



April 26, 2019

Gardner Manufacturing Company, Inc.
c/o Attorney Michael Flanagan
Foley & Lardner
777 East Wisconsin Ave, Suite 3800
Milwaukee WI 53202

Subject: Review of "ERD Pilot Test Report and Injection Exemption Request" and Approval of the Infiltration/Injection Temporary Exemption Request for Gardner Manufacturing Property (former), 263 Kansas Street, Horicon, WI DNR BRRTS # 02-14-554523

Dear Mr. Flanagan:

We received and reviewed GZA GeoEnvironmental, Inc's (GZA's) report and exemption request, referenced above, which was dated February 14, 2019. The report and request were submitted with a technical review fee, per chapter NR 749, Wis. Adm. Code. We received the required chapter NR 712 certification on April 25, 2019.

GZA concluded the pilot test study showed effective enhanced reductive de-chlorination for compounds in the groundwater and within the aquifer. GZA recommends full-scale implementation of the remedy. The goal of the work is to chemically treat the trichloroethylene and related compounds in groundwater and within the aquifer. The planned full-scale remediation plan appears reasonable and is approved. GZA's plan to install and maintain temporary (non-NR 141) wells is also approved, for up to five temporary wells.

The remainder of this letter provides the requested temporary exemption for the injection of a remedial material into groundwater. This temporary exemption is intended to provide you with assurance that the environmental cleanup is being conducted in accordance with Chapter 292, Wis. Stats.

WPDES permit coverage was granted by the DNR wastewater section on March 25, 2019. DNR's groundwater section concurred with the approval of an NR 140 exemption on March 28, 2019.

Determination on the NR 812 Injection Prohibition:

The injection prohibition under s. NR 812.05, Wis. Adm. Code, is not applicable in this case because the proposed action is a Department-approved activity necessary for the remediation of groundwater. This letter serves as your approval from the Department to inject Newman Zone, MicroBlend and SDC-9 products to treat trichloroethylene and related chlorinated volatile organic chemicals in soil and groundwater, in accordance with this temporary exemption.

NR 140 Temporary Exemption:

Department approval is hereby granted to GZA and their subcontractor(s) for the injection of Newman Zone, MicroBlend and SDC-9 products to soil and groundwater on the 263 Kansas Street, Horicon property, with certain terms and conditions. The expiration date of this temporary exemption shall be five years from the date of this letter (April 26, 2024).

The need to obtain a temporary exemption for the injection of a remedial material for which a groundwater quality standard has not been established is required under s. NR 140.28 (1) (d), Wis. Adm. Code. Based on the information provided by your consultant, it appears the requirements for a temporary exemption for the injection of a remedial material for which a groundwater quality standard has not been established under s. NR 140.28 (1) (d) have been or will be met, in accordance with s. NR 140.28 (5) (c) and (d), Wis. Adm. Code.

Department approval is granted with the following terms and conditions:

A. General:

1. The remedial action for restoring contaminated groundwater or soil, and any infiltrated or injected contaminated water and remedial materials, shall achieve the applicable response objectives required by s. NR 140.24 (2) or s. NR 140.26 (2), Wis. Adm. Code, within a reasonable period of time.
2. The type, concentration and volume of substances or remedial material to be infiltrated or injected shall be minimized to the extent that is necessary for restoration of the contaminated groundwater.
3. Any infiltration or injection of contaminated water or remedial material into groundwater shall not significantly increase the threat to public health or welfare, or to the environment.
4. No uncontaminated or contaminated groundwater, substance or remedial material shall be infiltrated or injected into an area where a floating non-aqueous liquid is present in the contaminated groundwater.
5. There shall be no expansion of soil or groundwater contamination, or migration of any infiltrated or injected contaminated water or remedial material, beyond the edge of previously contaminated areas, except that infiltration or injection into previously uncontaminated areas may be allowed if the Department determines that expansion into adjacent, previously uncontaminated areas is necessary for the restoration of the contaminated groundwater, and the requirements of s. NR 140.18 (1), Wis. Adm. Code will be met.
6. All necessary federal, state and local licenses, permits and other approvals are obtained and compliance with all applicable environmental protection requirements is required. A WPDES general permit for Discharge of Contaminated Groundwater from Remedial Action Operations is required for this action.

B. Specific:

7. The remedial materials to be injected to the groundwater shall be limited to water, Newman Zone, MicroBlend and SDC-9 products. The remedial material and injection project shall be as described in GZA's ERD Pilot Test Report and Injection Exemption Request, dated February 14, 2019.
8. GZA shall notify the Department of field activities no less than one week before implementation.
9. In the monitoring plan, include screening for soil vapor as a best management practice.
10. Remediation progress reports shall be submitted with the semi-annual progress reports. The progress reports shall include the groundwater monitoring results. The first report should be submitted not more than 90 days after the first injection. Recommendations as to the next phase of sampling and/or the need for additional treatment shall be included in a future report. This report shall be submitted as soon as the necessary information is available and must be submitted prior to the expiration date of this temporary approval.
11. Any significant changes based on information from the injection groundwater monitoring reports or results shall be submitted to the Department for approval prior to the changes being implemented at the Gardner Manufacturing site. This includes, but is not limited to, adjustments to the volume/mass of the media injected, additional injection points, number of injection events, and/or changes in the type of remediation media used in the injection points.
12. Modifications to the sampling schedule may be requested.
13. In the event of future injection activities, the responsible party may apply for an extension of this approval. A request for an extension of this approval must be received by the Department before the expiration date.
14. Any permit extension approvals will be dependent on DNR review of site-specific data or any other information it deems necessary.
15. Upon completion of the project, the injection holes must be abandoned in accordance with s. NR 141.25, Wis. Adm. Code, and later topped off with grout or native soils if settling occurs, unless converted to NR 141 complying monitoring wells, or an alternative approved by the DNR Project Manager.

Monitoring Conditions:

1. That the actual volume injected be recorded on an hourly basis for each day of the project.
2. That baseline monitoring and post-injection monitoring as described in the table in Section 6.3 of the GZA's ERD "Pilot Test Report and Injection Exemption Request" dated February 14, 2019.
3. That a Site Specific Health and Safety Plan be followed.
4. That the injection is performed at less than 100 psi at a rate which prohibits solution mounding in the aquifer, and plume disfigurement.

Failure to adhere to the provisions of this temporary exemption may result in the Department requiring revisions to the remedial action design, operation or monitoring procedures, or the revocation of this exemption and the implementation of an alternative remedial action to restore soil or groundwater quality, or both.

WPDES Permit

The Department authorized your pollutant discharge under the general WPDES permit for Discharge of Contaminated Groundwater from Remedial Action Operations, (WI-0046566-06) on March 25, 2019. See the conditions of that authorization for the WPDES requirements that are in addition to the monitoring required by the RR Program for evaluation of remedial action effectiveness.

Discharges under this permit are required to be consistent with a discharge management plan that has been approved by the Department.

Any significant system changes will require Department approval.

If you have questions regarding this letter, please contact me.

Sincerely,



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ec: Bernard Fenelon, GZA
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