TRC
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September 7, 2017

Mr. Jason Lowery
Wisconsin Department of Natural Resources
PO 7921
101 S. Webster St. RR/5
Madison, WI 53707

Subject: Proposal for Operation and Maintenance (O&M) of Barrett Landfill
New Berlin, Wisconsin
TRC Proposal No. 284993.9990

Dear Mr. Lowery:

The Wisconsin Department of Natural Resources (WDNR) is seeking an experienced and cost-effective consultant to perform required operation and maintenance (O&M) monitoring at the Barrett Landfill in New Berlin.

In order to meet the objectives of the WDNR monitoring program, namely the cost-effective completion of required monitoring and reporting, TRC Environmental Corporation (TRC) provides the following assets:

- TRC's Madison and Brookfield offices employs over 70 environmental professionals. Our proximity to New Berlin will enable us to conduct the proposed monitoring efficiently. Our size means that we can provide the WDNR with a number of experienced professionals who regularly conduct landfill monitoring services.
- Test America has been selected as the analytical laboratory for this proposal. As an industry leading, Wisconsin-accredited laboratory, WDNR will receive standardized electronic data deliverables and high-quality service from the laboratory.
- TRC provides over 35 years of experience conducting O&M services for landfills. WDNR will benefit from this experience because TRC can identify ways to save on O&M expenses by evaluating the site status and making recommendations for changes to monitoring, leachate management, and other aspects of site management.

The attached proposal was developed in response to your Request for Proposal (RFP) dated August 1, 2017. We would be happy to assist the WDNR with the Barrett Landfill O&M. Please contact Katherine at 608-826-3663 if you would like to discuss any aspect of our proposal.

Sincerely,

TRC

Kyle Barber /KAV
Kyle Barber
Project Engineer

Katherine A. Vater
Katherine A. Vater, PE
Proposal Manager

Attachments: Proposal with Attachments

MDN/284993

Operation & Maintenance (O&M) Proposal

Prepared for the WDNR for the Barrett Landfill New Berlin, Wisconsin

September 2017

Prepared by:
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Prepared for:
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1.0 Bidder Certifications

1.1 Health & Safety (Bidder Certifications F & G)

TRC subscribes to Occupational Safety and Health Administration (OSHA)– and United States Environmental Protection Agency (USEPA)–mandated health and safety standards.

The health and safety of TRC Environmental Corp.'s (TRC's) employees is TRC's number one company value. To meet safety objectives, a health and safety plan (HASP) and risk analysis is prepared for each project at which TRC field personnel perform fieldwork. These plans are site-specific and include any client-specific requirements as well. Focusing on health and safety leads to cost effective projects for TRC and our clients. Health and safety plans provide education and protection for personnel working in the field with hazardous materials and conditions in accordance with OSHA and other laws and regulations. TRC has worked on landfill sites doing sampling, oversight, and leachate monitoring for over 35 years. Our experienced staff are familiar with the health and safety topics related to work at landfill sites, and TRC's health and safety program educates and provides protection for our field staff. Attached in Appendix A is TRC's Environmental, Health and Safety Policy certification. Upon request, TRC can provide excerpts of the policy. TRC certifies that upon request, the Wisconsin Department of Natural Resources (WDNR) project manager will receive certification of TRC field staff's applicable health and safety training, prior to the start of field activities.

Because of the wide range of potential exposures for our employees, TRC must make conservative judgments as to potential health risks. The services outlined in this proposal are offered on the basis of providing Level D health and safety protection (coveralls, safety shoes, hard hats, and eye protection only). If additional protection is required for TRC employees to perform these services, then TRC will advise WDNR of the needed protection and any associated increase in compensation before proceeding with the work.

1.2 Experience and Capabilities (Bidder Certifications A & B)

The WDNR is seeking an experienced and cost-effective team to perform the O&M at the Barrett Landfill. The TRC team has proven strength and experience in all project tasks and a local presence to provide prompt responses as needed.

- TRC's Madison and Brookfield offices employ over 70 environmental professionals. Our proximity to New Berlin will enable us to conduct the proposed monitoring efficiently. Our size means that we can provide the WDNR with a number of experienced professionals who regularly conduct landfill monitoring services.
- Test America has been selected as the analytical laboratory for this proposal. As an industry leading, Wisconsin-accredited laboratory, WDNR will receive its standardized electronic data deliverables and high-quality service from the laboratory.
- TRC provides over 35 years of experience conducting O&M services for landfills. WDNR will benefit from this experience because TRC can identify ways to save on O&M expenses by evaluating the site status and making recommendations for changes to monitoring, leachate management, and other aspects of site management.

Highlights

- Understanding of landfills and environmental monitoring for cost effective monitoring and reporting
- Staff from Brookfield and Madison can respond within 24 hours
- Experienced technical expertise at numerous landfill sites in Wisconsin and nation-wide

TRC is a trusted Wisconsin provider of solid waste management experience and expertise spanning 35 years of work and hundreds of projects. Our staff has worked with/for WDNR since the 1970s when many of the solid waste management rules originated. TRC has performed O&M work at least one Wisconsin landfill with gas monitoring, active or passive gas collection system, and GEMS data submittal requirements of at least 50% the value of this proposal and within the last five years. See a detailed list of similar project experience in Appendix B, TRC's Vendor Information Form (DOA-3477) in Appendix C, and TRC's Vendor Reference Form (DOA-3478) in Appendix D.

1.2.1 Experienced Project Team

For over 35 years, TRC has provided environmental and engineering consulting services to landfill clients, which will be a benefit to the WDNR with our knowledge of monitoring and reporting requirements. Below is the proposed project organization chart and brief summaries of staff experience. TRC's Madison office houses administrative, technical, and drafting (GIS and CADD) support services for this project and TRC's Brookfield office will provide field support for leachate monitoring and hauling. TRC will work with TestAmerica Laboratories, Inc. (TestAmerica) for laboratory services (see Section 1.3) and Elite Environmental (Elite) for leachate hauling and disposal. No other subcontractors are proposed for this work.

TRC at a Glance

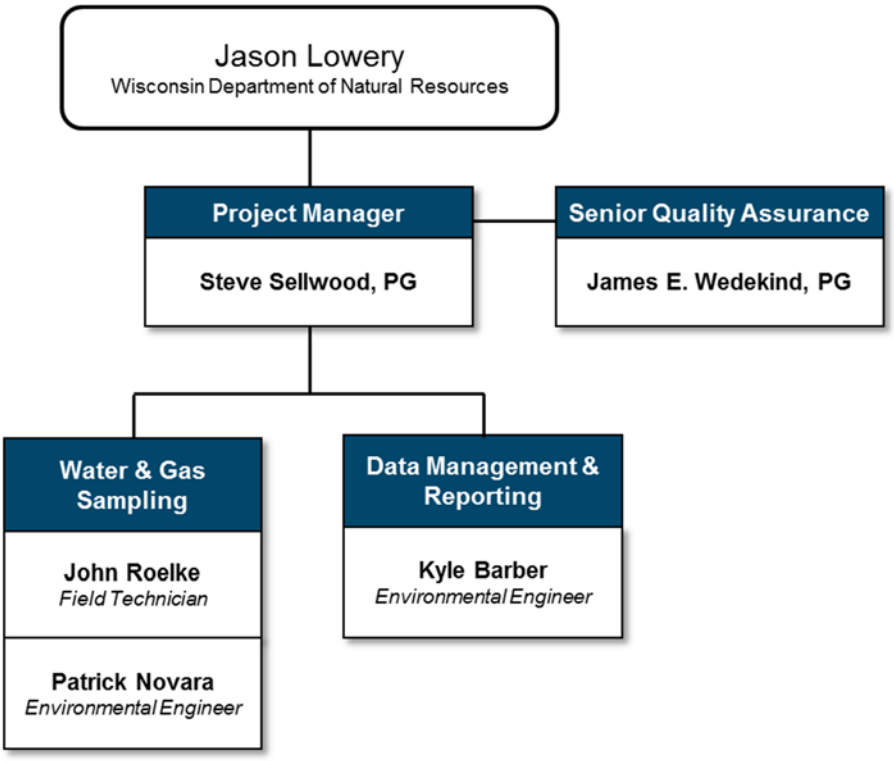
- Over 35 years of experience, with offices in Madison and Brookfield
- Experience with O&M and improved performance of O&M systems for many landfills in the state

Stephen Sellwood, PG, Project Manager

Steve Sellwood will serve as the project manager and the WDNR's primary point of contact. Steve has 10 years of environmental consulting experience, which includes a variety of site investigation and environmental monitoring projects. Steve's experience also includes managing projects that require groundwater sampling, vapor sampling, and disposal of liquid wastes.

James Wedekind, PG, Senior Quality Assurance

James Wedekind will provide overall quality assurance/quality control for monitoring and reporting activities for the project. James' 30 years of environmental consulting experience includes extensive experience with soil and groundwater remedial investigations, remedial action with a variety of contaminants, landfill groundwater monitoring and reporting, project management, and regulatory negotiations. James has experience working on complex landfill projects both in Wisconsin and throughout the Midwest.



John Roelke, Field Technician

John Roelke will be responsible for landfill gas monitoring and groundwater sampling activities. John has over 15 years of experience in the environmental field, providing technical support on numerous solid waste, remediation, and Wisconsin Department of Transportation (WisDOT) projects. He has experience in landfill gas extraction balancing and monitoring probes, groundwater operations and maintenance, leachate extraction, and landfill gas systems. John has performed O&M activities for a number of landfills in Wisconsin, including Sauk County, Dane County – Truax, Muskego/Stone Ridge, and Brookfield landfills.

Patrick Novara, Environmental Engineer

Patrick Novara will be responsible for monitoring leachate levels at the site and coordinating with the leachate hauler. Patrick's experience includes landfill monitoring and industrial hygiene. Patrick works in TRC's Brookfield office located just a few miles from Barrett Landfill. Due to this proximity Patrick will be able to quickly and efficiently access the site to monitor leachate levels and meet with the leachate hauling contractor. Patrick has also performed O&M activities on other landfills in Wisconsin, including the Brookfield landfill.

Kyle Barber, Project Engineer

Kyle Barber will be responsible for managing data collected at the site and reporting the results of O&M activities. Kyle's current work at TRC includes environmental sampling and documentation. Kyle will work with Steve and James to ensure proper documentation of all site activities.

1.3 Laboratory Services (Bidder Certification C)

TRC solicited bids for the laboratory analysis and reporting required for this work. Based on their low-cost and experience with landfill environmental monitoring TestAmerica is selected as the analytical laboratory for this work. TestAmerica will provide full service analytical services for the project. Their laboratories are NELAC accredited and certified in Wisconsin, and will meet the requirements of the Request for Proposal (RFP). TestAmerica has state-of-the art instrumentation and well-trained personnel. The Vendor Reference Form (DOA-3478) is included in Attachment D. TestAmerica has over 25 years of experience providing analytical services for landfill sites. The Vendor Reference Form includes example sites for which TRC has worked with TestAmerica for laboratory analytical services, including landfill sites.

1.4 Field Equipment (Bidder Certification D)

TRC has a comprehensive field services department with all the equipment necessary to complete the field activities required for the operation and maintenance of Barrett Landfill. TRC field equipment is operated and maintained on a routine basis. Sampling equipment is cleaned and decontaminated after each use and calibrated according to manufacturer's specifications, including daily in the field. Any equipment not available in-house at TRC will be rented. TRC maintains several relationships with equipment vendors that can promptly provide reliable equipment. A detailed equipment list is included in Section 2.2 below.

1.5 Responsiveness (Bidder Certification E)

TRC certifies that all required personnel and field equipment will be able to access Barrett Landfill, when necessary, within 24 hours.

2.0 Proposed Scope of Services

The Scope of Services has been developed from the RFP, O&M Plan, site visit, and WDNR responses to bidder questions. Our Proposal includes the following tasks, which are described in more detail in Section 2.1:

1. **2017 Monitoring and Inspection**, which includes biennial groundwater sampling, biennial private well sampling, biennial landfill gas monitoring, and the annual facility inspection. Preparation of the Sampling and Analysis Plan (SAP) and Health and Safety Plan (HASP) are included.
2. **Leachate System Management (decommissioning, commissioning, and monitoring),** which includes the system start-up and shut-down and coordination of leachate hauling, sampling, and leachate head well (LHW) monitoring.
3. **Coordination and oversight of site services,** which includes mowing, tree and brush removal, leachate line cleaning, and land survey.
4. **Data management and reporting**, which includes database management, preparation of annual facility inspection report, biennial landfill gas probe and groundwater monitoring reporting, and biennial submittal of data to GEMS system.

2.1 Scope of Services

TRC will perform the services as described below for the period of October 2017 through September 2018. TRC will perform the following services on a time and materials basis per the attached Schedule of Charges and the Bid Price Sheet.

2.1.1 2017 Monitoring and Inspection

Objective

- To complete the O&M activities, including groundwater sampling, private well sampling, and gas monitoring; facility inspection including roads, fences, gates, and storm water management system; and preparation of the SAP and HASP. All sampling activities are biennial and will be performed in odd-numbered years. Facility inspections will be performed annually.
- Includes Bid Items 1, 3, 4, 15, and 16

Scope of Work

- The O&M activities will be completed in October 2017.
- Prepare a SAP in compliance with WDNR requirements.
- Prepare a site-specific HASP.
- Sample the groundwater monitoring wells (17 wells) and private water supply wells (15 wells) listed in Table 1.
- Submit the groundwater samples to TestAmerica for the required laboratory analyses with the specified reporting requirements for the parameters listed in Table 1 and for all required QC samples. Samples analyzed for dissolved parameters will be field filtered.

- Complete a facility inspection in accordance with the O&M Plan, and complete the Operation and Maintenance inspection forms.
- Perform gas probe monitoring (12 probes with a total of 29 depth intervals) and gas vent inspection as listed in Table 1.
- Sampling will be conducted according to NR 507 requirements, applicable portions of WDNR groundwater sampling guidance PUBL-DG-038 96, and the SAP.

2.1.2 Leachate Management System Decommissioning, Commissioning and Monitoring

Objective

- To decommission the leachate extraction system in the fall and recommission the leachate extraction system in spring. Monitor system during leachate extraction operation to ensure system is operational and coordinate leachate collection activity.
- Includes Bid Items 7 and 8

Scope of Work

- In October 2017, decommission the leachate management system by removing and storing the above ground pipe and winterizing the system.
- In April 2018, commission the leachate management system by connecting the above ground main pipe, testing the system, and activating the leachate pumping system. System commissioning will be conducted while a vacuum truck is present to collect leachate generated during the start-up.
  - Obtain access to WDNR cold storage building which houses necessary parts, tools and equipment to activate/deactivate/manage the leachate management system.
  - Coordinate contracting, training, and oversight of leachate haulers to be present on site at activation of system.
  - Upon commissioning, test and activate system as described in Section 2.6.1 of RFP, perform monitoring necessary to establish baseline leachate levels, and measure height of leachate in lift station.
- In May through September 2018, monitor the leachate management system with monthly inspections.
  - Monthly leachate height at lift station will be taken throughout operational period.
- Subcontract with Elite for leachate hauling and disposal.
  - Coordinate leachate hauling and disposal with Elite as necessary based on monthly leachate monitoring.
  - Disposal of up to 360,000 gallons of leachate is included in the proposal.
- Collect one leachate sample for waste characterization for parameters listed in Table 2.

2.1.3 Coordination and Oversight of Site Services

Objective

- To assist the WDNR with soliciting bids for subcontractor services, subcontractor coordination, and oversight of various services required at the site.
- Includes Bid Items 9, 10, 11, 12, 13, and 14

Scope of Work

- Solicit three competitive bids and provide a summary of the bids to WDNR for their selection of contractors for the following services:
  - Annual landfill cap mowing (2018),
  - Annual perimeter mowing (2018),
  - As needed tree and brush removal from landfill cap (2018),
  - As needed perimeter tree and brush removal (2018),
  - Leachate line cleaning, and
  - Site survey (2017) of monitoring wells, gas probes, and leachate head wells.
- Oversee the condition of the site following mowing and tree & brush removal in 2018.
- Oversee the leachate line cleaning and site survey in 2017.
- Bids for 2017 services will be solicited in October 2017 and scheduled as possible for 2017.
- Bids for 2018 services will be solicited in early 2018 in time for WDNR to select a contractor for the 2018 growing season.

2.1.4 Data Management and Reporting

Objective

- To complete data management evaluation and reporting for inspection and monitoring activities.
- Includes Bid Items 2, 5 and 6

Scope of Work

- Perform compilation and quality assurance review of field and laboratory data.
- Summarize the groundwater, private well, and gas monitoring data to include in the Annual O&M Report, including data summary tables, a site location map, well and gas probe location map, and a water table map.
  - Prepare a site inspection report, including photo log, to include in the Annual O&M Report.
  - Provide a brief narrative report summarizing site activities for 2017 and provide recommendations for 2018 monitoring program and repairs.

2.2 Proposed Equipment

A list of field equipment TRC will use and provide for the O&M at Barrett Landfill follows in the table. Equipment is either available from TRC's field services (both Brookfield and Madison offices) or from rentals.

Proposed Equipment

Description	Location
Field Vehicle (4 wheel drive)	TRC/rental
Water level indicator	TRC
Turbidity meter	TRC
YSI 556 multi-parameter water quality meter	TRC
Pump (Bladder anticipated, but TBD based on site conditions)	TRC/rental
Landtec GEM2000 gas meter (an Explosimeter and Flame Ionization Detector may be substituted as equivalent)	TRC/rental
Air compressor	TRC
Disposables/PPE (gloves, buckets, etc.)	TRC
Sample bottles and coolers	TestAmerica
Capsule filters	TRC

2.3 Deliverables

TRC will prepare the following deliverables:

- SAP
- HASP
- 2017 Annual O&M Report will be submitted to WDNR following receipt of the 2017 laboratory analytical data.
- 2017 Electronic GEMS submittal will be submitted in conjunction with the 2017 Annual O&M Report, following receipt of laboratory analytical data.
- Documentation of the WDNR's operation of the leachate management system for 2017 will be summarized in the 2017 Annual O&M Report, including any issues or repairs required. The 2018 operation of the leachate management system will be summarized in the 2018 Annual O&M Report, which is not included in the scope of this proposal.

2.4 Schedule

TRC can begin work on the project immediately after receiving your notice to proceed and Purchase Order. Anticipated activities include:

- October 2017: Biennial groundwater sampling, private well sampling, and landfill gas sampling
- October/November 2017: Decommissioning of the leachate management system
- April 2018: Commissioning of the leachate management system
- May through September 2018: Monthly oversight of the leachate management system

3.0 Cost Proposal

TRC proposes to perform the O&M as described in the Scope of Services and RFP for the costs shown on the Bid Price Sheet in Appendix E. Alternatively to the format of the Bid Price Sheet, and if agreed upon by WDNR, TRC can manage the project as described in the Scope of Services and summarized below. Lumping Bid Items into like categories will allow WDNR and TRC to manage the project most effectively since the scope items will be combined together into the same Tasks. Should the WDNR request TRC to make changes in the services or to perform additional services, TRC will prepare a Change Order for the WDNR's acceptance based on the time and materials rates attached in the Schedule of Charges (Appendix F).

Project Budget

Task	Budget
Task 1. 2017 Monitoring and Inspection (Bid Items 1, 3, 4, 15, and 16)	$11,750
Task 2. Leachate Management System Decommissioning, Commissioning, and Monitoring (Bid Items 7 and 8)	$23,500
Task 3. Coordination and Oversight of Site Services (Bid Items 9, 10, 11, 12, 13, and 14)	$2,150
Task 4. Data Management and Reporting (Bid Items 2, 5, and 6)	$5,100
Task 5. Fixed Annual Repair Contingency (Bid Item 17)	$5,000
Total	**$47,500**

3.1 Basis for Cost Estimate

- The groundwater monitoring, private well sampling, gas probe monitoring, and site inspection will be completed by TRC's field technician during one mobilization (of up to five days) to the site.
- Any issues identified during the site inspection will be resolved by WDNR or under a separate scope of work. No cost for repairs are included in these Bid Items.
- The wells have not been damaged to the point of making them unusable, unsafe, or unreliable, or access has not been impaired or restricted. WDNR will make keys for locks available. New locks are not included in this proposal.
- WDNR will coordinate all access with private property owners for private well sampling, and access will be obtained with sufficient notice for TRC to schedule the sampling work in conjunction with other site activities. No separate mobilizations for private well sampling are included in the bid. TRC's bid includes collection of a private well sample from an exterior tap. If no exterior tap is available, TRC can sample the indoor tap closest the well. TRC has include 30 minutes per private well sample in this proposal; if sampling the indoor tap requires further coordination, scheduling, or time, TRC will provide a Change Order.
- Poor field or inclement weather conditions will not hamper fieldwork.
- Laboratory analyses will meet the requirements of the RFP.
- Purge water will be disposed of at the ground surface or into the leachate collection tanks, if accessible.

- One day per month is budgeted for TRC's field technician to complete leachate monitoring, commissioning, and decommissioning activities, including October 2017 (decommissioning), April 2018 (commissioning), and May through September 2018 (monthly monitoring).
- Any issues identified during the operation of the leachate management system will be resolved by WDNR or under a separate scope of work. No cost for filters, oil, or repairs are included in these Bid Items.
- WDNR will provide access to the cold storage building and any other related facilities, equipment, etc. as needed for leachate management system operation.
- Disposal of up to 360,000 gallons of leachate is included in the proposal. Leachate hauling is anticipated to be scheduled on a monthly basis. More frequent hauling can be coordinated without field visits. If additional field visits (beyond one per month) are required a Change Order will be provided to WDNR for review.
- A $250 allowance has been included for coordination of items 9, 10, 11, 12, and 14, including solicitation of three bids and scheduling. Inspection or oversight of items 9, 10, 11, and 12 will be coordinated to be completed either in conjunction with a monthly leachate monitoring visit or during the October 2017 sampling event. Item 14 will be coordinated to be completed during the October 2017 sampling event. If additional coordination or oversight is required, it will be billed on a time-and-materials basis. The contractor services required for items 9, 10, 11, 12, and 14 are assumed to be contracted directly by WDNR following receipt of bid comparison from TRC. If WDNR would like a cost for any or all of these services, please contact TRC and we can provide a cost.
- A $900 allowance has been included for coordination and oversight of Item 13, including solicitation of three bids and scheduling. Oversight of Item 13 includes one TRC staff member for one day of oversight.
- Surveyor will provide electronic survey data for incorporation into site figures for O&M reporting.
- 2018 site activities, including leachate management, will be reported on in the 2018 Annual O&M report, anticipated to be prepared following the October 2018 site inspection. The 2018 Annual O&M report preparation is not included in this proposal.
- Submittals to the WDNR will be electronic copy only.
- In accordance with the RFP, TRC obtained costs from TestAmerica to conduct the analyses for the listed sampling program. In addition, all requested field analyses will be conducted by TRC during sample collection.
- If additional parameters or wells are analyzed at the WDNR's request, then additional costs will be incurred consistent with an approved Change Order and the Schedule of Charges.
- Field blanks and duplicate samples will be provided as requested in the RFP.
- WDNR will provide the most recent laboratory analytical data and/or report for the site for preparation of the site-specific HASP.
- The prices included in this proposal apply only to the quantities per year as listed in the RFP. Any additional monitoring requests will be conducted on a time and materials basis consistent with the Schedule of Charges.

- All sampling will be conducted in Level D personal protective equipment.

3.2 Basis for Payment

TRC will submit invoices monthly in accordance with the rate schedule that is in effect when the work is performed.

3.3 Terms of Contract

TRC understands the work will be performed under the WDNR Standard Terms and Conditions (DOA-3054 (R10/2005) and the Supplementary Standard Terms and Conditions for Procurements for Services (DOA-3681 (01/2001), as included in the Request for Proposal.

3.4 Schedule of Charges

The work will be conducted on a time and materials basis according to the proposed Schedule of Charges (attached in Appendix F). Work beyond the base scope as outlined in Section 2 of this Proposal shall be billed on a time and materials basis consistent with the attached Schedule of Charges. TRC shall prepare a Change Order for review by the WDNR prior to conducting any additional work on a time and materials basis.

3.5 Proposal Duration

This proposal is valid for one hundred twenty (120) days from the date of the proposal.

Table 1
Monitoring Program

Monitoring Points	Parameters	Frequency
GP-1, GP-2S, GP-2D, GP-3S, GP-3M, GP-3D, GP-4, GP-5S, GP-5M, GP-5D, GP-6S, GP-6M, GP-6D, GP-7, GP-8S, GP-8M, GP-8D, GP-9S, GP-9M, GP-9D, GP-10S, GP-10M, GP-10D, GP-11S, GP-11M, GP-11D, GP-12S, GP-12M, GP-12D	Barometric pressure, temperature, carbon dioxide (%), % LEL as methane, oxygen (%)	Biennially – 2017
B-96-13A, B-94-14A, B-94-14R, B-15, B-15A, B-96-17, B-96-17A, B-96-18A, B-96-18B, B-94-19A, B-21, B-21A, W-23, W-23A, W-24, B-94-25, B-94-25A	Field conductivity (25°C), field pH, field temperature, field turbidity, water level elevation (MSL), dissolved arsenic, chloride, total kjeldahl nitrogen, lead, nickel, dissolved manganese, nitrate plus nitrite, sulfates, total magnesium, total chromium	Biennially – 2017
Private Wells (GEMS ID) 246, 245, 244, 243, 242, 240, 953, 241, 236, 237, 238, 951, 239, 952, 950	Field conductivity (25°C), field pH, field temperature, field turbidity, arsenic, chloride, lead, manganese, nitrate plus nitrite, total magnesium, total chromium	Biennially – 2017
Leachate Sampling	EPA 1664, SM 4500-CL-E, EPA 350.1, EPA 200.7, EPA 8260B, EPA 365.1, SM 4500-H+B/SW 846 9040C, EPA 245.1, ASTM D1252-95B, SW846 Method 8270D PAH in Water	Annual – 2017

Table 2
Leachate Analysis Parameters

Leachate Laboratory Analysis			
Volatiles (EPA 8260B in Water)	**Metals**	**PAHs**	**Other**
1,1,1,2-Tetrachloroethane	Boron, total	1-Methylnaphthalene	Oil & grease hexane extractable material
1,1,1-Trichloroethane	Potassium, total	2,7-Dimethyl naphthalene	
1,1,2,2-Tetrachloroethane	Sodium, total	2-Methylnaphthalene	
1,1,2-Trichloroethane	Aluminum, total	Acenaphthene	
1,1-Dichloroethane	Antimony, total	Acenaphthylene	Chloride
1,1-Dichloroethylene	Arsenic, total	Anthracene	
1,1-Dichloropropene	Barium, total	Benzo (a) anthracene	
1,2,3-Trichlorobenzene	Beryllium, total	Benzo (a) pyrene	Nitrogen (diss. NH3)
1,2,3-Trichloropropane	Cadmium, total	Benzo (b) fluoranthene	
1,2,4-Trichlorobenzene	Calcium, total	Benzo (g h i) perlyene	Acetone
1,2,4-Trimethylbenzene	Chromium, total	Benzo (k) fluoranthene	
1,2-Dibromo-3-chloropropane	Cobalt, total	Benzo(e)pyrene	Phosphorus, total
1,2-Dibromoethane	Copper, total	Chrysene	
1,2-Dichlorobenzene	Iron, total	Coronene	pH
1,2-Dichloroethane	Lead, total	Dibenzo (a h) anthracene	
1,2-Dichloroethylene-cis	Magnesium, total	Fluoranthene	COD
1,2-Dichloroethylene-trans	Manganese, total	Fluorene	
1,2-Dichloropropane	Molybdenum, total	Indeno (1,2,3-c d) pyrene	
1,3,5-Trimethylbenzene	Nickel, total	Naphthalene	
1,3-Dichlorobenzene	Selenium, total	Phenanthrene	
1,3-Dichloropropane	Silver, total	Pyrene	
1,3-Dichloropropene-cis	Strontium, total	Retene	
1,3-Dichloropropene-trans	Thallium, total		
1,4-Dichlorobenzene	Titanium, total		
2,2-Dichloropropane	Vanadium, total		
2-Chlorotoluene	Zinc, total		
Benzene	Mercury, total		
Bromobenzene			
Bromochloromethane			
Bromodichloromethane			
Bromoform			
Bromomethane			
Butylbenzene-sec			
Butylbenzene-tert			
Carbon disulfide			
Carbon tetrachloride			

Table 2 (continued)
Leachate Analysis Parameters

Leachate Laboratory Analysis			
Volatiles (EPA 8260B in Water)	**Metals**	**PAHs**	**Other**
Chlorobenzene			
Chloroethane			
Chloroform			
Chloromethane			
Dibromochloromethane			
Dibromomethane			
Dichlorodifluoromethane			
Diisopropyl ether			
Ethylbenzene			
Hexachlorobutadiene			
Hexane, mixture of isomers			
Isopropylbenzene			
m/p-Xylene			
Methyl ethyl ketone			
Methyl isobutyl ketone (MIBK)			
Methyl tert butyl ether			
Methylene chloride			
n-Butylbenzene			
n-Propylbenzene			
Naphthalene			
o-Xylene			
p-Chlorotoluene			
p-Isopropyltoluene			
Styrene			
Tetrachloroethylene			
Tetrahydrofuran			
Toluene			
Trichloroethylene			
Trichlorofluoromethane			
Trichlorotrifluoroethane			
Vinyl chloride			

Appendix A
TRC Environmental, Health and Safety Policy Certification

Health and Safety Management System

TRC

Results you can rely on

TRC COMPANIES, INC.
Environmental, Health and Safety Policy

TRC is committed to Environmental, Health and Safety (EHS) excellence in its business activities as a means to create value for people, the environment, and the communities in which we work and live. Maintaining a safe and healthy workplace and responsibly managing natural resources are essential to the quality of life and to TRC's long-term business success.

We are therefore committed to the following:

- Providing a workplace free of recognized hazards and maintaining healthy working conditions.
- Complying with applicable EHS regulatory requirements.
- Making environmental, health and safety considerations a priority in business planning and decision-making.
- Identifying hazards in the workplace, assessing the risks related to them and implementing precautions to mitigate those risks.
- Managing our business to effectively and efficiently utilize natural resources.
- Developing the necessary employee knowledge and skills to work safely, protect the environment and comply with applicable regulations.
- Maintaining objectives and targets in the pursuit of continual improvement of our EHS performance.
- Promoting sustainable operations and business practices.
- Selecting business partners who share our EHS values.
- Maintaining alignment between stakeholders' expectations and our EHS performance through regular communication.

Conformance with this policy is the responsibility of everyone working for or on behalf of TRC:

- Our leadership is accountable for managing EHS risks, opportunities and impacts as an integral part of our business.
- All employees are accountable for understanding and incorporating EHS responsibilities into daily work activities.
- Contractors, suppliers and partners are accountable for supporting and following TRC's EHS requirements and expectations.

Christopher P. Vincze
Chairman and CEO

Thomas W. Bennet, Jr.
Chief Risk Officer

11/10/15

MASTER DOCUMENT LIST

TRC HEALTH AND SAFETY MANAGEMENT SYSTEM PROCEDURES

PR01 Health and Safety Policy Procedure

PR02 Hazard and Aspect Identification, Risk Assessment, and Determining Controls Procedure

PR03 Legal and Other Requirements Procedure

PR04 Objectives and Targets Procedure

PR05 Roles and Responsibilities Procedure

PR06 Competence, Training and Awareness Procedure

PR07 Control of Documents Procedure

PR08 Operational Control Procedure

PR09 Emergency Preparedness and Response Procedure

PR10 Evaluation of Compliance Procedure

PR11 Incident Investigation, Nonconformance, and Corrective and Preventative Action Procedure

PR12 Management Review Procedure

TRC HEALTH AND SAFETY MANAGEMENT SYSTEM COMPLIANCE PROGRAMS

CP001 Hazard Communication Program

CP002 Risk Analysis / Site-Specific Health and Safety Program

CP003 Personal Protective Equipment Program

CP004 Electrical Safety Program

CP005 Lockout/Tagout Program

CP006 Fall Protection Program

MASTER DOCUMENT LIST
(Continued)

TRC HEALTH AND SAFETY MANAGEMENT SYSTEM COMPLIANCE PROGRAMS (Continued)

CP007 Respiratory Protection Program

CP008 Confined Space Program

CP009 Health and Safety Training Program

CP010 First Aid/CPR/AED and Bloodborne Pathogens Program

CP011 Heat Stress Program

CP012 Cold Stress Program

CP013 Hearing Conservation Program

CP014 Radiation Safety Program

CP015 Behavior-Based Safety Program

CP016 TRC Vehicle Safety Program

CP017 Subcontractor Management Program

CP018 Short Service Employee Program

CP019 TRC Incident Response and Lessons Learned Program

CP020 Office Safety Inspection Program

CP021 Fatigue Management Program

CP022 Site Supervisor Program

CP023 Electric Power Transmission and Distribution Program

CP024 Excavation and Trench

CP025 Stairways and Ladders

MASTER DOCUMENT LIST
(Continued)

TRC HEALTH AND SAFETY MANAGEMENT SYSTEM COMPLIANCE PROGRAMS (Continued)

CP026 Aerial Lift Program

CP027 Fitness for Duty Program

CP028 Preventative Maintenance Program

Appendix B
TRC Summary of Experience

TRC Summary of Experience
Environmental Monitoring/Database Management/Reporting Services

Client	Type of Site	Frequency of Monitoring	Statistical Analysis	Laboratory Program	Regulatory Negotiation	Data Validation	Database Management	Reporting
Algoma Landfill - WI (#1375)	Municipal solid waste landfill – Superfund site	Quarterly/Semiannual/ Annual	Yes	Superfund/ indicators, VOCs, cyanide	Yes	Yes	Yes	Yes
Appleton Papers Landfill - WI (#2781)	CCR and pulp landfill	Background (monthly/quarterly)	None	Metals, indicators, VOCs	Yes	No	Yes	Yes
Badger Mining - St. Marie, WI (#2678)	Foundry landfill	Quarterly	None	Indicators, metals, VOCs	Yes	No	Yes	Yes
City of Altoona - WI (#3093)	Municipal solid waste landfill	Quarterly	None	Indicators, metals, VOCs	Yes	No	Yes	Yes
City of Madison Closed Landfills (Demetral and Mineral Point) - WI (#2894, 2605)	Municipal solid waste landfills	Periodic	Upload of historic data and conduct of analysis relative to area water quality and leachate	Metals, indicators, VOCs	Yes	No	Yes	Yes
Cook Composites & Polymers - Saukville, WI (#1832)	Chemical manufacturing facility	Quarterly	None	VOCs	Yes	Yes	Yes	Yes
Dairyland Power Cooperative Landfill - WI (#3081)	CCR landfill	Background (monthly/quarterly)	None	Metals, indicators, VOCs	Yes	No	Yes	Yes
Dane County, Rodefeld Landfill – Madison, WI	Municipal landfill	Monthly	None	Metals, Indicators, VOCs, Subtitle D	Yes	No	Yes	Yes
Falk Corporation Landfill - Milwaukee, WI (#1882)	Foundry landfill	Quarterly	Calculation of site-specific action levels for groundwater indicator parameters	Metals, indicators	Yes	No	Yes	Yes

TRC Summary of Experience
Environmental Monitoring/Database Management/Reporting Services

Client	Type of Site	Frequency of Monitoring	Statistical Analysis	Laboratory Program	Regulatory Negotiation	Data Validation	Database Management	Reporting
Green County Landfills - WI (#137)	Closed and active county landfills	Quarterly/Semiannual	Calculation of site-specific action levels for groundwater indicator parameters	Metals, indicators, SVOCs, VOCs (Subtitle D at active)	Yes	Yes	Yes	Yes
Lake Area Disposal Landfill - WI (#3318)	Municipal solid waste landfill	One time	Upload of previously collected data and statistical analysis with comparison to leachate quality	Metals, indicators, VOCs	Yes	No	Yes	Yes
Lemberger Landfills - WI (#753)	Sanitary and industrial landfills - Superfund sites	Monthly/Quarterly/ Annual	None	Indicators, metals, PCB/pesticides, SVOCs, VOCs	Yes	Yes	Yes	Yes
Lincoln County Landfill - WI (#2901)	Municipal solid waste landfill	Semiannual	Calculation of site-specific action levels for groundwater indicator parameters	Metals, indicators, VOCs	Yes	No	Yes	Yes
Republic, Kestrel Hawk Park RDF - Racine, WI (#21739)	Municipal solid and hazardous waste landfill	Quarterly/Semiannual	Calculation of site-specific action levels for groundwater indicator parameters	NR 500, 635 Subtitle D, RFI/QAPP, Appendix I Priority Pollutant List	Yes	Yes	Yes	Yes
Veolia Emerald Park Landfill - WI (#2655)	Municipal solid waste landfill	Quarterly	Calculation of site-specific action levels for groundwater indicator parameters	Metals, indicators, VOCs	Yes	No	Yes	Yes
Veolia Hickory Meadows – Chilton, WI	Municipal Landfill	Quarterly	Yes	NR 500, Subtitle D, Metals, VOCs	Yes	No	Yes	Yes
Veolia Valley Meadows Landfill - WI (#3099)	Municipal solid waste landfill	Quarterly	Calculation of site-specific action levels for groundwater indicator parameters	Metals, indicators, VOCs	Yes	No	Yes	Yes

TRC Summary of Experience
Environmental Monitoring/Database Management/Reporting Services

Client	Type of Site	Frequency of Monitoring	Statistical Analysis	Laboratory Program	Regulatory Negotiation	Data Validation	Database Management	Reporting
Veolia/Republic, Mallard Ridge Landfill - Delavan, WI (#2230)	Municipal solid waste landfill	Quarterly	None	Metals, indicators, VOCs	Yes	No	Yes	Yes
Village of Deforest –WI	Municipal landfill	Annual	None	Metals, indicators, VOCs, SVOCs	Yes	No	Yes	Yes
Waupaca Foundry – Waupaca, WI	Foundry landfill	Monthly/Quarterly	Yes	Metals, Indicators	Yes	Yes	No	Yes
WisDOT - WI	Various	Variable	Yes	Metals, VOCs	Yes	No	No	Yes
WMI, Timberline Trail Landfill - Ladysmith, WI (#2801)	County landfill	Quarterly	None	NR 508, Subtitle D	Yes	No	Yes	Yes
WPL - WI (6 licensed sites)	CCR landfills	Semiannual	None	Metals, indicators	Yes	No	Yes	Yes
Numerous WMI Closed Landfills – WI	Municipal landfills	Various	Yes	Metals, indicators, VOCs, SVOCs	Yes	Yes	Yes	Yes
Boone County Landfill - Belvidere, IL (#2628)	Municipal solid waste landfill	Quarterly/Semiannual	None	Indicators, metals, VOCs, SVOCs, pesticides, PCBs	Yes	No	No	Yes
Industrial Foundry - IL (#2219)	Foundry landfill	Quarterly	None	Metals, indicators	Yes	No	No	No
Industrial Foundry - IL (#2185)	Foundry landfill	Quarterly	Comparison of background concentrations to those in compliance wells using prediction intervals	Metals, indicators, VOCs	Yes	Yes	Yes	Yes
Municipal Landfill - IL (#2963)	Municipal solid waste landfill	Quarterly	None	Indicators, metals, VOCs, SVOCs, pesticides, PCBs	Yes	No	No	No

TRC Summary of Experience
Environmental Monitoring/Database Management/Reporting Services

Client	Type of Site	Frequency of Monitoring	Statistical Analysis	Laboratory Program	Regulatory Negotiation	Data Validation	Database Management	Reporting
Confidential Client - Columbia City, IN	IDEM VRP	Quarterly	Trend Analysis	MNA Parameters, VOCs	Yes	Yes	Yes	No
Confidential Client - Richmond, IN	RCRA, IDEM VRP	Semiannual	Sen's Trend Test, Mann-Kendall	VOCs, Metals, Inorganics	Yes	Yes	Yes	No
Major Oil Company - IN (#2522)	Petroleum product terminal distribution center	Quarterly	None	Indicators, VOCs	Yes	No	Yes	Yes
Waupaca Foundry – Tell City, IN	Foundry landfill	Monthly/Quarterly	Yes	Metals, Indicators	Yes	Yes	No	Yes
IPL - IA (5 licensed sites)	CCR landfills	Annual	Yes	Metals, indicators	Yes	No	Yes	Yes
Fort Madison Mosaic – IA	Gypsum industrial landfill	Various	Yes	Ammonia	Yes	No	Yes	Yes
Confidential Client - Benton Harbor, MI	Part 201	Quarterly	None	MNA Parameters, VOCs, Chemical Oxidation Effectiveness	Yes	Yes	Yes	Yes
Liberty Environmentalist Landfill - Jackson County, MI	Part 201 / Part 115	Quarterly	Part 201 Comparisons, Prediction Limits	VOCs, Metals, Inorganics	Yes	Yes	Yes	No
Confidential Client - Mount Pleasant, MI	Part 201	Quarterly	Mann-Kendall, Sen's Trend Test	MNA Parameters, VOCs, Metals Inorganics	Yes	Yes	Yes	No
Confidential Client - Lansing, MI	Part 115 / Part 111	Quarterly	Prediction Limits	VOCs, Metals, Inorganics	Yes	Yes	Yes	No
Confidential Client - St. Johns, MI	Part 201	Quarterly	Trend Analysis	VOCs	Yes	Yes	Yes	No

TRC Summary of Experience
Environmental Monitoring/Database Management/Reporting Services

Client	Type of Site	Frequency of Monitoring	Statistical Analysis	Laboratory Program	Regulatory Negotiation	Data Validation	Database Management	Reporting
Confidential Client - Cooley Lake, MI	Part 201	Quarterly	None	MNA Parameters, VOCs	Yes	Yes	Yes	No
Confidential Client - Mount Pleasant, MI	Part 201	Semiannual	Trend Analysis	VOCs	Yes	Yes	Yes	No
WMI, Butterworth Landfill - MI (#3938)	Superfund landfill site	Quarterly	None	Indicators, metals, pesticides/PCBs, SVOCs, herbicides	Yes	Yes	Yes	Yes
Major Oil Company - MI (#2764)	Pipeline remediation	Semiannual	None	Indicators, VOCs	Yes	No	Yes	Yes
Marquette Board of Light and Power - MI (#3143)	CCR landfill	Quarterly	Compare current groundwater results to calculated background tolerance limits	Indicators, metals	Yes	Yes	Yes	Yes
Municipal/Industrial Landfill - MI (#2046)	Municipal solid waste landfill/state Superfund site	Quarterly	Confidence intervals for risk assessment exposure concentrations	Metals, indicators, VOCs	Yes	Yes	Yes	Yes
Systech - MI (#1901)	Commercial hazardous waste storage facilities	Quarterly	Upload/entry of historic data and calculations of site-specific action levels for groundwater indicator parameters using tolerance intervals	Indicators, metals, VOCs	Yes	No	Yes	Yes
SKF Industries - MO (#198)	Foundry landfill	Quarterly	Exceptions reporting	Indicators, metals, VOCs	Yes	No	Yes	Yes
Waupaca Foundry – Etowah, TN	Foundry landfill	Monthly/Quarterly	Yes	Metals, Indicators	Yes	Yes	No	Yes

Appendix C
Vendor Information Form (DOA-3477)

STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DIVISION OF ENTERPRISE OPERATIONS
BUREAU OF PROCUREMENT
S. 16.765, WIS. STATS.
DOA-3477 (R02/15)

Bid / Proposal # Barrett Landfill O&M

Commodity / Service

Vendor Information

1. BIDDING / PROPOSING COMPANY NAME TRC Environmental Corporation

   Phone (608) 826-3600 Toll Free Phone ( )

   FAX ( ) E-Mail Address

   Address 708 Heartland Trail, Suite 3000

   City Madison State WI Zip + 4 53717

2. Name the person to contact for questions concerning this bid / proposal.

   Name Katherine Vater Title Project Manager

   Phone (608) 826-3663 Toll Free Phone ( )

   FAX ( ) E-Mail Address kvater@trcsolutions.com

   Address 708 Heartland Trail, Suite 3000

   City Madison State WI Zip + 4 53717

3. Any vendor awarded over $50,000 on this contract must submit affirmative action information to the department. Please name the Personnel / Human Resource and Development or other person responsible for affirmative action in the company to contact about this plan.

   Name Title

   Phone ( ) Toll Free Phone ( )

   FAX ( ) E-Mail Address

   Address

   City State Zip + 4

4. Mailing address to which state purchase orders are mailed and person the department may contact concerning orders and billings.

   Name Katherine Vater Title Project Manager

   Phone (608)826-3663 Toll Free Phone ( )

   FAX ( ) E-Mail Address kvater@trcsolutions.com

   Address 708 Heartland Trail, Suite 3000

   City Madison State WI Zip + 4 53717

5. CEO / President Name Christopher Vince

This document can be made available in alternate formats to individuals with disabilities upon request.

Appendix D
Vendor Reference Form (DOA-3478) for TRC Environmental Corp. and TestAmerica Laboratories, Inc.

STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DIVISION OF ENTERPRISE OPERATIONS
DOA-3478 (R06/2013)

STATE BUREAU OF PROCUREMENT
101 E. WILSON ST. / P. O. BOX 7867
MADISON, WI 53707-7886
(608) 266-2605 / FAX (608) 267-0600

Bid / Proposal # Barrett Landfill O&M

VENDOR REFERENCE

FOR VENDOR: TRC Environmental Corporation

Provide company name, address, contact person, telephone number, and appropriate information on the product(s) and/or service(s) used for four (4) or more projects with requirements similar to those included in this solicitation document. If vendor is proposing any arrangement involving a third party, the named references should also be involved in a similar arrangement.

Company Name Green County
Address (include Zip + 4) W2002 CTH SS, Broadhead, WI 53520
Contact Person Mr. Randy Thompson Phone No. (608) 558-6605
Email Address
List Product(s) and/or Service(s) Used:

Annual landfill groundwater sampling and reporting for over 25 years.

Company Name Dane County Truax Landfill
Address (include Zip + 4) 4000 International Lane, Madison, WI 53704-3120
Contact Person Mr. Mike Kirchner Phone No. (608) 246-3393
Email Address
List Product(s) and/or Service(s) Used:

Landfill design engineering services and construction oversight, environmental monitoring, soil testing, and other consulting services for over 20 years.

Company Name Rexnord
Address (include Zip + 4) 3001 W. Canal Street, Milwaukee, WI 53208
Contact Person Mr. Tom Frost Phone No. (414) 937-4332
Email Address
List Product(s) and/or Service(s) Used:

Falk Landfill - Landfill closure engineering services, post-closure monitoring, and other consulting services for over 25 years.

Company Name Republic Services, Inc.
Address (include Zip + 4) 1989 Oakes Road, Racine, WI 53406
Contact Person Mr. Mike Williams Phone No. (262) 884-7080
Email Address
List Product(s) and/or Service(s) Used:

Kestrel Hawk Recycling & Disposal Facility - Landfill design engineering services and construction oversight, environmental monitoring and reporting for over 10 years.

This document can be made available in accessible formats to qualified individuals with disabilities

STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DIVISION OF ENTERPRISE OPERATIONS
DOA-3478 (R06/2013)

STATE BUREAU OF PROCUREMENT
101 E. WILSON ST. / P. O. BOX 7867
MADISON, WI 53707-7886
(608) 266-2605 / FAX (608) 267-0600

Bid / Proposal # Barrett Landfill O&M

VENDOR REFERENCE

FOR VENDOR: Test America Laboratories, Inc.

Provide company name, address, contact person, telephone number, and appropriate information on the product(s) and/or service(s) used for four (4) or more projects with requirements similar to those included in this solicitation document. If vendor is proposing any arrangement involving a third party, the named references should also be involved in a similar arrangement.

Company Name Wisconsin Department of Transportation
Address (include Zip + 4) P.O. Box 7965, Room 451, Madison, WI 53707-7965
Contact Person Sharlene TeBeest Phone No. 608-266-1476
Email Address sharlene.tebeest@dot.wi.gov
List Product(s) and/or Service(s) Used:

Test America Laboratories, Inc. used for sample analysis and reporting.

Company Name Alliant Energy
Address (include Zip + 4) 4902 N. Biltmore Lane, Madison, WI 53718
Contact Person Jill Stevens Phone No. 608-458-0446
Email Address JillStevens@alliantenergy.com
List Product(s) and/or Service(s) Used:

Test America Laboratories, Inc. used for sample analysis and reporting.

Company Name City of Algoma
Address (include Zip + 4) 416 Fremont Street, Algoma, WI 54201-1397
Contact Person Jeff Wiswell Phone No. 920-487-5203
Email Address jeff.wiswell@algomacity.org
List Product(s) and/or Service(s) Used:

Test America Laboratories, Inc. used for sample analysis and reporting.

Company Name Carbo Ceramics, Inc.
Address (include Zip + 4) 575 N. Dairy Ashford Road, Suite 300, Houston, TX 77079
Contact Person Jason M. Goodwin Phone No. 281-921-6472
Email Address jason.goodwin@carboceramics.com
List Product(s) and/or Service(s) Used:

Test America Laboratories, Inc. used for sample analysis and reporting.

Appendix E
WDNR Bid Price Sheet

BID PRICE SHEET

July, 2017 SIMPLIFIED BID
OPERATION AND MAINTENANCE BARRETT LANDFILL
NEW BERLIN, WAUKESHA COUNTY, WISCONSIN

NOTE TO BIDDERS: All blank spaces requiring input below must be filled in, in BLACK INK. Bid items are described in the Scope of Work. The bidder agrees to accept as full payment for the work proposed under this project (as shown in the Scope of Work and as based upon the undersigned's own estimate of quantities and costs) the following bid amounts for the initial 1 year contract term. Actual quantities may vary as DNR and Contractor evaluate and adjust the O&M tasks and schedule.

BID ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
1	Annual inspection of facility components and any specified repairs that are Contractor's responsibility (2017)	Total $ per event	1	$600	$600
2	Annual preparation of facility components inspection report (2017)	Total $ per event	1	$1,400	$1,400
3	Biennial landfill gas probe monitoring and testing (2017)	Total $ per event	1	$1,200	$1,200
4	Biennial groundwater monitoring well and private well sampling and analysis (2017)	Total $ per event	1	$8,900	$8,900
5	Biennial preparation of landfill gas and groundwater monitoring report (2017)	Total $ per event	1	$3,500	$3,500
6	Biennial electronic submittal of data to GEMS system (2017)	Total $ per event	1	$200	$200
7	Leachate system commissioning and de-commissioning (fall 2017& spring 2018)	Total $ per year	1	$1,900	$1,900
8	Leachate hauling and disposal -includes sampling (2017/2018)	Total $ per gallon	360,000 gallons	$0.06	$21,600
9	Coordination of contract and oversight of landfill cap mowing (annual)	Total $ per event	1	$250	$250
10	Coordination of contract and oversight of perimeter mowing (annual)	Total $ per event	1	$250	$250
11	Coordination of contract and oversight of landfill cap tree & brush removal (as needed)	Total $ per event	1	$250	$250
12	Coordination of contract and oversight of perimeter tree & brush removal (as needed)	Total $ per event	1	$250	$250
13	Coordination of contract and oversight of leachate line cleaning (2017)	Total $ per event	1	$900	$900
14	Coordination of contract and oversight of professional survey of monitoring wells, gas probes and leachate head wells (2017/2018)	Total $ per event	1	$250	$250
15	Preparation of SAP	Total $ amount per contract term	1	$800	$800
16	Preparation of HASP	Total $ amount per contract term	1	$250	$250
17	Fixed Annual Repair Contingency for all Bidders (unexpected repairs, not including filters or oil)	Total $ amount per contract term per year	1	$5,000	$5,000
18	**Total Bid Amount** (sum of items 1-17 above)				$ 47,500

BID PRICE SHEET

July, 2017 SIMPLIFIED BID
OPERATION AND MAINTENANCE BARRETT LANDFILL
NEW BERLIN, WAUKESHA COUNTY, WISCONSIN

Company Name TRC Environmental Corporation

Address 708 Heartland Trail, Suite 3000

Madison, WI 53717

Name, Title Dean J. Epping, Office Practice Leader

Signature  **Date** September 7, 2017

Appendix F
TRC Schedule of Charges

TRC Environmental Rate Schedule
WDNR Barrett Landfill Monitoring 2017-2019

CODE	TRC LABOR CLASSIFICATION/CATEGORY	HOURLY LABOR RATE
	PRINCIPAL/PRINCIPAL SCIENTIST/PRINCIPAL ENGINEER	
A4	Level IV	$287
A3	Level III	249
A2	Level II	221
A1	Level I	204
	PROJECT MANAGER	
B4	Level IV	$199
B3	Level III	176
B2	Level II	155
B1	Level I	109
	SENIOR SCIENTIST/PLANNER/ENGINEER	
C4	Level IV	$188
C3	Level III	169
C2	Level II	117
C1	Level I	97
	SCIENTIST/PLANNER/ENGINEER	
D4	Level IV	$89
D3	Level III	80
D2	Level II	70
D1	Level I	60
	DESIGNER/TECHNICIAN/INSPECTORS	
E4	Level IV	$60
E3	Level III	55
E2	Level II	55
E1	Level I	44
	DRAFTING/CADD/GIS	
F4	Level IV	$89
F3	Level III	89
F2	Level II	77
F1	Level I	66
	PROJECT SUPPORT/CLERICAL	
G4	Level IV	$105
G3	Level III	60
G2	Level II	50
G1	Level I	50

(1) An 15% ODC Mark-up will be added to non-labor costs and expenses/ODCs to address client insurance, AP processing, procurement, contracting, and client warrantee of performance.
(2) A 6% Subcontractor Mark-up will be added to costs for subcontracted services.
(3) A 6% Communication Fee will be applied to all labor charges in lieu of separate reimbursement for routine photocopying, faxing, computer usage, telephone charges, and routine postage costs.
(4) Overtime rates will apply to non-exempt (hourly) staff in conformance with applicable law.
(5) All TRC rates are valid for the 2017 through 2019 Environmental Landfill Monitoring work only. All TRC rates are subject to an escalation following the three-year contract period.
(6) All invoicing will apply TRC billing rates in conformance with the rate schedule in effect at the time of the services.
(7) This rate table is not to be used for Litigation or Litigation Support Services.
(8) All expenses will be billed at cost plus the applicable mark-up.

September 7, 2017

PROPOSAL FOR

Wisconsin Department of Natural Resources

Barrett Landfill Bidding Documents

Hire Smart®

AYRES ASSOCIATES

September 7, 2017

Jason B. Lowery, PG
Wisconsin Department of Natural Resources
101 S. Webster Street
Madison WI 53707-7921
Via email: jason.lowery@wisconsin.gov

Re: Proposal – Inspection and Maintenance Activities at Barrett Landfill

Dear Mr. Lowery:

Thank you for inviting Ayres Associates to provide our pricing and qualifications for inspection and maintenance services at the closed Barrett Landfill in New Berlin. We have assembled an experienced team to successfully execute the requirements listed in the Wisconsin Department of Natural Resources (WDNR) Conditions of Bid. We have included all required information herein, as listed on the Bid Checklist.

Throughout the project's duration, Ayres Associates will provide exceptional professional services to meet the needs of your project:

- Our experienced project team has performed groundwater sampling and analysis, landfill gas sampling, operation and maintenance activities, and regulatory reporting at landfill sites of similar size and project scope.
- Work will meet or exceed all project, environmental, and regulatory requirements.
- We have an established system for project management, client communications, and subcontractor partnering that will promote project success.
- Project savings will be realized due to our cost-effective rate structure, innovative solutions that comply with the QAPP, close proximity to the project site, and attention to detail.

We look forward to working with you. If you have any questions regarding this submittal, please contact us.

Sincerely,

Ayres Associates Inc

Scott C. Wilson, PSS
Vice President

608.443.1258
WilsonS@AyresAssociates.com

Lynn L. Scherbert, PE
Project Manager

262.522.4923
ScherbertL@AyresAssociates.com

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BID PRICE SHEET

July, 2017 SIMPLIFIED BID
OPERATION AND MAINTENANCE BARRETT LANDFILL
NEW BERLIN, WAUKESHA COUNTY, WISCONSIN

NOTE TO BIDDERS: All blank spaces requiring input below must be filled in, in BLACK INK. Bid items are described in the Scope of Work. The bidder agrees to accept as full payment for the work proposed under this project (as shown in the Scope of Work and as based upon the undersigned's own estimate of quantities and costs) the following bid amounts for the initial 1 year contract term. Actual quantities may vary as DNR and Contractor evaluate and adjust the O&M tasks and schedule.

BID ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
1	Annual inspection of facility components and any specified repairs that are Contractor's responsibility (2017)	Total $ per event	1	$1,200	$1,200
2	Annual preparation of facility components inspection report (2017)	Total $ per event	1	$1,500	$1,500
3	Biennial landfill gas probe monitoring and testing (2017)	Total $ per event	1	$400	$400
4	Biennial groundwater monitoring well and private well sampling and analysis (2017)	Total $ per event	1	$7,500	$7,500
5	Biennial preparation of landfill gas and groundwater monitoring report (2017)	Total $ per event	1	$3,400	$3,400
6	Biennial electronic submittal of data to GEMS system (2017)	Total $ per event	1	$600	$600
7	Leachate system commissioning and de-commissioning (fall 2017& spring 2018)	Total $ per year	1	$400	$400
8	Leachate hauling and disposal -includes sampling (2017/2018)	Total $ per gallon	360,000 gallons	$0.066	$23,760*
9	Coordination of contract and oversight of landfill cap mowing (annual)	Total $ per event	1	$600	$600
10	Coordination of contract and oversight of perimeter mowing (annual)	Total $ per event	1	$600	$600
11	Coordination of contract and oversight of landfill cap tree & brush removal (as needed)	Total $ per event	1	$800	$800
12	Coordination of contract and oversight of perimeter tree & brush removal (as needed)	Total $ per event	1	$800	$800
13	Coordination of contract and oversight of leachate line cleaning (2017)	Total $ per event	1	$800	$800
14	Coordination of contract and oversight of professional survey of monitoring wells, gas probes and leachate head wells (2017/2018)	Total $ per event	1	$600	$600
15	Preparation of SAP	Total $ amount per contract term	1	$2,900	$2,900
16	Preparation of HASP	Total $ amount per contract term	1	$400	$400
17	Fixed Annual Repair Contingency for all Bidders (unexpected repairs, not including filters or oil)	Total $ amount per contract term per year	1	$5,000	$5,000
18	**Total Bid Amount** (sum of items 1-17 above)				$51,260

* The price per gallon in Bid Item 8 includes leachate hauling, disposal, sampling, analysis, and level monitoring.

BID PRICE SHEET

July, 2017 SIMPLIFIED BID
OPERATION AND MAINTENANCE BARRETT LANDFILL
NEW BERLIN, WAUKESHA COUNTY, WISCONSIN

Company Name Ayres Associates

Address N17 W24222 Riverwood Drive, Suite 310

Waukesha, WI 53188-1132

Name, Title Lynn Scherbert, PE, Environmental Engineer

Signature Lynn L. Scherbert **Date** September 6, 2017

Project Approach

Ayres Associates is pleased to present this proposal for the Barrett Landfill in New Berlin. We understand that the Wisconsin Department of Natural Resources (WDNR) is looking for a qualified consultant to perform and manage O&M work. Our project team has years of experience monitoring and caring for landfills throughout Wisconsin.

The expertise we bring extends beyond landfills. As a full-service, multi-disciplinary engineering company, we have professional surveyors, geologists, biologists, architects, and engineers in addition to our solid waste team. Our company resources are available to survey monitoring points, coordinate repairs, such as the landfill's broken force main, or if necessary, provide solutions for a variety of unforeseen landfill needs.

Our Waukesha office and staff are a short 20-minute drive from the landfill, offering expedited service, short commutes, and availability on demand. Here, our team can serve the Barrett project with an added level of ability at a competitive fee structure. We have six geologists and engineers readily available with solid waste experience ranging from three to 23 years. Together we will meet or exceed your project, environmental, and regulatory requirements.

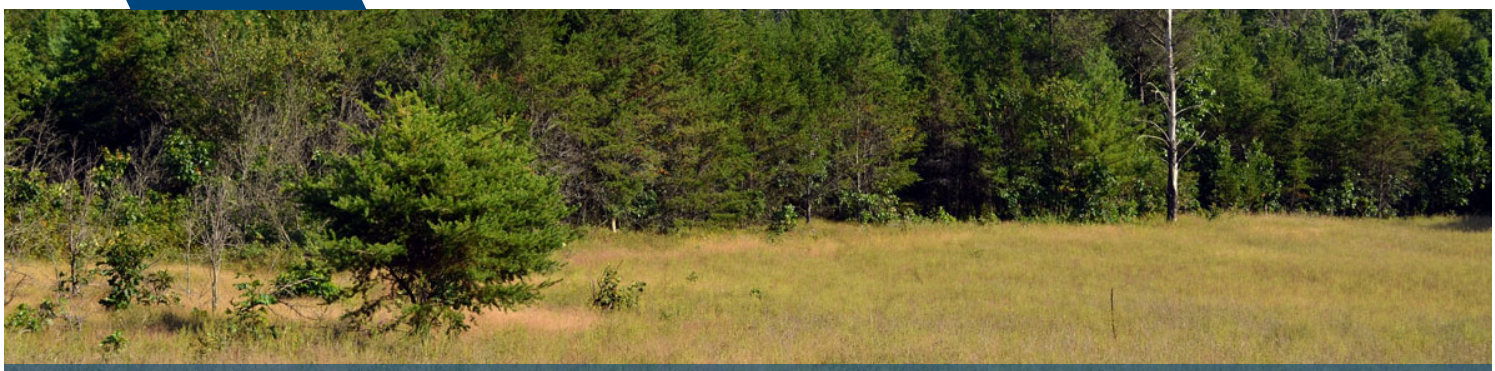
Our team includes Lynn Scherbert, PE, who has nearly 30 years of professional experience and plays a key role in Ayres' efforts to help clients solve environmental challenges.

Ayres Associates is a partner that can provide you with excellent service. Our system of project management, client communications, and subcontractor partnering promotes project success. The Quality Assurance Project Plan (QAPP) will be prepared following standard operating procedures necessary for landfill activities encountered. However, if your needs vary, we have prepared these documents under both state and federal requirements.

We look forward to opening new opportunities and partnering with the Department of Natural Resources at the New Berlin, Barrett Landfill.

AYRES ASSOCIATES

Hire Smart®



Reduced Groundwater Monitoring at Former Landfills

Former landfills may pose a hidden threat to rural water supplies and create unexpected costs for local governments. While Ayres Associates has been assisting with environmental monitoring at closed landfills for more than 20 years, we continue to review Wisconsin Department of Natural Resources (WDNR) guidelines to determine ways for local governments to remain in compliance at reasonable costs. The WDNR has developed guidance to help local governments reduce monitoring at closed landfills.

Using this guidance and working with the WDNR, Ayres Associates has helped several local governments and private clients reduce monitoring at their former landfills. This saves money while continuing to protect the environment and any potential rural water supplies. Through this effort, some monitoring parameters are discontinued, and some monitoring points can be abandoned.

First Step Services

- Review current monitoring program
- Review monitoring network
- Determine cost savings

Second Step Services

- Provide cost estimate to provide Ground Water Reduction Report to WDNR
- Communicate with WDNR staff
- Prepare reduction report
- Submit to WDNR for approval

Contact Ayres Associates today. We will help review your site to determine if reduced monitoring is feasible, communicate with the WDNR, and identify potential cost savings.

STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DIVISION OF ENTERPRISE OPERATIONS
BUREAU OF PROCUREMENT
S. 16.765, WIS. STATS.
DOA-3477 (R02/15)

Bid / Proposal # July 2017 Simplified Bid

Commodity / Service Inspection/Maintenance Activities (Barrett Landfill)

Vendor Information

1. BIDDING / PROPOSING COMPANY NAME Ayres Associates Inc

   Phone (262) 523.4488 Toll Free Phone (800) 959.4489

   FAX (262) 523.4477 E-Mail Address ScherbertL@AyresAssociates.com

   Address N17 W24222 Riverwood Drive, Suite 310

   City Waukesha State WI Zip + 4 53188-1132

2. Name the person to contact for questions concerning this bid / proposal.

   Name Lynn Scherbert, PE Title Environmental Engineer

   Phone (262) 522.4923 Toll Free Phone (800) 959.4489

   FAX (262) 523.4477 E-Mail Address ScherbertL@AyresAssociates.com

   Address N17 W24222 Riverwood Drive, Suite 310

   City Waukesha State WI Zip + 4 53188-1132

3. Any vendor awarded over $50,000 on this contract must submit affirmative action information to the department. Please name the Personnel / Human Resource and Development or other person responsible for affirmative action in the company to contact about this plan.

   Name Connie Holden Peterson Title Vice President - Human Resources

   Phone (715) 834.3161 Toll Free Phone (800) 666.3103

   FAX (715) 831.7500 E-Mail Address HoldenC@AyresAssociates.com

   Address 3433 Oakwood Hills Parkway

   City Eau Claire State WI Zip + 4 54701-7698

4. Mailing address to which state purchase orders are mailed and person the department may contact concerning orders and billings.

   Name Lynn Scherbert, PE Title Environmental Engineer

   Phone (262) 522.4923 Toll Free Phone (800) 959.4489

   FAX (262) 523.4477 E-Mail Address ScherbertL@AyresAssociates.com

   Address N17 W24222 Riverwood Drive, Suite 310

   City Waukesha State WI Zip + 4 53188-1132

5. CEO / President Name Thomas Pulse, PE, President

This document can be made available in alternate formats to individuals with disabilities upon request.

STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DIVISION OF ENTERPRISE OPERATIONS
DOA-3478 (R06/2013)

STATE BUREAU OF PROCUREMENT
101 E. WILSON ST. / P. O. BOX 7867
MADISON, WI 53707-7886
(608) 266-2605 / FAX (608) 267-0600

Bid / Proposal # July 2017 Simplified Bid

VENDOR REFERENCE

FOR VENDOR: Ayres Associates

Provide company name, address, contact person, telephone number, and appropriate information on the product(s) and/or service(s) used for four (4) or more projects with requirements similar to those included in this solicitation document. If vendor is proposing any arrangement involving a third party, the named references should also be involved in a similar arrangement.

Company Name Milwaukee Area Technical College (Blue Hole Landfill)
Address (include Zip + 4) 700 West State Street, Room 106, Milwaukee, WI 53233-1419
Contact Person Jaime Vega, Director of Construction Services Phone No. 414.297.6574
Email Address vegaj@matc.edu
List Product(s) and/or Service(s) Used:

Ongoing landfill gas and groundwater sampling at the 19-acre Blue Hole Landfill, Milwaukee, Wisconsin. Groundwater sampling complies with GEMS data submittal requirements. Additional work includes annual cap inspection, general maintenance and oversight of maintenance/repair firms. Active project since 2003. Annual value: $30,000.

Company Name City of Glendale (Bender Road Landfill)
Address (include Zip + 4) 5909 North Milwaukee River Parkway, Glendale, WI 53209-3815
Contact Person Todd Stuebe, Director of Community Development Phone No. 414.228.1704
Email Address T. Stuebe@glendale-wi.gov
List Product(s) and/or Service(s) Used:

Ongoing activities include O&M services, groundwater monitoring and gas sampling, development of construction plan modifications and specifications for redevelopment of closed landfill, including redesign of gas system, monitoring wells. Annual O&M value $14,500. Active since 2011.

Company Name Landfill Venture Group
Address (include Zip + 4) P.O. Box 938, Eagle River, WI 54521-0938
Contact Person Mark Busha. Landfill Manager Phone No. 715.479.2938
Email Address highwayg@frontier.com
List Product(s) and/or Service(s) Used:

Services initiated in 2011 for the Highway G Landfill include density testing, soil sampling, leachate collection and pumping system operation, review of the bioreactor, groundwater monitoring reduction, and liner design. Annual services average $20,000.

Company Name Monroe County Solid Waste Department (Ridgeville I and II Landfills)
Address (include Zip + 4) 20448 Junco Road, Norwalk,WI 54648-7044
Contact Person Gail Frie, Director Phone No. 608.269.8783
Email Address Gail.Frie@co.monroe.wi.us
List Product(s) and/or Service(s) Used:

Ongoing activities include O&M services, groundwater monitoring and gas sampling, development of construction plans and specifications for landfill expansion, including design of gas system, final cover, stormwater management, closure, and long-term care. Annual value $22,000. Active project since 2002.

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STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DIVISION OF ENTERPRISE OPERATIONS
DOA-3478 (R06/2013)

STATE BUREAU OF PROCUREMENT
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MADISON, WI 53707-7886
(608) 266-2605 / FAX (608) 267-0600

Bid / Proposal # July 2017 Simplified Bid

VENDOR REFERENCE

FOR VENDOR: Pace Analytical

Provide company name, address, contact person, telephone number, and appropriate information on the product(s) and/or service(s) used for four (4) or more-projects with requirements similar to those included in this solicitation document. If vendor is proposing any arrangement involving a third party, the named references should also be involved in a similar arrangement.

Company Name City of Two Rivers Landfill
Address (include Zip + 4) 1717 E. Park St., PO Box 87, Two Rivers, WI, 54241
Contact Person Scott W. Ahl Phone No. 920.793.5542
Email Address sahl@two-rivers.org
List Product(s) and/or Service(s) Used:

We provide analytical services of organic and inorganic contaminants for landfill routine monitoring and compliance reporting requirements.

Company Name City of Plymouth Landfill
Address (include Zip + 4) PO Box 277, 900 CTH PP, Plymouth, WI 53073-0277
Contact Person Mike Penkwitz Phone No. 920.893.1471
Email Address mpenkwitz@plymouthutilities.com
List Product(s) and/or Service(s) Used:

We provide analytical services of organic and inorganic contaminants for landfill routine monitoring and compliance reporting requirements.

Company Name Winnebago County Solid Waste
Address (include Zip + 4) 100 West County Road Y, Oshkosh, WI 54901
Contact Person Marcus Klaeser Phone No. 920.232.1807
Email Address MKlaeser@co.winnebago.wi.us
List Product(s) and/or Service(s) Used:

We provide analytical services of organic and inorganic contaminants for landfill routine monitoring and compliance reporting requirements.

Company Name Advanced Disposal Services Hickory Meadows Landfill, LLC
Address (include Zip + 4) W3105 Schneider Rd., Hilbert, WI 54129
Contact Person Kari Rabideau Phone No. 920.853.8553
Email Address kari.rabideau@advanceddisposal.com
List Product(s) and/or Service(s) Used:

We provide analytical services of organic and inorganic contaminants for landfill routine monitoring and compliance reporting requirements.

This document can be made available in accessible formats to qualified individuals with disabilities

STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DIVISION OF ENTERPRISE OPERATIONS
DOA-3478 (R06/2013)

STATE BUREAU OF PROCUREMENT
101 E. WILSON ST. / P. O. BOX 7867
MADISON, WI 53707-7886
(608) 266-2605 / FAX (608) 267-0600

Bid / Proposal # July 2017 Simplified Bid

VENDOR REFERENCE

FOR VENDOR: Elite Environmental Corp

Provide company name, address, contact person, telephone number, and appropriate information on the product(s) and/or service(s) used for four (4) or more projects with requirements similar to those included in this solicitation document. If vendor is proposing any arrangement involving a third party, the named references should also be involved in a similar arrangement.

Company Name ChemDesign
Address (include Zip + 4) 2 Stanton Street, Marinette, WI 54143
Contact Person Chris Kanikula Phone No. 715.735.9033
Email Address ckanikula@chemdesign.com
List Product(s) and/or Service(s) Used:
Transportation, treatment, and disposal of wastewater

Company Name Tradebe Environmental
Address (include Zip + 4) 5611 W. Hemlock Street, Milwaukee, WI 53223
Contact Person Mike Fugate Phone No. 866.271.0961
Email Address Mike.Fugate@tradebe.com
List Product(s) and/or Service(s) Used:
Transportation, treatment, and disposal of wastewater

Company Name Apogee Environmental
Address (include Zip + 4)
Contact Person Mike Wieseler Phone No. 414.630.2540
Email Address mwieseler@charter.net
List Product(s) and/or Service(s) Used:
Transportation, treatment, and disposal of wastewater

Company Name
Address (include Zip + 4)
Contact Person Phone No.
Email Address
List Product(s) and/or Service(s) Used:

This document can be made available in accessible formats to qualified individuals with disabilities

Bidder Certifications

BIDDER CERTIFICATIONS
SIMPLIFIED BIDDING PROCESS
July 2017
OPERATION AND MAINTENANCE BARRETT LANDFILL
NEW BERLIN, WAUKESHA COUNTY, WISCONSIN

A. Bidding vendors must certify that the staff they plan on using to perform the work required by the project specifications, including the Operation and Maintenance (O&M) Plan have experience in similar projects and are qualified and, where required, certified to perform those tasks assigned to them and use the equipment needed to do the work. Provide a description of the project team, including a list of staff that will be assigned to this project, their specific assignment or assignments for this project and include details of each staff members experience and qualifications, including qualifications to work in the landfill environment with monitoring wells, gas probes, and active gas and leachate collection systems.

All staff who will perform the various project tasks as required by the project specifications and the O&M Plan have experience in performing these types of activities at other landfill sites. Ayres Associates proposes the following personnel as key team members for execution of project/contract requirements:

Lynn Scherbert, PE – Project Manager
Lynn will have overall responsibility for the successful execution of the project/contract. Her duties will include staffing, tracking budgets and schedules, and managing the subcontractor (laboratory). She will also serve as the main point of contact for the WDNR project manager to discuss project activities and issues.

Bill Honea, PG – Field Technician
Bill will be responsible for executing all field and reporting activities. His duties will include developing project documents (e.g., QAPP, SAP, HASP, and sampling reports), conducting groundwater monitoring and site inspections, and checking leachate levels as well as other maintenance items. Bill regularly conducts O&M tasks for landfill sites and treatment systems throughout southeastern Wisconsin.

Additional reach-back support is available (as needed) from a talented pool of Ayres Associates personnel who have experience supporting landfill O&M projects of similar size and scope. Additional information on the key project team and reach-back support personnel, including their qualifications, is provided in Attachment 1.

B. Bidding vendors must certify that they have performed O&M work at one (1) or more similar projects at a Wisconsin landfill with gas monitoring, active or passive gas collection system, and GEMS data submittal requirements, the project must be at least 50% of the size or value of the work being bid here, and the project must have been within the past 5 years. Provide a list and description of previous O&M projects, including the similar project or projects described in the previous sentence, and provide for all such similar projects reference information, using the DOA-3478 Vendor Reference form found at the end of this bid package.

The Vendor Reference (DOA-3478) form is provided in this proposal. Additional projects demonstrating Ayres Associates' experience with sites of similar size and scope are provided as Attachment 2.

C. Bidding vendors shall specify which testing laboratory or laboratories they will use for the work and certify that the testing laboratory or laboratories can meet the Quality Assurance and Analysis requirements in the project specifications. All bidding vendors shall provide, for the laboratory or laboratories they plan to use, a list and description of

previous sampling and analysis projects, noting any projects of similar scope and nature done by the lab(s). For all such similar projects noted, the bidding vendor shall provide reference information using the DOA-3478 Vendor Reference form found at the end of this bid package. This shall be a separate form in addition to the reference form being submitted for the general O&M work described in the previous paragraph.

The laboratory Ayres Associates proposes to use is Pace Analytical Services of Green Bay.

Ayres Associates hereby certifies that Pace Analytical Services meets the quality assurance and analysis requirements listed in the project specifications.

Pace Analytical has provided services similar to those outlined for this proposed submittal. Information on related experience of Pace Analytical is provided on the DOA-3478 form entitled "Vendor Reference (Bidder Certification Section C, for Testing Lab Proposed)."

D. Bidding vendors must certify that they have access to all necessary equipment to do the work. Provide a list of all monitoring and maintenance equipment planned to be used and the location of that equipment. Equipment includes vehicles, sampling equipment, containers, bottles and meters, and specialized tools.

Ayres Associates has access to all equipment necessary to conduct the scope of work outlined in the O&M manual either through ownership or rental. Attachment 3 provides a summary table listing the anticipated project equipment and current status.

E. Bidding vendors must certify that they can access the site with all required personnel and equipment within 24 hours.

All personnel and equipment necessary to perform the scope of work as outlined in the O&M manual can be mobilized on site within 24 hours. Our proposed field technician, Bill Honea, is a current resident of Waukesha, Wisconsin, and lives approximately 5 miles from the project site.

F. Bidding vendors must certify that they have established a health and safety program to adequately educate and protect personnel working at a landfill with hazardous characteristics in accordance with OSHA requirements and other applicable laws and regulations. Bidding vendors must also provide some documentation/evidence of the existence of their program in their response to this certification.

Ayres Associates hereby certifies that a Health and Safety program has been established, which adequately educates and protects personnel working at Superfund sites with hazardous characteristics in accordance with OSHA requirements and other applicable laws and regulations.

We maintain up-to-date certifications and records of training and can provide these if requested. The Ayres Associates Corporate Safety Program is provided as Attachment 5. The site-specific HASP will be prepared in accordance with applicable regulations governing sites with the potential to encounter hazardous materials.

G. All vendors who bid must certify that if they are awarded a contract they will submit certification of health and safety training to the project manager, prior to the start of field activities.

All proposed Ayres Associates on-site personnel have OSHA 40-hour HAZWOPER Health and Safety Training and an up-to-date OSHA 8-hour refresher certification. Certification of this training will be provided to the WDNR project manager before the start of field activities.

I, Lynn A. Schubert **, certify that the above bold information provided in this certification section and the following attachments to be accurate and true to the best of my knowledge.**

Attachment 1 – Key Personnel

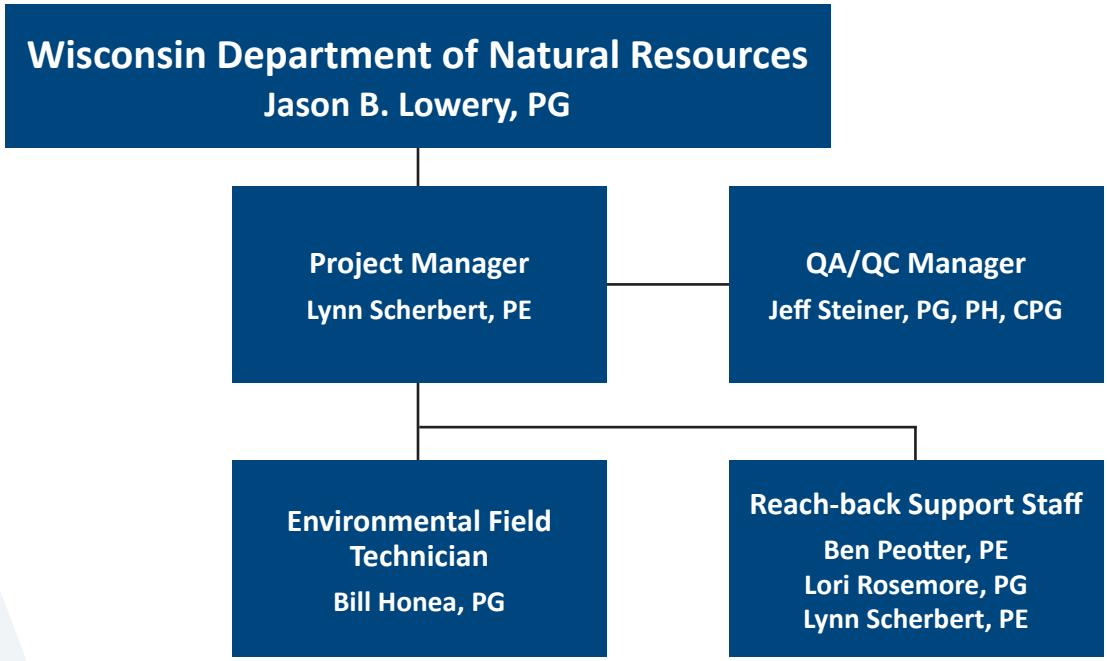
The Ayres Associates waste management staff is experienced in managing and implementing scope of work components similar to the Barrett Landfill. Lynn Scherbert, PE, will be the project manager for the contract/project.

Lynn joined Ayres Associates in 1995 with seven years of professional experience. She plays a key role in Ayres' efforts to help clients solve their environmental challenges. She prepares grant applications, provides grant reporting and closeout administration, stormwater engineering, environmental site assessment, brownfield demolition and redevelopment, fieldwork coordination, and project management. She has worked successfully with U.S. Environmental Protection Agency, Wisconsin Department of Natural Resources, and Wisconsin Department of Commerce grant programs. Lynn also has experience in wetland delineation and plant identification; soil nutrients and groundwater flow; pesticide use, applications, and regulations; landscape architecture; and vegetative design.

Lynn's expertise covers a broad range of environmental services:

- Groundwater monitoring
- Soil investigations
- Lake water quality studies
- Vegetation mapping
- Emergency response training
- Grant applications and administration
- Stormwater engineering
- Environmental site assessments
- Brownfield redevelopment

Specific roles of additional team members are presented in the organization chart below. A summary of qualifications for those listed below is included on the pages that follow.



Personnel Qualifications

The proposed project team comprises personnel experienced in landfill O&M tasks, including project management, monitoring, design, maintenance, investigation, and sampling. All proposed team members have had OSHA 40-Hour HAZWOPER Health and Safety Training and are up-to-date with their annual eight-hour Health and Safety Refresher. Names and qualifications of proposed key project team members and designated reach-back support staff are provided below.

Lynn Scherbert, PE, Project Manager

Registration: Registered Professional Engineer, WI, 2001
Certifications: Hazardous Waste Operations and Emergency Response 40-Hour Training, Baxter Reilley, 1995; Hazardous Waste Operations and Emergency Response 8-Hour Refresher, National Environmental Trainers, 2017
Education: MS, Civil/Environmental Engineering, University of Wisconsin-Milwaukee, 1995; MS, Production Technology, University of Wisconsin-Madison, 1985; BS, Natural Resources and Landscape Architecture, University of Wisconsin-Madison, 1980
Years of Experience: 29

Lynn joined Ayres Associates in 1995 with seven years of professional experience. Her responsibilities with Ayres Associates include grant application preparation, grant reporting and closeout administration, stormwater engineering, environmental site assessment, brownfield demolition and redevelopment, fieldwork coordination, and project management. Her grant expertise includes U.S. Environmental Protection Agency, Wisconsin Department of Natural Resources, and Wisconsin Department of Commerce grant programs. Lynn also has experience in wetland delineation and plant identification; soil nutrients and groundwater flow; pesticide use, applications, and regulations; landscape architecture; vegetative design; and development and implementation of product marketing programs.

Here is what Alan Huelsman of Berg Management Company had to say about Lynn's work on the Carroll University Student Living and Business Center project: "From Day One we had a very good working relationship with Lynn. She's been the lead on the project and has helped us in applying for some grants to help with the remediation costs."

Ben Peotter, PE, Reach-back Support Staff

Registration: Registered Professional Engineer, WI, 2004; MN, 2014
Education: BS, Geological Engineering/Geology, University of Wisconsin-Madison, 1999
Years of Experience: 18

Ben has worked as an environmental, geotechnical, and civil consultant since 1999. Ben uses his exceptional oral and written communication skills as well as his interpersonal, analytical, and leadership abilities to skillfully design and manage projects as well as coordinate and conduct public meetings and workshops related to environmental and sustainability projects. He has extensive experience across many civil and environmental areas, but he has developed key knowledge within the solid waste industry. He has served as certifying site engineer and owner's construction administrator for large landfill capital projects, including expansions, investigations, gas projects, earthwork, leachate collection systems and tanks, caps, and liners.

Ben also has served as a key engineer on various landfill gas-to-reuse systems, including an award-winning 360 kilowatt project on an Illinois Superfund site, a 4.8 megawatt system at a private solid waste facility in Wisconsin, and a facility that cleaned up the landfill gas for compressed natural gas vehicle fuel in Michigan. He works effectively with regulatory personnel, including Wisconsin Department of Natural Resources, Minnesota Pollution Control Agency, and U.S. Environmental Protection Agency officials. His experience includes:

- Bender Road Landfill Plan Modification Construction Oversight
- Mar-Oco Landfill Engineering Services
- Kewaunee County Landfill General Engineering Services

- Monroe County Ridgeville and Ridgeville II Landfill Services
- SpecPro Badger Ammunition Landfill Feasibility Study and Plan of Operations
- Veolia Seven Mile Creek Landfill Phase 8 Liner Construction
- Badger Army Ammunition Plant Phase 2 Landfill Liner Documentation

Bill Honea, PG, Environmental Field Technician

Registration: Professional Geologist, WI, 2017
Certifications: Certified Asbestos Inspector, WI, 2015; TN, 1987; KY, 2016; Certified Asbestos Inspector Refresher, 2016; CPR, Anderson 360 Solutions, 2017; First Aid, Anderson 360 Solutions, 2017; Hazardous Waste Operations and Emergency Response 40-Hour Training, TN, ENSAFE, 2011; Hazardous Waste Operations and Emergency Response 8-Hour Refresher, National Environmental Trainers (NET), 2017; MSHA Part 46 New Miner Training, DSPS, 2016; NIOSH 582 Certified – Sampling and Evaluating Airborne Asbestos Fibers, TN, Resolution, Inc., 2012
Education: BS, Geology, University of Tennessee, 2010
Years of Experience: 7

Bill joined Ayres Associates in 2015 with five years of environmental consulting experience and a strong regulatory compliance background. He has conducted Phase 1 and 2 environmental site assessments (ESAs); groundwater monitoring; brownfield site investigations; and regulatory reporting for federal, state, and private clients.

Bill has prepared work plans, health and safety plans, National Pollutant Discharge Elimination System (NPDES) permits, and monitoring reports, and he has provided technical support for municipal water, wastewater, gas, and electrical system operations. This technical support included environmental sampling, air permitting, stormwater permitting, Tier 2 reporting, auditing, training, and emergency oil spill response.

His field experience includes soil, groundwater, vapor, concrete, and asbestos sampling. He facilitates collaboration and communication with clients, peers, regulatory agencies, and subcontractors to meet project objectives and deadlines. His experience includes:

- Glendale Landfill Monitoring and Modifications Design
- Highway G Landfill General Engineering
- West Allis Lincoln Avenue Landfill Monitoring 2016-17
- Monroe County Ridgeville I Landfill Monitoring
- St. Germain Closed Landfill Ground Water Sampling 2016
- MATC Blue Hole Landfill Stormwater Plan Recertification 2016
- Bender Road Landfill Plan Modification Construction Oversight

Jeff Steiner, PG, PH, CPG, Quality Assurance/ Quality Control Manager

Registration: Registered Professional Geologist, WI, 1995; Registered Professional Hydrologist, WI, 1999; Certified Professional Geologist, US
Certifications: Confined Space Training; Hazardous Waste Operations and Emergency Response 40-Hour Training, Dames & Moore, 1987; Hazardous Waste Operations and Emergency Response 8-Hour Refresher, National Environmental Trainers, 2017; MSHA Part 46 Annual Refresher, WI, DSPS, 2017; MSHA Part 46 New Miner Training, DSPS, 2012
Education: BS, Geology with Emphasis in Hydrogeology, University of Wisconsin-Oshkosh, 1986
Years of Experience: 32

Jeff joined Ayres Associates in 1998 with 12 years of experience in environmental consulting for industrial, municipal, and regulatory clients, and 1.5 years of regulatory experience with the Wisconsin Department of Natural Resources. He has assisted clients seeking solutions to problems in groundwater resource management, groundwater development, waste management, and environmental protection. As a project manager/hydrogeologist he is responsible for all aspects of project development, implementation, and management, including the preparation and presentation of proposals, assessment of regulatory impact, project design and oversight, schedule and budget management, technical analysis and report

preparation, and regulatory and client liaison.

Here is what Dennis Iverson, principal engineer with Ivertech LLC, had to say about Jeff's work on the Richfield Groundwater Use Permit project: "Jeff was very responsive and professional. Ayres is fortunate to have him as an employee."

Lori Rosemore, PG, Reach-back Support Staff

Registration: Registered Professional Geologist, WI, 1995; MN, 1999
Certifications: Environmental Professional as Defined in 40 CFR 312.10; Hazardous Waste Operations and Emergency Response 40-Hour Training, Lakeshore Technical College, 1993; Hazardous Waste Operations and Emergency Response 8-Hour Refresher, National Environmental Trainers, 2017; MSHA Part 46 Annual Refresher, DSPS, 2017; MSHA Part 46 New Miner Training, U.S. Department of Labor – Mine Safety, 2011; Petroleum Environmental Cleanup Fund Act Certified Site Assessor, WI, 2015
Education: BS, Geology, University of Wisconsin-River Falls, 1988
Years of Experience: 28

Lori joined Ayres Associates in 1992, bringing 2.5 years of experience as a terrain analyst for the U.S. Army. As a hydrogeologist in the environmental services operation, her duties include project management of remedial site investigations; underground storage tank site assessments; groundwater monitoring well installation; groundwater monitoring plans; health and safety planning; management of volatile organic compound (VOC) data for reporting and modeling purposes; well site surveys; preparation of reports for Phase 1 and 2 ESAs and remediation projects; asbestos assessments; and wellhead protection modeling. She is a project manager for landfill groundwater monitoring projects, well installation projects, and underground storage tank site investigations and manages the groundwater sampling program.

Attachment 2 – Landfill Experience

Since the early 1970s, Ayres Associates has been providing landfill-related services in Wisconsin, services that have included environmental monitoring, solid waste management planning, site investigations, design, permitting, construction and operation services, and closure and post-closure monitoring.

We are conducting environmental monitoring and data reporting to the Wisconsin Department of Natural Resources (WDNR) at 32 active and inactive landfills. This provides our staff with up-to-date experience in current WDNR procedures for groundwater, gas, and surface water monitoring and data reporting.

Our staff is experienced in providing data to the WDNR in the proper, current electronic format. Commercial Testing Laboratories provides us with an electronic file and hard copies of the analytical results. With this information we can develop a cause and significance and exceedance letter. This letter is transmitted to the WDNR with the data certification form and electronic file.

The following profiles provide detailed project descriptions for your review.

City of Glendale Bender Road Landfill Monitoring

Client: City of Glendale

The City of Glendale contracted with Ayres Associates in 2015 to provide two years of groundwater and methane gas monitoring for the closed Bender Road Landfill and to provide modifications to the landfill's design to accommodate a proposed development on and around the landfill. The City intends to develop a recreational facility on the approximately 15-acre municipal waste landfill, which ceased operations in 1976 and was covered with at least 5 feet of soil. The development, whose planning was provided by another consultant, is to include three baseball fields, a multi-use building, a small outdoor amphitheater, a playground, two separate parking areas, roadways, and new utilities.

Ayres' role in the project was to develop landfill design modifications to accommodate the proposed development and submit the proposed modifications to the WDNR for review and approval. The recreational facility will impact the final landfill cover system, components of the landfill gas control system, and the landfill gas and groundwater monitoring networks.

Our team worked with the City to review options for the redesigns and discuss design restrictions and criteria. Current landfill conditions were reviewed, and preliminary athletic field design plans and associated infrastructure and road development layout were discussed as part of preparing the landfill closure plan modification for WDNR review.

This contract, which also included working with the City's construction engineer on oversight and permitting of the landfill modifications, follows three years of previous monitoring Ayres provided for the landfill.

Blue Hole Landfill, Milwaukee

Client: Milwaukee Area Technical College

Ayres Associates has conducted ongoing landfill gas and groundwater monitoring and sampling at the Blue Hole Landfill (formerly City of Milwaukee Landfill) in Milwaukee, which is a 19-acre closed municipal landfill. Groundwater sampling at this site complies with GEMS groundwater data submittal requirements. This work is ongoing with Ayres Associates since 2003.

City of West Allis Landfill

Client: City of West Allis

Ayres Associates has conducted ongoing landfill gas and groundwater monitoring sampling at the City of West Allis Landfill in West Allis, which is a closed 10-acre municipal landfill. Groundwater sampling at this site complies with GEMS groundwater data submittal requirements. This work is ongoing with Ayres Associates since 2002.

Monroe County Ridgeville and Ridgeville II Landfill Services

Client: Monroe County Solid Waste Department

Ayres Associates has been providing solid waste engineering services to Monroe County since 1976, including the siting and development of the Ridgeville I Landfill, which has served Monroe County since 1980.

Ayres Associates was also retained by Monroe County to complete the plan of operation for the Ridgeville II facility. This plan of operation provided the construction plans and specifications for landfill construction, operation, and closure of the facility.

Ayres Associates continues to be involved in all phases of development and construction of the Ridgeville II Landfill including: subsurface investigation; construction plans production; bidding services; construction observation, documentation, and administration; operating assistance; and environmental monitoring (groundwater and gas).

Ayres Associates has prepared construction plans and specifications as well as provided construction administration services for all the phases of construction projects at the Ridgeville and Ridgeville II facilities.

Highway G Landfill General Engineering

Client: Landfill Venture Group

Ayres Associates has been providing design, construction observation, operational reviews, and monitoring services since 2011 for the Landfill Venture Group's Highway G Landfill at Eagle River, Wisconsin.

Ayres initially provided permitting services and completed a plan of operations for a 7.88-acre expansion to the south and east of the existing landfill. Since the permitting, Ayres has performed construction observation and documentation for the Highway G Landfill Phase 5 Module 1 liner. Work included construction observation and documentation, soil density testing, soil sample collection, geomembrane liner installation, and leachate collection and pumping systems. A construction documentation report and plans were completed for submittal to the WDNR, documenting the project's construction in compliance with plans, specifications, and regulatory approvals.

Ayres subsequently provided the final design and construction observation and documentation for the Phase 5 Module 2 liner. Final design work included the design of an access road to Module 2 and the incorporation of a litter fence and a gas condensate handling/drainage system. Construction observation and documentation work included soil density testing, soil sample collection, geomembrane liner observation, and leachate collection systems.

Other services at the Highway G landfill have included a review and structural analysis of the landfill's bioreactor operation, preparation of a special waste acceptance plan to allow the collection of additional nonhazardous materials, and negotiations with regulatory agencies to reduce groundwater monitoring wells, which has significantly cut the landfill's monitoring costs. The landfill's plan of operations has been modified to allow the acceptance of glass residual material from a nearby recycling operation to be used as an aggregate replacement and as alternate daily cover.

Blue Valley Landfill Engineering Services

Client: City of Eau Claire

Project involves conducting surface water and groundwater monitoring and gas probe monitoring for closed landfill. After collection, quarterly report is compiled for submission to WDNR using the GEMS system. Project also includes preparing annual report summarizing historic groundwater and gas probe monitoring, repair, or maintenance for landfill cap, monitoring wells, and gas probes.

Adams County Landfill

Client: Adams County

Adams County retained Ayres Associates in 1999 to prepare a plan of operation modification for the redesign of the base liner in the remaining portion of the landfill. This modification resulted in a revised phase configuration and leachate collection system upgrade to provide for more cost-effective construction and operation.

Adams County also retained Ayres Associates to provide construction observation and documentation for the north half of their Phase 3 landfill liner construction project. Ayres Associates personnel provided construction observation and testing during the project.

Work included clay liner testing, membrane liner installation observation and testing, and leachate collection system installation observation and testing. Ayres Associates also prepared the construction documentation report and plans for submittal to the Wisconsin Department of Natural Resources on behalf of Adams County.

Ayres Associates continues to provide solid waste engineering services to Adams County for the following:

- Waste volume survey and air space calculations
- Site life projections
- Long-term care cost updates
- Demolition landfill closure
- Operation guidance
- Construction observation and documentation

Juneau County Landfill General Engineering

Client: Juneau County Highway & Public Works Department

Juneau County retained Ayres Associates to provide solid waste engineering services in response to a WDNR notice of violation.

Ayres Associates is assisting with developing a long-term phased interim and final cover plan for the County's municipal solid waste and demolition landfills, along with a contact water handling plan for the municipal landfill and evaluation of a containment berm.

Kewaunee County Landfill

Client: Kewaunee County Highway Department

Kewaunee County retained Ayres Associates to continue providing a variety of solid waste engineering services at its landfill near Algoma, including site construction documentation; annual report assistance; plan modifications; leachate load-out and recirculation systems troubleshooting; volume, waste density, and site life reports; site survey; and construction staking.

Our team provided permitting and construction updates upon request during solid waste subcommittee and County Board meetings.

La Crosse County Landfill

Client: La Crosse County

Project involved long-term groundwater monitoring program to address current and future contamination issues. Project was complicated by monitoring results indicating compounds exceeding Wisconsin Administrative Code NR 140 for groundwater standards at new landfill. To meet requirements of WDNR memorandum titled “Preventive Action Limit/Alternative Concentration Level Calculations Guidance for Solid Waste Facilities,” monitoring results were reviewed, additional groundwater sampling conducted, and new groundwater monitoring modification plan developed.

Attachment 3 – Equipment List

Equipment	Notes
Groundwater sample containers	Pace Analytical Services will provide all groundwater sample containers as of the analytical services contract.
Groundwater field parameters meter (pH, temperature, specific conductance)	This instrument will be rented from Pine equipment supply.
Groundwater level indicator	Ayres Associates owns a groundwater level indicator for use from our Waukesha office.
Groundwater sampling equipment	Ayres Associates owns and has all other required groundwater sampling equipment. List of anticipated equipment includes peristaltic pump, polyethylene tubing, decontamination supplies, PPE (nitrile gloves, safety glasses, hardhats), and wash and rinse containers.
Vessels for purge water containerization for storage and transport	55-gallon drums will be purchased from On-site Environmental in Sun Prairie. Ayres Associates has purchased drums from this vendor multiple times. Services for the disposal of investigative derived waste (IDW) will be contracted through North Shore Environmental Construction based in Germantown.
Photoionization Detector (PID)	This instrument will be rented from Pine.
Landfill gas meter	A Landtec GEM-500 unit (or equivalent) will be rented from Pine or Ayres Associates will purchase an equivalent model to support this and other ongoing O&M projects.
Field vehicle	Ayres Associates owns a large number of field vehicles capable of performing work required by the WDNR.

Attachment 4 – Corporate Safety Program

Overview

Ayres Associates employs a comprehensive health and safety program to help assure the well being of our employees and to comply with state and federal laws. The program is multi-faceted in its approach and draws upon many resources from both inside and outside the organization. The program is dynamic, responding to changing needs of our employees as well as changing regulations.

Our program incorporates four major elements:

- Management Commitment and Employee Involvement
- Work Site Analysis
- Hazard Prevention and Control
- Safety and Health Training

Management Commitment and Employee Involvement

Management has expressed its commitment to safety through several key actions:

- Formal expression of corporate commitment to safety by adoption of a safety policy statement.
- Establishment of a company safety committee chaired by a member of the company's executive committee and populated by a cross section of employees.
- Adopting policies and procedures that focus on employee safety and health, promote employee involvement, and provide appropriate training and equipment.
- Allocate resources to help assure that safety programs achieve their intended goals.
- Assigning responsibility for various aspects of the program to those individuals best positioned to carry them out.
- Periodically evaluating the health and safety record of the company to assess the overall success of the program.

Work Site Analysis

While our employees are normally based in an office setting, they may be exposed to a variety of assignments and work site conditions outside of the office. We have evaluated these work sites, as well as our offices, to identify the health and safety hazards to which employees may be exposed through the normal course of their work. Part of the identification process involves solicitation of ideas, opinions, observations, and recommendations from employees regarding potential health and safety hazards.

Employees are encouraged to contact any member of the safety committee to express ideas or concerns over safety issues. All such expressions are seriously considered for appropriate action and response to the individual raising the issue.

Our insurance carrier also conducts periodic inspections of our facilities to identify potential safety or health concerns and provides us with written recommendations for improvement.

Hazard Prevention and Control

Key elements of our safety program address the issue of hazard prevention and control:

- A written hazard communication plan and program, which addresses safe use, handling, storage, and disposal of hazardous materials.
- Ergonomic analysis of workstations and work activities to identify and correct potentially harmful practices or conditions.
- Medical monitoring of individuals whose work may expose them to hazardous materials.
- A written safety manual that addresses safety procedures, policies, practices, and recommendations for the variety of work practices our employees may experience.
- Prominent display of MSDS sheets in all offices and inclusion of MSDS sheets in each field vehicle. The books containing these sheets are maintained by an employee specifically designated responsibility for this activity.
- An emphasis on first aid and CPR, including training and equipment. First aid kits are

maintained in every office and in all field vehicles.
- Company provided personal protective equipment or financial support for employees to purchase such equipment.
- A safety awareness campaign including safety posters, articles in company newsletters, discussions at employee meetings, and training sessions for both workers and managers.
- Preventive maintenance and periodic inspection programs for facilities, mechanical equipment, and health and safety equipment.
- Preparation of site safety plans for all projects involving hazardous materials.
- Company-provided communication equipment for employees working on remote sites which pose health or safety risks.

Safety and Health Training

Training is a central focus of our health and safety program at Ayres Associates. Training occurs throughout the organization, using in-house and outside resources. Major components of our program include:

- Hazard communication training of all employees.
- HAZWOPER training (including annual refresher training) for all employees working with hazardous materials.
- The use of videotapes to provide training on general safety issues at employee meetings, brown-bag sessions, and training sessions directed at specific job functions.
- Training sessions addressing specific safety topics such as construction site safety, confined space entry, and climbing safety.
- "Tailgate talks" to discuss safety issues before beginning field assignments.

Additional Information

Additional information regarding these or other aspects of Ayres Associates' employee safety and health program are available by inquiring through our corporate Human Resources department.

BID PRICE SHEET

July, 2017 SIMPLIFIED BID
OPERATION AND MAINTENANCE BARRETT LANDFILL
NEW BERLIN, WAUKESHA COUNTY, WISCONSIN

NOTE TO BIDDERS: All blank spaces requiring input below must be filled in, in BLACK INK. Bid items are described in the Scope of Work. The bidder agrees to accept as full payment for the work proposed under this project (as shown in the Scope of Work and as based upon the undersigned's own estimate of quantities and costs) the following bid amounts for the initial 1 year contract term. Actual quantities may vary as DNR and Contractor evaluate and adjust the O&M tasks and schedule

BID ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
1	Annual inspection of facility components and any specified repairs that are Contractor's responsibility	Total $ per event	1	954	$ 954
2	Annual preparation of facility components inspection report (2017)	Total $ per event	1	954	$ 954
3	Biennial landfill gas probe monitoring and testing (2017)	Total $ per event	1	938	$ 938
4	Biennial groundwater monitoring well and private well sampling and analysis (2017)	Total $ per event	1	10,373	$ 10,373
5	Biennial preparation of landfill gas and groundwater monitoring report (2017)	Total $ per event	1	1140	$ 1,140
6	Biennial electronic submittal of data to GEMS system (2017)	Total $ per event	1	979	$ 979
7	Leachate system commissioning and decommissioning (fall 2017& spring 2018)	Total $ per event	1	790	$ 790
8	Leachate hauling and disposal -includes sampling (2017/2018)	Total $ per gallon	360,000	0.060	$ 21,600 *
9	Coordination of contract and oversight of landfill cap mowing (annual)	Total $ per event	1	680	$ 680
10	Coordination of contract and oversight of perimeter mowing (annual)	Total $ per event	1	680	$ 680
11	Coordination of contract and oversight of cap tree and brush removal (as needed)	Total $ per event	1	170	$ 170
12	Coordination of contract and oversight of perimeter tree & brush removal (as needed)	Total $ per event	1	680	$ 680
13	Coordination of contract and oversight of leachate line cleaning (2017)	Total $ per event	1	790	$ 790
14	Coordination of contract and oversight of professional survey of monitoring wells, gas probes and leachate head wells (2017/2018)	Total $ per event	1	680	$ 680
15	Preparation of SAP	Total $ per contract term	1	870	$ 870
16	Preparation of HASP	Total $ per per contract term	1	870	$ 870
17	Fixed Annual Repair Contingency for all Bidders (unexpected repairs, not including filters or oil)	Total $ per per contract term per year	1	$5,000	$ 5,000
18	**Total Bid Amount** (sum of items 1- 17 above)	Total $ per event			$ 48,148

* Includes removal coordination with hauler.

BID PRICE SHEET

July, 2017 SIMPLIFIED BID
OPERATION AND MAINTENANCE BARRETT LANDFILL
NEW BERLIN, WAUKESHA COUNTY, WISCONSIN

Company Name Hyde Environmental, Inc.

Address W175N11163 Stonewood Dr. , Ste 110

Germantown, WI 53022-6501

Name, Title James Lindemann, President

Signature  **Date** September 6, 2017

STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DIVISION OF ENTERPRISE OPERATIONS
BUREAU OF PROCUREMENT
S. 16.765, WIS. STATS.
DOA-3477 (R02/15)

Bid / Proposal # Barrett Landfill

Commodity / Service O & M

Vendor Information

1. BIDDING / PROPOSING COMPANY NAME Hyde Environmental, Inc.

   Phone (262) 250-1226 Toll Free Phone ( )

   FAX (262) 317-9171 E-Mail Address jclindemann@hyde-env.com

   Address W175N11163 Stonewood Dr., Ste 110

   City Germantown State WI Zip + 4 53022-6501

2. Name the person to contact for questions concerning this bid / proposal.

   Name James Lindemann Title President/Owner

   Phone (262) 250-1226 Toll Free Phone ( )

   FAX (262) 317-9171 E-Mail Address jclindemann@hyde-env.com

   Address W175N11163 Stonewood Dr., Ste 110

   City Germantown State WI Zip + 4 53022-6501

3. Any vendor awarded over $50,000 on this contract must submit affirmative action information to the department. Please name the Personnel / Human Resource and Development or other person responsible for affirmative action in the company to contact about this plan.

   Name James Lindemann Title President/Owner

   Phone (262) 250-1226 Toll Free Phone ( )

   FAX (262) 317-9171 E-Mail Address jclindemann@hyde-env.com

   Address W175N11163 Stonewood Dr., Ste 110

   City Germantown State WI Zip + 4 53022-6501

4. Mailing address to which state purchase orders are mailed and person the department may contact concerning orders and billings.

   Name Rochell Tillman Title Book Keeper

   Phone (262) 250-1226 Toll Free Phone ( )

   FAX (262) 317-9171 E-Mail Address rtillman@hyde-env.com

   Address W175N11163 Stonewood Dr., Ste 110

   City Germantown State WI Zip + 4 53022-6501

5. CEO / President Name James Lindemann

This document can be made available in alternate formats to individuals with disabilities upon request.

STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DIVISION OF ENTERPRISE OPERATIONS
DOA-3478 (R06/2013)

STATE BUREAU OF PROCUREMENT
101 E. WILSON ST. / P. O. BOX 7867
MADISON, WI 53707-7886
(608) 266-2605 / FAX (608) 267-0600

Bid / Proposal # Barrett Landfill

VENDOR REFERENCE

FOR VENDOR: Hyde Environmental, Inc., W175N11163 Stonewood Dr., Ste 110

Provide company name, address, contact person, telephone number, and appropriate information on the product(s) and/or service(s) used for four (4) or more installations with requirements similar to those included in this solicitation document. If vendor is proposing any arrangement involving a third party, the named references should also be involved in a similar arrangement.

Company Name US Army - Ft. McCoy

Address (include Zip + 4) Ft. McCoy, 2171 S. 8th Ave, Ft. McCoy, WI 54656

Contact Person Craig Bartholomew Phone No. 608-388-8453

Email Address craig.o.bartholomew

List Product(s) and/or Service(s) Used:
Landfill groundwater sampling and well abandonment.

Company Name Wisconsin Dept. of Natural Resources - Barrett Landfill

Address (include Zip + 4)

Contact Person Jason Lowery Phone No. 608-267-7570

Email Address 'Jason.lowery@wisconsin.gov'

List Product(s) and/or Service(s) Used:
Site management including overseeing leachate hauling and monitoring, passive gas monitoring, vegetation control, tree management, electrical system and controls management, and conflict resolution with landfill neighbors and community outreach.

Company Name Deere & Co.

Address (include Zip + 4) Closed Foundry Landfill - Silvis, IL

Contact Person Melaine Gotto Phone No. (563) 589-6537

Email Address GottoMelanieL@JohnDeere.com

List Product(s) and/or Service(s) Used:
Post-closure quarterly landfill groundwater monitoring and permit compliance.

Company Name John Deere Dubuque Works - Dubuque Superfund

Address (include Zip + 4) Dubuque, IA

Contact Person Melaine Gotto Phone No. (563) 589-6537

Email Address GottoMelanieL@JohnDeere.com

List Product(s) and/or Service(s) Used:

Superfund spill site and landfill groundwater monitoring and yearly reporting

This document can be made available in accessible formats to qualified individuals with disabilities.

STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DIVISION OF ENTERPRISE OPERATIONS
DOA-3478 (R06/2013)

STATE BUREAU OF PROCUREMENT
101 E. WILSON ST. / P. O. BOX 7867
MADISON, WI 53707-7886
(608) 266-2605 / FAX (608) 267-0600

Bid / Proposal # Barrett Landfill

VENDOR REFERENCE

FOR VENDOR: TestAmerica Laboratories, Inc. (for Hyde Env)

Provide company name, address, contact person, telephone number, and appropriate information on the product(s) and/or service(s) used for four (4) or more installations with requirements similar to those included in this solicitation document. If vendor is proposing any arrangement involving a third party, the named references should also be involved in a similar arrangement.

Company Name City of Appleton LF

Address (include Zip + 4) 100 N. Appleton Street, Appleton, WI 53911

Contact Person Sue Olson Phone No. (920) 267-7570

Email Address sue.olson@appleton.org

List Product(s) and/or Service(s) Used:
Provides laboratory analysis for VOCs, alkalinity, hardness, chloride, COD, arsenic, chromium, iron, mercury, manganese for 33 monitoring wells, 5 leachate wells, 2 condensate sumps, and 2 private wells for the City of Appleton landfill. Transmits electronic data deliverable (EDD) for review and submittal to GEMS.

Company Name Wisconsin Dept. of Natural Resources

Address (include Zip + 4) 101 South Webster, Madison WI 53703

Contact Person Jason Lowery Phone No. (608) 267-7570

Email Address jason.lowrey@wisconsin.gov

List Product(s) and/or Service(s) Used:
Provides laboratory analysis and EDD for VOCs at the Stoughton City Landfill at 13 monitoring wells.

Company Name WM of Wisconsin, Inc.

Address (include Zip + 4) W124 N9355 Boundary Road, Menomonee Falls, WI 53051

Contact Person Michael Peterson Phone No. (262) 509-5638

Email Address mpeterso2@wm.com

List Product(s) and/or Service(s) Used:
Provides laboratory analysis of VOCs, indicator parameters, and/or metals at multiple closed sites in Wisconsin including City Disposal, Hagen Farm, Reclamation, Eaton, and Neosho Landfills. The scope also includes preparation of the EDD for review and submittal to GEMS.

Company Name Cedar Corporation

Address (include Zip + 4) 604 Wilson Ave, Menomonee, WI 54751

Contact Person Scott McCurdy Phone No. (715) 235-9081

Email Address scott.mccurdy@cedarcorp.com

List Product(s) and/or Service(s) Used:

Provides laboratory analysis and EDDs for multiple landfills.

BIDDER CERTIFICATIONS
SIMPLIFIED BIDDING PROCESS
July 2017
OPERATION AND MAINTENANCE BARRETT LANDFILL
NEW BERLIN, WAUKESHA COUNTY, WISCONSIN

A. Description of Project Team – Hyde Environmental, Inc. staff assigned to the Barrett Landfill project will include Team Manager /Project Contact/ Hydrogeologist Jim Lindemann, secondary contact/field manager Bob Thomson, and field inspector/ scientist Cam Salyers. Hyde will also employ Bizhan Zia Sheikholeslami of Global Environmental Solutions, LLC as site engineer.

Mr. Lindemann is the president and owner of Hyde Environmental, Inc. He will actively manage all aspects of the project and is the WDNR's contact for this project. Mr. Lindemann currently holds Professional Hydrogeologist (PH) and Professional Geologist (PG) licensure in Wisconsin as well as a Certified Hazardous Materials Manager (CHMM).

Bob Thomson is a registered PG in Wisconsin, Illinois and Kansas, and has worked as an environmental consultant since the mid-1980s. He has extensive experience in landfill work throughout the Midwest.

Cam Salyers has been with Hyde Environmental, Inc. for approximately 1.5 years. He is a University of Kansas environmental scientist with over 5 years of groundwater and water supply sampling experience.

Bizhan Zia Sheikholeslami has 32 years of experience in solid waste and waste water with the Dept. of Natural Resources. Twenty two of those years were spent in the solid waste department as a regulator. He has a master's degree in engineering and is a registered is a registered PG and Professional Engineer (PE) in Wisconsin.

B. Experience – Hyde, teamed with Global Environmental Solutions, LLC, has the experience necessary to meet the O & M experience required to meet and exceed the work requirements. A copy of the Wisconsin Vendor Reference Form DOA 3478 is attached.

The most recent experience by Hyde personnel includes sampling several landfills within Ft. McCoy in western Wisconsin. Hyde is presently entering its third year of a five year contract with the US Army. Operations to date include low-flow sampling of monitoring wells and piezometers at four landfills located within the fort, preparation and review of submissions of data to the GEMS system, providing landfill documentation as required by contract and abandonment of wells according to Wisconsin Administrative Code.

Mr. Lindemann also currently manages all monitoring actives at an industrial landfill no longer accepting waste in western Illinois. Management of 5 year sampling for Superfund landfills in Iowa and Illinois. His sampling expertise and knowledge includes use of low-flow sampling at a Superfund site in northern Illinois landfill.

Mr. Thomson's experience includes several years of sampling and well installations at active and closed Waste Management landfills. Mr. Thomson also prepared an in-field conditions

report for the closed Milwaukee County Landfill including field supervision of the installation of monitoring and leachate head wells, sampling of monitoring wells, private wells and gas monitoring probes, and surface water sampling. Mr. Thomson most recently collected groundwater samples using EPA low-flow sampling techniques at various landfills located within Ft. McCoy in western Wisconsin.

Mr. Salyers is presently providing support for various landfill in the in the Midwest including landfills within Ft. McCoy and a closed industrial landfill in western Illinois.

Mr. Zia Sheikholeslami with Global Environmental Solutions, LLC has performed O&M work at Barrett landfill since 2008. The work included complete site management including overseeing leachate hauling and monitoring, passive gas monitoring, vegetation control, tree management, electrical system and controls management, and conflict resolution with landfill neighbors and community outreach. Mr. Zia Sheikholeslami extensive experience with the operations of Barrett landfill and will bring more experience and understanding of the operations at this facility than any other consultant. His experience and understanding of operations at this facility are incomparable.

Mr. Zia Sheikholeslami has been engaged in landfill operation problem solving at many landfills including, City of Wausau gas management, City of Burlington gas migration and active gas management, City of Glendale gas migration problem, City of Wauwatosa cover management and waste consolidation and many more.

C. Vendors – All laboratory work will be provided by Test America Lab. Their Vendor Reference Form DOA 3478 is attached.

D. Groundwater and Gas Sampling and Monitoring equipment includes the following:

In House Equipment –

- In Situ Troll MP,
- Geotech bladder pump
- Geotech low flow controller,
- Geotech Turbidity meter,
- Keck water level meter (slope indicator) – 200'

Rental Equipment

- Landtech Gas Meter, Model GEM-2000 or equal (rental)
- 4 WD truck

E. Proximity – Hyde Environmental, Inc. sole office is located at W175N11163 Stonewood Dr. in Germantown, WI. We are located approximately 30 minutes from Barrett Landfill.

F. & G -- Health and Safety Requirements – Hyde Environmental, Inc. certifies that we have established a health and safety program to adequately educate and protect personnel working at a landfill with hazardous characteristics in accordance with OSHA requirements and other applicable laws and regulations. Hyde Environmental, Inc. is an approved supplier

in Avetta and ISNet World. These firms are third party contractor contracted to prequalify suppliers to ensure they meet safety and sustainability requirements. Additional information is available upon request.

Environmental Consultants
and Contractors

N84 W13540 Leon Road
Menomonee Falls, WI 53051

262 345-1220
FAX 608 224-2839
www.scsengineers.com

SCS ENGINEERS

September 7, 2017
File No. 25213217

Transmittal by Electronic Mail to Jason.Lowery@Wisconsin.gov

Mr. Jason B. Lowery
Project Manager, Remediation & Redevelopment Program
Wisconsin Department of Natural Resources
101 South Webster Street (RR/5)
Madison, WI 53707

Subject: Proposal for Operation & Maintenance at the Barrett Landfill
New Berlin, Wisconsin

Dear Mr. Lowery:

Thank you for the opportunity for SCS Engineers (SCS) to provide this proposal for operation and maintenance (O&M) services at the Barrett Landfill in New Berlin, Wisconsin. Our proposal is based on the information presented in the bidding documents dated August 1, 2017; with updates/addendum transmitted by e-mail on August 18 and August 25, 2017; as well as the pre-bid inspection at the site on August 17, 2017.

INTRODUCTION

SCS has a long history of providing a variety of O&M services at a number of closed solid waste landfill sites in Wisconsin. SCS performs this work directly for the Wisconsin Department of Natural Resources (WDNR), as well as for private and municipal solid waste landfill operators. We have provided a general summary of our current and recent work as an attachment to this proposal. As indicated in that summary, SCS personnel are currently performing the same tasks as described in this request for proposal (RFP) at a number of other closed solid waste sites in Wisconsin.

We intend to utilize the same staff that is working on these projects for the Barrett Landfill. The primary resources for the project will be based in our Milwaukee area (Menomonee Falls) office. We will utilize additional staff and resources from the Madison office as needed. Our experience and trained personnel will help to provide the defined O&M role, as well as a resource, if authorized, for the non-routine issues at the site. Those issues include potential upgrades to minimize access/increase security to the lift station and leachate holding tank, and options to repair the forcemain connection at the lift station.

COST ESTIMATE/SCOPE OF WORK

The estimated cost to complete the scope of work described in the O&M Plan and Bid Documents is $49,870 for the one-year period beginning October 1, 2017. Based on our familiarity with this type of work, we trust that we are submitting a responsive and competitive bid to the WDNR.

These costs are broken down on the attached Bid Price Sheet, included with this submittal. Also attached is a completed copy of the Vendor Information Form for SCS (DOA-3477).

BIDDER CERTIFICATIONS

A point-by-point response to the requirements listed in the Bidder Certifications section of the bid document follows:

A. *Bidding vendors must certify that the staff they plan on using to perform the work required by the project specifications, including the Operation and Maintenance (O&M) Plan have experience in similar projects and are qualified and, where required, certified to perform those tasks assigned to them and use the equipment needed to do the work. Provide a description of the project team, including a list of staff that will be assigned to this project, their specific assignment or assignments for this project and include details of each staff members experience and qualifications, including qualifications to work in the landfill environment with monitoring wells, gas probes, and active gas and leachate collection systems.*

The following personnel will comprise the team for this project. All except Ms. Busse, who works out of the Madison office, are based in the SCS Milwaukee area office:

Gary Sterkel, Senior Environmental Specialist. Mr. Sterkel will act as the technical coordinator and lead technician for day-to-day O&M tasks. Mr. Sterkel is an experienced field technician with over 25 years of experience as a lead O&M technician. His routine duties include periodic groundwater sampling (monitoring wells and private wells), sampling landfill gas probes and wells, and balancing wellfields for migration control and/or landfill gas collection. He has performed this work at a number of closed landfill sites, many of which have complex machinery and complicated sampling requirements. He has performed landfill gas sampling and is skilled in the use and maintenance of many types of field equipment. Mr. Sterkel also reviews and compiles data for submittal to the WDNR Groundwater Environmental Monitoring System (GEMS) and prepares periodic O&M reports at a number of closed solid waste sites.

Charles Bills, Environmental Technician. Mr. Bills will act as a field technician to complete the identified O&M tasks. Mr. Bills has experience in groundwater and landfill gas sampling. He is currently performing similar tasks at a number of closed solid waste sites in southeastern Wisconsin. He has a thorough understanding of the methods and equipment utilized to collect a variety of environmental samples (groundwater and landfill gas) at closed landfill sites.

Zach Watson, Staff Professional. Mr. Watson will act as the primary author for the landfill gas and groundwater monitoring report required for the site. Mr. Watson currently provides a similar function at a number of closed solid waste sites in Wisconsin. Thus, he has a thorough understanding of the data typically generated at closed landfill sites and is prepared to present the data in a clear, easy-to-read format.

Michael Prattke, Senior Project Manager. Mr. Prattke will act as project manager for day-to-day organization and scheduling. He will be the primary contact for the project. Mr. Prattke has more than 30 years of experience as a project manager for O&M at solid and hazardous waste sites. He has worked on a number of closed solid waste sites for both the private and public sector in Wisconsin, and routinely coordinates and oversees resources to complete the typical tasks, such as those needed at this site.

Leslie Busse, PE, Senior Project Advisor. Ms. Busse will act as a project advisor and perform internal quality assurance. Ms. Busse has more than 32 years of experience as a civil/ environmental engineer and project manager in solid and hazardous waste management and remediation. Her areas of expertise include all aspects of landfill design and landfill permitting, regulation interpretation, agency negotiating, and federal remediation projects meeting Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requirements. Ms. Busse has worked on solid waste projects for both the private and public sector in Wisconsin, Illinois, Iowa, North Dakota, and Alabama.

B. *Bidding vendors must certify that they have performed O&M work at one (1) or more similar projects at a Wisconsin landfill with gas monitoring, active gas collection system, and GEMS data submittal requirements, the project must be at least 50% of the size or value of the work being bid here, and the project must have been within the past 5 years. Provide a list and description of previous O&M projects, including the similar project or projects described in the previous sentence, and provide for all such similar projects reference information, using the DOA-3478 Vendor Reference form found at the end of this bid package.*

SCS is currently performing, or has recently performed, similar O&M work at numerous closed landfills throughout the State of Wisconsin. As summarized on the attachment, we have monitored and/or operated landfill gas collection and flare systems, operated leachate collection systems, completed facility inspections, performed cap maintenance and repairs, and performed groundwater and landfill gas monitoring services at projects of varying sizes over the last several years. Many of these projects are more than 50% of the size and value of the work being bid in this proposal. Several relevant examples of projects where our local personnel (the same personnel included in the proposal) are currently working at closed landfills in Wisconsin include:

Stoughton City Landfill (WDNR) – July 2000 to March 2011 and March 2016 to Current – O&M services including tri-annual gas monitoring, tri-annual facility inspections, cap maintenance, semi-annual groundwater monitoring, and semi-annual GEMS groundwater data submission.

City Disposal Landfill (**Waste Management**) – January 2004 to Current – O&M services including landfill gas blower/flare operation, monitoring and maintenance, wellfield monitoring/balancing, condensate monitoring, pump maintenance, biosparge system (i.e., compressor) operation and maintenance, landfill cap inspection and maintenance, annual

reporting, semi-annual groundwater sampling (private and monitoring wells), data review, and semi-annual submittals to GEMS.

Franklin Landfill (Milwaukee County) – January 2010 to Current – O&M services including landfill cap monitoring and maintenance, periodic landfill gas monitoring (probes and wells), condensate monitoring and management, semi-annual groundwater sampling (private and monitoring wells), data review, preparation of annual reports, semi-annual data submittals to GEMS, blower/flare maintenance and monitoring, and wellfield monitoring/balancing.

City of Appleton Closed Landfill (City of Appleton) – April 2005 to Current – O&M services including monthly gas control system (i.e., blower and gas well) maintenance and monitoring, landfill cap monitoring and maintenance, condensate/leachate monitoring, semi-annual groundwater sampling (private and monitoring wells), and semi-annual GEMS groundwater data submission.

A completed Vendor Reference Form DOA-3478 is attached to this proposal.

C. *Bidding vendors shall specify which testing laboratory or laboratories they will use for the work and certify that the testing laboratory or laboratories can meet the Quality Assurance and Analysis requirements in the project specifications. All bidding vendors shall provide, for the laboratory or laboratories they plan to use, a list and description of previous sampling and analysis projects, noting any projects of similar scope and nature done by the lab(s). For all such similar projects noted, the bidding vendor shall provide reference information using the DOA-3478 Vendor Reference form found at the end of this bid package. This shall be a separate form in addition to the reference form being submitted for the general O&M work described in the previous paragraph.*

SCS will subcontract laboratory testing services to TestAmerica, Inc. (TA) of Chicago, Illinois. TA has a service center in the Milwaukee area, which is expected to facilitate sample shipment and reduce sample shipping costs. TA is a State of Wisconsin licensed laboratory, in accordance with Chapter NR 149 of the Wis. Adm. Code. A copy of their current certification is attached for reference. A list and description of previous projects and references are included on the completed Vendor Reference Form DOA-3478 (Laboratory), which is attached to this proposal. TA has confirmed that, assuming dilution is not required, the detection limit for each of the parameters identified in the bid documents is less than or equal to the Enforcement Standard (ES) in NR 140 Wis. Adm. Code. We are currently utilizing TA for sample analysis at a number of sites throughout the state.

D. *Bidding vendors must certify that they have access to all necessary equipment to do the work. Provide a list of all monitoring and maintenance equipment planned to be used and the location of that equipment. Equipment includes vehicles, sampling equipment, containers, bottles and meters, and specialized tools.*

SCS has ownership and control of all necessary equipment to perform the work specified in the Bid Documents at our Milwaukee area or Madison office. A list of our equipment that is planned to be used at the site is as follows: four-wheel drive pickup truck(s) or two-wheel drive van, Landtec GEM2000 or GEM5000 Landfill Gas Meter(s), Dwyer digital manometer(s), portable GPS units to locate issues within the landfill cap, Solinst water level meter(s), WTW Multi340i pH/ conductivity/temperature/DO/ORP meter(s) with flow through cell, YSI 6280 multimeter with flow through cell, PVC bailers, Proactive 12-volt DC submersible groundwater purging pumps, QED Bladder pumps, laboratory-supplied sampling containers, and 55-gallon drums or 250-gallon poly tank(s) for temporary purge water containerization.

E. *Bidding vendors must certify that they can access the site with all required personnel and equipment within 24 hours.*

The Milwaukee area SCS office is located within 20 miles of the site in New Berlin. SCS's Madison office is approximately 70 miles from site. Thus, we are confident that we can have a qualified person on site within 24 hours to respond to a wide variety of typical landfill-related issues if and when they arise. Given our present resources, we expect that our response time will typically be significantly less than 24 hours.

F. *Bidding vendors must certify that they have established a health and safety program to adequately educate and protect personnel working at a landfill with hazardous characteristics in accordance with OSHA requirements and other applicable laws and regulations. Bidding vendors must also provide some documentation/evidence of the existence of their program in their response to this certification.*

SCS has an established company-wide Health & Safety Program. The Health and Safety Program is available on the SCS intranet site. Each office has a Health and Safety Coordinator. A copy of the Table of Contents of our Health and Safety Program is attached to this proposal.

G. *All vendors who bid must certify that if they are awarded a contract they will submit certification of health and safety training to the project manager, prior to the start of field activities.*

Upon award of the project, SCS will supply the WDNR project manager with copies of our current health & safety training certifications for all project team members that are expected to provide on-site services.

PROJECT APPROACH

As directed, our proposal includes costs for an annual site inspection, leachate hauling and disposal, and biennial landfill gas and groundwater (monitoring and private well) sampling and reporting. The scope of other bid items includes only coordination and oversight/documentation, and not performance of the work. The coordination includes obtaining proposals (bids) for the work to be performed, but the work will be directly contracted by WDNR.

With regard to leachate hauling and disposal, our proposal includes costs to transport the leachate by tank truck to a local publically owned treatment works (POTW) located within 30 miles of the site. The POTW has indicated that it has the capacity to accept the leachate, based on the characteristics identified in the analysis provided by WDNR, and the anticipated volume identified in the RFP. That POTW currently accepts leachate from a number of other solid waste sites. The leachate would be loaded within 30 minutes (per load) using the pump in the holding tank at the site, transported in a 6,000 gallon capacity tank truck, and discharged to the POTW under the haulers permit. An individual permit for the leachate from the site is not anticipated. As directed, our proposal also includes costs for annual sampling of the leachate for the parameters indicated on the previous analysis provided by WDNR.

Landfill gas and groundwater sampling activities will be coordinated to the extent practicable and performed in September or October. Groundwater samples will be collected using low-flow sampling techniques, consistent with the WDNR Groundwater Sampling Field Manual and WDNR Groundwater Sampling Desk Reference. Purge water will be managed with the leachate from the site.

CONCLUSION

Thank you for the opportunity to submit a proposal for this project. SCS is fully prepared to implement the scope of work described in the bidding documents at the site beginning on October 1, 2017, or earlier.

If you have any questions regarding this proposal, please call Mike Prattke at (262) 345-1220.

Sincerely,

Keith Gilkey, PE
Senior Engineer
SCS ENGINEERS

Michael J. Prattke
Senior Project Manager
SCS ENGINEERS

KG/jsn/MP

Enclosures: Completed and Signed Bid Price Sheet
Completed Vendor Information Form (DOA-3477) for SCS
SCS Upper Midwest, Closed Landfill Experience Summary
Completed Vendor Reference Form for SCS (DOA-3478)
TestAmerica Laboratory Certificate
Completed Vendor Reference Form for TestAmerica (DOA-3478)
SCS Company Health & Safety Program

BID PRICE SHEET

July, 2017 SIMPLIFIED BID
OPERATION AND MAINTENANCE BARRETT LANDFILL
NEW BERLIN, WAUKESHA COUNTY, WISCONSIN

NOTE TO BIDDERS: All blank spaces requiring input below must be filled in, in BLACK INK. Bid items are described in the Scope of Work. The bidder agrees to accept as full payment for the work proposed under this project (as shown in the Scope of Work and as based upon the undersigned's own estimate of quantities and costs) the following bid amounts for the initial 1 year contract term. Actual quantities may vary as DNR and Contractor evaluate and adjust the O&M tasks and schedule.

BID ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
1	Annual inspection of facility components and any specified repairs that are Contractor's responsibility (2017)	Total $ per event	1	$920.00	$920.00
2	Annual preparation of facility components inspection report (2017)	Total $ per event	1	$1,670.00	$1,670.00
3	Biennial landfill gas probe monitoring and testing (2017)	Total $ per event	1	$1,140.00	$1,140.00
4	Biennial groundwater monitoring well and private well sampling and analysis (2017)	Total $ per event	1	$6,850.00	$6,690.00
5	Biennial preparation of landfill gas and groundwater monitoring report (2017)	Total $ per event	1	$950.00	$950.00
6	Biennial electronic submittal of data to GEMS system (2017)	Total $ per event	1	$700.00	$700.00
7	Leachate system commissioning and de-commissioning (fall 2017& spring 2018)	Total $ per year	1	$1,560.00	$1,560.00
8	Leachate hauling and disposal -includes sampling (2017/2018)	Total $ per gallon	360,000 gallons	$0.0695	$25,020.00
9	Coordination of contract and oversight of landfill cap mowing (annual)	Total $ per event	1	$620.00	$620.00
10	Coordination of contract and oversight of perimeter mowing (annual)	Total $ per event	1	$500.00	$500.00
11	Coordination of contract and oversight of landfill cap tree & brush removal (as needed)	Total $ per event	1	$620.00	$620.00
12	Coordination of contract and oversight of perimeter tree & brush removal (as needed)	Total $ per event	1	$500.00	$500.00
13	Coordination of contract and oversight of leachate line cleaning (2017)	Total $ per event	1	$1,240.00	$1,240.00
14	Coordination of contract and oversight of professional survey of monitoring wells, gas probes and leachate head wells (2017/2018)	Total $ per event	1	$1,240.00	$1,240.00
15	Preparation of SAP	Total $ amount per contract term	1	$850.00	$850.00
16	Preparation of HASP	Total $ amount per contract term	1	$650.00	$650.00
17	Fixed Annual Repair Contingency for all Bidders (unexpected repairs, not including filters or oil)	Total $ amount per contract term per year	1	$5,000	$5,000
18	**Total Bid Amount** (sum of items 1-17 above)				$ 49,870.00

BID PRICE SHEET

July, 2017 SIMPLIFIED BID
OPERATION AND MAINTENANCE BARRETT LANDFILL
NEW BERLIN, WAUKESHA COUNTY, WISCONSIN

Company Name SCS Engineers

Address 2830 Dairy Drive

Madison, WI 53718

Name, Title Thomas J. Karwoski, PG, Vice President

Signature _____ **Date** _____

STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DIVISION OF ENTERPRISE OPERATIONS
BUREAU OF PROCUREMENT
S. 16.765, WIS. STATS.
DOA-3477 (R02/15)

Bid / Proposal # September 2017

Commodity / Service Barrett Landfill O&M

Vendor Information

1. BIDDING / PROPOSING COMPANY NAME SCS Engineers

   Phone (608) 224-2830 Toll Free Phone (800) 676-5038

   FAX (608) 224-2839 E-Mail Address mprattke@scsengineers.com

   Address 2830 Dairy Drive

   City Madison State WI Zip + 4 53718-6751

2. Name the person to contact for questions concerning this bid / proposal.

   Name Mike Prattke Title Senior Project Manager

   Phone (262) 345-1220 Toll Free Phone (800) 676-5038

   FAX (608) 224-2839 E-Mail Address mprattke@scsengineers.com

   Address 2830 Dairy Drive

   City Madison State WI Zip + 4 53718-6751

3. Any vendor awarded over $50,000 on this contract must submit affirmative action information to the department. Please name the Personnel / Human Resource and Development or other person responsible for affirmative action in the company to contact about this plan.

   Name Joanne Eveland Title Office Services Manager

   Phone (608) 216-7333 Toll Free Phone (800) 676-5038

   FAX (608) 224-2839 E-Mail Address jeveland@scsengineers.com

   Address 2830 Dairy Drive

   City Madison State WI Zip + 4 53718-6751

4. Mailing address to which state purchase orders are mailed and person the department may contact concerning orders and billings.

   Name Joanne Eveland Title Office Services Manager

   Phone (608) 216-7333 Toll Free Phone (800) 676-5038

   FAX (608) 224-2839 E-Mail Address jeveland@scsengineers.com

   Address 2830 Dairy Drive

   City Madison State WI Zip + 4 53718-6751

5. CEO / President Name Jim Walsh

This document can be made available in alternate formats to individuals with disabilities upon request.

REPRESENTATIVE CLOSED SOLID WASTE LANDFILL PROJECT EXPERIENCE - Upper Midwest Offices

FACILITY	Gas Collection System Assessments and Improvements	Leachate & Condensation Control Systems	Redesign of Cover and Drainage Systems	Storm Water Management and Erosion Control	Environmental Monitoring	Data Management, Analyis, and Regulatory Reporting	Landfill Telemetry Systems and Remote Monitoring	Cover System Maintenance	Hydrogeologic Investigation and Remediation	Remedial Design Operation	Methane Gas Investigation and Mitigation	Planning and Development	Landfill Mining and Air Space Redevelopment	Redevelopment and Repurposing	Habitat Improvement	Cost Estimates for Surety Obligations and Liability Reserves
Boundary Road Landfill Menomonee Falls, Wisconsin	●	●			●				●				●			●
Brookfield Landfill Brookfield, Wisconsin	●	●			●	●	●		●	●	●	●		●	●	●
City Disposal Landfill Dane County, Wisconsin					●	●	●	●	●	●					●	●
Hagen Farm Superfund Site Stoughton, Wisconsin					●	●		●	●	●						●
Stone Ridge Landfill Muskego, Wisconsin		●		●												
Tri-County Landfill South Elgin, Illinois	●	●		●	●	●		●							●	●
Milwaukee County Highway Landfill Franklin, Wisconsin	●	●			●	●	●							●		
Doyne Landfill Milwaukee, Wisconsin	●	●			●	●	●							●		
HOD Landfill Antioch, Wisconsin	●	●				●	●	●						●		●
Kankakee RDF Kankakee, Illinois	●	●			●						●	●				●
Omega Hills Landfill Germantown, Wisconsin	●	●	●	●	●		●	●		●	●					●
Clark County C&D Landfill Thorp, Wisconsin					●	●					●					●
Eaton Landfill Eaton Township, Wisconsin		●	●	●	●	●		●		●						●
Neosho Landfill Neosho, Wisconsin			●	●	●	●		●	●						●	●
Polk Landfill Ackerville, Wisconsin		●	●		●	●	●	●		●				●		●

REPRESENTATIVE CLOSED SOLID WASTE LANDFILL PROJECT EXPERIENCE - Upper Midwest Offices

FACILITY	Gas Collection System Assessments and Improvements	Leachate & Condensation Control Systems	Redesign of Cover and Drainage Systems	Storm Water Management and Erosion Control	Environmental Monitoring	Data Management, Analyis, and Regulatory Reporting	Landfill Telemetry Systems and Remote Monitoring	Cover System Maintenance	Hydrogeologic Investigation and Remediation	Remedial Design Operation	Methane Gas Investigation and Mitigation	Planning and Development	Landfill Mining and Air Space Redevelopment	Redevelopment and Repurposing	Habitat Improvement	Cost Estimates for Surety Obligations and Liability Reserves
Reclamation Landfill Raymond, Wisconsin	●	●	●	●	●	●		●								●
Rusk County C&D Landfill Ladysmith, Wisconsin					●	●										●
Sawyer County C&D Landfill Hayward, Wisconsin		●			●	●										●
Elgin Landfill South Elgin, Illinois								●								
Chain of Rocks Landfill Madison, Illinois	●	●			●	●		●								●
City of Appleton Landfill Appleton, Wisconsin	●	●			●	●	●	●			●					
Outagamie County Landfill Appleton, Wisconsin					●	●										

STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DIVISION OF ENTERPRISE OPERATIONS
DOA-3478 (R06/2013)

STATE BUREAU OF PROCUREMENT
101 E. WILSON ST. / P. O. BOX 7867
MADISON, WI 53707-7886
(608) 266-2605 / FAX (608) 267-0600

Bid / Proposal # September 2017

VENDOR REFERENCE

FOR VENDOR: SCS Engineers

Provide company name, address, contact person, telephone number, and appropriate information on the product(s) and/or service(s) used for four (4) or more installations with requirements similar to those included in this solicitation document. If vendor is proposing any arrangement involving a third party, the named references should also be involved in a similar arrangement.

Company Name City of Appleton

Address (include Zip + 4) 100 N. Appleton Street, Appleton, WI 53911-4799

Contact Person Sue Olson Phone No. (920) 832-6473

Email Address Sue.Olson@appleton.org

List Product(s) and/or Service(s) Used:
O&M of active landfill gas control system (blower & 16 gas wells); semi-annual groundwater monitoring and reporting of data from 33 monitoring wells, 5 leachate wells, 2 condensate sumps, and 2 private wells to GEMS and the City of Appleton.

Company Name Wisconsin Department of Natural Resources

Address (include Zip + 4) 101 South Webster, Madison, WI 53703-3474

Contact Person Jason Lowery Phone No. (608) 267-7570

Email Address Jason.Lowery@Wisconsin.gov

List Product(s) and/or Service(s) Used:
O&M of passive landfill gas vents and gas probe monitoring, groundwater monitoring and reporting of data from 25 monitoring wells to GEMS for the Stoughton City Landfill.

Company Name Milwaukee County

Address (include Zip + 4) 633 W. Wisconsin Ave. Milwaukee, WI 53203

Contact Person Stevan Keith Phone No. (414) 278-4355

Email Address Stevan.Keith@milwaukeecountywi.gov

List Product(s) and/or Service(s) Used:
Semi-annual groundwater monitoring and reporting of data from 29 monitoring wells, 18 private wells, 10 leachate head wells, and 20 gas probes sampled quarterly, to GEMS for the Franklin Landfill. O&M and balancing of active landfill gas control system (blower, flare, 26 gas wells). Condensate monitoring/management at 6 tanks/knockouts.

Company Name Waste Management of Wisconsin, Inc.

Address (include Zip + 4) W124 N9355 Boundary Road, Menomonee Falls, WI 53051

Contact Person Michael Peterson Phone No. (262) 509-5638

Email Address mpeterso2@wm.com

List Product(s) and/or Service(s) Used:
O&M of active landfill gas control system (blower, flare, telemetry, system balancing @24 wells), O&M of the biosparge system (i.e., compressors), landfill cap inspections and maintenance, and groundwater monitoring and reporting of data from 18 monitoring wells and 4 private wells to GEMS for the City Disposal Landfill.

State of Wisconsin
Department of Natural Resources

recognizes

Wisconsin Certification under NR 149

of

TestAmerica Chicago

Laboratory Id: **999580010**

as a laboratory licensed to perform environmental sample analysis in support of covered environmental programs (ch. NR149.02 Note) for the parameter(s) specified in the attached Scope of Accreditation.

August 31, 2018

Expiration Date

August 17, 2017

Issued on

Steven Geis, Chief
Environmental Science Services

Cathy Stepp, Secretary
Department of Natural Resources

This certificate does not guarantee validity of data generated, but indicates the methodology, equipment, quality control practices, records, and proficiency of the laboratory have been reviewed and found to satisfy the requirements of ch. NR 149, Wis. Adm. Code.

STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DIVISION OF ENTERPRISE OPERATIONS
DOA-3478 (R06/2013)

STATE BUREAU OF PROCUREMENT
101 E. WILSON ST. / P. O. BOX 7867
MADISON, WI 53707-7886
(608) 266-2605 / FAX (608) 267-0600

Bid / Proposal # September 2017

VENDOR REFERENCE

FOR VENDOR: TestAmerica (SCS Engineers)

Provide company name, address, contact person, telephone number, and appropriate information on the product(s) and/or service(s) used for four (4) or more installations with requirements similar to those included in this solicitation document. If vendor is proposing any arrangement involving a third party, the named references should also be involved in a similar arrangement.

Company Name City of Appleton (for SCS Engineers)

Address (include Zip + 4) 100 N. Appleton Street, Appleton, WI 53911-4791

Contact Person Sue Olson Phone No. (920) 832-6473

Email Address Sue.Olson@appleton.org

List Product(s) and/or Service(s) Used:
Provides laboratory analysis for VOCs, alkalinity, hardness, chloride, COD, arsenic, chromium, iron, mercury, manganese for 33 monitoring wells, 5 leachate wells, 2 condensate sumps, and 2 private wells for the City of Appleton landfill. Transmits electronic data deliverable (EDD) for review and submittal to GEMS.

Company Name Wisconsin Department of Natural Resources (for SCS Engineers)

Address (include Zip + 4) 101 South Webster, Madison, WI 53703-3474

Contact Person Jason Lowery Phone No. (608) 267-7570

Email Address Jason.Lowery@Wisconsin.gov

List Product(s) and/or Service(s) Used:
Provides laboratory analysis and EDD for VOCs at the Stoughton City Landfill at 13 monitoring wells.

Company Name Waste Management of Wisconsin, Inc. (for SCS Engineers)

Address (include Zip + 4) W124 N9355 Boundary Road, Menomonee Falls, WI 53051

Contact Person Michael Peterson Phone No. (262) 509-5638

Email Address mpeterso2@wm.com

List Product(s) and/or Service(s) Used:
Provides laboratory analysis of groundwater and/or leachate samples for VOCs, indicator parameters, and/or metals at multiple closed sites in Wisconsin including City Disposal, Hagen Farm, Reclamation, Eaton, and Neosho Landfills. The scope also includes preparation of the EDD for review and submittal to GEMS.

Company Name Cedar Corporation

Address (include Zip + 4) 604 Wilson Avenue, Menomonee, WI 54751

Contact Person Mitch Evenson Phone No. (715)235-7372

Email Address mitch.evenson@cedarcorp.com

List Product(s) and/or Service(s) Used:
Provides laboratory analysis of typical landfill samples (i.e. groundwater, leachate) collected by Cedar Corp. as part of their work in Wisconsin. Typical analytes include: VOCs, Hardness, Metals, Hg, COD, BOD, SVOC, Alkalinity, Anions.

SCS ENGINEERS

SCS Engineers Health and Safety Injury and Illness Prevention Program

Presented by:

SCS ENGINEERS
3900 Kilroy Airport Way
Suite 100
Long Beach, CA 90806-6816
(562) 426-9544

January 2017

Offices Nationwide
www.scsengineers.com

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F Respiratory Protection Program

G Motor Vehicle and Fleet Safety Program

H Hearing Conservation Program

I Bloodborne Pathogens Exposure Control Plan

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K Confined Space Entry Program
L Workplace Ergonomics Program
M Medical Surveillance Program
N Return to Work Program
O Contractor Safety Management
P Electrical Safety Program

TETRA TECH

September 7, 2017

Mr. Jason Lowery, Assistant Project Manager
Wisconsin Department of Natural Resources
Remediation & Redevelopment Program
101 S. Webster Street, Box 7921 Madison, WI 53707

SENT BY EMAIL: Jason.Lowery@wisconsin.gov

RE: BARRETT LANDFILL – Operation and Maintenance Bid Response

Dear Mr. Lowery:

Tetra Tech is pleased to submit this proposal to provide environmental services in response to the Wisconsin Department of Natural Resources (WDNR) Request for Bid for the operation and maintenance of the Barrett Landfill. Tetra Tech is extremely qualified for this work scope, as we have extensive expertise in the operation, management and monitoring (OM&M) of landfill programs, including specific Wisconsin experience. Tetra Tech manages several OM&M portfolios for solid waste and industrial companies. We have been providing environmental services in Wisconsin since 1985, and have established an excellent reputation with the WDNR. This project would be managed out of our Brookfield office, located less than seven miles from the Site.

Proposed services include preparation of a Site-Specific Sampling and Analysis Plan and Health and Safety Plan; seasonal commissioning, operation and decommissioning of the leachate collection system; site and system inspections, repairs and routine maintenance; coordination and oversight of subcontractors; and biennial sampling and analyses for the monitor well and private well networks. Services also include the costs associated with leaching sampling, hauling, and disposal. Deliverables include an annual facility components inspection report and biennial landfill gas/groundwater monitoring reports.

Separate from the costs provided above, we have listed several value-added options we can provide, such as TetraForms (licensed forms specifically designed for landfill field service applications), a landfill gas monitoring database application, and in-house construction and engineering resources.

We appreciate the opportunity to submit our proposal for this project. We trust that the information provided meets or exceeds your expectations, and we look forward to the opportunity to assist you with this project. Please contact me (608-886-7245, lori.huntoon@tetratech.com) to discuss our proposal or if you are in need of any additional information.

Sincerely,

Tetra Tech

Senior Project Manager/Geologist

Enclosure: Proposal and Team Resumes

TETRA TECH
175 N. Corporate Drive, Suite 100, Brookfield, WI 53045
Tel 262.792.1282 Fax 262.792.1310 www.tetratech.com

PROPOSAL TO PERFORM OPERATION AND MAINTENANCE

BARRETT LANDFILL

New Berlin, Waukesha County, Wisconsin

September 7, 2017

PRESENTED TO

Wisconsin Department
of Natural Resources
101 S. Webster Street
Madison, WI 53707

PRESENTED BY

TETRA TECH

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Prepared by:

9/07/2017

Lori C. Huntoon — Date
Senior Project Manager/Geologist

Authorized by:

9/07/2017

Michael R. Noel — Date
Vice President, Operations Manager

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BIDDER CERTIFICATIONS

A. PROJECT TEAM

Tetra Tech certifies that the members of the Project Team have experience in similar projects and are qualified and, where required are also certified, to perform the assigned tasks and to use the equipment necessary to complete the scope of work.

The Project Team consists of a strategic portfolio of expertise brought together to ensure success for the Barrett Landfill project. Several of the selected key staff from Tetra Tech have each provided environmental engineering services to the WDNR for over 20 years.

We selected our proposed team to provide the WDNR with professionals that:

- Are expertly qualified for each of the project tasks,
- Have demonstrated excellent performance on numerous similar projects,
- Have established strong working relationships with WDNR staff, and
- Have the necessary resources to complete every aspect of this assignment successfully, within the budget proposed, and in the required timeframe.

PROJECT MANAGEMENT

Tetra Tech has been administering WDNR projects from the Brookfield office for over 20 years and has consistently provided prompt and accurate project management. Project responsibilities and summary experience for our proposed team are presented below. Resumes for each of the key team members are provided in Attachment A.

Ashley Weimer, P.G. – Project Manager

Ms. Weimer has eight years of professional experience as a Senior Project Geologist with Tetra Tech's Brookfield, Wisconsin office, and will serve as Project Manager for the Barrett Landfill Project.

Ms. Weimer's relevant landfill experience includes serving as Project Manager for operation, maintenance and monitoring (OM&M) activities at the FF/NN Landfill in Ripon, Wisconsin. Tasks conducted include groundwater low-flow well sampling of residential wells, quarterly gas VOC sampling of gas extraction wells/vents, gas probe monitoring, and annual leachate VOC sampling (when leachate is present). Her additional landfill experience includes completion of bar hole drilling for a gas survey program to evaluate landfill gas generation at the Cooper Crouse-Hinds Landfill in Syracuse, New York. Ms. Weimer also has expertise in conducting environmental site investigations, groundwater monitoring, GEMS reporting requirements and submittal, and operation and maintenance of groundwater remediation systems.

Daniel L. Morgan, P.E. – Senior Project Engineer

Mr. Morgan has over 35 years of professional experience in civil and environmental engineering, and will serve as the Project Environmental Engineer for the Barrett Landfill OM&M. His professional experience includes design and construction for commercial, industrial, and military projects with a focus in civil, mechanical, and electrical design and component selection for soil and groundwater treatment systems. Mr. Morgan has managed sites impacted with chlorinated solvents, petroleum hydrocarbons, and metals, overseeing in situ treatment, excavation, groundwater pump and treat systems, chemical oxidation using potassium permanganate, bioremediation, and natural attenuation projects. Mr. Morgan has supported

numerous clients for compliance with WDNR regulations for soil removal/reuse and groundwater monitoring, and has successfully negotiated with WDNR personnel to minimize remedial requirements and accelerate site closure.

Mr. Morgan has served as the Principal Engineer in charge of design and construction of multi-state - approved landfill caps including excavation and clean fill placement in perimeter buffer zones, excavation and placement beneath the central caps of selected contaminated wetland sediments, and wetland restoration. He has also designed landfill gas collection and venting systems, perimeter gas probe programs, surface water sample ports, and perimeter ground water monitor wells. Mr. Morgan's leachate collection system design and installation experience has included dual leachate and gas vacuum extraction, separation, treatment and disposal. His landfill cap design experience includes three ply geo-composite venting layer, 60 ml LDPE geomembrane, geo-composite drainage layer, sand protection layer, topsoil layer with seeding and mulching, turf reinforcement material on flooded or steep slopes, perimeter drainage swales, and toe stone at the cap perimeter. Mr. Morgan has successfully designed and implemented multi-year off-site remote management of vacuum landfill gas collection and treatment via modem connection of vacuum blowers at un-manned closed landfills.

ADDITIONAL KEY TEAM MEMBERS

Additional key staff designated to oversee specific integral parts of the project and perform the requested services while meeting project schedules and budgets include:

Lori Huntoon, P.G. – Quality Manager

Ms. Huntoon has over 25 years of professional experience related to environmental site assessments, groundwater and soil contamination investigation and remediation, groundwater supply programs, sustainable environmental solutions, and quality assurance on environmental programs. Her experience includes USEPA programs (CERCLA/SARA, NEPA, RCRA, and UST/LUST), corporate environmental compliance programs, permitting, and remedial feasibility studies. Recent projects have included a variety of chemicals such as chlorinated solvents, explosives (primarily DNT), ketones, metals, pesticides/herbidicides, PCBs, petroleum hydrocarbons, and radionuclides. Ms. Huntoon's remedial experience includes air sparging, bioremediation, capping, chemical oxidation, containment, pump and treat systems, soil vapor extraction and monitored natural attenuation. She has significant experience with complex hydrogeologic settings and fractured bedrock, technical oversight, facilitation/negotiation, and training. In addition, she has served as an expert witness in cases involving applicability of soil and groundwater regulatory limits, transport of contaminants, and subsurface classification. Ms. Huntoon is Tetra Tech's proposed Quality Manager for the Barrett Landfill Program.

Ashley Kowalewski – Field Geologist

Ms. Kowalewski has three years of professional experience as a Geologist with Tetra Tech's Brookfield, Wisconsin office. She has experience conducting environmental site investigations, remedial actions, groundwater monitoring, and operation and maintenance of groundwater remediation systems. Her specific landfill experience includes groundwater monitoring, including low-flow collection of groundwater samples from residential wells surrounding a landfill. She has experience with Groundwater and Environmental Monitoring System (GEMS) reporting requirements, preparation of GEMS data, and submittals. Ms. Kowalewski will serve as our team's proposed Field Geologist.

Todd Thomson – Certified Environmental and Pollution Control Technician

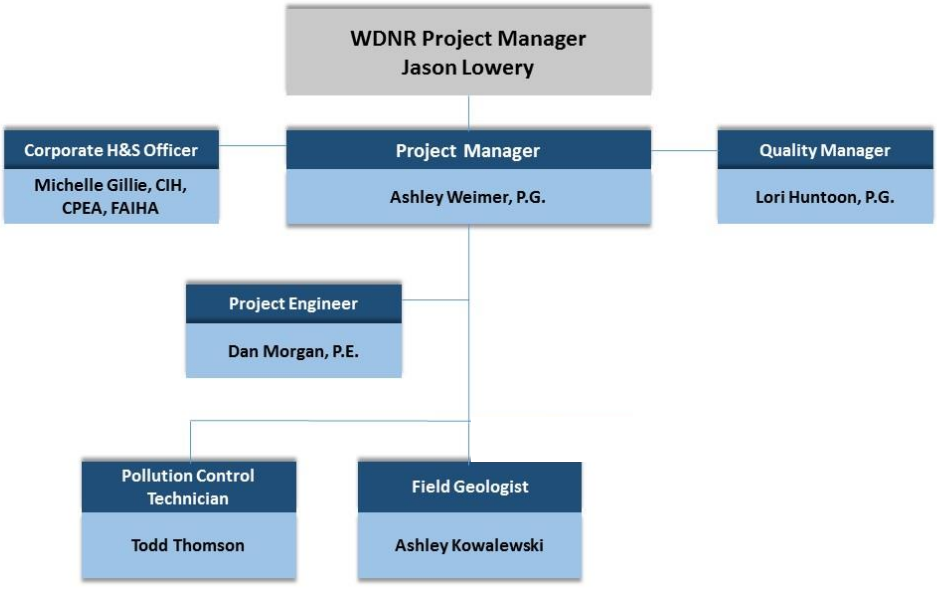
Mr. Thomson has over 25 years of professional experience in a variety of geologic and hydrogeologic settings. His work experience includes soil, bedrock and groundwater characterizations; monitoring/extraction well installations; dedicated sampling system installation/ operation; and, low-flow micropurge dedicated sampling system installation/operation. Mr. Thomson has conducted well

development programs; hydraulic conductivity testing; installation of soil gas/ sub-slab soil gas probes; groundwater, soil gas and air sampling; well abandonment; landfill cap construction; and the Quality Assurance/Quality Control (QA/QC) of geosynthetic liners. He has extensive experience with a wide range of drilling technologies including rotosonic, dual tube, mud and air rotary, rock coring, hollow stem auger and direct push. Mr. Thompson also has experience with the installation and sampling of multiport well completions including Westbay, Waterloo, and Solinst systems.

His recent landfill experience includes conducting a methane gas migration study (25 landfill gas probes) for the Doyne Park Landfill in Milwaukee; sampling of 31 private water supply wells associated with the BFI Landfill for the Town of East Troy; sampling of monitor wells and private water supply wells for the Refuse Hideaway Landfill in Middleton; and oversight activities associated with the RCRA landfill cap for Chemical Waste Management in Wilsonville, Illinois. Additionally, he has conducted methane monitoring for assessment of potential landfill gas migration into basements of residences and businesses for the Crystal Ridge Landfill in Milwaukee County; leachate sampling, and compliance monitoring of groundwater monitor wells and private water supply wells for the Town of East Troy Landfill; installation and monitoring of methane probes for Milwaukee County; and, landfill gas monitoring (seven gas probes) for the Sunrise Landfill in Wayland, Michigan. Mr. Thomson is the proposed Field Technician for Barrett Landfill O&M tasks.

Michelle Gillie – Corporate Health and Safety Officer

Michelle Gillie is a Tetra Tech Corporate Health and Safety Director and a member of Tetra Tech Safety Council (since 2001). She has over 34 years of experience in the field of occupational/ environmental health and safety and has been board certified in the comprehensive practice of industrial hygiene since 1986. In addition, Ms. Gillie is also certified in health and safety auditing and asbestos building inspections and abatement project designs. She provides health and safety leadership and direction to Tetra Tech environmental, engineering and construction projects and also directly manages her own industrial hygiene projects. Ms. Gillie's recent experience includes hazardous waste management; indoor air quality investigations; asbestos/lead-based paint hazard management/abatement; health and safety training, program and plant health and safety compliance audits; accident investigations; and worker exposure assessments for chemical physical and biological agents. Her noteworthy technical accomplishments include being named a 2014 Fellow of the American Industrial Hygiene Association. Ms. Gillie is Tetra Tech's proposed Health and Safety Officer for this project.



B. TETRA TECH QUALIFICATIONS AND RELEVANT EXPERIENCE

Tetra Tech certifies that the company has performed O&M work at one (1) or more similar projects at a Wisconsin landfill with gas monitoring, active gas collection system, and GEMS data submittal requirements. In addition, project work was completed within the last five years, and the projects were at least 50% of the size or value of Barrett Landfill Operation and Maintenance.

Tetra Tech has significant experience with landfill OM&M throughout Region V. A summary of relevant projects is provided below. Select summaries of projects highlighting Tetra Tech's significant experience with landfill O&M, and meeting the criteria outlined above, are provided below:

Operations and Maintenance Services for Republic Services, Inc. Kestrel Hawk Landfill, 1989 Oakes Road, Racine, Wisconsin

Project Timeframe: 2009 – present (8+ years)
Project Value: approximately $100,000 per year for routine and non-routine services combined
Project Size: 117 acres
Project Reference: Mr. Khalid Umer – Republic Services, (708) 297-3931

Tetra Tech has performed landfill gas collection system routine and non-routine monitoring, maintenance, and construction services at the Kestrel Hawk Landfill since 2009.

Tasks include performing weekly adjustments of the landfill gas extraction wells, maintaining the primary objective of controlling landfill gas migration (methane gas levels below five percent by volume at the property line), keeping methane surface emissions below 500 parts per million (ppm), and recommending improvements to optimize system performance. Tetra Tech also maintains landfill gas quality and flow for the off-site power generation facility at the SC Johnson plant.

The Scope of Work includes the following:

- Deliver landfill gas to 3.2MW Solar Centaur engines (located at the SC Johnson Waxdale Plant)
- Ensure the current flow from the facility is at approximately 1400 scfm
- Operate and maintain the landfill gas collection and control system, which includes:
    - 109 landfill gas extraction points - including 99 vertical wells, 8 cleanouts, and 2 horizontals
    - 15 leachate sumps
    - 41 dual extraction locations (pumping from gas extraction locations)
    - 1 landfill gas flare
    - 4 landfill gas blowers
    - 2 air compressors
- Monitor and adjust all gas extraction points (twice a month)
- Perform of NSPS Cover Integrity Inspections
- Conduct routine flare station inspections and repairs
- Monitoring and maintaining 32 explosive gas monitoring probes
- Pumping installations, maintenance, and repairs (as necessary)
- Corrective repairs and maintenance of all gas collection/control components
- Response to emergency callouts

Operation, Maintenance, and Monitoring Services
Highway FF/NN Landfill NPL Site, Ripon, Wisconsin

Project Timeframe: 1992 – present (25+ years)
Project Value: $324,000 (approximate O&M costs for 12 years)
Project Size: 9 total acres, 7.3 of actual landfill
Project Reference: Jeff Tracy, Sr. Project Manager, Quantum Management Group, Inc. (262) 292-6081

The Brookfield office of Tetra Tech has been conducting the required operation, maintenance, and monitoring activities at the FF/NN Landfill in Ripon, Wisconsin since 2002. Tasks include annual water level measurements for all wells, and groundwater low-flow well sampling on a quarterly (11 wells), semi-annual (3 wells) and annual (14 wells) schedule. Other elements of the monitoring plan we are conducting include annual groundwater VOC sampling of 1 residential well; quarterly gas VOC sampling of extraction wells/vents (4); gas probe (1); and annual leachate VOC sampling (as required). In addition, two private wells were disconnected from the homes' internal water piping and are sampled quarterly from the outside hose tap. The quarterly events take place in January, April, July, and October. The semi-annual events take place in April and October, and the annual event takes place in April. The laboratory analysis is performed by Pace Laboratories in Green Bay, WI. Tetra Tech is providing O&M oversight including coordination with city staff regarding routine O&M of the gas extraction system, troubleshooting, and incidental repairs. This includes quarterly landfill gas monitoring at all gas vents, gas probes, and nearby water table wells; collecting gas samples from each operating gas extraction well and gas probe GP-3 for TO-14 VOC analysis and biweekly landfill gas monitoring at gas extraction wells. In addition, we conduct routine project management activities, conduct project meetings, and provide responses to WDNR queries. This installed gas system has demonstrated successful removal of vinyl chloride from landfill gas, and concentrations of VOCs in groundwater are decreasing.

The Project Manager for the Ripon Landfill O&M Program is Ashley Weimer of Tetra Tech's Brookfield office. Ms. Weimer is assisted by Ashley Kowalewski, Geologist; Todd Thomson, Environmental & Pollution Control Technician, and; Dan Morgan, Principal Environmental Engineer.

References for previous projects are provided on WDNR DOA-3478 Vendor Reference Form (attached). A listing of Tetra Tech's landfill O&M project experience for USEPA Region V is provided below:

Landfill Operation and Maintenance Projects for USEPA Region V

PROJECT	STATE	CUSTOMER	SERVICES PERFORMED
Livingston LF	IL	Republic Sevices	Operation of Leachate Pre-Treatment Facility
Mallard Lake LF	IL	Republic Sevices	Construction, Maintenance, and Repair Services
Lake LF	IL	Waste Management	Construction, Maintenance, and Repair Services
Woodland LF	IL	Waste Management	Construction, Maintenance, and Repair Services
Settlers Hill LF	IL	Waste Management	Construction, Maintenance, and Repair Services
Kankakee Gas Recovery	IL	Waste Management	Construction, Maintenance, and Repair Services
HOD Gas Recovery	IL	Waste Management	Construction, Maintenance, and Repair Services
LandComp LF	IL	Republic Sevices	Construction, Maintenance, and Repair Services
South Chain of Rocks RDF	IL	Waste Management	Construction, Maintenance, and Repair Services
Tazewell Gas Recovery	IL	Waste Management	Construction, Maintenance, and Repair Services
Zion LF ADS	IL	ADS Community Refuse	Construction, Maintenance, and Repair Services
Congress LF	IL	Republic Sevices	Construction, Maintenance, and Repair Services
Wheatland Prairie LF	IL	Waste Management	Construction, Maintenance, and Repair Services
CDT LF Flare	IL	CDT Landfill	Construction, Maintenance, and Repair Services
Greene Valley LF	IL	Waste Management	Construction, Maintenance, and Repair Services
Catholic Cemeteries	IL	Catholic Cemeteries of Chicago	Construction, Maintenance, and Repair Services
Upper Rock Island LF	IL	Republic Sevices	Construction, Maintenance, and Repair Services
Orchard Hills LF	IL	Advanced Disposal	Construction, Maintenance, and Repair Services
Forest Preserve	IL	Forest Preserve District of Dupage County	Construction, Maintenance, and Repair Services
Newton County LF	IN	Republic Sevices	Operations, Maintenance, Construction, and Reporting Services
Blackfoot LF	IN	Advanced Disposal	Operations, Maintenance, Construction, and Reporting Services
Citizens Disposal LF	MI	Republic Sevices	Operations, Maintenance, Construction, and Reporting Services
South Lyon LF	MI	Republic Sevices	Operations, Maintenance, Construction, and Reporting Services
Grand River LF	MI	Granger Land Development Company	Construction, Maintenance, and Repair Services
City Sand LF	MI	Waste Management	Construction, Maintenance, and Repair Services
Celina LF	OH	Republic Sevices	Operations, Maintenance, Construction, and Reporting Services
CLD Lewis LF	OH	Republic Sevices	Operations, Maintenance, Construction, and Reporting Services
Glenwillow LF	OH	Republic Sevices	Operations, Maintenance, Construction, and Reporting Services
Warner Hill LF	OH	Republic Sevices	Operations, Maintenance, Construction, and Reporting Services
Willow Creek LF	OH	Republic Sevices	Operations, Maintenance, Construction, and Reporting Services
Carbon Limestone LF	OH	Republic Sevices	Operations, Maintenance, Construction, and Reporting Services
Central Landfill	OH	Surety Management Company	Operations, Maintenance, Construction, and Reporting Services
Mt Eaton LF	OH	Norton Environmental	Construction, Maintenance, and Repair Services
American LF	OH	Waste Management	Construction, Maintenance, and Repair Services
Duck Creek LF	OH	Republic Services	Operations, Maintenance, Construction, and Reporting Services
Muskingum LF	OH	Republic Services	Operations, Maintenance, Construction, and Reporting Services
Erie Co LF	OH	Erie County Landfill	Operations, Maintenance, Construction, and Reporting Services
Cuyahoga Regional LF	OH	Waste Management	Construction, Maintenance, and Repair Services
Geneva LF	OH	Waste Management	Construction, Maintenance, and Repair Services
Mahoning LF	OH	Waste Management	Construction, Maintenance, and Repair Services
Stony Hollow LF	OH	Waste Management	Construction, Maintenance, and Repair Services
Hancock County LF	OH	Granger Land Development Company	Construction, Maintenance, and Repair Services
Kestrel Hawk LF	WI	Republic Sevices	Operations, Maintenance, Construction, and Reporting Services
Metro LF	WI	Waste Management	Construction, Maintenance, and Repair Services

Corporate Qualifications

Founded in 1966, Tetra Tech is publicly traded and reported more than $2.5B in gross revenues in Fiscal Year 2016. Tetra Tech employs thousands of registered Professional Engineers (civil, environmental, hydraulics/ hydrology, structural), Geomorphologists, Professional Geologists, and other licensed professionals for project management, cultural resources, and other disciplines often required for project work.

Each year, Tetra Tech is recognized by the prestigious Engineering News-Record. In 2016, our firm ranked #1 in several categories including Environmental Management, Solid Waste, Treatment/Desalination, Dams and Reservoirs, Water, and Wind Power. Tetra Tech also ranked in the Top 10 in a total of 35 categories including Environmental Science, Site Assessment/ Compliance, Hazardous Waste, Chemical/Soil Remediation, Design, and Power, Transmission and Distribution.

Tetra Tech staff members have specific experience working with WDNR. We understand the expectations of the Department and have demonstrated an ability to meet your needs.

Local Expertise - Less than 7 Miles from Barrett Landfill

The Tetra Tech project team will operate from the Brookfield, Wisconsin office. Staffing the project in an office near the landfill will enable quick and efficient responses to the needs of WDNR staff. We have been administering WDNR projects from the Brookfield office for over 20 years and have consistently provided prompt and accurate project management.

Tetra Tech has worked in the state of Wisconsin for more than two decades, providing a full spectrum of technical services which range from initial site characterization through remediation and operation and maintenance services, and we are well versed in the State of Wisconsin's regulatory framework.

The proposed level of effort was developed utilizing staff on the project team that possess the specialized skills needed for each activity and are able to devote the required time to the project. WDNR staff, including local regulators throughout the south-eastern Wisconsin area, have previously worked with many of the selected team members. Each of our core team members for this project live in Wisconsin and have the expertise and experience to perform the work required for the Barrett Landfill.

Our vast experience, strong knowledge and compliance with the relevant aspects of the Wisconsin Administrative Code and WDNR guidance documents, and excellent working relationships have resulted in timely solutions and the successful closure of numerous projects. Rigorous QA/QC protocols are routinely applied for all aspects of each project (including reporting) in order to consistently deliver sustainable, cost-effective, and efficient solutions.

C. LABORATORY QUALIFICATIONS AND RELEVANT EXPERIENCE

Tetra Tech certifies that the analytical laboratory selected for this project, PACE Analytical Services, LLC, can meet the Quality Assurance and Analysis requirements in the project specifications.

Tetra Tech proposes to utilize PACE Analytical Services, LLC (PACE) for the Barrett Landfill project. As one of the largest commercial analytical testing laboratories in the United States, PACE provides the expertise and instrumentation to support variant testing requirements—regardless of scope, complexity, or logistics. Throughout their 38-year history, clients have benefited from a commitment to data quality, timely turnaround times, excellent service, and fair pricing. References for selected projects identified above are provided on the DOA- 3478 Vendor Reference Form (attached).

PACE has conducted analytical services for the following landfill projects (scopes and size vary):

- Brown County East Landfill
- Brown County West Landfill
- Kewaunee Co Landfill
- Ripon FF/NN Landfill
- Plymouth Landfill
- Outagamie County Landfill
- Ashland Demo Landfill
- Burlington Landfill
- Falk Landfill
- Seymour Landfill
- Mallard Ridge Demolition Landfill

PACE offers comprehensive testing for engineering consultants, energy/utility companies, industry, municipalities, and government agencies—as well as for the pharmaceutical and medical device industries. Full-service environmental testing laboratories offer inorganic, organic, and radiochemistry capabilities—specializing in the analysis of trace level contaminants in air, water, wastewater, soil, biota, and waste.

As a WDNR Chapter NR149-approved laboratory, PACE will provide detection limits for all compounds at or below the Enforcement Standards published in the Wisconsin Administrative Code Chapter NR 140, as specified within the RFP, with the exception of 1,2-Dibromomethane (ES=0.05 ug/L, MDL=0.18 ug/L) and Cis 1,3-Dichloropropene (ES=0.4 ug/L, MDL=0.5 ug/L). For QAPP development, PACE will provide SOPs for analytical procedures. In addition, for data validation purposes, PACE confirms that the data package will be retained for a minimum of five years, and can be made available for distribution upon request by WDNR or USEPA.

D. EQUIPMENT AVAILABILITY

Tetra Tech certifies the possession of, or access to, the necessary equipment to do the work specified in the RFP.

Tetra Tech will charge travel costs to the work site and will use the hourly rate of the technical personnel performing the work, plus the daily mileage rate and daily vehicle charge. The Brookfield office has three four-wheel drive pick-up trucks available for field work.

A listing of the vehicles, as well as monitoring and maintenance equipment that could be used on the landfill project, and their locations, is provided below:

Vehicles

Ford F-150 Pick-Up Truck (2007) – Brookfield office
Ford Ranger Pick-Up Truck (2004) – Brookfield office
GMC 1500 Pick-Up Truck (2006) – Brookfield office

Sampling Equipment and Meters

The following equipment is available for the project and located in Tetra Tech's Brookfield office:

AIR COMPRESSOR	CAMERA, DIGITAL
CONTROLLER, QED	GENERATOR
HAND AUGER	LAPTOP (for field work)
METER-4 GAS (O2/LEL/CO/H2S)	METER-pH/TEMP/COND
METER-LANDFILL GAS (O2/CO2/CH4)	METER-VELOCITY
PHOTOIONIZATION DETECTOR (2)	PROBE, INTERFACE
PROBE, WATER LEVEL	PUMP, GRUNDFOS W/CONTROLLER
PUMPs, PERISTALTIC (2)	PUMP, PURGER
SOLINST EDGE LEVELOGGER	SOLINST LEVELOGGER GOLD or LT
SOLINST BAROLOGGER	IN-SITU TROLL 500
IN-SITU BARO TROLL	HEALTH & SAFETY (modified Level D)
HEALTH & SAFETY (Level D)	BAILER, DEDICATED
BAILER, DISPOSABLE	DRAEGER TUBES
FILTERS, IN-LINE (0.45 uM)	GLOVES, NITRILE
GLOVES, VINYL	JARS
PAPER TOWELS	ROPE
TUBING, POLY (peristaltic pump)	TUBING, SILICON (peristaltic pump)
TUBING, TYGON (purger pump)	WATER, DISTILLED

Containers and Bottles

The appropriate sampling containers and bottles are located with PACE, and will be provided by PACE prior to each sampling event.

Specialized Tools

Additional equipment owned by the Brookfield office of Tetra Tech that could be used on the project is listed below:

ELECTRIC HAMMER DRILL	GENERATOR (2)
HANDHELD GPS	HELIUM SHROUD
SAMPLE TRAIN (connects gas probe to Summa canister) (2)	

E. ACCESS TO SITE WITHIN 24 HOURS

Tetra Tech certifies that required personnel can access the Barrett Landfill site with the required equipment within a timeframe significantly well below 24 hours.

The Tetra Tech Project Team will operate from the Brookfield, Wisconsin office, located less than seven miles from the Barrett Landfill. This presence of the Project Team in an office located within fifteen minutes of the Site will enable quick and efficient responses to the needs of WDNR staff.

F. HEALTH & SAFETY PROGRAM

Tetra Tech certifies that the company has an established health and safety program to adequately educate and protect personnel who are tasked with working at a landfill with hazardous characteristics, in accordance with OSHA requirements and other applicable laws and regulations.

Overview: Protecting our employees at work sites is our highest priority. Tetra Tech believes that occupational incidents can be prevented and that no incident be treated as an acceptable event when we execute our work. To achieve this, the company's health and safety processes are a vital and integral part of our work.

Culture of Safety: Our corporate leadership instills health and safety throughout our operations and management systems. They understand their responsibility and accountability to plan for safety and to ensure that safety measures are implemented. Ensuring safety also relies on a management system that regularly evaluates performance and identifies necessary adjustments for continual improvement. The principle objectives of our program are codified in a written H&S policy, which the highest levels of our management team endorse and monitor regularly. Safety is introduced the moment an employee comes to Tetra Tech. We require that all employees view our safety orientation and receive instructions in unit-specific programs and processes. We maintain and strengthen this culture of safety with our

employees through training, mentoring, and on-going communications. And at least once every two years, we formally communicate our core H&S values and processes to every employee.

Commitment to Zero Incidents: Our goal is zero incidents. This is achievable when safety is integrated fully into operations by management commitment, clearly defining, and communicating roles and responsibilities, allocating sufficient resources, establishing systems and processes that integrate health and safety with activities, appropriate training, and employee participation. Tetra Tech's business group and operating leaders have in place systems and programs applicable to their operations. The consistent expectation in all H&S systems is that occupational hazards are identified, assessed, and effectively controlled. This process includes pre-job planning processes, developing site-specific H&S plans, conducting job hazard analyses, and performing safe work practices.

Written Program: Tetra Tech's commitment to zero incidents and conducting operations that comply with applicable rules and regulations is detailed in the company's written H&S policies, programs, and safe work practices. These internal standards reflect the US Occupational Safety and Health Administration and other national and/or local agency H&S regulations that apply to our business operations.

H&S Staff: Our health and safety processes are supported by a team of certified H&S professionals and individuals cross-trained in H&S activities. Professional staff includes Certified Industrial Hygienists, Certified Safety Professionals, Mine Safety Professionals, Certified Health Physicists, Occupational Health Specialists, and Healthcare Professionals. They help implement our program and provide guidance and direction for Tetra Tech's project activities.

Employee Participation: Tetra Tech expects employees to participate in developing, implementing, and improving the H&S Program. The program contains clearly defined and communicated H&S responsibilities and supports the following ways employees can participate:

- Providing open forums during office or project H&S meetings,
- Attending company-conducted training,
- Encouraging employees to contact their supervisor, senior management, or their H&S Representative any time to discuss H&S issues or to provide input, and
- Expecting employees to participate in office H&S goal-setting processes and to assist with action items defined during incident investigations and hazard assessment activities, such as a job hazard analysis.

Tetra Tech conducted an enterprise wide employee safety survey requesting feedback in key program elements—safety culture, training, hazard assessment and control. More than 90 percent of respondents agreed that "Safety is a high priority when I do my job," an indicator of Tetra Tech's safety culture. More than 90 percent of employee responses regarding hazard assessment and control agreed that they "have the knowledge and training to work safely" and that "unsafe conditions are addressed or corrected when identified."

Safety Performance - The Numbers Speak for Themselves: Our efforts in H&S have achieved excellent results. We continue a multiyear reduction in our incident metrics.

Tetra Tech's Safety Council collects and regularly reports on incident metrics for the organization. These metrics include work-related injuries or illnesses, property or equipment damage, spills or releases, fires, motor vehicle accidents, and near miss events.

These metrics can be reported from a variety of perspectives to address a single operating unit, business group, enterprise, or business market, such as oil and gas. When submitting metrics to a prospective client, the proposal team should confer with their Health & Safety Representative (HSR) to evaluate the most appropriate metrics for a specific pursuit.

As a rule, the company applies the US OSHA recordkeeping criteria across the enterprise to consistently classify and report injuries. Operations outside the United States must continue to comply with any local or national recordkeeping legislation requirements affecting their business.

Listed below are key performance indicators for the Tetra Tech enterprise based on US OSHA recordkeeping criteria:

Incident Metric	**2014**	**2015**	**2016**
Total Recordable Incident Rate (TRIR)	0.51	0.66	0.54
Lost Workday Recordable Rate (LWDIR)	0.12	0.15	0.12
Days Away Restricted Transfer Rate, (DART)	0.22	0.28	0.24
U.S. Experience Modification Rate (EMR) Policy Year	0.83	0.77	0.71

G. DOCUMENTATION OF APPROPRIATE HEALTH & SAFETY TRAINING

Tetra Tech certifies that appropriate health and safety training certifications for all project personnel will be submitted to the WDNR Project Manager prior to the start of field activities.

All staff will meet the required training and certification criteria for working on hazardous waste sites.

The Table of Contents and Policy Statement for Tetra Tech's Corporate Health and Safety Manual is included as Attachment B.

PROJECT APPROACH

Tetra Tech's technical approach integrates varied and extensive experience gained in our work with responsible parties and governmental agencies. Our approach for the Operation, Maintenance, and Monitoring of the Barrett Landfill focuses on maintaining the effectiveness of the landfill gas/leachate collection system and associated monitoring network.

The Barrett Landfill is located at 21001 Coffee Road in New Berlin, Waukesha County, Wisconsin. The site is approximately 40 acres in size and consists of a former gravel pit that was filled with waste consisting of industrial waste, construction and demolition waste, ash, foundry sand, asbestos, vehicle shredding fluff, and tannery hides over what is anticipated to be lower permeability soils. A multilayer composite soil cover system including an HDPE membrane was placed over the majority of the waste in 2000; the cover is sloped to allow for runoff and is grass-covered to prevent erosion. A fence surrounds the landfill site, with access gates at several locations. It is understood that trespassers are common, and person(s) potentially lived at the landfill in the recent past.

A passive landfill gas system was installed to vent gas from beneath the cover.

1. PROJECT MANAGEMENT

Tetra Tech has over 30 years' experience working within the landfill industry. We are familiar with typical cost and schedule requirements, and will develop and maintain lines of authority for communication and the control and commitment of resources through a clearly defined baseline that frames the project into manageable tasks.

Our firm's approach for program communication will set the overall strategic direction of ongoing project activities and ensure that available resources are secured for this program. Key personnel, in various environmental disciplines, will provide technical direction, oversee tasks, conduct technical activities as required, and staff program activities.

Our disciplined approach to program management emphasizes proper planning and implementation for each task order. The cornerstone of this effort is close attention to these key areas:

- **Proper planning and organization.** This is the core of program management and entails finalizing project goals, objectives and activities, and estimating of time and costs.

- **Staffing.** The Program Manager will be responsible for ensuring that resources are available for this project, working with Key Personnel for specific task staffing. Tetra Tech's objective is to select the most qualified personnel to perform the assigned work in a cost-effective manner. Detailed task planning, defining work requirements and structure, developing manpower loading, and staffing assignments are vital components of this process.

- **Task monitoring and control of schedules, people, and costs.** Maintaining cost and schedule control on contracts requires constant attention. Therefore, Tetra Tech maintains rigorous task monitoring practices for proposed reporting.

- **Work Modifications**. Change orders may be required for a variety of technical reasons, including unexpected data collection issues, changing requirements, and interim results that indicate a change of approach is needed. Upon recognition of a revision to any of the components of a task

order, a revised plan will be prepared and presented to the WDNR Project Manager. No work will occur until approved.

- **Task Completion.** Final reports will include a summary, identification of program objectives, methodology, assumptions, results, and conclusions.

1.1 SAMPLING & ANALYSIS PLAN (SAP)

The Scope of Work is summarized in the WDNR Operation and Maintenance Plan, and will be followed in conjunction with a Sampling and Analysis Plan (SAP) which will be developed prior to initiation of field activities. The SAP will describe tasks to be conducted, including Tetra Tech's Standard Operating Procedures (SOPs) for sampling and monitoring activities associated with landfill monitoring and remediation. Monitoring procedures will be conducted in accordance with Wisconsin Administrative Code Chs. NR 507.17, NR 809, and WDNR Groundwater Sampling Field Manual (DG038).

PACE Laboratories will submit SOPs for analytical procedures to be performed, including provision of an entire data package which will incorporate Quality Control requirements. PACE Laboratories agrees to retain and provide the data package for distribution for a minimum of five years, in the event WDNR or USEPA would wish to have data validated.

1.2 HEALTH & SAFETY PLAN (HASP)

In accordance with the Tetra Tech health and safety program, a site-specific health and safety plan (HASP) will be prepared prior to initiating any work at the Site. All inspection, maintenance, and monitoring activities will be conducted in accordance with the HASP. This plan will meet requirements of all state and federal regulations, and USEPA and OSHA safety standards including Code of Federal Regulations 1910.120.

1.3 SIMPLE REPAIRS AND ROUTINE MAINTENANCE / CONTINGENCY FEE

It is understood that the selected bidder will be allotted a fixed annual contingency of $5,000 per year for repairs, if directed to proceed with such repairs by WDNR. It is also understood that this contingency includes variable costs (examples include replacing flexible hosing) but does not include imminent and periodic costs (air filters). The estimate for these routine costs are provided in the cost proposal. Repair methods and materials used will be reviewed with WDNR and approved prior to conducting repairs.

It is understood that Tetra Tech, if selected, would coordinate and oversee activities at the site, including landfill cap and perimeter mowing, landfill cap and perimeter tree and brush removal, leachate line cleaning, and the monitor well survey; WDNR will contract with these subcontractors directly.

2. OPERATION & MAINTENANCE ACTIVITIES

Tasks will be conducted to ensure compliance with performance objectives as defined in Wisconsin Administrative Code NR504.

2.1 LANDFILL FINAL COVER

An inspection of the landfill cover will be conducted annually (September or October) and will include an evaluation of the quality of the cover system, documentation of observations, and identification of areas of concern impacting the ability to meet performance objectives.

2.1.1 Landfill Final Cover Inspection and Repair

The inspection will evaluate the condition of vegetative cover, areas of significant erosion, signs of settlement or subsidence, and if large rooty vegetation is growing around gas vents and monitoring wells. Areas that need vegetation, erosion or settlement repair will be graded and/or filled with protective cover soil and topsoil, seeded, mulched and sufficiently watered to re-establish vegetation. This will be completed under the contingency costs as provided for in the RFP. The locations of repairs, in addition to suppliers of materials, will be included in report documentation.

2.1.2 Mowing

During August or September of each year, the vegetated landfill cover and perimeter will be mowed (estimate 30 acres) in accordance with the RFP. It is understood that Tetra Tech, if selected, would secure a minimum of three bids, coordinate and oversee landfill cap and perimeter mowing; WDNR will contract with these subcontractors directly.

2.1.3 Large Tree and Brush Removal along Perimeter Fence

During August 2017, and on a biennial basis thereafter, inspection of large trees along the fence line of the landfill property will be completed by the WDNR; if deemed necessary, trees will be designated for removal. It is understood that the consultant will secure a minimum of three bids, coordinate and oversee tree removal, and notify adjacent property owners as directed within the RFP; WDNR will contract with the subcontractor directly.

2.2 SECURITY FENCE & ACCESS ROADS

An inspection of the access roads and perimeter fencing will be conducted annually (September or October) and will include an evaluation of erosion, vegetation, damage, barriers, and tampering.

2.3 STORM WATER MANAGEMENT SYSTEM

2.3.1 Storm Water Management System Inspection and Repair

Drainage channels along the perimeter of the landfill will be inspected during the Annual Inspection (September/October), including the following:

- Evaluate areas of erosion, including drainage channels and channel slopes
- Backfill, seed and mulch erosion areas (gullies)
- Assess culverts, overflow structures, riprap condition, and potential blockage

2.4 LANDFILL GAS VENTING SYSTEM

2.4.1 Landfill Gas Venting System Inspection and Repair

The landfill gas venting system will be inspected annually for an evaluation of the overall condition and operational effectiveness, including the following:

- Vent pipes will be inspected and cleared of any obstructions
- Vent screens will be maintained and secured
- Gas vent risers will be repaired if necessary as provided within the RFP, and costs will be covered under annual contingency costs
- Maintain unobstructed gas flow from each vent by clearing

2.4.2 Landfill Gas Probe Monitoring

Gas probe monitoring will be completed biennially, starting in the fall of 2017 (September or October). A total of 29 samples will be collected from the 12 multilevel landfill gas probe locations for measurement of air temperature, atmospheric pressure, percent carbon dioxide, percent LEL as methane, and percent oxygen.

2.5 GROUNDWATER MONITORING AND WELL INSPECTION & REPAIR

2.5.1 Groundwater Monitoring

Groundwater monitoring will be completed biennially, starting in the fall of 2017 (September or October). Monitoring will follow protocols established by WDNR as provided in the DNR Groundwater Sampling Field Manual (DG038) and DNR Groundwater Sampling Desk Reference (DG037b). Pace Analytical Laboratories, A WDNR-approved laboratory, will be utilized for analyses in accordance with methods SW846-SW8260B, and Chapter NR140 Level 2 methodology. Laboratory QC data will be maintained for five years for validation purposes.

Groundwater samples will be collected from 17 monitor wells through low flow sampling methods for analyses of arsenic, chloride, total chromium, lead, total magnesium, manganese, total Kjeldahl nickel, nitrogen, nitrate/nitrite, and sulfates. Field parameters will include conductivity, pH, temperature, and turbidity. In addition, water level elevations will be collected during each groundwater monitoring event. Purge and development water will be managed with leachate.

Groundwater samples will be collected from 15 private wells from an appropriate sampling hose tap or bib located as close as possible downstream from the well pump. Samples will be analyzed for arsenic, chloride, total chromium, lead, total magnesium, manganese, and nitrate/nitrite. Field parameters will include conductivity, pH, temperature, and turbidity.

QA/QC samples will include two (2) duplicate monitoring well samples, two (2) duplicate private well samples, one (1) trip blank, one (1) field blank and one (1) field blank duplicate and analyzed for arsenic, chloride, lead, chromium (total), manganese, magnesium (total), and nitrate plus nitrite.

2.5.4 Well, Gas Probe, Leachate Well and Pumping System Inspection and Repair

As described in the RFP, annual inspection will include visual inspection of all monitor wells, gas probes, and leachate head wells; these will also be inspected during sampling events. Missing, damaged or corroded locks will be replaced and minimal damage to casing or well covers will be repaired. Additional need for repairs will be reported to the WDNR.

2.5.5 Licensed Survey of Monitor Wells, Gas Probes and Leachate Head Wells

A survey of monitoring wells, gas probes and leachate head wells will be conducted in 2017. Monitoring well data will include casing elevations to 0.01 ft, ground surface elevations to 0.1 ft, and horizontal coordinates. All other wells will be surveyed for ground surface elevations to 0.1 ft and horizontal coordinates. This information will be submitted to the WDNR in electronic and map format. Tetra Tech will incorporate this information into future groundwater contour maps.

2.6 LEACHATE MANAGEMENT SYSTEM

2.6.1 Leachate Removal System Commissioning and Decommissioning

Tetra Tech will activate the leachate pumping system during the first week of April but no later than the first week of May. Activation will include making the necessary connections to the above ground force main pipe and testing all aspects of the system per the specifications. Tetra Tech will arrange for a vacuum truck to be on site during the startup to test the pump from the lift station and collect the first load. During the last week of October the above ground force main will be disconnected and the system winterized.

2.6.2 Leachate Collection System Management, Hauling, and Disposal

The leachate collection system is in operation for six months of the year (April through September). Management of the system will include the following tasks:

- Initial baseline monitoring of leachate levels will be completed during commissioning activities in the Spring, after which monitoring will be completed every two to four weeks.
- Leachate head wells will be monitored once a month to determine volume and flow.
- Collection times for leachate will be recorded monthly, at a minimum.
- Training of leachate haulers will be conducted, as required.
- During decommissioning, pipes will be capped, electrical panels shut down (switches turned off), and flexible piping drained for storage at the WDNR facility.

2.6.3 Leachate Line Cleaning

In September or October of 2017, and every five years thereafter, the leachate collection lines will be water pressure cleaned (water “jetted”) and television inspected. The annual inspection report will detail information regarding the conditions of the lines, in addition to recommendations as deemed appropriate.

It is understood that Tetra Tech, if selected, would secure a minimum of three bids, coordinate and oversee leachate line cleaning and televising activities at the site; WDNR will contract with these subcontractors directly.

3. DOCUMENTATION AND SUBMITTALS

3.1 ANNUAL INSPECTION REPORT

Within 30 days of the inspection, two copies of the Annual Inspection Report will be provided to WDNR in addition to an electronic version (USB flash drive). The annual inspection report will include a narrative summarizing the results of the work, recommendations for follow up or repairs, and the completed inspection form. Photographs taken of all problems noted will be provided in the inspection report.

3.2 GROUNDWATER MONITORING AND GAS PROBE REPORT

Biennial groundwater monitoring results will be documented and submitted to WDNR within 60 days of the date of the groundwater sampling, in the format required in the RFP (narrative report as well as tabular data presentation format), including the following:

- Results that exceed Ch. NR 140 groundwater Preventative Action Limits (PALs) or Enforcement Standards (ESs)
- Tabular format will be described in the SAP and approved by WDNR

- Results will be submitted in proper electronic form on a CD for entry into GEMS
- Two copies will be submitted to WDNR
- One electronic copy will be submitted on a USB flash drive, along with summarized sample analysis results in Excel table format with comparison to the respective NR140 PAL and ES

The results of the gas probe sampling will be documented and provided with the groundwater report using the report form provided.

3.3 DRAWINGS

It is understood that site drawings are available at the Waukesha DNR Service Center, including drawings which detail site features. Tetra Tech will utilize these drawings, as well as additional information from the site files as appropriate, if selected as the O&M Contractor.

3.4 STORAGE AND DISPOSAL OF RECORDS

Tetra Tech will maintain a complete set of analytical data, inspection reports, and other forms as appropriate throughout the life of the project. Data will be entered onto electronic records in the field, as available; other field information will be recorded onto record documents following each site activity. WDNR file names will be followed.

In addition, sampling records (including sampling forms, field observations as appropriate, and quality assurance documentation) will be maintained with the project file, in accordance with the approved document control methods.

4. TETRA TECH'S VALUE-ADDED ENGINEERING

Additional value-added options that Tetra Tech can provide include the following:

- **TetraForms Data Collection and Analysis Tool**: TetraForms are a licensed platform of iFormBuilder specifically designed for field service applications. From cover integrity inspections to pump inspections to capturing GPS coordinates, the forms are highly adaptable to any data collection event. Data is submitted via the forms in the field and auto-uploaded into a database (CLEAR). Data reviewers can perform a quality check and either approve or re-assign back to the technician. Tetra Tech currently has successfully used TetraForms at several landfills, including RSI's Newton County Landfill which features 238 pumps within on-site gas wells.

- **Landfill Gas Monitoring Database**: Tetra Tech has developed a database application to simplify the collection, analysis, and reporting of gas collection and control system (GCCS) operational data. This application has the flexibility to compile information collected by both Tetra Tech technicians and client staff into a single uniform database. It features geospatial data mapping routines, comprehensive reporting applications, and data tracking and storage tools. Features include automatic upload of chart recorder data through an e-mail-based system, an exceedance tracking calendar that includes custom compliance/regulatory e-mail alerts to notify the user or client about important compliance timelines, and a site-specific document library used to store important site documents such as site permits, as-built, and photos.

- **In-House Construction Resources**: Tetra Tech is a licensed well drilling contractor and has a construction division that specializes in the fabrication and installation of GCCS. This provides Tetra Tech with in-house resources for all drilling, welding, pipe fusion, electrical, and concrete work. Construction crews are on the payroll 365 days/year. Our Construction Project Manager is

located northwest of Chicago, IL allowing for improved response time to call-outs. Additionally, Tetra Tech has nationwide support resources which may be provided to respond to heavy workloads. Tetra Tech can also implement fast-track repairs to GCCS without requiring design-build level construction drawings and is able to work on conceptual level drawings.

- **In-House Engineering Resources**: Tetra Tech has licensed Professional Engineers registered in Wisconsin that specialize in the design and installation of GCCS systems and have conducted numerous assessments of LFG production for existing and proposed landfill facilities, including on-site assessments of subsurface LFG migration, surficial LFG mitigation and the evaluation and response to odors related to LFG systems. Additionally, Tetra Tech has nationwide support resources which may be provided to respond to design issues. As a result, Tetra Tech can implement fast-track designs to GCCS.

July, 2017 SIMPLIFIED BID
OPERATION AND MAINTENANCE BARRETT LANDFILL
NEW BERLIN, WAUKESHA COUNTY, WISCONSIN

BID ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
1	Annual inspection of facility components and any specified repairs that are Contractor's responsibility (2017)	Total $ per event	1	$1,150	$1,150
2	Annual preparation of facility components inspection report (2017)	Total $ per event	1	$1,200	$1,200
3	Biennial landfill gas probe monitoring and testing (2017)	Total $ per event	1	$700	$700
4	Biennial groundwater monitoring well and private well sampling and analysis (2017)	Total $ per event (includes parts)	1	$6,775	$6,700
5	Biennial preparation of landfill gas and groundwater monitoring report (2017)	Total $ per event	1	$3,050	$3,050
6	Biennial electronic submittal of data to GEMS system	Total $ per event	1	$500	$500
7	Leachate system commissioning and decommissioning (Fall 2017, Spring 2018)	Total $ per event	1	$975	$975
8	Leachate hauling and disposal-includes sampling (2017/2018)	Total $ per gallon	360,000 gallons	$0.0495	$17,820
9	Coordination of contract and oversight of landfill cap mowing (annual)	Total $ per event	1	$275	$275
10	Coordination of contract and oversight of perimeter mowing (annual)	Total $ amount per report	1	$275	$275
11	Coordination of contract and oversight of landfill cap tree & brush removal (as needed)	Total $ per report	1	$275	$275
12	Coordination of contract & oversight of landfill perimeter tree & brush removal (as needed)	Total $ amount per year	1	$275	$275
13	Coordination of contract and oversight of leachate line cleaning (2017)	Total $ per event	1	$275	$275
14	Coordination of contract and oversight of professional survey of monitoring wells, gas probes and leachate head wells (2017/2018)	Total $ per event	1	$275	$275
15	Preparation of SAP	Total $ amount per contract term	1	$750	$750
16	Preparation of HASP	Total $ amount per contract term	1	$500	$500
17	Fixed Annual Repair Contingency for all Bidders (unexpected repairs)	Total $ amount per contract term per year	1	$5000	$5000
18	**Total Bid Amount** (sum of items 1-17 above)				**$39,995**

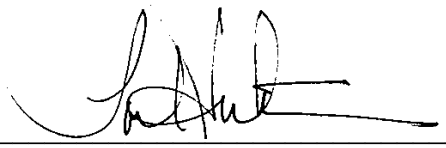
BID PRICE SHEET

July, 2017 SIMPLIFIED BID
OPERATION AND MAINTENANCE BARRETT LANDFILL
NEW BERLIN, WAUKESHA COUNTY, WISCONSIN

Company Name Tetra Tech

Address 175 N. Corporate Drive, Suite 100, Brookfield, WI 53045

Name, Title Lori Huntoon, PG, Senior Program Manager/Geologist

Signature  Date 9/7/17

VENDOR INFORMATION AND REFERENCES

STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DIVISION OF ENTERPRISE OPERATIONS
BUREAU OF PROCUREMENT
S. 16.765, WIS. STATS.
DOA-3477 (R02/15)

Bid / Proposal # Landfill Operation & Maintenance

Barrett Landfill, New Berlin, WI

Commodity / Service ENVIRONMENTAL CONSULTING

TETRA TECH VENDOR INFORMATION

1. BIDDING/ PROPOSING COMPANY

NAME TETRA TECH
Phone (262) 792-1282 Toll Free Phone ( )
FAX (262) 792-1310 E-Mail Address lori.huntoon@tetratech.com
Address 175 N Corporate Drive, Suite 100
City Brookfield State WI Zip + 4 53045-5802

2. Name the person to contact for questions concerning this bid / proposal.

Name Lori Huntoon, PG Title Senior Project Manager/Geologist
Phone (262) 792-1282 x281 Toll Free Phone ( )
FAX (262) 792-1310 E-Mail Address lori.huntoon@tetratech.com
Address 175 N Corporate Drive, Suite 100
City Brookfield State WI Zip + 4 53045-5802

3. Any vendor awarded over $50,000 on this contract must submit affirmative action information to the department. Please name the Personnel / Human Resource and Development or other person responsible for affirmative action in the company to contact about this plan.

Name Wanda Bergeron Title Human Resources Director
Phone (703) 444-7000 Toll Free Phone ( )
FAX (703) 444-9637 E-Mail Address wanda.bergeron@tetratech.com
Address 45610 Woodland Road, Suite 400
City Sterling State VA Zip + 4 20166-4221

4. Mailing address to which state purchase orders are mailed and person the department may contact concerning orders and billings.

Name Ana V. Tumero-Madriz Title Contracts Manager
Phone (703) 444-7000 Toll Free Phone ( )
FAX (703) 444-1685 E-Mail Address ani.madriz@tetratech.com
Address 45610 Woodland Road, Suite 400
City Sterling State VA Zip + 4 20166-4221

5. CEO / President Name Dan Batrack

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STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DIVISION OF ENTERPRISE OPERATIONS
DOA-3478 (R06/2013)

STATE BUREAU OF PROCUREMENT
101 E. WILSON ST. / P. O. BOX 7867
MADISON, WI 53707-7886
(608) 266-2605 / FAX (608) 267-0600

Bid / Proposal # Landfill Operation & Maintenance

Barrett Landfill, New Berlin, WI

TETRA TECH REFERENCES

FOR VENDOR: TETRA TECH

Provide company name, address, contact person, telephone number, and appropriate information on the product(s) and/or service(s) used for four (4) or more projects with requirements similar to those included in this solicitation document. If vendor is proposing any arrangement involving a third party, the named references should also be involved in a similar arrangement.

Company Name **Waukesha County Department of Parks and Land Use**
Address (include Zip + 4) Admin Center Rm AC 260, 515 Moreland Blvd. Waukesha, WI 53188
Contact Person Steve Todd, Haz Mtls Coordinator Phone No. 262-896-8300
Email Address STodd@waukeshacounty.gov
List Product(s) and/or Service(s) Used: Environmental Consulting: SPCC Plans, Environmental Assessments

Company Name **Quantum Management Group, Inc.**
Address (include Zip + 4) 216 North Green Bay Rd, Thiensville, WI 53092
Contact Person Jeff Tracy, Senior Project Manager Phone No. 262.292.6080
Email Address
List Product(s) and/or Service(s) Used: Environmental Services: Landfill O&M / Hwy FF/NN Landfill NPL Site, Ripon, WI

Company Name **Republic Services – Kestrel Landfill**
Address (include Zip + 4) 13832 S. Kostner, Crestwood, IL 60445
Contact Person Khalid Umer Phone No. 708-297-3931
Email Address kumer@republicservices.com
List Product(s) and/or Service(s) Used: Environmental Services: Landfill O&M / Kestrel Hawk Landfill, Racine, WI

Company Name **Republic Services – Glenwillow, Willow Creek, CLD, Duck Creek, Muskigum,Warner Hill Landfills**
Address (include Zip + 4) 5092 Aber Road, Williamsburg OH 45176
Contact Person Butch Bradburn Phone No.
Email Address abradburn@republicservices.com
List Product(s) and/or Service(s) Used: Environmental Services: Landfill O&M at multiple landfills (see above)

This document can be made available in accessible formats to qualified individuals with disabilities

STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DIVISION OF ENTERPRISE OPERATIONS
DOA-3478 (R06/2013)

STATE BUREAU OF PROCUREMENT
101 E. WILSON ST. / P. O. BOX 7867
MADISON, WI 53707-7886
(608) 266-2605 / FAX (608) 267-0600

Bid / Proposal # Landfill Operation & Maintenance

Barrett Landfill, New Berlin, WI

PACE ANALYTICAL SERVICES, LLC REFERENCES

FOR VENDOR: PACE ANALYTICAL SERVICES

Provide company name, address, contact person, telephone number, and appropriate information on the product(s) and/or service(s) used for four (4) or more projects with requirements similar to those included in this solicitation document. If vendor is proposing any arrangement involving a third party, the named references should also be involved in a similar arrangement.

Company Name City of Two Rivers Landfill
Address (include Zip + 4) 1717 E. Park Street PO Box 87 Two Rivers, WI 54241
Contact Person Scott W. Phone No. (920) 793-5542
Email Address
List Product(s) and/or Service(s) Used: We provide analytical services of organic and inorganic contaminants for landfill routine monitoring and compliance reporting requirements.

Company Name City of Plymouth Landfill
Address (include Zip + 4) PO Box 277 900 CTH PP Plymouth, WI 53073-0277
Contact Person Mike Penkwitz Phone No. (920) 893-1471
Email Address
List Product(s) and/or Service(s) Used: We provide analytical services of organic and inorganic contaminants for landfill routine monitoring and compliance reporting requirements.

Company Name Winnebago County Solid Waste
Address (include Zip + 4) 100 West County Road Y Oshkosh, WI 54901
Contact Person Marcus Klaeser Phone No. (920) 232-1807
Email Address mklaeser@co.winnebago.wi.us
List Product(s) and/or Service(s) Used: We provide analytical services of organic and inorganic contaminants for landfill routine monitoring and compliance reporting requirements.

Company Name Advanced Disposal Services Hickory Meadows Landfill, LLC
Address (include Zip + 4) W3105 Schneider Road Hilbert, WI 54129
Contact Person Kari Rabideau Phone No. (920) 853-8553
Email Address kari.rabideau@advanceddisposal.com
List Product(s) and/or Service(s) Used: We provide analytical services of organic and inorganic contaminants for landfill routine monitoring and compliance reporting requirements.

This document can be made available in accessible formats to qualified individuals with disabilities.

State of Wisconsin

Department of Natural Resources
July 2017 SIMPLIFIED BID

BID CHECKLIST

Bidders are to complete, sign and return the following forms. Use the list below to check off the items as they are completed and as a mailing check list. A complete bid package must contain all the items.

1. **X** Bid Price Sheet (signed)

2. **X** DOA-3477, Vendor Information form

3. **X** DOA-3478, Vendor Reference form (Bidder Certification for O& M projects)

4. **X** DOA-3478, Vendor Reference form (Bidder Certification for testing lab proposed)

5. **X** Point by point response to all requirements listed in Bidder Certifications section of this bid document.

NOTE: The State reserves the right to reject incomplete bid

ATTACHMENTS

Attachment A: Team Resumes

Attachment B: Corporate Health & Safety Policy and Manual

Attachment A: Team Resumes

TETRA TECH

Ashley Weimer, P.G.
Senior Project Geologist

EXPERIENCE SUMMARY

Ms. Weimer has 9 years of professional experience as a Senior Project Geologist in conducting environmental site investigations, groundwater monitoring and operating and maintaining groundwater remediation systems.

RELEVANT EXPERIENCE

FIELD (ENVIRONMENTAL)

City of Connersville, Connersville, Indiana – Assisted in the injection of emulsified vegetable oil as the electron donor in the biozone (three closely spaced biobarriers in the source area) and three downgradient passive biobarriers to treat the source area and the 9,000-foot long and 1,100-foot wide groundwater plume by using enhanced reductive dechlorination.

City of West Bend, West Bend, Wisconsin – Assisted in the drilling oversight and core logging of new monitoring wells and injection wells, the development of the wells and the initial and scheduled groundwater sampling events. Performed the first round of injections of emulsified oil as a carbon donor to enhance the biodegradation of contaminants.

Cooper Industries, Albion, Michigan – Perform groundwater semi-annual sampling of Tier 1 and Tier 2 wells. Groundwater samples are collected for Target Compound List (TCL) VOC analysis. The samples are collected using low-flow sampling techniques. Additionally, a round of water levels is taken from all wells during each semi-annual event. Assist in the project management and the preparation of the semi-annual reports.

Confidential Client, Florence, South Carolina – Performed drilling oversight and soil logging for the installation of an extraction well and monitoring well at a chlorinated solvent source area at RCRA corrective action site.

Confidential Client, Henderson, Nevada – Assisted in oversight of the advancement of soil boreholes utilizing Roto-sonic drilling techniques, along with the collection of depth discrete soil and groundwater samples for the characterization of a perchlorate and hexavalent chromium source area. The scope of the investigation includes the delineation of vadose zone and groundwater impacts below the potential source area to a regional groundwater plume. All of the work is on a very strict schedule, and subject to scrutiny by multiple regulatory agencies, including the Nevada Department of Environmental Protection and the Environmental Protection Agency

Confidential Client, Indianapolis, Indiana – Collected groundwater sampling for VOCs by the use of passive diffusion bags, a cost-effective alternative to standard (or low flow) purge and sampling techniques. Aided in the oversight of monitor well installations and development. Performed three rounds of injections of emulsified oil as a carbon donor to enhance the biodegradation of contaminants.

EDUCATION

B.S. Geology, University of Wisconsin Oshkosh, 2007

AREA OF EXPERTISE

Geology

REGISTRATIONS/ AFFILIATIONS

State of Wisconsin
Professional Geologist #1331

TRAINING/CERTIFICATIONS

OSHA 40-Hour Hazardous Waste Health and Safety Course (29CFR 1019.120)

Confined Spaces: Entry Team Training-Construction Activities

American Heart Association Standard First Aid, CPR, AED

Tetra Tech PM Level 1 and PM Level 2 Training

OFFICE

Brookfield, Wisconsin

YEARS OF EXPERIENCE

Nine

YEARS WITHIN FIRM

Nine

CONTACT

Ashley.Weimer@tetratech.com

(262) 792-1282 x226 (office)

(262) 719-5242 (cell)

Confidential Client, Madison, Wisconsin – Perform quarterly groundwater sampling for site investigation and remediation of chlorinated solvent contamination in unconsolidated deposits and underlying fractured bedrock. Operation and maintenance of the groundwater extraction/treatment system that was installed which includes the ability for the facility to reuse the treated water for cooling water make-up.

Confidential Client, Oak Creek, Wisconsin – Perform field work, including installation of new wells and piezometers, development of wells, and quarterly groundwater sampling for site investigation and remediation of former tar plant on the bluff of Lake Michigan. Work is being done in preparation for site redevelopment activities. Remedial options are currently being evaluated for soil, groundwater and residual DNAPL tar.

Highway FF/NN Landfill NPL Site, Ripon, Wisconsin – Perform low-flow well sampling and gas monitoring. Gas system removing vinyl chloride from landfill gas and as a result concentrations in groundwater are decreasing. Performed oversight of the installation of a new downgradient well to help further delineate any contamination migration. Assist in the project management and the preparation of the quarterly reports.

Hydrite Chemical Company, Cottage Grove, Wisconsin – Perform quarterly groundwater monitoring at the site, and assist in monitoring the hydraulic barrier system, that is used to prevent the downgradient migration of highly impacted groundwater coming off the DNAPL source area in permeable bedrock. Provide soil screening oversight to excavation and expansion activities.

ITW- Appleton, Appleton, Wisconsin – Perform drilling oversight and core logging of boreholes and new monitoring wells, the development of the wells and the initial and scheduled groundwater sampling events to help assess the groundwater conditions, where impacted soil was discovered during the installation of a new gas line.

ITW-West Bend, West Bend, Wisconsin – Perform ground water sampling using a peristaltic pump and in-line flow cell. The field parameters will be analyzed to support evaluation of natural attenuation. Provided drilling oversight and core logging of bore holes and installation of new monitoring wells. Assisted in the drilling oversight and core logging of new monitoring wells and injection wells and development of the wells. Performed two rounds of KMnO4 to remediate the impacts of chlorinated solvents. Assisted with preparation of the site closure report.

Lake County, Illinois – Assisting in operating and maintaining the groundwater treatment system and the monthly sampling, along with additional groundwater sampling. The groundwater treatment system has been in operation since April of 2005. After 39 months of treating groundwater, the only compound that samples show is present in a level that requires active treatment is benzene Tetra Tech will apply an oxygen source compound to the groundwater in the former underground tank area to try to speed up the natural breakdown of the benzene.

Milwaukee Electric Tool Corporation, Brookfield, Wisconsin – Performing semi-annual groundwater sampling and monthly meter readings, while a pump and treat system is also operating.

Quad/Graphics Inc., Pewaukee, Wisconsin – The Wisconsin DNR requested Quad/Graphics conduct a site investigation of the Pewaukee facility to determine whether the property was a potential of source of tetrachloroethene (PCE) impacts discovered in several private water supply wells by the DNR in a residential subdivision east of the Pewaukee facility. Perform sampling of monitoring wells and multilevel monitoring wells, along with private well sampling, and also aid in monitoring the flow and pumping rates of two extraction wells for on-site treatment of the impacted groundwater using granular activated carbon drums.

Sta-Rite Industries, Deerfield, Wisconsin – Assist in groundwater sampling, and monitoring of the groundwater pump-and- treat system.

Sunrise Landfill, Wayland, Michigan – Performed low flow well sampling and gas monitoring.

Visteon Automotive, Bedford, Indiana – Groundwater sampling for VOCs, drilling oversight for the installation of one monitoring well, and the development of that well.

TETRA TECH

Daniel L. Morgan, P.E.
Principal Engineer

EXPERIENCE SUMMARY

More than 35 years of experience in design and construction of commercial, industrial and military projects.

RELEVANT EXPERIENCE

Cooper Crouse-Hinds Landfills – Syracuse, New York – Engineer in charge of design and construction of NYSDEC - approved 6 NYCRR Part 360 landfill caps for the North and South Landfills, including excavation and clean fill placement in perimeter buffer zones, excavation and placement beneath the central caps of selected contaminated wetland sediments, and wetland restoration.

ITW-West Bend, West Bend, Wisconsin – Senior engineer for application of 1-3% potassium permanganate solution into groundwater injection points beneath an existing building and in former parking areas. Injection point installation, equipment selection, power delivery design, pump selection for mixing and injection, delivery system trouble-shooting, and injection mixing were specified and modified as necessary to meet varying subsurface conditions across the site. Recently completed phase of work involved landfill disposal and selective hot-spot application of potassium permanganate at a third area of remediation.

Hydrite Chemical Company, Cottage Grove, Wisconsin – Senior engineer for design and installation, operation, and maintenance of a groundwater pump barrier system to intercept volatile organic compounds in one specific layer of an aquifer and convey the pumped groundwater up to 1.5 miles to a sanitary lift station for disposal. Design involved pump selection for new and existing wells, three-phase and single-phase power distribution, fail-safe shut down controls integrated with the existing lift station process logic control, remote metering, and pumping well maintenance.

WE Energies, Burlington, Wisconsin – Senior Engineer for design and installation of biosparge air injection at multi-port system over one-acre area to polish chemical oxidation of coal tar contaminants. Former manufactured gas plant site planned for development Spring of 2004. Chemical oxidation was used to remediate in-place heavy hydrocarbons below the water table. As a final polishing step, dissolved oxygen levels were increased using compressed air at low pressure through a chemical injector network. System design required providing sufficient air volume and pressure to increase dissolved oxygen content without excess volatilization of hydrocarbons.

Milwaukee Metropolitan Sewerage District – Project Manager for the determination of site boundaries and investigations to complete Phase I and Phase II environmental site assessments for properties in the Oak Creek and Menomonee River portions of the watershed. These investigations allowed MMSD to plan effective reuse of land area for flood mitigation. Support was provided to MMSD in complying with WDNR regulations for soil removal and reuse and groundwater monitoring. Twenty two Phase I environmental site assessments and sixteen Phase II environmental site assessments have been completed.

EDUCATION

MBA, Business Administration, Northern Illinois University, DeKalb, 1989

M.S., Civil Engineering, Michigan Technological University, Houghton, 1979

B.S., Engineering, Michigan Technological University, Houghton, 1977

AREA OF EXPERTISE

Civil Engineering

Environmental Engineering

REGISTRATIONS/ AFFILIATIONS

Registered Professional Engineer, #062 043654, IL

Registered Professional Engineer, #29771, MI

Registered Professional Engineer, #E 26793, WI

Registered Professional Engineer, #E 24342, MO

Registered Professional Engineer, #22535, TN

Registered Professional Engineer, #E 55812, OH

Registered Professional Engineer, #12300 IA

Certified Site Assessor, Wisconsin Department of Commerce, # 41992

OFFICE

Brookfield, Wisconsin

YEARS OF EXPERIENCE

Thirty-Eight

YEARS WITHIN FIRM

Twenty-Seven

Newell Rubbermaid, Sturgis Michigan – Design Build Engineer for $1.6 million groundwater pump and treat system to treat TCE and PCE to 260 feet below surface grade. System start-up was in May, 2002. Design of third pumping well system began in October of 2002, with construction beginning in October of 2003.

Wisconsin Department of Natural Resources, Milwaukee, Wisconsin – Project Manager for in situ soil treatment, excavation, landfill disposal, and site restoration for remediation of former chrome plating facility. Soil treatment included chromium reduction, VOC heat treatment and destruction, and chemical oxidation using potassium permanganate. Project was completed in October of 2002 at a cost of $5.7 million.

Canadian National Railroad –Spill Prevention, Countermeasure, and Control Plans, Storm Water Management Plans, and Facility Response Plans for rail terminals in Minnesota and Illinois. A facility response plan required approval by the United States Coast Guard for operations along Lake Superior.

Milwaukee County Department of Public Works, Milwaukee, Wisconsin – Design and construction oversight engineer for petroleum refueling dispensing equipment replacement. This project included chip key equipment selection for inventory control and adding canopies at selected refueling islands for weather protection.

Wisconsin Department of Natural Resources, Kaukauna, Wisconsin – Design and construction oversight engineer for groundwater pump and treat system for chromium and VOC contamination. Chromium remediation uses ion exchange which avoids generation of hazardous waste precipitate. The ion exchange canister resins are recycled. The recovered chromium is reused.

Milwaukee County UST Programs, Wisconsin – Project Manager for the investigation and remediation of petroleum hydrocarbon impacted soil and groundwater at more than 150 sites. Site remediation programs focused on optimal use of closure flexibility within new WDNR guidelines, negotiation with WDNR for site closure, and other action to minimize remedial requirements. Design concentrated on limiting soil excavation and disposal and maximizing use of bioremediation and natural attenuation.

City of Milwaukee, Wisconsin – Project Manager for the design and construction of a dual phase extraction system at the site of the former Milwaukee Envelope facility. The installation of this system to contain and remediate hydrocarbon contaminated soil and groundwater occurred during the construction of the new Health Science Building by the Milwaukee Area Technical College. All site activities had to be conducted in concert with all construction related activities so as to prevent delays in the development of this Brownfield site.

Town of Delafield, Wisconsin – Project Manager for the investigation and characterization of petroleum hydrocarbons to soil and groundwater associated with two USTs. Prepared feasibility study and reviewed remedial alternatives. Recommended SVE system to remediate soil impacts and a pump and treat system for remediation of impacted groundwater. Remedial design has been completed and construction management of the system occurred in May 1996.

Lake County, Illinois – Project Manager for soil and groundwater remediation at more than 15 sites with hydrocarbon impacts from USTs. Provided UST survey and removal, site investigations, and remedial design. Remediation has included passive soil venting, off-site disposal, and groundwater remediation. Successfully negotiated clean closure at 13 sites. Received reimbursement from the Illinois Leaking UST Fund.

Kenosha Unified School District, Wisconsin – Project Manager for the remediation design and construction management at more than 5 sites impacted by petroleum hydrocarbons from USTs. All sites have received clean closure from WDNR and the District received cost recovery for several sites from the Wisconsin PICA fund.

Cooper Industries, Sturgis, Michigan – Design and Construction Quality Assurance Engineer for $3,000,000 soil vapor extraction system to treat TCE and PCE in unsaturated soils to 60 feet below grade. System start up began in February, 1997.

NIBCO Evans Facility, Waukesha, Wisconsin – Project Manager for the investigation and remediation of petroleum hydrocarbon impacted soil and groundwater at this wholesale food product distribution center. Project began with excavation, stockpiling, and thermal desorption treatment of more than 3,000 cubic yards of petroleum contaminated soil. This work was coordinated with new plant construction such that suitable treated soil was used for structural backfill.

Westshore Pipeline, Wauwatosa, Wisconsin – Project Engineer for low temperature thermal desorption of 14,000 tons of petroleum contaminated soil following a 115,000 gallon diesel fuel release at a pipeline rupture in a city park.

Remediation began immediately and was the first permitted use of the technology in Wisconsin. Groundwater remediation of over 1,000,000 gallons has since occurred and monitoring continues.

Wisconsin Department of Natural Resources, Better Brite Site, DePere, Wisconsin – Senior Project Engineer for the treatability study, design and construction of a soil stabilization/solidification project for 10,000 cubic yards of soil to be treated in situ for hexavalent chromium and VOCs. Performed the RI/FS for this state lead Superfund site. The selected remedy will stabilize the hexavalent chromium in place in very tight clay.

Numerous Clients, Ohio, Texas, and Wisconsin – Project Manager for UST installations with secondary containment, leak detection, inventory monitoring, fuel dispensing equipment, and spill and overfill protection.

Confidential Client – Prepared proposals, work plans, and specifications for UST removals. Supervised proper removal procedures and laboratory sampling requirements for conformance to differing state regulations.

Numerous Clients, Wisconsin, Illinois, Ohio, Texas, North Carolina, Minnesota, and Missouri – Project Manager for UST removals.

Confidential Client – Supervised writing of remedial investigation plans for multi UST sites where soil and groundwater were impacted following UST removals.

Confidential Client – Determined number and placement of soil borings and groundwater monitor wells for lateral and vertical extent investigations.

Confidential Client – Designed sump and trench systems for impacted groundwater collection and treatment.

PREVIOUS WORK HISTORY

Bayfield Construction Company, Inc., Chicago, Illinois, (1986 1989), Project Manager

Sargent & Lundy Engineers, Chicago, Illinois, (1983 1986), Structural Engineer

Tank Services Inc., Belleville, Michigan, (1981 1983), Project Engineer

Chicago Bridge and Iron, Oak Brook, Illinois, (1979 1981), Design and Field Engineer

TETRA TECH

Lori C. Huntoon, P.G.
Senior Project Manager / Geologist

EXPERIENCE SUMMARY

Ms. Huntoon has over 25 years of professional experience related to environmental site assessments, groundwater and soil contamination investigation and remediation, groundwater supply programs, and sustainable environmental solutions, in addition to seven years as Chief of the Technical Section of the Wisconsin Petroleum Cleanup Fund. Experience includes USEPA programs (CERCLA/SARA, NEPA, RCRA, UST/LUST), corporate environmental compliance, permitting, and remedial feasibility studies. Projects involve a variety of chemicals including chlorinated solvents, explosives (DNT), ketones, metals, pesticides/herbidicides, PCBs, petroleum hydrocarbons, and radionuclides. Remediation experience includes air sparging, bioremediation, capping, chemical oxidation, containment, pump and treat systems, soil vapor extraction and monitored natural attenuation. Huntoon has significant experience with complex hydrogeologic settings and fractured bedrock, technical oversight, facilitation/negotiation, and training. She has served as an expert witness in cases involving applicability of soil and groundwater regulatory limits and subsurface classification.

RELEVANT EXPERIENCE

City of Madison, Madison, Wisconsin – Managed completion of hazardous materials assessment associated with a Wisconsin Department of Transportation project involving a significant 12/18 beltway intersection.

Wheeler, Van Sickle & Anderson, SC, on behalf of Friends of Sturgeon Bay, Wisconsin – Provided technical assistance and served as an expert for subsurface characterization of public trust land located in Sturgeon Bay. Produced an expert report and provided two hours of testimony at the two-day trial which resulted in a judgement in favor of the client group.

Honeywell Performance Materials & Technologies, Letterkenny Army Depot, Pennsylvania – Project Manager overseeing the automation of an industrial wastewater treatment plant involving the preparation of regulatory permits and on-site oversight of subcontractors.

Gonzalez, Saggio & Harlan, on behalf of Confidential Client, Racine, Wisconsin – Conducted pilot tests for the remediation of PCE-contaminated soils at a dry cleaning site utilizing a chemical oxidation technology. Collected core samples from potentially contaminated floor slab for analysis of VOCs.

City of Janesville, Janesville, Wisconsin – Assisted with completion of tasks associated with closeout of the City of Janesville USEPA Brownfields Area-Wide Planning Grant, including reporting of data in the ACRES database, preparation and submittal of multiple forms, and a final report to USEPA.

Confidential Client, Appleton, Wisconsin – Completed expedited Phase I/II Environmental Site Assessments at three substantial facilities for due diligence requirements prior to property transfer.

EDUCATION

B.S., Geology, University of Wisconsin - Platteville 1985

AREA OF EXPERTISE

Environmental Assessment

Contaminant Investigation

Regulatory Permitting

REGISTRATIONS/ AFFILIATIONS

Wisconsin Professional Geologist #8

TRAINING/CERTIFICATIONS

American Heart Association Standard First Aid, CPR, AED

OSHA 30-Hour Construction Outreach Training (2016)

OSHA 8-Hour HAZWOPER Annual Refresher Training

OSHA 8-Hour Supervisor & Management Training

OSHA 40-Hour Hazardous Waste Operation & Emergency Response Training (1986)

OFFICE

Brookfield, Wisconsin

YEARS OF EXPERIENCE

25

YEARS WITHIN FIRM

1

CONTACT

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(262) 792-1282 x281 (office)

(608) 886-7245 (cell)

Bell, Gierhart & Moore, S.C on behalf of Confidential Client, Wisconsin – Provided technical assistance and served as an expert for an appeal with the State of Wisconsin regarding a Wisconsin Pollutant Discharge Elimination System (WPDES) permit; specifically, the question of WDNR's legal authority to apply regulations to mixed waste at an industrial outfall.

City of Madison Engineering Department, Madison, Wisconsin – Completed Phase I Environmental Site Assessments for several properties in order to fulfill due diligence requirements prior to property transfer.

City of Janesville, Janesville, Wisconsin – Provided technical review of documents related to the General Motors facilities in Janesville, Wisconsin, including substantial Work Plans and Site Investigation Reports, to identify any discrepancies and determine whether further assessment may be warranted. Prepared a Technical Memorandum for the City including recommendations for the sampling of soil, groundwater, and river sediments.

Wheeler, Van Sickle & Anderson, SC, on behalf of Confidential Client – Provided technical assistance and served as an expert for site characterization and assessment of a proposed sand and gravel pit located adjacent to a wetland in southern Wisconsin. Produced an expert report and affidavit regarding hydrogeologic implications of proposed quarry activities. Provided testimony at appeal hearing with Dane County Zoning Committee. Conditional Use Permit was successfully denied upon appeal.

Madison Municipal Water Supply, Madison, Wisconsin – Teamed with a computer modelling specialist to provide thorough assessments of potential sources of VOC contamination impacting two municipal water supply wells. Project resulted in identification of potential sources not previously evaluated.

State of Wisconsin Emergency Management, Columbia/Dane/Rock/Sauk Counties – Program Manager for county-wide Hazardous Material Commodity Flow Studies for four counties in Wisconsin. Field study and data collection was conducted to determine the types of chemicals transported through counties, general timeframes, and transportation methods, in order to assist Emergency Management personnel with emergency shelter planning.

City of Freeport, Galena Avenue Corridor, Freeport, Illinois – Project Manager for area-wide corridor assessment associated with municipal brownfield redevelopment project. Included Phase I evaluation of dozens of properties including historic dry cleaners, gasoline service stations, and other sources of underground storage tanks.

Fiore Companies, Madison, Wisconsin – Managed environmental site assessments at multiple locations for property development, including Phase I and Phase II Site Assessments, groundwater monitoring and remediation.

International Paper, Iowa – Provided Project Management for the environmental assessment of a corrugated recycling facility in Iowa.

Briggs & Stratton, Milwaukee, Wisconsin – Project Director for a contract to perform UST removals and impact assessments at multiple manufacturing facilities throughout the Midwest, and completion of expedited Phase I environmental assessments for multiple facilities as part of acquisition due diligence.

Confidential Client, Milwaukee, Wisconsin – Project Manager for ISO14000 compliance audits of multiple corporate manufacturing facilities located across the United States and Maquiladora, Mexico. Participated in USEPA/SEDUE conferences involving environmental requirements for US-owned corporate facilities along the US/Mexico border.

City of Wausau Superfund Site, Wausau, Wisconsin – Project Hydrogeologist for field investigations including long-term aquifer pump tests to delineate the nature and extent of groundwater and soil contamination, and the influence of the Wausau Municipal Well Field on transport of contaminants beneath the Wisconsin River. Drilling technology included dual-tube reverse circulation drilling, which allowed the use of vertical sampling at multiple depths to more adequately determine contaminant source locations. Completed an extensive PRP investigation, including evaluation and sampling of an extensive monitoring well network. Findings were presented to USEPA/Region V and discussed in public hearings.

City of Wausau Wellfield, Wausau, Wisconsin – Project Hydrogeologist managing field investigations for siting of municipal water supply wells. Drilling technology included dual-tube reverse circulation drilling which, as a new technology at the time, required negotiation of a variance from the WDNR.

Confidential Client, South Chicago, Illinois – Conducted sampling of a complex groundwater monitoring network involving extensive VOC contamination within shallow and deep aquifers at an active chemical production facility.

Confidential Client, Newark, California – Project Director for site characterization, impact assessment, and remedial action for a manufacturing facility. Included negotiation of investigation and remediation programs with seven regulatory agencies, and evaluation of in-situ technology for metals-contaminated soils.

Conoco Phillips Lake Charles Refinery, Westlake, Louisiana – Conducted sampling of a complex groundwater monitoring network and completed an extensive residential health risk assessment for a chemical refinery in southwest Louisiana on the banks of the Calcasieu River. Refinery processes include production of heavy, high-sulfur and high-acid crude oils.

PROFESSIONAL AFFILIATIONS

- ASTM (D18.21 Soil and Rock / E50 Environmental Assessment)
- Department of Interior/Subcommittee on Groundwater (ASTM Committee Representative, 2010-present)
- National Groundwater Association (Former Director/AGWSE, Member 1982-present)
- National Groundwater Association Foundation (Board Member 2015-present)
- Wisconsin Water Well Association (Board Member, Association Newsletter Editor)
- Wisconsin Women Environmental Professionals (Former Co-President/Madison, Current Member/Milwaukee)

WORK EXPERIENCE

Tetra Tech, Brookfield, Wisconsin (2017 – current), *Senior Project Manager, Senior Geologist*

Huntoon Environmental Consulting (2013-2017), *Principal Hydrogeologist*

Fehr Graham, Monroe, Wisconsin and Rockford, Illinois (2011-2013), *Senior Hydrogeologist*

Wisconsin Department of Commerce, Division of Environmental and Regulatory Services, Madison, Wisconsin (1997 - 2004), *Chief, Technical Section of Petroleum Environmental Cleanup Fund*

Eder Associates, Middleton, Wisconsin (1995-1997), *Director of Hydrogeology*

Environmental Consulting Firms, Milwaukee, Wisconsin (1988-95), *Branch Manager/Senior Hydrogeologist*

Geraghty & Miller, Houston, Texas and Milwaukee, Wisconsin (1985-1988), *Hydrogeologist, Midwest Region Project Development Coordinator*

PRESENTATIONS AND PUBLICATIONS

COMM46/NR746 Public Hearings, Wisconsin Department of Commerce in conjunction with Wisconsin Department of Natural Resources, multiple locations, 1998-2003.

Regulatory Update for Petroleum Cleanup Fund, Wisconsin Petroleum Marketers Association, Madison, Wisconsin, April 1997.

ISO-14000 Environmental Management Conference (Co-Chair), Federation of Environmental Technologists, Milwaukee, Wisconsin, November 1995.

Back To Basics: Environmental Audit Program Workshop (Co-Chair), Federation of Environmental Technologists, Milwaukee, Wisconsin, March 1995.

Summary of ASTM Standards for Environmental Assessments, Marathon County Hazardous Waste Cooperative Environmental Conference, Wausau, Wisconsin, 1993.

Summary of ASTM Standards for Environmental Assessments, Federation of Environmental Technologists Annual Conference, Milwaukee, Wisconsin, 1993.

Basic Principles of Hydrogeology – Work Session, presented at the National Groundwater Association / Association of Groundwater Scientists and Engineers Annual Convention, Washington DC, 1991.

Auger Drilling Techniques for Environmental Drilling, Environmental Drilling Seminar, University of Wisconsin-Milwaukee Continuing Engineering Education, 1988, 1989, 1990.

The Use of Vertical Sampling in Determining Source Locations (poster presentation), National Groundwater Association / Association of Groundwater Scientists and Engineers Annual Convention, 1987-88.

TETRA TECH

Ashley M. Kowalewski
Geologist

EXPERIENCE SUMMARY

Ms. Kowalewski has three years of professional experience as a Geologist with Tetra Tech. Experience includes conducting environmental site investigations, remedial actions, groundwater monitoring, and operation and maintenance of groundwater remediation systems.

RELEVANT EXPERIENCE

City of West Bend, West Bend, Wisconsin – Assisted in the drilling, oversight and core logging of new injection wells, the development of the wells, and the completion of initial and scheduled groundwater sampling events. Performed the quarterly groundwater monitoring at the site using the low-flow sampling method in order to document the progress of the remedial action (enhanced in-situ bio-degradation).

Lee Chemical Superfund Site, Liberty, Missouri – Assisted with a soil investigation to delineate the degree and extent of residual soil impacts after long-term operation (20 years) of a soil washing system. A mobile laboratory was used to analyze soil samples collected from 55 direct-push soil borings to 20 feet. Conducted logging of soil samples to identify areas where additional soil sampling was needed to delineate the horizontal and vertical extent of soil impacts. The soil washing system and on-site extraction well are currently shut down to evaluate the site for monitored natural attenuation (MNA) as an appropriate potential remedial alternative for the site.

Confidential Client, Madison, Wisconsin – Performed quarterly groundwater sampling by passive diffusion bags (PDBs) and from Westbay System multi-level monitor wells for the remedial action of a chlorinated solvent plume within the unconsolidated deposits and shallow bedrock beneath the site. Conducted operation and maintenance of the groundwater extraction/ treatment system installed and collected monthly influent and effluent samples to comply with the requirements of the WPDES permit.

Hydrite Chemical Company, Cottage Grove, Wisconsin – Performed quarterly groundwater monitoring at the site utilizing low-flow sampling methodology and Westbay System multi-level monitor wells. Assisted with monitoring and maintenance of the hydraulic barrier system that is used to prevent the downgradient migration of highly impacted groundwater coming off the DNAPL source area within permeable bedrock.

ITW-West Bend, West Bend, Wisconsin – Performed groundwater sampling using a peristaltic pump and in-line flow cell. Measured field parameters, which are analyzed to support the evaluation of natural attenuation. Performed application of one round of KMnO4 to remediate the impacts of chlorinated solvents.

Sta-Rite Industries, Deerfield, Wisconsin – Assisted with semi-annual groundwater sampling and monitoring of the groundwater pump-and-treat system.

EDUCATION

B.S., Geology, University of Wisconsin - Oshkosh 2013

AREA OF EXPERTISE

Geology

TRAINING/CERTIFICATIONS

American Heart Association Standard First Aid, CPR, AED

OSHA 8-Hour HAZWOPER Annual Refresher Training 2017

OSHA 40-Hour Hazardous Waste Health and Safety Course (29CFR 1019.120)

OSHA 30-Hour Construction Industry Outreach Training 2016 (OSHA 29 CFR 1926)

OFFICE

Brookfield, Wisconsin

YEARS OF EXPERIENCE

Three

YEARS WITHIN FIRM

Three

CONTACT

Ashley.Kowalewski@tetratech.com

(262) 792-1282 x227 (office)

(414) 704-3229 (cell)

Quad/Graphics Inc., Pewaukee, Wisconsin – The Wisconsin DNR requested that Quad/Graphics conduct a site investigation of the Pewaukee facility to determine whether the property was a potential of source of tetrachloroethene (PCE) impacts discovered in several private water supply wells by the DNR in a residential subdivision east of the Pewaukee facility. Performed sampling of standard monitoring wells, multi-level monitoring wells, and private water supply wells. Assisted in monitoring the flow and pumping rates of two extraction wells for on-site treatment of the impacted groundwater using granular-activated carbon drums.

Milwaukee Electric Tool Corporation, Brookfield, Wisconsin – Performed semi-annual groundwater sampling, in conjunction with the operation of a remedial pump and treat system.

WDNR Oconomowoc Electroplating, Oconomowoc, Wisconsin - Conducted semi-annual groundwater sampling events including sampling of 28 monitoring wells for various analyses. Annually, conducted private well sampling at eight homes. Obtained, documented, and shipped more than 300 sampling containers over the course a one-week sampling event.

United States Army Corps of Engineers/Former Antigo Air Force Base, Antigo, Wisconsin – Performed a baseline groundwater assessment in three separate injection fields to determine the concentrations of PCE and trichloroethylene (TCE) within groundwater in each area. Based on data from the baseline study, participated in an injection event using Emulsified Vegetable Oil (EVO) and bio-augmentation within a targeted area.

Automotive Manufacturing Facility, Confidential Client, Illinois – Participated in sampling of Light Non-Aqueous Phase Liquid (LNAPL) that contained Polychlorinated Biphenyl's (PCB) for various analyses. Conducted bail-down tests to analyze the recovery rate of LNAPL in numerous wells on the property, as well as well gauging to determine seasonal fluctuations of groundwater and LNAPL levels.

WORK EXPERIENCE

Tetra Tech, Brookfield, Wisconsin, (May 2014-Present), Geologist

BMO Harris, Brookfield, Wisconsin, (August 2013 – May 2014), Imaging Specialist

Winnebago County Sunnyview Expo Center, Oshkosh, Wisconsin, (May 2011- August 2013), Seasonal Laborer

La Sure's, Oshkosh, Wisconsin, (October 2012 – May 2013), Caterer

TETRA TECH

Todd M. Thomson
Senior Environmental Technician

EXPERIENCE SUMMARY

Twenty-five (25) years of professional experience in geologic and hydrogeologic studies including site soil, bedrock and groundwater characterizations; monitoring, recovery and extraction well installations; dedicated sampling system installation and operation; low-flow micro purge dedicated sampling system installation and operation; well development; hydraulic conductivity testing; installation of soil gas probes and sub-slab soil gas probes; groundwater, soil, soil gas and air sampling; well abandonment; landfill cap construction; QA/QC of geosynthetics liner; soil testing; nuclear densitometer operation; vapor extraction and air sparging pilot testing; operation and maintenance of free product and groundwater recovery treatment systems; soil and groundwater compliance monitoring; construction oversight of soil vapor extraction and groundwater treatment systems; methane gas monitoring and soil gas and air sampling. Extensive experience with most drilling technologies including rotosonic, dual tube, mud and air rotary, rock coring, hollow stem auger and direct push. Experience with installation and sampling of multiport well completions including Westbay, Waterloo and Solinst systems. Additional experience in field supervision and coordination of UST and remediation sites, and data interpretation and preparation of site investigation reports.

RELEVANT EXPERIENCE

NPL Landfill, Sauk County, Wisconsin – Coordinated groundwater sampling and monitoring activities at a former landfill impacted by VOCs and detection groundwater monitoring and reporting at the active landfill (recently closed) at the Sauk County landfill site. Completed dedicated monitoring system installation and operation and groundwater compliance monitoring at both landfills. Conducted private well sampling at homes adjacent to the site for contaminant extent determination. Sampled 12 monitor wells, 2 lysimeters, a gas condensate tank, leachate tank, and 2 private water supply wells. Participated in well development and hydraulic conductivity testing.

City of West Bend, TIF District #12 Former Gehl Co. Facility, West Bend, Wisconsin – Collected groundwater samples from on-site and off-site monitoring wells to evaluate the extent of the chlorinated VOCs plume associated with the former facility that is part of TIF District #12 in support of a Phase II environmental site investigation of the property. Installed and sampled four soil gas probes within the street right-of-ways in a residential area east of the site to evaluate whether the chlorinated VOC plume poses a vapor intrusion risk to residents. Installed and sampled a sub-slab soil gas probe in a home located immediately east of the former plant; collected indoor air samples from the basement, first and second floors of the home and one background outdoor air sample. Collected a soil gas sample from the sealed sump pump basin of a second home plus indoor air samples from the basement, first floor and second floor and a background outdoor air sample. Collected two rounds of indoor air samples from the basement, first floor and second floor of a third house including background outdoor air samples. Soil gas samples were not collected from the third house because a portion of the basement floor was exposed to the underlying soil.

EDUCATION

A.S., Environmental Health and Pollution Control, Milwaukee Area Technical College, North Mequon, Wisconsin, 1991

AREA OF EXPERTISE

Sampling and O&M of Environmental Monitoring and Remediation Systems

TRAINING/CERTIFICATIONS

OSHA Certified 40-hour Hazardous Waste Site Worker, 1990

8-hr OSHA HAZWOPER and Supervisor Refresher March 2017

4-hr Confined Space Entry Training course, Certificate # 021406, February 2006

American Red Cross Standard First Aid, Adult CPR

Groundwater Monitoring and Sampling Technology course, ASTM, 1993

National Outdoor Action Conference and Exposition, National Groundwater Assoc., 1995

OFFICE

Brookfield, Wisconsin

YEARS OF EXPERIENCE

Twenty-Five

YEARS WITHIN FIRM

Nineteen

CONTACT

ToddThomson@tetratech.com

Quad/Graphics, Inc., Pewaukee, Wisconsin PCE Investigation – Supervised installation of five Solinst CMT system multi-level monitor wells for the Phase II environmental site investigation of the Quad/Graphics Pewaukee facility. Collected groundwater samples from private water supply wells in a subdivision east of the facility. Conducted quarterly groundwater sampling rounds for the site investigation phase of the project. Continue to perform semi-annual groundwater monitoring of the site monitor wells including collecting groundwater samples from five former and two existing private water supply wells in the subdivision for the remedial action phase of the project. Operate and maintain the on-site groundwater remediation system consisting of groundwater extraction from two extraction and treatment of the impacted groundwater with granular activated carbon. Installed and sampled nine soil gas probes located within street right-of-ways of the subdivision east of the Quad/Graphics Pewaukee facility for a vapor intrusion assessment. Collected soil gas samples from the sealed sump pump basins of 16 homes and an indoor air sample from one home without a basement in the subdivision east of the Pewaukee facility in 2011 and 2012 to determine whether the shallow tetrachloroethene (PCE) plume found beneath a portion of the subdivision poses a vapor intrusion risk. The vapor intrusion assessment identified two homes having PCE levels in the soil gas or indoor air above Wisconsin DNR residential action levels. Sub-slab depressurization systems were installed in 8 of the homes to mitigate the PCE impacts found in the soil gas beneath the homes. Participating in the post-mitigation verification sampling program of the homes to confirm the vapor mitigation systems are functioning properly. The indoor air samples are being collected approximately 6 months and 1 year after the installation of the mitigation systems. Post-mitigation indoor air verification samples will continue to be collected every 2 years until case closure of the remedial action at the Pewaukee facility is given by the Wisconsin DNR.

ITW, Former West Bend Company Brownfield Redevelopment, West Bend, Wisconsin – Installed 20 sub-slab soil gas probes within the proposed retail build-out portions of two buildings that were formerly part of the West Bend Company manufacturing facility. Collected sub-slab soil gas samples from the soil gas probes to assess the potential for the residual VOCs impacts found in the soil and groundwater beneath the buildings to accumulate beneath the foundations of the buildings. The soil gas probes were left in place in case an additional round of sampling is needed. Collected three indoor air samples from the buildings before the soil gas probes were installed and sampled. One background outdoor air sample was also collected from a location near the buildings to determine if there are other potential sources of VOCs besides what may be present in the sub-slab soil gas. The indoor air and background air samples were collected in 6-liter Summa canisters using calibrated flow control devices provided by the laboratory performing the analyses. The flow control devices were calibrated for a 24-hour sampling period. The indoor air, background outdoor air and soil gas samples were submitted for laboratory analysis of VOCS by EPA Method TO-15.

Bayou Corne Sinkhole, Assumption Parish, Louisiana – Wrote the installation protocol for installing vertical sub-slab soil gas probes in homes that were evacuated due to the formation of a sinkhole caused by the collapse of a salt dome cavern. Installed sub-slab soil gas probes and sidewall soil gas probes in some of the evacuated homes that have basements. Tested the soil gas samples collected from the soil gas probes plus the indoor air for methane, hydrogen sulfide and lower explosive limit.

Hydrite Chemical, Cottage Grove, Wisconsin – Oversee monitor well and extraction well installations to 350 feet deep at a site with extensive chlorinated solvent and ketones impacts in the groundwater including the presence of DNAPL in a fractured bedrock horizon. Install and sample multiport wells. Perform quarterly groundwater and surface water monitoring tasks. Perform weekly and monthly operation and maintenance activities on hydraulic barrier system consisting of three extraction wells pumping at a combined rate of 120 gallons per minute. Performed DNAPL recovery from extraction wells.

Newell Rubbermaid, Sturgis, Michigan – Coordinate field activities for a site located within a municipal well field with TCE impacts to the groundwater. Oversee monitor well and extraction well installations to a depth of 280 feet. Performed groundwater vertical profiling for TCE concentrations in lower aquifer for well screen placement. Completed dedicated monitoring system installation and operation for the low-flow sampling method as part of the groundwater monitoring program for the site. Performed a 48 hour constant- rate aquifer test using the second deep extraction well, which was pumped at a rate of approximately 2,000 gpm. Water level data were collected from 21 monitor wells plus the extraction well using data loggers. Provided construction oversight of soil vapor extraction (SVE) system treating impacted soil over two acre area.

Sta-Rite Industries, Delavan, Wisconsin – Performed the collection of annual soil samples from multiple dual soil vapor/groundwater extraction well source areas for a remedial investigation/feasibility study at a National Priority List (NPL) site with chlorinated solvent impacts to the soil and groundwater. Soil was collected from source areas that were remediated via soil vapor extraction. Additional activities included monitor well development and sampling; sampling of groundwater extraction wells; groundwater remediation system discharge points and surface water. Conducted documentation oversight of the abandonment's of the dual soil/vapor/groundwater extraction wells from two of the source areas.

Highway FF/NN Landfill, Ripon Wisconsin – Coordinate field activities at the FF/NN Landfill NPL site. Oversee monitor well installation and monitor well abandonment. Complete dedicated monitoring system installation and operation and groundwater compliance monitoring. Install low-flow sampling equipment and convert initial dedicated sampling equipment over to the low-flow sampling method. Also completed private well sampling at homes adjacent to the site for contaminant extent determination. Performed landfill gas monitoring and landfill cap inspection.

Refuse Hideaway Landfill NPL site, Dane County, Wisconsin – Coordinate groundwater sampling activities for a site investigation at a closed landfill west of Madison, Wisconsin. Completed a dedicated monitoring system installation and operation and groundwater compliance monitoring. Also completed private well sampling at homes adjacent to the site for contaminant extent determination. Participated in well development.

Former American Beryllium Company Superfund Site, Tallevast, Florida – Provided oversight support during Remedial Investigation characterization study of deep aquifers impacted by DNAPL chlorinated solvent. Equipment on site included 6 rotosonic drill rigs, 2 direct push rigs and mobile lab. Work included logging and photographing continuous cores up to 300 ft bgs; conducting continuous 10-ft interval aquifer packer testing; groundwater sampling and monitor well installation oversight documentation.

Confidential Client, San Bernardino, California – Performed well development on Westbay Multiport wells to depth of 700-ft bgs with Waterra pumps. Assisted with quarterly sampling of over 100 Westbay system multi-level well points to a depth of 1,000-ft bgs for monitoring of TCE and Perchlorate in groundwater plume. Also, assisted with quarterly monitoring in Redlands. Sampling equipment utilized on site consisted of Grundfos Redi Flo pumps, Waterra pumps, bladder pumps, and water level meters.

WE Energies, Burlington, Wisconsin – Former manufactured gas plant (MGP). Collected initial soil and groundwater samples impacted by MGP residuals for bench and pilot testing. Oversaw and documented the installation of 500 injection wells and the remediation injection of 280,000 gallons of 50% hydrogen peroxide. Assisted with the excavation oversight of river sediment and riverbank soil from the Fox River by isolating the river using water-inflatable Aqua-BarriersTM cofferdams. Performed quarterly groundwater monitoring tasks and measured coal tar thickness in existing monitor wells.

Confidential Client, Bedford, Indiana – oversaw field activities for Phase II investigation as part of a property transfer at a 75-acre site including a 250,000 sq. ft. manufacturing facility. Conducted the drilling oversight for 44-soil borings with direct push and the installation of 8 monitoring wells with minisonic rig. Collected soil and groundwater samples to define extent of chlorinated VOC plume. Mobile lab on site for initial phase of work. Performed well development, pump tests and quarterly groundwater sampling rounds for the site investigation phase of the project. Collected indoor and outdoor air samples in accordance with IDEM vapor intrusion guidance.

Confidential Client, Indianapolis, Indiana – Conducted field activities for site investigation under the Indiana Voluntary Remediation Program (VRP). Site contaminants included high levels of TCA and TCE and daughter products in groundwater. Oversaw the installation of 34 monitor wells, 1 extraction well and 82 dual-screened injection wells with sonic and minisonic drill rigs with multiple rigs on site. Performed well development, pump tests and slug tests. Collected Shelby tubes for biotreatability bench testing. Performed three rounds of injections of emulsified oil as a carbon donor to enhance the biodegradation of contaminants every other year for six years. Injection crew worked 24/7 until donor amount was achieved for each scheduled injection round. Performed low-flow sampling on selected monitor wells to monitor the effectiveness of the injections. Constructed and installed harness with passive diffusion bags attached in new monitor wells. Performed quarterly groundwater monitoring.

Cooper Crouse-Hinds, LLC, Syracuse, New York - Performed drilling program to delineate three hot spot removal areas at an industrial waste landfill and adjacent PCB-impacted wetland. Soil borings around each hot spot area were drilled with HSA rig with continuous split spoon sampling. The fill and soil material was logged. At designated boreholes soil samples were field screened for VOC, Oil and PCBS. Constructed and installed a total of 32-bar hole probes on industrial and municipal landfills to provide a preliminary evaluation of landfill gas generation. Monitored bar hole probes with landfill gas meter.

Cooper Industries, Zanesville, Ohio – Oversaw the removal of an existing extraction well by over drilling the existing well for the new extraction well replacement. Documented the installation and development of the new extraction well and the redevelopment of an existing extraction well.

Sunrise Landfill, Wayland, Michigan – Constructed and installed dedicated sampling equipment using a SamplePro pump with disposable bladders in 18 monitor wells. Performed semiannual groundwater monitoring using low-flow sampling techniques. Monitored landfill gas at 7 gas monitoring probes located on and around the outside of the landfill with a Solaris 4 gas meter.

Eaton Cooper, Former McGraw – Edison Air Comfort Facility, Albion, Michigan – Installed and sampled 21 sub-slab soil gas probes using Vapor Pins in accordance with MDEQ guidance document inside the former facility in areas of residual soil and groundwater contamination that exceeded vapor intrusion screening levels. The vapor pins were left in place in case an additional round of sampling is needed.

Automotive Component Holdings LLC, Saline, Michigan – Performed drilling oversight, soil logging and collection of soil samples during initial site investigation.

Numerous Industrial and Governmental Institutions – Conducted site soils and groundwater characterization investigations; water table well installation, development, and hydraulic conductivity testing; and soil and groundwater sampling.

Numerous County and Industrial Sites - Supervised UST removals and performance of site assessments and UST closure activities including supervision of impacted soil excavation for landfill disposal.

Aviation Fuel Facility - Conducted a pilot test of vapor extraction and air sparging. Operation and maintenance of air stripper and carbon treatment related to hydrocarbon contamination.

Sta-Rite Industries, Deerfield, Wisconsin – Supervised the installation of extraction well, piping and treatment building facility. Conducted operation and maintenance of air stripper treating TCE impacted groundwater. Provided groundwater compliance monitoring.

Milwaukee County Sites, Milwaukee, Wisconsin – Conducted operation and maintenance on air strippers and carbon treatment related to hydrocarbon contamination on several groundwater remediation systems.

Kraft Foods, Antigo, Wisconsin – Operation and Maintenance of free product recovery system using skimmer pump and carbon treatment related to hydrocarbon contamination. Provided groundwater compliance monitoring.

PTW Inc., Jones Island – Operation and maintenance of free product recovery system using skimmer pump and carbon treatment related to hydrocarbon contamination. Provided groundwater compliance monitoring.

Village of Shorewood, Shorewood, Wisconsin – Conducted operation and maintenance of groundwater treatment system using air stripper and carbon treatment related to hydrocarbon contamination.

PREVIOUS WORK HISTORY

Tetra Tech, Brookfield, Wisconsin, (1997-Present), Environmental Technician

Hydro-Search, Inc., Brookfield, Wisconsin (1991 to 1997), Environmental Technician

Michelle F. Gillie, CIH, CPEA, FAIHA

Health and Safety Director

Ms. Gillie has over 30 years of experience in the field of occupational and environmental health and safety and is board certified in the comprehensive practice of industrial hygiene since 1986, and in environmental health and safety auditing since 2001. She has served as Tetra Tech GEO Corporate Health and Safety Director and member of the Tetra Tech Safety Council since 2001. She directs the occupational health and safety program, including employee training and medical surveillance, incident reporting and investigation, project health and safety planning, field oversight, worker exposure monitoring, ambient air quality monitoring, noise surveys, contractor pre-qualification and management, program and policy reviews and updates. She has provided EHS planning and field support for remedial system operations, maintenance and monitoring (OMM) at more than 50 sites in the past ten years.

She has conducted hundreds of chemical hazard evaluations at petrochemical, chemical and manufacturing plants including paints and pigments, paper, rubber, pharmaceutical, and plastics. She is an authorized trainer in Loss Prevention Systems for ExxonMobil since 2004.

For more than six years, Ms. Gillie served as the EPA Remedial Action Contract (RAC) Region 3 Health and Safety Officer for Superfund Site preliminary assessments, site investigations, and remedial actions. She conducted hazard assessments, developed health and safety plans, performed contractor oversight and environmental/occupational exposure monitoring for volatile organic compounds, heavy metals, pesticides, and asbestos, participated in public hearings, and prepared investigation reports. .

In 2012-13, Ms. Gillie served as Chair of the American Industrial Hygiene Association's (AIHA) Environmental Issues Committee which provides guidance on issues such as vapor intrusion, hazardous building materials management, Phase I/II investigations, and Prevention through Design Standards. She also serves on the AIHA Continuing Education Committee and a Mentor for Students and Early Career Professionals. She was a contributing author on a White Paper on *PCBs in the Built Environment* (published in October 2013) and is currently working on a comprehensive Guidance Document on the subject. She was the primary author on an article on the regulatory and technical updates in Vapor Intrusion. She was named a 2014 Fellow of the American Industrial Hygiene Association.

She currently serves as Tetra Tech Health and Safety Program Director for the Nevada Environmental Response Trust's perchlorate remediation project near Las Vegas, working with project engineers, geologists and an internationally recognized perchlorate/explosives safety expert in remediation process design, investigation, remediation, and construction operations.

Education:

M.S., Environmental Science (Industrial Hygiene/Toxicology), Drexel University, 1982

B.S., Medical Technology (Microbiology/Biochemistry), Pennsylvania State University, 1977

Honors:

2014 American Industrial Hygiene Association Fellow

1991 Alaska Governor's Health & Safety Award

Registrations/Certifications:

Certified Industrial Hygienist in Comprehensive Practice (No. 3285), American Board of Industrial Hygiene, 1986

Certified Professional Environmental Auditor, Health and Safety (No. 211), Board of Environmental Auditor Certifications, 2001

Office:

Houston, Texas

Years of Experience:

Thirty-four

Years with Tetra Tech:

Twenty-one

Specialized Training:

ACGIH Guidelines: Assessing Bioaerosols in the Workplace
Environment Concepts in Inhalation Toxicology Risk Assessment
Reconstructing Exposure and Dose
Techniques for Hazard Recognition
Chemical Hazard Evaluation
Construction Safety
Federal Railroad Administration Contractor On Track Safety
Loss Prevention Systems
Groundwater and Soil Remediation
Environmental, Health, Safety and Transportation Regulations
Health and Safety Auditing
REACH: Risk Management Strategy
LEED and Green Building Construction
Indoor Air Quality Investigations
DOT Hazardous Materials Shipping

EXPERIENCE

Hazardous Materials Management

Cape May County Airport Industrial Park, Cape May, New Jersey – Provided industrial hygiene and environmental services for a WWII-era airport built by the U.S. Navy and which is being developed for aviation and business uses. The 996-acre site has 17 known Areas of Concern associated with underground storage tanks and industrial operations. Tetra Tech reviewed 20 years of prior consultant records to evaluate the current status relative to state Site Remediation regulations; no closure or No Further Action letters have been issued for this site to date. Concurrently, the 12 industrial buildings varying from 400 SF to 185,500 SF are prioritized for redevelopment

and were inspected for hazardous building materials including asbestos, lead, mold, PCBs, stored chemical products/wastes. Ms. Gillie prepared the project health and safety plan for the site investigations including subsurface vapor intrusion investigation in occupied buildings.

International Monetary Fund, Washington, D.C. – Since 2012, Ms. Gillie and her project team have provided EHS Peer Review Services to the IMF for their headquarters renovation project scheduled to occur over 4 years. She reviewed EHS programs and policies including water hygiene, indoor air quality, asbestos and lead-based paint operations and maintenance, spill prevention countermeasure and control plan, life safety, and fire protection for the 13-story, 2 million SF facility. She has also reviewed technical project requirements and general contractor and specialty subcontractor work plans for conformance with regulatory requirements and industry best practices.

Lockheed Martin, Multiple Sites – Since 2001, Ms. Gillie has prepared health and safety plans, reviewed standard operating procedures, and conducted site audits/environmental monitoring of groundwater treatment systems operations, maintenance and monitoring (OMM) and sub-slab depressurization systems (SSDS) for sub-surface vapor intrusion mitigation; soil removal operations, groundwater monitoring, and decommissioning/closure at major projects in NY, MD, PA, and CA.

General Electric, Multiple Sites - For more than 10 years**,** provided health and safety planning and field support for pump and treat system and waste water treatment plant OMM tasks. Performed task hazard evaluations, noise and ventilation surveys, confined space evaluations, worker exposure monitoring for PCBs, vinyl chloride and other site contaminants. Site operations included crane critical lift and confined space entry operations for worker access into underground tunnel system below the Hudson River for drain well and pump OMM tasks, geotechnical inspections, ventilation testing and annual evacuation drill exercises. Since June 2014, developed health and safety plans for 33 OMM sites in 16 states.

Brownfield Redevelopment

Burlington County Community Action Project, Roebling Village Inn, Roebling, New Jersey – Project Manager for lead and asbestos building survey, preparation of technical specifications, project scope of work, contractor oversight, and environmental monitoring for historical abandoned building being converted to housing for senior citizens. Coordinated with the State Historical Preservation Board and Architectural Consultant to selectively remove asbestos-containing building materials and lead-painted components to salvage architectural elements of historical interest. Interfaced with officials from the State of New Jersey Departments of Environmental Protection, Health, and Community Affairs during site inspections.

Sovereign Bank, Remedial Design and Removal of Petroleum Product Contamination from Building Basement; Somerville, New Jersey – As Project Manager, developed and implemented health and safety plan for removal of petroleum hydrocarbon-contaminated soil and groundwater from basement of future bank building. Provided oversight of contractor during all remedial activities, and conducted environmental air monitoring (long-term and direct reading) for petroleum hydrocarbon compounds including BTEX compounds. Developed exhaust ventilation design criteria for subsurface vapor removal system and specifications for a passive geomembrane barrier system to ensure good indoor air quality in the future bank building. Provided lead construction training to contractors removing masonry coated with lead paint and conducted air monitoring for lead particulates during construction work.

Program and Facility Audits

Delta Airlines, Charlotte, North Carolina – Served as Lead Auditor on environmental facility audit addressing environmental protection and management, waste management/solid and hazardous waste, spill response, Toxic Substances Control Act, Spill Prevention, Countermeasures, and Control (SPCC)/Facility Response Plan (FRP), air quality (permitting and compliance), Emergency Planning and Community Right to Know and storage tanks.

ExxonMobil Global Real Estate and Facilities, Baltimore, Maryland – Since 2004, Ms. Gillie has provided quarterly Loss Prevention System field audits for environmental remediation and construction operations at the former refinery and terminal facility. Audited activities include horizontal drilling, excavation, drilling and well installation, welding, confined space entry, tank painting, and product transfer (tank to tanker truck). Her program stewardship includes validation and verification of solutions to identified root causes of environmental, property and worker-related incidents including near losses, and program implementation and use of LPS tools such as Job Safety Analysis, incident investigations, behavior observations, and standard operating procedures, etc.

Safety and Health Program Evaluations; U.S. Postal Service, Capital Metro, Allegheny, New York Metro and Mid-Atlantic Areas – As a Team Leader for USPS Safety Performance Management - Headquarters, Ms. Gillie conducted safety and health program audits at 27 Postal facilities including post offices, bulk mail facilities, air mail centers and facilities, and processing and distribution centers over an 8-month period. Areas of focus included management leadership and employee participation, workplace analysis, accident and record analysis, hazard prevention and control, emergency response, safety and health training, medical surveillance, maintenance operations, contractor safety, motor vehicles, and powered industrial vehicles. The targeted OSHA programs included hazard communication, lockout/tagout, personal protective equipment, hearing conservation, hazardous spill and leak response, asbestos, lead, respiratory protection, bloodborne pathogens, and confined space entry operations.

Industrial Hygiene Surveys

Private Client, Spartanburg, South Carolina – Ms. Gillie provided health and safety hazard evaluation and risk identification and risk identification services to a major automotive manufacturer over a six-month period. The client is working toward international certification in occupational safety and health management systems (OHSAS 18001) in 2012. She conducted focused evaluations of paint and body shop and framing operations including local exhaust ventilation systems, chemical hazards (solvents, paints, treatment chemicals, welding), physical agents (laser, noise), ergonomic risk factors, and occupational injury and illness review. Deliverables included completion of audit report and presentation of findings and recommendations to plant management.

Private Client, Multiple Locations – Ms. Gillie directed expedited industrial hygiene surveys at three client facilities in Arizona, California and Texas to conduct worker exposure assessments to hexavalent chromium during various operations and maintenance tasks including painting and printing and to evaluate work practices, personal protective equipment use and ventilation systems. She prepared the final project report and a Powerpoint presentation for upper management.

Indoor Air Quality Investigations

Private Client; Goodyear, Arizona – Ms. Gillie was requested to conduct an expedited indoor air quality investigation at the Goodyear, Arizona facility to evaluate the presence of VOCs that may be the cause of employee odor complaints and whether adjacent non-facility operations in the Goodyear business park could be a source of detected VOCs. Under Ms. Gillie direction, Tetra Tech staff conducted the initial site reconnaissance, interviewed facility management, performed general area (indoor and outdoor) and personal sampling for specific VOCs, and conducted real-time air monitoring for common indoor air pollutants and ambient temperature and relative humidity using direct reading instruments. A follow-up investigation was conducted to assess seasonal variations on indoor air quality. Ms. Gillie prepared the project reports, provided electronic data deliverables, and presented investigation findings summary to management.

Private Client, Valley Forge, Pennsylvania – Ms. Gillie conducted multi-phase indoor air quality investigations and baseline industrial hygiene surveys of office, light manufacturing, and research and development laboratories areas comprising approximately one million square feet. Services included initial site reconnaissance, review of as-built drawings for mechanical systems and historical and current site operation records, and development of the sampling strategy on behalf of corporate EHS management. Coordinated with the onsite industrial hygienist and maintenance

staff and performed long-term air sampling and bulk/wipe sampling for volatile organic compounds (VOCs), heavy metals, asbestos, fibrous glass and mold and mycotoxins. She prepared the project reports, provided electronic data deliverables, and presented investigation findings summary to client.

Human Health Risk Assessments

Public Health Risk Assessment; Teck Cominco Alaska, Inc. – Ms. Gillie performed a public health risk assessment for employees and contractors of the Red Dog Mine in northwestern Alaska as part of an environmental impact statement for the expansion of mine operations. She reviewed the corporate health and safety program, air sampling data, biological monitoring data for lead and cadmium, accident statistics, and job task analyses for the various mine and port operations. Chemical hazards included lead, cadmium, zinc and crystalline silica.

Private Client; Hazardous Waste Site; Mojave Desert, California – Ms. Gillie served as a technical consultant to an environmental engineering firm on a post-remedial investigation and public health risk assessment of a smelting/incineration facility. The contaminants of concern included dioxin compounds, PCBs, heavy metals, and organic compounds. She interfaced with California EPA and legal representatives for the plaintiff and defendant.

PROFESSIONAL AFFILIATIONS

American Industrial Hygiene Association (AIHA), National Member, 1981 to present; 2014 Fellow
Past Chair of AIHA Environmental Issues Committee (2012-2013)
American Board of Industrial Hygiene, 1986 to present
Board of Environmental Auditor Certifications, 2001 to present
American Society of Safety Engineers, 2008

PRESENTATIONS AND PUBLICATIONS

1. Presenter at June 2015 American Industrial Hygiene Conference and Exposition, “Environmental Health Impacts from Hydraulic Fracturing”, Salt Lake City, UT

2. Gillie, M. 2015. Focus on Fracking: Debate Continues over Environmental Health Effects. *The Synergist (*a publication of the American Industrial Hygiene Association). June/July 2015 Issue

3. American Industrial Hygiene Association White Paper on *PCBs in the Built Environment* – published October 2013

4. Presenter at May 2011 American Industrial Hygiene Conference and Exposition, “Soot and Carbon Monoxide Source Investigation at New York City Apartment Building”, Portland, OR

5. Gillie, M. and S. Gaurin. 2010. Vapor Intrusion: A Regulatory and Technical Update. *The Synergist (*a publication of the American Industrial Hygiene Association). April 2010 Issue: 30-33.

6. Presenter at May 2005 American Industrial Hygiene Conference and Exposition, “Discovery of Legionella in Potable Water Distribution System: Follow up Investigation and Remediation”, Anaheim, CA

7. Presenter at Golden Empire Chapter of the Air and Waste Management Association's Fifth Annual Technical Conference "Industrial Hygiene for the Environmental Manager", Bakersfield, CA, October 1993

8. Presenter at May 1993 American Industrial Hygiene Conference and Exposition, "Cleaning of Heating, Ventilation and Air Conditioning System in a Large Hospital: Industrial Hygiene Controls and Air Monitoring Program”, New Orleans, LA

Attachment B: Corporate Health & Safety Policy and Manual

	TETRA TECH, INC. **HEALTH AND SAFETY POLICY STATEMENT**	Revision Date: 2/23/2009 Document Control Number: 0-0 Page 1 of 1

Tetra Tech, Inc. is committed to providing and maintaining a healthy and safe work environment for all associates. A strong health and safety (H&S) program protects both individuals and Tetra Tech and ensures the success of both parties. Tetra Tech's program is designed to address the hazards associated with our business and prevent injury and illness in the workplace. Tetra Tech intends to meet its responsibilities for health and safety by committing to the following:

Complying with applicable federal and state standards, laws and regulations,

Designating personnel accountable for implementing H&S programs,

Communicating H&S programs and practices throughout the organization,

Mitigating potential risks through hazard identification and assessment, employee training and safe work practices,

Allocating sufficient resources to the program,

Implementing enforcement and accountability measures, and

Establishing H&S performance standards that meet or exceed national performance levels.

All management are responsible for ensuring that all aspects of the workplace, including offices and project locations, are safe and that any risks, hazards and safety violations brought to their attention are investigated and corrected promptly.

All associates and subcontractors are responsible for complying with Tetra Tech's H&S policy, programs and standards, and conducting their work safely and without detriment to themselves, other employees or property.

Compliance with this policy is mandatory. Willful violation of this policy will be considered cause for disciplinary action up to and including termination.

Dan L. Batrack
Director, Chief Executive Officer and Chief Operating Officer
Tetra Tech, Inc.

(0) Preface

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05-33F SSE Form
05-33F SSE Tracking
05-33F SSE Variance Request Form
05-34 Fatigue Management

05-35 Underground Utilities
05-35F Ground Disturbance Permit
05-36 Drill Rigs
05-37 Critical Lift Plan
05-37F Critical Lift Plan Attachment A
05-37F Manbasket Form
05-38 Safe Load Securing Guidance
05-39 Pre-Trip Assessment Guide
05-40 Safe Fueling Guidance
05-41 Spotter Guidance
05-42 Off-Road Vehicles
05-42F ATV Pre-Ride Inspection Checklist
05-42F Snowmobile Pre-Ride Inspection Checklist
05-43 Reserved
05-44 Scaffolding
05-45 Forklift Safety
05-46 Aerial Lifts
05-47 Spill Prevention and Cleanup
05-48 Electrical Safety – Ground Fault Protection
05-49 Reserved
05-50 Vacuum Trucks
05-51 Hand Tools
05-52 Benzene
05-53 First Aid and CPR Program
05-54 Hazard Assessment – Job Safety Analysis (JSA)
05-55 Infectious Disease Guidance
05-55F Ebola and Infectious Disease Awareness Training
05-55F Ebola Fact Sheet and Guidance
05-55F Office Guidelines for Ebola Affected Locations