



May 29, 2019

JP HAMMERTON  
ALBANY INTERNATIONAL CORP  
3601 ELECTRIC CITY BLVD  
KAUKAUNA WI 54130

Subject: Conditional Approval of Remedial Action Plan and Approval to Manage Solid Waste under Wis. Admin. Code § NR 718.12 for On-Site Management for Appleton Wire (Former), 908 N. Lawe St., Appleton, WI  
DNR BRRTS # 02-45-000015

Dear Mr. Hammerton:

On April 15, 2019, the Wisconsin Department of Natural Resources (DNR) received a *Remedial Action Plan* (RAP) dated April 11, 2019 for the above-named site for property located at 908 North Lawe Street, Appleton, Outagamie County, Wisconsin (the "Property"). EnviroForensics, LLC ("EnviroForensics") submitted the RAP on behalf of Albany International Corp. ("Albany"). On May 3, 2019, the DNR received an *Amendment to the Remedial Action Plan* (the "Amendment") dated April 29, 2019 with revised Figures 15 and 16. The DNR also received the \$1,050 review fee in accordance with Wis. Admin. Code ch. NR 749.

### Summary of Remedial Objectives and Plan

According to the RAP and Amendment, the remedial objectives for chromium at the site are to decommission the existing groundwater collection and treatment system; reduce the concentrations of hexavalent chromium in unsaturated soil to below the calculated groundwater pathway residual contaminant level (RCL) of 3.84 milligrams per kilogram (mg/kg); reduce chromium concentrations in groundwater to below the enforcement standard of 100 micrograms per liter ( $\mu\text{g/L}$ ) or to levels that will naturally attenuate; and mitigate exposure pathways with engineered barriers and continuing obligations.

The selected remedial action includes the following actions:

- Decommission the existing groundwater collection and treatment system and fill the French drain/collection trench with an amendment solution;
- Inject a reducing agent including Anaerobic BioChem (ABC®) and zero valent iron (ZVI) beneath the basement floor and in the areas of highest groundwater contamination in six areas (Areas A-F on Figure 15, *Groundwater Chromium Isocontours with Proposed Injection Areas*, by EnviroForensics, dated 3/20/19 of the Amendment);
- Blend contaminated soil with ZVI in three areas (Areas A-C on Figure 16, *Proposed Soil Blending Zones*, by EnviroForensics dated 2/22/19 of the Amendment);
- Permanently dispose of excess blended soil that either remains a hazardous waste, or becomes a solid waste through treatment, in the basement within the Area of Contamination (AOC);
- Dispose of excess blended soil that is a solid waste at a landfill;

- Confirm conversion of hexavalent chromium to trivalent chromium and formation of insoluble and non-reactive precipitates (fixation);
- Blend soil with Portland cement for structural stability in three areas (Areas A-C on Figure 16);
- Restore the site (i.e., replace concrete floor in warehouse and asphalt in parking lot);
- Install replacement monitoring wells and perform post-remedial action groundwater monitoring;
- Evaluate the potential for vapor intrusion of residual volatile organic compounds (VOCs); and
- Assign continuing obligations including identifying the property as having residual soil and/or groundwater contamination in the Wisconsin Remediation and Redevelopment Database (WRRD).

## Determinations

The DNR makes the following determinations regarding the RAP and Amendment with respect to Wis. Admin. Code ch. NR 724:

- The selected remedial action of reduction from hexavalent chromium to trivalent chromium and formation of insoluble and non-reactive precipitates is conditionally approved;
- The post remedial groundwater sampling plan is conditionally approved;
- Depending on additional investigation of VOCs and measured reductive dechlorination, alternative remedial action options may need to be evaluated to address residual VOCs.

## Conditional Approval

The remedy for chromium proposed in the RAP and Amendment and post remedial groundwater sampling plan is approved with the following conditions:

1. A public participation plan in accordance with Wis. Admin. Code ch. NR 714 that includes outreach to the public, Luvata Appleton, LLC employees and local authorities (Health, Public Works, Police, Fire, etc.) must be approved by the DNR prior to initiating on-site work, including logistics.
2. At a minimum, the west sidewalk along North Meade Street will be closed to pedestrian traffic and fenced during exterior injection and soil blending activities.
3. The polyvinyl treatment tanks currently present in the basement of the warehouse must be removed prior to backfilling the basement.
4. Discrete samples of undisturbed unsaturated soil may be collected beyond the proposed soil blending areas, or previous discrete soil data will be used, to identify residual hexavalent chromium contamination in unsaturated soil.
5. Incremental Sampling Methodology (ISM) or discrete sampling methods must be used to determine the concentrations of residual hexavalent chromium in blended soil and the effectiveness of the soil blending activities prior to addition of Portland cement.
6. The long-term groundwater monitoring plan must include analysis for VOCs in groundwater at monitoring wells MW-19R, MW-25 and MW-26R.
7. The proposed sub-slab vapor investigation should not move forward until the degree and extent of VOCs in soil and groundwater are defined and a revised work plan submitted following the chromium remedial effort.

## Area of Contamination

Designation of the footprint of the warehouse and undeveloped space on site to the north as an Area of Contamination (AOC) for on-site management of chromium-impacted hazardous waste was approved in the DNR's April 12, 2018 *Response to Remedial Action Options Report*. This area is further defined to include the entire footprint of the warehouse and proposed soil blending zone Area C as shown on

Figure 16, *Proposed Soil Blending Zones*, by EnviroForensics dated 2/22/19 of the Amendment.

### **Wis. Admin. Code § NR 718.12 Exemption**

This letter grants an exemption from the solid waste requirements in Wis. Stat. ch. 289 and Wis. Admin. Code chs. NR 500 to NR 538 for the proposed contaminated material management activities. Specifically, this exemption addresses contaminated soil blended with ZVI in-situ and Portland cement in Areas A, B and/or C shown on Figure 16, *Proposed Soil Blending Zones*, by EnviroForensics dated 2/22/19 of the Amendment that becomes excess material due to the addition of amendments. This exemption is specific to excess soil from these soil blending areas that is not hazardous waste and will be disposed on-site within the basement. Approval of the exemption is based on the following:

#### Compliance with Locational Criteria

Managing contaminated waste material in the basement of the site (footprint identified as "Proposed Injection Area B" on Figure 15, *Groundwater Chromium Isocontours with Proposed Injection Areas*, by EnviroForensics, dated 3/20/19 of the Amendment) will meet the locational criteria listed under Wis. Admin. Code § NR 718.12 (1) (c).

#### Characterization of Soil to be Excavated

Soil samples were collected for analysis of contaminants previously detected or expected to be present at this site including total and hexavalent chromium and VOCs where applicable, from areas most likely to contain residual contamination. Based on maximum volume of 325 cubic yards of material, and a sampling frequency of 1 sample per 100 cubic yards, the sampling protocol described in Wis. Admin. Code § NR 718.12 (1) (e) was met.

#### Submittal of a Soil Management Plan

A complete soil management plan, as defined by Wis. Admin. Code §§ NR 718.12 (2) (b) and (c), was provided to the DNR.

#### Assessment of Risk Posed by Soil Management

The proposed management of solid waste at the Appleton Wire (Former) is expected to meet the criteria of Wis. Admin. Code §§ NR 726.13 (1) (b) 1 to 5.

#### Notice Provided Prior to Commencing Soil Management Activities

Per Wis. Admin. Code § NR 718.12 (2), the DNR was provided with at least seven days' notice prior to commencing the proposed material management.

#### Other Information

- 1) Any hazardous substance discharge discovered during material management activities must be reported to the DNR following the requirements of Wis. Admin. Code ch. NR 706.
- 2) Material management activities exempted by this letter are scheduled to be completed by October 2019. Notify the DNR if this schedule will change.
- 3) Unless otherwise directed by the DNR, documentation of material management activities shall be provided within 60 days of the completion of this project. The documentation must describe how the activities complied with the approved management plan and must also comply with the requirements of Wis. Admin. Code § NR 724.15 (3). Documentation must include:

- a. A cover letter that contains the information required by Wis. Admin. Code § NR 724.05 (2) (e) 1.
- b. Owner contact and property location information for the Appleton Wire (Former) site.
- c. Maps, drawings, and cross sections that depict how contaminated material was managed.
- d. A synopsis of the work conducted and an explanation as to how it complied with the material management plan and the conditions in this exemption approval.
- e. A description of any changes made to the planned management activity and an explanation as to why they were necessary for the project.
- f. Any field observations or results of monitoring conducted during the management activity.
- g. A description of how new site conditions are protective of human health, safety, welfare and the environment at the Appleton Wire (Former) site.

The DNR will request that incomplete documentation be amended as allowed by Wis. Admin. Code § NR 724.07 (2).

- 4) This exemption is granted under Wis. Admin. Code § NR 718.12 and applies only to the specific activities described within the submitted RAP and Amendment. Any contaminated material that is excavated or otherwise disturbed at the Appleton Wire (Former) site, not covered under this or another exemption, must be managed in compliance with the requirements of Wis. Admin. Code chs. NR 500 through NR 538. The management of contaminated material on a property that does not comply with these rules may be considered a hazardous substance discharge or environmental pollution and would be required to be addressed by the process outlined in Wis. Admin. Code chs. NR 700 to NR 750.
- 5) Albany is responsible for obtaining any local, federal, or other applicable state permits to carry out the project.

### **Continuing Obligations and Closure Strategy**

A discussion of continuing obligations and closure strategy was included in the DNR's April 12, 2018 *Response to Remedial Action Options Report*. The items listed in that letter remain applicable.

### **Documentation**

Construction documentation in accordance with Wis. Admin. code § NR 724.15 must be submitted within 60 days of construction completion or when the construction is "determined to be essentially complete". DNR considers replacement of the interior concrete floor, replacement of the exterior asphalt and installation of the replacement monitoring wells as the construction being essentially complete. Therefore, the construction documentation must be submitted **within 60 days of these activities**. If a detailed review and written response is requested, a review fee in accordance with Wis. Admin. Code ch. NR 749 should be submitted with the report. Since the construction activities are projected to be completed by October 2019, the Construction Documentation Report is anticipated to be submitted by December 2019.

All remediation sites are included in DNR's Bureau of Remediation and Redevelopment Tracking System (BRRTS) database. All documents and project milestones related to this site are listed in the database entry identified by BRRTS activity # 02-45-000015.

Thank you for the opportunity to review the RAP and Amendment and for your work at this site. Please contact me with any questions in Oshkosh by phone at 920-424-7887 or by email at [jennifer.borski@wisconsin.gov](mailto:jennifer.borski@wisconsin.gov).

Sincerely,



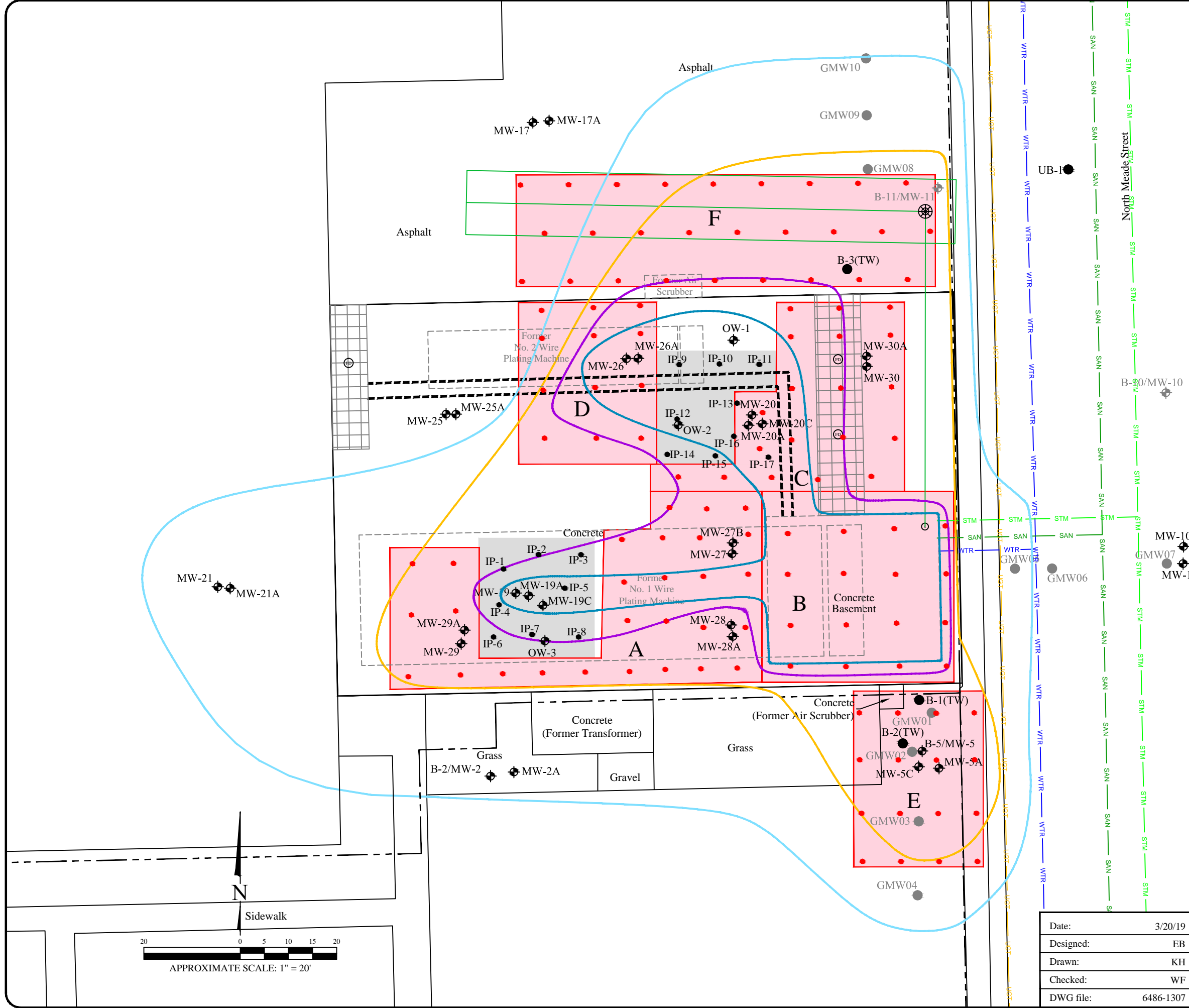
Jennifer Borski  
Hydrogeologist  
Remediation & Redevelopment Program

Attachments:

- Figure 15, *Groundwater Chromium Isocontours with Proposed Injection Areas*, by EnviroForensics, dated 3/20/19
- Figure 16, *Proposed Soil Blending Zones*, by EnviroForensics, dated 2/22/19

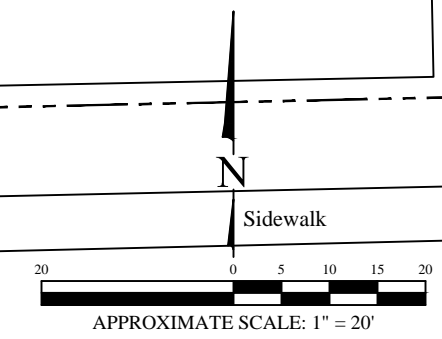
Copy:

- JP Hammerton, Albany, [jphammerton@albint.com](mailto:jphammerton@albint.com)
- Joseph M. Gaug, Albany, [joseph.gaug@albint.com](mailto:joseph.gaug@albint.com)
- Wayne Fassbender, EnviroForensics, [wfassbender@enviroforensics.com](mailto:wfassbender@enviroforensics.com)
- Sam Edwards, Luvata Appleton, LLC [sam.Edwards@luvata.com](mailto:sam.Edwards@luvata.com)
- Rob Biersteker, Luvata Appleton, LLC, [rob.biersteker@luvata.com](mailto:rob.biersteker@luvata.com)
- Mike Boozer, ChemReport, [mboozer@chemreport.com](mailto:mboozer@chemreport.com)
- Angie Carey, DNR, [angela.carey@wisconsin.gov](mailto:angela.carey@wisconsin.gov)
- Paul Grittner, DNR, [paul.grittner@wisconsin.gov](mailto:paul.grittner@wisconsin.gov)



**Legend**

- Property boundary
- GAS Underground gas utility line
- WTR Underground water utility line
- SAN Underground sanitary utility line
- UGT Fiber optics line
- STM Underground storm utility line
- Pipe chase
- French drain and associated piping
- Sump
- Former Sump
- Floor drain
- MW-4 Monitoring well
- B-1 Soil boring
- GMW01 Abandoned Temp well
- MW-10 Monitoring well abandoned (MW-10 in 1998) and (MW-11 in 1991)
- Dairy tile floor
- OW-1 Observation well
- Pilot test area
- IP-1 Pilot test injection point location
- Area exceeding PAL for Total chromium >10 µg/L
- Area exceeding ES for Total chromium >100 µg/L
- Total chromium concentrations >5,000 µg/L
- Total chromium concentrations >25,000 µg/L
- Proposed injection areas A-E
- Proposed injection point location

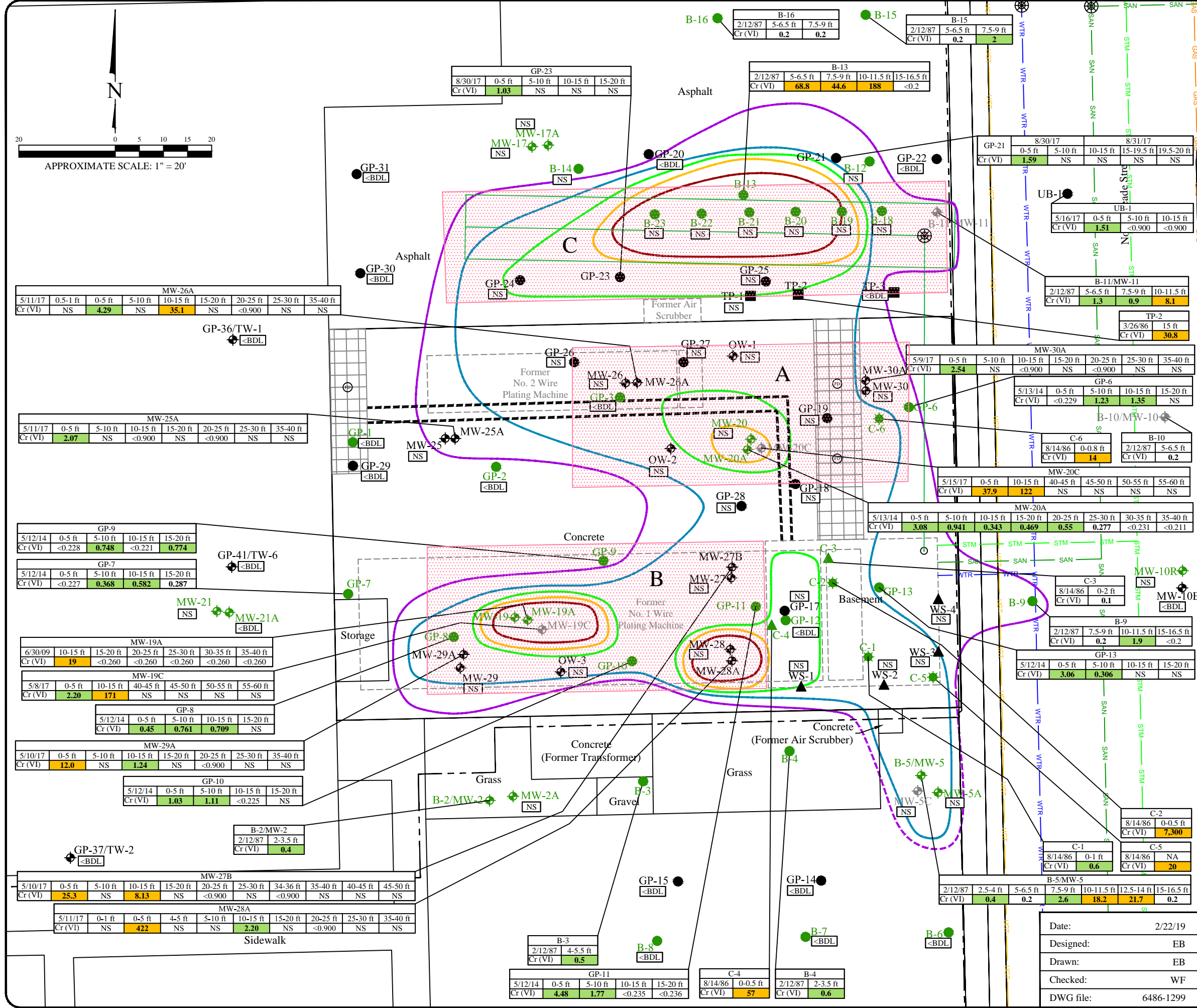
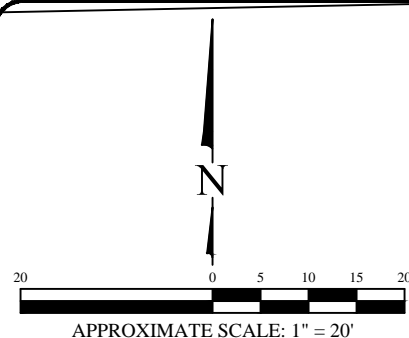


**GROUNDWATER CHROMIUM ISOCONTOURS WITH PROPOSED INJECTION AREAS**  
 Former Appleton Wire Division of Albany International Corporation  
 908 North Lawe Street  
 Appleton, Wisconsin

Date:	3/20/19
Designed:	EB
Drawn:	KH
Checked:	WF
DWG file:	6486-1307

825 North Capitol Avenue • Indianapolis, IN 46204  
 EnviroForensics.com

Figure	15
Project	6486



### Legend

- Property boundary
- GAS
- WTR
- SAN
- UGT
- STM
- Pipe chase
- French drain and associated piping
- Sump
- Former Sump
- Floor drain
- B-1
- GP-1
- C-1
- C-3
- MW-1
- MW-18
- MW-19
- MW-10
- MW-4
- B-1
- Dairy tile floor

Analyte	Soil to Groundwater Residual Contaminant Level	Non-Industrial Residual Contaminant Level	Industrial Residual Contaminant Level
Cr (VI)	<b>3.84*</b>	<b>0.301</b>	<b>6.36</b>

- Note:
1. Bold shaded blue values exceed WDNR Soil to Groundwater Residual Contaminant Level
  2. Bold shaded green values exceed WDNR Non-Industrial Residual Contaminant Level
  3. Bold shaded orange values exceed WDNR Industrial Residual Contaminant Level
  4. Bold values exceed laboratory detection levels
  5. Cr and Cr (VI) standards and analytical results are reported in milligram per kilogram (mg/kg)
  6. Cr (VI) = Hexavalent Chromium
  7. Cr = Chromium
  8. NA = Not analyzed
  9. NS = Not sampled
  10. <BDL = Below laboratory detection limits
  11. \* = Calculated using EPA Risk-Based Screening Level Calculator
  12. Lab LOD = Laboratory limit of detecting

- Chromium VI concentrations 1 mg/kg
- Chromium VI concentrations 5 mg/kg
- Chromium VI concentrations 50 mg/kg
- Chromium VI concentrations 100 mg/kg
- Chromium VI concentrations 150 mg/kg
- Dashed boundaries are inferred
- Proposed soil blending zones A, B, and C

**PROPOSED SOIL BLENDING ZONES**

Albany International - Luvata Site  
908 North Lawe Street  
Appleton, Wisconsin

Date:	2/22/19
Designed:	EB
Drawn:	EB
Checked:	WF
DWG file:	6486-1299

825 North Capitol Avenue • Indianapolis, IN 46204  
EnviroForensics.com

Figure	16
Project	6486