Dear Mr. Bartman:

The Site-Specific Sampling and Analysis Plan (SSSAP) for the above referenced site is enclosed. Please contact us if you have any questions.

Sincerely,

STANTEC CONSULTING SERVICES INC.

David B. Holmes, PG
Senior Project Manager

Debora Sielski, Washington County
1.0 INTRODUCTION

1.1 GENERAL

This Site-Specific Sampling and Analysis Plan (SSSAP) has been prepared on behalf of Washington County (hereinafter referred to as the “County”) by Stantec Consulting Services Inc. (Stantec) for field sampling and associated laboratory analyses to be performed as part of a Phase II Environmental Site Assessment (ESA) of two parcels owned by E.H. Wolf & Sons (or affiliated entities) in the Village of Slinger, Wisconsin (the Property; the Site). The project is being performed using funds from an assessment grant for hazardous substance and petroleum brownfields awarded to the County by the United States Environmental Protection Agency (U.S. EPA) in 2014. The U.S. EPA approved the hazardous substance brownfield eligibility determination during April 2016. The purpose of the Phase II ESA is to evaluate current soil and groundwater conditions. The additional sampling data will be used to help in planning for a facility expansion that will include these as well as several adjacent parcels.

1.2 SITE DESCRIPTION/BACKGROUND

The Property consists of portions of two parcels near downtown Slinger. Parcel information obtained from the Washington County Geographic Information System (GIS) is summarized below (WCGIS, 2016):

<table>
<thead>
<tr>
<th>Designation</th>
<th>Address</th>
<th>Tax Key #</th>
<th>Owner</th>
<th>Size</th>
<th>Zoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>“East Parcel” (aka CSM 5422 Parcels)</td>
<td>None</td>
<td>V5_028400D</td>
<td>E H Wolf</td>
<td>1.5 acre parcel</td>
<td>Commercial</td>
</tr>
<tr>
<td>“West Parcel” (aka former Foundry Parking Lot)</td>
<td>Hilldale Road</td>
<td>V5_0165001</td>
<td>Hilldale Real Estate LLC</td>
<td>0.55 acres</td>
<td>Commercial</td>
</tr>
</tbody>
</table>

The Property is defined as the entire West Parcel and a 0.3-acre portion of the East Parcel, as shown on Figure 2. The West Parcel is a vacant gravel covered or lightly vegetated lot adjacent to the north side of Hartford Road. No structures are present on the West Parcel. The East Parcel contains three interconnected storage sheds totaling approximately 5,200 square feet. The remainder of the East Parcel is covered by paved access drives or grassy areas. Surrounding properties are a mix of commercial, industrial, and residential properties. A topographic map showing the general Site location is presented on Figure 1. A detailed map illustrating the main features of the Property is provided on Figure 2.

The East Parcel has a long history of industrial use. From at least 1913 to 1933 a bulk petroleum storage and distribution facility, containing five aboveground storage tanks (ASTs), was present on the East Parcel of the Property. The buildings on the East Parcel are now used by E.H. Wolf & Sons Inc. to store various containers of new petroleum products and associated automotive fluids for resale.

Since at least the 1950s, the West Parcel has been vacant or used as a vehicle or equipment parking lot. Apparent fill material was observed on the northern boundary of the West Parcel of the Property. The fill appeared to be a mixture of soil, crushed concrete, and gravel, with scattered coal and possible foundry waste. The source of the fill is unknown.

The owners are interested in redeveloping the Property and adjoining parcels. Construction of a stormwater pond has been proposed on the West Parcel. Removal of the three buildings and greenspace, improved access and/or parking is planned for the East Parcel.
1.3 ENVIRONMENTAL CONCERNS

Stantec completed a Phase I ESA at the Property on May 4, 2016 (Stantec, 2016a) that identified the following recognized environmental conditions (RECs):

- The historic transfer and storage of petroleum products occurring at a bulk petroleum storage and distribution facility containing five ASTs present on the East Parcel of the Property from at least 1913 to 1933;
- Fill containing a mixture of soil, crushed concrete, and gravel, with scattered coal and possible foundry residuals from an unknown source, and present on the East Parcel; and
- The use of the adjoining property as a railway and the historic presence of gasoline storage tanks in immediately adjacent portions of the railroad right-of-way.

To determine if legacy environmental impacts remain at the Site, Stantec is recommending that a Phase II ESA be completed. Common contaminants related with these RECs include volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), and Resource Conservation and Recovery Act (RCRA) metals (in particular, arsenic and lead). In addition, based on the Property building’s construction time period, it is likely asbestos containing materials (ACMs), lead-based paints (LBPs), and/or other hazardous substances were used in construction and/or maintenance of the Property buildings.
2.0 DATA QUALITY OBJECTIVES

2.1 PROBLEM STATEMENT

Based on the Property building’s construction time period, it is likely ACM and/or LBP, were used in construction and/or maintenance of the buildings. Therefore, prior to proposed razing of the Property buildings, a pre-demolition survey is needed to identify the type and quantity of potentially hazardous materials to evaluate and plan for abatement activities in conjunction with building demolition.

Environmental concerns associated with the Property have been identified. The Phase II ESA’s purpose is to evaluate if current or historic use of the Property or adjacent land resulted in soil or groundwater contamination at the Property. The primary purpose of the assessment is to determine if the bulk petroleum storage and distribution facility that formerly operated on the East Parcel of the Property caused a petroleum release to soil and/or groundwater and to evaluate type, extent, and composition of fill material present on the West Parcel of the Property and determine if the fill contains contaminants. The results of the additional sampling conducted by Stantec will be supplied to the owner to determine redevelopment options with respect to potential contaminated materials management.

2.2 ASSESSMENT REQUIREMENTS

Following are key observations by Stantec, relevant to developing a scope for assessment activities:

- **Assessment of potential hazardous building materials** – No testing of building materials for the presence of ACMs or LBP has been conducted at the Property. Therefore, a full survey of Property buildings for ACMs and LBP is required and proposed as part of the Phase II ESA.

- **General constituents of concern** – The primary constituents of concern are potential VOCs related to historic presence of a bulk petroleum storage and distribution facility and PAHs and RCRA metals associated with fill likely to contain foundry waste. These constituents of concern will, therefore, be the focus for assessment activities.

- **Assessment of potential historic release areas** – Based on historic Property and adjacent land use, Stantec proposes to investigate the following areas:
  - Former bulk petroleum storage and distribution facility on west half of East Parcel of the Property to evaluate potential petroleum releases to soil and/or groundwater in this area;
  - Fill material present on the West Parcel of the Property to evaluate extent and composition of fill material and determine if fill contains contaminants;
  - Former bulk petroleum storage immediately adjacent to eastern corner of West Parcel of the Property to evaluate potential petroleum releases to soil and/or groundwater in this area; and
  - Current petroleum storage inside buildings on the East Parcel.

Additional discussion of soil sample locations and analysis is provided in Section 3.0.
3.0 HAZARDOUS MATERIALS ASSESSMENT

3.1 GENERAL

Since near-term plans for the Property include demolition of the warehouse buildings on the East Parcel, an assessment of hazardous building materials, including ACMs and LBP, will be completed at the Site. ACM and LBP sampling will be completed by NorthStar Environmental Testing, LLC (NorthStar) under subcontract to Stantec.

3.2 OBJECTIVES

The Hazardous Materials Assessment described in this sampling and analysis plan is designed to characterize the types, quantities, and location of ACMs and LBP associated with the Property buildings. Each Property building will be surveyed for the purpose of identifying abatement and mitigation requirements for demolition. The proposed survey will also assist in developing a plan to abate and/or properly dispose of these materials, if present, prior to demolition activities.

3.3 ACM SAMPLING SCOPE AND METHODOLOGY

The ACM assessment will include the following activities:

- Completion of a Site visit for a building survey to detect the presence of ACMs throughout the Property building;
- Bulk sampling of representative suspect interior and exterior building materials. Samples of roofing materials will also be collected, with holes cut as necessary to access all layers of materials forming the roof. All sampling will be performed by a licensed asbestos inspector accredited by the State of Wisconsin. As the buildings are still being used for storage, temporary repairs will be made to the roof to prevent leakage until demolition proceeds sometime later this year;
- Sample analysis by a laboratory accredited under the National Voluntary Laboratory Accreditation Program (NVLAP);
- Preparation of a final report approximately 10 days following the completion of the Site visit that will include an inventory of ACM types and estimated quantities; and
- Inclusion of a building diagram that will be used to associate sampling locations with individual rooms.

Bulk samples of suspect ACMs will be collected following Stantec SOP-06 submitted under chain-of-custody to an NVLAP accredited laboratory for analysis by polarized light microscopy (PLM) to evaluate whether asbestos fibers are present. The bulk samples will be analyzed using the U.S. EPA Method for the Determination of Asbestos in Bulk Building Materials, Method 600/R-93/116. This method states that all multiple, distinct layers identified by the laboratory must be analyzed individually. Therefore, sample analytical results will be provided for each distinct layer of each sample submitted.

In addition to evaluating a bulk sample for layers, regulatory procedures require that a confirmatory “Point Counting” test be performed on all samples resulting in an initial positive PLM result of <1% asbestos content. This more precise (and expensive) test is required to prove that a low subjective percentage reading is actually quantified as being correct.

3.4 ASBESTOS ANALYSIS LABORATORY DOCUMENTATION

Analysis of samples for asbestos will be performed by CEI Labs, Inc. of Cary, North Carolina (NVLAP Lab Code: 101768-0). Documentation related to CEI Labs, Inc. was incorporated into Revision 1 of the Quality Assurance Project Plan (QAPP), submitted to U.S. EPA on February 29,
2016. Revision 0 of the QAPP was conditionally approved by U.S. EPA on November 20, 2015. Copies of the Quality Assurance Manual for CEI Labs, Inc., their SOPs for asbestos analyses, and the current laboratory certification are also presented in Appendix B.

3.5 LBP SAMPLING SCOPE AND METHODOLOGY

The scope of work for testing of LBP surfaces will include the following:

- Testing for the presence of LBP for demolition disposal/recycling issues using X-ray fluorescence (XRF) technology;
- Representative testing locations will be chosen for each type of painted substrate throughout the structures. Testing will be limited to cementitious materials (concrete, concrete block, brick, etc.);
- A final report will be prepared that includes testing data listed in a room by room format;
- Testing will be performed by a State of Wisconsin accredited lead risk assessor; and
- Lead paint testing will be completed concurrent with asbestos testing (same Site visit).

Suspect LBP chips will be collected following Stantec SOP-12. Representative testing locations will be chosen for each type of painted substrate within each area of the buildings.

3.6 ASSESSMENT LIMITATIONS

Limitations to performing the survey may include: confined spaces or areas possessing high voltage equipment not able to be properly de-energized with effective lock-out/tag-out procedures; structurally unsafe areas; isolated or inaccessible building areas; and mechanical spaces or equipment that would require extensive demolition or dismantling to provide adequate access for material identification or sampling.

Additional presumed-ACM that may be located in spaces not accessible during the survey, hidden from view, or not sampled at the client’s request, may require additional sampling prior to disturbance by future renovation or demolition activity. Materials or areas with limited accessibility such as underground piping, boiler interiors, vessel and tank lining, chimney/flue/stack interiors, false ceiling/wall cavities, gasket material, subsurface building adhesives and caulk, fire door interiors, electrical components/wiring/equipment and similarly inaccessible items may require assumption of asbestos content for inclusion in the survey.

Quantification of asbestos materials will be estimated and inventoried with a room-by-room format. The estimates will be based on visible conditions and may require verification by building owner or abatement/renovation contractor prior to use for renovation design, bidding and/or regulatory compliance notification purposes.
4.0 SOIL ASSESSMENT

4.1 GENERAL

Proposed soil sampling locations and analyses are based on the environmental concerns and assessment requirements detailed in Sections 1.3 and 2.2, respectively. Diggers Hotline will be contacted to locate and mark the locations of registered utilities in the project area. A private locating contractor may be retained to locate on-site and/or private underground utilities. Any investigative waste (i.e. soil cuttings and fluids) will be placed into labeled containers. Appropriate disposal of the waste will be determined based on the results of laboratory analyses.

The locations for each soil boring will be documented using global positioning satellite (GPS) survey equipment. A Site-Specific Health and Safety Plan (HASP), to be utilized by Stantec personnel during the assessment activities, is presented in Appendix A.

4.2 OBJECTIVES

The Phase II ESA’s purpose is to evaluate if current or historic use of the Property or adjacent land resulted in soil or groundwater contamination at the Property. This assessment will determine if the bulk petroleum storage and distribution facility that formerly operated on the East Parcel of the Property resulted in a petroleum release to soil and evaluate type, extent, and composition of fill material present on the West Parcel of the Property and determine if fill contains contaminants.

Soil boreholes will be advanced to evaluate potential contamination associated with the historic Property use. Test pits will be completed to determine extent and composition of fill material on the West Parcel. Completion of test pits will allow closer visual inspection and detailed description of any fill material encountered. Soil sampling results will also be used to evaluate options for on-site movement and placement and/or off-site disposal of contaminated soils, if present.

Standard operating procedures for tasks associated with this work plan are presented in the QAPP prepared by Stantec on July 10, 2015 (Stantec, 2015), including subsequent revisions (Revision 1) as submitted to U.S. EPA on February 29, 2016 (Stantec, 2016b).

4.3 SOIL BORING AND SUBSURFACE ASSESSMENT

The soil assessment will include eleven soil boreholes advanced using direct-push soil sampling equipment. Proposed borehole locations and depths were chosen after considering specific environmental concerns within each area. Soil samples will be collected continuously in each borehole extending to a maximum depth of approximately 4 feet below the observed water table. We anticipate boreholes to extend 12 feet or less below ground surface (fbgs). The actual number and locations of borings may be adjusted based on accessibility, the locations of underground utilities, and on-site field screening data. Four test pits extending to native soil will also be completed on the West Parcel. Soil samples will also be collected at two-foot intervals from the test pits. After collecting soil samples, soil spoils from the test pits will be returned to the test pit and compacted using the backhoe bucket. The proposed borehole and test pit locations are illustrated on Figure 2. The soil sampling rational is provided below and in Table 1. The proposed laboratory analysis types and quantities are also included in Table 1.

4.3.1 Soil Sampling Methods

Soil sampling and field classification will be conducted according to SOP No. 02 (Stantec, 2015b). Sample collection and laboratory analytical methods for soil samples, as well as the rationale for selecting sample locations and criteria to be used for selection of specific depth
intervals for analysis, are presented in Table 1. In addition, pertinent observations noted during installation of the soil borings will be documented on the soil boring logs.

Each soil sample will be assigned a sample identification number (SIN) based on the following format:

<table>
<thead>
<tr>
<th>Sample Type</th>
<th>Label for Type of Sample</th>
<th>Location Number</th>
<th>Sample Interval (fbgs)</th>
<th>Sample Round</th>
<th>Sample Identification No. (SIN)</th>
<th>Location ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil boring</td>
<td>SB</td>
<td>1</td>
<td>(0-2)</td>
<td>---</td>
<td>SB1(0-2)</td>
<td>SB1</td>
</tr>
<tr>
<td>Trip blank</td>
<td>TB</td>
<td>---</td>
<td></td>
<td>Number</td>
<td>TB1</td>
<td>---</td>
</tr>
</tbody>
</table>

Soil samples will be field screened for the presence of VOCs using a photoionization detector (PID) as described in SOP No. 01 (Stantec, 2015). The PID will be calibrated daily in the field in accordance with the manufacturer’s specifications. Immediately following collection, soil samples will be placed in pre-preserved laboratory supplied containers and stored on ice in a cooler as detailed in the QAPP (Stantec, 2015). Any visual evidence of contamination will be noted on the field log. Soil samples will be submitted in accordance with SOP No. 02 (Stantec, 2015).

Soil sampling equipment such as drilling tools will be decontaminated prior to arrival on-site and between each sampling location (SOP No. 08, Stantec, 2015). Soil borings not completed as temporary groundwater monitoring wells will be sealed in accordance with Chapter NR 141.25 Wisconsin Administrative Code by backfilling with bentonite after completion of drilling and soil sampling.

Investigative wastes generated will be managed per SOP No. 10 (Stantec, 2015). In general, waste soil cuttings or core samples will be collected in Department of Transportation (DOT)-approved 55 gallon drums or other appropriate containers, sealed, labeled, and stored on-site pending the completion of laboratory analysis and determination of disposal restrictions, if any. As appropriate, waste soil will be handled, transported, and disposed of by a licensed waste hauler per federal and state requirements. The generator of the waste will be the Property owner at the time of the investigation.

4.3.2 Special Handling Considerations and QA/QC Samples

Soil samples collected from the unsaturated zone from each boring or test pit will be submitted for laboratory analyses as summarized on Table 1. All soil samples will be collected and preserved in accordance with SOP No. 02 and Table 4 of the QAPP (Stantec, 2015). The laboratory will supply the appropriate containers. Samples will be submitted to the laboratory as soon as possible after collection (i.e., on a daily basis).

Quality assurance/quality control (QA/QC) samples to be collected and analyzed will include trip blanks, equipment blanks (for any non-disposable equipment used), and field replicate/duplicate samples. Trip blanks prepared by the analytical laboratory will accompany the sample bottles from the time of shipment from the laboratory through the time the samples are returned for analysis. Trip blanks will be used to document any contamination detected in samples that may be attributable to shipping and field handling procedures, or contaminated sample containers. Trip blanks will be provided by the laboratory and will be subject to the same handling and transportation procedures as the investigative samples. At least one trip blank sample will accompany each shipping container that contains samples for PVOC or VOC analysis.

If non-disposable sampling equipment is used, equipment blanks will be prepared by: (a) filling the decontaminated sampling device with laboratory-supplied reagent-grade water; (b) transferring the water to appropriate sample containers; and (c) submitting the sample for
analysis. If contaminants are found in the equipment or trip blanks, the source for the contamination will be assessed and corrective action measures taken (such as modifying the sampling procedures and/or resampling as appropriate). The estimated number of equipment blank samples to be analyzed for each constituent is shown in Table 1. Please note that it is anticipated that only disposable sampling equipment will be used and that equipment blanks will, therefore, not be required.

4.3.3 Chain-Of-Custody

Chain-of-custody procedures will be utilized to track possession and handling of individual samples from the time of collection in the field through the time of delivery to the analytical laboratory. The chain-of-custody program will include use of sample labels, custody seals, field logbooks, chain-of-custody forms, and laboratory logbooks. All chain-of-custody procedures will be performed in accordance with SOP No. 07 (Stantec, 2015).

4.3.4 Field Logbook

An up-to-date field logbook will be maintained by each sampling team to document daily activities (if more than one group of individuals is sampling). The logbook will include a general list of tasks performed, additional data, or observations not listed on field data sheets, and document communications with on-site personnel or visitors as these apply to the project.
5.0 GROUNDWATER ASSESSMENT

5.1 GENERAL

Proposed groundwater monitoring well sampling locations and analyses are based on the environmental concerns and assessment requirements detailed in Sections 1.3 and 2.2, respectively. Five of the eleven soil boreholes documented in Section 3.0 will be converted into temporary groundwater monitoring wells that extend into shallow groundwater. Ground surface and top of riser pipe elevations will be measured to the nearest 0.01-foot using a previously surveyed reference point (if available) or a site datum.

5.2 OBJECTIVES

Stantec will conduct groundwater sampling activities to evaluate shallow groundwater quality at the Site. SOPs for tasks associated with this work plan are presented in the QAPP (Stantec, 2015, 2016b). The subsurface silty soil documented at the Site should allow sufficient groundwater to accumulate in the well so that the wells can be developed and representative groundwater samples be collected shortly after well construction.

Groundwater quality data will be compared to Chapter NR 140 WAC groundwater standards. In addition, VOCs, if detected, in groundwater will be used to evaluate the vapor intrusion pathway per WDNR Pub-RR800.

5.3 GROUNDWATER ASSESSMENT

The groundwater assessment will include the completion of five of the eleven soil borings described in Section 3 as one-inch diameter temporary groundwater monitoring wells. Three of the wells will be constructed on the East Parcel and two on the West Parcel. The depth for the new wells will depend on the actual depth at which groundwater is encountered beneath the Site. The wells will be constructed using 1-inch diameter PVC casing with 10-foot long 0.010-inch slotted-screens placed to intersect the water table surface. It is anticipated that well depths will be approximately 12 fbgs.

Water levels will be measured at all wells and used to document the general depth to groundwater, groundwater elevations, and groundwater flow direction at the Property. Each groundwater sample will be assigned a SIN based on the following format:

<table>
<thead>
<tr>
<th>Sample Type</th>
<th>Label for Type of Sample</th>
<th>Location Number</th>
<th>Sample Round</th>
<th>Sample Identification No. (SIN)</th>
<th>Location ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporary well</td>
<td>TW</td>
<td>1</td>
<td>01</td>
<td>TW1(01)</td>
<td>TW1</td>
</tr>
<tr>
<td>Field Duplicate</td>
<td>FD</td>
<td>---</td>
<td>---</td>
<td>FD1</td>
<td>---</td>
</tr>
<tr>
<td>Equipment Blank</td>
<td>TB</td>
<td>---</td>
<td>---</td>
<td>EB1</td>
<td>---</td>
</tr>
<tr>
<td>Trip blank</td>
<td>TB</td>
<td>---</td>
<td>---</td>
<td>TB2</td>
<td>---</td>
</tr>
</tbody>
</table>

Following installation and recovery, and prior to purging and collection of groundwater samples, the elevation of the groundwater table will be measured and the volume of water present within each well will be calculated using the procedures set forth in SOP No. 04 (Stantec, 2015). Decontamination procedures for any non-dedicated or non-disposable equipment used for collection of groundwater samples will also be performed using the procedures set forth in SOP No. 08 (Stantec, 2015).

Although not anticipated at the Site, the depth and thickness of floating (light) and/or sinking (dense) non-aqueous phase liquids, if present, will be measured using an interface probe. SOP
No. 04 details the procedures that will be used to detect immiscible layers. The interface probe will be decontaminated in accordance with SOP No. 08 (Stantec, 2015).

The well may be purged using any of the following methods: a peristaltic pump, a low-flow Micro-Purge Sampling System (or equivalent), a Voss disposable polyethylene bailer (or equivalent), or a Waterra hand pump (or equivalent), or similar equipment. Non-disposable purging equipment will be decontaminated in accordance with SOP No. 08 (Stantec, 2015).

All purged water will be collected in 55-gallon drums or other secure containers (SOP No. 10). Each drum or container will be sealed, labeled, and stored in an appropriate location pending receipt of laboratory analytical results for the groundwater samples, which will be used to determine what, if any, special measures are necessary for handling and proper disposal of the purge water.

After purging, groundwater samples will be collected from all temporary groundwater monitoring wells, and analyzed for VOCs and RCRA metals. Anticipated sample collection and laboratory analytical methods for groundwater samples are summarized in Table 2. Following groundwater sample collection, the groundwater monitoring wells will be decommissioned in accordance with SOP No. 02 (Stantec, 2015).

5.3.1 Special Handling Considerations and QA/QC Samples

Collection and preservation of groundwater samples for PVOC analysis will be performed in accordance with SOP No. 04 (Stantec, 2015). Headspace should not be present in the sample container, thus minimizing the volatilization of organics from the sample. The laboratory will supply the pre-preserved 40-ml glass vials with Teflon™-lined lids.

Trip blanks prepared by the analytical laboratory will accompany the sample bottles from the time of shipment from the laboratory through the time the samples are returned for analysis. Trip blanks will be used to document any contamination detected in samples that may be attributable to shipping and field handling procedures, or contaminated sample containers. Trip blanks will be provided by the laboratory and will be subject to the same handling and transportation procedures as the investigative samples. At least one trip blank sample will accompany each shipping container that contains samples for PVOC analysis.

If non-disposable sampling equipment is used, equipment blanks will be prepared by: (a) filling the decontaminated sampling device with laboratory-supplied reagent-grade water; (b) transferring the water to appropriate sample containers; and (c) submitting the sample for analysis. If contaminants are found in the equipment or trip blanks, the source for the contamination will be assessed and corrective action measures taken (such as modifying the sampling procedures and/or resampling as appropriate). The estimated number of equipment blank samples to be analyzed for each contaminant of concern is shown in Table 2.

Duplicate samples will be collected and analyzed to evaluate sample variability and overall data precision. For groundwater samples, the duplicate samples will be “field replicate samples” collected at the same time from the same well. To the extent practicable, multiple bottles associated with a set of duplicate samples will be filled in two or three stages such that each bottle receives a portion of the water from each section of the bailer, or each interval of sample pump operation. In recognition that data for duplicate samples are most meaningful when there are detectable concentrations present of constituents of concern, if there are existing groundwater data, or other data by which to anticipate wells with greater levels of contamination, duplicate samples will be preferentially collected from wells where detectable concentrations of constituents of concern are most likely to be present. Otherwise, duplicate samples will be collected from a randomly selected well or wells. Duplicate samples will be collected and analyzed for constituents at a rate of one sample for every 20 or fewer
investigative samples to be analyzed for each constituent. The estimated number of duplicate samples to be collected and analyzed for each constituent is shown in Table 2.

5.3.2 Chain-Of-Custody

Chain-of-custody procedures will be utilized to track possession and handling of individual samples from the time of collection in the field through the time of delivery to the analytical laboratory. The chain-of-custody program will include use of sample labels, custody seals, field logbooks, chain-of-custody forms, and laboratory logbooks. All chain-of-custody procedures will be performed in accordance with SOP No. 07 (Stantec, 2015).

5.3.3 Field Logbook

An up-to-date field logbook will be maintained by each sampling team to document daily activities (if more than one group of individuals is sampling). The logbook will include a general list of tasks performed, additional data or observations not listed on field data sheets, and document communications with on-site personnel or visitors as these apply to the project.
6.0 REPORTING

A report summarizing the results of the Phase II ESA will be completed. The Phase II ESA report will identify the physical subsurface conditions and determine if RECs identified in the Phase I ESA for the Property resulted in contaminant releases to soil. The Phase II ESA report will include:

- Laboratory analytical reports;
- Soil boring logs;
- Monitoring well construction forms;
- Field PID data;
- Groundwater elevation data;
- Tables summarizing analytical results for soil and groundwater samples, and comparing the results to applicable soil and groundwater standards;
- Maps of boring locations and utilities; and
- Potentiometric surface map of shallow groundwater.
7.0 LIMITATIONS

Stantec’s observations, findings, and opinions should not be considered as scientific certainties, but only as opinion based on our professional judgment concerning the significance of the data reviewed in developing this SSSAP. Specifically, Stantec cannot represent that the Site does not contain or potentially contain any hazardous or toxic materials or other latent conditions beyond that observed by Stantec during preparation of this SSSAP. Additionally, due to limitations of this investigation process and the necessary use of data furnished by others, Stantec and its subcontractors cannot assume liability if actual conditions differ from the information presented in this SSSAP.
8.0 REFERENCES


Stantec Consulting Services Inc., 2016b, letter from David Holmes (Stantec) to Jan Pels (U.S. EPA), (dated February 29, 2016).
TABLES
<table>
<thead>
<tr>
<th>Area of Concern</th>
<th>No. of Soil Borehole/Temporary Monitoring Wells</th>
<th>Estimated Soil Boring Depth</th>
<th>No. of Test Pits (depth)</th>
<th>Rationale</th>
<th>Laboratory Analysis Criteria</th>
<th>Estimated # of Samples Submitted for Laboratory Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Parcel</td>
<td>8</td>
<td>~4 feet below observed water table (up to 16 fbg's)</td>
<td>-</td>
<td>soil samples will evaluate potential petroleum releases to soil associated with historic Property and adjacent land use</td>
<td>Near-surface and select deeper soil samples strategically selected based on field screening observations.</td>
<td>PAHs (8270)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12</td>
<td>7 (near surface)</td>
</tr>
<tr>
<td>West Parcel</td>
<td>-</td>
<td>~4 feet</td>
<td>4 (8 feet)</td>
<td>soil samples will evaluate potential petroleum releases to soil associated with historic adjacent land use and potential contamination associated with fill material</td>
<td>Fill material containing suspected foundry residuals</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>~4 feet below observed water table (up to 16 fbg's)</td>
<td>-</td>
<td>soil samples will evaluate potential petroleum releases to soil associated with historic adjacent land use</td>
<td>Fill material containing suspected foundry residuals and select deeper soil samples strategically selected based on field screening observations.</td>
<td>6</td>
</tr>
</tbody>
</table>

**Estimated number of investigative samples to be analyzed**: 24 14 10 24

**Estimated number of QA/QC samples to be analyzed**: 4 2 2 5

**Estimated total number of samples to be analyzed**: 28 16 12 29

**Notes**: actual depths for various laboratory analysis may change based on field observations. fbg's = feet below ground surface. FD = Field Duplicate. MS/MSD = matrix spike/matrix spike duplicate. PAH = Polycyclic Aromatic Hydrocarbons. RCRA = Resource Conservation and Recovery Act. PID = photoionization detector. QA/QC = Quality Assurance Quality Control. VOC = Volatile Organic Compounds. (8260) = Laboratory analytical method (SW-846).
<table>
<thead>
<tr>
<th>Area</th>
<th>No. of Temporary Monitoring Wells</th>
<th>Estimated Well Depth (ft)</th>
<th>Rationale</th>
<th>RCRA Metals (6010)</th>
<th>VOCs (8260)</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Parcel</td>
<td>3</td>
<td>12</td>
<td>Evaluate groundwater conditions on East Parcel</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>West Parcel</td>
<td>2</td>
<td>12</td>
<td>Evaluate groundwater conditions on West Parcel</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Estimated total number of investigative samples to be analyzed for each constituent 5  5

Estimated total number of QAQC samples to be analyzed for each constituent -  1

Estimated total number of samples to be analyzed for each constituent -  2

Notes:
FD = Field Duplicate
QAQC = Quality Assurance Quality Control
VOCs = Volatile Organic Compounds
(8260) = Laboratory analytical method (SW-846)
FIGURES
APPENDIX A – SITE-SPECIFIC HEALTH AND SAFETY PLAN
Site-Specific Health and Safety Plan

E.H. Wolf & Sons, Inc. Properties
Hartford Road
Slinger, Wisconsin

U.S. EPA Brownfield Cooperative Agreement No.: BF-00E01347-0

May 11, 2016
Project Number 193703514
SITE- SPECIFIC HEALTH AND SAFETY PLAN
E.H. Wolf & Sons, Inc. Properties
Main Street
Slinger, Wisconsin

May 11, 2016

Prepared For:
Mr. Fred Bartman, Project Officer
U. S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, IL 60604-3507

Prepared By:
Stantec Consulting Services Inc.
12075 Corporate Parkway, Suite 200
Mequon WI 53092-2649

The information presented in this Site-Specific Health and Safety Plan is intended solely to denote the health and safety measures/guidelines applicable to Stantec personnel engaged in field activities at the above-referenced Site. Stantec makes no warranties regarding the accuracy of the Site-Specific Health and Safety Plan, and nothing contained herein shall be construed as providing recommendations or direction, either expressed or implied, regarding health and safety measures to be taken by anyone other than Stantec personnel. Non-Stantec personnel shall be responsible for complying with Site safety plans and local, state, and/or federal regulations applicable to non-Stantec personnel.

Stantec Project No.: 193703514

David B. Holmes, PG
Senior Project Manager

cc: Debora Sielski, Washington County
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1.0 INTRODUCTION

The purpose of this Site-Specific Health and Safety Plan (HASP) is to identify, evaluate, and control the safety and health hazards associated with the planned tasks to complete a supplemental Phase II ESA at the E.H. Wolf & Sons, Inc. Properties adjacent to Hartford Road in Slinger, Wisconsin (the Site) and ensure the health and safety of all Stantec Consulting Services Inc. (Stantec) employees involved. The planned tasks are outlined in the Site-Specific Sampling and Analysis Plan (SSSAP).

All field activities must be conducted in compliance with this HASP. Personnel covered by this HASP who cannot or will not comply with the HASP will be excluded from on-site activities. Anyone who will be on-site will be required to sign the HASP review found in this HASP.

Contractors and sub-contractors will be given a copy of this HASP and will sign the review acknowledging that they have read and understood this HASP. Their signature indicates that Stantec has informed them of the Site emergency response procedures and any potential fire, explosion, health, safety, or other hazards of the hazardous waste operation that have been identified. However, Stantec does not assume responsibility for the actions of the contractors or sub-contractors. Contractors will be required to develop and follow their own HASP related to specific on-site activities.

This HASP was prepared from the best available information concerning Site conditions at the time of development. The health and safety specifications in this HASP are based on reasonably available sampling information and reports. The Project Manager or Site safety officer have the authority to amend any part of this program at any time due to changes to Site conditions that may affect the health and safety of on-site personnel.
2.0 BACKGROUND INFORMATION

1. Site Name: E.H. Wolf & Sons, Inc. Properties
2. Site Location: Hartford Road, Slinger, Wisconsin
3. Client Name: Washington County
4. Client Contact: Debora Sielski Phone: (262) 335-4445
5. Stantec Project Manager: David Holmes Phone: (262) 643-9177
6. Anticipated On-Site Personnel:

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Holmes</td>
<td>Project Manager</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Chris Hatfield</td>
<td>Senior Geologist</td>
<td>Site-Safety Officer</td>
</tr>
<tr>
<td>Andy Swaim</td>
<td>Geologist</td>
<td>Site-Safety Officer</td>
</tr>
<tr>
<td>Nick Heim</td>
<td>Geologist</td>
<td>Site-Safety Officer</td>
</tr>
</tbody>
</table>

7. Plan Prepared by: Chris Hatfield, P.G. Date: 5/11/2016
8. Plan Reviewed by: David Holmes, P.G. Date: 5/11/2016

The Project Manager and Site-Safety Officer (SSO) or an alternate designee will be responsible for the implementation of this HASP. Provided below are the key titles and associated responsibilities for personnel that are involved in the Site activities.

PROJECT MANAGER

The Stantec Project Manager provides overall direction for the implementation of field activities in accordance with this HASP. The Project Manager will also serve as the program liaison to federal, state, and local authorities. Specific program questions will be directed to this individual.

SITE-SAFETY OFFICER

The SSO will be the Stantec field supervisor. She/he will direct the implementation and field evaluation of the HASP. The SSO will be in charge during any emergency until she/he is relieved by Fire or other senior Emergency Responders. The SSO will be responsible for:

- Conduct health and safety briefings for Stantec employees based upon potential hazards specific to the designated work tasks scheduled;
- Modify HASP as required to address specific situations; and
- Investigate and report on-site accidents/incidents.
3.0 SITE INFORMATION

1. Purpose of Investigation/Field Work: This work is being performed as part of a Phase II Environmental Site Assessment (ESA) of the property located adjacent to Hartford Road in the Village of Slinger, Wisconsin (herein referred to as the Site or Property). The location of the Site is illustrated on Figure 1.

2a. Potential Hazard to Personnel  
2b. Protective Equipment Required

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire/explosive condition</td>
<td>First aid kit</td>
</tr>
<tr>
<td>Worker exposure/injury</td>
<td>Eye wash</td>
</tr>
<tr>
<td>Confined spaces</td>
<td>Ladder</td>
</tr>
<tr>
<td>Steep/uneven terrain</td>
<td>Fire extinguisher</td>
</tr>
<tr>
<td>Chemical/contaminant exposure</td>
<td>Safety glasses</td>
</tr>
<tr>
<td>Traffic/heavy machinery</td>
<td>Communication</td>
</tr>
<tr>
<td>Noise exposure</td>
<td>Hard hat</td>
</tr>
<tr>
<td>Thermal/cold exposure</td>
<td>Hearing protection</td>
</tr>
<tr>
<td>Respirator/SCBA</td>
<td>Tyvex™ suit</td>
</tr>
<tr>
<td></td>
<td>Latex gloves</td>
</tr>
</tbody>
</table>

Other (describe) ______________________________________________________________

Estimated days on-site: two days.
4.0 CONTAMINANT/CHEMICAL HAZARD ASSESSMENT

1. The purpose of this work is to determine if historic use of the Site resulted in a hazardous substance and/or petroleum product release occurred. The following assessment is related to on-site substances which may potentially be encountered.

<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>MAXIMUM CONCENTRATION (UNITS)</th>
<th>MEDIUM(^1), (^2)</th>
<th>PEL/TLV (PPM)(^3)</th>
<th>CANCER STATUS(^4)</th>
<th>ROUTE(^5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOCs/PAHs</td>
<td>S, GW</td>
<td>varies</td>
<td>varies</td>
<td>I, A, C</td>
<td></td>
</tr>
<tr>
<td>RCRA Metals</td>
<td>S, GW</td>
<td>varies</td>
<td>varies</td>
<td>A, IN</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\)Environmental Medium: Soil (S), Groundwater (GW)
\(^2\)List the maximum concentration for each medium separately
\(^3\)Use the lower of the two exposure limits (PEL/TLV)
\(^4\)Cancer status; EPA Classification:
   - **Group A:** Human carcinogen – Sufficient evidence to support a casual association between exposure and cancer.
   - **Group B1:** Probable Human Carcinogen – Limited evidence of carcinogenicity in humans
   - **Group B2:** Probable Human Carcinogen – Sufficient evidence of carcinogenicity in animals, inadequate evidence of carcinogenicity in humans.
   - **Group C:** Possible Human Carcinogen – Limited evidence of carcinogenicity in animals.
   - **Group D:** Not Classified – Inadequate evidence of carcinogenicity in animals.
   - **Group E:** No Evidence of Carcinogenicity in Humans – No evidence for carcinogenic in at least two adequate animal tests or in both epidemiologist and animal studies.

\(^5\)Route: (I) – Inhalation, (A) – Skin absorption, (IN) – Ingestion, (C) – Eye/skin contact

2. The following chemical(s) may be/could be brought to the work Site:
   Fuel for equipment, sample preservatives (methanol, nitric acid, hydrochloric acid).
5.0 PHYSICAL HAZARD ASSESSMENT

5.0.1 FLAMMABILITY/EXPLOSIVE

It is unlikely that explosive atmospheres will be encountered while performing tasks. However, it is possible that unknown chemicals may be encountered. Therefore, the following standard safety procedures will be implemented:

- All field vehicles and heavy equipment will be equipped with a type-ABC fire extinguisher. Fire extinguishers will be mounted on the vehicles where field personnel can easily access them. A fire extinguisher check, including inspection of gauges, hoses, and tanks, will be conducted before use of the field vehicle to ensure proper operation of the equipment.
- When necessary, other appropriate firefighting equipment will be made available.
- Open fires and burning are prohibited. Smoking will be prohibited in all areas where flammable, combustible, or oxidizing materials are stored or are in use, and any area containing unknown contaminants.

5.0.2 HEAVY EQUIPMENT

The hazards associated with the operation of heavy equipment can be effectively managed through adequate training and constant awareness. Any subcontractor equipment operators must have had the required training and must demonstrate the necessary skills for the piece of equipment they are operating. Constant visual and verbal contact should be maintained with the operator to facilitate awareness. Equipment will not obstruct roadways, walkways, electrical lines, etc. Proper distance from power lines should be observed. The operator and field personnel should be aware of loose soil or uneven terrain that cannot be driven over or parked on for sake of a roll-over hazard. All personnel working around heavy equipment will wear hard hats and safety-toed boots (at a minimum). Personnel should avoid turning their back to operating machinery.

5.0.3 EXCAVATIONS

Under no circumstances should an employee enter an un-shored excavation greater than 4 feet in depth. Shored excavations may also be considered confined spaces. A soil sample from excavations should be obtained from the backhoe bucket or other means, if at all possible. Before entering an excavation, the situations should be discussed with the Project Manager to assess confined space requirements (See Section 8).

5.0.4 SLIPS, TRIPS, AND FALLS

Although it can be difficult to prevent slips, trips, and fall hazards, these hazards can be minimized through good housekeeping, proper site-control measures, and keeping the work area free of obstructions. In the event that only one Stantec field person is on-site, that person will inform the on-site subcontractors of where he/she will be working and ask them to accompany him/her for the work. Since it is virtually impossible to eliminate all slip, trip, and fall hazards in the Assessment Area, personnel should always be aware of the terrain they are walking across and have sure footing, taking very deliberate steps and the easiest path of travel. Cones and or caution tape will be used to mark identifiable hazards.
LIFTING
Field operations often require that physical labor tasks be performed. All employees should employ proper lifting procedures. Additionally, employees should not attempt to lift bulky or heavy objects (greater than 40 pounds) without assistance.

TOOLS AND EQUIPMENT
Hazards present during the use of tools and equipment are generally associated with improper tool handling and inadequate maintenance. Management of these hazards requires a rigorous maintenance of tools and equipment and effective training of employees in the proper use of these tools. Electrical cords must have unbroken insulation and should not be exposed to water or other liquids. A ground fault circuit interrupter outlet or cord must be used in any area where water may be present.
6.0 PERSONAL PROTECTIVE EQUIPMENT

Based on the waste (e.g., sludge, metals, and/or petroleum contamination in soil/groundwater) identified to potentially be at the Site, it is concluded that there is likely minimal health risk to Site personnel; therefore, Level D will be the required level for work at the Site.

Levels A, B, and C are not anticipated for the project tasks. However, if Site conditions change (e.g., unknown contaminants encountered, employee complaints, etc.) and a higher degree of protection is required, the SSO will consult the Project Manager and the required changes in personal protective equipment (PPE) will be made. A change in the level of PPE will result in this HASP being amended and reviewed by the Project Manager.

<table>
<thead>
<tr>
<th>PROJECT TASK</th>
<th>LEVEL OF PROTECTION</th>
<th>HAZ. WASTE &amp; NON-HAZ. SITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil Sampling</td>
<td>Level D</td>
<td>(A, B, C, D, [OTHER SPECIFY BELOW])¹</td>
</tr>
<tr>
<td>Groundwater Sampling</td>
<td>Level D</td>
<td></td>
</tr>
</tbody>
</table>

See Attachment C for PPE description by level.
7.0 MEDICAL REQUIREMENTS

Stantec personnel, whose presence may be required on a site where exposure to toxic and/or hazardous substances exists, shall be required to participate in any medical monitoring as deemed necessary by Stantec. All medical examinations performed for Stantec personnel shall be conducted in accordance with the requirements of 29 CFR 1910.120, 29 CFR 1910.134. In addition, it may be necessary to require specific clinical tests for certain sites. Any Site-specific testing shall be identified below.

<table>
<thead>
<tr>
<th>SITE-SPECIFIC CLINICAL TESTS PARAMETER</th>
<th>REQUIRED TESTING</th>
<th>ACTION LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

All Stantec employees will be medically qualified and fit tested for respiratory protection as appropriate.

MEDICAL DATA SUMMARY

This form shall be completed by Stantec personnel prior to commencement of activities at the Site. This form shall be kept at the project Site for the duration of project activities. This form must be delivered to the attending physician when medical assistance is required.

Medical Data Summary Forms are provided in Attachment A.
8.0 TRAINING REQUIREMENTS

All Stantec personnel participating in Site investigations where exposure to toxic and/or hazardous substances is possible must complete at least 40 hours of health and safety training required by 29 CFR 1910.120. The dates of certification are documented in the following Stantec office:

Stantec
12075 Corporate Parkway Suite 200
Mequon WI 53092-2649
Contact: Mr. Jon Currie

CONFINED SPACE ENTRY

As a general rule, Stantec employees who are engaged in activities at sites covered by 29 CFR 1910.120 are prohibited from entering confined spaces. However, if it becomes absolutely necessary to enter a confined space to accomplish a required task, specific procedures will be established by the Stantec Project Manager and safety personnel on a task-by-task basis.
9.0 ENVIRONMENTAL MONITORING

Service, maintenance, and calibration of monitoring equipment shall be performed in accordance with manufacturers’ recommendations.

MONITORING EQUIPMENT CHECKLIST

<table>
<thead>
<tr>
<th>TYPE OF EQUIPMENT</th>
<th>SERIAL NO.</th>
<th>WRITTEN SOP AVAILABLE</th>
<th>DATE CALIBRATED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photoionization Detector (PID)</td>
<td>To Be Determined</td>
<td>Yes</td>
<td>Daily</td>
</tr>
</tbody>
</table>

SURVEILLANCE METHODS

The monitoring methods to be used at the project Site are described below:

The breathing zone and work area will be periodically screened for volatile organic compounds (VOCs) using the PID. If elevated VOCs are detected in the breathing zone, Stantec staff will remove their persons from the work Site, notify the Project Manager, and evaluate appropriate actions (e.g. upgrade to Level C, etc.).
10.0 SITE SAFETY PROCEDURES

A Site-specific/pre-entry meeting will be held before the start of any Site activities in the Assessment Area. Additional meetings will be held as necessary. The purpose of these safety meetings is to:

- Describe the assigned tasks and their potential hazards;
- Coordinate activities;
- Identify methods and precautions to prevent injuries;
- Plan for emergencies;
- Describe any changes in the Site Safety Plan;
- Solicit worker feedback on conditions affecting safety and health; and
- Solicit worker feedback on how well the Site Safety Plan is working.

Safety meetings will also be held at all other times necessary to ensure that all field personnel and visitors are aware of the health and safety hazards at the Site. All field personnel and visitors will be required to attend these meetings. The on-site SSO or alternate designee will conduct the meetings.

The SSO will also conduct frequent inspections of Site conditions, equipment, and activities to determine whether the HASP is adequate and being followed. In order to make safety inspections effective, the following guidelines should be observed:

- Review the results of these inspections with supervisors and workers;
- Re-inspect any identified problems to ensure that they have been corrected; and
- Document all inspections and subsequent follow-up actions in field notebook kept for this project. Retain these records until Site activities are completed and at least 5 years after project has been completed.

The frequency of inspections shall be both at the beginning and the end of each work shift or when Site conditions change due to factors such as weather, tasks are performed, or new hazards being introduced on-site or discovered during Site activities.

PERIMETER ESTABLISHMENT

The property lines of the Site will be used as the perimeter.

SITE ENTRY PROCEDURES

Before entering the Site, all personnel shall wear the required PPE and follow the decontamination procedures when exiting Site.

SITE CONTROL AND DESIGNATION OF WORK ZONES

The following procedures shall be observed to minimize the potential for contaminant transfer, personnel exposure to hazardous materials and work place injury.

EXCLUSION ZONE

We do not plan to formally delineate the exclusion zone because of numerous and small work locations involved across the Site over a relatively short period of time, and the limited likelihood of exposure to personnel other than those doing the actual work. The exclusion zone will be determined at each work location.
CONTAMINATION REDUCTION ZONE
We do not plan to formally delineate the contamination reduction zone because of numerous and small work locations involved across the Site over a relatively short period of time, and the limited likelihood of exposure to personnel other than those doing the actual work. The contamination reduction zone will be determined at each work location.

SUPPORT ZONE
The support zone will consist of an area outside of the exclusion and contamination reduction zone where field vehicles and equipment will be staged. Eating, drinking, and smoking will only be allowed in this area.
11.0 DECONTAMINATION

All non-disposable field equipment will be decontaminated before each use and between samples to avoid cross-contamination between samples and to ensure the health and safety of the field crews. Field personnel must follow the procedures outlined below whenever leaving the exclusion areas. All decontamination procedures will be performed in accordance with the field standard operating procedure for Equipment Decontamination and Management of Investigative Wastes Procedures included in the Stantec (2015) Quality Assurance Project Plan.

PERSONNEL DECONTAMINATION PROCEDURES

Gloves will be placed in a plastic bag and disposed of properly. Re-usable PPE will be decontaminated with an appropriate detergent wash and rinsed with water. Decontamination water will be containerized and disposed of properly.

SAMPLING/MONITORING EQUIPMENT DECONTAMINATION PROCEDURES

Disposable equipment will be placed in a garbage bag and disposed of properly. Re-usable equipment will be washed and scrubbed with an appropriate detergent wash and rinsed with water. Equipment will be decontaminated after each sampling event to prevent cross contamination. Decontamination water will be containerized and disposed of properly.
12.0 EMERGENCY PLAN

This emergency action plan can be fully or partially activated depending on the extent of the encountered incident. The plan will be activated whenever an emergency is discovered. Where possible, the emergency will be brought under control by the on-site personnel. The on-site SSO has full responsibility in the event of an emergency and will be required to determine if outside response needs to be contacted.

The personnel who have responsibilities in the event of an emergency are listed below with their area(s) of responsibility. In addition, procedures to be followed in the event of a Site evacuation are also outlined.

**EMERGENCY PERSONNEL RESPONSIBILITIES**

<table>
<thead>
<tr>
<th>NAME</th>
<th>RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nick Heim</td>
<td>Site-Safety Officer</td>
</tr>
<tr>
<td>Andy Swaim</td>
<td>Site-Safety Officer</td>
</tr>
<tr>
<td>Chris Hatfield</td>
<td>Site-Safety Officer</td>
</tr>
</tbody>
</table>

The SSO is the on-site emergency coordinator who has the responsibility for controlling emergency response operations at the Site. In the event of an emergency, the SSO must identify, as best as possible, all hazardous substances or conditions present. She/he must implement appropriate emergency operations in accordance with this plan. In addition, she/he must limit the number of personnel exposed to the emergency, by communicating with all personnel on-site and assuring they get to a safe area.

**COMMUNICATION**

Before starting field activities, the appropriate representatives of Washington County will be notified of the planned activities. Stantec will review the HASP and Emergency Plan with Washington County representatives to inform them of potential emergencies related to the field activities at the Site.

If an emergency occurs, fast and effective communication is essential. Without proper communication, the ability to initiate and carry out an appropriate response could be severely hindered. There are three important elements to effective communications. First, the appropriate message to be communicated must be determined. Second, the message must be transmitted correctly. Finally, the person receiving the message must understand the message on-site. Communication will be accomplished through direct-voice contact, two-way radio dispatch, and cell phones. The SSO will have a cell phone either on person or in the field vehicle at all times while performing tasks at the Site.

In the event of an emergency, the SSO will contact off-site first responders or transport the victim to the hospital following the evacuation/hospital route found in this HASP. If victim is in distress, 911 can be called immediately by the individual who discovers the emergency. Outside medical assistance should be requested if any of the following conditions occur.

- Cardiac Arrest
- Chest Pain
- Breathing Difficulty
- Burns (2nd or 3rd degree over 10 percent of the body or about the face or neck)
- Diabetic Emergency
- Drug Overdose
- Hypertension
- Multiple Trauma
- Seizure
- Smoke, Heat or Toxic Gas Inhalation
- Uncontrollable Bleeding

Emergency eye wash bottles will be kept in field vehicles in case of any eye emergencies requiring immediate flushing of the eyes to prevent permanent damage to the person’s sight. If outside assistance is required, immediately dial 911. Call from a safe area. The following information should be given:

- Inform the dispatcher of the emergency
- Identify yourself
- Indicate if someone is injured
- Describe how to get to the area of emergency

After making the call, evacuate victims to safe area if they can be moved and wait to meet the responders.

**EMERGENCY PROCEDURES**

**INJURY**

- All Site personnel shall assemble at the decontamination line;
- The SSO shall evaluate the nature of injury and contact outside emergency services if needed;
- Move victim to contamination reduction zone if can be moved;
- Perform emergency decontamination procedures (section below) on victim;
- Transport victim to hospital if needed or inform outside emergency personnel of situation and designated medical facility;
- No persons shall re-enter the Exclusion Zone until the cause of the injury (or symptoms) is determined; and
- Perform an accident investigation using Attachment B (Incident Report Sheet).

**DECONTAMINATION DURING MEDICAL EMERGENCIES**

If emergency life-saving first aid and/or medical treatment are required, decontamination procedures may be limited or omitted. If the contamination does not present a hazard to the rescue personnel, life-saving care may be instituted immediately. If contamination will present a risk to rescue personnel, minimal decontamination should be performed to allow initiation of aid.

If contamination presents a significant risk to rescue personnel, then decontamination will need to be performed until the contamination is no longer a risk.

Medical assistance personnel will be notified before transporting the victim if the victim may be contaminated. Assurance must be made that the medical personnel at the receiving area are able and willing to handle a victim who is contaminated. Site personnel will accompany contaminated victim to the medical facility to advice on matters involving decontamination. A copy of this HASP, including safety data sheets (SDS), if known, will be brought along with the victim.
Heat-related illnesses range from heat fatigue to heat stroke. Heat stroke requires prompt treatment to prevent irreversible damage or death. Protective clothing must be promptly removed. Less serious forms of heat stress also require prompt attention. Unless the victim is obviously contaminated, decontamination may be omitted or minimized and treatment should begin immediately.

**FIRE/EXPLOSION**

If fire or explosions occur in the Assessment Area, the following actions will be performed:

- Any personnel who discover a fire should immediately notify 911 to request assistance;
- On-site personnel, under the direction of the SSO, will attempt to control or extinguish fire with a fire extinguisher, if possible;
- A 10-second air horn blast shall be sounded;
- All Site personnel not involved with fighting the fire shall assemble at the decontamination line;
- Evacuation of the affected area may be necessary in case of major fire or explosion. All personnel will be familiar with excavation procedures and means of exit from their work areas; and
- Emergency Response officials will determine the appropriate actions for off-site response actions.

**UNKNOWN INTACT DRUMS**

It is not anticipated that unknown intact drums will be encountered during the assessment activities, however, if encountered; the following steps will be performed.

- The drum will first be inspected from the surface by the SSO. The SSO will be looking for the following items:
  - Symbols, words or other marks on the drum indicating that its contents are hazardous (e.g., radioactive, explosive, corrosive, toxic, or flammable);
  - Symbols, words or other marks on the drum indicating that it contains discarded laboratory chemicals, reagents, or potentially dangerous materials in small volume individual containers;
  - Evidence of deterioration such as corrosion, rust, and leaks;
  - Evidence that the drum is under pressure such as swelling and bulging; and
  - Drum type and drum lid.
- After surface inspection of the drum, investigative activities will cease, and the drum will remain intact.

**SPILL/RELEASE**

If a spill or release occurs, the following steps will be performed:

- Report it immediately to the SSO;
- All personnel shall then re-locate upwind and upgradient of the spill to a safe distance (e.g., 1000 feet);
- SSO will assess the spill and inform the drilling contractor to put absorbent material down to try to contain the spill if possible;
• If spill or release cannot be contained and/or cannot be safely characterized, a 10-second blast shall be sounded and all personnel shall be evacuated immediately to the decontamination line;
• Then, a safe distance away, upwind and upgradient of spill, the SSO will contact the Site hazardous material spill response contractor and inform them about the spill/release and to coordinate spill cleanup; and
• The SSO will contact the Washington County Emergency Response personnel and the Wisconsin Department of Natural Resources.

The SSO will coordinate with the spill release contractor and determine through the SSO’s/spill contractor’s professional opinion if there is a threat to the neighboring community. Should the neighboring community require evacuation; the SSO will contact the local authorities, inform them of the situation, and ask that they contact the affected receptors.

ADVERSE WEATHER CONDITIONS

If the SSO is notified of adverse weather conditions, the following steps shall be performed.

• The SSO will determine if work can continue without endangering the health and safety of the field workers. The SSO will monitor the weather during the a.m. and p.m. hours and will document it in the field logbook. Some of the items to be considered before determining the continuance of work are:
  − Potential for heat stress and heat related injuries;
  − Potential for cold stress and frostbite related injuries;
  − Dangerous weather related working conditions (high winds);
  − Limited visibility;
  − Potential for electrical storms/lightning. No activities will be permitted during electrical storms;
  − Tornado watches and warnings. No activities will be permitted during a tornado warning; and
  − Winter weather watches and warnings. No activities will be permitted during a snow storm.

In the event of a weather emergency:

• Take appropriate cover in either nearby buildings or vehicles depending on the emergency; and
• Work will cease until the conditions clear up and all watches/warnings are lifted.

GENERAL SITE EVACUATION PROCEDURES

Exit exclusion zone, contaminant reduction zone, and support zone. Contact emergency services (911) if necessary.

First Aid procedures for a variety of situations are included in Attachment D.
13.0 EMERGENCY REFERENCES

EMERGENCY RESOURCES

* Ambulance 911
* Hospital Emergency Center 911
* Hospital Life Line NA
* Hospital Poison Center NA
* Local Police 911
* County Sheriff 911
* State Police 911
* Fire Department 911
* Explosives Disposal Unit NA
* Radio Channel NA

OTHER EMERGENCY CONTACTS

* Stantec Office (800) 880-4700
* Client (Washington County) (262) 335-4445
* Village of Slinger (262) 644-6441
* National Response Center (800) 424-8802
* WI Emergency Government (800) 943-0003

Note: Incident reports are provided in Attachment B.
14.0 EVACUATION/HOSPITAL ROUTES

From Hartford Road to Froedtert St. Joseph’s Hospital:
DRIVING DIRECTIONS FROM HARTFORD ROAD TO FROEDTERT ST. JOSEPH’S HOSPITAL, 3200 PLEASANT VALLEY ROAD, WEST BEND, WISCONSIN

Start out going east on Main St toward Westminster Ct.

Then 0.05 miles

Turn slight right onto WI-145/Fond du Lac Ave.

WI-145 is 0.2 miles past Church St.

Then 0.12 miles

Turn right onto WI-145/Pilgrim Rd.

If you are on Fond du Lac Ave and reach Gettysburg Dr you've gone a little too far.

Then 0.43 miles

Turn left onto Mequon Rd/WI-145/WI-167.

Mequon Rd is 0.1 miles past Francese Dr.
If you reach Lyle Ln you've gone about 0.3 miles too far.

Then 0.12 miles

N112W15415 MEQUON RD.

If you reach Montgomery Dr you've gone about 0.1 miles too far.
15.0 SITE-SPECIFIC HEALTH AND SAFETY PLAN REVIEW

This document shall be signed by Site personnel prior to their first Site visit.

“I have read and understand the contents of this Site Safety Plan and will comply with its provisions, requirements, and restrictions.”

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16.0 SITE-SPECIFIC HEALTH AND SAFETY PLAN FOLLOW-UP REPORT

Project Site: ________________________________

1. Was the Site Health and Safety Plan followed?
   
   _____ Yes    _____ No

2. If no, explain all changes to the Site Health and Safety Plan:

   __________________________________________

   __________________________________________

   __________________________________________

   __________________________________________

   __________________________________________

3. Reason for changes:

   __________________________________________

   __________________________________________

   __________________________________________

   __________________________________________

   __________________________________________

4. Report prepared by: _______________________    Date: _______________________

5. Report reviewed by: _________________________    Date: _______________________
17.0 ADDENDUM TO SITE-SPECIFIC HEALTH AND SAFETY PLAN

Use this page to add additional Site data or describe any special circumstances that have become apparent after the original preparation of this Site Health and Safety Plan. Include any changes in Site conditions, PPE and monitoring modifications and other items as appropriate.
ATTACHMENT A – MEDICAL DATA SUMMARY FORMS
MEDICAL DATA SUMMARY FORM:

This form shall be completed by Stantec personnel prior to commencement of activities of the Site. This form shall be kept at the project Site for the duration of project activities. This form must be delivered to the attending physician when medical assistance is required.

Site: 

Location: 

Name: 

Address: 

Home Phone: 

Height: _______  Weight: _______  Age: _____  Sex: ___

In case of emergency contact: ____________________________

Address: 

Phone (_____):_____________

Allergies: _______________________________________________

Recent Illnesses: __________________________________________

Previous exposure to hazardous substances?

_____ Yes  ______ No

Current medication: _________________________________________

Medical restrictions: _________________________________________

Name of personal physician: ________________________________

Address: 

Phone: (_____):_____________

Date Completed: ________________________
ATTACHMENT B – INCIDENT REPORT SHEETS
INCIDENT REPORT

Project #:_____________________

Site: __________________________________________________________________________

Location: _________________________________________________________________________

Name of Affected Individual: _______________________________________________________________________

Address: ___________________________________________________________________________

Age: _______ Sex: _______

Description of Incident: __________________________________________________________________________

Date of Incident: ___________ Time of Incident: ___________

Was Medical Care Required? ☐ YES ☐ NO

Immediate Family Notified? ☐ YES ☐ NO

If Yes, Describe Care Received (attach medical record): ________________________________

Date Care Received: ______________ Location: ___________________________

Future Preventative Measures/Corrective Action Taken: ________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Report Prepared By: ______________ Date: ______________

Report Reviewed By: ______________ Date: ______________
ATTACHMENT C – PERSONAL PROTECTIVE EQUIPMENT
PERSONAL PROTECTIVE EQUIPMENT (PPE)

1. Level A protection should be selected when the highest level of respiratory, skin, eye, and mucous membrane protection is needed.

   Positive-pressure, self-contained, breathing apparatus (MSHA/NIOSH approved)  
   (REQUIRED)

   Fully encapsulated, chemical resistant suit  
   (REQUIRED)

   Chemical-resistant inner and outer gloves  
   (REQUIRED)

   Chemical-resistant boots with steel toe and shank  
   (REQUIRED)

   Chemical-resistant coveralls

   Two-way radio communication  
   (REQUIRED)

2. Level B protection should be selected when the highest level of respiratory protection is needed, but with a lesser degree of skin and eye protection.

   Positive-pressure, self-contained, breathing apparatus (MSHA/NIOSH approved)  
   (REQUIRED)

   Chemical-resistant clothing (coveralls, hooded two-piece, chemical resistant splash suit, or disposable chemical-resistant coveralls)  
   (REQUIRED)

   Coveralls (under splash suit)

   Chemical-resistant inner and outer gloves  
   (REQUIRED)

   Chemical-resistant boots with steel toe and shank  
   (REQUIRED)

   Two-way radio communication

   Hard hat  
   (REQUIRED)

3. Level C protection should be selected when the type and concentration of hazardous airborne substance is known, the criteria for using air-purifying respirators is met, and skin and eye exposure is unlikely. Monitoring of the air must be performed to comply with OSHA regulations and to ensure respirator effectiveness.

   Full face, air purifying respirator (MSHA/NIOSH approved) with appropriate cartridges  
   (REQUIRED)

   Chemical-resistant clothing (coveralls, hooded two-piece, chemical resistant splash suit, or disposable chemical-resistant coveralls)  
   (REQUIRED)

   Chemical-resistant inner and outer gloves  
   (REQUIRED)

   Chemical-resistant boots with steel toe and shank  
   (REQUIRED)

   Two-way radio communication

   Hard hat  
   (REQUIRED)

   Escape respirator

4. Level D is primarily a work uniform. It shall not be worn on-site where respiratory or skin hazards exist.

   Protective coveralls and protective gloves  
   (REQUIRED)

   Boots with steel toe and shank  
   (REQUIRED)

   Hard hat  
   (REQUIRED, when applicable)

   Safety glasses  
   (REQUIRED)

   Safety vest  
   (REQUIRED)
ATTACHMENT D – FIRST AID
FIRST AID

BITES

ANIMAL BITES
Thoroughly wash the wound with soap and water, flush the area with running water, and apply a sterile dressing. Immobilize affected part until the victim has been attended by a physician. See that the animal is kept alive and in quarantine. Obtain the name and address of the owner of the animal.

INSECT BITES:
Remove “stinger” without squeezing if present; keep affected part below the level of the heart; and apply ice bag. For minor bites and stings, apply soothing lotions such as calamine.

BURNS AND SCALDS

MINOR BURNS:
DO NOT APPLY VASELINE OR GREASE OF ANY KIND. If there are no areas of open skin, apply cold water until pain subsides; cover with a dry, sterile dressing. Do not break blisters or remove tissue. Seek medical attention.

SEVERE BURNS:
Do not remove adhered particles of clothing. Do not apply ice or immerse in water. Do not apply any ointments or grease. Cover burns with thick, sterile dressings. Keep burned feet or legs elevated if possible. May need to treat for shock.

CHEMICAL BURNS:
Wash away the chemical soaked clothing with large amounts of water. Remove victim’s chemical-soaked clothing. If dry lime, brush away before flushing. Apply sterile dressing and seek medical attention.

CRAMPS

SYMPTOMS:
Muscle cramps in abdomen and extremities. Heat exhaustion may also be present.

TREATMENT:
Same as for heat exhaustion.

CUTS
Apply pressure with sterile gauze dressing and elevate the area until bleeding stops. Apply bandage and seek medical attention.

EYES

FOREIGN OBJECTS:
Keep the victim from rubbing eyes and flush the eye with water. If flushing fails to remove the object, apply a dry protective dressing to both eyes and seek medical attention.

CHEMICALS:
Flood the eye thoroughly with water for 15 minutes. Cover the eye with a dry sterile pad and seek medical attention.
FAINTING
Keep the victim lying down. Loosen tight clothing. If victim vomits, roll person onto side or turn head to the side. Maintain an open airway. Bathe the person’s face gently with cool water. Unless recovery is prompt, seek medical attention.

FRACTURES
Deformity of an injured part usually means a fracture. If a fracture is suspected, splint the part. DO NOT ATTEMPT TO MOVE THE VICTIM. Seek medical attention immediately.

FROSTBITE
**Symptoms:**
Just before frostbite occurs, skin may be flushed then changes to white or grayish-yellow. Pain may be felt early; then may subside. Blisters may appear; affected part feels very cold and/or may be numb.

**Treatment:**
Bring victim indoors, cover the frozen area; provide extra clothing and blankets. Re-warm frozen area quickly by immersion in warm water—NOT HOT WATER. DO NOT RUB THE PART. Seek medical attention.

HEAT EXHAUSTION
Caused by exposure to heat, either sun or indoor.

**Symptoms:**
Near-normal body temperature; pale and clammy skin; profuse sweating, tiredness, weakness, headache, perhaps cramps, nausea, dizziness, and possible fainting.

**Treatment:**
Keep victim in lying position and raise feet. Loosen clothing, apply cool wet cloths. If conscious, give sips of water. Seek medical attention immediately.

SUNSTROKE
**Symptoms:**
High body temperature; hot, red, and dry skin; rapid pulse. Victim may be unconscious.

**Treatment:**
Keep victim in lying position with head elevated. Remove clothing and repeatedly sponge the bare skin with cool water. Seek medical attention immediately.

POISONING
Call the Poison Control Center for instruction on immediate care. If victim becomes unconscious, keep the airway open. If breathing stops, begin rescue breathing. Call Emergency Medical Services (EMS) immediately.

POISON IVY
Remove contaminated clothing. Wash all exposed areas thoroughly with soap and water. If rash is mild, apply calamine lotion or other soothing skin lotion. If a severe reaction occurs, seek medical attention.
PUNCTURE WOUNDS
If puncture wounds is deeper than skin surface, seek medical attention. Serious infection can occur unless proper treatment is received.

SPRAINS
Elevate injured part and apply ice bag or cold packs. Do not soak in hot water. Immobilize affected part and seek medical attention.

UNCONSCIOUSNESS
Never attempt to give anything by mouth. Keep victim lying flat, maintain open airway. If victim is not breathing, perform rescuer breathing and call EMS immediately.