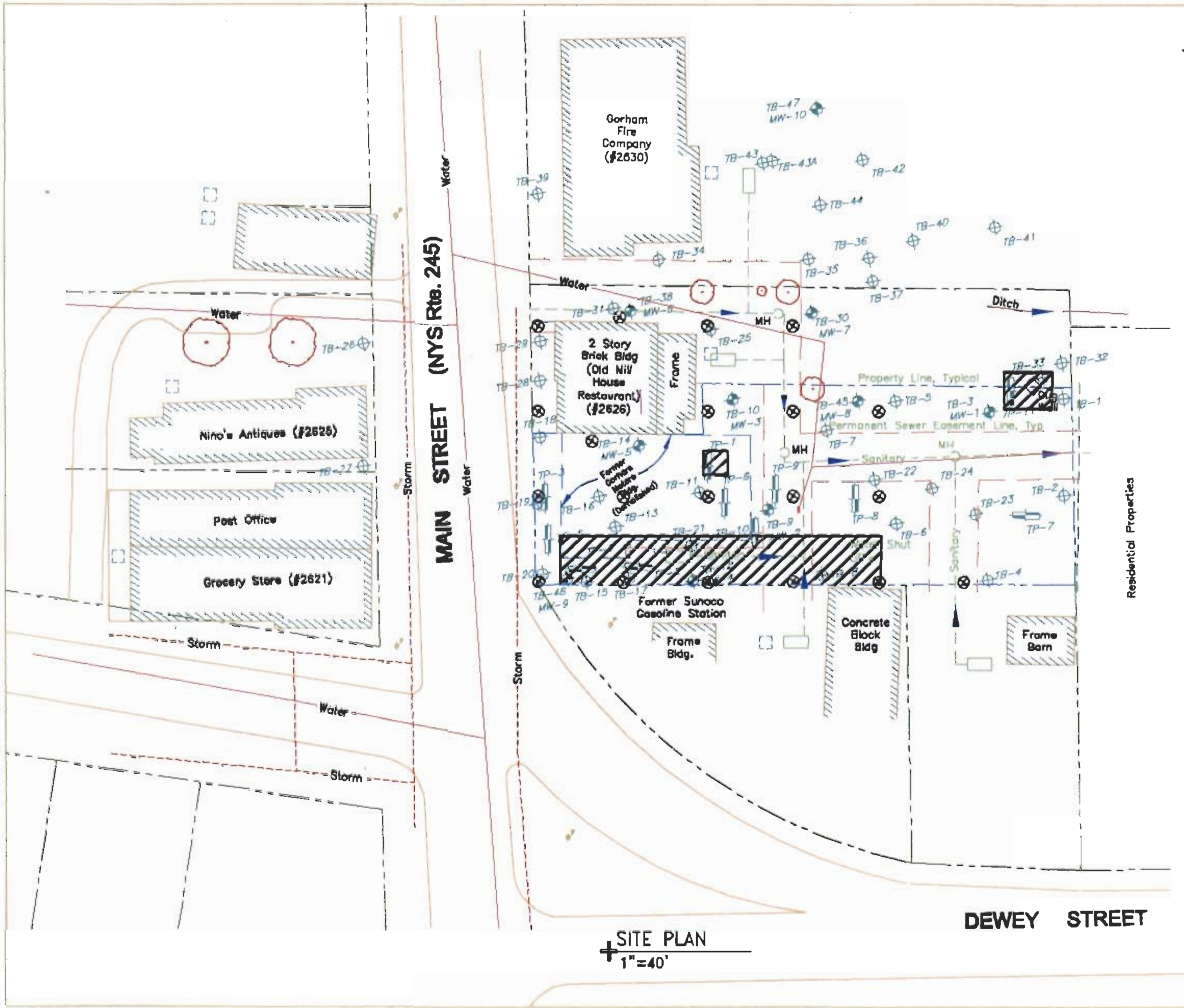
Division of Environmental Remediation

Ford Garage, Site No. B-00153-8
Environmental Restoration Project
Town of Gorham, Ontario County, New York
Record of Decision

Total SVOCs (including TICs) in Groundwater (9-03 Samples)

FIGURE 8



LEGEND:

- Approximate Areas Of Contaminated Soil In The Unsaturated Zone To Be Removed
- In-Situ Bioremediation Injection Point
- TP-7 Approximate Test Pit Location
- TB-8 Approximate Location Of Test Boring With Label
- TB-10 MW-3 Approximate Location Of Monitoring Well With Label
- MH Manhole
- Septic Tank
- Former Septic Tank

NOTES:

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Ford Garage, Site No. B-00153-8
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Town of Gorham, Ontario County, New York
Record of Decision

Soil Removal Areas and In-Situ Bioremediation Injection Points

FIGURE 9

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Ford Garage Environmental Restoration Site
Town of Gorham, Ontario County, New York
Site No. B-00153-8

The Proposed Remedial Action Plan (PRAP) for the Ford Garage site, was prepared by the New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 14, 2005. The PRAP outlined the remedial measure proposed for the contaminated soil and groundwater at the Ford Garage site.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on March 3, 2005, which included a presentation of the Site Investigation (SI) and the Remedial Alternatives Report (RAR) as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PRAP ended on March 30, 2005.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the NYSDEC's responses:

COMMENT 1: Looking at your slide about subsurface soils and VOCs, and considering the remediation taking place at the gas station next door to the former Ford Garage site, I'm wondering if the groundwater flows off site (from the other gas station area), through the former Ford site and towards Flint Creek, along the east side of the property? It seems the groundwater is flowing in that direction. I'm not trying to place blame (on the other gas station site), but could the other gas station be another source area of contamination, and be contaminating the clean up going on at the former Ford site?

RESPONSE 1: This issue is addressed in Section 5.1.3 of the ROD under the subheading "Adjoining Gasoline Station." In the past, contamination emanating from the adjoining gasoline station site may have migrated onto the Ford Garage property and contributed to the site contamination. However, based on recent cleanup activities completed at that site and groundwater sampling data, it does not appear likely that the adjoining gasoline station will continue to act as a significant source of on-going contamination to the Ford Garage site.

COMMENT 2: In the areas identified for in-situ treatments, how deep do the injection wells go? Can the existing test wells be used for the in-situ treatments? Are the number of injections done every month limited? How many injections would there be? Would more injections be done if necessary?

RESPONSE 2: It is anticipated that the in-situ bioremediation injection wells will extend to the bedrock surface, which was encountered at depths of 5 to 17 feet below grade during the site investigation. The existing groundwater monitoring wells are not planned for use as injection points, but some may be used in the future for long-term monitoring of the effectiveness of the remedy. Four or five consecutive monthly injections are anticipated. More will be done if necessary.

COMMENT 3: Are you proposing that the whole site be covered with asphalt?

RESPONSE 3: Yes. Although only limited areas of significant surface soil contamination were identified north of the former building, the detection of these types of contaminants can be misleading. To be protective, in the event some areas of surface soil contamination were not identified, the selected remedy includes covering the entire site with asphalt.

COMMENT 4: Could you construct a building on the site or must it stay a parking lot? The area is being used as a parking lot now, but once its all cleaned up, could it be used as a building site?

RESPONSE 4: The site could be used for commercial or industrial purposes other than a parking lot in the future once the remedy is complete and the Site Management Plan (SMP) is developed. The SMP will address steps to be taken in the event any buildings are to be constructed at the site in the future (i.e., worker and community protection, appropriate soil handling and disposal procedures, and the prevention of vapor intrusion into future buildings).

COMMENT 5: The excavations you are proposing to do, can that be done by Town employees or must they be done by certified contractors?

RESPONSE 5: Town employees could perform the excavation work if it can be demonstrated they have the necessary skills and experience, including all OSHA required health and safety training, to safely and effectively accomplish the work. It would also have to be demonstrated that the use of Town employees is at least as economical as using contractors.

COMMENT 6: Is the dug well excavation a fairly substantial excavation?

RESPONSE 6: It is not anticipated that the excavation for removal of the abandoned dug well will extend significantly beyond the well itself. Surrounding soil and groundwater samples did not contain contaminants associated with the waste oil identified in the well.

COMMENT 7: Is there any way to tell how long it will take before the site could be used as a building site? How long will it take before the asphalt can be laid down?

RESPONSE 7: It is expected to take 12 to 18 months to complete the clean up work after the application for State funding of remediation costs is approved. Once the remedy is complete and the SMP is in place, a building could be constructed at the site. The asphalt will be installed at the site after completion of the excavation work and prior to installation of the injection points. It is anticipated the asphalt paving can be complete within 12 months after the remediation grant is approved.

COMMENT 8: I'd like to see this clean up get done quickly so Mr. C (name/privacy honored) can get on with his business.

RESPONSE 8: Comment noted. The NYSDEC will work with the Town to complete the clean up work as quickly as possible.

COMMENT 9: My restaurant is up for sale. The realtor looking at the property asked what the pipes and cement things were out back. The realtor was not pleased when he found out what was going on. He stated an environmental impact study would be required for the banks. An EIS was not required when I bought the property in 1995-96. Will this cleanup underway be satisfactory for the banks?

RESPONSE 9: The realtor was likely referring to a Phase I Environmental Site Assessment, which banks often require on commercial property transactions, particularly where environmental contamination is suspected. We cannot say whether the cleanup to be completed for this project, including vapor mitigation measures, if necessary, at the adjoining restaurant building, will be satisfactory to any particular lender. Often lenders are satisfied once a regulatory agency has selected a remedy for a site, while others prefer the remedy be implemented before providing a loan. All project related data and reports will continue to be available for public review.

COMMENT 10: What did you find in the building basement yesterday? I live in this building and am concerned about contaminated air and what you may find.

RESPONSE 10: On March 2, 2005, personnel from NYSDEC, NYSDOH, and the Town of Gorham accompanied the project consultant on an inspection of the basement at the adjoining Old Mill House Restaurant. The purpose of the inspection was to gather preliminary information relative to further evaluation of potential vapor intrusion into the building. The heating oil tank was found to be mostly empty and disconnected, as the building heating system had recently been converted to natural gas fuel. A hand-held meter that detects volatile compounds in the air was used to preliminarily screen the indoor air in the basement. Very low levels were identified across the basement, with no significant elevations in the vicinity of the tank. Significantly higher levels were identified along the eastern most basement wall, adjacent to the Ford Garage site. Based on the readings obtained, it appears that volatile vapors from the site contamination may be intruding into the basement and that the fuel oil tank is not significantly contributing to any indoor air impacts. These readings are useful for qualitative analysis only (to determine whether some areas are worse than others), and as such, follow-up laboratory analytical data will be required. Preparations for that sampling are underway. If it is determined that site contaminants are impacting indoor air, a basement floor slab and sub-slab ventilation system will be installed as part of the clean up work.

COMMENT 11: Will you be checking the air on the first floor too? How long will the testing take?

RESPONSE 11: Indoor air samples will be collected from two locations in the basement (one near the Ford Garage site and one near the heating oil tank), one location on the first floor, and one outdoor background location. It will take one to two days to collect the samples and the analytical results should be available approximately one month after collection. It is anticipated these data will be available by the end of May 2005.

COMMENT 12: Why is there no excavation taking place at the northeast corner of the site, where there is surface soil contamination? I'd like to see that area excavated.

RESPONSE 12: The possible excavation of known surface soil impacts will be considered during the remedial design program. However, as mentioned in the response to Comment 3, the entire site would still be paved with asphalt to prevent exposure to any unidentified areas of surface soil contamination. As an exception, if desired by the Town, confirmatory samples could be obtained following any removal of surface soils to show that those areas do not require pavement cover.

COMMENT 13: When you put down the blacktop on the whole site, can you make it aesthetically pleasing? Can you put in the project plans to plant bushes or trees down the backside of the property, put in some flower pots by the building, make the lot look better than just a commercial parking lot?

RESPONSE 13: Aesthetic enhancements to the parking lot such as those mentioned above can be made if desired by the Town. However, any additional costs associated with these enhancements would not be reimbursable under the Environmental Restoration Program.

APPENDIX B

Administrative Record

Administrative Record

Ford Garage Environmental Restoration Site
Town of Gorham, Ontario County, New York
Site No. B-00153-8

1. "Citizen Participation Plan", March 2002, prepared by Day Environmental, Inc.

2. "Site Investigation/Remedial Alternatives Report (SI/RAR) Work Plan", March 2002, prepared by Day Environmental, Inc.

3. Letter dated April 12, 2002 from Gregory B. MacLean of NYSDEC, providing conditional approval of the SI/RAR Work Plan.

4. "Draft Indoor Air Sampling and Analysis Work Plan", November 2002, prepared by Day Environmental, Inc.

5. Letter dated March 20, 2003 from Gregory B. MacLean of NYSDEC, providing approval of the Draft Indoor Air Sampling and Analysis Work Plan.

6. "Environmental Site Investigation/Remedial Alternatives Report", Volumes 1 and 2, December 2004, prepared by Day Environmental, Inc..

7. Proposed Remedial Action Plan for the Ford Garage site, February 2005, prepared by the NYSDEC.