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January 11, 2023

Mr. John Gross
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Zayibeth Carballo
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Township of West Orange
Department of Public Works, Engineering Division
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**Re: Proposal for Professional Services – Phase 2 - Groundwater Monitoring and Reporting
Lindsley Avenue Bus Garage; 6 Lindsley Avenue
Township of West Orange, Essex County, New Jersey
NJDEP CASE #88-11-10-1526 – PI#014425**

Dear Mr. Gross:

CME Associates (CME) is pleased to submit this proposal to the Township of West Orange (Client) to continue Professional Environmental and Licensed Site Remediation Professional (LSRP) Services at the Lindsley Avenue Bus Garage at 6 Lindsley Avenue in West Orange.

As requested by the Township, the scope of work will be presented in two separate Proposals - Phase 1 and Phase 2.

The proposed scope of work is prepared to satisfy the New Jersey Department of Environmental Protection (NJDEP) requirements stated in the Administrative Requirements for Remediation of Contaminated Sites (ARRCS Rule, N.J.A.C. 26:C) and the Technical Requirements for Site Remediation (Tech Rule, N.J.A.C. 7:26E), in accordance with New Jersey's Site Remediation Reform Act (SRRA). The scope of work included is to address free-phase product (gasoline and fuel oil) detected at MW-5 at the Site, and reduce the impacts of product in soil and groundwater contamination at the Site.



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BACKGROUND

Based on the review of the history of product at the Site, it was indicated that localized free-phase product with an apparent thickness ranging from a visual sheen to less than 0.22 feet, has been detected in MW-4, MW-5, MW-12 and MW-13 between December 1997 and August 1998. Generally, since December 1997, the apparent thickness of the free-phase product pockets has decreased to a visual sheen. Free-phase product recovery program, which consisted of pumping free-phase product from these wells, was subsequently implemented.

Localized free-phase product within the overburden water unit has been observed in monitoring well MW-5. The free -phase product observed within MW-5 may have originated from either of the former 2,000-gallon USTs and appears to have migrated downgradient along the general groundwater flow directions within the overburden water-bearing unit. It is postulated that historical product discharges from the former USTs combined with the discontinuation or breach of the natural low permeability barrier (organic clay and silt layer) may have created preferential pathways for the free-phase product and dissolved phase to move downward and impact the deeper overburden water-bearing unit at the Site.

A remedial action was implemented using High Vacuum Extraction (HVE) treatment system at MW-5. HVE was utilized to remove accumulated product in MW-5 for few years and reduce residual product in soil. During the most recent sampling event at Lindsley Avenue, approximately half a foot of free product was identified in MW-5. Monitoring the recovery of the product in the well and the measurements of product thickness in MW-5 showed that the product is frequently being accumulated after the HVE applications.

In August 2022, a product and impacted soil delineation investigation was completed at the area around MW-5. The conducted investigation included soil borings, soil sampling, temporary wells and groundwater sampling to identify the limits of product impacts in the vicinity of MW-5. The results of the investigation/delineation identified the approximate limits of impacted soil in the vicinity of MW-5 and the source area in the vicinity of former fuel oil/gasoline USTs.

Therefore, CME is proposing the removal of contaminated soil within these areas to eliminate the source of the product at this location and avoid the migration of the contaminated groundwater and product to the adjacent residential property.

SCOPE OF SERVICES – PHASE 2

Based on the review of existing remediation documents, CME has prepared the following scope



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of work to comply with the NJDEP Technical Requirements for Site Remediation at the Site and provide the consultation and project management necessary to continue to advance the project towards a closure. The scope of work included in Phase 2 includes all other Tasks for the remaining scope of work.

The scope of Phase 1 was limited to costs for the soil remedial action (Excavation) as requested by the Township and submitted in the previous proposal.

Task 1: Monitoring Well Gauging & Sampling (Quarterly- Four Rounds)

Perform two semi-annual groundwater sampling events at the Site. Collect samples from all the existing monitoring wells (MW-4 through MW-26, and SW-1 through SW-10). Groundwater samples will be obtained in accordance with the NJDEP Field Sampling Procedures Manual (August 2005). Groundwater samples will be analyzed for TCL VO+15, TBA, and/or BN+15.

A QA/QC plan consisting of field and trip blank samples will be incorporated into the sampling program. Purged groundwater will be containerized in drums and disposed off-site at an approved disposal facility.

All sampling and monitoring will be performed according to the methodology specified in the most current edition of the Department's Field Sampling Procedures Manual. All samples will be analyzed by a New Jersey Certified Laboratory except those field-determined parameters specified in the monitoring program established pursuant to the oversight document.

Task 2: Update Public Notification and Receptor Evaluation, Groundwater Remedial Action Permit, CEA- Groundwater Remedial Action Permit, Soil Remedial Action Permit, Capping Design and Deed Notice - Reporting and Management

Public Notification – Off-Site Groundwater Impacts

Within 14 days of a determination that contamination has migrated off-Site, the Responsible Party must prepare and distribute a fact sheet, which shall include a description of the Site's industrial history, source(s) of contamination, description of contamination, current remedial status, proposed remedial actions with a schedule, extent of contamination, actions performed to minimize the impact to the public, and a list of online resources for information about the contaminants. This fact sheet must be published in a local newspaper within 30 days after the determination that contamination has migrated off-Site.

Public Notification should be completed for the off-Site contamination according to the



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administrative procedures and requirements for the Remediation of Contaminated Sites (ARCCS) Rules as follows:

CME will prepare, distribute and publish a fact sheet, which will include a description of the Site's industrial history, source(s) of contamination, description of contamination, current remedial status, proposed remedial actions with a schedule, extent of contamination, actions performed to minimize the impact to the public, and a list of online resources for information about the contaminants, as follows:

1. Prepare and distribute the fact sheet within 14 days after the determination that contamination has migrated off-Site;
2. Distribute the fact sheet to each owner of real property, as shown on the current municipal tax map, and the tenants of those properties, located within 200 feet of the Site.
3. Publish the fact sheet, with Site specific information, as a display advertisement in a daily or weekly newspaper of general circulation in the vicinity of the Site, within 30 days after the determination that contamination has migrated off-Site”

CEA and GW remedial Action Permit

Based on the previous sampling results and the results of the proposed additional Four quarterly sampling events, CME will establish fate and transport modeling to evaluate the extent of dissolved groundwater impacts (plume) and to compare the degradation predictions to existing data.

CME will prepare and submit a Revised CEA Fact Sheet Application and prepare a groundwater remedial action permit pursuant to the Administrative Requirements for Remediation of Contaminated Sites (ARRCS Rule, N.J.A.C. 26:C). The CEA application will be submitted with a Groundwater Remedial Action Permit for natural attenuation as the remedial action for the groundwater impacts related to the UST discharge at the Site, a Groundwater Remedial Action Permit Application will be prepared and submitted with NJDEP permit application fee of **\$990**; this Fee is included in the cost for the previous proposal.

Deed Notice and Soil Remedial Action Permit

Capping and filing of a Deed Notice (DN) are proposed as the least invasive, most cost-effective method to address the identified soil impacts remaining at the Site while remaining protective of



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human health and the environment. The proposed remedial action for the Site will consist of capping the historic fill impacted soils and the benzene impacted soils. Some areas are capped by asphalt and concrete, which represents an effective engineering control for the contaminants of concern identified at the Site. The areas that require additional remedial investigation are the landscape grass areas. Based on the analytical results of the soil investigation, a remedial action (capping) in the areas covered with grass should be performed prior to complete a DN for the Site.

CME will assist the Client's legal counsel in the preparation and finalization of DN exhibit documents to allow contaminated soils to be capped on the Site. The DN will be prepared and submitted to the Client for review and approval. The Client is advised to seek legal counsel to assist with the review and filing of the DN document. Legal counsel will have to provide metes and bounds for the Site and conduct required filing of the DN with the County and State.

CME will submit the DN with the Remedial Action Report and prepare a Soil Remedial Action Permit Application form for NJDEP submittal in the RAR. The NJDEP permit application fee of **\$1,760** is required and this cost is included in the previous proposal.

Remedial Action Report (RAR)

CME will prepare a Remedial Action Report (RAR) with Document Submission Form which will detail activities conducted to achieve compliance with the NJDEP Technical Requirements for Site Remediation (N.J.A.C. 7:26E- 6.7) and the Administrative Requirements for the Remediation of Contaminated Sites ("the ARRCs Rule"). A Site plan, Case Inventory Document and other pertinent items as specified in the Remedial Action Report submission requirements of the Technical Requirements for Site Remediation (N.J.A.C. 7:26E-6.7) will be included.

Based upon the results of the fate and transport modeling, a Groundwater Remedial Action Permit Application with NJDEP permit application fee of \$990 - GW Remedial Action – Natural Attenuation Permit Application will be submitted to the NJDEP and included in this proposal.

CME will prepare updated Receptor Evaluation form, a Health and Safety Plan (HSP) and Quality Assurance Project Plan (QAPP) that are required to be submitted with the RAR.

Proposed Budget



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The budget for completion of the proposed scope of work is **\$126,200** as indicated in the following table:

Task	Cost
Task 1- Monitoring Well Gauging & Sampling- (Quarterly- Four Rounds)	\$ 85,600
Task 2 - Update Public Notification and Receptor Evaluation, Groundwater Remedial Action Permit, Soil Remedial Action Permit, Capping Design and Deed Notice - Reporting and Management	\$ 40,600
Total	\$ 126,200

The proposed budget includes approximately **\$70,000** for subcontractor's fee, including laboratory analysis, equipment cost, etc. The budget contained in this proposal is the firm's best estimate of the effort required to carry out the project as outlined in the scope of work. However, the client will be billed for the actual effort expended to implement the Scope of Services in accordance with the attached billing rates for Environmental Engineering and LSRP services. In no event will the client be billed or work performed in excess of the proposal amount without client's prior approval.

ASSUMPTIONS AND LIMITATIONS

The scope of work is limited to the tasks outlined above. Based on the investigation findings, additional remediation activities may be required to comply with N.J.A.C. 7:26E and close the case. A separate cost proposal will be provided for any additional work, if needed.

SPECIAL CONDITIONS FOR LSRP SERVICES

- The enactment of the Site Remediation Reform Act (SRRA; N.J.S.A. 58:10C-1 et seq) on May 7, 2009, and the adoption of the Administrative Requirements for the Remediation of Contaminated Sites (ARRCS; N.J.A.C. 7:26C) on November 4, 2009 require that all new remediation cases follow the provisions of SRRA. A key requirement of these rules is that a Licensed Site Remediation Professional (LSRP) must oversee all new remediation cases.
- The ARRCS requires the person responsible for conducting a remediation to notify the NJDEP of any confirmed discharges of contaminants or condition of Immediate



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Environmental Concern (“IEC”). Please note that being an LSRP, as a State licensed professional, I will thus have the obligation to report any such conditions to the NJDEP without obtaining any prior approval from the client.

- LSRP will provide the required services in accordance with SRRA and has the obligation to submit, maintain and preserve the relevant documents.
- LSRP is not responsible for client’s failure to disclose relevant information, perform SRRA obligations, fund remediation, and follow LSRP’s recommended actions. Client’s failure to perform these obligations may result in fines/penalties by the NJDEP.
- The issuance of RAO by LSRP is not a guarantee or warranty that the site is free of contamination, or that it will be accepted by the NJDEP.
- NJDEP may audit the RAO within three (3) years after the date the LSRP filed the RAO with the NJDEP. LSRP is not responsible for additional requirements imposed by NJDEP after review/audit, except to the extent they arise out of LSRP’s negligence.

We appreciate the opportunity to submit this proposal and assist the Township on this project. Should you have any questions, please do not hesitate to call me at 732-951-2101, extension 103.

Respectfully submitted,

CME Associates

Behram Turan, P.E., LSRP- Principal
Director of Environmental Services

Enclosure

cc: Michael McClelland, P.E., P.P. - Partner / CME Associates



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Project Task	Anticipated duration
Task 1- Monitoring Well Gauging & Sampling- (Quarterly- Four Rounds)	5 Days each round
Task 2 - Update Public Notification and Receptor Evaluation, Groundwater Remedial Action Permit, Soil Remedial Action Permit, Capping Design and Deed Notice - Reporting and Management	NA