Horsley Witten Group
Sustainable Environmental Solutions
294 Washington Street • Suite 801 • Boston, MA 02108
857-263-8193 • horsleywitten.com

MEMORANDUM

To: Neil Cronin, Jennifer Caira – City of Newton

From: Bryan Massa, LSP

Date: February 24, 2020

Re: Riverside Station Summary of Environmental Due Diligence and Pre-Characterization Activities Memorandum Peer Review

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The intent of this memorandum is to provide a peer review of environmental due diligence and pre-characterization activities associated with the Riverside Station Grove Street Development Project located in Newton, Massachusetts (the "Development Project"). The Applicant is proposing to redevelop a portion of the existing Massachusetts Bay Transportation Authority (MBTA) property and Hotel Indigo property located off Grove Street. The proposed Development Project includes ten mixed use buildings with roadways, parking areas, landscaping and utility improvements.

The MBTA property includes a maintenance facility, several buildings, paved parking areas, and railroad spurs. The MBTA property is the subject of three reported releases to the Massachusetts Department of Environmental Protection (MassDEP). The releases are identified as Release Tracking Numbers (RTNs) 3-10565, 3-18969, and 3-18501. All three releases achieved regulatory closure consistent with the Massachusetts Contingency Plan (MCP). Only one of these releases (3-10565) includes a disposal site (defined by the MCP as "*a place or area where an uncontrolled release of oil and/or hazardous material from or at a site or vessel has come to be located*") that extends into the Development Project. The Development Project and locations of the three RTNs are included on the attached Figure 1 prepared by Sanborn, Head and Associates, Inc (Sanborn Head). There are no reported releases for the Hotel Indigo property.

According to the MassDEP Priority Resource Map and details provided by Sanborn Head, the Development Parcel is located within 500-feet of a residence and is not located within a current or potential drinking water source area. Therefore, the applicable Massachusetts Contingency Plan (MCP) soil category for the Development Parcel is Reportable Concentration (RC) S-1 and the groundwater category is RCGW-2. As part of the peer review, HW has reviewed the following documents associated with the Development Project and MBTA property:

- *Response Action Outcome Statement*, prepared by Rizzo Associates, Inc. and dated December 30, 1998 (the "Rizzo Report").

- *Release Abatement Measure Completion Statement and Class A-2 Response Action Outcome Statement,* prepared by ATC Associates, Inc. and dated November 2000 (the "ATC Report").
- Phase I Initial Site Investigation and Response Action Outcome Report, prepared by Weston & Sampson Engineers, Inc. and dated December 2000 (the "Weston & Sampson Report").
- *Summary of Environmental Due Diligence and Pre-Characterization Activities Riverside Station Redevelopment*, prepared by Sanborn Head and dated January 28, 2020 (the "Sanborn Head Memorandum").

General Summary of Historical MassDEP Reports for RTNs 3-10565, 3-18969, and 3-18501

1. The Rizzo Report for the MBTA property appears to include the northern portion of the Development Project within the limits of the disposal site boundary for RTN 3-10565. This property was identified by the MassDEP as a release site due to the generation of approximately 2,000 tons of oil contaminated soil and rail ballast for recycling in 1993. Several soil and groundwater samples were subsequently collected from the MBTA property including one soil boring (RIZ-4) that was advanced within northeastern corner of the Development Project. A groundwater flow survey determined that groundwater flows to the west which is generally away (hydraulically downgradient) from the Development Project. Analytical testing of soil and groundwater from RIZ-4 for metals, polynuclear aromatic hydrocarbons (PAHs), extractable petroleum hydrocarbons (EPH), volatile petroleum hydrocarbons (VPH) and/or volatile organic compounds (VOCs) did not identify any concentrations above the applicable MCP Method 1 Standards. The Rizzo Report concluded that a condition of no significant risk exists, and the disposal site meets the requirements for a Class B-1 Response Action Outcome without the need of any activity and use limitations (AUL).
2. The ATC Report for the MBTA property (RTN 3-18969) identifies the disposal site boundary as located approximately 300 feet west of the Development Project. This property was identified as a release site when impacted soil was encountered during selective demolition of the platforms between tracks 2, 3, 6, and 7 and at the north end of the existing carthouse. Several soil and groundwater samples were collected from this area for select metals, semi-volatile organic compounds (SVOCs), VOCs, total petroleum hydrocarbons, EPH, VPH, and/or polychlorinated biphenyls (PCBs). A groundwater flow survey determined that groundwater flows to the northwest which is generally away (hydraulically downgradient) from the Development Project. Additionally, no EPH, VPH, VOCs, or RCRA 8 metals were detected in groundwater above the applicable RCGW-2. The ATC Report concluded that a condition of no significant risk exists, and the disposal site meets the requirements for a Class A-2 Response Action Outcome without the need of an AUL.
3. The Weston & Sampson Report for the MBTA property (RTN 3-18501) identifies the disposal site boundary as located approximately 285 feet west of the Development Project. Several soil and groundwater samples were collected from this area for EPH, PAHs, VPH, and target VOCs. A groundwater flow survey determined that groundwater

flows to the west/northwest which is generally away (hydraulically downgradient) from the Development Project. Additionally, no EPH, VPH, target VOCs, or PAHs were detected in groundwater above the applicable MCP Method 1 Standards. The ATC Report concluded that a condition of no significant risk exists, and the disposal site meets the requirements for a Class B-1 Response Action Outcome without the need of an AUL.

General Summary of Development Parcel Memorandum

1. The Sanborn Head Memorandum includes details of subsurface investigations conducted at the Site by Sanborn Head and Haley & Aldrich as part of due diligence investigations. The subsurface investigations included the advancement of 27 soil borings and the collection of 16 soil samples for laboratory analysis of SVOCs, PCBs, 14 MCP metals, VOCs, TPH, VPH and/or EPH. Ten of the soil borings were converted to groundwater monitoring wells. Six select groundwater samples were collected and submitted for laboratory analysis of VOCs, select metals (total and dissolved), EPH, PAHs, VPH, and/or VOCs.
2. A petroleum like odor was observed in soil borings HA09-12 at 4.5 to 5 feet below grade and HA09-13 from 9.5 to 11.5 feet below grade. Analytical testing of soil samples obtained from these locations and depths were below the applicable RCS-1.
3. Analytical results from soil borings SH-108, SH-109 and SH-110 identified exceedances of the RCS-1 for select PAHs. Arsenic was also detected above the applicable RCS-1 in soil boring SH-108. These exceedances are consistent with the levels documented in the MassDEP technical update document titled *Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil* for soil containing coal ash or wood ash. Boring logs for all three locations indicate that ash was observed. Pursuant to 310 CMR 40.0319 (9), releases associated with coal, coal ash or wood ash, excluding wood ash resulting from the combustion of lumber or wood products that have been treated with chemical preservatives are exempt from reporting.
4. A groundwater elevation survey conducted at the Site determined that groundwater flows in a northerly direction and is located approximately 13.87 to 37.91 feet below grade. No RCGW-2 exceedances were identified in any of the groundwater samples collected.
5. Sanborn Head concluded that “the recent soil detections in slight excess of the RCS-1 soil standards are exempt from notification to DEP and *“the proposed redevelopment project is unlikely to adversely impact human health, safety, public welfare, or the environment”.* Construction activities are proposed to be managed under a Release Abatement Measure (RAM) prepared consistent with the MCP. The RAM will detail soil and groundwater management activities in addition to ambient air monitoring requirements. The air monitoring will ensure that construction workers and other surrounding receptors are not adversely impacted during redevelopment of the Site.

Conclusion

1. The Horsley Witten Group concurs with Sanborn Head's conclusion that the recent soil detections in slight excess of the RCS-1 soil standards are exempt from notification to MassDEP and that the management of soil and groundwater under a RAM is appropriate. Air monitoring during the RAM for particulate mater and volatile organic compounds will ensure that construction workers and other surrounding receptors are not adversely impacted during redevelopment.

Attachment:

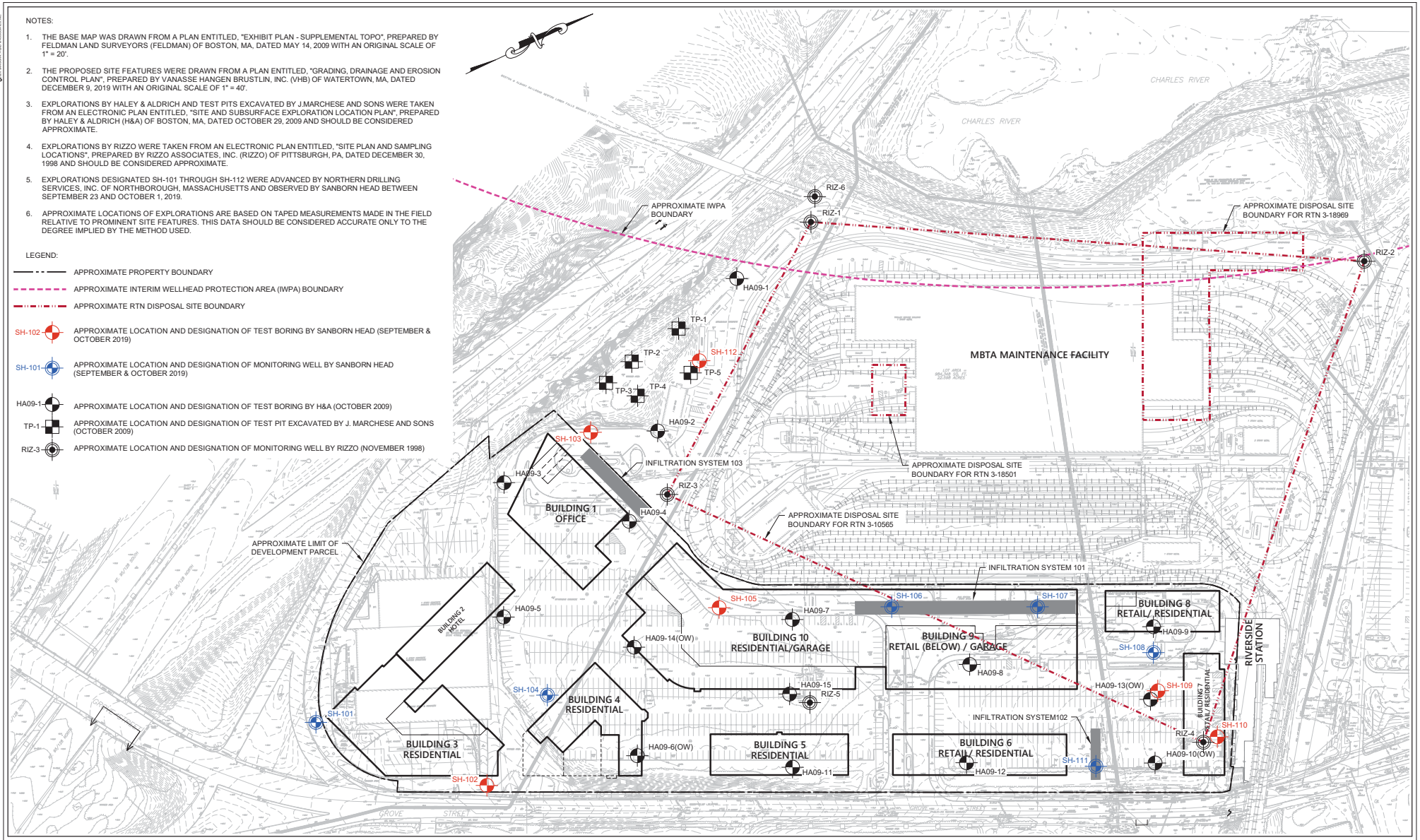
Figure 1

NOTES:

1. THE BASE MAP WAS DRAWN FROM A PLAN ENTITLED, "EXHIBIT PLAN - SUPPLEMENTAL TOPO", PREPARED BY FELDMAN LAND SURVEYORS (FELDMAN) OF BOSTON, MA, DATED MAY 14, 2009 WITH AN ORIGINAL SCALE OF 1" = 20'.
2. THE PROPOSED SITE FEATURES WERE DRAWN FROM A PLAN ENTITLED, "GRADING, DRAINAGE AND EROSION CONTROL PLAN", PREPARED BY VANASSE HANGEN BRUSTLIN, INC. (VHB) OF WATERTOWN, MA, DATED DECEMBER 9, 2019 WITH AN ORIGINAL SCALE OF 1" = 40'.
3. EXPLORATIONS BY HALEY & ALDRICH AND TEST PITS EXCAVATED BY J.MARCHESE AND SONS WERE TAKEN FROM AN ELECTRONIC PLAN ENTITLED, "SITE AND SUBSURFACE EXPLORATION LOCATION PLAN", PREPARED BY HALEY & ALDRICH (H&A) OF BOSTON, MA, DATED OCTOBER 29, 2009 AND SHOULD BE CONSIDERED APPROXIMATE.
4. EXPLORATIONS BY RIZZO WERE TAKEN FROM AN ELECTRONIC PLAN ENTITLED, "SITE PLAN AND SAMPLING LOCATIONS", PREPARED BY RIZZO ASSOCIATES, INC. (RIZZO) OF PITTSBURGH, PA, DATED DECEMBER 30, 1998 AND SHOULD BE CONSIDERED APPROXIMATE.
5. EXPLORATIONS DESIGNATED SH-101 THROUGH SH-112 WERE ADVANCED BY NORTHERN DRILLING SERVICES, INC. OF NORTHBOROUGH, MASSACHUSETTS AND OBSERVED BY SANBORN HEAD BETWEEN SEPTEMBER 23 AND OCTOBER 1, 2019.
6. APPROXIMATE LOCATIONS OF EXPLORATIONS ARE BASED ON TAPED MEASUREMENTS MADE IN THE FIELD RELATIVE TO PROMINENT SITE FEATURES. THIS DATA SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- APPROXIMATE INTERIM WELLHEAD PROTECTION AREA (IWPA) BOUNDARY
- APPROXIMATE RTN DISPOSAL SITE BOUNDARY
- SH-102 — APPROXIMATE LOCATION AND DESIGNATION OF TEST BORING BY SANBORN HEAD (SEPTEMBER & OCTOBER 2019)
- SH-101 — APPROXIMATE LOCATION AND DESIGNATION OF MONITORING WELL BY SANBORN HEAD (SEPTEMBER & OCTOBER 2019)
- HA09-1 — APPROXIMATE LOCATION AND DESIGNATION OF TEST BORING BY H&A (OCTOBER 2009)
- TP-1 — APPROXIMATE LOCATION AND DESIGNATION OF TEST PIT EXCAVATED BY J. MARCHESE AND SONS (OCTOBER 2009)
- RIZ-3 — APPROXIMATE LOCATION AND DESIGNATION OF MONITORING WELL BY RIZZO (NOVEMBER 1998)



SANBORN HEAD

GRAPHICAL SCALE
70' 35' 0' 70' 140'

NO.	DATE	DESCRIPTION	BY

DRAWN BY: D.DOMBROWSKY
DESIGNED BY: M.RUBERTI
REVIEWED BY: M.HEIL
PROJECT MGR: M.RUBERTI
PIC: K.STETSON
DATE: JANUARY 2020

ENVIRONMENTAL ENGINEERING SERVICES
RIVERSIDE STATION
NEWTON, MASSACHUSETTS

EXPLORATION LOCATION PLAN

PROJECT NUMBER: 4575.00

SHEET NUMBER: 1