



October 11, 2018

Reference No. 086165-05-07

Mr. Phil Richard  
Wisconsin Department of Natural Resources  
875 S 4<sup>th</sup> Avenue  
Park Falls, Wisconsin 54552

Dear Mr. Richard:

**Re: Proposed Cost Estimate  
Scope of Work – January 1 through December 31, 2019  
Penta Wood Products Superfund Site – Siren, Wisconsin  
WDNR BRRTS Activity #02-07-000532**

GHD Services Inc. (GHD) is pleased to provide this proposed cost estimate as Wisconsin Department of Natural Resources (WDNR) requested in a letter dated September 14, 2018 for the Penta Wood Products Superfund Site (Site) located in Siren, Wisconsin. The primary purpose of the scope of work (SOW) is to continue the remediation system shutdown pilot study during 2019 at the Site as required by Remediation System Shutdown Pilot Study Work Plan (GHD; November 12, 2015) and approved by the United States Environmental Protection Agency (USEPA). The tasks and assumptions required to complete the SOW and associated cost estimate are discussed below.

## 1. Revised Scope of Work

GHD would perform the scope of work as discussed below.

### *Task 1 – Site safety plan preparation*

Complete an annual review of the Site-Specific Health and Safety Plan and update accordingly based on the planned work during 2019.

### *Task 2 – Housekeeping and grounds keeping*

Continue general housekeeping and grounds keeping at the Site including:

- Mowing (typically one time every 3 weeks during May through September, assume eight events)
- Snowplowing after each 3-inch snowfall during January and December to allow for well access during quarterly groundwater/LNAPL level monitoring during January 2019 (assume four events)
- Annual fire extinguisher and backflow preventer inspection

### *Task 3 – Entrance gate replacement*

Remove the existing entrance gate and install a new entrance gate along Daniels 70 (approximate 20-foot width).



#### ***Task 4 – Security fence replacement***

Remove existing security fence along Daniels 70 and install new 6-foot chain-link fence (approximate length of 245 feet).

#### ***Task 5 – Additional microcosm sample analyses***

Conduct one additional set of unamended anaerobic microcosm study sample analyses to evaluate pentachlorophenol and hydrocarbon degradation rates.

#### ***Task 6 – New monitoring well installation***

Drill and install one (1) new monitoring well in the unconfined aquifer near the eastern property boundary to further assess downgradient/cross-gradient pentachlorophenol concentrations. The borehole shall be approximately 6 inches in diameter and advanced to approximately 10 feet below the groundwater table. Install a monitoring well in the borehole consisting of 2-inch diameter, Schedule 80, polyvinyl chloride (PVC) casing. The PVC screen interval shall consist of casing with 0.010-inch slots installed between approximately 10 feet above and below the groundwater table. Following installation, develop the well by surging and purging groundwater until the turbidity of the water is reduced.

Thinspread soil cuttings removed from the borehole on the CAMU. Discharge development and decontamination water to the ground surface within the CAMU limits at the Site, and document the quantity.

Survey the location and top of casing elevation of the new well.

#### ***Task 7 – Soil borrow area source sampling***

Collect ten (10) soil samples from potential soil borrow area to confirm that constituent of potential concern concentrations meet criteria listed in Table 1 of the Record of Decision. Submit the samples for laboratory analysis of pentachlorophenol, arsenic, copper, zinc, benzene, ethylbenzene, toluene, xylenes, fluorene, isophorone, methylnaphthalene, naphthalene, and phenanthrene. Summarize and evaluate the soil sample analytical data.

#### ***Task 8 – Quarterly groundwater/LNAPL level monitoring***

Conduct groundwater/LNAPL level monitoring at all Site wells on a quarterly basis in January, April, July, and October 2019. In addition, conduct continuing obligations and well inspections during the quarterly monitoring events.

#### ***Task 9 – Semiannual groundwater well sampling***

Conduct groundwater sampling at twenty-five (26) Site monitoring and extraction wells on a semiannual basis in April and October 2019. This scope of sampling includes one new well to be installed along the eastern property boundary. Purchase three new submersible pumps to be utilized during groundwater



sampling. Collect quality assurance and quality control (QA/QC) samples during each event. Submit all samples for the following laboratory analyses:

- Pentachlorophenol (PCP)
- Naphthalene
- Benzene, toluene, ethylbenzene, and xylenes (BTEX)
- Dissolved metals (arsenic, copper, iron, manganese, and zinc)
- Natural attenuation parameters (alkalinity, hardness, nitrate, sulfate, total organic carbon, dissolved methane, and chloride)

Prior to sampling, purge each well and monitor field parameters (temperature, conductivity, pH, dissolved oxygen, oxidation reduction potential, turbidity, total iron, and total sulfide).

#### ***Task 10 – Semiannual residential well sampling***

Conduct residential well sampling at six (6) residential properties surrounding the Site on a semiannual basis in April and October 2019. Also, conduct sampling at the shop well at the Wegner property. Prepare notification letters and sample result letters and send to the property owners. In addition, conduct sampling at the onsite water supply well on a semiannual basis. Collect quality assurance and quality control (QA/QC) samples during each event. Submit all samples for the following laboratory analyses:

- Pentachlorophenol (PCP)
- Naphthalene
- Benzene, toluene, ethylbenzene, and xylenes (BTEX)

Prior to sampling, purge each well and monitor field parameters (temperature, conductivity, and pH).

#### ***Task 11 – Semiannual reporting***

Prepare semiannual reports documenting all Site work and submit to USEPA during January, July, and December 2019. Conduct a groundwater statistical evaluation of all groundwater sample analytical data using USEPA and ITRC guidance following the October 2019 sampling event. Include a complete summary of the pilot study sampling results and recommendations for future actions in the final report. Include summary tables and figures and an evaluation of the monitoring and sampling data with recommendations in the reports. In addition, participate in semiannual progress calls with WDNR and USEPA.

#### ***Task 12 – Monthly reporting***

Prepare monthly status updates with each invoice. Include a brief description of work that was completed and an update on project budget. Periodically provide updates to the WDNR project manager through phone calls and emails.



***Task 13 – Regulatory communications***

Participate in unscheduled calls and meetings with WDNR and USEPA as WDNR determines necessary.

***Task 14 – Additional work***

Develop cost estimates and work plans to conduct additional potential work that may arise during the completion of this scope of work as WDNR determines necessary.

2. Cost Estimate

The cost estimate and price sheet for each task listed above is included in Attachment A. The cost estimate for completing the SOW in 2019 is \$310,183.40.

This proposed cost is estimated based on time and materials. GHD's cost estimate includes revised GHD staff hourly rates as compared to the previous contract. The revised GHD rates represent an average 10-percent discount on standard GHD rates. GHD will continue to only bill WDNR based on actual time and materials for work performed. The costs are estimated for WDNR contract administration and budgeting purposes. Actual costs will not exceed the estimated task subtotals included on the attached tables without prior approval from WDNR.

If you have any questions or require additional information after reviewing this proposed cost estimate, please do not hesitate to contact us at (651) 639-0913.

Sincerely,

GHD

A handwritten signature in blue ink, appearing to read "Tim Ree", with a stylized flourish at the end.

Tim Ree

TR/sb/61

Encl.

cc: Shelley Fox, WDNR (via email)  
Judy Fassbender, WDNR (via email)  
Ron Frehner, GHD (via email)

# Attachment A Proposed Cost Estimate Price Sheet

## Attachment A

**Proposed Cost Estimate Price Sheet - 2019 Scope of Work  
Penta Wood Products Superfund Site  
Siren, Wisconsin**

<b>Task</b>	<b>Description</b>	<b>Unit</b>	<b>Estimated Quantity</b>	<b>Unit Cost</b>	<b>Extended Cost</b>
1	Site safety plan preparation	Plan	1	\$ 2,293.00	\$ 2,293.00
2	House keeping and grounds keeping	Time and materials	1	\$ 18,892.50	\$ 18,892.50
3	Entrance gate replacement	Gate	1	\$ 8,361.65	\$ 8,361.65
4	Security fence replacement	Time and materials	1	\$ 14,235.35	\$ 14,235.35
5	Additional microcosm sample analyses	Sample	1	\$ 7,355.50	\$ 7,355.50
6	New monitoring well installation	Well	1	\$ 32,188.10	\$ 32,188.10
7	Soil borrow area source sampling	Time and materials	1	\$ 8,817.80	\$ 8,817.80
8	Quarterly groundwater/LNAPL level monitoring	Event	4	\$ 4,599.30	\$ 18,397.20
9	Semiannual groundwater well sampling	Event	2	\$ 41,533.00	\$ 83,066.00
10	Semiannual residential well sampling	Event	2	\$ 11,282.15	\$ 22,564.30
11	Semiannual reporting	Report	3	\$ 10,328.50	\$ 30,985.50
12	Monthly reporting	Report	13	\$ 2,540.50	\$ 33,026.50
13	Regulatory communications	Pre-approved by WDNR	1	\$ 15,000.00	\$ 15,000.00
14	Additional work	Pre-approved by WDNR	1	\$ 15,000.00	\$ 15,000.00
<b>Total Contract Cost (January 1 through December 31, 2019)</b>					<b>\$ 310,183.40</b>