CITY OF LOWELL
PETITION

TO THE
CITY COUNCIL

Lowell CanCare
Request for access
to right of way
219 East Merrimack St.

In City Council

March 25, 2025

Read and

Clerk

March 19, 2025

City Council of Lowell
City of Lowell
375 Merrimack Street
Lowell, MA 01852

Re: Petition for Access and Detailed Scope of Work
Lowell Car Care Facility
219 East Merrimack Street
Lowell, MA 01852
RTN 3-51003

To Whom it May Concern:

Pursuant to the City of Lowell's request, CarriageHouse Consulting, Inc. (CHCI) has prepared this correspondence with the objective of presenting a detailed Scope of Work in support of our request for access to rights of way from the City of Lowell to continue with our environmental assessment activities related to the above-listed Lowell Car Care property situated at 219 East Merrimack Street in Lowell, Massachusetts (the site). CHCI has prepared this correspondence on behalf of the property owner - ARA Investments, LLC. (ARA) - who is currently undertaking response actions at the site as mandated by 310 CMR 40.0000, the Massachusetts Contingency Plan (MCP).

The objective of the activities for which access is currently being sought is to facilitate the monitoring of residual concentrations of petroleum hydrocarbons dissolved in groundwater located hydraulically-downgradient of the site in accordance with Massachusetts Department of Environmental Protection (the Department) Guidance Documents and Policies. Figures 1 through 3 (attached) present depictions of the location of the subject site, the general layout and configuration of the current and former features at the property, and the locations for which access is being pursued for the purposes of installing additional groundwater monitoring wells.

Regulatory Status and Background

The subject property is the former location of a Gulf-branded dispensing facility where petroleum-impacted soil and groundwater were encountered during UST removal activities in March 1999. The Department issued RTN 3-18128 to the subject property and authorized implementation of preliminary response actions as part of the Immediate Response Action (IRA). Since that time, a substantial number of assessment and monitoring reports have already been filed for this site, and subsurface assessment and remediation efforts at the property have identified residual concentrations of petroleum-derived volatile organic compounds (VOCs) and volatile petroleum hydrocarbon (VPH) fractions.

As of October 2024, following the receipt of the groundwater sample analytical results from the October 25, 2024 groundwater monitoring and sampling event, the Department was notified of conditions at the site that were viewed as having the potential to meet the Condition of Substantial Release Migration (SRM) criteria specified in 310 CMR 40.0313(4)(f)(2). The Department was provided verbal notice of these conditions in a telephone call held between Brian Moore of CHCI and Department staff held at 3:26 pm on October 25, 2024.

At the time of notification, the Department assigned RTN 3-51003 to this condition, and authorized the implementation of an IRA to further assess and address these conditions in accordance with the provisions set forth in 310 CMR 40.0400.

Subsurface Investigation and Monitoring Activities

Further monitoring of groundwater conditions is required in the hydraulically-downgradient direction from the subject site. CHCI anticipates that this may be accomplished through the advancement of three (3) soil borings to facilitate the installation of three (3) groundwater monitoring wells at the approximate locations depicted on Figure 3. Given groundwater flow direction across the study area, the downgradient wells are currently anticipated to be installed on the western side of the High Street, southern side of East Merrimack Street, and/or eastern side of Fayette Street rights-of-way.

The pre-marking of intended drilling locations will take place and be scheduled in such a fashion as to correspond with the on-site meeting proposed between CHCI and ARA. Prior to commencing with the subsurface investigation portion of this project, the desired drilling locations will be pre-marked and discussed with City officials (or their representatives, as appropriate) to ensure the scope of the proposed drilling is understood and agreed upon for continued future access in an unfettered manner. Drilling activities will commence once utilities have completed their mark-outs, and CHCI has reviewed the schedule with the service manager and the general contractor to ensure equipment deployment and use are optimized.

At this time, we recommend using a Vacmaster 4000 vacuum excavation rig machine to pre-clear the boreholes using "soft-dig" techniques to avoid subsurface utility locations and/or features up to five (5) feet below grade. Borehole advancement beyond this depth would be accomplished by small-scale pneumatic-based direct-push drilling methods (e.g., track-mounted Geoprobe) provided and operated by Geosearch, Inc. (Geosearch) of Sterling, Massachusetts to the desired vertical horizon of up to 30 feet below grade to install water-table style groundwater monitoring wells. A schematic depicting typical specifications for a water-table style groundwater monitoring device has been prepared and is included as Figure 4.

Based on the anticipated scope of work, CHCI is proposing two (2) days labor on-site to direct and oversee the soil boring advancement and well installations to identify the nature and magnitude of potential OHM to provide the Department with the information required by the provisions set forth in 310 CMR 40.0410 of the MCP. During all drilling activities, soil samples will be classified, inspected for visual and/or olfactory indications of apparent petroleum impact, and field screened using a standard jar headspace screening method and a portable photoionization detector (PID) equipped with a 10.6 electron volt (eV) lamp. The PID will be used to screen soils for the presence of VOCs in parts per million by volume "as benzene" in accordance with standard industry practice and Department Regulations and Policies.

CHCI may select soil samples for laboratory analyses based upon visual, olfactory, or field-screening indications of petroleum impact, containerize these samples in the laboratory provided glassware and may submit them to a certified lab for analyses of target VOCs, VPH fractions, target polynuclear aromatic hydrocarbons (PAHs), and aliphatic/aromatic extractable petroleum hydrocarbon (EPH) fractions by Department approved techniques. Additional soil samples may also be collected to satisfy other project-related goals or Department-specified performance standards.

Additional contingency samples may also be collected during drilling activities contemplated under this project and be held pending results of the analyses described above to the degree a full day drilling can obtain the samples in furtherance of the delineation work and potentially assist with compliance-averaging necessary to demonstrate compliance with the applicable Criteria or support the other regulatory filings currently planned for provisions set forth in 310 CMR 40.0410 of the MCP.

Upon completion of the drilling scope to complete the investigation of ARA, CHCI shall return to the site to conduct periodic groundwater monitoring and sampling of any well installed to characterize groundwater conditions associated with RTN 3-51003 or other related RTNs. Monitoring and sampling of these devices will consist of gauging the wells using a decontaminated water level indicator capable of measuring depth to water with an accuracy of ±0.01 feet from the top of the monitoring well casing. Once the new wells have

been installed, CHCI will conduct a survey of the top-of-casing (TOC) elevation of the new wells relative to other site-related monitoring wells and area benchmarks to establish the elevation of the same relative to the National Geodetic Vertical Datum (NGVD) of 1929, or another appropriate vertical datum.

Once the gauging activities have been completed, it is presently anticipated groundwater samples will be collected from the wells using a combination of manual purging and sampling techniques and low-flow purging and sampling techniques. During this process, manual purging and sampling are accomplished using disposable polyethylene bucket-type bailers to remove three (3) times the estimated standing-formation volume from the well prior to sampling, while low-flow purging and sampling will be accomplished using disposable polyethylene tubing in concert with a peristaltic pump and Hanna-brand multimeter to purge and sample the selected wells. Readings of dissolved oxygen (DO), conductivity, pH, and oxidation redox potential (ORP) are obtained by the specified equipment in the "flow-through" cell, and these geo-chemical parameters are recorded, along with water depth in the well, to evaluate the "stability" of purged groundwater. Once stable conditions have been achieved, groundwater samples are collected directly from the dedicated tubing in the pre-preserved laboratory-provided glassware. This process complies with the protocols established by the Department in the MCP.

Following the development of the three (3) wells, a sampling event is anticipated to collect groundwater samples for laboratory analyses. These samples, as well as other site-related samples, will be containerized and submitted to a certified laboratory for analyses of one or more of the following: target VOCs, target PAHs, and/or VPH and EPH fractions by Department approved techniques. Additional groundwater sampling activities beyond the single events outlined herein will be based upon the findings of the activities completed through this work.

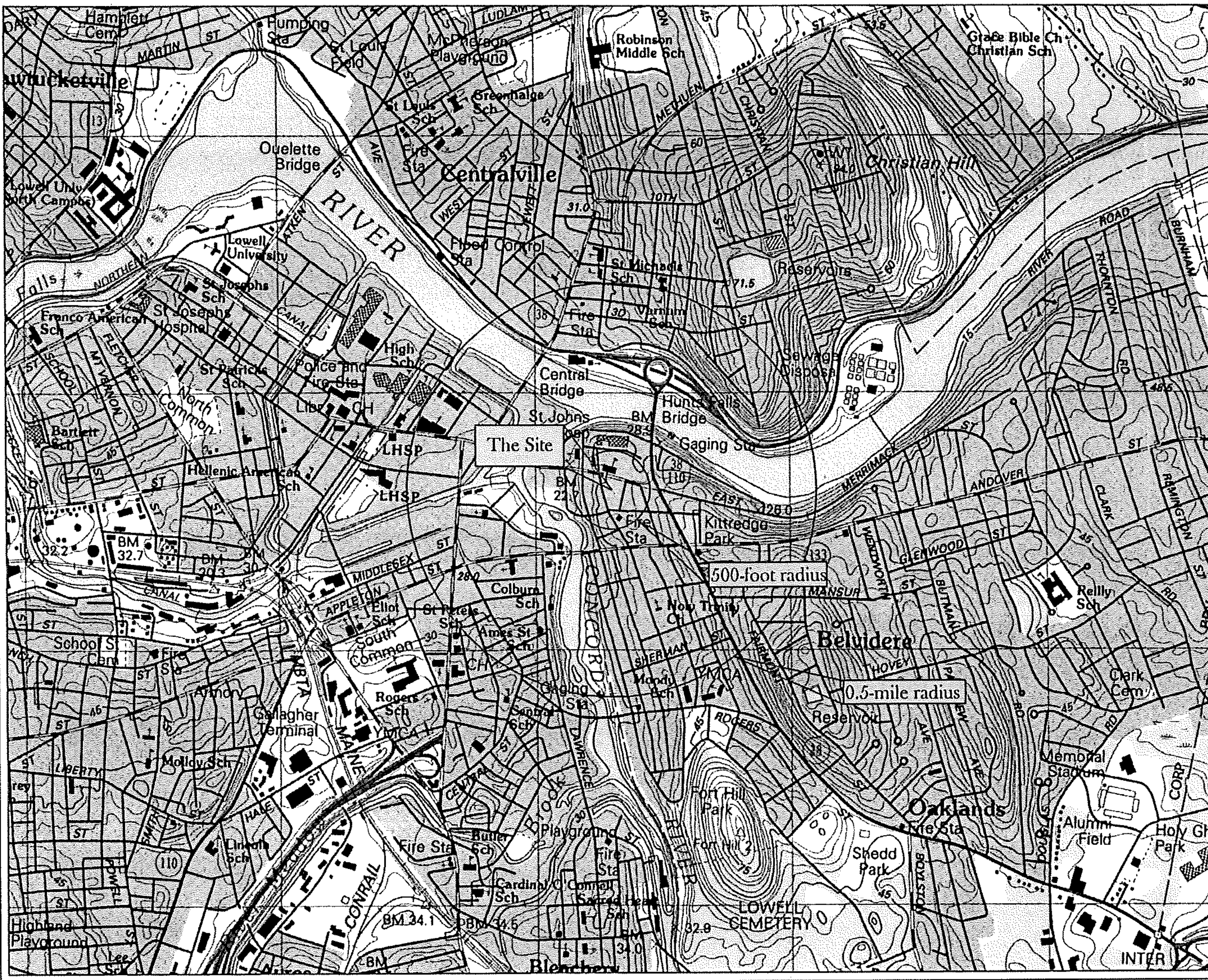
It is currently anticipated that the requested access to these wells, once installed, for continued groundwater monitoring wells be for a period of up to five (5) years - although the monitoring period may be shorter or longer than this arbitrary estimate. As part of any further monitoring of these wells, CHCI will provide advance notice of our plans to access groundwater monitoring wells rights-of-way for the purpose of completing groundwater monitoring and/or sampling activities in the same manner as we have been for other pre-existing wells on High Street pursuant to the specific requirements of 310 CMR 40.1403(10) of the MCP.

Upon project completion (i.e., a Permanent Solution), ARA will commission well abandonment activities for this site. As part of these activities, the three (3) groundwater monitoring wells subject of this agreement will be abandoned by a Massachusetts licensed driller using pressure grouting with a bentonite/cement slurry. The other pre-existing site-related wells in High Street will also be abandoned in a similar manner at the same time. When possible, road boxes will also be removed and the locations resurfaced to match surrounding surface conditions (i.e., bituminous or reinforced concrete). CHCI will collect photographic documentation of the activities, gauge the individual wells to confirm the volume of slurry to be used, and provide written documentation of the same to the Department through the eDEP on-line filing program.

Thank you again for your consideration of this request prepared on behalf of ARA Investments, LLC. Please do not hesitate to contact me if you have any questions or comments.

Sincerely,
CarriageHouse Consulting, Inc.

Brian D. Moore
President



Universal Transverse Mercator Coordinates:

4 723 869 m North
311 335 m East
Grid Zone 19

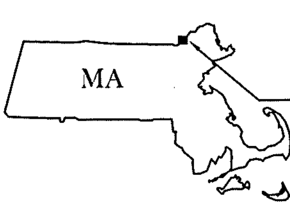
Scale 1 : 25,000

1000 0 1000 2000 3000 4000 FEET

N

Latitude: 42° 38' 39" N
Longitude: 71° 18' 05" W

Contour Intervals are 3 meters based on National Geodetic Vertical Datum of 1929 (Refer to References)



USGS Quadrangle Location(s)

FIGURE 1
LOCUS PLAN
Lowell Car Care Facility
219 East Merrimack Street
Lowell, Massachusetts

Ref.: Locus Plan	Checked By: BDM
Drafted By: HKY	Date: 03/04/24
Revised By: BDM	Date: 03/19/24

Source(s): United States Geologic Survey 7.5 x 15 Minute Series Topographic Map - Lowell, MA-NH Quadrangle (1987)

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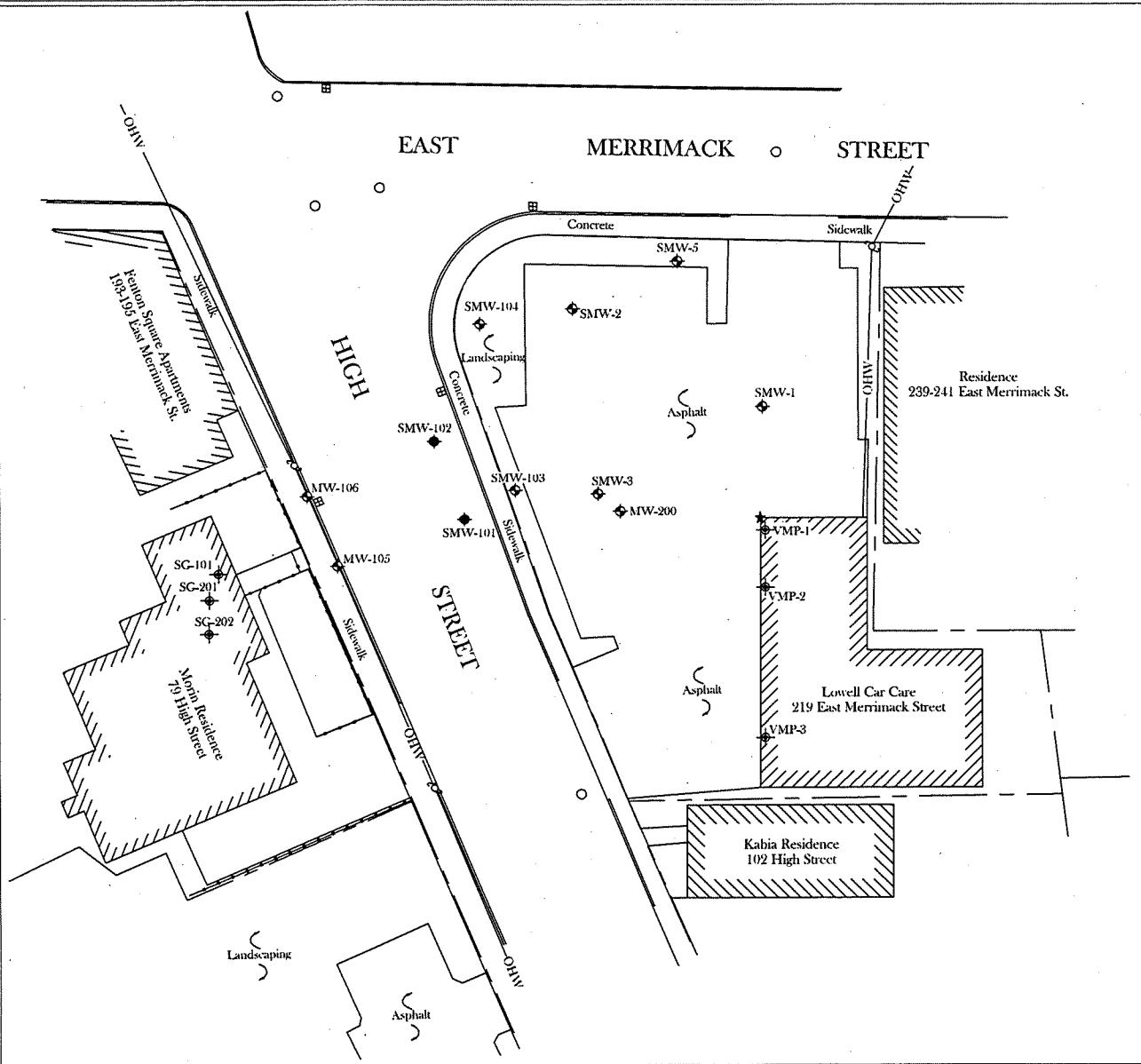

North

KEY

- Monitoring Well
- Monitoring Well (destroyed)
- Sub-Slab Soil Vapor Monitoring Point
- Approximate Property Boundaries
- Concrete or Granite Curbing
- Catch Basin
- Utility Pole
- Manhole Cover
- UST — Underground Storage Tank
- –OHW– — Location of Overhead Wires
- ★ — Location of local benchmark with an assigned elevation of 102.00 feet above Mean Sea Level.

0 30

Scale in feet
(Approximate)

FIGURE 2
SITE PLAN
Lowell Car Care Facility
219 East Merrimack Street
Lowell, Massachusetts

Ref.: Site Plan 2024	Checked By: BDM
Drafted By: BDM	Date: 12/12/24
Revised By: SJH	Date: 12/12/24
Source: Smith & Brooks, Dana F. Perkins & Sons, and Brooks, Jordan and Graves Site Plans, and CHCI Field Reconnaissance	

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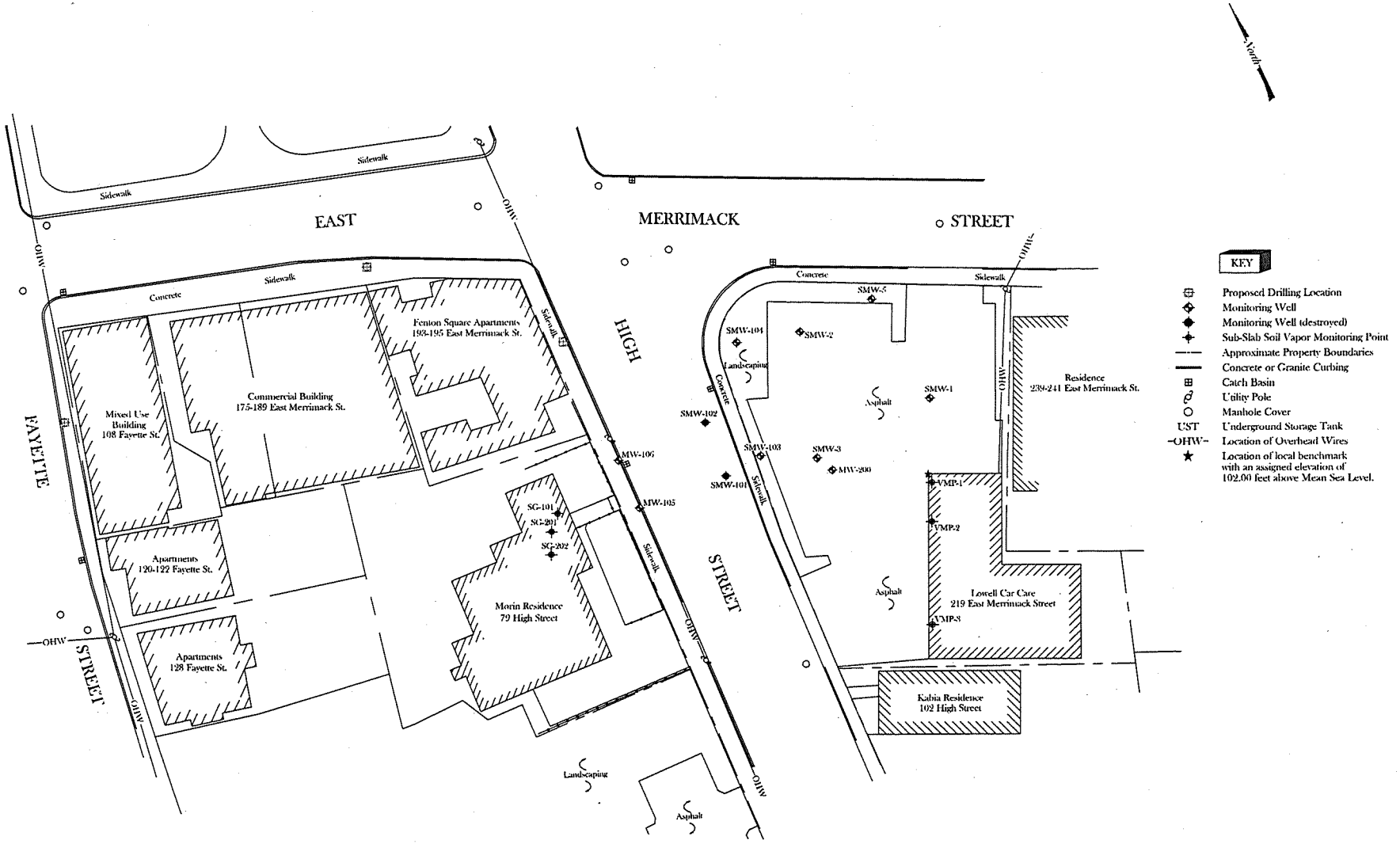


FIGURE 3
PROPOSED WELLS IN STUDY AREA
Lowell Car Care Facility
219 East Merrimack Street
Lowell, Massachusetts

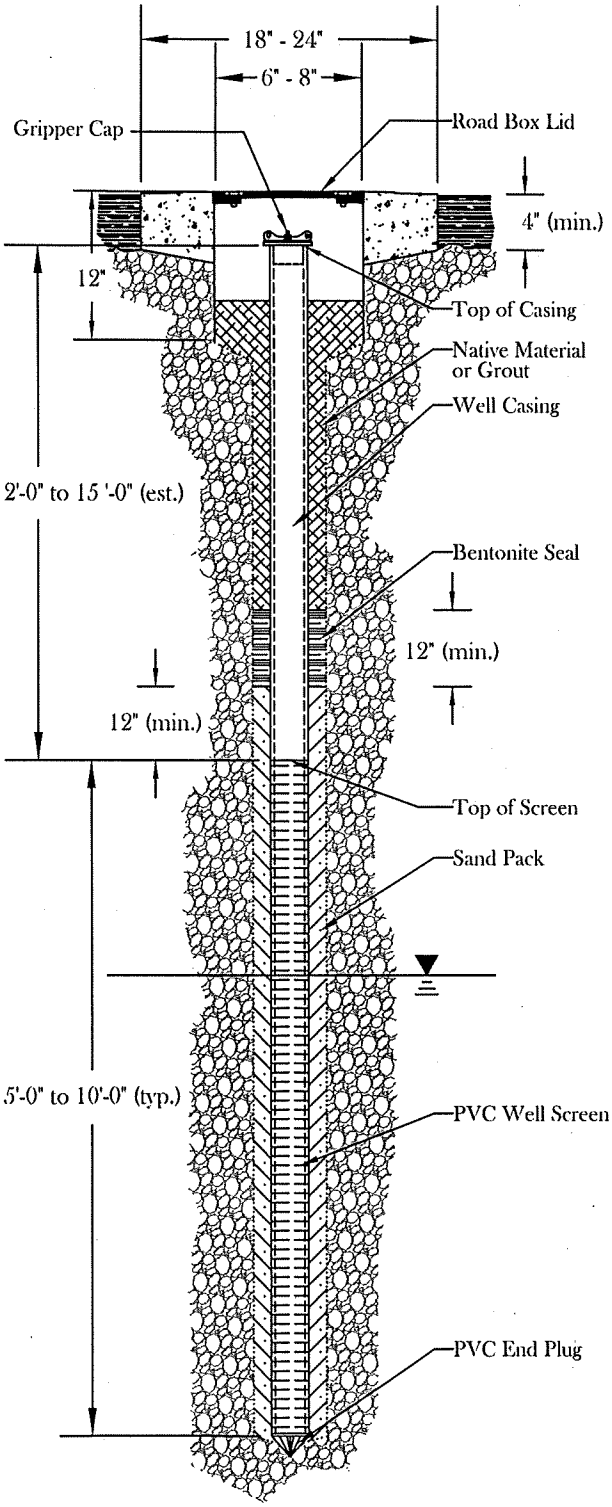
Ref.: Study Area Plan 2024	Checked By: BDM
Drafted By: HKY	Date: 10/11/24
Revised By: SJH	Date: 12/12/24

Source: Smith & Brooks, Dana F. Perkins & Sons, and Brooks, Jordan and Graves Site Plans, and CHCI Field Reconnaissance

CARRIAGE HOUSE CONSULTING, INC.

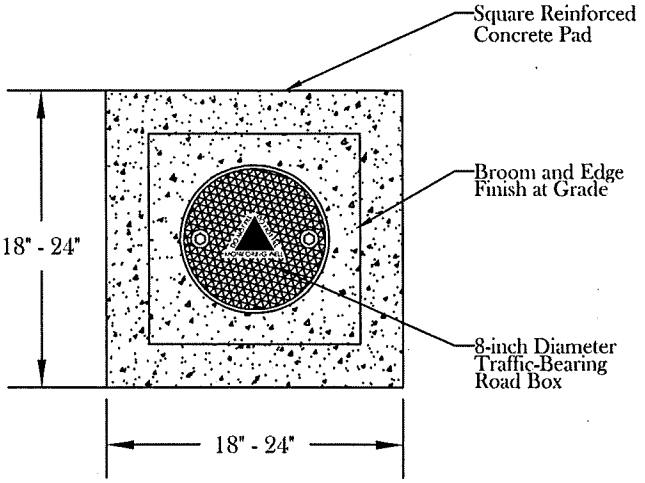
Monitoring Well Construction & Detail

Not to Scale



Monitoring Well Surface Detail

Not to Scale



Well screen and casing to be PVC construction.
PVC well screen machine slotted at 0.010".
PVC well casing/riser to be threaded to screen.
Push-point or threaded bottom plug to seal screen at depth.
Bentonite seal set 1' - 0" (min.) above PVC well screen.
Bentonite seal constructed with thickness of 1' - 0" (min.).
Road box to be H20 load bearing, traffic-rated.
Road box skirt to be set at 12" depth from existing grade.
Reinforced concrete pad to be set flush with existing grade.
Reinforced concrete pad to be 3" minimum thickness.
(Concrete pad may be cut as collar depending on surface.)
Modification to screen and seal lengths per field direction.

FIGURE 4
PROPOSED WELL SCHEMATIC
Lowell Car Care Facility
219 East Merrimack Street
Lowell, Massachusetts

Ref.: PROP SCHEM 2025	Checked By: BDM
Drafted By: HKY	Date: 05/07/19
Revised By: BDM	Date: 02/21/25
Source(s): CHCI File Copy	

CarriageHouse Consulting, Inc.

Electronic Transmittal
March 19, 2025

City Council of Lowell
City of Lowell
375 Merrimack Street
Lowell, MA 01852

Re: **Petition for Access to Install Groundwater Monitoring Wells**
Lowell Car Care Facility
219 East Merrimack Street
Lowell, MA 01852
RTN 3-51003

To Whom it May Concern:

Enclosed please find a petition from CarriageHouse Consulting's (CHCI), prepared on behalf of ARA Investments, LLC. (ARA) as the owner of the above-listed property at 219 East Merrimack Street - for access to rights of way owned by the City of Lowell. CHCI and ARA have prepared this petition to continue with environmental assessment activities mandated by 310 CMR 40.0000, the Massachusetts Contingency Plan (MCP), for the former Lowell Car Care Facility (the site).

If you have any questions regarding this permit, please contact:
Brian D. Moore (508) 315-3146 or bmoore@carriagehouseinfo.com

Please notify Mr. Moore of the hearing date/time.

If this petition meets with your approval, please be so kind as us and the Engineering Department so that we may proceed with these activities.

Thank you again for your consideration of this request prepared on behalf of ARA, and please do not hesitate to contact me if you have any questions or comments.

Sincerely,
CarriageHouse Consulting, Inc.

Brian D. Moore
President