Worcester, MA

Former Saint-Gobain Abrasives Property

1 New Bond Street

November 2022

DRAFT ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES

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Prepared by: BETA GROUP, INC.
Prepared for: New Garden Park, Inc.

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1.0 INTRODUCTION

1.1 PURPOSE

BETA Group, Inc. (BETA) has prepared this Draft Analysis of Brownfields Cleanup Alternatives (ABCA) report for a portion of the property (400-series buildings) referenced as the former Saint-Gobain Abrasives Property located at 1 New Bond Street in Worcester, Massachusetts (the site) on behalf of New Garden Park, Inc. (NGP) as part of the City of Worcester's Brownfields Cleanup Revolving Loan Fund (BCRLF) funded by the United States Environmental Protection Agency (USEPA).

This ABCA has been prepared in accordance with USEPA guidelines and in general accordance with the regulatory requirements of the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000. In accordance with USEPA guidelines, a Draft ABCA was prepared and will be available for public comment for a period of 30 days from November 4, 2022 through December 4, 2022. A public meeting on the Draft ABCA is scheduled for Wednesday, November 16, 2022 at 5:30 p.m. at the Abbey Keller Foster Charter Public School auditorium, 6 New Bond Street, Worcester, MA.

This ABCA presents an evaluation of feasible remedial alternatives to address hazardous material (chlorinated volatile organic compounds) contamination in soil and groundwater and hazardous building materials (Asbestos containing material, polychlorinated biphenyls, and lead-based paint) associated with the 400-series buildings.

1.2 SITE REDEVELOPMENT PLAN

The goal of this project is to complete remedial and assessment response actions in order to prepare the site for redevelopment for industrial, commercial and / or residential purposes.

1.3 APPLICABLE LAWS AND REGULATIONS

Laws and regulations that are applicable to remedial and assessment response actions include the following:

- Massachusetts Contingency Plan (MCP) - 310 CMR 40.0000
- Massachusetts Hazardous Waste Regulations - 310 CMR 30.0000
- OSHA Safety and Health Regulations for Construction (Asbestos) - 29 CFR 1926.1101
- National Emission Standards for Hazardous Air Pollutants (NESHAP) – 40 CFR 61.145
- MassDEP Asbestos Regulation – 310 CMR 7.15
- Toxic Substance Control Act (TSCA) Regulations -40 CFR 761
- TSCA - Final Rule: Lead; Notification Requirements for Lead-based Paint Abatement Activities and Training – 40 CFR 745
- OSHA Lead Standard for the Construction Industry, 29 CFR 1926.62
- Federal Small Business Liability Relief and Brownfields Revitalization Act
- Federal Davis-Bacon Act
- City of Worcester by-laws.

Contaminated soil, groundwater and subslab soil gas at the site will be regulated under the MCP. It is anticipated that remedial response actions (involving soil, ground water and / or subslab soil gas) will be performed as a Release Abatement Measure (RAM).

Asbestos containing material (ACM) at the site will be regulated under the OSHA Safety and Health Regulations for Construction (Asbestos), National Emission Standards for Hazardous Air Pollutants (NESHAP), and MassDEP Asbestos Regulation.

Building materials contaminated with Polychlorinated Biphenyls (PCBs) will be regulated under TSCA (40 CFR 761). It is anticipated that building materials containing PCBs will be remediated under a self-implementing or performance-based cleanup plan in accordance with 40 CFR 761.

Lead-based paint (LBP) removal will be regulated under applicable OSHA regulations (29 CFR 1926.62), TSCA (40 CFR 745), and MassDEP – Hazardous Waste Regulations.

2.0 General Site Information

The primary property anchoring the Project is the former Saint-Gobain Abrasives property, assigned the address of 1 New Bond Street, Worcester, Massachusetts. The property appears on the United States Geological Survey (USGS) Topographic Quadrangle – Worcester North, Massachusetts. See Figure 1 for details. The property encompasses approximately 51 acres of land and consists of six parcels designated by the City of Worcester as the following Map-Block-Lot numbers and corresponding addresses:

- 37-001-00001 (1 New Bond Street)
- A portion of 37-004-00001 (12R New Bond Street)
- 37-012-00001 (0 Indian Hill Road)
- 37-011-0000A (14 Indian Hill Road)
- 37-009-00002 (0 Ararat Street)
- Unnamed parcel (near the intersection of Stores Street and Shore Drive)
  - Legal reference: Public 1976 State Highway Layout No. 6259 Rte 190. Deed Book 5965, Page 95-135 Section 1. Layout No. 6259 Page 6-13. Plan Book 426, Plan 11, Sheet 6 of 15.

The Norton Company was founded at the site in 1885 as a manufacturer of grinding wheels. Since that time, the manufacturing business has expanded to include other abrasive products (bonded abrasives, coated abrasives, non-woven abrasives) and became a multi-national corporation. The Norton Company became a publicly held company in 1962 and was acquired by Saint-Gobain Abrasives in 1990. Manufacturing operations ceased in October 2022. The property is currently improved with sixty (60) buildings. Historical uses of buildings at the complex included manufacturing, storage, utilities, and office space.

The site, subject to this ABCA, consists of a portion of 1 New Bond Street which is currently improved with eleven interconnected (11) buildings known as the 400 Block. The current site structures are summarized in Table 1. Refer to Figure 2 for building locations.

Table 1: Visual Site Inspection Building Inventory

Building Number	Building Name / Historic Use	Current Use
409	Diamond Swarf	Storage
410	HGTC Powder Process	R&D Lab
411	Housekeeping Storage	Vacant
412	Office Building #2	Office
413	HGTC – Mill #3	R&D Lab
415	PD Substation #9	Utilities
416	Office Building #3	Office

Building Number	Building Name / Historic Use	Current Use
417	Mill #4 – WA	Manufacturing
418	Mill #5 – WA	Manufacturing
419	Mill #6 – WA	Manufacturing
420	Mill #7 – WA	R&D Lab

According to visual observations and BETA's records review at the City of Worcester Municipal Offices, the site is currently serviced by the following utilities: municipal water and sewer, telephone, electricity and steam heat. A power plant is located on the easterly adjoining property (part of the Saint-Gobain Complex identified as 12 R New Bond Street). The power plant is owned by Saint-Gobain Abrasives and has been operational since the 1930s. The power plant provides steam heat to all of the former and current Saint-Gobain Abrasives complex buildings (both on-site and off-site) and will continue to provide steam heat to the site buildings until the buildings are demolished.

The equipment associated with the primary boiler is capable of dual- or tri-fuel combustion (natural gas, fuel oil, or coal). Historically, the station was primarily fueled by coal. More recently, No. 6 fuel oil and/or middle-weight fuel oil stored in underground storage tanks (USTs) and aboveground storage tanks (ASTs) reportedly provided fuel. The current operator and information provided by Saint-Gobain indicate that the primary fuel currently used is natural gas supplied by underground pipeline, with No. 2

According to Figure 1, elevation at the site is approximately 560 to 590 feet above mean sea level (MSL). Topography of the site and site vicinity can be categorized as generally flat with a slight downward slope from west to east on the eastern portion of the site. Previous subsurface investigations determined that groundwater flows towards the southeast.

BETA's review of the Massachusetts GIS 21E Map revealed that the site is within a Medium to High Yield Non-Potential Drinking Water Resource Area. See Figure 3 for details.

2.1 Surrounding Land Use

Visual observations, records inquiry at the Worcester Municipal Offices, and review of historical sources revealed the following current and historical uses of adjoining properties as described in Table 2 and depicted in Figure 4.

Table 2: Current and Historical Uses of Adjoining Properties

ADJOINING PROPERTIES	DIRECTION	CURRENT USE	HISTORICAL USE
Abbey Kelley Foster Charter Public School	southeast & north	school	manufacturing
Central Mass Collaborative	southeast & north	school	manufacturing
Massachusetts Department of Environmental Protection	southeast & north	office building	manufacturing
Abbey Kelley Foster High School	southeast & north	school	manufacturing
United Rentals	East	commercial warehouse	warehouse
Undeveloped land/Kendrick Field	east	baseball fields	undeveloped

ADJOINING PROPERTIES	DIRECTION	CURRENT USE	HISTORICAL USE
Saint-Gobain Abrasives	east	Power Plant	Power Plant
Saint-Gobain Abrasives	south	manufacture building	manufacture building
Greendale Dance Academy	northeast	dance studio	office building
Ararat Street	north	roadway	roadway
City Welding and Fabrication	north	metal fabrication	commercial
Saint-Gobain Abrasives	north	manufacture building	commercial
I-190	west	roadway	roadway

2.2 Potential Receptors

The Project site structures are currently unoccupied except for one (1) or two (2) Saint-Gobain Abrasives' employees that manage stock and dry materials temporarily stored in in the buildings. Saint-Gobain Abrasives will be vacating the buildings in a phased approach. Vacant lots within the Project site are unused. Buildings are secured to prevent unauthorized entrance. The majority of the site (90%) is either covered by building footprints or paved.

Based upon review of Figure 3 – MassGIS Priority Resource Map, the site is not located within a MassDEP-designated Interim Well Protection Area (IWPA), Potentially Productive Aquifer, or within a Current or Potential Drinking Water Source Area. The site is located within a MassDEP-designated Non-Potential Medium and High Yield Aquifers and a 100-year floodplain. Based upon records research at Worcester City Offices, there are no known private or public potable water supply wells within 500 feet of the Site. The site and surrounding area are serviced with municipal potable water and sewer.

There is one surface water body located on the property. Weasel Brook flows southwesterly in a culvert which crosses New Bond Street at Building 301. Weasel Brook exits the culvert on the south side of Building 301 before it enters another culvert as it exits the site. The Weasel Brook culvert also conveys storm water drainage from a significant portion of the area between Ararat Street and New Bond Street.

The following are potential receptors of oil and / or hazardous material in overburden soil and groundwater and indoor air vapor intrusion:

- Site workers
- Construction and utility workers
- Trespassers

3.0 Disposal Site History

3.1 MassDEP Disposal Sites - Closed

The Norton Company / Saint-Gobain complex has been issued multiple Release Tracking Numbers (RTNs) by MassDEP, dating back to 1993. Two (2) of the ten (10) RTNs issued are associated with the

site (400 Block). Both RTNs are considered closed under the MCP. Disposal site information for these RTNs is summarized in the table below and discussed in Section 3.1.1.

Table 3: Summary of RTNs Associated with the 400-Series Buildings

RTN[1]	RELEASE DATE	RELEASE LOCATION	CONTAMINANTS OF CONCERN	REGULATORY STATUS
2-10165	Dec-93	Near Buildings 503 to 417, along C Street & New Bond Street	Hydraulic oil	Closed (1994)
2-10166	Dec-93	Near Building 417, along New Bond Street	Hydraulic oil	Closed (1994)

Notes:
RTN - MassDEP Release Tracking Number

3.1.1 RTN 2-10165 and 2-10166 – C Street and New Bond Street

In December 1993, two releases of hydraulic oil (30 gallons and 30-50 gallons) occurred as a result of a ruptured hydraulic line on a crane. The first release occurred near Building 503 and was tracked along C Street and New Bond Street, ending near Building 417. The second release occurred where the first release ended, near Building 417 on New Bond Street. The releases impacted pavement and response actions were conducted to contain and cleanup the releases. A Response Action Outcome (RAO) Statement, addressing both releases, was submitted to the MassDEP on February 7, 1994.

A Notice of Noncompliance (NON) was issued to Industrial Transfer & Storage for failure to notify the MassDEP within 2 hours of obtaining knowledge that a sudden release of hydraulic oil greater than its reportable quantity had occurred. On March 28, 1994, Corporate Environmental Engineering, Inc. submitted a Response to Notice of Noncompliance (NON) to the MassDEP.

3.2 Summary of Assessment and Remedial Response Actions Completed to Date

3.2.1 Membrane Interface Probe (MIP) Investigation

In January 2015, a Membrane Interface Probe (MIP) Investigation was conducted for a portion of the Saint-Gobain complex, including land located south of New Bond Street (from West Boylston Street extending west to Stores Street) and land located west of Stores Street (from New Bond Street extending north to Ararat Street). The MIP was a preliminary investigation for the purpose of gaining a basic understanding of subsurface environmental conditions at the site through varying field screening techniques. Forty-seven (47) soil borings were advanced to depths of 1.5 to 13 feet below grade surface (bgs). The results of the investigation were presented in a Preliminary Site Characterization Report, dated January 16, 2015, and prepared by Kleinfelder, Inc. (Kleinfelder). A copy of the Kleinfelder report is included in Appendix B.

The MIP used a field screening apparatus to identify the potential presence of Volatile Organic Compounds (VOCs) and Total Petroleum Hydrocarbons (TPH) and to gather grain size data. MIP apparatus included an electrical conductivity (EC) sensor, photoionization detector (PID), flame ionization detector (FID) and halogen specific detector (XSD). An X-Ray Fluorescence (XRF) meter was also used to field screen for the potential presence of Metals. A total of 68 samples were field analyzed using an XRF meter.

MIP results indicated areas of concern (AOCs) along New Bond Street likely contain elevated Metals (Arsenic, Lead, Copper, Chromium and Mercury) and potentially VOC and/or petroleum-based contamination. Fill materials, including coal and ash, were noted throughout this area. Elevated PID and FID responses were observed within the courtyard area of the Building 400 complex and at the southeast intersection of New Bond and Stores Streets.

Based upon the FID and PID responses, the southeast intersection of New Bond and Stores Streets appeared to have the highest potential for petroleum (and potentially VOCs) contamination. MIP results indicated that the subsurface conditions along Stores Street likely contain slightly elevated Metals (Arsenic, Lead and Chromium). An isolated area of notable FID responses was noted north of Building 543.

Based upon the MIP Investigation results, the potential existed for soil and/or groundwater contamination at the site. The subsurface investigation activities detailed below represent a second round of assessment to further understand the nature and extent of oils and/or hazardous materials at the site and the implications for future redevelopment and costs associated with additional assessment and/or remediation, as appropriate.

3.2.2 Subsurface Investigations – January 2020 to June 2020

On January 15-22, 2020, BETA supervised the advancement of thirty-five (35) soil borings throughout the property, including the site. Seventeen (17) of the soil borings were completed as groundwater monitoring wells and referred to in this report using the designation "MW" prior to the well location number. The remaining soil borings use the designation "SB" prior to the soil boring location number. Soil borings were advanced throughout the site.

Based on the results of the January 2020 subsurface exploration activities, BETA proposed additional soil boring and monitoring well locations throughout the property, including the site. Boring locations were selected to supplement existing data and to fill in data gaps including information relative to subsurface conditions beneath building footprints. The January 2020 investigation only targeted exterior areas of the site.

On March 23 to April 7, 2020, BETA supervised the advancement of twenty-one (21) additional soil borings throughout the property, including site. Twenty (20) of the soil borings were completed as groundwater monitoring wells.

Based on the results of the March to April 2020 subsurface exploration activities, BETA proposed one additional soil boring / monitoring well location in the sidewalk area along the south side of New Bond Street, adjacent to Building 416. BETA also proposed installation of a sub-slab soil vapor monitoring point and re-sampling of two existing groundwater monitoring wells within Building 416 in order to further evaluate impacted subsurface conditions identified during the previous sampling round.

On May 29, 2020, BETA supervised the advancement of one (1) additional soil boring, which was completed as a groundwater monitoring well (MW-157), and installation of one (1) soil vapor monitoring point (SV-101).

Boring location MW-157 was completed using a truck-mounted hollow stem auger rig. One soil sample was collected using a split-spoon sampler at 14-16 feet below the ground surface, just below the approximate groundwater interface. The primary objective for this soil boring location was to install a deep aquifer monitoring well (to evaluate vertical extent of impacted groundwater). Therefore, the auger was advanced to 40 feet below the ground surface with no additional soil samples collected.

Soil analytical results constituted a "Release" under the MCP and triggered a 120-day notification requirement pursuant to 310 CMR 40.0315. Specifically, the analytes with detected soil concentrations exceeding MassDEP Reportable Concentrations for Soil Category 1 (RCS-1) standards include:

- 1,1,2,2-Tetrachloroethane
- C9-C10 Aromatics
- C9-C18 Aliphatics
- C19-C36 Aliphatics
- C11-C22 Aromatics
- Lead
- Arsenic

Arsenic concentrations in soil were also detected above the applicable RCS-1 Standards within 15 of the soil sampling locations. The City of Worcester has been documented by the U.S. Geological Survey as an area of elevated arsenic concentrations in soil and groundwater. Therefore, pursuant to 310 CMR 40.0317(22), the arsenic concentrations identified in site soils do not represent a release requiring notification to MassDEP.

Groundwater analytical results also constitute a "Release" under the MCP and trigger a 120-day notification requirement pursuant to 310 CMR 40.0315. Specifically, the analytes with detected groundwater concentrations exceeding RCGW-2 standards at the site include:

- Trichloroethene (TCE)

BETA recommended that the Responsible Party (RP) or Potentially Responsible Party (PRP), as defined by the MCP, notify MassDEP of the identified release conditions at the site within 120 days of obtaining knowledge. However, a 120-Day Release Notification has not been submitted to the MassDEP for the exceedances in the soil and groundwater at the site.

Soil boring and monitoring well locations can be found on Figure 5. Soil analytical results are summarized in Table 6 (attached). Groundwater analytical results are summarized in Table 7 (attached).

3.2.3 Supplemental Subsurface Investigation – July to August 2022

On August 8th & 9th, 2022, BETA supervised the advancement of seven (7) additional soil borings identified as E-1 through E-3 and E-5 through E-8. Six (6) of the borings were completed as groundwater monitoring wells (E-2, E-3, and E-5 through E-8). On July 26, 2022, prior to soil boring advancement, TPI Environmental, Inc. (TPI) performed a geophysical survey to clear proposed drilling locations and locate private utilities in the vicinity of the locations. Results of the survey were marked on the ground surface with paint. The soil borings were advanced to a maximum depth of 20 feet below grade utilizing Geoprobe direct-push drilling techniques throughout and adjacent to on-site structures.

The monitoring wells were constructed with one (1) inch diameter, schedule 40, polyvinyl chloride (PVC) pipe with flush threaded joints No solvents or cements were used in well construction. Well screen slot size is 0.010 inch. The wells were backfilled with washed silica sand and a bentonite pellet seal were placed above the well screen.

The weather conditions on August 8th and 9th, 2022 were sunny with an average temperature of 90°F. During soil boring advancement, groundwater was observed ranging from approximately 10 to 19 feet below ground surface (bgs). A 4-gas meter (O2, CO, H2S and Comb/Ex) was utilized to take headspace readings from the soil within these soil borings.

From August 16-18th, 2022, seven (7) soil borings were advanced for geotechnical purposes. BETA contracted Yankee Engineering, Inc. (Yankee) to provide oversight of geotechnical drilling activities to document soil classification, blow counts and sieve analyses. Soil samples were collected during advancement of geotechnical soil borings continuously utilizing direct push techniques through fill materials (depths of 0 to 12 feet below grade), then split spoon samples were collected every five feet through native materials (to maximum depths of 22 feet).

Boring locations G-1 through G-7 were completed using a truck-mounted hollow stem auger rig. One soil sample was collected using a split-spoon sampler at 0-5 feet below the ground surface at G-1, for environmental purposes (E-4). The primary objective for these soil borings were to document soil conditions for geotechnical purposes.

The weather conditions between August 16th and 18th, 2022 were sunny with an average temperature of 85°F. During soil boring advancement, groundwater was observed ranging from approximately 11-18 feet below ground surface (bgs).

Thirteen (13) soil samples, were analyzed for Extractable Petroleum Hydrocarbons (EPH) utilizing the MassDEP Method EPH-2004, Volatile Petroleum Hydrocarbons (VPH) utilizing MassDEP Method VPH-2004, Volatile Organic Compounds (VOC) using USEPA Method 8260, Semi-Volatile Organic Compounds (SVOCs) using USEPA Method 8270, Polychlorinated Biphenyls (PCBs) using USEPA Method 8082, MCP 14 Priority Pollutant Metals using USEPA methods, Total Sulfide utilizing USEPA Method 9030, and/or Grain Size (Sieve) Analysis.

Soil analytical results revealed concentrations of the SVOC analytes 1,1-Biphenyl, Acenaphthylene, Benzo(a)anthracene, Benzo(b)pyrene, Dibenzo(a,h)Anthracene and Phenanthrene above RCS-1 Standards in soil from E-7. Additionally, arsenic was found in E-3, E-5, E-6, E-7 and E-8 above RCS-1 Standards.

Six (6) groundwater samples were analyzed for EPH with target PAHs utilizing the MassDEP Method EPH-2004, VPH with target analytes utilizing MassDEP Method VPH-2004, VOCs utilizing USEPA Method 8260, and/or SVOCs using USEPA Method 8270.

Groundwater analytical results revealed concentrations of the EPH ranges exceeding the applicable MCP RCGW-2 in monitoring well E-6. C9-C18 Aliphatics concentration ranged from not detected (E-2, E-3, E-5, E-6, E-7, E-8) to 6,020 µg/L in monitoring well E-6. C19-C36 Aliphatics concentration ranged from not detected (E-2 and E-5) to 795,000 µg/L (E-6). C11-C22 Aromatics concentration ranged from not detected (E-5 and E-7) to 150,000 µg/L (E-6).

Analytical findings generated during this round of supplemental assessment were consistent with the 2020 assessment findings. Soil analytical results generated during this round of assessment constitute a "Release" under the MCP and trigger a 120-day notification requirement pursuant to 310 CMR 40.0315. Specifically, the analytes with detected soil concentrations exceeding RCS-1 standards include:

- 1,1-Biphenyl
- Acenaphthylene
- Benzo(a)anthracene
- Benzo(a)pyrene
- Dibenzo(a,h)Anthracene

Arsenic concentrations in soil were also detected above the applicable RCS-1 Standards within 5 of the soil sampling locations. The City of Worcester has been documented by the U.S. Geological Survey as an

area of elevated arsenic concentrations in soil and groundwater. Therefore, pursuant to 310 CMR 40.0317(22), the arsenic concentrations identified in site soils do not represent a release requiring notification to MassDEP.

Groundwater analytical results also constitute a "Release" under the MCP and trigger a 72-hour notification requirement pursuant to 310 CMR 40.0315. Specifically, the analytes with detected groundwater concentrations exceeding RCGW-2 standards include:

- C9-C18 Aliphatics
- C19-C36 Aliphatics
- C11-C22 Aromatics

BETA recommended that the Responsible Party (RP) or Potentially Responsible Party (PRP), as defined by the MCP, notifies MassDEP of the identified release conditions at the site within 120 days of obtaining knowledge.

Soil boring and monitoring well locations can be found on Figure 5. Soil analytical results are summarized in Table 6 (attached). Groundwater analytical results are summarized in Table 7 (attached).

3.3 MassDEP Disposal Sites – New

Subsurface investigations conducted in 2020 and 2022 by NGP as the potential buyer, identified a release of petroleum and a release of hazardous materials that require MassDEP notification in accordance with the MCP. For ease of management, the petroleum release and the hazardous materials (cVOCs and metals) release will be reported to MassDEP on or before November 14, 2022 as two separate releases as 120 Day notifications. Release tracking numbers (RTNs) will then be assigned by MassDEP. The new RTNs are discussed in the following sections.

3.3.1 RTN 2-22147 - New LNAPL Release

Subsurface investigations conducted by NGP as part of their environmental due diligence identified the elevated concentrations of dissolved petroleum hydrocarbons in monitoring well E-6 within the 400-Block footprint. Based upon the elevated concentrations, BETA personnel returned to the site on November 14, 2022 to determine if light non-aqueous phase liquid (LNAPL) was present. BETA measured 12" of LNAPL within monitoring well E-6 triggering a 72 Hour Notification to MassDEP. On November 15, 2022, at 11:14 a.m., Marylou Armstrong, LSP of BETA, on behalf of NGP, verbally notified Jason Ward of MassDEP of this release condition. MassDEP assigned Release Tracking Number (RTN) to this release and verbally authorized Immediate Response Action (IRA) activities. IRAs for the petroleum-related release will be conducted in accordance with the MCP (310 CMR 40.0000) as part of future response actions and is **not** included in this Analysis of Brownfields Cleanup Alternatives.

3.3.2 RTN 2-22145 - New Hazardous Material Release

Subsurface investigations conducted by NGP as part of their environmental due diligence identified cVOCs (TCE) in groundwater and metals (lead) in soil at concentrations exceeding the applicable MCP reportable concentrations beneath or adjacent to the 400 Block shown in Figure 6. On November 9, 2022, NGP obtained ownership of the property and immediately authorized BETA to notify MassDEP of the release of TCE and lead exceedances. On November 14, 2022, BWSC103 Release Notification Form (RBF) for a 120 Day Reportable Condition was submitted to MassDEP via their eDEP system (Transaction Number 1445371). MassDEP has issued RTN 2-22145 for this release. Response actions for this RTN will

be conducted in accordance with the MCP and are the subject of this Analysis of Brownfields Cleanup Alternatives (ABCA).

3.4 HAZARDOUS BUILDING MATERIALS SURVEY

A hazardous material survey that included the 400-series buildings was conducted by Golder Associates in 2012. Golder Associates collected samples from select 400-series building for PCBs, metals, SVOCs, VOCs, lead-based paint, and asbestos analysis. Building materials containing PCBs, metals, cVOCs, SVOCs, lead-based paint, and asbestos were identified and are summarized in the Table 8: Summary of Hazardous Building Materials – 400-Block, Table 9: Summary of Positive Asbestos Containing Materials - 400 Block, and Table 10: Summary of Lead Based Paint Testing Results - 400 Block (attached).

3.5 CONTAMINANTS OF CONCERN (COCS) – MCP HAZARDOUS MATERIALS

The source of contamination has not been determined but is likely associated with the former historical industrial manufacturing activities at the Project site. Contaminants of Concern (COCs) are hazardous materials (non-petroleum) detected in a medium (i.e. soil, groundwater) at the Site at levels above background. Background concentrations for all COCs are assumed to be below laboratory reporting limits.

3.5.1 COCS IN SOIL

The following COCs have been identified in soil at the Site:

- Aluminum
- Arsenic
- Barium
- Beryllium
- Chromium
- ***Lead***
- Mercury
- Nickel
- Selenium
- Vanadium
- Zinc
- 2-Butanone
- Acetone
- Toluene
- Trichloroethene

Of the initial COCs identified in soil, lead was detected at levels exceeding the applicable MCP reportable concentrations, Method 1 soil risk standards for unrestricted use, S-1/GW-2 and S-1/GW-3.

3.5.2 COCS IN GROUNDWATER

The following COCs (non-petroleum) have been identified in groundwater at the Site:

- 1,1-Dichloroethane
- Bromodichloromethane
- Carbon Disulfide
- Chloroform
- cis-1,2-Dichloroethene
- Per- and Polyfluoroalkyl Substances (PFAS)
- ***Trichloroethene***
- Barium
- Cadmium
- Nickel
- Zinc

Of the initial COCs identified in groundwater, TCE exceeds the applicable MCP reportable concentration (RCGW-2). TCE concentrations also exceed the Method 1 GW-2 risk standard.

3.6 Contaminants of Concern (COCs) –Hazardous Building Materials

Hazardous building materials identified to date include

- PCBs-impacted concrete, expansion joints, and floor epoxy
- Metals-impacted flooring, wood, pit residue, floor filling, and glazed blocks
- SVOC-impacted wood flooring and plank
- Lead-based paint
- Asbestos containing materials

4.0 Soil and Groundwater Categories

4.1 Groundwater Category

The site is not located within a MADEP-designated Zone II, Interim Wellhead Protection Area (IWPA), Potentially Productive Aquifer (Medium or High), or within a USEPA-designated Sole Source Aquifer. The site is located within a MassDEP-designated Non-Potential Medium Yield Aquifer. Based upon City of Worcester records research, there are no private water supply wells located at the site or within 500 feet of the site. Therefore, Method 1 Groundwater Category 1 (GW-1) does not apply to the site.

Depth to groundwater near the 400 Block buildings ranged from 7.99 feet to 13.29 feet below grade during the subsurface investigations conducted by BETA in 2020 and 2022. Groundwater at the site is categorized as Method 1 GW-2 because it is located within 30 feet of an occupied building and groundwater is less than 15 feet below grade.

All groundwaters within the Commonwealth are considered potential source of discharge to surface waters and shall be categorized, at a minimum, as Method 1 GW-3.

Therefore, the applicable Method 1 Groundwater Categories for future unrestricted site use are identified as GW-2 and GW-3.

4.2 Soil Category

Soil categorization is based upon three soil criteria and the type of potential receptor: frequency of use, intensity of use, and accessibility of soil. The site is currently unoccupied industrial property, except for a couple of Saint-Gobain employees; therefore, children are considered not present and adults are assumed present at a low frequency and low intensity.

Impacted exterior soil is located beneath pavement at depths of 0.5 to 4 feet below grade. Therefore, these soils are considered “potentially accessible”. Based on these factors, impacted exterior soils at the site are categorized as Soil Category S-3 for current site uses. The applicable Method 1 Soil Categories are identified as S-1/GW-2 and S-1/GW-3.

Impacted interior soils at the site are beneath a concrete floor slab. MCP criteria indicate that these soils are considered “isolated.” In addition, only low intensity (non-intrusive) use would be considered appropriate given the location of the soils beneath the floor. Based on these factors, interior impacted soils at the site are categorized as Soil Category S-3 for current site uses. The applicable Method 1 Soil Categories are identified as S-3/GW-2 and S-3/GW-3.

In accordance with the MCP, for future, unrestricted site uses, all soils would be classified as Soil Category S-1. For future, unrestricted site uses the applicable Method 1 Soil Categories are identified as S-1/GW-2 and S-1/GW-3.

5.0 Initial Screening of Remedial Action Alternatives

As discussed in Section 3.0 of this report, both petroleum and hazardous materials contamination has been detected at the property, including the site. This ABCA is focused on the hazardous materials documented in soil and groundwater at the site as well as within building materials at the site. Petroleum contamination which is under a separate RTN will be the addressed separately under future MCP response actions.

5.1 Remedial Objectives

The objectives for remedial response action to address soil and groundwater contamination at the 400-series building disposal site include:

1. Achieve a condition of *No Significant Risk* for groundwater by reducing concentrations in groundwater to below MCP Method 1 GW-2 and GW-3 risk standards.
2. Achieve a condition of *No Significant Risk* for soil by reducing the exposure point concentrations to meet the applicable Method 1 soil risk standards or demonstrating through a Method 3 risk characterization and activity a MCP Method 1 S-1/GW-2 and S-1 GW-3 risk standards or through a Method 3 risk characterization and implementation of an activity and use limitation.
3. Meet the requirements of a Permanent Solution.
4. Properly remove and dispose of all hazardous building materials prior to building demolition.

5.2 Identification and Initial Screening of Remedial Alternatives

Screening of the alternatives was performed to identify if the alternatives are feasible based on these criteria:

1. The technologies to be employed would be reasonably likely to obtain a Permanent Solution; and
2. Individuals and the technologies are reasonably available.

The initial screening is summarized in the table below.

Table 4: Summary of Initial Remedial Alternatives

Remedial Alternative	Likely to Achieve a PSS or TSS or comply with Local, State or Federal Regulations (yes/no)	Individuals and Technologies Reasonably Available (yes/no)	Initial Screening
Groundwater – cVOCs			
1. No Action	No	Not Applicable	Not Feasible
2. Monitoring Natural Attenuation	No	Yes	Not Feasible
3. Limited Soil Removal & Vapor Barrier Membrane Installation	Yes	Yes	Feasible
Soil - Lead			
1. No Action	No	Not Applicable	Not Feasible

2. Soil Removal	Yes	Yes	Feasible
3. Soil Assessment and Method 3 Risk Characterization and Activity and Use Limitation	Yes	Yes	Feasible
Hazardous Building Materials - PCBs			
1. No Action	No	Not Applicable	Not Feasible
2. Self-Implementing Plan	Yes	Yes	Feasible
3. Performance Based Plan	Yes	Yes	Feasible

Based on these criteria, none of the alternatives were judged to be unacceptable for the Site (with exception of No Action - Groundwater), and all were carried into the evaluation of remedial alternatives.

5.2.1 Groundwater - Alternative No. 1 –No Action

Alternative No. 1 would leave all impacted ground water in place and rely solely on natural attenuation to reduce the concentration of site contaminants.

While No Action can be easily implemented and requires no capital investment or continued operation and maintenance, this alternative is ineffective at allowing for future unrestricted redevelopment given the contaminants and subsurface conditions at the site. The No Action alternative would most likely require significant continued monitoring over time to meet MCP requirements. Essentially, the No Action alternative would equate to maintaining the Temporary Solution under the MCP. However, MCP response actions are required to eventually achieve a Permanent Solution. Therefore, Alternative No. 1 - No Action was eliminated from further analysis because it does not meet the re-development goals for the Site and could not support a Permanent Solution for the site.

Potential Advantages and Disadvantages

Positive factors include:

- no/little disruption to the site
- no capital costs
- costs can be expended over time

Negative factors include:

- potentially a long time period to meet the requirements of a Permanent Solution
- long term costs associated with monitoring labor and analytical costs
- long term costs associated with maintaining vacant structures so they do not become a public safety hazard, if evaluations show that new structures cannot be developed on the site without other remedial actions (e.g., soil removal and a vapor barrier – see Alternative 3)
- MCP status filings will increase costs

Estimated Costs

• Seasonal ground water, soil vapor, air monitoring	$250,000 - $300,000
• MCP Filings	$ 55,000 - $75,000
TOTAL ESTIMATED COSTS – Groundwater Alternative No. 1:	**$305,000 - 375,000**

Notes to Costs for Groundwater Alternative No. 1:
1. Based on continued monitoring 10 years.

5.2.2 Groundwater Alternative No. 2 – Monitored Natural Attenuation

VOCs in ground water exist in concentrations within the building footprint requiring additional assessment to evaluate its potential impact on future occupants of the existing structure and / or future occupants of newly developed structures on the site.

Seasonal ground water, soil vapor and indoor air analysis would be conducted until contaminant concentrations decreased to levels that would support a condition of No Significant Risk and a Permanent Solution.

Potential Advantages and Disadvantages

Positive factors include:

- no/little disruption to the site
- no capital costs
- costs can be expended over time

Negative factors include:

- potentially a long time period to meet the requirements of a Permanent Solution
- long term costs associated with monitoring labor and analytical costs
- long term costs associated with maintaining vacant structures so they do not become a public safety hazard, if evaluations show that new structures cannot be developed on the site without other remedial actions (e.g., soil removal and a vapor barrier – see Alternative 3)
- MCP status filings will increase costs

Estimated Costs

• Seasonal ground water, soil vapor, air monitoring	$125,000 - $150,000
• MCP Filings	$ 30,000 - $ 40,000
TOTAL ESTIMATED COSTS – Groundwater Alternative No. 2:	**$155,000 - 190,000**

Notes to Costs for Groundwater Alternative No. 2:
2. Based on continued monitoring 5 years.

5.2.3 Groundwater Alternative No. 3 – Limited Soil Removal & Vapor Barrier Membrane Installation

As part of future planned demolition activities, a limited VOC-contaminated soil removal beneath the building footprint (targeted in the area of MW-145 and MW-148 within buildings and surrounding Buildings 415, 416, and 417 could be conducted along with dewatering, if deemed necessary.

During new building construction, a vapor barrier membrane / subslab depressurization system (SSDS) would be installed beneath structure(s) at the site to prevent / eliminate potential vapor intrusion pathway(s).

Potential Advantages and Disadvantages

Positive factors include:

- Will remove a potentially significant portion of the remaining mass of VOC contamination from site;
- Combination of source removal and barrier application has been technologically proven to be effective at reducing VOC concentrations.

- Aggressive source reduction should reduce time to achieve permanent regulatory closure.

Negative factors include:

- Costs associated with disposal of VOC contaminated materials, if deemed to be considered "hazardous waste"
- Costs associated with vapor membrane barrier application throughout large structure(s)

Estimated Costs

• Soil removal / dewatering, off-site disposal or on-site treatment, oversight	$ 450,000 - $ 520,000
• Confirmatory soil and groundwater monitoring	$ 20,000 - $ 30,000
• RAM Plan / Status Reports / Completion Report	$ 20,000 - $ 25,000
Total Estimated Costs – cVOC removal:	**$ 490,000 - $ 575,000**
• Vapor barrier/ SSDS design & installation oversight	$ 30,000 - $ 40,000
• Vapor barrier /SSDS capital and installation costs	$240,000 - $260,000
• Confirmatory indoor air monitoring	$ 12,000 - $ 20,000
Total Estimated Costs – Vapor Barrier Membrane:	**$282,000 - $320,000**

Notes to Costs for Groundwater Alternative No. 3:
1. Based on 1,000 ton of soil for T&D considered characteristic hazardous waste; 50,000 gallons of impacted water disposal
2. Based on 4 rounds post remediation ground water monitoring
3. Based upon 100,000 SF newly constructed building footprint
4. Based on 4 rounds post vapor barrier / SSDS installation indoor air monitoring

5.2.4 Soil Alternative 1 – No Action

Alternative No. 1 would leave all impacted soil in place and rely solely on natural attenuation to reduce the concentration of site contaminants.

While No Action can be easily implemented and requires no capital investment or continued operation and maintenance, this alternative is ineffective at allowing for future unrestricted redevelopment given the contaminants and subsurface conditions at the site. The No Action alternative would most likely require significant continued monitoring over time to meet MCP requirements. Essentially, the No Action alternative would equate to maintaining the Temporary Solution under the MCP. However, MCP response actions are required to eventually achieve a Permanent Solution. Therefore, Soil Alternative No. 1 - No Action was eliminated from further analysis because it does not meet the re-development goals for the Site and could not support a Permanent Solution for the site.

5.2.5 Soil Alternative No. 2 –Soil Removal

This alternative is conceptually based on the assumption soil contamination is limited to lead, the extend of lead contamination is also limited, removal would reduce overall concentrations of contaminants and significantly decrease the time to achieve a Permanent Solution.

Potential Advantages and Disadvantages

Positive factors include:

- Highest probability of removing the majority of the remaining mass of lead contamination from site;
- Aggressive source reduction should reduce time to achieve permanent regulatory closure.

Negative factors include:

- Costs associated with off-site soil disposal
- Availability of local off-site soil disposal facilities.

Conceptual Cost Estimates

• Soil removal, off-site disposal, oversight	$65,000 - $80,000
• RAM Plan / Status / Completion Reports	$10,000 - $15,000
• Confirmatory soil sampling	$10,000 - $12,000
TOTAL ESTIMATED COSTS – Soil Alternative No. 3:	**$85,000 - $107,000**

Notes to Costs for Soil Alternative No. 3:

1. Based on 500 tons of soil for off-site disposal (non-haz)

5.2.6 Soil Alternative No. 3 – Assessment, Method 3 Risk Characterization, Activity and Use Limitation

Based on the concentrations of lead detected in soil, this alternative assumes additional soil sampling will support a Method 3 Risk Characterization (M3RC) and the M3RC will conclude that an Activity and Use Limitation (AUL) is required to maintain a condition of No Significant Risk for potential future residential use of the site and support a Permanent Solution Statement (PSS).

Potential Advantages and Disadvantages

Positive factors include:

- Highest probability of removing the majority of the remaining mass of lead contamination from site;
- Aggressive source reduction should reduce time to achieve permanent regulatory closure.

Negative factors include:

- Costs associated with off-site soil disposal
- Availability of local off-site soil disposal facilities.

Conceptual Cost Estimates

• Supplemental Soil Sampling	$15,000 - $20,000
• Method 3 Risk Characterization	$18,000 - $22,000
• PSS / AUL	$20,000 - $50,000
TOTAL ESTIMATED COSTS – Soil Alternative No. 3:	**$53,000 - $92,000**

5.2.7 PCB Alternative No. 1 – No Action

Alternative No. 1 would leave all PCB-impacted concrete building materials in place. As the site is planned for future redevelopment including completed demolition of the 11 interconnected buildings

within the 400 Block, the No Action alternative is not feasible. Therefore, Alternative No. 1 - No Action was eliminated from further analysis because it does not meet the redevelopment goals for the Site.

5.2.8 PCB Alternative No. 2 – Self-Implementing Plan

Due to the PCB concentrations detected in building materials, these materials must be managed in accordance with EPA – TSCA regulations. There are significant cost and timeframe implications associated the various management / disposal options under TSCA. For the remediation of the PCB-contaminated building materials, two different options were evaluated under TSCA: remediation under a Self-Implementing Plan and remediation under a Performance-Based Plan.

Alternative No. 2 – the Self-Implementing Plan (SIP) option requires submittal of an abatement plan to EPA – Region 1 for their comment and approval. Typical EPA – Region 1 review and approval time frames can range realistically from 6 – 12 months, or potentially longer. The SIP would allow for additional delineation of PCB-containing materials and selective demolition of concrete slabs.

Estimated Costs:

• Mobilization, assessment, characterization, reporting	$ 140,000 - $160,000
• PCB Abatement costs (see notes below)	$1,150,000 - $1,275,000
TOTAL ESTIMATED COSTS – Alternative No. 2:	**$1,290,000 - $1,435,000**

Notes to Costs for Alternative No. 2:
1. Based on 2,000 tons of PCB materials (>50 ppm) and 2,500 tons PCB materials (1-50 ppm) for disposal

5.2.9 PCB Alternative No. 3 – Performance Based Plan

The Performance-Based Plan does not require EPA approval, so there would be no time constraints waiting for EPA approval. However, all materials would have to be disposed of as TSCA PCB remediation waste.

Estimated Costs:

• Mobilization, assessment, characterization, reporting	$ 140,000 - $ 160,000
• PCB Abatement costs (see notes below)	$1,800,000 - $2,200,000
TOTAL ESTIMATED COSTS – Alternative No. 3:	**$1,940,000 - $2,360,000**

Notes to Costs for Alternative No. 3:
1. Based on up to 4,500 tons PCB material (>50 ppm) for disposal

6.0 Evaluation of Remedial Action Alternatives

6.1 Evaluation Criteria

The evaluation of the remedial alternatives is typically based on eight comparative criteria set forth at 310 CMR 40.0858:

- The effectiveness of the alternatives,
- The short-term and long-term reliability,
- The difficulty in implementing each alternative,
- The costs of each alternative,
- The risks of each alternative,

- The benefits of each alternative,
- The timelines for eliminating sources of contamination and achieving a level of no significant risk, and
- The effect upon non-pecuniary interests, such as aesthetic values.

Comparative Effectiveness

The comparative effectiveness of a remedial alternative considers whether a response action will achieve a Temporary or Permanent Solution in accordance with the MCP, to what extent the remedial action alternative reuses, recycles, destroys, detoxifies, or treats oil or hazardous materials at the site, and whether the alternative reduces levels of contaminants at the site to levels at or approaching background.

Comparative Short Term and Long-Term Reliability

The reliability of a remedial action alternative is a measure of the certainty that the alternative will be successful, and the effectiveness of measures required to manage residues or manage wastes or control emissions or discharges to the environment.

Comparative Difficulty in Implementing Alternatives

The comparative difficulty in implementing the remedial action alternative is evaluated by considering the technical complexity of the alternative, the integration of the alternative with facility operations or with current or potential response actions conducted at the site, the necessary monitoring, operation and maintenance or access requirements, the availability of equipment, materials or other resources, the availability of disposal facilities, and the ability to obtain required permits or approvals.

Costs of the Alternatives

The costs of the remedial action alternative include design, construction, equipment, site preparation, labor, permits, disposal, and yearly operation and maintenance (O&M) costs; costs of environmental restoration, natural resource damages, and / or the consumption of energy resources. The costs of implementing the alternative include regular sampling and analysis of site media and other case-specific site monitoring. These have been included in the estimates for each alternative. The estimated costs to implement the alternatives have been summarized in the respective presentations of the alternatives in Section 5.2.

Comparative Risks of the Remedial Action Alternatives

The comparative risks of the remedial action alternatives consider:

- the short-term on-site and off-site risks posed during the implementation of the alternative;
- the on-site and off-site risks posed over the period of time needed to achieve cleanup goals; and
- the potential risk of harm to health, safety, public welfare or the environment from residual contamination remaining after completion of the remedial action.

Benefits of the Alternatives

The comparative benefits of the alternatives consider the benefits of restoring natural resources, providing for productive reuse of the site, avoiding costs of relocating people, or businesses, the avoided costs of providing alternative water supplies, and the avoided lost value of the property.

The Timeliness of Alternatives

The timeliness of a remedial action alternative is a consideration of the time frame to eliminate any uncontrolled sources of contamination and achieving a level of No Significant Risk.

Relative Effect of the Alternatives upon Non-Pecuniary Interests

Nover-Armstrong does not believe that any of the remedial action alternatives will have a significant impact on non-pecuniary interests such as aesthetic values and site disruption, in the long-term. However, the alternatives involving major removal activities may have an impact on non-pecuniary interests in the short-term, based on moderate site disruption.

6.2 Remedial Alternative Evaluation

For efficiency, the detailed alternatives evaluation is summarized in tabular form; see Table 11 attached. In Table 11, a qualitative, comparative rating (1 = least favorable, 5 = most favorable) has been assigned to each criterion for each alternative. The Summary Rating has been developed by calculating a weighted average of the evaluation criteria ratings.

To account for the relative importance of the criteria, the ratings for Effectiveness, Reliability, Implementability, Costs and Timeliness are weighted at 100% of their value. The ratings for Risks, Benefits, and Non-Pecuniary Interests are weighted at 50%.

6.3 Remedial Action Alternative Conclusion

As noted, the comparative evaluation of the remedial alternatives was performed for the eight criteria described above and is summarized on Table 11. The Summary Rating has been developed by calculating a weighted average of the evaluation criteria ratings.

7.0 Selected Remedial Action Alternative

Based on the comparative evaluation summarized on Table 11, the following remedial alternatives have been selected for implementation as Comprehensive Response Actions (CRAs) under the MCP or as an abatement action under TSCA:

Groundwater: Alternative No. 3 - Limited Soil Removal & Vapor Barrier Membrane / SSDS Installation

Soil: Alternative No. 3 - Soil Assessment and Method 3 Risk Characterization and Activity and Use Limitation

PCBs Alternative No. 3 – Performance Based Plan

7.1 Description of Selected Remedial Alternative

7.1.1 Groundwater

As part of future planned demolition activities, a limited volume of cVOC-contaminated soil will be removed in the area of MW-145 and MW-148, within the footprint of Building 416 and exterior to Buildings 413 and 415, as well as dewatering, as deemed necessary. Soils and groundwater would be disposed off-Site. During new building construction, a vapor barrier membrane / SSDS would be installed beneath the structure(s) to prevent / eliminate potential vapor intrusion pathway(s).

Objectives, Potential Advantages and Disadvantages

- Will remove a significant percentage of the potential remaining mass of VOC contamination from site.
- Combination of source removal and barrier application has been technologically proven to be effective at reducing VOC concentrations.
- Aggressive source reduction should reduce time to achieve permanent regulatory closure.
- Costs associated with disposal of VOC contaminated materials will most likely be high due to categorization as a listed "hazardous waste".
- Substantial costs associated with vapor membrane barrier application throughout large structure.

7.1.2 Soil

The selected alternative entails additional soil assessment, evaluation of the soil analytical results by a risk assessor, preparation of a MCP Method 3 risk assessment, and preparation of an Activity and Use Limitation (AUL) to support a Permanent Solution and maintain a condition of No Significant Risk at the site. The Method 3 risk assessment would be based on available soil and groundwater data for hazardous materials within the 400 Block. The AUL will describe activities and uses consistent and inconsistent with maintaining a condition of No Significant Risk and the obligations and conditions necessary to maintain a Permanent Solution as well as other information as required by the MCP. The Method 3 risk assessment and AUL will be prepared after the groundwater alternative is implemented and the additional soil assessment is completed.

Objectives, Potential Advantages and Disadvantages

- no/little disruption to the site
- no capital costs
- minimal costs associated with labor and analytical costs
- relatively short time frame to achieve Permanent Solution.
- Will remove a significant percentage of the potential remaining mass of VOC contamination from site.
- No off-site soil disposal necessary.

7.1.3 Hazardous Building Materials – PCBs

The selected alternative involves the removal with off-Site disposal of all PCB impacted concrete (with concentrations > 1 mg/kg) as PCB remediation waste. The SIP approach can be significantly cheaper than the Performance-Based Plan. However, a potential EPA approval taking up to one year will make this project infeasible relative to funding sources, developer interest and community interest. The Performance-Based Plan does not require EPA approval, so there would be no time constraints waiting for EPA approval.

7.1.4 Summary of Selected Alternative Costs

The selected alternatives costs are summarized in the table below.

Table 5: Summary of Selected Alternative Costs

REMEDIAL ALTERNATIVE	COST RANGE		
Groundwater Alternative No. 3.			
cVOC Limited Soil Removal	$ 490,000	to	$ 575,000
Vapor Barrier Membrane Installation	$ 282,000	to	$ 320,000
Soil Alternative No. 3			
Assessment. Method 3 Risk Characterization. Activity and Use Limitation	$ 53,000	to	$ 92,000
PCB Alternative No. 3			
Performance-Based Plan	$1,940,000	to	$2,360,000
TOTAL REMEDIAL ALTERNATIVE COST	**$2,765,000**	**to**	**$3,347,000**

7.2 Implementation Schedule

Based on this project timeline which requires the site be remediated and "pad ready" as part of a larger redevelopment, the implementation of remedial response actions at the site is anticipated to be initiated by Fall of 2023.

7.3 Green and Sustainable Remediation Considerations

NGP will consider green and sustainable remediation options during the implementation of the selected remedial alternatives. The Best Management Practices (BMPs) issued under ASTM Standard E-2893: Standard Guide for Greener Cleanups will be used as a reference in this effort. In addition, NGP intends to ask bidding cleanup contractors to propose additional green remediation techniques in their response to the Request for Proposals for the cleanup contract.

8.0 Report Limitation

This ABCA Report was prepared for the exclusive use of NGP and the USEPA. Future investigations, and/or information that were not available at the time of the analysis, may result in a modification of the findings stated in this report. No other warranty is expressed, written, or implied. Reproduction of this report or its contents is prohibited without prior written approval from NGP and / or BETA Group, Inc. BETA Group, Inc. is not responsible for independent conclusions, opinions, or recommendations made by others based on the information contained herein.

FIGURES

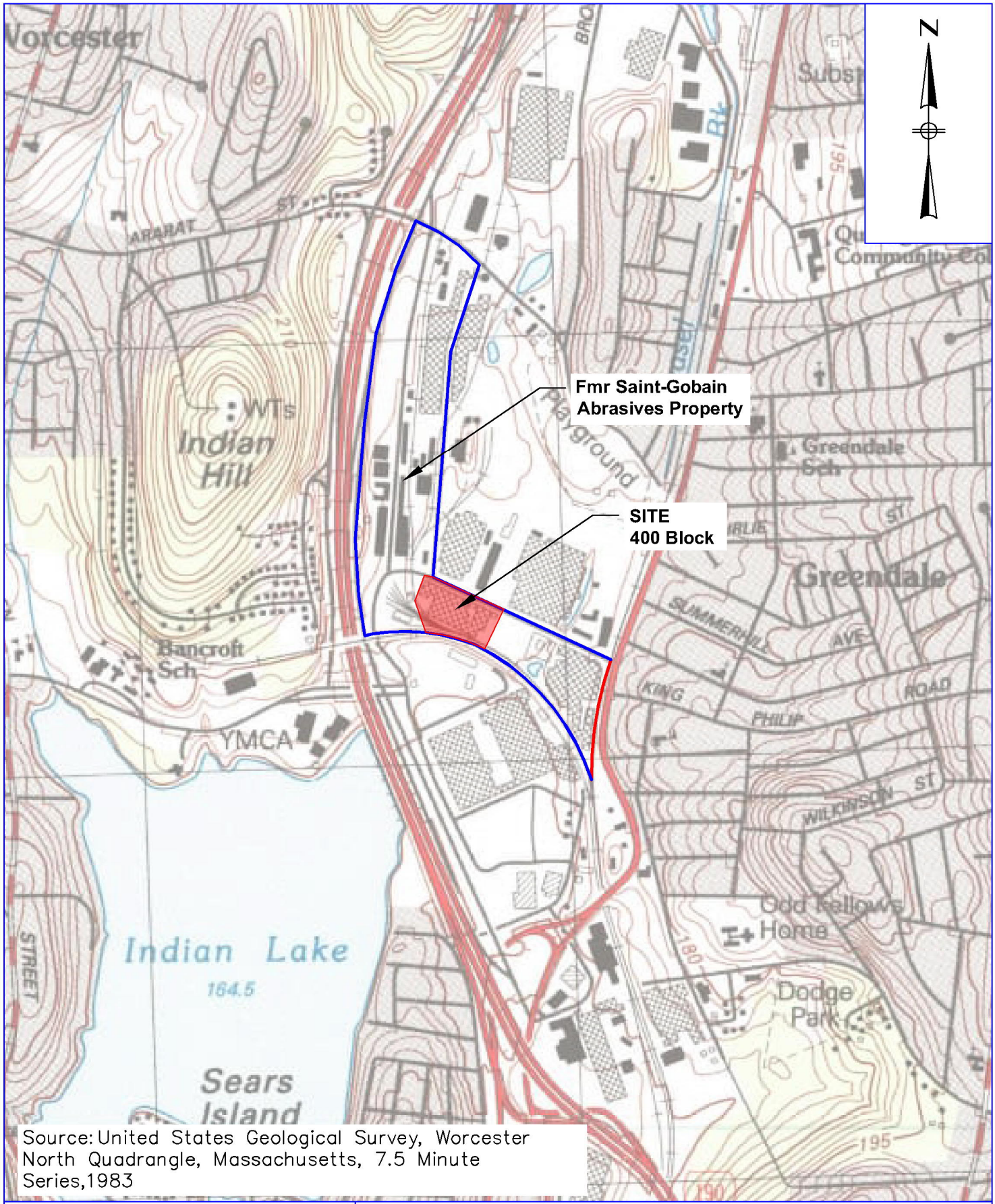


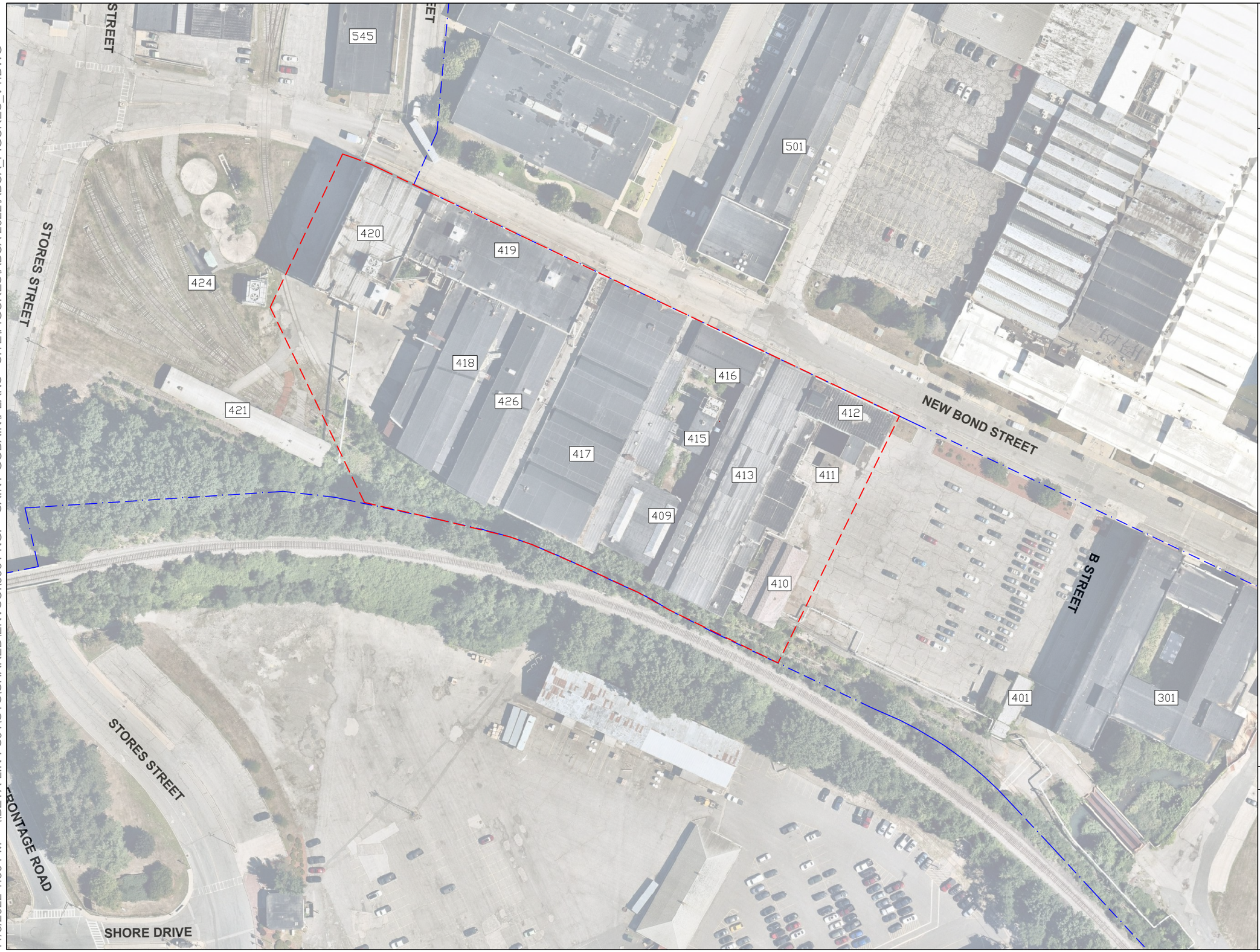
Figure 1: Site Locus Map

Fmr Saint-Gobain Abrasives Property, 1 New Bond St., Worcester, MA

Scale = 1:1000

40 Years BETA
IMPROVING COMMUNITIES TOGETHER

\\Beta-lin-fs01\sys\SHARED\ENVSCI\6961 NGP - Saint-Gobain\Plas - Site\Fig 1 Site Locus Map_USGS1983.dwg Plot Date: 11/3/2022 5:24 PM



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LEGEND

Approx. Property Boundary

Site Boundary / Preliminary Disposal Site Boundaries

411 Building #

N

Fmr Saint-Gobain Abrasives Property 400 Block

1 New Bond Street
Worcester, MA

Scale: 1 INCH = 100 FEET

Figure No. 2

BUILDING LOCATIONS

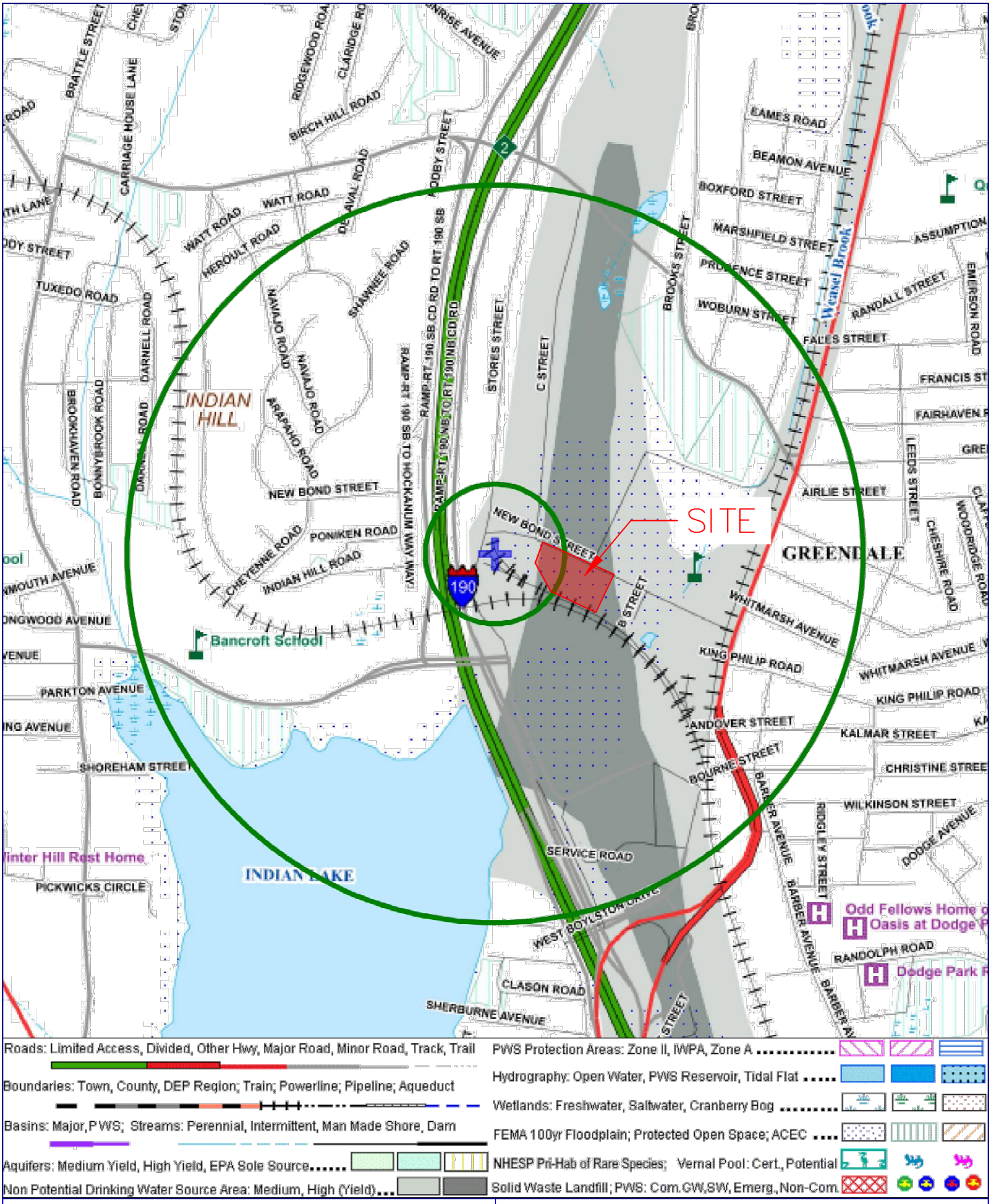

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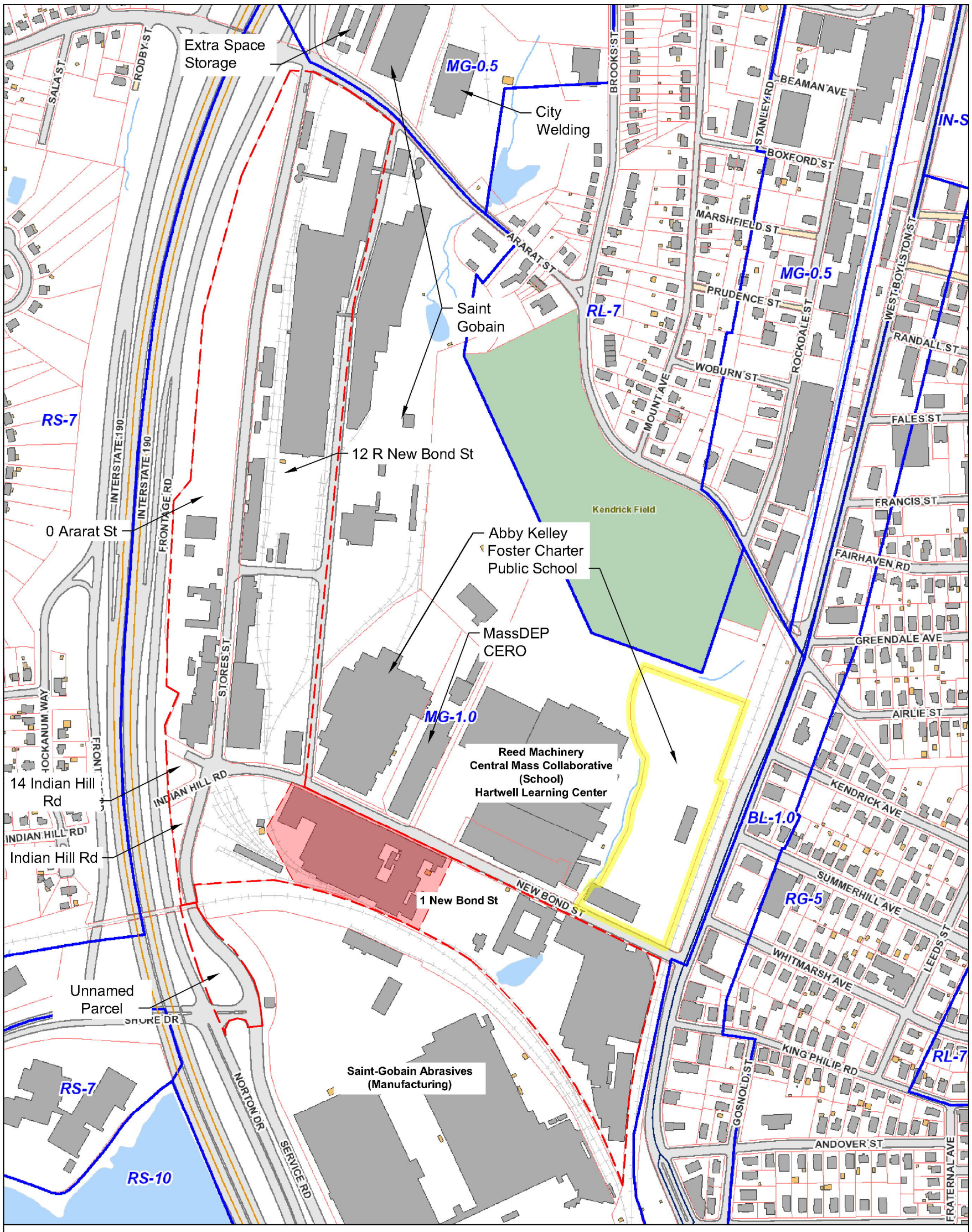
Figure 3
MassGIS PRIORITY RESOURCE MAP
1 New Bond St, Worcester, MA



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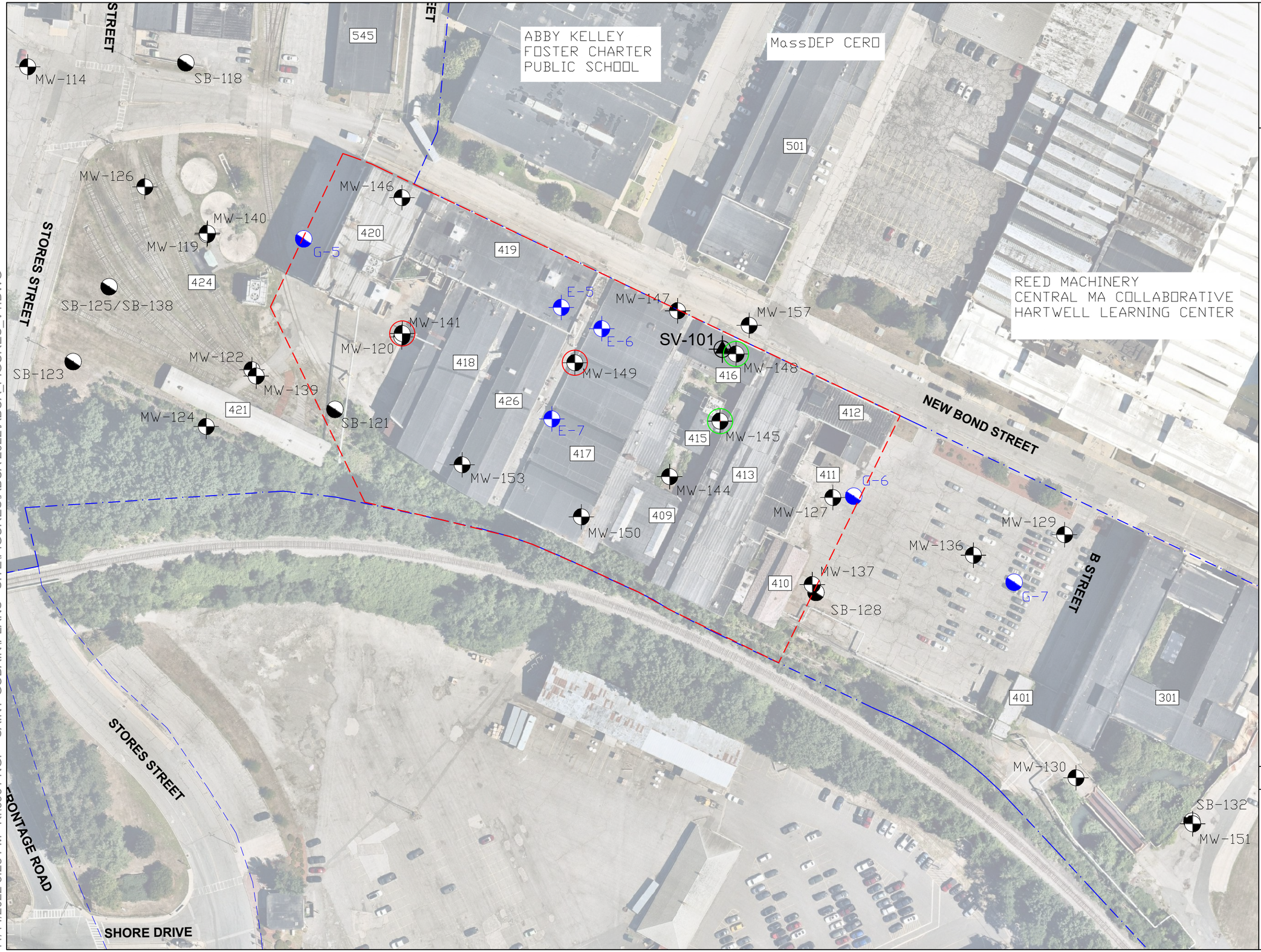
Fmr Saint-Gobain Abrasives Property
1 New Bond St., Worcester, MA

Figure No. 4
Surrounding Area Property Use



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LEGEND

- Approx. Property Boundary
- Site Boundary / Preliminary Disposal Site Boundaries
- Monitoring Well Location
- Soil Boring Location
- 411 — Building #
- Soil Vapor Monitoring Point
- SV-101
- MCP Reportable Concentration Exceedance in Groundwater
- MCP Reportable Concentration Exceedance in Soil

N

Fmr Saint-Gobain Abrasive's Property 400 Block

1 New Bond Street
Worcester, MA

Scale: 1 INCH = 100 FEET

FIGURE 5
SAM PLE LOCATIONS
400 Block

TABLES

Table 6 - Summary of Soil Analytical Data
Fmr Saint Gobain Abrasives Property
1 New Bond Street, Worcester, MA

Sample ID	Reportable Concentrations RCS-1	SB-101		SB-102	SB-103	SB-104	SB-105	SB-106	MW-107	SB-108	MW-109	MW-110	SB-111	SB-112	MW-113	MW-114	SB-115	MW-116	SB-117	SB-118
Lab ID		20A0472-06	20A0472-07	20A0472-05	20A0472-02	20A0472-01	20A0472-03	20A0472-08	20A0472-09	20A0472-10	20A0472-11	20A0472-12	20A0472-13	20A0472-14	20A0472-15	20A0597-01	20A0597-02	20A0597-03	20A0597-04	20A0597-05
Sample Date		01/15/2020	01/15/2020	01/15/2020	01/15/2020	01/15/2020	01/15/2020	01/16/2020	01/16/2020	01/16/2020	01/16/2020	01/16/2020	01/16/2020	01/16/2020	01/16/2020	01/16/2020	01/17/2020	01/17/2020	01/17/2020	01/17/2020
Sample Depth (feet)		5-7.5	17.5-20	2-5.5	10-12.5	10-12.5	12.5-15	5-10	0-5	15-17.5	10-13	12-15	9-14	13-15	4-10	0-5	17-20	5-10	6-8	13-15
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Volatile Organic Compounds VOC																				
1,1,2,2-Tetrachloroethane	0.005	---	---	---	BRL (<0.002)	BRL (0.0055)	BRL (<0.0016)	---	---	---	BRL (<0.0026)	---	BRL (<0.0027)	---	BRL (<0.0029)	---	---	---	---	---
2-Butanone	4	---	---	---	BRL (<0.0102)	BRL (<0.0273)	BRL (<0.0078)	---	---	---	BRL (<0.0132)	---	BRL (<0.0134)	---	BRL (<0.0144)	---	---	---	---	---
Acetone	6	---	---	---	0.0192	BRL (<0.0273)	BRL (<0.0078)	---	---	---	BRL (<0.132)	---	BRL (<0.132)	---	BRL (<0.144)	---	---	---	---	---
Isopropylbenzene	1000	---	---	---	BRL (<0.0051)	BRL (<0.0137)	BRL (<0.0039)	---	---	---	BRL (<0.0066)	---	BRL (<0.0067)	---	BRL (<0.0072)	---	---	---	---	---
Naphthalene	4	---	---	---	BRL (<0.0051)	BRL (<0.0137)	BRL (<0.0039)	---	---	---	BRL (<0.0066)	---	BRL (<0.0067)	---	BRL (<0.0072)	---	---	---	---	---
n-Butylbenzene	100	---	---	---	BRL (<0.0051)	BRL (<0.0137)	BRL (<0.0039)	---	---	---	BRL (<0.0066)	---	BRL (<0.0067)	---	BRL (<0.0072)	---	---	---	---	---
n-Propylbenzene	100	---	---	---	BRL (<0.0051)	BRL (<0.0137)	BRL (<0.0039)	---	---	---	BRL (<0.0066)	---	BRL (<0.0067)	---	BRL (<0.0072)	---	---	---	---	---
sec-Butylbenzene	100	---	---	---	BRL (<0.0051)	BRL (<0.0137)	BRL (<0.0039)	---	---	---	BRL (<0.0066)	---	BRL (<0.0067)	---	BRL (<0.0072)	---	---	---	---	---
tert-Butylbenzene	100	---	---	---	BRL (<0.0051)	BRL (<0.0137)	BRL (<0.0039)	---	---	---	BRL (<0.0066)	---	BRL (<0.0067)	---	BRL (<0.0072)	---	---	---	---	---
Toluene	30	---	---	---	BRL (<0.0051)	BRL (<0.0137)	BRL (<0.0039)	---	---	---	BRL (<0.0066)	---	BRL (<0.0067)	---	BRL (<0.0072)	---	---	---	---	---
Trichloroethene	0.3	---	---	---	BRL (<0.0051)	BRL (<0.0137)	BRL (<0.0039)	---	---	---	BRL (<0.0066)	---	BRL (<0.0067)	---	BRL (<0.0072)	---	---	---	---	---
Semi- Volatile Organic Compounds (SVOC)																				
1,1-Biphenyl	0.05																			
1,2,4-Trichlorobenzene	2	---	---	---	---	---	---	---	0.84	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
1,2-Dichlorobenzene	9	---	---	---	---	---	---	---	0.616	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
1,3-Dichlorobenzene	3	---	---	---	---	---	---	---	0.64	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
1,4-Dichlorobenzene	0.7	---	---	---	---	---	---	---	0.401	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
2-Methylnaphthalene	0.7	---	---	---	---	---	---	---	BRL (<0.383)	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
Acenaphthene	4	---	---	---	---	---	---	---	1.21	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
Acenaphthylene	1	---	---	---	---	---	---	---	BRL (<0.383)	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
Anthracene	1000	---	---	---	---	---	---	---	2.66	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
Benzo(a)anthracene	7	---	---	---	---	---	---	---	5.43	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
Benzo(a)pyrene	2	---	---	---	---	---	---	---	4.77	---	---	---	BRL (<0.182)	---	---	---	---	---	---	---
Benzo(b)fluoranthene	7	---	---	---	---	---	---	---	4.68	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	1000	---	---	---	---	---	---	---	2.5	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
Benzo(k)fluoranthene	70	---	---	---	---	---	---	---	3.11	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
Chrysene	70	---	---	---	---	---	---	---	4.8	---	---	---	BRL (<0.182)	---	---	---	---	---	---	---
Dibenzo(a,h)Anthracene	0.7	---	---	---	---	---	---	---	1.08	---	---	---	BRL (<0.182)	---	---	---	---	---	---	---
Dibenzofuran	100	---	---	---	---	---	---	---	0.686	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
Dimethylphthalate	0.7	---	---	---	---	---	---	---	BRL (<0.383)	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
Fluoranthene	1000	---	---	---	---	---	---	---	8.5	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
Fluorene	1000	---	---	---	---	---	---	---	1.16	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
Indeno(1,2,3-cd)Pyrene	7	---	---	---	---	---	---	---	2.42	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
Naphthalene	4	---	---	---	---	---	---	---	0.548	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
Phenanthrene	10	---	---	---	---	---	---	---	7.64	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
Pyrene	1000	---	---	---	---	---	---	---	7.87	---	---	---	BRL (<0.363)	---	---	---	---	---	---	---
SVOCs NOS	NE	---	---	---	---	---	---	---	BRL	---	---	---	BRL	---	---	---	---	---	---	---
Extractable Petroleum Hydrocarbons (EPH)																				
C9-C18 Aliphatics	1000	BRL (<15.8)	BRL (<16.5)	BRL (<16.8)	BRL (<16.7)	BRL (<79.2)	---	---	---	BRL (<17.3)	BRL (<16.9)	BRL (<16.2)	BRL (<16.7)	BRL (<16.4)	BRL (<19)	---	BRL (<17.3)	---	BRL (<16.4)	BRL (<16.4)
C19-C36 Aliphatics	3000	44	BRL (<16.5)	BRL (<16.8)	BRL (<16.7)	BRL (<79.2)	---	---	---	BRL (<17.3)	BRL (<16.9)	BRL (<16.2)	BRL (<16.7)	BRL (<16.4)	BRL (<19)	---	BRL (<17.3)	---	BRL (<16.4)	BRL (<16.4)
C11-C22 Aromatics	1000	16.2	BRL (<16.5)	BRL (<16.8)	BRL (<16.7)	BRL (<15.8)	---	---	---	BRL (<17.3)	BRL (<16.9)	BRL (<16.2)	BRL (<16.7)	BRL (<16.4)	BRL (<19)	---	BRL (<17.3)	---	BRL (<16.4)	BRL (<16.4)
Polycyclic Aromatic Hydrocarbons (PAH)																				
2-Methylnaphthalene	0.7	---	---	---	---	---	---	---	---	BRL (<0.23)	BRL (<0.23)	BRL (<0.22)	BRL (<0.22)	BRL (<0.22)	BRL (<0.25)	---	BRL (<0.23)	---	BRL (<0.22)	BRL (<0.22)
Naphthalene	4	---	---	---	---	---	---	---	---	BRL (<0.46)	BRL (<0.45)	BRL (<0.43)	BRL (<0.45)	BRL (<0.44)	BRL (<0.51)	---	BRL (<0.46)	---	BRL (<0.44)	BRL (<0.44)
Phenanthrene	10	---	---	---	---	---	---	---	---	BRL (<0.46)	BRL (<0.45)	BRL (<0.43)	BRL (<0.45)	BRL (<0.44)	BRL (<0.51)	---	BRL (<0.46)	---	BRL (<0.44)	BRL (<0.44)
Acenaphthylene	1	---	---	---	---	---	---	---	---	BRL (<0.23)	BRL (<0.23)	BRL (<0.22)	BRL (<0.22)	BRL (<0.22)	BRL (<0.25)	---	BRL (<0.23)	---	BRL (<0.22)	BRL (<0.22)
Anthracene	1000	---	---	---	---	---	---	---	---	BRL (<0.46)	BRL (<0.45)	BRL (<0.43)	BRL (<0.45)	BRL (<0.44)	BRL (<0.51)	---	BRL (<0.46)	---	BRL (<0.44)	BRL (<0.44)
Benzo(a)anthracene	7	---	---	---	---	---	---	---	---	BRL (<0.46)	BRL (<0.45)	BRL (<0.43)	BRL (<0.45)	BRL (<0.44)	BRL (<0.51)	---	BRL (<0.46)	---	BRL (<0.44)	BRL (<0.44)
Benzo(a)pyrene	2	---	---	---	---	---	---	---	---	BRL (<0.46)	BRL (<0.45)	BRL (<0.43)	BRL (<0.45)	BRL (<0.44)	BRL (<0.51)	---	BRL (<0.46)	---	BRL (<0.44)	BRL (<0.44)
Benzo(b)fluoranthene	7	---	---	---	---	---	---	---	---	BRL (<0.46)	BRL (<0.45)	BRL (<0.43)	BRL (<0.45)	BRL (<0.44)	BRL (<0.51)	---	BRL (<0.46)	---	BRL (<0.44)	BRL (<0.44)
Benzo(g,h,i)perylene	1000	---	---	---	---	---	---	---	---	BRL (<0.46)	BRL (<0.45)	BRL (<0.43)	BRL (<0.45)	BRL (<0.44)	BRL (<0.51)	---	BRL (<0.46)	---	BRL (<0.44)	BRL (<0.44)
Benzo(k)fluoranthene	70	---	---	---	---	---	---	---	---	BRL (<0.46)	BRL (<0.45)	BRL (<0.43)	BRL (<0.45)	BRL (<0.44)	BRL (<0.51)	---	BRL (<0.46)	---	BRL (<0.44)	BRL (<0.44)

Table 6 - Summary of Soil Analytical Data
Fmr Saint Gobain Abrasives Property
1 New Bond Street, Worcester, MA

Sample ID	Reportable Concentrations RCS-1	SB-101		SB-102	SB-103	SB-104	SB-105	SB-106	MW-107	SB-108	MW-109	MW-110	SB-111	SB-112	MW-113	MW-114	SB-115	MW-116	SB-117	SB-118
Lab ID		20A0472-06	20A0472-07	20A0472-05	20A0472-02	20A0472-01	20A0472-03	20A0472-08	20A0472-09	20A0472-10	20A0472-11	20A0472-12	20A0472-13	20A0472-14	20A0472-15	20A0597-01	20A0597-02	20A0597-03	20A0597-04	20A0597-05
Sample Date		01/15/2020	01/15/2020	01/15/2020	01/15/2020	01/15/2020	01/15/2020	01/16/2020	01/16/2020	01/16/2020	01/16/2020	01/16/2020	01/16/2020	01/16/2020	01/16/2020	01/16/2020	01/17/2020	01/17/2020	01/17/2020	01/17/2020
Sample Depth (feet)		5-7.5	17.5-20	2-5.5	10-12.5	10-12.5	12.5-15	5-10	0-5	15-17.5	10-13	12-15	9-14	13-15	4-10	0-5	17-20	5-10	6-8	13-15
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Chrysene	70	---	---	---	---	---	---	---	---	BRL (<0.46)	BRL (<0.45)	BRL (<0.43)	BRL (<0.45)	BRL (<0.44)	BRL (<0.51)	---	BRL (<0.46)	---	BRL (<0.44)	BRL (<0.44)
Dibenzo(a,h)Anthracene	0.7	---	---	---	---	---	---	---	---	BRL (<0.23)	BRL (<0.23)	BRL (<0.22)	BRL (<0.22)	BRL (<0.22)	BRL (<0.25)	---	BRL (<0.23)	---	BRL (<0.22)	BRL (<0.22)
Fluoranthene	1000	---	---	---	---	---	---	---	---	BRL (<0.46)	BRL (<0.45)	BRL (<0.43)	BRL (<0.45)	BRL (<0.44)	BRL (<0.51)	---	BRL (<0.46)	---	BRL (<0.44)	BRL (<0.44)
Indeno(1,2,3-cd)Pyrene	7	---	---	---	---	---	---	---	---	BRL (<0.46)	BRL (<0.45)	BRL (<0.43)	BRL (<0.45)	BRL (<0.44)	BRL (<0.51)	---	BRL (<0.46)	---	BRL (<0.44)	BRL (<0.44)
Pyrene	1000	---	---	---	---	---	---	---	---	BRL (<0.46)	BRL (<0.45)	BRL (<0.43)	BRL (<0.45)	BRL (<0.44)	BRL (<0.51)	---	BRL (<0.46)	---	BRL (<0.44)	BRL (<0.44)
Target PAHS NOS	NE	---	---	---	---	---	---	---	---	BRL	BRL	BRL	BRL	BRL	BRL	---	BRL	---	BRL	BRL
Volatile Petroleum Hydrocarbons (VPH)																				
C5-C8 Aliphatics	100	BRL (<10.2)	---	---	---	---	---	---	---	BRL (<19.7)	BRL (<14.2)	BRL (<13.8)	---	BRL (<13.0)	BRL (<15.4)	---	BRL (<15.2)	---	BRL (<16)	BRL (<14.1)
C9-C12 Aliphatics	1000	BRL (<20.3)	---	---	---	---	---	---	---	BRL (<39.2)	BRL (<28.3)	BRL (<27.4)	---	BRL (<25.9)	BRL (<30.7)	---	BRL (<30.3)	---	BRL (<31.9)	BRL (<28.2)
C9-C10 Aromatics	100	BRL (<9.8)	---	---	---	---	---	---	---	BRL (<18.8)	BRL (<13.6)	BRL (<13.2)	---	BRL (<12.5)	BRL (<14.8)	---	BRL (<14.6)	---	BRL (<15.3)	BRL (<13.5)
Target VOCs NOS	NE	---	---	---	---	---	---	---	---	BRL	BRL	BRL	BRL	BRL	---	---	BRL	---	BRL	BRL
Total Metals																				
Aluminum	NE	---	5790	12200	9590	10300	---	4900	6130	3590	3670	5340	---	715	---	19400	13500	15600	---	6540
Antimony	20	---	BRL (<3.75)	BRL (<4.44)	BRL (<4.58)	BRL (<4.8)	---	BRL (<4.23)	BRL (<5.69)	BRL (<4.37)	BRL (<4.52)	BRL (<5.07)	---	BRL (<4.71)	---	BRL (<4.98)	BRL (<4.9)	BRL (<4.07)	---	BRL (<4.59)
Arsenic	20	---	26	17.9	12.8	26.7	---	16.4	20.1	12.8	16.8	28.4	---	3.52	---	13.3	18	36.4	---	25.3
Barium	1000	---	23.1	40.9	44.8	44	---	21.5	67.1	15.1	9.34	20.4	---	2.36	---	42.1	56.3	87.8	---	20.6
Beryllium	90	---	0.28	0.49	0.28	0.33	---	0.16	0.75	0.18	0.18	0.25	---	BRL (<0.1)	---	0.74	0.43	0.39	---	0.28
Cadmium	70	---	BRL (<0.38)	BRL (<0.44)	BRL (<0.46)	BRL (<0.48)	---	BRL (<0.42)	BRL (<0.57)	BRL (<0.44)	BRL (<0.45)	BRL (<0.51)	---	BRL (<0.47)	---	BRL (<0.5)	BRL (<0.49)	BRL (<0.41)	---	BRL (<0.46)
Chromium	100	---	18	14.4	38.3	38.5	---	11.8	15.2	9.87	9.98	11.7	---	1.47	---	38.8	29.5	50.3	---	18
Lead	200	---	BRL (<3.75)	10.3	6.58	10.3	---	BRL (<4.23)	42	BRL (<4.37)	BRL (<4.52)	BRL (<5.07)	---	BRL (<4.71)	---	9.38	5.68	4.96	---	BRL (<4.59)
Mercury	20	---	BRL (<0.029)	0.033	BRL (<0.026)	BRL (<0.026)	---	BRL (<0.023)	0.023	BRL (<0.023)	BRL (<0.023)	BRL (<0.024)	---	BRL (<0.027)	---	BRL (<0.032)	BRL (<0.031)	BRL (<0.028)	---	BRL (<0.027)
Nickel	600	---	17.4	12.4	19.7	19.9	---	9.96	15.1	11	8.46	14.4	---	BRL (<2.35)	---	21.3	23.7	45.7	---	13.9
Selenium	400	---	BRL (<3.75)	BRL (<4.44)	BRL (<4.58)	BRL (<4.8)	---	BRL (<4.23)	BRL (<5.69)	BRL (<4.37)	BRL (<4.52)	BRL (<5.07)	---	BRL (<4.71)	---	BRL (<4.98)	BRL (<4.9)	BRL (<4.07)	---	BRL (<4.59)
Silver	100	---	BRL (<0.38)	BRL (<0.44)	BRL (<0.46)	BRL (<0.48)	---	BRL (<0.42)	BRL (<0.57)	BRL (<0.44)	BRL (<0.45)	BRL (<0.51)	---	BRL (<0.47)	---	BRL (<0.5)	BRL (<0.49)	BRL (<0.41)	---	BRL (<0.46)
Thallium	8	---	BRL (<3.75)	BRL (<4.44)	BRL (<4.58)	BRL (<4.8)	---	BRL (<4.23)	BRL (<5.69)	BRL (<4.37)	BRL (<4.52)	BRL (<5.07)	---	BRL (<4.71)	---	BRL (<4.98)	BRL (<4.9)	BRL (<4.07)	---	BRL (<4.59)
Vanadium	400	---	13.4	17.1	20.6	22.8	---	10.8	14.4	7.87	7.81	9.1	---	1.47	---	28.1	21.3	31.2	---	15.9
Zinc	1000	---	20.0	39.0	32.8	36.2	---	14.6	39.5	13.3	12.0	24.0	---	3.00	---	44.6	37	38.9	---	21.7
Polychlorinated Biphenyls (PCB)																				
Aroclor 1260	1	---	---	---	---	---	---	BRL (<0.03)	0.06	BRL (<0.03)	---	---	BRL (<0.03)	---	BRL (<0.03)	---	---	---	---	BRL (<0.05)
PCBs NOS	NE	---	---	---	---	---	---	BRL	BRL	BRL	---	---	BRL	---	BRL	---	---	---	---	BRL
Classical Chemistry																				
Sulfide																				

Table 6 - Summary of Soil Analytical Data
Fmr Saint Gobain Abrasives Property
1 New Bond Street, Worcester, MA

Sample ID	Reportable Concentrations RCS-1	MW-119	MW-120	SB-121	MW-122	SB-123	MW-124	SB-125	MW-126	MW-127	SB-128	MW-129		MW-130	MW-131	SB-132	MW-133	SB-134	SB-135
Lab ID		20A0597-06	20A0597-07	20A0597-08	20A0597-09	20A0597-10	20A0597-11	20A0597-12	20A0597-13	20A0597-14	20A0597-15	20A0597-16	20A0597-17	20A0636-01	20A0636-02	20A0636-03	20A0636-04	20A0636-05	20A0636-06
Sample Date		01/17/2020	01/17/2020	01/17/2020	01/17/2020	01/21/2020	01/21/2020	01/21/2020	01/21/2020	01/21/2020	01/21/2020	01/21/2020	01/21/2020	01/22/2020	01/22/2020	01/22/2020	01/22/2020	01/22/2020	01/22/2020
Sample Depth (feet)		11-14	0.5-3	10-13	1-5	11-13	14-17	0-5	10-14	5-10	0-5	0-5	13-15	5-10	6-8	1-5	1-5	1-5	10-15
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Volatile Organic Compounds VOC																			
1,1,2,2-Tetrachloroethane	0.005	BRL (<0.0026)	---	BRL (<0.0032)	---	BRL (<0.0025)	BRL (<0.0026)	BRL (<0.0034)	BRL (<0.0028)	---	BRL (<0.0027)	---	---	BRL (<0.0031)	BRL (<0.0034)	0.0077	---	BRL (<0.0032)	BRL (<0.0032)
2-Butanone	4	BRL (<0.0129)	---	BRL (<0.016)	---	BRL (<0.0126)	BRL (<0.0128)	BRL (<0.0172)	BRL (<0.0138)	---	BRL (<0.0136)	---	---	BRL (<0.0153)	BRL (<0.0170)	BRL (<0.0387)	---	BRL (<0.0161)	BRL (<0.0158)
Acetone	6	BRL (<0.129)	---	BRL (<0.16)	---	BRL (<0.126)	BRL (<0.128)	BRL (<0.172)	0.0299	---	BRL (<0.136)	---	---	BRL (<0.153)	0.0239	0.0527	---	BRL (<0.161)	BRL (<0.158)
Isopropylbenzene	1000	BRL (<0.0065)	---	BRL (<0.008)	---	BRL (<0.0063)	BRL (<0.0064)	BRL (<0.0086)	BRL (<0.0069)	---	BRL (<0.0068)	---	---	BRL (<0.0077)	BRL (<0.0085)	BRL (<0.0193)	---	BRL (<0.008)	BRL (<0.0079)
Naphthalene	4	BRL (<0.0065)	---	BRL (<0.008)	---	BRL (<0.0063)	BRL (<0.0064)	BRL (<0.0086)	BRL (<0.0069)	---	BRL (<0.0068)	---	---	BRL (<0.0077)	BRL (<0.0085)	BRL (<0.0193)	---	BRL (<0.008)	BRL (<0.0079)
n-Butylbenzene	100	BRL (<0.0065)	---	BRL (<0.008)	---	BRL (<0.0063)	BRL (<0.0064)	BRL (<0.0086)	BRL (<0.0069)	---	BRL (<0.0068)	---	---	BRL (<0.0077)	BRL (<0.0085)	BRL (<0.0193)	---	BRL (<0.008)	BRL (<0.0079)
n-Propylbenzene	100	BRL (<0.0065)	---	BRL (<0.008)	---	BRL (<0.0063)	BRL (<0.0064)	BRL (<0.0086)	BRL (<0.0069)	---	BRL (<0.0068)	---	---	BRL (<0.0077)	BRL (<0.0085)	BRL (<0.0193)	---	BRL (<0.008)	BRL (<0.0079)
sec-Butylbenzene	100	BRL (<0.0065)	---	BRL (<0.008)	---	BRL (<0.0063)	BRL (<0.0064)	BRL (<0.0086)	BRL (<0.0069)	---	BRL (<0.0068)	---	---	BRL (<0.0077)	BRL (<0.0085)	BRL (<0.0193)	---	BRL (<0.008)	BRL (<0.0079)
tert-Butylbenzene	100	BRL (<0.0065)	---	BRL (<0.008)	---	BRL (<0.0063)	BRL (<0.0064)	BRL (<0.0086)	BRL (<0.0069)	---	BRL (<0.0068)	---	---	BRL (<0.0077)	BRL (<0.0085)	BRL (<0.0193)	---	BRL (<0.008)	BRL (<0.0079)
Toluene	30	BRL (<0.0065)	---	BRL (<0.008)	---	BRL (<0.0063)	BRL (<0.0064)	BRL (<0.0086)	BRL (<0.0069)	---	BRL (<0.0068)	---	---	BRL (<0.0077)	BRL (<0.0085)	BRL (<0.0193)	---	BRL (<0.008)	BRL (<0.0079)
Trichloroethene	0.3	BRL (<0.0065)	---	BRL (<0.008)	---	BRL (<0.0063)	BRL (<0.0064)	BRL (<0.0086)	BRL (<0.0069)	---	BRL (<0.0068)	---	---	BRL (<0.0077)	BRL (<0.0085)	BRL (<0.0193)	---	BRL (<0.008)	BRL (<0.0079)
Semi- Volatile Organic Compounds (SVOC)																			
1,1-Biphenyl	0.05																		
1,2,4-Trichlorobenzene	2	---	---	BRL (<0.344)	---	---	---	BRL (<0.375)	---	---	BRL (<0.723)	---	---	---	---	0.823	---	---	BRL (<0.365)
1,2-Dichlorobenzene	9	---	---	BRL (<0.344)	---	---	---	BRL (<0.375)	---	---	BRL (<0.723)	---	---	---	---	0.579	---	---	BRL (<0.365)
1,3-Dichlorobenzene	3	---	---	BRL (<0.344)	---	---	---	BRL (<0.375)	---	---	BRL (<0.723)	---	---	---	---	0.570	---	---	BRL (<0.183)
1,4-Dichlorobenzene	0.7	---	---	BRL (<0.172)	---	---	---	BRL (<0.188)	---	---	BRL (<0.363)	---	---	---	---	0.360	---	---	BRL (<0.183)
2-Methylnaphthalene	0.7	---	---	BRL (<0.172)	---	---	---	0.598	---	---	BRL (<0.363)	---	---	---	---	BRL (<0.438)	---	---	BRL (<0.365)
Acenaphthene	4	---	---	BRL (<0.344)	---	---	---	BRL (<0.375)	---	---	BRL (<0.723)	---	---	---	---	BRL (<0.438)	---	---	BRL (<0.365)
Acenaphthylene	1	---	---	BRL (<0.344)	---	---	---	BRL (<0.375)	---	---	BRL (<0.723)	---	---	---	---	BRL (<0.438)	---	---	BRL (<0.365)
Anthracene	1000	---	---	BRL (<0.344)	---	---	---	BRL (<0.375)	---	---	BRL (<0.723)	---	---	---	---	BRL (<0.438)	---	---	BRL (<0.365)
Benzo(a)anthracene	7	---	---	BRL (<0.344)	---	---	---	0.597	---	---	2.36	---	---	---	---	BRL (<0.438)	---	---	BRL (<0.365)
Benzo(a)pyrene	2	---	---	BRL (<0.172)	---	---	---	0.622	---	---	2.92	---	---	---	---	BRL (<0.22)	---	---	BRL (<0.183)
Benzo(b)fluoranthene	7	---	---	BRL (<0.344)	---	---	---	0.467	---	---	2.32	---	---	---	---	BRL (<0.438)	---	---	BRL (<0.365)
Benzo(g,h,i)perylene	1000	---	---	BRL (<0.344)	---	---	---	BRL (<0.375)	---	---	2.04	---	---	---	---	BRL (<0.438)	---	---	BRL (<0.365)
Benzo(k)fluoranthene	70	---	---	BRL (<0.344)	---	---	---	0.594	---	---	1.88	---	---	---	---	BRL (<0.438)	---	---	BRL (<0.365)
Chrysene	70	---	---	BRL (<0.172)	---	---	---	0.745	---	---	1.99	---	---	---	---	0.416	---	---	BRL (<0.183)
Dibenzo(a,h)Anthracene	0.7	---	---	BRL (<0.172)	---	---	---	0.202	---	---	0.672	---	---	---	---	BRL (<0.22)	---	---	BRL (<0.183)
Dibenzofuran	100	---	---	BRL (<0.344)	---	---	---	BRL (<0.375)	---	---	BRL (<0.723)	---	---	---	---	BRL (<0.438)	---	---	BRL (<0.365)
Dimethylphthalate	0.7	---	---	BRL (<0.344)	---	---	---	BRL (<0.375)	---	---	BRL (<0.723)	---	---	---	---	BRL (<0.438)	---	---	BRL (<0.365)
Fluoranthene	1000	---	---	BRL (<0.344)	---	---	---	1.05	---	---	4.13	---	---	---	---	0.441	---	---	BRL (<0.365)
Fluorene	1000	---	---	BRL (<0.344)	---	---	---	BRL (<0.375)	---	---	BRL (<0.723)	---	---	---	---	BRL (<0.438)	---	---	BRL (<0.365)
Indeno(1,2,3-cd)Pyrene	7	---	---	BRL (<0.344)	---	---	---	BRL (<0.375)	---	---	1.79	---	---	---	---	BRL (<0.438)	---	---	BRL (<0.365)
Naphthalene	4	---	---	BRL (<0.344)	---	---	---	0.463	---	---	BRL (<0.723)	---	---	---	---	BRL (<0.438)	---	---	BRL (<0.365)
Phenanthrene	10	---	---	BRL (<0.344)	---	---	---	0.786	---	---	BRL (<0.723)	---	---	---	---	BRL (<0.438)	---	---	BRL (<0.365)
Pyrene	1000	---	---	BRL (<0.344)	---	---	---	0.914	---	---	4.72	---	---	---	---	BRL (<0.438)	---	---	BRL (<0.365)
SVOCs NOS	NE	---	---	BRL	---	---	---	BRL	---	---	BRL	---	---	---	---	BRL	---	---	BRL
Extractable Petroleum Hydrocarbons (EPH)																			
C9-C18 Aliphatics	1000	BRL (<16.8)	283	BRL (<16.6)	---	BRL (<15.8)	BRL (<17.4)	BRL (<17.3)	BRL (<16.5)	BRL (<16.2)	---	---	BRL (<16.2)	BRL (<84.3)	BRL (<18.4)	---	---	BRL (<17.9)	---
C19-C36 Aliphatics	3000	BRL (<16.8)	3820	BRL (<16.6)	---	BRL (<15.8)	BRL (<17.4)	18.6	BRL (<16.5)	BRL (<16.2)	---	---	BRL (<16.2)	BRL (<84.3)	BRL (<18.4)	---	---	BRL (<17.9)	---
C11-C22 Aromatics	1000	BRL (<16.8)	1410	BRL (<16.6)	---	BRL (<15.8)	BRL (<17.4)	BRL (<17.3)	BRL (<16.5)	BRL (<16.2)	---	---	BRL (<16.2)	29.9	21.9	---	---	BRL (<17.9)	---
Polycyclic Aromatic Hydrocarbons (PAH)																			
2-Methylnaphthalene	0.7	BRL (<0.22)	0.77	BRL (<0.22)	---	BRL (<0.21)	BRL (<0.23)	BRL (<0.23)	BRL (<0.22)	BRL (<0.22)	---	---	BRL (<0.22)	BRL (<0.22)	BRL (<0.24)	---	---	BRL (<0.24)	---
Naphthalene	4	BRL (<0.45)	1.57	BRL (<0.44)	---	BRL (<0.42)	BRL (<0.47)	BRL (<0.46)	BRL (<0.44)	BRL (<0.43)	---	---	BRL (<0.43)	BRL (<0.45)	BRL (<0.49)	---	---	BRL (<0.48)	---
Phenanthrene	10	BRL (<0.45)	13.4	BRL (<0.44)	---	BRL (<0.42)	BRL (<0.47)	BRL (<0.46)	BRL (<0.44)	BRL (<0.43)	---	---	BRL (<0.43)	BRL (<0.45)	4.18	---	---	BRL (<0.48)	---
Acenaphthylene	1	BRL (<0.22)	1.44	BRL (<0.22)	---	BRL (<0.21)	BRL (<0.23)	BRL (<0.23)	BRL (<0.22)	BRL (<0.22)	---	---	BRL (<0.22)	BRL (<0.22)	BRL (<0.24)	---	---	BRL (<0.24)	---
Anthracene	1000	BRL (<0.45)	3.81	BRL (<0.44)	---	BRL (<0.42)	BRL (<0.47)	BRL (<0.46)	BRL (<0.44)	BRL (<0.43)	---	---	BRL (<0.43)	BRL (<0.45)	1.06	---	---	BRL (<0.48)	---
Benzo(a)anthracene	7	BRL (<0.45)	15.9	BRL (<0.44)	---	BRL (<0.42)	BRL (<0.47)	BRL (<0.46)	BRL (<0.44)	BRL (<0.43)	---	---	BRL (<0.43)	BRL (<0.45)	1.67	---	---	BRL (<0.48)	---
Benzo(a)pyrene	2	BRL (<0.45)	16	BRL (<0.44)	---	BRL (<0.42)	BRL (<0.47)	BRL (<0.46)	BRL (<0.44)	BRL (<0.43)	---	---	BRL (<0.43)	BRL (<0.45)	1.55	---	---	BRL (<0.48)	---
Benzo(b)fluoranthene	7	BRL (<0.45)	14.4	BRL (<0.44)	---	BRL (<0.42)	BRL (<0.47)	BRL (<0.46)	BRL (<0.44)	BRL (<0.43)	---	---	BRL (<0.43)	BRL (<0.45)	1.55	---	---	BRL (<0.48)	---
Benzo(g,h,i)perylene	1000	BRL (<0.45)	8.27	BRL (<0.44)	---	BRL (<0.42)	BRL (<0.47)	BRL (<0.46)	BRL (<0.44)	BRL (<0.43)	---	---	BRL (<0.43)	BRL (<0.45)	0.75	---	---	BRL (<0.48)	---
Benzo(k)fluoranthene	70	BRL (<0.45)	9.71	BRL (<0.44)	---	BRL (<0.42)	BRL (<0.47)	BRL (<0.46)	BRL (<0.44)	BRL (<0.43)	---	---	BRL (<0.43)	BRL (<0.45)	0.85	---	---	BRL (<0.48)	---

Table 6 - Summary of Soil Analytical Data
Fmr Saint Gobain Abrasives Property
1 New Bond Street, Worcester, MA

Sample ID	Reportable Concentrations RCS-1	MW-119	MW-120	SB-121	MW-122	SB-123	MW-124	SB-125	MW-126	MW-127	SB-128	MW-129		MW-130	MW-131	SB-132	MW-133	SB-134	SB-135
Lab ID		20A0597-06	20A0597-07	20A0597-08	20A0597-09	20A0597-10	20A0597-11	20A0597-12	20A0597-13	20A0597-14	20A0597-15	20A0597-16	20A0597-17	20A0636-01	20A0636-02	20A0636-03	20A0636-04	20A0636-05	20A0636-06
Sample Date		01/17/2020	01/17/2020	01/17/2020	01/17/2020	01/21/2020	01/21/2020	01/21/2020	01/21/2020	01/21/2020	01/21/2020	01/21/2020	01/21/2020	01/22/2020	01/22/2020	01/22/2020	01/22/2020	01/22/2020	01/22/2020
Sample Depth (feet)		11-14	0.5-3	10-13	1-5	11-13	14-17	0-5	10-14	5-10	0-5	0-5	13-15	5-10	6-8	1-5	1-5	1-5	10-15
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Chrysene	70	BRL (<0.45)	14	BRL (<0.44)	---	BRL (<0.42)	BRL (<0.47)	BRL (<0.46)	BRL (<0.44)	BRL (<0.43)	---	---	BRL (<0.43)	BRL (<0.45)	1.62	---	---	BRL (<0.48)	---
Dibenzo(a,h)Anthracene	0.7	BRL (<0.22)	2.67	BRL (<0.22)	---	BRL (<0.21)	BRL (<0.23)	BRL (<0.23)	BRL (<0.22)	BRL (<0.22)	---	---	BRL (<0.22)	BRL (<0.22)	0.26	---	---	BRL (<0.24)	---
Fluoranthene	1000	BRL (<0.45)	34.2	BRL (<0.44)	---	BRL (<0.42)	BRL (<0.47)	0.51	BRL (<0.44)	BRL (<0.43)	---	---	BRL (<0.43)	BRL (<0.45)	4.42	---	---	BRL (<0.48)	---
Indeno(1,2,3-cd)Pyrene	7	BRL (<0.45)	11.9	BRL (<0.44)	---	BRL (<0.42)	BRL (<0.47)	BRL (<0.46)	BRL (<0.44)	BRL (<0.43)	---	---	BRL (<0.43)	BRL (<0.45)	0.86	---	---	BRL (<0.48)	---
Pyrene	1000	BRL (<0.45)	33.5	BRL (<0.44)	---	BRL (<0.42)	BRL (<0.47)	0.47	BRL (<0.44)	BRL (<0.43)	---	---	BRL (<0.43)	BRL (<0.45)	4.21	---	---	BRL (<0.48)	---
Target PAHS NOS	NE	BRL	BRL	BRL	---	BRL	BRL	BRL	BRL	BRL	---	---	BRL	BRL	BRL	---	---	---	---
Volatile Petroleum Hydrocarbons (VPH)																			
C5-C8 Aliphatics	100	---	---	BRL (<16.5)	---	BRL (<20.8)	BRL (<14.2)	---	BRL (<14.7)	---	---	---	BRL (<14.4)	---	BRL (<16.8)	---	---	---	---
C9-C12 Aliphatics	1000	---	---	BRL (<32.9)	---	BRL (<41.4)	BRL (<28.2)	---	BRL (<29.3)	---	---	---	BRL (<28.6)	---	BRL (<33.4)	---	---	---	---
C9-C10 Aromatics	100	---	---	BRL (<15.8)	---	BRL (<19.9)	BRL (<13.6)	---	BRL (<14.1)	---	---	---	BRL (<13.7)	---	BRL (<16.1)	---	---	---	---
Target VOCs NOS	NE	---	---	---	---	---	---	---	---	---	---	---	BRL	---	---	---	---	---	---
Total Metals																			
Aluminum	NE	---	5230	---	9330	14300	---	6370	---	7180	7260	7540	---	5990	---	7640	4130	9660	8800
Antimony	20	---	BRL (<4.39)	---	BRL (<4.24)	BRL (<4.14)	---	BRL (<4.78)	---	BRL (<4.64)	BRL (<4)	BRL (<4.61)	---	BRL (<4.5)	---	BRL (<5.68)	BRL (<5.21)	BRL (<4.25)	BRL (<3.98)
Arsenic	20	---	33.5	---	12.8	26.7	---	69	---	24.3	21.5	38.8	---	15	---	69	27	19.2	23
Barium	1000	---	118	---	125	80.5	---	44.8	---	63.9	19.2	32.8	---	34.7	---	314	48.1	126	16.2
Beryllium	90	---	0.3	---	0.41	0.28	---	0.28	---	0.35	0.26	0.31	---	0.35	---	1.8	0.33	0.42	0.23
Cadmium	70	---	BRL (<0.44)	---	BRL (<0.42)	BRL (<0.41)	---	BRL (<0.48)	---	BRL (<0.46)	BRL (<0.4)	BRL (<0.46)	---	BRL (<0.45)	---	BRL (<0.57)	BRL (<0.52)	BRL (<0.42)	BRL (<0.4)
Chromium	100	---	58.7	---	21.2	70.2	---	17.3	---	15.5	17.2	16.9	---	11.4	---	11	7.67	13	10.1
Lead	200	---	545	---	47.2	6.84	---	54.3	---	BRL (<4.64)	16.7	26.9	---	56.8	---	62.4	122	83.4	4.49
Mercury	20	---	0.26	---	0.047	BRL (<0.031)	---	0.04	---	BRL (<0.033)	BRL (<0.034)	0.046	---	0.036	---	0.306	0.046	0.085	0.03
Nickel	600	---	43.1	---	15.1	32.8	---	10.8	---	9.23	16.1	19.5	---	14.2	---	16.3	7.92	15.1	10.2
Selenium	400	---	BRL (<4.39)	---	BRL (<4.24)	BRL (<4.14)	---	BRL (<4.78)	---	BRL (<4.64)	BRL (<4)	BRL (<4.61)	---	BRL (<4.5)	---	17.3	BRL (<5.21)	BRL (<4.25)	BRL (<3.98)
Silver	100	---	BRL (<0.44)	---	BRL (<0.42)	BRL (<0.41)	---	BRL (<0.48)	---	BRL (<0.46)	BRL (<0.4)	BRL (<0.46)	---	BRL (<0.45)	---	BRL (<0.57)	BRL (<0.52)	BRL (<0.42)	BRL (<0.4)
Thallium	8	---	BRL (<0.44)	---	BRL (<4.24)	BRL (<4.14)	---	BRL (<4.78)	---	BRL (<4.64)	BRL (<4)	BRL (<4.61)	---	BRL (<4.5)	---	BRL (<5.68)	BRL (<5.21)	BRL (<4.25)	BRL (<3.98)
Vanadium	400	---	26.9	---	18.8	33.1	---	28.4	---	1	.8	16.4	---	12.3	---	26.4	10.7	12.9	10.5
Zinc	1000	---	313	---	32.4	38.9	---	31.8	---	2	.6	35	---	71.7	---	22.3	21.3	135	18.2
Polychlorinated Biphenyls (PCB)																			
Aroclor 1260	1	---	---	BRL (<0.06)	---	---	BRL (<0.06)	---	---			BRL (<0.05)	---	---	---	BRL (<0.06)	BRL (<0.06)	---	BRL (<0.05)
PCBs NOS	NE	---	---	BRL	---	---	BRL	---	---			BRL	---	---	---	BRL	BRL	---	BRL
Classical Chemistry																			
Sulfide																			

Table 6 - Summary of Soil Analytical Data
Fmr Saint Gobain Abrasives Property
1 New Bond Street, Worcester, MA

Sample ID	Reportable Concentrations RCS-1	MW-136	MW-139	MW-140	MW-141	MW-142	MW-143	MW-144	MW-145	MW-146	MW-147		MW-148	MW-149	MW-150	MW-151	MW-152	MW-153	Table 6
Lab ID		20C0740-01	20C0740-02	20C0740-03	20C0807-01	20C0807-02	20C0807-03	20C0807-04	20C0807-05	20C0807-06	20C0896-01	20C0896-09	20C0896-02	20C0896-03	20C0896-04	20C0896-05	20C0896-06	20D0191-01	20D0191-02
Sample Date		03/23/2020	03/23/2020	03/23/2020	3/24/2020	3/24/2020	3/24/2020	3/25/2020	3/25/2020	3/25/2020	3/25/2020	3/25/2020	3/26/2020	3/26/2020	3/26/2020	3/27/2020	3/27/2020	4/6/2020	4/7/2020
Sample Depth (feet)		5-7	5-7	0-2	10-12	5-7	15-17	12.5-15	15-20	0-5	2.5-5	13-15	14-17	0-4	12-14	9.5-12	9-12	10-14	0-4
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Volatile Organic Compounds VOC																			
1,1,2,2-Tetrachloroethane	0.005	BRL (<0.0026)	BRL (<0.0028)	---	BRL (<0.0026)	BRL (<0.0032)	BRL (<0.0031)	BRL (<0.0016)	BRL (<0.0021)	BRL (<0.0019)	---	BRL (<0.0021)	BRL (<0.0028)	BRL (<0.0045)	BRL (<0.0029)	---	BRL (<0.0026)	BRL (<0.0025)	---
2-Butanone	4	BRL (<0.0132)	BRL (<0.0139)	---	BRL (<0.0128)	0.0166	BRL (<0.0154)	BRL (<0.008)	BRL (<0.0106)	BRL (<0.0095)	---	BRL (<0.0107)	BRL (<0.0139)	BRL (<0.0224)	BRL (<0.0145)	---	BRL (<0.0128)	BRL (<0.0123)	---
Acetone	6	0.031	BRL (<0.0139)	---	0.0136	0.126	BRL (<0.0154)	0.0199	BRL (<0.0106)	BRL (<0.0095)	---	0.0232	0.0321	BRL (<0.0224)	0.0723	---	BRL (<0.0128)	0.0144	---
Isopropylbenzene	1000	BRL (<0.0066)	BRL (<0.007)	---	BRL (<0.0064)	BRL (<0.008)	BRL (<0.0077)	0.0183	BRL (<0.0053)	BRL (<0.0048)	---	BRL (<0.0053)	BRL (<0.0069)	BRL (<0.0112)	BRL (<0.0073)	---	BRL (<0.0064)	BRL (<0.0062)	---
Naphthalene	4	BRL (<0.0066)	BRL (<0.007)	---	BRL (<0.0064)	BRL (<0.008)	BRL (<0.0077)	BRL (<0.004)	0.0222	BRL (<0.0048)	---	0.0184	0.0101	BRL (<0.0112)	BRL (<0.0073)	---	BRL (<0.0064)	BRL (<0.0062)	---
n-Butylbenzene	100	BRL (<0.0066)	BRL (<0.007)	---	BRL (<0.0064)	BRL (<0.008)	BRL (<0.0077)	0.0086	0.054	BRL (<0.0048)	---	BRL (<0.0053)	BRL (<0.0069)	BRL (<0.0112)	BRL (<0.0073)	---	BRL (<0.0064)	BRL (<0.0062)	---
n-Propylbenzene	100	BRL (<0.0066)	BRL (<0.007)	---	BRL (<0.0064)	BRL (<0.008)	BRL (<0.0077)	0.0104	BRL (<0.0053)	BRL (<0.0048)	---	BRL (<0.0053)	BRL (<0.0069)	BRL (<0.0112)	BRL (<0.0073)	---	BRL (<0.0064)	BRL (<0.0062)	---
sec-Butylbenzene	100	BRL (<0.0066)	BRL (<0.007)	---	BRL (<0.0064)	BRL (<0.008)	BRL (<0.0077)	BRL (<0.004)	0.0353	BRL (<0.0048)	---	BRL (<0.0053)	BRL (<0.0069)	BRL (<0.0112)	BRL (<0.0073)	---	BRL (<0.0064)	BRL (<0.0062)	---
tert-Butylbenzene	100	BRL (<0.0066)	BRL (<0.007)	---	BRL (<0.0064)	BRL (<0.008)	BRL (<0.0077)	BRL (<0.004)	0.0075	BRL (<0.0048)	---	BRL (<0.0053)	BRL (<0.0069)	BRL (<0.0112)	BRL (<0.0073)	---	BRL (<0.0064)	BRL (<0.0062)	---
Toluene	30	BRL (<0.0066)	BRL (<0.007)	---	BRL (<0.0064)	BRL (<0.008)	BRL (<0.0077)	0.0042	BRL (<0.0053)	BRL (<0.0048)	---	BRL (<0.0053)	BRL (<0.0069)	BRL (<0.0112)	BRL (<0.0073)	---	BRL (<0.0064)	BRL (<0.0062)	---
Trichloroethene	0.3	BRL (<0.0066)	BRL (<0.007)	---	BRL (<0.0064)	BRL (<0.008)	BRL (<0.0077)	BRL (<0.004)	BRL (<0.0053)	BRL (<0.0048)	---	BRL (<0.0053)	BRL (<0.0069)	BRL (<0.0112)	BRL (<0.0073)	---	BRL (<0.0064)	BRL (<0.0062)	---
Semi- Volatile Organic Compounds (SVOC)																			
1,1-Biphenyl	0.05																		
1,2,4-Trichlorobenzene	2	---	---	BRL (<0.446)	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
1,2-Dichlorobenzene	9	---	---	BRL (<0.446)	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
1,3-Dichlorobenzene	3	---	---	BRL (<0.446)	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
1,4-Dichlorobenzene	0.7	---	---	BRL (<0.446)	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
2-Methylnaphthalene	0.7	---	---	BRL (<0.446)	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
Acenaphthene	4	---	---	BRL (<0.446)	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
Acenaphthylene	1	---	---	BRL (<0.446)	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
Anthracene	1000	---	---	BRL (<0.446)	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
Benzo(a)anthracene	7	---	---	0.566	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
Benzo(a)pyrene	2	---	---	0.574	---	---	BRL (<0.171)	---	---	BRL (<0.185)	---	---	---	---	---	---	BRL (<0.174)	---	BRL (<0.193)
Benzo(b)fluoranthene	7	---	---	0.498	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
Benzo(g,h,i)perylene	1000	---	---	BRL (<0.446)	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
Benzo(k)fluoranthene	70	---	---	BRL (<0.446)	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
Chrysene	70	---	---	0.563	---	---	BRL (<0.171)	---	---	BRL (<0.185)	---	---	---	---	---	---	BRL (<0.174)	---	BRL (<0.193)
Dibenzo(a,h)Anthracene	0.7	---	---	BRL (<0.224)	---	---	BRL (<0.171)	---	---	BRL (<0.185)	---	---	---	---	---	---	BRL (<0.174)	---	BRL (<0.193)
Dibenzofuran	100	---	---	BRL (<0.446)	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
Dimethylphthalate	0.7	---	---	BRL (<0.446)	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
Fluoranthene	1000	---	---	1.13	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
Fluorene	1000	---	---	BRL (<0.446)	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
Indeno(1,2,3-cd)Pyrene	7	---	---	BRL (<0.446)	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
Naphthalene	4	---	---	BRL (<0.446)	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
Phenanthrene	10	---	---	0.729	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
Pyrene	1000	---	---	1.12	---	---	BRL (<0.341)	---	---	BRL (<0.369)	---	---	---	---	---	---	BRL (<0.348)	---	BRL (<0.385)
SVOCs NOS	NE	---	---	BRL	---	---	BRL	---	---	BRL	---	---	---	---	---	---	BRL	---	BRL
Extractable Petroleum Hydrocarbons (EPH)																			
C9-C18 Aliphatics	1000	BRL (<15.5)	BRL (<16.3)	---	---	BRL (<16.9)	---	893	290	---	---	738	477	BRL (<17.5)	BRL (<18.4)	BRL (<17)	BRL (<15.6)	BRL (<17)	---
C19-C36 Aliphatics	3000	BRL (<15.5)	BRL (<16.3)	---	---	84.3	---	191	58.2	---	---	134	86	BRL (<17.5)	20.7	58.2	25.8	BRL (<17)	---
C11-C22 Aromatics	1000	BRL (<15.5)	BRL (<16.3)	---	---	55.5	---	333	151	---	---	370	202	19.9	26.1	32.2	BRL (<15.6)	BRL (<17)	---
Polycyclic Aromatic Hydrocarbons (PAH)																			
2-Methylnaphthalene	0.7	BRL (<0.21)	BRL (<0.22)	---	---	BRL (<0.22)	---	BRL (<0.23)	BRL (<0.23)	---	---	BRL (<0.22)	BRL (<0.23)	BRL (<0.23)	BRL (<0.24)	BRL (<0.23)	BRL (<0.21)	BRL (<0.23)	---
Naphthalene	4	BRL (<0.41)	BRL (<0.43)	---	---	BRL (<0.45)	---	BRL (<0.45)	BRL (<0.47)	---	---	BRL (<0.44)	BRL (<0.45)	BRL (<0.47)	BRL (<0.49)	BRL (<0.45)	BRL (<0.42)	BRL (<0.45)	---
Phenanthrene	10	0.69	BRL (<0.43)	---	---	BRL (<0.45)	---	BRL (<0.45)	BRL (<0.47)	---	---	BRL (<0.44)	BRL (<0.45)	BRL (<0.47)	0.83	BRL (<0.45)	BRL (<0.42)	BRL (<0.45)	---
Acenaphthylene	1	BRL (<0.21)	BRL (<0.22)	---	---	BRL (<0.22)	---	BRL (<0.23)	BRL (<0.23)	---	---	BRL (<0.22)	BRL (<0.23)	BRL (<0.23)	BRL (<0.24)	BRL (<0.23)	BRL (<0.21)	BRL (<0.23)	---
Anthracene	1000	BRL (<0.41)	BRL (<0.43)	---	---	BRL (<0.45)	---	BRL (<0.45)	BRL (<0.47)	---	---	BRL (<0.44)	BRL (<0.45)	BRL (<0.47)	BRL (<0.49)	BRL (<0.45)	BRL (<0.42)	BRL (<0.45)	---
Benzo(a)anthracene	7	0.41	BRL (<0.43)	---	---	BRL (<0.45)	---	BRL (<0.45)	BRL (<0.47)	---	---	BRL (<0.44)	BRL (<0.45)	BRL (<0.47)	1.92	BRL (<0.45)	BRL (<0.42)	BRL (<0.45)	---
Benzo(a)pyrene	2	BRL (<0.41)	BRL (<0.43)	---	---	BRL (<0.45)	---	BRL (<0.45)	BRL (<0.47)	---	---	BRL (<0.44)	BRL (<0.45)	BRL (<0.47)	2.04	BRL (<0.45)	BRL (<0.42)	BRL (<0.45)	---
Benzo(b)fluoranthene	7	BRL (<0.41)	BRL (<0.43)	---	---	BRL (<0.45)	---	BRL (<0.45)	BRL (<0.47)	---	---	BRL (<0.44)	BRL (<0.45)	BRL (<0.47)	2.74	BRL (<0.45)	BRL (<0.42)	BRL (<0.45)	---
Benzo(g,h,i)perylene	1000	BRL (<0.41)	BRL (<0.43)	---	---	BRL (<0.45)	---	BRL (<0.45)	BRL (<0.47)	---	---	BRL (<0.44)	BRL (<0.45)	BRL (<0.47)	1.54	BRL (<0.45)	BRL (<0.42)	BRL (<0.45)	---
Benzo(k)fluoranthene	70	BRL (<0.41)	BRL (<0.43)	---	---	BRL (<0.45)	---	BRL (<0.45)	BRL (<0.47)	---	---	BRL (<0.44)	BRL (<0.45)	BRL (<0.47)	0.98	BRL (<0.45)	BRL (<0.42)	BRL (<0.45)	---

Table 6 - Summary of Soil Analytical Data
Fmr Saint Gobain Abrasives Property
1 New Bond Street, Worcester, MA

Sample ID	Reportable Concentrations RCS-1	MW-136	MW-139	MW-140	MW-141	MW-142	MW-143	MW-144	MW-145	MW-146	MW-147		MW-148	MW-149	MW-150	MW-151	MW-152	MW-153	Table 6
Lab ID		20C0740-01	20C0740-02	20C0740-03	20C0807-01	20C0807-02	20C0807-03	20C0807-04	20C0807-05	20C0807-06	20C0896-01	20C0896-09	20C0896-02	20C0896-03	20C0896-04	20C0896-05	20C0896-06	20D0191-01	20D0191-02
Sample Date		03/23/2020	03/23/2020	03/23/2020	3/24/2020	3/24/2020	3/24/2020	3/25/2020	3/25/2020	3/25/2020	3/25/2020	3/25/2020	3/26/2020	3/26/2020	3/26/2020	3/27/2020	3/27/2020	4/6/2020	4/7/2020
Sample Depth (feet)		5-7	5-7	0-2	10-12	5-7	15-17	12.5-15	15-20	0-5	2.5-5	13-15	14-17	0-4	12-14	9.5-12	9-12	10-14	0-4
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Chrysene	70	0.46	BRL (<0.43)	---	---	BRL (<0.45)	---	BRL (<0.45)	BRL (<0.47)	---	---	BRL (<0.44)	BRL (<0.45)	BRL (<0.47)	1.65	BRL (<0.45)	BRL (<0.42)	BRL (<0.45)	---
Dibenzo(a,h)Anthracene	0.7	BRL (<0.21)	BRL (<0.22)	---	---	BRL (<0.22)	---	BRL (<0.23)	BRL (<0.23)	---	---	BRL (<0.22)	BRL (<0.23)	BRL (<0.23)	0.3	BRL (<0.23)	BRL (<0.21)	BRL (<0.23)	---
Fluoranthene	1000	1.00	BRL (<0.43)	---	---	BRL (<0.45)	---	BRL (<0.45)	BRL (<0.47)	---	---	BRL (<0.44)	BRL (<0.45)	BRL (<0.47)	3.13	BRL (<0.45)	BRL (<0.42)	BRL (<0.45)	---
Indeno(1,2,3-cd)Pyrene	7	BRL (<0.41)	BRL (<0.43)	---	---	BRL (<0.45)	---	BRL (<0.45)	BRL (<0.47)	---	---	BRL (<0.44)	BRL (<0.45)	BRL (<0.47)	1.72	BRL (<0.45)	BRL (<0.42)	BRL (<0.45)	---
Pyrene	1000	0.85	BRL (<0.43)	---	---	BRL (<0.45)	---	BRL (<0.45)	BRL (<0.47)	---	---	BRL (<0.44)	BRL (<0.45)	BRL (<0.47)	3.01	BRL (<0.45)	BRL (<0.42)	BRL (<0.45)	---
Target PAHS NOS	NE	BRL	BRL	---	---	BRL	---	BRL	BRL	---	---	BRL	BRL	BRL	BRL	BRL	BRL	BRL	---
Volatile Petroleum Hydrocarbons (VPH)																			
C5-C8 Aliphatics	100	BRL (<14.4)	BRL (<15.2)	---	---	---	BRL (<14.3)	BRL (<13.2)	BRL (<12.9)	---	---	BRL (<12.9)	BRL (<15.4)	---	---	BRL (<14.3)	BRL (<12.1)	---	---
C9-C12 Aliphatics	1000	BRL (<28.7)	BRL (<30.3)	---	---	---	BRL (<28.5)	128	93.8	---	---	66.3	71	---	---	BRL (<28.5)	BRL (<24.1)	---	---
C9-C10 Aromatics	100	BRL (<13.8)	BRL (<14.5)	---	---	---	BRL (<13.7)	131	73.8	---	---	68.5	80.2	---	---	BRL (<13.7)	BRL (<11.6)	---	---
Target VOCs NOS	NE	BRL	BRL	---	---	---	---	---	---	---	---	---	---	---	---	BRL	---	---	---
Total Metals																			
Aluminum	NE	6800	---	---	---	9270	---	---	5590	5310	9550	---	4970	5900	---	---	8950	---	6590
Antimony	20	BRL (<3.45)	---	---	---	BRL (<4.8)	---	---	BRL (<2.28)	BRL (<5.05)	BRL (<4.29)	---	BRL (<4.76)	BRL (<5.14)	---	---	BRL (<3.82)	---	BRL (<4.34)
Arsenic	20	31.1	---	---	---	17.6	---	---	23.1	16.7	35.9	---	20.2	29.5	---	---	40.8	---	28.7
Barium	1000	38.8	---	---	---	40.3	---	---	20.3	20.6	17.1	---	12.5	50.1	---	---	34.1	---	23.3
Beryllium	90	0.2	---	---	---	0.38	---	---	0.22	0.23	0.34	---	0.21	0.52	---	---	0.3	---	0.31
Cadmium	70	BRL (<0.35)	---	---	---	BRL (<0.48)	---	---	BRL (<0.23)	BRL (<0.51)	BRL (<0.43)	---	BRL (<0.48)	BRL (<0.51)	---	---	BRL (<0.38)	---	BRL (<0.43)
Chromium	100	14.3	---	---	---	15.6	---	---	14.5	11.6	26.7	---	11.4	54.6	---	---	20.7	---	13.1
Lead	200	8.79	---	---	---	16.1	---	---	3.26	BRL (<5.05)	4.64	---	BRL (<4.76)	328	---	---	5.7	---	11.4
Mercury	20	BRL (<0.023)	---	---	---	0.035	---	---	BRL (<0.01)	BRL (<0.03)	BRL (<0.03)	---	BRL (<0.034)	0.459	---	---	BRL (<0.028)	---	BRL (<0.029)
Nickel	600	14.2	---	---	---	12.8	---	---	15.5	11.7	17.7	---	13.3	19.3	---	---	16	---	16.7
Selenium	400	BRL (<3.45)	---	---	---	BRL (<4.8)	---	---	BRL (<2.28)	BRL (<5.05)	BRL (<4.29)	---	BRL (<4.76)	BRL (<5.14)	---	---	BRL (<3.82)	---	BRL (<4.34)
Silver	100	BRL (<0.35)	---	---	---	BRL (<0.48)	---	---	BRL (<0.23)	BRL (<0.51)	BRL (<0.43)	---	BRL (<0.48)	BRL (<1.03)	---	---	BRL (<0.38)	---	BRL (<0.43)
Thallium	8	BRL (<0.35)	---	---	---	BRL (<4.8)	---	---	BRL (<2.28)	BRL (<5.05)	BRL (<4.29)	---	BRL (<4.76)	BRL (<0.51)	---	---	BRL (<3.82)	---	BRL (<4.34)
Vanadium	400	16.6	---	---	---	17.7	---	---	10	11.8	19.3	---	9.17	89.8	---	---	17.6	---	12.8
Zinc	1000	25.7	---	---	---	37.8	---	---	20.4	20.2	26.9	---	18.8	80.8	---	---	29.8	---	50.4
Polychlorinated Biphenyls (PCB)																			
Aroclor 1260	1	---	BRL (<0.05)	BRL (<0.06)	BRL (<0.05)	BRL (<0.06)	---	---	---	---	---	---	BRL (<0.06)	---	BRL (<0.06)	---	BRL (<0.05)	BRL (<0.06)	---
PCBs NOS	NE	---	BRL	BRL	BRL	BRL	---	---	---	---	---	---	BRL	---	BRL	---	BRL	BRL	---
Classical Chemistry																			
Sulfide																			

Table 6 - Summary of Soil Analytical Data
Fmr Saint Gobain Abrasives Property
1 New Bond Street, Worcester, MA

Sample ID	Reportable Concentrations RCS-1	MW-155	MW-156	MW-157	**E-2 2_5-5ft**	**E-3**	**G-1 E-4 0-5ft**	**G-1/E-4 4-5ft**	**E-5 5-7_5ft**	**E-5 10-11ft**	**E-6 7-9ft**	**E-6 11-14ft**	**E-7 9-11ft**	**E-8 5-7_5ft**
Lab ID		20D0191-03	20D0191-04	20F0082-01	22H0356-06	22H0356-07	22H0657-01	22H0657-02	22H0356-01	22H0356-02	22H0356-03	22H0356-04	22H0356-05	22H0356-08
Sample Date		4/7/2020	4/7/2020	5/29/2020	08/09/2022	08/09/2022	08/16/2022	08/16/2022	08/08/2022	08/08/2022	08/08/2022	08/08/2022	08/08/2022	08/09/2022
Sample Depth (feet)		7-10	6-8	14-16	2.5-5		0-5	4-5	5-7	10-11	7-9	11-14	9-11	5-7
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Volatile Organic Compounds VOC														
1,1,2,2-Tetrachloroethane	0.005	BRL (<0.003)	BRL (<0.0029)	BRL (<0.0024)	BRL (<0.0041)	BRL (<0.0038)	---	BRL (<0.004)	---	BRL (<0.0031)	---	BRL (<0.0036)	BRL (<0.0045)	BRL (<0.0039)
2-Butanone	4	BRL (<0.0151)	BRL (<0.0146)	BRL (<0.0118)	BRL (<0.0689)	BRL (<0.0626)	---	BRL (<0.0398)	---	BRL (<0.0522)	---	BRL (<0.0364)	BRL (<0.0448)	BRL (<0.0387)
Acetone	6	BRL (<0.0151)	BRL (<0.0146)	0.069	0.237	0.197	---	0.232	---	0.137	---	BRL (<0.0364)	BRL (<0.0448)	BRL (<0.0387)
Isopropylbenzene	1000	BRL (<0.0075)	BRL (<0.0073)	BRL (<0.0059)	BRL (<0.0069)	BRL (<0.0063)	---	BRL (<0.004)	---	BRL (<0.0052)	---	BRL (<0.0036)	BRL (<0.0045)	BRL (<0.0039)
Naphthalene	4	BRL (<0.0075)	BRL (<0.0073)	0.0141	BRL (<0.0069)	BRL (<0.0063)	---	BRL (<0.004)	---	BRL (<0.0052)	---	BRL (<0.0036)	0.0189	BRL (<0.0039)
n-Butylbenzene	100	BRL (<0.0075)	BRL (<0.0073)	0.282	BRL (<0.0069)	BRL (<0.0063)	---	BRL (<0.004)	---	BRL (<0.0052)	---	BRL (<0.0036)	BRL (<0.0045)	BRL (<0.0039)
n-Propylbenzene	100	BRL (<0.0075)	BRL (<0.0073)	BRL (<0.0059)	BRL (<0.0069)	BRL (<0.0063)	---	BRL (<0.004)	---	BRL (<0.0052)	---	BRL (<0.0036)	BRL (<0.0045)	BRL (<0.0039)
sec-Butylbenzene	100	BRL (<0.0075)	BRL (<0.0073)	0.137	BRL (<0.0069)	BRL (<0.0063)	---	BRL (<0.004)	---	BRL (<0.0052)	---	BRL (<0.0036)	BRL (<0.0045)	BRL (<0.0039)
tert-Butylbenzene	100	BRL (<0.0075)	BRL (<0.0073)	0.0259	BRL (<0.0069)	BRL (<0.0063)	---	BRL (<0.004)	---	BRL (<0.0052)	---	BRL (<0.0036)	BRL (<0.0045)	BRL (<0.0039)
Toluene	30	BRL (<0.0075)	BRL (<0.0073)	BRL (<0.0059)	BRL (<0.0069)	BRL (<0.0063)	---	BRL (<0.004)	---	BRL (<0.0052)	---	BRL (<0.0036)	BRL (<0.0045)	BRL (<0.0039)
Trichloroethene	0.3	BRL (<0.0075)	BRL (<0.0073)	BRL (<0.0059)	BRL (<0.0069)	0.009	---	BRL (<0.004)	---	BRL (<0.0052)	---	BRL (<0.0036)	BRL (<0.0045)	BRL (<0.0039)
Semi- Volatile Organic Compounds (SVOC)														
1,1-Biphenyl	0.05				0.054	BRL (<0.028)			BRL (<0.026)	---	---	BRL (<0.028)	0.156	BRL (<0.028)
1,2,4-Trichlorobenzene	2	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	BRL (<0.27)	BRL (<0.283)
1,2-Dichlorobenzene	9	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	BRL (<0.27)	BRL (<0.283)
1,3-Dichlorobenzene	3	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	BRL (<0.27)	BRL (<0.283)
1,4-Dichlorobenzene	0.7	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	BRL (<0.27)	BRL (<0.283)
2-Methylnaphthalene	0.7	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	0.33	BRL (<0.283)
Acenaphthene	4	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	0.928	BRL (<0.283)
Acenaphthylene	1	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	**2.25**	BRL (<0.283)
Anthracene	1000	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	4.82	BRL (<0.283)
Benzo(a)anthracene	7	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	**8.63**	BRL (<0.283)
Benzo(a)pyrene	2	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	**8.03**	BRL (<0.283)
Benzo(b)fluoranthene	7	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	6.47	BRL (<0.283)
Benzo(g,h,i)perylene	1000	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	4.08	BRL (<0.283)
Benzo(k)fluoranthene	70	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	5.04	BRL (<0.283)
Chrysene	70	---	---	---	0.438	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	7.29	BRL (<0.283)
Dibenzo(a,h)Anthracene	0.7	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	**0.973**	BRL (<0.283)
Dibenzofuran	100	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	1.59	BRL (<0.283)
Dimethylphthalate	0.7	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	BRL (<0.27)	BRL (<0.283)
Fluoranthene	1000	---	---	---	BRL (<0.309)	0.411			BRL (<0.265)	---	---	BRL (<0.275)	20.8	0.312
Fluorene	1000	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	2.17	BRL (<0.283)
Indeno(1,2,3-cd)Pyrene	7	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	4.96	BRL (<0.283)
Naphthalene	4	---	---	---	BRL (<0.309)	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	0.331	BRL (<0.283)
Phenanthrene	10	---	---	---	0.608	BRL (<0.275)			BRL (<0.265)	---	---	BRL (<0.275)	**21.3**	0.284
Pyrene	1000	---	---	---	BRL (<0.309)	0.326			BRL (<0.265)	---	---	BRL (<0.275)	17.4	BRL (<0.283)
SVOCs NOS	NE	---	---	---										
Extractable Petroleum Hydrocarbons (EPH)														
C9-C18 Aliphatics	1000	BRL (<17.1)	---	1060	BRL (<18.2)	BRL (<15.5)	BRL (<17.2)	---	BRL (<16.1)	---	---	BRL (<17)	BRL (<16)	BRL (<17.2)
C19-C36 Aliphatics	3000	BRL (<17.1)	---	209	BRL (<18.2)	BRL (<15.5)	18.4	---	59.7	---	---	1310	16.8	183
C11-C22 Aromatics	1000	BRL (<17.1)	---	692	BRL (<18.2)	BRL (<15.5)	21.2	---	BRL (<16.1)	---	---	178	46.1	37.7
Polycyclic Aromatic Hydrocarbons (PAH)														
2-Methylnaphthalene	0.7	BRL (<0.23)	---	BRL (<0.56)	---	---	---	---	---	---	---	---	---	---
Naphthalene	4	BRL (<0.46)	---	BRL (<1.13)	---	---	---	---	---	---	---	---	---	---
Phenanthrene	10	BRL (<0.46)	---	4.52	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	1	BRL (<0.23)	---	BRL (<0.56)	---	---	---	---	---	---	---	---	---	---
Anthracene	1000	BRL (<0.46)	---	BRL (<1.13)	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	7	BRL (<0.46)	---	1.27	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	2	BRL (<0.46)	---	1.15	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	7	BRL (<0.46)	---	1.2	---	---	---	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	1000	BRL (<0.46)	---	BRL (<1.13)	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	70	BRL (<0.46)	---	BRL (<1.13)	---	---	---	---	---	---	---	---	---	---

Table 6 - Summary of Soil Analytical Data
Fmr Saint Gobain Abrasives Property
1 New Bond Street, Worcester, MA

Sample ID	Reportable Concentrations RCS-1	MW-155	MW-156	MW-157	**E-2 2_5-5ft**	**E-3**	**G-1 E-4 0-5ft**	**G-1/E-4 4-5ft**	**E-5 5-7_5ft**	**E-5 10-11ft**	**E-6 7-9ft**	**E-6 11-14ft**	**E-7 9-11ft**	**E-8 5-7_5ft**
Lab ID		20D0191-03	20D0191-04	20F0082-01	22H0356-06	22H0356-07	22H0657-01	22H0657-02	22H0356-01	22H0356-02	22H0356-03	22H0356-04	22H0356-05	22H0356-08
Sample Date		4/7/2020	4/7/2020	5/29/2020	08/09/2022	08/09/2022	08/16/2022	08/16/2022	08/08/2022	08/08/2022	08/08/2022	08/08/2022	08/08/2022	08/09/2022
Sample Depth (feet)		7-10	6-8	14-16	2.5-5		0-5	4-5	5-7	10-11	7-9	11-14	9-11	5-7
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Chrysene	70	BRL (<0.46)	---	1.29	---	---	---	---	---	---	---	---	---	---
Dibenzo(a,h)Anthracene	0.7	BRL (<0.23)	---	BRL (<0.56)	---	---	---	---	---	---	---	---	---	---
Fluoranthene	1000	BRL (<0.46)	---	3.43	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)Pyrene	7	BRL (<0.46)	---	BRL (<1.13)	---	---	---	---	---	---	---	---	---	---
Pyrene	1000	BRL (<0.46)	---	2.68	---	---	---	---	---	---	---	---	---	---
Target PAHS NOS	NE	BRL	---	BRL	---	---	---	---	---	---	---	---	---	---
Volatile Petroleum Hydrocarbons (VPH)														
C5-C8 Aliphatics	100	BRL (<14)	---	16.7	26.6	BRL (<10.3)	BRL (<10.7)	---	BRL (<13.9)	---	BRL (<10.2)	---	BRL (<11)	BRL (<10.1)
C9-C12 Aliphatics	1000	BRL (<27.8)	---	123	BRL (<51.3)	BRL (<20.5)	BRL (<21.4)	---	BRL (<27.7)	---	BRL (<20.3)	---	BRL (<21.9)	BRL (<20.2)
C9-C10 Aromatics	100	BRL (<13.4)	---	164	BRL (<24.7)	BRL (<9.8)	BRL (<10.3)	---	BRL (<13.3)	---	BRL (<9.8)	---	BRL (<10.5)	BRL (<9.7)
Target VOCs NOS	NE	BRL	---	---	---	---	---	---	---	---	---	---	---	---
Total Metals														
Aluminum	NE	7670	2630	---	---	---			---		---	---	---	---
Antimony	20	BRL (<4.1)	BRL (<4)	---	BRL (<4.88)	BRL (<4.31)			BRL (<5)	---	BRL (<4.62)	---	BRL (<4.1)	BRL (<5.15)
Arsenic	20	56.4	12.4	---	BRL (<17.7)	30.4			24.5	---	20.8	---	34.5	27.5
Barium	1000	33.5	9.47	---	56.8	48.9			BRL (<27.2)	---	50.4	---	47.1	41.6
Beryllium	90	0.3	0.16	---	0.69	0.37			0.31	---	0.29	---	0.4	0.35
Cadmium	70	BRL (<0.41)	BRL (<0.4)	---	BRL (<0.49)	BRL (<0.43)			BRL (<0.5)	---	BRL (<0.46)	---	BRL (<0.41)	BRL (<0.52)
Chromium	100	16.3	7.86	---	12	34.3			BRL (<19.1)	---	27.2	---	31.9	13.1
Lead	200	4.47	BRL (<4)	---	18.4	10.1			7.44	---	5.17	---	14.7	193
Mercury	20	BRL (<0.029)	BRL (<0.028)	---	BRL (<0.03)	BRL (<0.032)			BRL (<0.032)	---	BRL (<0.027)	---	BRL (<0.029)	0.064
Nickel	600	14.8	6.22	---	13.8	31.8			14.6	---	16.1	---	25.6	13.3
Selenium	400	BRL (<4.1)	BRL (<4)	---	BRL (<4.88)	BRL (<4.31)			BRL (<5)	---	BRL (<4.62)	---	BRL (<4.1)	BRL (<5.15)
Silver	100	BRL (<0.41)	BRL (<0.4)	---	BRL (<0.98)	BRL (<0.86)			BRL (<1)	---	BRL (<1.39)	---	BRL (<1.23)	BRL (<1.03)
Thallium	8	BRL (<4.1)	BRL (<4)	---	BRL (<4.88)	BRL (<4.31)			BRL (<5)	---	BRL (<4.62)	---	BRL (<4.1)	BRL (<5.15)
Vanadium	400	19	5.72	---	18.4	20.6			19.3	---	25	---	26.4	13.5
Zinc	1000	25.9	13.3	---	27.3	45.1			24.8	---	36.9	---	34.3	89
Polychlorinated Biphenyls (PCB)														
Aroclor 1260	1	---	BRL (<0.06)	---	BRL (<0.06)	BRL (<0.05)			BRL (<0.05)	---	---	BRL (<0.06)	BRL (<0.05)	BRL (<0.06)
PCBs NOS	NE	---	BRL	---	BRL	BRL	---	---	BRL	---	---	BRL	BRL	BRL
Classical Chemistry														
Sulfide					---	---			---	---	---	---	---	BRL (<0.5)

Notes:
1. Concentrations are presented in milligrams per kilogram (mg/kg), parts per million (ppm)
2. BRL - Below Reportable laboratory limits
3. NA - Not Applicable
4. NE - Not Established
5. NOS - Not Otherwise Specified
6. --- Laboratory analysis was not conducted

7. There is no established Reportable Concentration or Method 1 MCP risk standard applicable to soil concentrations for Alumimum.

8. Italicized - concentration indicates that the analyte was not detected above the reportable laboratory limits, however the reportable limit is above the applicable RCS-1 standard.
9. Bold - concentration is greater than Reportable Concentrations and/or MCP Method 1 Standards

Concentration exceeds the applicable RC
Detection limit exceeds the applicable RC
Concentration exceeds the laboratory detection limit

Table 7 - Summary of Groundwater Analytical Data
Fmr Saint Gobain Abrasives Property
1 New Bond Street, Worcester, MA

SAMPLE ID	Reportable	MW-103	MW-105	MW-107	MW-109	MW-110	MW-113	MW-114	MW-116	MW-120	MW-124	MW-127	MW-129	MW-130	MW-131	MW-133
LAB ID	Concentration	20A0865-02	20A0865-01	20A0865-03	20A0932-04	20A0865-05	20A0932-05	20A0865-06	20A0865-04	20A0932-06	20A0932-07	20A0932-01	20A0932-09	20A0932-02	20A0932-03	20A0932-08
SAMPLE DATE	RCGW-2	01/29/2020	01/29/2020	01/29/2020	01/30/2020	01/29/2020	01/30/2020	01/30/2020	01/29/2020	01/30/2020	01/30/2020	01/30/2020	01/30/2020	01/30/2020	01/30/2020	01/30/2020
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Volatile Organic Compounds (VOC)																
1,1-Dichloroethane	2000	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)
Bromodichloromethane	6	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)
Carbon Disulfide	10000	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	3.3	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)
Chloroform	50	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	8.1	BRL (<1)
cis-1,2-Dichloroethene	20	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)
Methyl tert-Butyl Ether	5000	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	2.7	BRL (<1)	BRL (<1)	BRL (<1)
Naphthalene	700	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)
Toluene	40000	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)
Trichloroethene	5	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)
VOCs NOS	NA	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Semi-Volatile Organic Compounds (SVOC)																
Acenaphthylene	40	---	---	---	---	---	BRL (<0.19)	---	---	BRL (<0.19)	---	BRL (<0.19)	BRL (<0.19)	---	BRL (<0.19)	BRL (<0.2)
Aniline	100000	---	---	---	---	---	BRL (<9.3)	---	---	BRL (<9.3)	---	BRL (<9.3)	BRL (<9.3)	---	BRL (<9.3)	BRL (10)
Benzo(a)anthracene	1000	---	---	---	---	---	0.31	---	---	BRL (<0.05)	---	0.33	0.29	---	0.4	BRL (<0.05)
Benzo(a)pyrene	500	---	---	---	---	---	0.27	---	---	BRL (<0.05)	---	0.26	0.33	---	0.39	BRL (<0.05)
Benzo(b)fluoranthene	400	---	---	---	---	---	0.31	---	---	BRL (<0.05)	---	0.37	0.4	---	0.46	BRL (<0.05)
Benzo(g,h,i)perylene	20	---	---	---	---	---	BRL (<0.19)	---	---	BRL (<0.19)	---	BRL (<0.19)	0.26	---	0.27	BRL (<0.2)
Benzo(k)fluoranthene	100	---	---	---	---	---	0.09	---	---	BRL (<0.05)	---	0.1	0.12	---	0.16	BRL (<0.05)
bis(2-Chloroethyl)ether	30	---	---	---	---	---	BRL (<9.3)	---	---	BRL (<9.3)	---	BRL (<9.3)	BRL (<9.3)	---	BRL (<9.3)	BRL (10)
Chrysene	70	---	---	---	---	---	0.24	---	---	BRL (<0.05)	---	0.31	0.22	---	0.33	BRL (<0.05)
Dibenzo(a,h)Anthracene	40	---	---	---	---	---	BRL (<0.05)	---	---	BRL (<0.05)	---	BRL (<0.05)	0.06	---	0.06	BRL (<0.05)
Fluoranthene	200	---	---	---	---	---	0.69	---	---	BRL (<0.19)	---	0.98	0.55	---	0.94	BRL (<0.2)
Fluorene	40	---	---	---	---	---	BRL (<0.19)	---	---	BRL (<0.19)	---	BRL (<0.19)	BRL (<0.19)	---	BRL (<0.19)	BRL (<0.2)
Hexachlorobenzene	1	---	---	---	---	---	BRL (<0.19)	---	---	BRL (<0.19)	---	BRL (<0.19)	BRL (<0.19)	---	BRL (<0.19)	BRL (<0.2)
Indeno(1,2,3-cd)Pyrene	100	---	---	---	---	---	0.18	---	---	BRL (<0.05)	---	0.19	0.29	---	0.3	BRL (<0.05)
Pentachlorophenol	200	---	---	---	---	---	BRL (,0.840	---	---	BRL (,0.840	---	BRL (,0.840	BRL (,0.840	---	BRL (,0.840	0.9
Phenanthrene	10000	---	---	---	---	---	0.52	---	---	BRL (<0.19)	---	0.61	BRL (<0.19)	---	0.77	BRL (<0.2)
Pyrene	20	---	---	---	---	---	0.6	---	---	BRL (<0.19)	---	0.77	0.53	---	0.81	BRL (<0.2)
SVOCs NOS	NA	---	---	---	---	---	BRL	---	---	BRL	---	BRL	BRL	---	BRL	BRL
Extractable Petroleum Hydrocarbons (EPH)																
C_9-C_{18} Aliphatics	5000	BRL (<93)	BRL (<93)	BRL (<94)	BRL (<93)	BRL (<93)	BRL (<93)	---	BRL (<95)	BRL (<95)	---	BRL (<93)	BRL (<95)	BRL (<93)	BRL (<93)	BRL (<97)
C_{19}-C_{36} Aliphatics	50000	BRL (<93)	BRL (<93)	BRL (<94)	BRL (<93)	BRL (<93)	BRL (<93)	---	BRL (<95)	BRL (<95)	---	BRL (<93)	BRL (<95)	BRL (<93)	BRL (<93)	BRL (<97)
C_{11}-C_{22} Aromatics	5000	BRL (<93.5)	BRL (<93.5)	BRL (<94.5)	BRL (<93.5)	BRL (<93.5)	BRL (<93.5)	---	BRL (<95.2)	BRL (<95.2)	---	BRL (<93.5)	BRL (<95.2)	BRL (<93.5)	BRL (<93.5)	BRL (<97.1)
EPH -Petroleum Aromatic Hydrocarbons (PAHs)																
2-Methylnaphthalene	2000	BRL (<0.47)	BRL (<0.47)	BRL (<0.47)	---	BRL (<0.47)	---	---	BRL (<0.48)	---	---	---	---	---	---	---
Acenaphthene	6000	BRL (<0.19)	BRL (<0.19)	BRL (<0.19)	---	BRL (<0.19)	---	---	BRL (<0.19)	---	---	---	---	---	---	---
Naphthalene	700	BRL (<0.47)	BRL (<0.47)	BRL (<0.47)	---	BRL (<0.47)	---	---	BRL (<0.48)	---	---	---	---	---	---	---
Phenanthrene	10000	BRL (<0.47)	BRL (<0.47)	BRL (<0.47)	---	BRL (<0.47)	---	---	BRL (<0.48)	---	---	---	---	---	---	---
Acenaphthylene	40	BRL (<0.19)	BRL (<0.19)	BRL (<0.19)	---	BRL (<0.19)	---	---	BRL (<0.19)	---	---	---	---	---	---	---
Anthracene	30	BRL (<0.19)	BRL (<0.19)	BRL (<0.19)	---	BRL (<0.19)	---	---	BRL (<0.19)	---	---	---	---	---	---	---
Fluoranthene	200	BRL (<0.19)	BRL (<0.19)	BRL (<0.19)	---	BRL (<0.19)	---	---	BRL (<0.19)	---	---	---	---	---	---	---
Fluorene	40	BRL (<0.19)	BRL (<0.19)	BRL (<0.19)	---	BRL (<0.19)	---	---	BRL (<0.19)	---	---	---	---	---	---	---
Pyrene	20	BRL (<0.19)	BRL (<0.19)	BRL (<0.19)	---	BRL (<0.19)	---	---	BRL (<0.19)	---	---	---	---	---	---	---
PAHs NOS	NA	BRL	BRL	BRL	---	BRL	---	---	BRL	---	---	---	---	---	---	---
Volatile Petroleum Hydrocarbons (VPH)																
C_5-C_8 Aliphatics	3000	BRL (<158)	BRL (<158)	BRL (<158)	BRL (<150)	BRL (<158)	BRL (<150)	---	BRL (<158)	BRL (<150)	---	BRL (<150)	BRL (<150)	BRL (<150)	BRL (<150)	BRL (<150)
C_9-C_{12} Aliphatics	5000	BRL (<270)	BRL (<270)	BRL (<270)	BRL (<150)	BRL (<270)	BRL (<150)	---	BRL (<270)	BRL (<150)	---	BRL (<150)	BRL (<150)	BRL (<150)	BRL (<150)	BRL (<150)

Table 7 - Summary of Groundwater Analytical Data
Fmr Saint Gobain Abrasives Property
1 New Bond Street, Worcester, MA

SAMPLE ID	Reportable	MW-103	MW-105	MW-107	MW-109	MW-110	MW-113	MW-114	MW-116	MW-120	MW-124	MW-127	MW-129	MW-130	MW-131	MW-133
LAB ID	Concentration	20A0865-02	20A0865-01	20A0865-03	20A0932-04	20A0865-05	20A0932-05	20A0865-06	20A0865-04	20A0932-06	20A0932-07	20A0932-01	20A0932-09	20A0932-02	20A0932-03	20A0932-08
SAMPLE DATE	RCGW-2	01/29/2020	01/29/2020	01/29/2020	01/30/2020	01/29/2020	01/30/2020	01/30/2020	01/29/2020	01/30/2020	01/30/2020	01/30/2020	01/30/2020	01/30/2020	01/30/2020	01/30/2020
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
C_9-C_{10} Aromatics	4000	BRL (<100)	BRL (<100)	BRL (<100)	BRL (<100)	BRL (<100)	BRL (<100)	---	BRL (<100)	BRL (<100)	---	BRL (<100)	BRL (<100)	BRL (<100)	BRL (<100)	BRL (<100)
VOC NOS	3000	BRL	BRL	BRL	---	BRL	---	---	BRL	---	---	---	---	---	---	---
Total Dissolved Metals																
Antimony	8000	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	---	BRL (<1)	BRL (<1)	---	---	BRL (<1)	---	BRL (<1)	BRL (<1)
Arsenic	900	BRL (<5)	BRL (<5)	BRL (<5)	BRL (<5)	BRL (<5)	BRL (<5)	---	BRL (<5)	BRL (<5)	---	---	BRL (<5)	---	BRL (<5)	BRL (<5)
Barium	50000	123	125	BRL (<50)	107	112	51.8	---	167	225	---	---	BRL (<50)	---	55.1	80.2
Beryllium	200	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	---	BRL (<1)	BRL (<1)	---	---	BRL (<1)	---	BRL (<1)	BRL (<1)
Cadmium	4	2.3	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	---	BRL (<1)	1.9	---	---	BRL (<1)	---	BRL (<1)	BRL (<1)
Chromium	300	BRL (<10)	BRL (<10)	BRL (<10)	BRL (<10)	BRL (<10)	BRL (<10)	---	BRL (<10)	BRL (<10)	---	---	BRL (<10)	---	BRL (<10)	BRL (<10)
Lead	10	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	---	BRL (<1)	BRL (<1)	---	---	BRL (<1)	---	BRL (<1)	BRL (<1)
Mercury	20	BRL (<0.2)	BRL (<0.2)	BRL (<0.2)	BRL (<0.2)	BRL (<0.2)	BRL (<0.2)	---	BRL (<0.2)	BRL (<0.2)	---	---	BRL (<0.2)	---	BRL (<0.2)	BRL (<0.2)
Nickel	200	81	BRL (<50)	BRL (<50)	BRL (<50)	BRL (<50)	BRL (<50)	---	BRL (<50)	50.3	---	---	BRL (<50)	---	BRL (<50)	BRL (<50)
Selenium	100	BRL (<5)	BRL (<5)	BRL (<5)	BRL (<5)	BRL (<5)	BRL (<5)	---	BRL (<5)	BRL (<5)	---	---	BRL (<5)	---	BRL (<5)	BRL (<5)
Silver	7	BRL (<5)	BRL (<5)	BRL (<5)	BRL (<5)	BRL (<5)	BRL (<5)	---	BRL (<5)	BRL (<5)	---	---	BRL (<5)	---	BRL (<5)	BRL (<5)
Thallium	3000	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	---	BRL (<1)	BRL (<1)	---	---	BRL (<1)	---	BRL (<1)	BRL (<1)
Vanadium	4000	BRL (<20)	BRL (<20)	BRL (<20)	BRL (<20)	BRL (<20)	BRL (<20)	---	BRL (<20)	BRL (<20)	---	---	BRL (<20)	---	BRL (<20)	BRL (<20)
Zinc	900	BRL (<50)	BRL (<50)	BRL (<50)	BRL (<50)	BRL (<50)	BRL (<50)	---	BRL (<50)	BRL (<50)	---	---	BRL (<50)	---	62.4	BRL (<50)
Total Metals																
Aluminum	50-200[12]	5070	881	267	57000	11900	1690	---	BRL (<50)	113	---	34300	449	54100	2450	BRL (<50)
Per- and Polyfluoroalkyl Substances (PFAS)[10] (µg/L) - (ppb)																
PFOS	500	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PFOA	40000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PFHxS	500	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PFHpA	40000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total PFAS	NE	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 7 - Summary of Groundwater Analytical Data
Fmr Saint Gobain Abrasives Property
1 New Bond Street, Worcester, MA

SAMPLE ID	Reportable	MW-136	MW-137	MW-139	MW-140	MW-141	MW-142	MW-143	MW-144	MW-145		MW-146	MW-147	MW-148		MW-149
LAB ID	Concentration	20D0036-13	20D0036-14	20D0036-04	20D0036-11	20D0036-09	20D0036-12	20D0036-10	20D0036-02	20D0036-08	20F0081-02	20D0036-05	20D0036-06	20D0036-07	20F0081-03	20D0036-01
SAMPLE DATE	RCGW-2	4/1/2020	4/1/2020	3/31/2020	4/1/2020	3/31/2020	4/1/2020	4/1/2020	3/31/2020	3/31/2020	6/1/2020	3/31/2020	3/31/2020	3/31/2020	6/1/2020	3/31/2020
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Volatile Organic Compounds (VOC)																
1,1-Dichloroethane	2000	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	2.3	1.4	BRL (<1)	BRL (<1)	2.0	1.2	BRL (<1)
Bromodichloromethane	6	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)
Carbon Disulfide	10000	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)
Chloroform	50	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)
cis-1,2-Dichloroethene	20	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	9.0	5.6	BRL (<1)	BRL (<1)	7.5	4.7	BRL (<1)
Methyl tert-Butyl Ether	5000	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)
Naphthalene	700	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	1.5	1.0	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)
Toluene	40000	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	4.7	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)
Trichloroethene	5	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	7.6	4.8	BRL (<1)	BRL (<1)	5.8	4.8	BRL (<1)
VOCs NOS	NA	BRL	BRL	BRL	BRL	BRL	BRL	BRL	17.1 [A]	BRL	BRL	BRL	10.7 [A]	BRL	BRL	BRL
Semi-Volatile Organic Compounds (SVOC)																
Acenaphthylene	40	---	BRL (<0.19)	---	BRL (<0.19)	---	---	---	---	---	---	---	---	---	---	---
Aniline	100000	---	BRL (<9.3)	---	BRL (<9.3)	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	1000	---	BRL (<0.05)	---	BRL (<0.05)	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	500	---	BRL (<0.05)	---	BRL (<0.05)	---	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	400	---	BRL (<0.05)	---	BRL (<0.05)	---	---	---	---	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	20	---	BRL (<0.19)	---	BRL (<0.19)	---	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	100	---	BRL (<0.05)	---	BRL (<0.05)	---	---	---	---	---	---	---	---	---	---	---
bis(2-Chloroethyl)ether	30	---	BRL (<9.3)	---	BRL (<9.3)	---	---	---	---	---	---	---	---	---	---	---
Chrysene	70	---	BRL (<0.05)	---	BRL (<0.05)	---	---	---	---	---	---	---	---	---	---	---
Dibenzo(a,h)Anthracene	40	---	BRL (<0.05)	---	BRL (<0.05)	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	200	---	BRL (<0.19)	---	BRL (<0.19)	---	---	---	---	---	---	---	---	---	---	---
Fluorene	40	---	BRL (<0.19)	---	BRL (<0.19)	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobenzene	1	---	BRL (<0.19)	---	BRL (<0.19)	---	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)Pyrene	100	---	BRL (<0.05)	---	BRL (<0.05)	---	---	---	---	---	---	---	---	---	---	---
Pentachlorophenol	200	---	BRL (,0.840	---	BRL (,0.840	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene	10000	---	BRL (<0.19)	---	BRL (<0.19)	---	---	---	---	---	---	---	---	---	---	---
Pyrene	20	---	BRL (<0.19)	---	BRL (<0.19)	---	---	---	---	---	---	---	---	---	---	---
SVOCs NOS	NA	---	BRL	---	BRL	---	---	---	---	---	---	---	---	---	---	---
Extractable Petroleum Hydrocarbons (EPH)																
C_9-C_{18} Aliphatics	5000	BRL (<97)	---	BRL (<97)	---	BRL (<93)	BRL (<93)	BRL (<93)	269	674	---	---	1140	334	---	BRL (<100)
C_{19}-C_{36} Aliphatics	50000	BRL (<97)	---	BRL (<97)	---	BRL (<93)	BRL (<93)	BRL (<93)	115	211	---	---	309	134	---	BRL (<100)
C_{11}-C_{22} Aromatics	5000	BRL (<97.1)	---	BRL (<97.1)	---	BRL (<93.5)	BRL (<93.5)	BRL (<93.5)	504	458	---	---	1120	419	---	BRL (<100)
EPH -Petroleum Aromatic Hydrocarbons (PAHs)																
2-Methylnaphthalene	2000	---	---	---	---	---	---	---	0.87	---	---	---	BRL (<0.49)	---	---	---
Acenaphthene	6000	---	---	---	---	---	---	---	3.72	---	---	---	4.96	---	---	---
Naphthalene	700	---	---	---	---	---	---	---	0.94	---	---	---	0.71	---	---	---
Phenanthrene	10000	---	---	---	---	---	---	---	4.1	---	---	---	7.9	---	---	---
Acenaphthylene	40	---	---	---	---	---	---	---	0.53	---	---	---	1.22	---	---	---
Anthracene	30	---	---	---	---	---	---	---	0.4	---	---	---	1.63	---	---	---
Fluoranthene	200	---	---	---	---	---	---	---	BRL (<0.19)	---	---	---	0.3	---	---	---
Fluorene	40	---	---	---	---	---	---	---	BRL (<0.19)	---	---	---	7.49	---	---	---
Pyrene	20	---	---	---	---	---	---	---	BRL (<0.19)	---	---	---	0.52	---	---	---
PAHs NOS	NA	---	---	---	---	---	---	---	BRL	---	---	---	BRL	---	---	---
Volatile Petroleum Hydrocarbons (VPH)																
C_5-C_8 Aliphatics	3000	BRL (<158)	BRL (<158)	BRL (<158)	BRL (<158)	BRL (<158)	BRL (<158)	BRL (<158)	BRL (<158)	BRL (<158)	---	BRL (<158)	BRL (<158)	BRL (<158)	---	BRL (<158)
C_9-C_{12} Aliphatics	5000	BRL (<270)	BRL (<270)	BRL (<270)	BRL (<270)	BRL (<270)	BRL (<270)	BRL (<270)	BRL (<270)	BRL (<270)	---	BRL (<270)	BRL (<270)	BRL (<270)	---	BRL (<270)

Table 7 - Summary of Groundwater Analytical Data
Fmr Saint Gobain Abrasives Property
1 New Bond Street, Worcester, MA

SAMPLE ID	Reportable	MW-136	MW-137	MW-139	MW-140	MW-141	MW-142	MW-143	MW-144	MW-145		MW-146	MW-147	MW-148		MW-149
LAB ID	Concentration	20D0036-13	20D0036-14	20D0036-04	20D0036-11	20D0036-09	20D0036-12	20D0036-10	20D0036-02	20D0036-08	20F0081-02	20D0036-05	20D0036-06	20D0036-07	20F0081-03	20D0036-01
SAMPLE DATE	RCGW-2	4/1/2020	4/1/2020	3/31/2020	4/1/2020	3/31/2020	4/1/2020	4/1/2020	3/31/2020	3/31/2020	6/1/2020	3/31/2020	3/31/2020	3/31/2020	6/1/2020	3/31/2020
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
C_9-C_{10} Aromatics	4000	BRL (<100)	BRL (<100)	166	BRL (<100)	BRL (<100)	BRL (<100)	BRL (<100)	166	158	---	BRL (<100)	158	BRL (<100)	---	BRL (<100)
VOC NOS	3000	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	---	BRL	BRL	BRL	---	BRL
Total Dissolved Metals																
Antimony	8000	BRL (<1)	BRL (<1)	---	---	BRL (<1)	---	BRL (<1)	BRL (<1)	---	---	---	BRL (<1)	---	---	---
Arsenic	900	BRL (<5)	BRL (<5)	---	---	BRL (<5)	---	18.9	574	---	---	---	125	---	---	---
Barium	50000	143	212	---	---	217	---	179	203	---	---	---	151	---	---	---
Beryllium	200	BRL (<1)	BRL (<1)	---	---	BRL (<1)	---	BRL (<1)	BRL (<1)	---	---	---	BRL (<1)	---	---	---
Cadmium	4	BRL (<1)	BRL (<1)	---	---	1.6	---	BRL (<1)	BRL (<1)	---	---	---	BRL (<1)	---	---	---
Chromium	300	BRL (<10)	BRL (<10)	---	---	BRL (<10)	---	BRL (<10)	BRL (<10)	---	---	---	BRL (<10)	---	---	---
Lead	10	BRL (<1)	BRL (<1)	---	---	BRL (<1)	---	BRL (<1)	BRL (<1)	---	---	---	BRL (<1)	---	---	---
Mercury	20	BRL (<0.2)	BRL (<0.2)	---	---	BRL (<0.2)	---	BRL (<0.2)	BRL (<0.2)	---	---	---	BRL (<0.2)	---	---	---
Nickel	200	BRL (<50)	BRL (<50)	---	---	53.1	---	BRL (<50)	BRL (<50)	---	---	---	BRL (<50)	---	---	---
Selenium	100	BRL (<5)	BRL (<5)	---	---	BRL (<5)	---	BRL (<5)	BRL (<5)	---	---	---	BRL (<5)	---	---	---
Silver	7	BRL (<5)	BRL (<5)	---	---	BRL (<5)	---	BRL (<5)	BRL (<5)	---	---	---	BRL (<5)	---	---	---
Thallium	3000	BRL (<1)	BRL (<1)	---	---	BRL (<1)	---	BRL (<1)	BRL (<1)	---	---	---	BRL (<1)	---	---	---
Vanadium	4000	BRL (<20)	BRL (<20)	---	---	BRL (<20)	---	BRL (<20)	BRL (<20)	---	---	---	BRL (<20)	---	---	---
Zinc	900	BRL (<50)	BRL (<50)	---	---	BRL (<50)	---	BRL (<50)	BRL (<50)	---	---	---	BRL (<50)	---	---	---
Total Metals																
Aluminum	50-200[12]	---	133	---	---	---	---	290	248	---	---	---	BRL (<50)	---	---	201
Per- and Polyfluoroalkyl Substances (PFAS)[10] (µg/L) - (ppb																
PFOS	500	0.00494	---	---	---	---	BRL (<0.00189)	0.00221	---	---	---	BRL (<0.00188)	---	---	---	---
PFOA	40000	0.00802	---	---	---	---	0.0031	0.00343	---	---	---	0.0035	---	---	---	---
PFHxS	500	0.00188	---	---	---	---	BRL (<0.00189)	BRL (<0.00175)	---	---	---	BRL (<0.00188)	---	---	---	---
PFHpA	40000	0.0034	---	---	---	---	BRL (<0.00189)	BRL (<0.00175)	---	---	---	BRL (<0.00188)	---	---	---	---
Total PFAS	NE	BRL (<0.00185)	---	---	---	---	BRL (<0.00189)	BRL (<0.00175)	---	---	---	BRL (<0.00188)	---	---	---	---

Table 7 - Summary of Groundwater Analytical Data
Fmr Saint Gobain Abrasives Property
1 New Bond Street, Worcester, MA

SAMPLE ID	Reportable	MW-150	MW-151	MW-152	MW-153	MW-154	MW-155	MW-156	MW-157	E-2	E-3	E-5	E-6	E-7	E-8
LAB ID	Concentration	20D0036-03	20D0036-15	20D0036-16	20D0304-01	20D0304-02	20D0304-03	20D0304-04	20F0081-01	22H0758-05	22H0758-04	22H0758-01	22H0758-02	22H0758-03	22H0758-06
SAMPLE DATE	RCGW-2	3/31/2020	4/1/2020	4/1/2020	4/1/2020	4/1/2020	4/1/2020	4/1/2020	6/1/2020	08/19/2022	08/18/2022	08/18/2022	08/18/2022	08/18/2022	08/19/2022
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Volatile Organic Compounds (VOC)															
1,1-Dichloroethane	2000	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
Bromodichloromethane	6	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (<0.6)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	1.1
Carbon Disulfide	10000	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
Chloroform	50	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	5.7
cis-1,2-Dichloroethene	20	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
Methyl tert-Butyl Ether	5000	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
Naphthalene	700	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
Toluene	40000	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
Trichloroethene	5	BRL (<1)	BRL (<1)	BRL (<1)	1.4	BRL (<1)	BRL (<1)	BRL (<1)	BRL (<1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
VOCs NOS	NA	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Semi-Volatile Organic Compounds (SVOC)															
Acenaphthylene	40	---	---	---	---	---	---	---	---	---	---	BRL (10)	BRL (40)	BRL (10)	BRL (10)
Aniline	100000	---	---	---	---	---	---	---	---	---	---	BRL (10)	BRL (40)	BRL (10)	BRL (10)
Benzo(a)anthracene	1000	---	---	---	---	---	---	---	---	---	---	BRL (10)	BRL (40)	BRL (10)	BRL (10)
Benzo(a)pyrene	500	---	---	---	---	---	---	---	---	---	---	BRL (10)	BRL (40)	BRL (10)	BRL (10)
Benzo(b)fluoranthene	400	---	---	---	---	---	---	---	---	---	---	BRL (10)	BRL (40)	BRL (10)	BRL (10)
Benzo(g,h,i)perylene	20	---	---	---	---	---	---	---	---	---	---	BRL (10)	BRL (40)	BRL (10)	BRL (10)
Benzo(k)fluoranthene	100	---	---	---	---	---	---	---	---	---	---	BRL (10)	BRL (40)	BRL (10)	BRL (10)
bis(2-Chloroethyl)ether	30	---	---	---	---	---	---	---	---	---	---	BRL (10)	BRL (40)	BRL (10)	BRL (10)
Chrysene	70	---	---	---	---	---	---	---	---	---	---	BRL (10)	BRL (40)	BRL (10)	BRL (10)
Dibenzo(a,h)Anthracene	40	---	---	---	---	---	---	---	---	---	---	BRL (10)	BRL (40)	BRL (10)	BRL (10)
Fluoranthene	200	---	---	---	---	---	---	---	---	---	---	BRL (10)	BRL (40)	BRL (10)	BRL (10)
Fluorene	40	---	---	---	---	---	---	---	---	---	---	BRL (10)	BRL (40)	BRL (10)	BRL (10)
Hexachlorobenzene	1	---	---	---	---	---	---	---	---	---	---	BRL (10)	BRL (40)	BRL (10)	BRL (10)
Indeno(1,2,3-cd)Pyrene	100	---	---	---	---	---	---	---	---	---	---	BRL (10)	BRL (40)	BRL (10)	BRL (10)
Pentachlorophenol	200	---	---	---	---	---	---	---	---	---	---	BRL (50)	BRL (200)	BRL (50)	BRL (50)
Phenanthrene	10000	---	---	---	---	---	---	---	---	---	---	BRL (10)	BRL (40)	BRL (10)	BRL (10)
Pyrene	20	---	---	---	---	---	---	---	---	---	---	BRL (10)	BRL (40)	BRL (10)	BRL (10)
SVOCs NOS	NA	---	---	---	---	---	---	---	---	---	---	BRL	BRL	BRL	BRL
Extractable Petroleum Hydrocarbons (EPH)															
C_9-C_{18} Aliphatics	5000	---	BRL (<98)	BRL (<100)	BRL (<93)	BRL (<93)	BRL (<93)	BRL (<99)	743	BRL (93)	BRL (93)	BRL (96)	6020	BRL (93)	BRL (95)
C_{19}-C_{36} Aliphatics	50000	---	BRL (<98)	BRL (<100)	BRL (<93)	BRL (<93)	BRL (<93)	BRL (<99)	130	BRL (93)	521	BRL (96)	795000	728	1690
C_{11}-C_{22} Aromatics	5000	---	BRL (<98)	BRL (<100)	BRL (<93.5)	BRL (<93.5)	BRL (<93.5)	BRL (<99)	412	159	621	BRL (96.2)	150000	BRL (93.5)	173
EPH -Petroleum Aromatic Hydrocarbons (PAHs)															
2-Methylnaphthalene	2000	---	---	BRL (<5)	---	---	---	---	BRL (<0.47)	---	---	---	---	---	---
Acenaphthene	6000	---	---	BRL (<5)	---	---	---	---	0.27	---	---	---	---	---	---
Naphthalene	700	---	---	BRL(<10)	---	---	---	---	BRL (<0.47)	---	---	---	---	---	---
Phenanthrene	10000	---	---	BRL (<5)	---	---	---	---	1.09	---	---	---	---	---	---
Acenaphthylene	40	---	---	BRL (<5)	---	---	---	---	BRL (<0.19)	---	---	---	---	---	---
Anthracene	30	---	---	BRL (<5)	---	---	---	---	0.48	---	---	---	---	---	---
Fluoranthene	200	---	---	BRL(<10)	---	---	---	---	BRL (<0.19)	---	---	---	---	---	---
Fluorene	40	---	---	BRL (<5)	---	---	---	---	0.75	---	---	---	---	---	---
Pyrene	20	---	---	BRL (<5)	---	---	---	---	0.19	---	---	---	---	---	---
PAHs NOS	NA	---	---	BRL	---	---	---	---	BRL	---	---	---	---	---	---
Volatile Petroleum Hydrocarbons (VPH)															
C_5-C_8 Aliphatics	3000	BRL (<158)	BRL (<158)	BRL (<158)	BRL (<158)	---	---	BRL (<158)	BRL (<150)	BRL (150)	BRL (150)	BRL (150)	BRL (150)	BRL (150)	BRL (150)
C_9-C_{12} Aliphatics	5000	BRL (<270)	BRL (<270)	BRL (<270)	BRL (<270)	---	---	BRL (<270)	BRL (<150)	BRL (150)	BRL (150)	BRL (150)	BRL (150)	BRL (150)	BRL (150)

Table 7 - Summary of Groundwater Analytical Data
Fmr Saint Gobain Abrasives Property
1 New Bond Street, Worcester, MA

SAMPLE ID	Reportable	MW-150	MW-151	MW-152	MW-153	MW-154	MW-155	MW-156	MW-157	E-2	E-3	E-5	E-6	E-7	E-8
LAB ID	Concentration	20D0036-03	20D0036-15	20D0036-16	20D0304-01	20D0304-02	20D0304-03	20D0304-04	20F0081-01	22H0758-05	22H0758-04	22H0758-01	22H0758-02	22H0758-03	22H0758-06
SAMPLE DATE	RCGW-2	3/31/2020	4/1/2020	4/1/2020	4/1/2020	4/1/2020	4/1/2020	4/1/2020	6/1/2020	08/19/2022	08/18/2022	08/18/2022	08/18/2022	08/18/2022	08/19/2022
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
C_9-C_{10} Aromatics	4000	BRL (<100)	BRL (<100)	BRL (<100)	BRL (<100)	---	---	BRL (<100)	BRL (<100)	BRL (100)	BRL (100)	BRL (100)	BRL (100)	BRL (100)	BRL (100)
VOC NOS	3000	BRL	BRL	BRL	BRL	---	---	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Total Dissolved Metals															
Antimony	8000	---	---	---	BRL (<5.0)	BRL (<5.0)	---	BRL (<5.0)	---	---	---	---	---	---	---
Arsenic	900	---	---	---	BRL (<5.0)	BRL (<5.0)	---	BRL (<5.0)	---	---	---	---	---	---	---
Barium	50000	---	---	---	128	BRL (<50)	---	BRL (<50)	---	---	---	---	---	---	---
Beryllium	200	---	---	---	BRL (<1)	BRL (<1)	---	BRL (<1)	---	---	---	---	---	---	---
Cadmium	4	---	---	---	BRL (<1)	BRL (<1)	---	BRL (<1)	---	---	---	---	---	---	---
Chromium	300	---	---	---	BRL (<10)	BRL (<10)	---	BRL (<10)	---	---	---	---	---	---	---
Lead	10	---	---	---	BRL (<1)	BRL (<1)	---	BRL (<1)	---	---	---	---	---	---	---
Mercury	20	---	---	---	BRL (<0.2)	BRL (<0.2)	---	BRL (<0.2)	---	---	---	---	---	---	---
Nickel	200	---	---	---	BRL (<50)	BRL (<50)	---	BRL (<50)	---	---	---	---	---	---	---
Selenium	100	---	---	---	BRL (<5)	BRL (<5)	---	BRL (<5)	---	---	---	---	---	---	---
Silver	7	---	---	---	BRL (<5)	BRL (<5)	---	BRL (<5)	---	---	---	---	---	---	---
Thallium	3000	---	---	---	BRL (<1)	BRL (<1)	---	BRL (<1)	---	---	---	---	---	---	---
Vanadium	4000	---	---	---	BRL (<20)	BRL (<20)	---	BRL (<20)	---	---	---	---	---	---	---
Zinc	900	---	---	---	BRL (<50)	BRL (<50)	---	BRL (<50)	---	---	---	---	---	---	---
Total Metals															
Aluminum	50-200[12]	---	---	---	120	---	---	67300	---	---	---	---	---	---	---
Per- and Polyfluoroalkyl Substances (PFAS)[10] (µg/L) - (ppb															
PFOS	500	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PFOA	40000	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PFHxS	500	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PFHpA	40000	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total PFAS	NE	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes:
1. Concentrations are presented in micrograms per liter (µg/l)
2. BRL - Below Reportable laboratory limits
3. NA - Not Applicable
4. NE - Not Established
5. NOS- Not Otherwise Specified
6. --- Laboratory analysis was not conducted
7. There is no established Reportable Concentration or Method 1 MCP risk standard applicable to groundwater concentrations for Alumimum. However, there is a Secondary MCL listed for aluminum detected in drinking water. The samples collected in January 2020 are not considered drinking water; the Secondary MCL is listed for informational purposes.
8. Bold and shaded - concentration is greater than Reportable Concentrations GW-2 and/or MCP Method 1 GW-2 and GW-3 Standards
9. Bold and Italicized - concentration indicates that the analyte was detected above the Method 1 GW-1 standards.
10. PFOS - Perfluorooctanesulfonate
    PFOA - Perfluorooctanoic Acid
    PFNA - Perfluorononanoic Acid
    PFHxS - Perfluorohexanesulfonic Acid
    PFHpA - Perfluoroheptanoic Acid
    PFDA - Perfluorodecanoic Acid
11. A - includes the sum of Isopropylbenzene, n-butylbenzene, n-propylbenzene, and sec-butylbenzene.
    150 Concentration exceeds method detection limit
    150 concentration wxceeds RCGW-2 reportable concentration
12. Secondary MCL - Secondary Maximum Contaminant Level for Drinking Water

Table 8: Summary of Hazardous Building Materials - 400 Block
Former Saint-Gobain Abrasives Property
1 New Bond St., Worcester, MA

Building Number	Building Material	COC	Result (mg/kg)
409	Floor residue in brown/black floor material	Barium	56
412	Wood in brown column near entrance	Barium	680
	Wood in brown column near entrance	Lead	250
416	Floor residue in black oily epoxy	Barium	84
	Floor residue in black oily epoxy	Chromium	310
	Floor residue in black oily epoxy	Lead	36
417	Expansion joint in concrete floor	PCBs	2200
	Pit residue in trench drain near press	Barium	810
	Pit residue in trench drain near press	Chromium	30
	Pit residue in trench drain near press	Lead	31
	Pit residue in trench drain near press	1,1-DCA	4.1
	Pit residue in trench drain near press	1.1-DCE	2.4
	Pit residue in trench drain near press	1,1,1-TCA	47
	Pit residue in trench drain near press	TCE	15
	Floor residue in green floor accumulation	Barium	25
419	Concrete floor, sub-east transformer	PCBs	95
	Concrete floor, sub-west transformer	PCBs	53
	Expansion joint black brittle floor	PCBs	87
	Black floor epoxy	PCBs	93
	Wood floor and plank	Barium	100
	Wood floor and plank	Lead	57
	wood floor	Barium	64
	wood floor	Chromium	200
	wood floor	Lead	140
	wood floor	Silver	93
	Coal ash in floor filling	Barium	38
	Coal ash in floor filling	Barium	55
	Coal ash in floor filling	Barium	20
	Wood floor and plank	Fluoranthene	130
	Wood floor and plank	Phenanthrene	130
	Wood floor and plank	Fluoranthene	410
	Wood floor and plank	Phenanthrene	590
	Wood floor and plank	Pyrene	300
420	Glazed block in beige shower	Barium	69
	Coal ash in floor filling	Barium	22
	Coal ash in floor filling	Barium	79
	Coal ash in floor filling	Lead	87
	Wood floor and deck	Barium	120
	Wood floor and deck	Phenanthrene	130
	Wood floor and deck	Butylbenzyl phthalate	130
	Wood floor and deck	Fluoranthene	140
	Wood floor and deck	Phenanthrene	130
426	Expansion joint in black fibrous floor	PCBs	150

Table 9: Summary of Positive Asbestos Containing Materials - 400 Block
Former Saint-Gobain Abrasives Property
1 New Bond St., Worcester, MA

Building Number	Type of Material	Location
409	Gray interior window wall glazing compound	Throughout building
	Green 9" x 9" floor tile	Northwest corner
	Silver coating	Roof, skylights and on Building 417 wall at Building 409
	Black roofing felts/tar	Roof, bottom layer
	Black tar flashing	Roof, perimeter, penetrations and patches
410	Gray pipe insulation	Rear of building by connector to Building 413
	Black roofing felts/tar	Roof, 2nd layer
412	Beige linoleum sheet flooring and associated mastic adhesive	1st floor, entry Hall
	Beige floor tile, gray floor tile and associated black mastic adhesive (under Blue 12" x 12"floor tile, carpets, levelers)	2nd floor hallway, 2nd layer and 3rd layers; 2nd floor offices under carpet
	Brown wood wall panel glue daub and associated gypsum wall board	2nd floor hallway, stairs, closet, corner office, and Conference Room
	Gray exterior window caulking	Throughout building
	White/gray pipe insulation	Throughout 1st and 2nd floors
	Green linoleum sheet flooring and associated mastic adhesive	3rd floor, bathroom
413	Gray 9" x 9" floor tile and cross-contaminated levelers and carpet	2nd floor north office and adjacent hallway near Building 412
	Gray/white pipe insulation	Throughout building
	Black tar flashing	Roof, perimeter, penetrations and patches
415	Black tar flashing	Roof, perimeter, penetrations and patches
416	Gray 9" x 9" floor tile	2nd floor, Final Inspection area
	Gray exterior window caulking	Throughout building between window frame and masonry
	Gray/white pipe insulation	Throughout 1st and 2nd floors
	Black tar flashing	Roof, perimeter, penetrations and patches
417	Gray/white pipe and fitting insulation	Throughout 1st floor; 1st floor extending from stairwell into concrete floor and through south tunnel; 2nd floor men's room, domestic water line
	Gray window glazing compound and gray exterior window caulking	Rear section of building
	Brown/tan linoleum sheet flooring and associated mastic adhesive	1st floor middle office area (most under 12" x 12" floor tile), 2nd floor east stairwell and southwest office area
	Brown 12" x 12" floor tile	2nd floor, southwest office area
	Buss ducts and power boxes	Throughout building
417	Gray transite wall and ceiling panels – double sided sandwich board	Throughout building
	Black tar flashing	Roof, Lower East and West roofs- perimeter, penetrations and patches

Table 9: Summary of Positive Asbestos Containing Materials - 400 Block
Former Saint-Gobain Abrasives Property
1 New Bond St., Worcester, MA

Building Number	Type of Material	Location
418	White pipe insulation	2nd floor hallway by Building 419
	Exterior window caulking	West and south sides, original layer
418	Interior window caulking and glazing compund	Upper interior wooden windows
	Gray pipe insulation with black tar wrap	Exterior, rear of building
	Gray pipe insulation (damaged)	Roof
	Black mopped on tar	Roof on duct work
	Gray cement board – doublesided sandwich board	Exterior, rear of building
	Black tar flashing	Roof, perimeter, penetrations and patches
419	White pipe insulation – steam line (>12")	Various locations throughout building
	Gray/white pipe insulation (<12")	Throughout 1st floor, 3rd floor near bathrooms, 5th floor hallway at Room 516, and various other locations
	Gray 12" x 12" floor tile over	1st floor, Air Filter Storage
	brown linoleum sheet flooring and associated mastic adhesive	Room, Tool Crib
	Gray tank insulation	Basement – north
	Gray exterior window caulking and glazing compound (homogenous with Building 420)	At dock, Roof Elevator 53 machine room
	Tan 12" x 12" floor tile under blue 12" x 12" floor tile in various rooms	2nd floor east office area
	Beige 12" x 12" floor tile	3rd floor north end of hallway and Painter's Storage Room
	Gray cork pipe insulation and associated mudded fittings	Throughout 1st, 2nd and 3rd floors
	Gray cementitious wall panel – double sided sandwich board	Throughout basement, 1st floor, 3rd floor, and 5th floor at Room 515
	Green 9" x 9" floor tile, tan floor tile, white 12" x 12" floor tile, gray 9" x 9" floor tile and associated black and brown mastic adhesives	5th floor, front hallway, Rooms 502, 504, 506, 508, 515 and Conference Room
	Gray duct insulation and insulation debris	5th floor: ceiling plenum at Room 504 area; Room 508; Room 514; bathroom/locker room; lab; and various other locations
	Black lab table top	4th floor lab in rear; 5th floor Room 517
	Buss ducts and power boxes	Various locations throughout
419	Gray sink basin condensate mastic	5th floor, Lab 2
	Black exterior window glazing compund	North side
	Black interior window caulking	North and south sides
	Open container with asbestos debris and miscellaneous cross contaminated debris	Basement, north end near tank

Table 9: Summary of Positive Asbestos Containing Materials - 400 Block
Former Saint-Gobain Abrasives Property
1 New Bond St., Worcester, MA

Building Number	Type of Material	Location
	Black tar flashing	Roof, perimeter, penetrations and patches
	Brown controller panel	Roof, Elevator 53 machine room
420	White 12" pipe insulation, white 6" steam pipe insulation, tan 2" rolled paper pipe insulation	Cafeteria, storage room near elevator, near freight elevator, leading into floor tunnel, and throughout 1st floor, throughout Floors 2-6 in plenum spaces, bathrooms, offices, mechanical rooms, labs
	Gray cement board – doublesided sandwich board	1st floor cafeteria; 4th floor Lab 5, Lab 6; 5th floor labs, southwest offices; 6th floor labs, southwest offices, conference room, raw material storage room
	Brown baseboard mastic adhesive	1st floor Cafeteria, hallway and women's room
	Brown 9" x 9" floor tile and associated black mastic adhesive	1st floor storage room near elevator
	Black cement board sink	1st floor storage room near elevator
	Gray window glazing compound and caulking	Older windows south and east sides
	Green 9" x 9" floor tile and associated black mastic adhesive	2nd floor glassed-in office and adjacent office by lobby, Library
	Tan 9" x 9" floor tile	2nd floor west side offices, lecture hall, 6th floor Rooms 621 and 623
	Green 9" x 9" floor tile and associated black mastic adhesive	3rd floor north offices and hallway, under carpet
	brown linoleum sheet flooring and associated mastic adhesive and floor leveler	3rd floor hallways, under carpet
	Gray duct insulation	3rd floor hallway above ceiling, throughout 6th floor
	Black oakum wrap	3rd floor lab at blower
	Black lab table tops and lab hoods	Throughout floors 3 - 6
	Beige/gray 12" x 12" floor tile, gray 9" x 9" floor tile, brown 12" x 12" floor tile	4th floor north and west offices, hallway, labs (some under carpet, some double layers), 6th floor north and west side offices(under carpet)
	Tan/white 12" x 12" floor tile	5th floor Room 509, under epoxy flooring and plywood
	Gray 12" x 12" floor tile, green 9" x 9" floor tile multiple layers	5th floor Mold Lab, hallways from lobby to women's room, Mechanical Room, Kiln Room, Rooms 509, 509-B, 511, 518, 519, 520, 521, 552, 6th floor Rooms 630 and 636 (2nd layer)
	Gray cementitious panel lined sink counter	5th floor, Room 505
420	White pipe insulation with black tar wrap (18" steam line)	Exterior, west side near security extending to metal corrugated shed
	White pipe insulation with black tar wrap (8" steam line)	Exterior, west side near security extending to metal corrugated shed
	Tan interior residual window caulking	Observed on interior jambs – residual from old windows

Table 9: Summary of Positive Asbestos Containing Materials - 400 Block
Former Saint-Gobain Abrasives Property
1 New Bond St., Worcester, MA

Building Number	Type of Material	Location
	Black exterior window glazing compund	North side
	Black tar flashing	Roof, perimeter, penetrations and patches
426	Gray cementitious wall panel –double sided sandwich board	East wall
	Gray cementitious wall panel –double sided	West upper wall
426	Interior window caulking and glazing compound	South, east, and west upper industrial-type windows
	Gray cement board – doublesided sandwich board	Exterior, rear of building
	Black tar flashing	Roof, perimeter, penetrations and patches

Table 10: Summary of Lead Based Paint Testing Results - 400 Block
Former Saint-Gobain Abrasives Property
1 New Bond St., Worcester, MA

Color	Substrate	Component	Result (mg/cm2)	Notes
Building 409				
Green	Metal	Column	0.4-0.9	
Light Green	Wood	Walls	<0.1	
White	Brick	Walls	0.1-1.6	
Gray	Metal	Walls	0.2	
Black	Metal	Structural I-Beam	3.3	
Black	Brick	Ceiling	0.2-1.4	
Building 410				
Beige	Sheetrock	Walls	<0.1	
Blue	Metal	Door System	<0.1	
White	Brick	Outer Columns	0.7-1.8	
Green	Sheetrock	Walls	<0.1	
Building 412 - 1st Floor				
White	Sheetrock	Walls	<0.1	
Blue	Metal	Door Frames	<0.1	
Blue	Sheetrock	Wall	<0.1	
White	Wood	Ceiling	<0.1-0.2	
White	Wood	Structural I-Beam	<0.1-0.2	
White	Brick	Walls	<0.1-0.5	
Tan	Brick	Walls	3.1	
Building 412 - 2nd Floor				
White	Sheetrock	Walls	<0.1	
White	Wood	Door Frame	<0.1	
Black	Wood	Window Frames	<0.1	
White	Wood	Ceiling	0.2	
White	Metal	Door Frame	<0.1	
Building 412 - 3rd Floor				
White	Wood	Window Frames	<0.1	
White	Sheetrock	Walls	<0.1	
White	Wood	Door Frames	<0.1	
White	Wood	Ceiling	0.2	
Building 412 - Exterior				
Brown	Wood	Window frame under metal panning	2.2	
Red	Brick	Lower wall	<0.1	
Building 413 - 1st Floor				
White/Gray/ Yellow	Wood	Columns	2.2-3.0	
Gray	CMU	Walls	<0.1	
Blue	Sheetrock	Walls	<0.1	
Gray	Concrete	Floor	<0.1	
Aqua	Metal	Door System	<0.1	
White	Sheetrock	Walls	<0.1	
White	Ceramic	Wall	2	East Side
Gray	Wood	Ceiling	Assumed Lead	
Yellow	Wood	I-Beams	Assumed Lead	
Mauve	Metal	Stair System	<0.1	
Building 413 - 2nd Floor				
Purple	Sheetrock	Walls	<0.1	
Mauve	Metal	Door Frame	<0.1	
White	Wood	Ceiling	<0.1	
Building 413 - Exterior				
Black	Metal	Fire Escape	1.5	

Table 10: Summary of Lead Based Paint Testing Results - 400 Block
Former Saint-Gobain Abrasives Property
1 New Bond St., Worcester, MA

Color	Substrate	Component	Result (mg/cm2)	Notes
Red	Brick	Foundation Wall	<0.1	
Red	Aluminum	Siding	0.5	
Black	Metal	Fire escape stairs	1.6 – 1.9	
Gray	Wood	Upper trim	3.8	
Blue	Metal	Steam line support	1.3	
Red	Wood	Upper trim	Assumed	
Brown	Wood	Window frame	1.7	
Black	Metal	Fire escape stairs	1.1	
Building 416 - 2nd Floor				
White	Brick	Wall	1.1-2.3	
Gray	Epoxy	Floor	<0.1	
Blue/White / Yellow	Metal	Column with Rivets	2.1	
Beige	Wood	Wall	<0.1	
Building 416 - 3rd Floor				
White	Brick	Wall	2.1	
White	Sheetrock	Wall	<0.1	
Blue	Metal	Door System	<0.1	
Yellow	Metal	Safety Rail	<0.1	
White	Metal	Window System	5.8	
Building 416 - 1st Floor				
Gray	Brick	Walls	4.1	
Gray	Concrete	Columns	2	
Orange	Metal	Sliding Door	5.5	
Building 417				
Blue	CMU	Wall	<0.1	
Building 417 - 1st Floor				
Gray	Sheetrock	Wall	<0.1	
Blue	Metal	Columns with Rivets	2.6	
Blue	Metal	Columns with Rivets	<0.1	South
Green/Light Green	Epoxy	Floors	<0.1	
Gray	Brick	Walls	0.2-1.2	
White	Wood	Columns	<0.1	
Yellow	Metal	Duct Work	<0.1	
Tan	Metal	Structural Steel	<0.1	
Tan	Concrete	Ceiling	<0.1	
Building 417 - 2nd Floor				
Light Blue/ Black	Wood	Wall	0.4	Stair
Black	Metal	Stair System	0.1	
Gray	Metal	Columns with Rivets	<0.1-0.2	
Yellow	Concrete	Lines	7.4	
Brown	Wood	Column	0.1-0.5	
Beige	Brick	Walls	1.4-2.3	
Building 417 - 3rd Floor				
Brown	Wood	Stair Systems	<0.1-0.1	
White	Wood	Ceiling	0.1-0.7	
White	Wood	Structural Beam	<0.1-0.4	
Building 418 - 1st Floor				
Light Blue	Sheetrock	Wall	<0.1	
Blue	Wood	Lower Wall	<0.1	
	Metal	Column	1.1-2.0	
Gray	Epoxy	Floor	<0.1	
Light Blue	Brick	Wall	6.5-10.5	

Table 10: Summary of Lead Based Paint Testing Results - 400 Block
Former Saint-Gobain Abrasives Property
1 New Bond St., Worcester, MA

Color	Substrate	Component	Result (mg/cm2)	Notes
White	Wood	Ceiling	2.8	
White	Metal	I-Beam	<0.1	
Gray	Wood	Walls	<0.1	
Blue	Wood	Columns	5.2	
Light Blue	Wood	Window Frame	<0.1	
Blue	Metal	Door Frame	<0.1	
Blue	Metal	Doors	<0.1	
Blue	CMU	Walls	<0.1	
Building 418 - 2nd Floor				
Blue	Metal	Rails	<0.1	Stairs
White	Sheetrock	Walls	<0.1	Offices
White	Wood	Column	3.7	
Gray	Wood	Ceiling	<0.1	
Gray	Wood	Structural I-Beams	2.4	
Beige	Wood	Ceiling	Assumed Lead	Shop
Building 419 - 5th Floor				
White	Sheetrock	Walls	<0.1	Office Areas
White	Concrete	Outer Columns	0.7-1.2	
White	Concrete	Ceilings	0.2-0.6	
Brown	Metal	Window System	<0.1	
White	Concrete	Circular Column	1.7-2.3	
Yellow/Tan	Wood	Walls	<0.1	Lab Areas
Yellow/Tan	Concrete	Circular Column	2.1-3.2	
Yellow/Tan	Brick	Walls	1.9-2.7	
Yellow/Tan	Metal	Windows	1.2-3.9	
White/Black	Concrete		0.1-0.4	
Brown	Metal	Door Frame	<0.1	
White/Brown	Wood and	Lab Walls	0.1-0.3	
Blue	Metal	Columns	2.6	
Green	Concrete	Door System	0.1-0.3	
White/Brown	Metal	Walls	0.1 – 0.5	
Building 419 - Exterior				
Red	Concrete	Walls	<0.1	
Brown	Metal	Industrial window frame	6.1 – 8.4	
Building 419 - 4th Floor				
White	Sheetrock	Walls	<0.1	Office Areas
White	Concrete	Circular Column	1.4-2.1	
White	Wood and Metal	Door Systems	<0.1	
White	Wood	Ceiling	<0.1-0.4	Lab Areas
White	Brick	Walls	0.4-2.1	
White	Sheetrock	Walls	<0.1	
White	Metal	Radiator	<0.1	
White	Concrete	Outer Column	1.7	
White	Wood and Metal	Door System	<0.1	
Building 419 - 3rd Floor				
White	Metal	Walls	0.5	
White	Brick	Walls	2.9-3.2	
White	Sheetrock	Walls	<0.1	
White	Concrete	Circular Columns	1.8	
White	Concrete	Ceiling	0.1-0.3	

Table 10: Summary of Lead Based Paint Testing Results - 400 Block
Former Saint-Gobain Abrasives Property
1 New Bond St., Worcester, MA

Color	Substrate	Component	Result (mg/cm2)	Notes
White	Concrete	Outer Column	1.7	
White	Metal	Duct	<0.1	
White	Metal	Sliding Fire Door	3.9	
White	Concrete	Wall	1.6	
White	Metal	Pipes	<0.1-0.2	
Building 419 - 2nd Floor				
Black	Wood	Floor	<0.1	
Maroon/ White	Metal	Pipes	<0.1	
White	Concrete	Outer Column	2.4	
White	Concrete	Ceiling	<0.1-0.2	
White	Concrete	Circular Column	3.2	
Gray	Fiberglass	Floor	<0.1	
Yellow	Metal	Railing	1.5	
White	Sheetrock	Walls	<0.1	
White	Concrete	Wall at Freight Elevator	2.2	
Building 419 - 1st Floor				
White/Blue	Wood	Wall	<0.1	
White/Blue/Green	Concrete	Circular Column	1.5	
White/Blue	Concrete	Wall	2.8	
White/Blue	CMU	Wall	0.2	
Green/Light Green	Concrete	Outer Column	0.3-0.5	
Green/Light Green	Brick	Wall	0.8-1.9	
Blue	Wood	Door System	<0.1	
Yellow	Metal	Rails	2.2	
Gray	Concrete	Floor	<0.1	
Orange	Metal	Sliding Door	4.8	
Blue/White	Concrete	Ceiling	<0.1-0.3	
White/Blue Green	Cinder Block	Walls	<0.1	
Building 420 - 1st Floor				
White	Sheetrock	Walls	<0.1	Cafeteria
Yellow/Black	Concrete	Columns	0.3-2.7	
Yellow	Wood	Doors	<0.1	
Yellow	Metal	Door Frames	<0.1	
White/Black	Concrete	Column	1.9-2.3	
White	Concrete	Walls	2	
White	Brick	Walls	3.1-3.7	
White	CMU	Walls	<0.1	
Black	Concrete	Ceiling	<0.1	
Gray	Concrete	Floor	<0.1	Front Offices
White	Sheetrock	Walls	<0.1	
White	Concrete	Column	3.6	
White	Brick	Walls	4.6	
Brown	Metal	Window System	<0.1	
Blue	Metal	Door System	<0.1	Lab Areas
Light Blue	Wood	Walls	<0.1	
Light Blue	Sheetrock	Walls	<0.1	
Light Blue	Concrete	Walls	2.4-3.2	
Light Blue	Concrete	Columns	1.3-2.4	
Green	CMU	Walls	<0.1	Back Stairs
Green	Brick	Walls	4.4	
Light Blue	Metal	Elevator Shaft	<0.1	Staircase

Table 10: Summary of Lead Based Paint Testing Results - 400 Block
Former Saint-Gobain Abrasives Property
1 New Bond St., Worcester, MA

Color	Substrate	Component	Result (mg/cm2)	Notes
Building 420 - 2nd Floor				
Blue	Metal	Window Wall System	<0.1	Front Office
White	Metal	Radiators	0.06-0.15	Throughout
White	Concrete	Columns	1.7-2.5	
Magenta	Metal	Door Frames	<0.1	
White	Sheetrock	Walls	<0.1	
White	Wood Panel	Walls	<0.1	
White	Brick	Walls	2.2-3.8	Perimeter
White	Wood	Floors	<0.1	West Air-handler Room
White	Sheetrock	Walls	<0.1	
Brown	Metal	Elevator Doors	<0.1	Freight Elevator
Magenta	Wood	Door	<0.1	Mechanical Room
Magenta	Metal	Door	<0.1	Library Conference Room
Yellow	Sheetrock	Walls	<0.1	Eastside Air-handler Room
Light Blue	Concrete	Walls	3.6-4.6	Front Stairwell
Light Blue	Brick	Walls	2.6-3.0	
Building 420 - 3rd Floor				
Blue	Metal	Door Frames	<0.1	Offices
Blue	Sheetrock	Walls	<0.1	
Blue	Wood	Doors	<0.1	
Blue	Wood	Windowsills	<0.1	
Blue	Brick	Walls	2.5-3.1	Perimeter
Blue	Concrete	Walls/Column	2.6	
Green	Epoxy	Floor	<0.1	Lab
Blue	Concrete	Columns	4.6	Throughout
White	Metal	Window Frame	0.1	Oven Lab
Blue	Metal	Door Frame	2.8	Rear Stairs
Green	Brick	Walls	4.3	
Green/White	Concrete	Walls	4.6	
Black	Metal	Hand Rails	0.6-1.2	
Building 420 - 4th Floor				
White/Black	Concrete	Column	3.1	Lab Perimeter Walls
White	Brick	Walls	3.5	
White	Transite	Walls	<0.1	Lab
White	Concrete	Columns	2.6-3.2	Throughout
	Wood	Door System	<0.1	
Blue	Metal	Doors	<0.1	Freight Elevator
Blue	Metal	Elevator Door Frame	2.1	
Light Blue	Sheetrock	Walls	<0.1	Sample Polish Room
Yellow	Brick	Walls	2.1-2.9	Dart Lab
Blue	Brick	Walls	2.9	Front Stairwell
Purple	Metal	Hand Rails	3.4	
Building 420 - 5th Floor				
White	Sheetrock	Walls	<0.1	Offices
Blue	Wood	Doors	<0.1	
Blue	Metal	Door Frames	<0.1	
White	Brick	Walls	5.6	Perimeter
White	Concrete	Columns	3.8	
White	Concrete	Columns	2.6-3.4	Throughout
Black	Concrete	Ceiling	<0.1-0.2	
Green	Epoxy	Floors	<0.1	Room 507

Table 10: Summary of Lead Based Paint Testing Results - 400 Block
Former Saint-Gobain Abrasives Property
1 New Bond St., Worcester, MA

Color	Substrate	Component	Result (mg/cm2)	Notes
Green	Epoxy	Floors	<0.1	Room 509
Beige	Wood	Walls	<0.1	Room 506
Building 420 - 6th Floor				
Orange	Metal	Sliding Door	3.9	Shipping Tree
Light Blue	Concrete	Columns	2.1-2.9	Throughout
White/Yellow	Brick	Walls	3.0-4.1	Perimeter
White/Yellow	Concrete	Columns	2.7-4.1	
White	Wood	Window Sash System	8.3	
White	Transite	Walls	<0.1	Room 622
Building 426				
Gray	Brick	Walls	<0.1-0.2	
Gray	CMU	Walls	<0.1	
Gray	Metal	Columns	2.3	
White	Sheetrock	Walls	<0.1	
Gray	Concrete	Floor	<0.1	
Yellow	Concrete	Lines	2	
White	Wood	Ceiling	Assumed Lead	

TABLE 11: COMPARISON OF REMEDIAL ALTERNATIVES TO EVALUATION CRITERIA

Alternatives		Evaluation Criteria and Ranking[1]								
No.	Description	Effectiveness	Reliability	Implementation	Costs	Risks	Benefits	Timeliness	Non-Pecuniary	Summary Rating [2]
Groundwater										
1	No Action	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	Monitoring Natural Attenuation	2	2	4	2	4	2	2	4	2.13
3	Limited Soil Removal & Vapor Barrier Membrane Installation	4.5	4.5	3	3	3	4	4	3	3.00
Soil										
1	No Action	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	Soil Removal	4.5	4.5	3	2.5	3	4	4.5	3	3.00
3	Soil Assessment and Method 3 Risk Characterization and Activity and Use Limitation	4.5	4.5	3	3.5	3	4	5	3	3.19
Hazardous Building Materials - PCBs										
1	No Action	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	Self Implementing Plan	4.5	4.5	2	4	4	4	2	3	2.81
3	Performance Based Plan	4.5	4.5	4	3	4	4	4.5	3	3.25

Notes:

1. Qualitative comparative ranking between alternatives: 1 = least favorable to 5 = most favorable.
2. Weighted average of evaluation criteria rankings: Effectiveness, Reliability, Implementation, Costs and Timeliness weighted at 100%, and Risks, Benefits and Non-pecuniary at 50%.
3. N/A -Not Applicable