

May 5, 2014

Ms. Jennifer Borski, Hydrogeologist
Remediation and Redevelopment (RR) Program
Wisconsin Department of Natural Resources
625 E County Road Y, Suite 700
Oshkosh WI 54901

Subject: Site Investigation Work Plan Appleton Wire Former Albany International Chrome Plant
908 North Lawe Street
Appleton, Wisconsin
WDNR ERP# 02-45-000015

Dear Ms. Borski:

On behalf of Albany International, Badger Laboratories and Engineering, Inc. (BL&E) proposes to conduct the following site investigation elements as required in your review comments contained in your March 12, 2014 email.

1. Site Background

In 2009 Albany International met with WDNR to discuss the status of site delineation and site remediation progress. Subsequent to that meeting, groundwater monitoring wells MW-19 and MW-19A were constructed in the warehouse portion of the Luvata facility, some 80-feet west of the basement. MW-19 was constructed to a depth of 20 feet below the facility floor. MW-19A was installed to a depth of approximately 40 feet below the facility floor.

After several rounds of sampling of these devices, it is apparent that hexavalent chromium contamination of the groundwater in these wells is significant and that the plume of this contamination is farther west under the floor of the warehouse building than was originally believed.

To further delineate the extent and severity of the hexavalent chromium contamination of the groundwater, and to evaluate subsurface soil conditions beneath the warehouse we are proposing to conduct an extensive additional subsurface investigation, within and beyond, the warehouse walls. Subsurface soil information gathered during this effort will be used to evaluate the need for, and provide soil type distribution data to support, the design of a potential expansion of the groundwater collection system serving the present groundwater treatment system.

As part of this expansion of the site investigation process, Albany International staff has also recently completed a comprehensive research effort to find and review any historic documentation of the building's construction. This research did not yield any documents showing the building's construction or details of its sewers, sumps, walls or foundations.

2. Proposed Action

This additional investigation will consist of the construction of numerous soil borings (some equipped with temporary groundwater monitoring wells) and additional NR-141 compliant groundwater monitoring wells, within the warehouse building. Two groundwater monitoring wells will also be constructed in Luvata of Appleton LLC's manufacturing facility, which is located beyond the perimeter of the warehouse building walls. The proposed approximate locations of these devices are shown on Figure #1 of this report. The wells shown in the Luvata of Appleton LLC's manufacturing facility are located about 20-feet west of the warehouse building. Available well locations in the manufacturing area are limited due to Luvata's equipment and process space requirements.

The new monitoring wells will be similar to the existing MW-19 and MW-19A in that one of the wells will be a shallow well (approximately 20-feet deep), while the other will be much deeper (an estimated 40-feet deep). The wells will be constructed in close proximity to each other to form a well nest. The wells will be constructed with 10-foot long screens.

Soil borings #11 and #12 (shown on Figure #1) will be installed on either side of the basement's west wall, to determine whether there are any significant differences in soil type or soil contamination from one side vs the other. A second boring beneath the level of the basement floor elevation, (shown as boring #13 on Figure #1) will also be constructed to compare soil conditions on the east side of the basement floor area with those found in borings #11 and #12

The remaining soil borings are arranged across the warehouse in an attempt to gather additional data about the potential variability of soil types, depths, and impacts from hexavalent chromium use in the building.

Following construction and development of the monitoring wells, the groundwater will be sampled for total and hexavalent chromium.

2. Soil Boring, Well Installation, Development, and Sampling

Soil Sampling

A 2-inch diameter push sampler will be used to obtain soil samples to an approximate depth of 20-feet below the level of the warehouse floor at all proposed boring locations. This represents a depth of approximately 8-feet below the level of the basement floor surface. Soil sampling will also be conducted in advance of the drilling of the monitoring wells, and will be completed to the total depth of the bottom of the well boreholes.

Soil samples will be submitted for total chromium analysis by Method SM3111B and hexavalent chromium analysis by Method SM3500Cr to define the impacts to soil.

Groundwater Sampling

Following the completion of the soil sampling, monitoring well boreholes will be re-drilled to the same depth as the soil boring for monitoring well construction. A 2-inch diameter, 10-foot long, PVC, well screen and an appropriate length of riser pipe will be installed. The 0.010" slot well screen will be placed to intersect the apparent water table. The deeper wells will also be equipped with a 10' screen extending up from the bottom of the boring. The wells be terminated at floor level and be protected with a locking cover beneath a traffic rated, flush mount, access top. Details of well construction will be reported on Monitoring Well Construction Form (Form 4400-113A).

Drill cuttings and sample cores from the push sampler will be stored on site until characterized for disposal. Soil types will be noted on Soil Boring Logs (Form 4400-122).

Following construction, the monitoring wells will be left undisturbed for approximately 7 days following installation. Following this period, they will be developed using development/purging/sampling methods outlined in the WDNR "[Groundwater Sampling Desk Reference](#)" (Publ: DG-037-96). Pre and post development water levels will be taken with a Solinst electronic water level meter. Well development activities will be recorded on a Monitoring Well Development Form (Form 4400-113B). Well development and purge water will be stored on site.

Temporary, 1-inch diameter, monitoring wells may be installed in some of the soil borings. The borings equipped with the temporary wells will be chosen based on soil conditions observed in the push samples. Those borings which are found to vary in soil types, have variations in the depth at which soil types are found or those in which the apparent depth to saturation is different when compared to the others, will be provided with temporary well screens. The goal is to determine whether those variations result in groundwater samples contaminated with chromium. The borings in and near the basement walls (borings #11, 12, &13) will be provided with temporary screens.

At least 2 of the soil borings on the north side of the warehouse building will also be constructed with temporary wells. These wells will be sampled as soon as they have collected sample able quantities of water, since they will be located in areas where they will be obstacles to use of the warehouse by its owner.

Groundwater samples will be collected and submitted for laboratory analysis for total and hexavalent chromium by Methods SM3111B and Method SM3500Cr, respectively. Appropriate trip blank and temperature blank samples will be submitted to the laboratory. Trip blank samples will be analyzed for total and hexavalent chromium. Samples will be tracked on WDNR compliant chain-of-custody forms.

3. Results Reporting

Soil and groundwater sample analysis reports will be provided along with a summary table of data. BL&E will evaluate the laboratory analysis and review the field and laboratory data. Well and soil sampling construction documentation forms, and groundwater elevation contour maps will be developed.

4. Project Scheduling

Soil sampling and well installation is scheduled to begin May 12 and continue until May 14, 2014.

Soil sampling and well installation is estimated to require 3 days. Well development and sampling will occur the following week (week of May 18, 2014). Samples will be submitted for laboratory analysis on a normal turn around (2-3 week) basis. Thus reporting of the soil sample analysis and is estimated to be during the first week of June, with groundwater sample analysis estimated to be completed in second week of June.

As presently scheduled, work inside the building will begin at approximately 8:00 AM on Monday, May 12, 2014

If you have questions, concerns or comments regarding this Work Plan submittal, please do not hesitate to contact our office at (920) 729-1100 or (800) 776-7196.

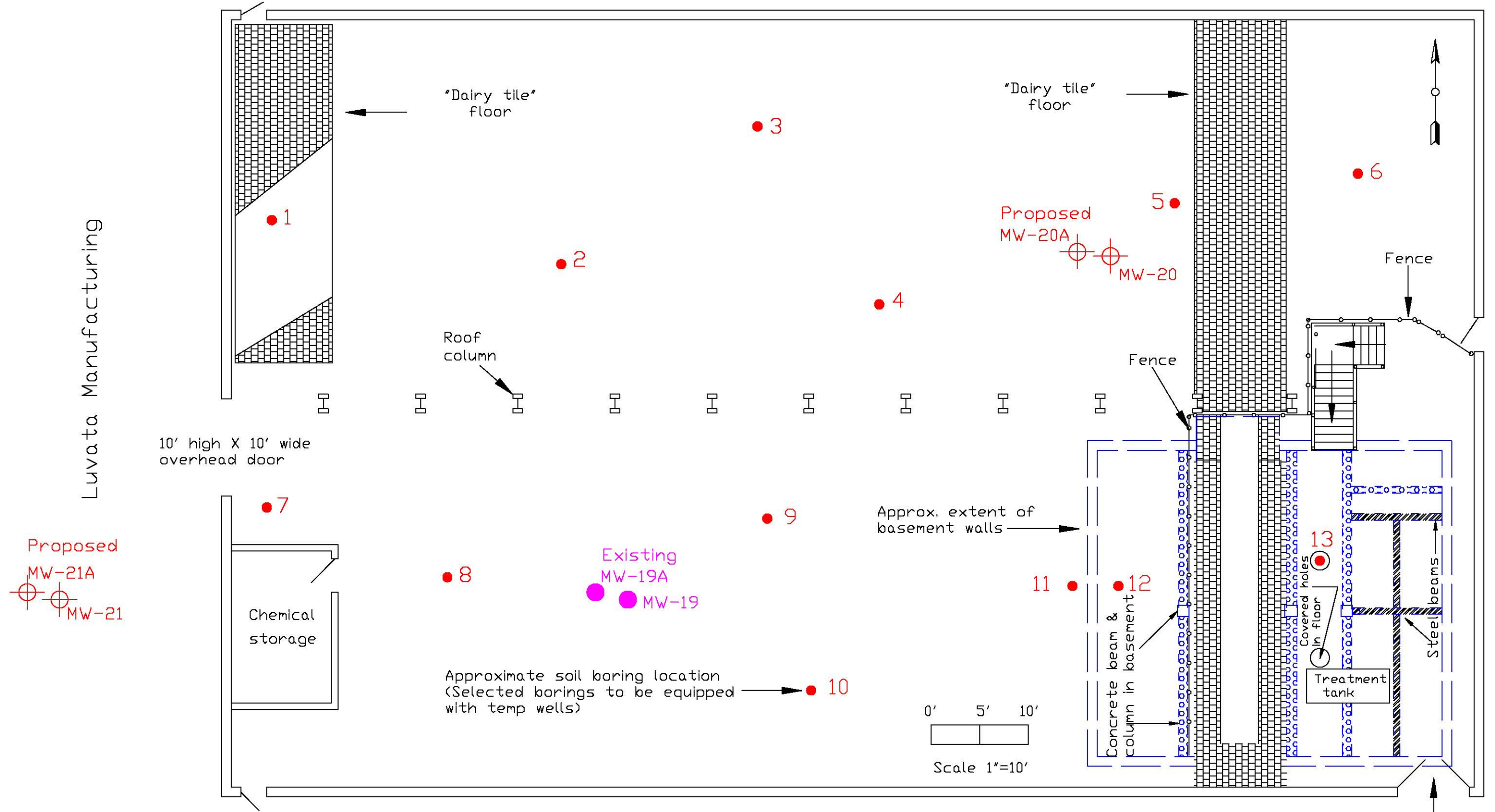
Sincerely,
Badger Laboratories & Engineering, Inc.

David J. Casper

David J. Casper
Project Manager

Cc: Mr. Ron Buck, Albany International
File

Luvata Manufacturing



Proposed locations of soil borings/temp wells & groundwater monitoring wells
Drawn by Badger Laboratories & Engineering Co. Inc. 4/18/2014