



The State of New Hampshire  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**



Robert R. Scott, Commissioner

EMAIL ONLY

April 21, 2022

Robert Graham  
Banfield Realty, LLC  
304 Maplewood Avenue  
Portsmouth, NH 03801

Subject: Portsmouth – Former Country Motor Sales, 375 Banfield Road  
DES Site #199408047, Project #40176

*Supplemental Site Investigation Report*, prepared by Wilcox & Barton, Inc. (Wilcox & Barton), dated November 22, 2021

Dear Robert Graham:

The New Hampshire Department of Environmental Services (NHDES) has reviewed the subject Supplemental Site Investigation (SSI) Report submitted on your behalf by Wilcox & Barton for the above-referenced site (Site). The SSI was completed to further investigate the nature and extent of various contaminants in soil, groundwater, surface water, and sediment at the Site. The investigation activities were conducted in general accordance with the plans for investigation outlined in the *Response to NHDES Comments* document submitted by Wilcox & Barton on September 8, 2021 and subsequent email correspondences, and to satisfy, in part, requests made by NHDES in a letter dated August 9, 2021. Based on review of the SSI Report and historical submittals, NHDES offers the following comments:

#### **Upland Soil Contamination**

NHDES understands the northeastern, upland portion of the Site is planned for redevelopment as a commercial warehouse. Based on the results of previous investigations, soil in this area of the Site is contaminated with lead and polychlorinated biphenyls (PCBs) at concentrations exceeding applicable Soil Remediation Standards (SRS). The lead and PCBs appear to be from releases associated with former Site activities, including automobile storage, crushing and salvage operations. As part of the SSI activities completed during September and October 2021, Wilcox & Barton collected shallow soil samples generally on a grid layout. Samples collected for analysis of lead were taken from 0-2 feet and 2-4 feet below ground surface (bgs). Samples collected for analysis of PCBs were taken from 3-6 inches, 6-18 inches, and 18-36 inches bgs. The results of the sampling and analysis have improved the understanding of the nature and extent of lead and PCB soil contamination. For the upland area, soils contaminated with lead and PCBs at concentrations exceeding applicable SRS appear to be mostly in the location of a former car crusher and an area to the southeast of the former car crusher. The vertical extent of lead and PCB soil contamination has not yet been fully delineated, and NHDES understands from communications with Wilcox & Barton that additional soil sampling to depths as great as 15 feet bgs will be completed to inform management of contaminated soil and construction activities during Site redevelopment.

Based on previous communications, including a conference call held April 11, 2022, NHDES understands that Wilcox & Barton intends to submit prior to initiation of Site redevelopment activities a soil management plan (SMP) and a Remedial Action Plan (RAP) for soil contaminated with lead and PCBs in

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the upland portion of the Site. The SMP shall describe the management of soil during Site redevelopment activities, to include excavations, any temporary onsite storage, reuse, and any offsite disposal of soil conducted in accordance with NH Code of Administrative Rules Chapter Env-Or 600 (*Contaminated Site Management*), Part Env-Or 611. Wilcox & Barton has indicated the RAP will include a remedy consisting of managing the contaminated soil under placement of suitable capping materials and recordation of an Activity and Use Restriction (AUR). NHDES generally concurs with this approach and notes the following: 1) Wilcox & Barton will continue to communicate with the US EPA Region 1 PCB coordinator regarding the soil analytical data for PCBs, the results of the *Human Health Risk Assessment – PCBs* that is attached to the SSI Report, and management of PCB-containing soils; 2) Soils containing PCBs at concentrations greater than 10 milligrams per kilogram (mg/kg) may warrant excavation and offsite disposal; and 3) The application for AUR shall include a requirement to prepare a separate SMP for management of any soil that may be disturbed during future Site activities.

Please submit the RAP for the upland portion of the Site, with the SMP and application for AUR included, within 120 days of receipt of this letter. Please also indicate in the RAP that, as discussed in the following sections of this letter, Site groundwater contaminated with per- and polyfluoroalkyl substances (PFAS) and metals will be managed under a Groundwater Management Permit (GMP), the application for which shall be submitted following completion of additional monitoring activities and no later than December 31, 2022.

#### **Upland Groundwater Contamination**

The results of sampling Site monitoring wells since June 2020 for analysis of PFAS shows that these contaminants are present in groundwater beneath the upland portion of the Site. Concentrations of perfluorooctane sulfonic acid (PFOS), perfluorohexane sulfonic acid (PFHxS), and perfluorooctanoic acid (PFOA) have been detected in samples collected from various wells at concentrations exceeding applicable Ambient Groundwater Quality Standards (AGQS). To date, the highest concentrations of PFAS have been detected in samples collected from wells MW-1, MW-7, MW-106R, MW-109, and MW-203. The source of PFAS in upland Site groundwater has not been specifically documented. NHDES suspects that former Site operations, such as automobile maintenance, salvage, and crushing as well as wastewater disposal to a septic system and leachfields may have resulted in releases of PFAS to soil and groundwater. Notably, samples collected from wells MW-101, MW-102, MW-103, MW-104, and MW-105 located hydraulically downgradient of the upland area have contained relatively low concentrations of PFAS, including PFOS, PFHxS and PFOA at concentrations less than applicable AGQS. However, only one or two rounds of sampling have been completed at these downgradient wells.

Additional sampling of groundwater for analysis of PFAS is warranted due to the continued presence of PFOS, PFHxS, and PFOA at concentrations exceeding applicable AGQS. As such, NHDES requests that two additional rounds of groundwater sampling for analysis of PFAS be completed during the year 2022, preferably during the spring and fall. Please include the following monitoring wells in the sampling program: MW-1, MW-4, MW-6, MW-7, MW-8, MW-102, MW-104, MW-105, MW-106R, MW-109, MW-203, and MW-11. Sampling of wells MW-102, MW-104, and MW-105 shall provide data to evaluate the downgradient extent of PFAS in Site groundwater. Sampling of well MW-11 shall provide data regarding upgradient, ambient groundwater quality. Sampling of the other wells is requested due to previous exceedances of applicable AGQS. Please also collect static water level measurements at all Site wells for the preparation of groundwater elevation contour figures. The results of the spring and fall 2022

groundwater monitoring activities shall be submitted by December 31, 2022 as part of the Application for GMP prepared in accordance with Env-Or 607. For the site plans required as part of the Application for GMP, please include the location of all potential sources of contaminants, such as automobile maintenance, salvage and crushing, the septic system and leachfields, and the approximate extent of waste disposal at the Site.

Please continue to analyze samples for a broad list of PFAS in accordance with NHDES' current guidelines (see Laboratory Testing Guidelines for PFAS and Waste Sites: [Microsoft Word – pfoa-testing-labs\\_rev\\_mar\\_19\\_waste\\_sites\\_only \(state.nh.us\)](#)). Please also continue to upload PFAS analytical data to the NHDES Environmental Monitoring Database.

### **Lowland Soil Contamination and Solid Waste**

Based on the results of previous investigations and review of existing Site documents, NHDES understands the lowland portion of the Site is the location of historical solid waste disposal that was previously registered with NHDES as a landfill not operated after July 9, 1981 ("Pre-1981 Landfill"; see attached registration form and associated documentation). The landfill reportedly contains construction and demolition debris resulting from urban redevelopment activities in the City of Portsmouth. During visits to the Site, Wilcox & Barton and NHDES staff also observed automobile parts and other debris in the lowland area that are likely associated with former use of the Site as an automobile salvage facility.

As part of the SSI activities, Wilcox & Barton collected shallow soil samples generally on a grid layout in the lowland portion of the Site. Samples collected for analysis of lead were taken from 0-2 feet and 2-4 feet bgs. The majority of samples contained lead at concentrations exceeding the SRS, with some detections greater than 10,000 mg/kg. Samples collected for analysis of PCBs were taken from 3-6 inches and 6-18 inches bgs. Five samples (B-11, W-13, X-10, X-14, Y-9) collected from the 3-6 inch depth interval and two samples (B-11 and X-14) collected from the 6-18 inch depth interval contained PCBs (total of all Aroclors) at concentrations greater than the SRS. Additionally, previous investigations identified asbestos in bulk waste samples and suspect asbestos-containing material in the lowland area of the Site. It appears the lead, PCBs, and asbestos in the lowland portion of the Site are associated with the Pre-1981 Landfill and perhaps disposal of waste related to former automobile salvage operations.

NHDES has concluded that additional delineation of the waste in the Pre-1981 Landfill and any waste associated with the former automobile salvage operations at the Site is warranted. Please see the below section of this letter regarding submittal of a work plan for additional investigation activities.

### **Lowland Groundwater Contamination**

The results of sampling monitoring wells MW-101, MW-102, MW-103, and MW-104 since January 2021 for analysis of total and dissolved metals shows that lead and arsenic are present in groundwater beneath the lowland portion of the Site at concentrations exceeding applicable AGQS. These wells are located within and downgradient of the Pre-1981 Landfill and areas of waste disposal related to former automobile salvage operations. While the arsenic in groundwater may be due to naturally occurring conditions, NHDES concludes the lead at concentrations exceeding the AGQS is likely associated with the presence of high concentrations of lead in the lowland soil and solid waste.

Additional sampling of lowland groundwater for analysis of total and dissolved metals is warranted due to: 1) The continued presence of lead and arsenic in the groundwater at concentrations exceeding the AGQS; 2) The lowland soil and solid waste containing lead at concentrations exceeding the SRS currently remaining in place and representing a source of metals leaching to groundwater; and 3) The potential for groundwater discharging to the abutting wetland to be a contaminant migration pathway for metals from the lowland source area to wetland surface water and sediment. As such, NHDES requests that two additional rounds of groundwater sampling at wells MW-101, MW-102, MW-103, and MW-104 be completed during the year 2022, preferably during the spring and fall. Sampling of well MW-103 may provide data regarding groundwater conditions upgradient of the Pre-1981 Landfill. Please also continue to collect field-based water quality parameters (e.g., temperature, dissolved oxygen, pH, conductivity, oxidation-reduction potential, and turbidity) during the sampling of these wells. The results of the spring and fall 2022 lowland groundwater monitoring activities shall be submitted by December 31, 2022 as part of the Application for GMP discussed above.

### **Wetland Surface Water and Sediment Contamination**

NHDES understands that a wetland abuts the lowland portion of the Site to the southeast, south, and southwest. A branch of Pickering Brook runs through the wetland, flowing downstream beyond the Site boundary through a culvert located under Banfield Road and to Great Bog. Field observations indicate the upstream portion of the brook may contain surface water only seasonally. As part of SSI activities, Wilcox & Barton collected six onsite surface water samples (SW-201, SW-203, SW-208, SW-210, SW-211, and SW-212) in the wetland and generally along the course of the brook for analysis of total and dissolved metals, polycyclic aromatic hydrocarbons (PAHs), chloride, nitrate, sulfate, hardness, total and suspended solids, and field-based water quality parameters. The sampling expanded upon previous surface water assessment activities completed at the Site, and the results indicate that contamination associated with the Pre-1981 Landfill and perhaps waste related to former automobile salvage operations is impacting wetland surface water quality. The concentrations of various metals, particularly lead, were found to exceed NHDES water quality criteria for protection of aquatic life in a freshwater environment and human health based on potential water and fish ingestion.

Wilcox & Barton also collected 20 sediment samples (SD-201 through SD-221, excluding location SD-216) for analysis of total metals and PAHs. The sampling expanded upon previous sediment assessment activities completed at the Site. The analytical results were compared to Consensus-Based Threshold Effect Concentrations (TECs) and Consensus-Based Probable Effect Concentrations (PECs)<sup>1</sup>, which are referenced in NHDES' *Evaluation of Sediment Quality Guidance Document* dated April 2005. The concentrations of multiple metals, particularly lead, and PAHs exceeded applicable TECs and PECs.

Sovereign Consulting, Inc., using existing Site information and the surface water and sediment data, prepared a *Focused Human Health and Ecological Risk Assessment for Wilcox & Barton*. The risk assessment is included as an attachment to the SSI Report. Sovereign Consulting concluded that: 1)

Contamination, primarily that of lead, mercury and arsenic, in the wetland portion of the Site poses an unacceptable risk to human health for recreational trespassers that do and do not catch and consume

<sup>1</sup> MacDonald, D. D., C. G. Ingersoll, and T. A. Berger. 2000. Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. *Arch. Environ. Contam. And Toxicol.* 39: 20-31.

fish, and for fish consumption without trespassing; 2) Contamination, primarily that of lead, in surface water poses a potential risk to pelagic aquatic organisms; and 3) Contamination, primarily that of lead, in sediment is likely toxic to benthic organisms residing in the wetlands.

Based on the results of the lowland and wetland portions of the SSI and associated risk assessment, NHDES requests submittal of a work plan for additional investigation activities that includes: 1) Delineation of the extent of the lowland Pre-1981 Landfill waste and any waste associated with former automobile salvage operations, with the results presented on a site plan figure; 2) Delineation of the extent of contamination in Pickering Brook surface water and sediment at concentrations exceeding applicable water quality standards and TECs and PECs upstream and downstream of previously collected samples, including beyond the culvert at Banfield Road; 3) Delineation of the extent of contamination in wetland sediment at concentrations exceeding applicable TECs and PECs to the southeast, south, and southwest of previously collected samples; and 4) In accordance with recommendations made by Sovereign Consulting, completion of a survey, or inventory, of fish and other biota present in the wetland and Pickering Brook. The survey will inform the collection of samples for analysis of tissue for select contaminants, if warranted. NHDES requests submittal of the work plan within 120 days of receipt of this letter. The results of the additional investigation activities shall inform the preparation of a RAP for the lowland portion of the Site, the wetland and Pickering Brook, as appropriate. NHDES expects that completion of additional investigation activities and submittal of the RAP will occur during the years 2022 and 2023. NHDES is amenable to discussions with Wilcox & Barton regarding the work plan during its preparation, including the selection of specific contaminants for laboratory analysis.

As indicated by the timeframe of requests made in this letter, NHDES is agreeable to the remediation and redevelopment of the northeastern, upland portion of the Site while investigation and remediation planning activities continue to proceed for the lowland portion of the Site, the wetland and Pickering Brook. NHDES' rationale includes the following: 1) Soil and groundwater contamination in the lowland portion of the Site, and surface water and sediment contamination in the wetland and Pickering Brook portions of the Site, appear to be primarily associated with the Pre-1981 Landfill and perhaps the dispersive disposal of automobile parts and related wastes, whereas soil contamination in the upland portion of the Site appears to be the result of former automobile crushing and salvage operations conducted at locations separate from the lowland and wetland; 2) A remedy for the upland portion of the Site that includes managing contaminated soil under placement of suitable capping materials and an AUR will help prevent transport of contaminated surface soil via stormwater runoff to the wetland, which may have been a minor source of contamination to the wetland and Pickering Brook historically and could continue to occur without the placement of capping materials; and 3) Based on review of Alteration of Terrain Application 210601-079 and subsequent issuance of Alteration of Terrain Permit AoT-2040, NHDES understands the stormwater management features to be constructed during Site redevelopment will result in a controlled, lower rate of stormwater discharge to the wetland compared to what occurs currently, and that disturbance and mobilization downstream of contaminated wetland sediment is unlikely to occur with the expected lower rates of stormwater discharge.

NHDES notes it is imperative that best management practices for stormwater are followed during construction activities conducted as part of Site redevelopment to prevent transport of disturbed and exposed contaminated soils to the wetland and Pickering Brook.

Robert Graham  
DES #199408047  
April 21, 2022  
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Should you have any questions regarding this letter, please contact me at NHDES' Waste Management Division.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Drew", with a long horizontal flourish extending to the right.

Scott Drew, P.G.  
Hazardous Waste Remediation Bureau  
Tel: (603) 271-2890  
Email: [Scott.T.Drew@des.nh.gov](mailto:Scott.T.Drew@des.nh.gov)

Attn: Registration Form for Landfills Not Operated After July 9, 1981

ec: William R. Wilcox, Wilcox & Barton, Inc.  
Robert W. Rooks, P.E., Wilcox & Barton, Inc.  
Portsmouth Health Officer  
Michael McCluskey, P.E., HWRB

**RE: 2 Russell St Meeting:  
TAC June 7, 2022 Packet  
pages: 496-882**

Dear Members of TAC,

June 3, 2022

**Drainage (pg 537-604)**

**Pre 1.0 ( 2yr)**

runoff area 92,563sf

76.49% impervious runoff depth less than 2.91" flow length= 587' CN 93 runoff= 7.0 cfs 22,427 cf

**Post 1.0,1,1,1,2 (2 yr)**

Runoff area (added) 102,479sf

Averaged:

81.43% impervious runoff depth= 3.15" flow length= 314.66' CN 95.33 runoff= 2.8 cfs 9616.66cf

**Pre 2.0 (2 yr)**

Runoff area 58,401sf

90.39% impervious runoff depth less than 2.91" flow length 470' CN 93 runoff=4.41 cfs 14,150cf

**Post 2.0 (2 yr)**

Runoff area 48,485sf

90.09% impervious runoff depth=3.66 cfs flow length 370' CN 93 runoff=3.66cfs

11,747cf

And two runoff ponds.

The post runoff areas, **comparing Pre 1 and Post 1.0, 1.1 and 1.2**, will be running into retention ponds and then into the North Mill Pond seem to show *an increase in the amount of runoff and impervious surface* looking at the two year rainfall estimates. The desired effects of improved filtration, decrease in flow length and increase in cubic feet per second shown are positive. Will the retention pond be able to handle this amount of runoff at this positive flow rate in 5 years since the overflow will be at the maximum of 2 year levels? The North Mill Pond will have a significant increase of water from the many new large developments pouring water into it from their retention pond/basins. *It currently floods on the northern side during high rain events. Are these numbers being looked at collectively as these new developments are being added to the ones that have already been built on the North End and are likely contributing to some of the flooding around the North Mill Pond at high tide during high rain events?* It should be kept in mind that a lot of the water emptying into the North Mill Pond will not be filtered once the two year rain event calculations have been exceeded and 2 years have passed.

**Pedestrian and Bicycle Safety:**

Continuing the path which runs parallel to the RR Tracks onto Lot 119-4 (park) might be helpful, otherwise bikes and pedestrians are likely to cross there anyway to get to the other side. There could be a diagonal crosswalk from parallel to the RR tracks to Lot 119-4; keeping the one parallel to Russell St. The sidewalk could be continued by turning the figure 8 sidewalk of the park in the opposite direction. Having the open part of the curve start at where the first tree 1 AC KA (Maple) is listed on the Plan L- 101 (pg 517). The other proposed connections could remain just configured a little differently (*see picture at end*).

**Trash:**

Looking at Plan C-102.1 (pg 10) Building 2 seems to have 3 (T) areas, likely for trash. However, looking at buildings 1 and 3 there doesn't seem to be any.

## **Runoff and Green Buildings:**

### *Building 2 Balcony:*

Plan A-102 (pg 520) B2-L2 does NOT clarify the light green open space on the plan in the legend. This area was presented in the beginning as a living roof system. This area doesn't seem to exist on the Landscape Plan (L-101 pg 517). SGA Green Building Statement (pg 880) makes no mention of the "balcony" green space nor does the Maintenance Plan (pg 607).

**Was this area, if not a living roof system, included in the water run off calculations?** Were the materials used to cover it calculated for? This "balcony" could become a living roof system as originally suggested. It would lower water run-off, reduce energy needs for the floor below and it could be designed to provide enjoyable outdoor spaces for residents.

<https://www.thehenryford.org/visit/ford-rouge-factory-tour/highlights/living-roof/>

<https://www.thisoldhouse.com/green-home/21018522/green-roofs>

## **Traffic Report (pg 676-876)**

Counts were taken in January and February of 2022. A 1.8% (Covid) and a 1.23% (seasonal) adjustments were made, however there was no adjustment made for the supply chain hit which started in October of 2021 and was still in play in February of 2022 which reduced the number of deliveries of all kinds to businesses and homes alike. **The adjustment for seasonal seems extremely low** considering Portsmouth is shown at around 20,000 residents, however in the summer the seacoast is estimated to have over 1 million visitors.

Area plans pg 519-521 show 56,720 sf of retail (37451+10440+8829) and 84 residential units are listed on plan C-102.1 (pg 505). The reports include the hotel in some incidents and not in others. The Annual Average Daily Traffic (AADT) on page 737 seems to show about a 10% increase in traffic every year.

The revamping of the lights at Maplewood/ Deer will help but will not improve the issues at this corner by adding 177 vehicle trips (Section 6 pg 690). This corner will be a hot mess per the predictions of this report, estimated to be LOS F. *This area is of concern which is indicated under Section 5.1 to not experience improvements, even with the "build" changes, especially in projected traffic patterns.*

The proposed new circle will likely help with the Market/Russell. *However, **the corner of Deer and Market St did not seem to be included in these reports as to how the "circle" will impact this intersection.*** It remains to be seen what changes will be needed with this increase in vehicles to the corner of Deer/Russell, *perhaps something else to review before moving forward.*

Section 5 (pg 689) does indicate increased issues at the corner of Rt 1 bypass and Maplewood as well as still operating at a LOS F under build conditions, which may need to be considered at this time, especially in light of how blind that intersection is. *A traffic light at that off ramp could aid in traffic calming for the Maplewood Ave Neighborhood.*

**It may better serve the city to slightly decrease the size of the proposed sidewalks and increase the size and number of lanes on both sides of Deer St** as they approach Maplewood Ave to create less backup and better flow through the intersection for today and for the future.

Thank you for your consideration of these issues.

Sincerely,

Elizabeth Bratter  
159 McDonough St  
Portsmouth Property Owner

Possible Pedestrian/ Bicycle Crossing and additional sidewalk area:

