1.0 Introduction

1.1 Purpose

The following Soil Management Plan has been prepared for the City of South Portland (Applicant) for the South Portland Public Works Property, located at 42 O’Neil Street in South Portland, Maine. This Soils Management Plan (SMP) has been prepared at the request of the Maine Department of Environmental Protection (MDEP) under their Voluntary Response Action Program (VRAP). This SMP describes the procedures for identification, reporting, and removal of contaminated media that has been identified, or that could be encountered at the former South Portland Public Works Property.

1.2 Site Description

This parcel (the “Property”) is identified on the City of South Portland Tax Map 13, Lot 234A within the City of South Portland Assessor’s office. This six acre property is located at 42 O’Neil Street in South Portland and is the location of the South Portland Public Works Department, Parks Department, and Transportation Department. The site contains the offices, storage and repair facilities associated with these municipal departments. Exterior portions of the property also contain areas for the storage of equipment and vehicles associated with these departments, as well as the location of the salt shed, the location of a vehicle and equipment fuel dispenser island, and sand & gravel storage areas. The majority of the site covered by either pavement or buildings, and has been utilized as the City’s Public Works facility since as early as 1940. The property is located within an urban, residentially developed area between Hillside Avenue and Walnut Street in South Portland, Maine. The current owner of the property is the City of South Portland.

1.3 Background

Records reviewed in previous environmental investigations indicate the property was acquired by the City in 1940, and was established as the City’s Public Works offices and facilities at that time. The Property has remained the location of the City’s Public Works Department, Parks and Recreation Department, and City Bus Services. The City intends to relocate these Departments to a location on Highland Avenue within the City, and potentially redevelop or transfer this property. As a result of the impending relocation, STI was contracted to perform Phase I and II Environmental Site Assessments in 2013 and 2015.

With the assistance of STI, the City of South Portland enrolled in MDEP’s VRAP on August 29, 2013. Subsequent soil and groundwater investigations were completed by STI and submitted for review to the MDEP on July 25, 2015. The MDEP issued comments on the Phase II investigations in an email from VRAP Director Nicholas Hodgkins on September 14, 2015.
1.4 Areas of Soil and Groundwater Impacts

Figure 2 depicts the location of soil and groundwater samples collected in STI’s 2015 Phase II investigation, and analytical results are summarized in Table 1, Summary of Soil & Groundwater Analytical Results Above RAGs. Contamination consist of volatile organic compounds (VOCs) from gasoline and oils used within the Public Work’s repair garage, and concentrations of Lead, detected in groundwater outside of the site’s former blacksmith shop. Soil contamination was detected in the upper two feet of soil, considered potentially accessible by MDEP.

1.5 Proposed Redevelopment

This property is expected to be vacated and redeveloped within the next five years, and remain located in a drinking water “non-attainment zone” (available public water). While the City currently has no specific redevelopment plans for the Property, potential redevelopment plans include residential redevelopment of this property consistent with the neighborhood and adjacent properties. Additionally, the City will be required to remove the existing USTs in accordance with Maine DEP Chapter 691, Appendix P rules for removal of USTs.

2.0 Soil Management

2.1 Excavation or Site Work Notification

VRAP personnel require advanced written notice of any excavation at the property. Should excavation in the vicinity of any of the previously identified areas of remaining contamination be conducted in the future, it shall be carried out with personnel performing excavation, removal, segregation, handling, stockpiling, management, or transportation of remaining soil contamination on the property supervised by a 40-hour Hazardous Waste Operator trained in compliance with OSHA 29 CFR 1910.120(e) (8). Areas of detected contaminant above MDEP RAGs are delineated on the attached Figure 1-Areas of Remaining Contamination.

2.2 Responsibilities of Environmental Professional

Underground excavation, underground utility repair, or construction activities exposing site workers to dermal contact or ingestion of soil within the identified areas shall be monitored for potential contamination by an Environmental Professional. If contaminated soil is encountered, only the soil that has been removed from the ground and not returned to the same excavation should be disposed of off-site, except as allowed to remain by permission of the MDEP. The location or relocation of any contaminated soils must be identified for inclusion on as-built drawings and subject to future soil management restrictions. If there are detections of VOCs, or “Suspect Materials”, defined as chemical odors or stains (other than petroleum odors or stains), a sheen or other substance on the water table, fibrous material, drums or containers, unusual textures (such as powders, crystals, or beads), encountered in soils, then excavation must cease and the Environmental Professional must properly characterize the soils and propose a plan for disposition of the soils to the MDEP, which may include leaving the materials in place. If these detections occur, then the area must be secured using caution tape or temporary fencing or obstructions. Off-site soil disposal must be conducted in compliance with all applicable federal, MDEP, and local regulations. The MDEP should be notified of any excavation and excavated soil should be managed in accordance with MDEP rules and policies.
If unidentified conditions are encountered during excavation activities, the Maine DEP VRAP must be contacted to determine appropriate actions. Should the conditions warrant immediate response, the MDEP Division of Response shall be contacted to determine the appropriate course of action. The following phone numbers may be used for contact purposes:

- Maine DEP Division of Response 207-941-4570
- Maine DEP VRAP Program 207-287-4854

2.3 Field Screening and Monitoring Procedures

Should excavation be conducted in the areas of previously identified petroleum contamination, the Environmental Professional should be field screened for potential petroleum and metals contamination. These soils should be screened following procedures set forth in the MDEP Compendium of Field Testing of Soil Sample for Gasoline and Fuel Oil Standard Operating Procedure (SOP) TS-004 dated April 20, 2011, and the Protocol for Collecting Data Using a Portable X-Ray Fluorescence Spectrometer for Certain Metals in Solid Media, SOP DR-15 and DR-25.

The primary goal of the soil screening is to determine if soil vapors pose a threat to workers performing the site work, and whether any restrictions apply to the reuse of excavated soil on site. The frequency of soil screening will be at the discretion of the Environmental Professional. Because field screening is limited in its ability to accurately characterize concentrations of contaminants, offsite disposal of excavated material from the site will need to be further characterized for disposal, as described in Section 3.0 of this Plan.

2.4 Implementation of Cover Systems

Low-permeable or impermeable soil cover systems or other barrier systems (e.g., building foundations for the proposed buildings, pavement, clean soil cover, and/or concrete cover systems) must be constructed over any soils exceeding Residential PID guidelines in order to prevent direct contact and exposure to any potential remaining contaminated soil at the Property. Implementation of these mitigation measures will adequately mitigate human exposure to any contaminated soils that may remain on the property.

Additionally, a vapor barrier and/or passive sub-slab depressurization system must be incorporated into the design of any proposed structures that may be located in any areas of contaminated soils exceeding Residential PID guidelines that may be encountered during site redevelopment. These structures include interior spaces that would be occupied by people (e.g., commercial workers occupying the building for typical 8-hour workday) to prevent any vapor intrusion issues that may arise in the future.

Examples of cover systems typically approved by MDEP include clean soil cover a minimum thickness of two feet above contaminated material, or impervious cover systems such as pavement or concrete, restricting access to these areas. Cover systems should be marked in the field with materials such as snow fencing and delineated on any site plans for the property.
3.0 Disposal of Contaminated Soil

Disposal of contaminated soil shall be done in accordance with all local, State, and Federal regulations. Offsite disposal of soils on the property should be collected for disposal characterization/waste profiling as required by the disposal facility. Disposal of soil can only occur if the characterization/profiling meets the appropriate parameters of the disposal facility’s license and agreement with the designated facility to accept the waste.

4.0 Groundwater Management

Where groundwater contamination is present on the Property, the groundwater may not be discharged to the storm drain or sanitary sewer unless in compliance with a discharge permit issued by the responsible regulatory agency. Activities that may encounter contaminated groundwater must have written procedures for site monitoring, spill contingency and treatment, and discharge for any extracted groundwater. If contaminated groundwater is extracted, it must be captured and treated prior to being routed to a permitted discharge point. With potential groundwater risk to construction workers, plans must be prepared to document worker protection and training requirements should groundwater be encountered during construction activities.

5.0 Documentation

If contaminated soil is encountered, the environmental professional, or other person responsible for soil management shall maintain a written log of the procedures and actions taken to address the contamination in accordance with this plan.

6.0 Limitations

This SMP is based on the data described herein and other information available at the time of this submittal. It is limited by the information and recommendations presented in STI’s July 24, 2015 Phase II Environmental Site Assessment report.

Prepared by,

SEBAGO TECHNICS, INC.

[Signature]

Grant Austin
Environmental Scientist

Attachments:
Figure 1-Remaining Areas of Previously Identified Contamination
Figure 2-Phase II Boring, Test Pit and Monitoring Well Locations
Table 1- Summary of Soil & Groundwater Analytical Results Above RAGs
FIGURE 1- REMAINING AREAS OF PREVIOUSLY IDENTIFIED CONTAMINATION

LOCATION:
42 O'NEIL STREET
SOUTH PORTLAND, MAINE

INFORMATION:
IMAGERY ACQUIRED SPRING 2012
SOURCE: CITY OF SOUTH PORTLAND
PARCEL AND ROAD DATA FROM CITY OF SOUTH PORTLAND

SCALE: 1" = 100'
DATE: 11/25/2015

Legend

Approximate Area of Contamination
Parcel
<table>
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<tr>
<th>Parameter</th>
<th>Sample ID</th>
<th>Leaching to Groundwater</th>
<th>Soil Residential</th>
<th>Soil Park</th>
<th>Soil Commercial Worker</th>
<th>Soil Construction Worker</th>
<th>Urban Developed Background UPL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GP-6</td>
<td>GP-7</td>
<td>MW-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Volatile Organic Compounds (VOC) (mg/L)</td>
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<td></td>
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<tr>
<td>Benzo(a)pyrene</td>
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</tbody>
</table>

**GROUNDWATER**

<table>
<thead>
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<th>Parameter</th>
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<th>Residential</th>
<th>Groundwater Construction Worker</th>
</tr>
</thead>
<tbody>
<tr>
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<td>GP-6</td>
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<td>MW-7</td>
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<tr>
<td>RCRA 8 Metals (ug/L)</td>
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</tbody>
</table>

Only compounds detected above MDEP Remedial Action Guidelines (RAGs) are listed.
ND indicates results not above laboratory LOD.
Results and standards are shown in milligrams per kilogram (mg/kg) for soil, and micrograms per liter (ug/L) for groundwater, unless otherwise noted.
Samples were analyzed by Katahdin Analytical Services of Scarborough, Maine. Reports identified as Katahdin Lab Numbers SI2404, SI2833 & SI2356.
Standards are based on the Maine Remedial Action Guidelines (RAGs) for Soil Contaminated with Hazardous Substances, Maine Department of Environmental Protection Bureau of Remediation and Waste Management, May 10 2013.