RESOLUTION APPROVING AND AUTHORIZING CHAIRMAN TO SIGN TASK ORDER NUMBER 10 WITH HDR ENGINEERING, INC. FOR THE COMPREHENSIVE SITE EVALUATION OF THE CEDAR ISLAND ROAD CLOSED SANITARY LANDFILL

WHEREAS, pursuant to Neb. Rev. Stat. § 23-104(6), the County has the power to do all acts in relation to the concerns of the county necessary to the exercise of its corporate powers;

WHEREAS, pursuant to Neb. Rev. Stat. § 23-103, the powers of the County as a body are exercised by the County Board;

WHEREAS, the County and HDR Engineering, Inc. have previously executed a Multiple Project Agreement for Professional Engineering Services via Resolution 2013-303 in order that HDR Engineering may provide as needed professional engineering services for multiple projects to Sarpy County; and,

WHEREAS, HDR Engineering responded to a Request for Proposals on May 3, 2018 associated with a comprehensive site evaluation of the Cedar Island Road Closed Sanitary Landfill; and,

WHEREAS, after review of the submitted proposals in comparison to the Request for Proposals, the Purchasing Department recommends the award to HDR Engineering for an estimated fee of $21,075.

NOW, THEREFORE, BE IT RESOLVED BY THE SARPY COUNTY BOARD OF COMMISSIONERS THAT this Board hereby approves and adopts the Task Order Number 10 with HDR Engineering, Inc. for the comprehensive site evaluation of the Cedar Island Road Closed Sanitary Landfill, being a supplement to the agreement between Sarpy County and HDR Engineering, Inc. dated August 27, 2013, the same being approved by this Board.

BE IT FURTHER RESOLVED that the Chairman of this Board together with the County Clerk are hereby authorized to execute on behalf of this Board, Task Order Number 10, a copy of which is attached, and any other related documents, the same being approved by this Board.

The above and foregoing Resolution was duly approved by a vote of the Sarpy County Board of Commissioners at a public meeting duly held in accordance with applicable law on this 5th day of June, 2018.

ATTEST:

Chairman, Sarpy County Board

Sarpy County Clerk
May 11, 2018

Beth Garber  
Purchasing/Contract Administrator  
Sarpy County Purchasing Department  
1210 Golden Gate Drive  
Papillion, NE 68046

RE: 2018 Comprehensive Site Evaluation – Cedar island Road Closed Sanitary Landfill  
File: Landfill (H :) abeccard/Cedar Island Road Landfill/2018 Comprehensive Site Evaluation/2018 Ltr to Garber with Consultant Recommendation 5-11-18.docx

Beth:

I have completed my review of the three proposals submitted on May 3, 2018 for the 2018 Comprehensive Site Evaluation for the Sarpy County Cedar Island Road Closed Sanitary Landfill Site. These firms are HDR Corporation (HDR), SCS Engineers (SCS) and Terracon Consultants, Inc. (Terracon). Each of the firms provided the information requested in the RFP and are qualified to perform the work requested in the RFP. HDR’s proposal listed a work effort of 166 person-hours at an average cost of $126.96 per person-hour for a total estimated fee of $21,075. SCS’s proposal listed a work effort of 226 person-hours at an average cost of $129.99 per person-hour for a total estimated fee of $29,377.50. The Terracon proposal listed a work effort of 314.5 person-hours at an average cost of $137.69 per person-hour for a total estimated fee of $43,304.50.

Sarpy County has had a successful professional work relationship with all three firms in the past. HDR has the most experience with the Cedar Island Road site. HDR completed an EPA Greenhouse Gas Reporting Rule Analysis in 2010 and have an existing Multiple Project Agreement for Professional Services dated April 3, 2012 for technical assistance in the preparation of the landfill gas migration control work plan for NDEQ approval in 2012 with follow-up review of the results of that work plan implementation through January 2015.
It is my recommendation that Sarpy County award this project to HDR based upon their previous experience at the Cedar Island Road site and the most competitive hourly rate.

Please contact me with any questions that you may have on this recommendation or if you desire to have a formal letter of recommendation prepared and provided to you.

Sincerely,

Arthur D. Beccard, P.E., BCEE
Manager of Environmental Services
This Task Order pertains to an Agreement by and between County of Sarpy County, Nebraska, (“OWNER”), and HDR Engineering, Inc. (“ENGINEER”), dated April 3, 2012, (“the Agreement”). Engineer shall perform services on the project described below as provided herein and in the Agreement. This Task Order shall not be binding until it has been properly signed by both parties. Upon execution, this Task Order shall supplement the Agreement as it pertains to the project described below.

Task Order Number: 010
Project Name: 2018 Comprehensive Site Evaluation for the Cedar Island Road Closed Sanitary Landfill Site

PART 1.0 Project Description: OWNER has requested assistance from ENGINEER for the 2018 Comprehensive Site Evaluation for the Cedar Island Road Closed Sanitary Landfill Site (Facility) located in Bellevue, Nebraska.

PART 2.0 Scope of Services
The following scope of services is referenced from ENGINEERS May 3, 2018 proposal submitted in response to OWNERS Request for Proposals issued on April 13, 2018. The Task Order shall be in conformity to the specifications and requirements listed within the Request for Proposal and the proposal submitted by ENGINEER.

Objective: The Phase 1 objective is to gather the necessary data, coordinate the project schedule with other members of the project team, and verify that the project objectives are clearly defined and understood by all parties.

The objective for Phase 2 is to gain a thorough understanding of the site history and current conditions and operations of system infrastructure in place at the Cedar Island Road Landfill.

The objective for Phase 3 is to document the results of the site investigation and system evaluation in a clear and concise report.

HDR Activities: The Phase 1 objective will be achieved by preparing and submitting a data request to the County prior to scheduling a project kick-off meeting. The data request will identify the files necessary to perform the comprehensive evaluation of system components.

The Phase 2 objective will be accomplished by reviewing available historical documentation and files including the March 2017 approved Remedial Action Plan (RAP), other previous studies, monitoring data, regulatory correspondence, and site construction documents; preparing an updated site plan; and performing a comprehensive site inspection.

The Phase 3 objective will be accomplished by preparing a Comprehensive Site Evaluation Report within sixty (60) days of the site inspection.

Phase 1 Deliverables: Monthly Invoices and Project Status Reports, Data Request, and Kick-off Meeting Agenda and Minutes.

Phase 2 Deliverables: Updated Site Plan, Immediate Repair Communications, and Site Inspection Report.

**Key Understandings:** The following bullets provide the key understandings and assumptions for this project, scope and fee estimate.

- The County has identified Art Becard as their primary contact.
- Up to three (3) Monthly Invoices and Project Status Reports.
- Up to two (2) key HDR personnel will participate in the project kick-off meeting.
- The kick-off meeting will be held in Sarpy County and will be attended in person by HDR.
- Project data and files from the County will be made available during the kick-off meeting.
- HDR will prepare a Project Specific Health and Safety Plan prior to completing the site visit.
- 2010 and 2017 topography files are in AutoCAD compatible format and have elevated contours.
- Up to three (3) key HDR personnel will participate in the site inspection.
- The site inspection will be completed in a single four (4) hour visit.
- No adjustments to, or modifications of, the existing system components will be performed during the site inspection.
- County will provide personnel and tools necessary to safely access control systems for inspection.
- Inspection will be limited to visual review through photography and note taking.
- Up to two (2) key HDR personnel will participate in the report review meeting.
- The report review meeting will be held in Sarpy County and will be attended in person by HDR.
- Final Comprehensive Site Evaluation Report will be provided in searchable PDF format including up to eight (8) hard copies mailed to the County.
- The general public will not be present during the meeting with County board members.

**Planned Meetings:** Kick-off meeting and Draft Comprehensive Site Evaluation Report Review Meeting.

**PART 3.0 Owner’s Responsibilities:** OWNER is to provide facility-related information to ENGINEER for preparation of a site visit and development of the Comprehensive Site Evaluation Report, upon ENGINEER’s request. Information may include, but not be limited to: historical annual groundwater monitoring reports; historical landfill gas monitoring results; current Remedial Action Plan; NDEQ Correspondence, as-built or design construction drawings; 2017 LiDAR files; 2010 site plan and topography; and site permits. Such information will be provided in a timely manner to allow ENGINEER to meet the schedule in Part 4.0.

**PART 4.0 Scheduled Milestones:**
The following presents the scheduled milestones covered under this scope of work, assuming a notice to proceed (NTP) receipt by May 23, 2018:

- Data request within (5) working days of NTP (May 30, 2018).
- Kick-off meeting agenda at least three (3) days prior to the kick-off meeting (June 4, 2018).
- Kick-off meeting (June 7, 2018).
- Kick-off meeting minutes within (5) working days (June 14, 2018).
- Updated Site Plan (June 20, 2018).
- Site inspection within (5) weeks of NTP (June 27, 2018).
- Immediate repair item communications (June 28, 2018).
- Site Inspection Report within 45 days of inspection (August 8, 2018).
- Draft Comprehensive Site Evaluation Report review meeting (August 17, 2018).
- Final Comprehensive Site Evaluation Report within sixty (60) days of the site inspection (August 24, 2018).

PART 5.0  Compensation: Compensation for ENGINEER’S services under this Task Order shall be based on the schedule of hourly billing rates presented in the May 3, 2018 proposal for the services of ENGINEER’S personnel engaged on the Project, plus direct and other reimbursable expenses. If the scope changes the fees, the not-to-exceed (NTE) amount may be increased by supplemental agreement in accordance with presented billing rates. No payment above the not to exceed limit shall be made without prior approval of an amendment, supported by proper justification, by the OWNER.

Reimbursable Expense shall mean the actual expenses incurred directly or indirectly in connection with the Project for transportation travel, subconsultants, subcontractors, computer usage, telephone, telex, shipping and express delivery, and other incurred expense. ENGINEER will add ten percent (10%) to invoices received by ENGINEER from subconsultants and subcontractors to cover supervision, administrative, and insurance expenses.

ENGINEER anticipates completing this Task Order for an estimated fee of $21,075, including labor and expenses.
The Services described by this Task Order will be performed, and compensation provided, under the terms and conditions of the Multiple Project Agreement for Professional Services dated April 3, 2012, and executed by Sarpy County and HDR.

This Task Order is executed this 5th day of June 2018.

<table>
<thead>
<tr>
<th>COUNTY OF SARPY COUNTY, NEBRASKA</th>
<th>HDR ENGINEERING, INC.</th>
</tr>
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<tbody>
<tr>
<td>&quot;OWNER&quot;</td>
<td>&quot;ENGINEER&quot;</td>
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<tr>
<td>BY:</td>
<td>BY:</td>
</tr>
<tr>
<td>NAME: Donald R. Kelly</td>
<td>NAME: Matthew B. Tondl</td>
</tr>
<tr>
<td>TITLE: Chairman</td>
<td>TITLE: Senior Vice President</td>
</tr>
<tr>
<td>ADDRESS: 1210 Golden Gate Dr. Papillion, Nebraska 68046</td>
<td>ADDRESS: 8404 Indian Hills Drive Omaha, Nebraska 68114</td>
</tr>
</tbody>
</table>

Approved as to Form:

Deputy Sarpy Co. Attorney
HDR appreciates the opportunity to submit this proposal to provide engineering services for the 2018 Comprehensive Site Evaluation for the closed Cedar Island Road Sanitary Landfill. This proposal has been prepared in response to the Request for Proposals issued on April 13, 2018. Selecting the HDR team will provide Sarpy County (County) with an approach that is focused on a methodical, schedule-driven, and quality-assured evaluation. We are constantly pushing boundaries to provide best practices and value-based optimization opportunities to our clients. Specifically, we offer you the following benefits:

Unmatched experience meeting compliance requirements at old, closed landfills with aged infrastructure. Our project team has successfully terminated or cost-effectively resolved post-closure challenges and corrective measure programs at multiple landfills in Nebraska, Iowa and South Dakota communities with similar geology and regional dynamics.

Proven method of tracking, organizing, communicating, and executing compliance requirements leaves zero doubt as to your compliance status. We know your expectation is to maintain a perfect compliance record, executed with assured quality and without a last minute scramble. We implement a proven data- and schedule-driven process to systematically execute facility-specific routine compliance processes that make sure your expectations are met, your collaboration is maintained, and the data and results are understood.

Track record of delivering cost-saving solutions that are simple, innovative, and operationally effective. We thrive on bringing fresh perspectives and cost-saving solutions to our clients by applying our experience of what is already working for other sites in the region regarding post-closure repairs and corrective measures. This fresh perspective of what works at other facilities combined with our familiarity with Nebraska regulations and regulators means we can bring the experience delivering exceptional and award-winning compliance practices from our local and national experience to your direct benefit.

Real, actual, construction and operation cost data. We are able to draw from our recent waste and facility projects in metro areas across the country (including Nebraska facilities) to project future costs in a manner our clients can confidently base their strategic decisions on.

GENERAL FIRM INTRODUCTION
For more than a century, HDR has partnered with clients to shape communities and push the boundaries of what’s possible. Our expertise spans nearly 10,000 employees, in more than 200 locations around the world — and counting. Our engineering, architecture, environmental and construction services bring an impressive breadth of knowledge to every project. HDR is consistently ranked among the top firms by leading industry publications, including Engineering News-Record and Architectural Record. Our responsive approach builds highly collaborative, cross-company teams that open new doors and solve tough problems for clients.

With over 14 years of solid waste experience, we have identified Eric Sonsthagen, PE of our Omaha office as the Project Manager. He is supported by 11 Omaha-based solid waste staff who bring 90 years of combined expertise specifically in the solid waste industry and in Nebraska. Additionally, we bring a team of nearly 1,000 multi-disciplined staff in Omaha as well as more than 200 solid waste professionals throughout the country. These solid waste professionals are dedicated to working in the solid waste industry every single day and have been providing solutions for waste clients for more than 40 years.

Thank you for the opportunity to offer our services for this important work. Should you require further clarification of this proposal, please do not hesitate to contact me at 402.548.5182 or Eric.Sonsthagen@hdrinc.com.

Eric Sonsthagen, PE
Project Manager

Matthew B. Tondl, PE
Senior Vice President
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At the time of this submittal, we have not identified any exceptions.

**GENERAL PROJECT APPROACH**

**SERVICE APPROACH**

Our approach to these projects is derived from an understanding of your project goals and objectives, the reality of the daily demands of your core business, and our proposed project team’s experience developing and refining this approach with similar public solid waste clients at facilities across the Midwest. Simply put, our approach is relentlessly focused on pushing boundaries for best practices and value-based engineering with optimization opportunities.

We recognize that maintenance of a closed landfill is not to be taken lightly, and swings in the industry can cause rapid changes in desires, needs, and goals. That’s why we are well-versed in assisting our clients, like you, with proactive planning, accurate projections, and innovative solutions. While we could tell you the reason for the success of our project approach is due to unmatched technical skill and industry connections, the truth is, the basis of our success is in the proactive and frequent communication, responsiveness, innovation, and collaboration inherent in the process itself.

**PROACTIVE AND FREQUENT COMMUNICATION**

The direct result of proactive and frequent communication between all levels of County and HDR staff is the confidence that we are meeting your expectations, and the trust you have that the goals and objectives of the evaluation are being met. This means everyone from our senior leadership to our entry-level field staff will be expected and encouraged to participate in on-site meetings and interact directly with you to maintain multiple natural lines of communication at all times. The time we dedicate to building relationships and open lines of communication with you and your staff will ultimately result in a confident, low-stress, and high-performing partnership capable of responding to any number of unexpected or new challenges which may arise through the findings of the evaluation.

**RESPONSIVE FLEXIBILITY**

A direct extension of proactive communication is the ability and willingness to be ultra-responsive and highly flexible as the County’s needs dictate, whether due to a change in County staff, vacation schedule or identification of environmental issues during the site evaluation. Our client-focused team has honed this trait through working together to understand problems and develop solutions for our clients on similar projects at each of the referenced facilities listed in following sections.

The benefit to you is a high level of confidence that our team will respond quickly and effectively to unexpected conditions in the field, and will adapt flexibly when scenarios and requirements change.

**COLLABORATIVE PARTNERSHIP**

From our experience working with communities similar to yours, we know you view your consultants as collaborative partners in helping to realize successful outcomes. We share this view, and, like you, hold paramount the importance of building and maintaining partnerships with all members of the regulatory process, including the regulators themselves.

Our experience working closely with NDEQ on solid waste projects across the state (Cities of Grand Island, York, Beatrice and Lincoln) has built a strong rapport with the Waste Management Program. NDEQ trusts the submittals they receive from HDR, which often results in faster review turnaround times and fewer comments. When issues or potential sticking points do arise, we leverage our relationship to float new ideas or situational challenges to engage in meaningful dialogue with the regulators and understand each other’s positions prior to a formal report or comment letter ever being sent.

We also recognize and appreciate the importance of your understanding, buy-in, and participation in the regulatory submittals generated on your behalf.

**EFFORT, INPUT AND INFORMATION NEEDED FROM SARPY COUNTY**

This proposal has assumed the following items will be needed throughout the project on behalf of the County to complete the identified scope of work:

- Host and participation in the project kick-off meeting at a location in Sarpy County.
- The project data files anticipated to be needed for review include, but are not limited to, the following: historical annual groundwater monitoring reports; historical landfill gas monitoring results; current Remedial Action Plan; NDEQ Correspondence, as-built or design construction drawings; 2017 LiDAR files; 2010 site plan and topography; and site permits.
- Project data and files will be provided by the County during the kick-off meeting. Data and files will be provided in electronic format when possible.
- County will provide personnel and tools necessary to safely access control systems for inspection.
- Review and provide comments to the draft Comprehensive Site Evaluation Report.
- Host and participation in the project draft report review meeting at a location in Sarpy County.
- Participate in a presentation to the County Board Members, if requested.

**EXCEPTIONS**

The project data files anticipated to be needed for review include, but are not limited to, the following: historical annual groundwater monitoring reports; historical landfill gas monitoring results; current Remedial Action Plan; NDEQ Correspondence, as-built or design construction drawings; 2017 LiDAR files; 2010 site plan and topography; and site permits.

Project data and files will be provided by the County during the kick-off meeting. Data and files will be provided in electronic format when possible.

County will provide personnel and tools necessary to safely access control systems for inspection.

Review and provide comments to the draft Comprehensive Site Evaluation Report.

Host and participation in the project draft report review meeting at a location in Sarpy County.

Participate in a presentation to the County Board Members, if requested.
PROJECT UNDERSTANDING

The Cedar Island Road Sanitary Landfill (landfill) initially operated as a burn dump in the 1950’s and 1960’s, and the County was issued license # SW-43810872 by NDEQ in October 1973. The site was later converted to a sanitary landfill, which received waste from November 1983 through November 1990. Portions of the site were filled in areas without a bottom liner system prior to 1983. The site was closed with a 24-inch soil cap in several stages, with the final closure occurring in 1991.

The landfill has a solid waste footprint of approximately 80 acres. The groundwater monitoring network was initially installed in 1983 and has gone through multiple expansions and replacements over time. It currently consists of 20 monitoring wells located around the landfill and adjacent property. The site also contains a landfill gas migration monitoring network that was installed in 1988 and has also gone through multiple expansions and now comprises of 38 monitoring probes. A landfill gas migration control system was installed in 2016 to aid in mitigating gas migration. The system consists of five remediation trench locations located on the eastern side of the landfill. A portable blower is connected to the remediation trench locations to extract subsurface gases on an as needed basis, which is dictated by measurements taken in nearby monitoring probes.

The County is seeking a consultant to perform a comprehensive site evaluation of the closed Cedar Island Road Landfill with a particular focus on the landfill cap condition, surface water drainage system, groundwater monitoring system, landfill gas monitoring and control system, and leachate collection system. Other components of the project include meetings with County personnel, document review, preparation of an updated site plan, and a potential presentation to County board members. The evaluation will be coordinated with Art Beccard, Manager of Environmental Services for the County.

PROJECT WORK PLAN (ASSUMES NTP MAY 23, 2018)

We propose to complete the project within three independent phases, which are described in detail below. Each phase includes information on key activities, deliverables, assumptions, approach and techniques proposed.

PHASE 1 | PROJECT INITIATION AND MANAGEMENT (MAY 30 - JUNE 14, 2018)

The Phase 1 objective is to gather the necessary data, coordinate the project schedule with other members of the project team, and verify that the project objectives are clearly defined and understood by all parties. This will be achieved by preparing and submitting a data request to the County prior to scheduling a project kick-off meeting. The data request will identify the files necessary to perform the comprehensive evaluation of system components.

A kick-off meeting will be scheduled at the time of the data request submittal to allow the County time to gather documentation that can be provided during the meeting. In addition to obtaining project files, we will clearly establish the County’s goals and objectives for the project and confirm understanding and expectations of the project processes and deliverables during the kick-off meeting. At this time we will also institute a communication process that will serve to enhance the effective execution of this project.

ACTIVITIES:
- Project team management (schedule, manage, and allocate resources).
- Coordinate production and development of deliverables.
- Project communication (lead contact, coordination, and communication between the Project Team and the County).
- Project filing and close-out.
- Preparation of a Project Management Plan that includes project quality assurance/quality control (QA/QC).
- Preparation of a Project Specific Health & Safety Plan.
- Kick-off Meeting.

DELEVERABLES:
- Monthly Invoices and Project Status Reports.
- Data Request.
- Kick-off meeting agenda in Word or PDF format.
- Kick-off meeting minutes in Word or PDF format.

ASSUMPTIONS:
- The County has identified Art Beccard as their primary contact.
- Up to three (3) Monthly Invoices and Project Status Reports.
- Up to two (2) key HDR personnel will participate in the project kick-off meeting.
- The kick-off meeting will be held in Sarpy County and will be attended in person by HDR.
- Project data and files from the County will be made available during the kick-off meeting.

PHASE 2 | DATA REVIEW AND SITE INSPECTION (JUNE 14 - AUGUST 8, 2018)

The objective for Phase 2 is to gain a thorough understanding of the site history and current conditions and operations of system infrastructure in place at the Cedar Island Road Landfill. This objective will be accomplished by reviewing available historical documentation and files including the March 2017 approved Remedial Action Plan (RAP), other previous studies, monitoring data, regulatory correspondence, and site construction documents; preparing an updated site plan; and performing a comprehensive site inspection.

Our Project Team will review the available historical design and monitoring data regarding the landfill cap condition, surface water drainage system, groundwater monitoring system, landfill gas monitoring and control system, and leachate collection system. The document review will be completed in advance of performing a site inspection to aid in identifying system components and locations for review and inspection during the site visit.

HDR will prepare an updated site plan utilizing County provided files. The updated site plan will identify the location of various existing facility infrastructure included on the 2010 site file and incorporate the 2017 Light Detection and Ranging (LiDAR) topography to provide a minimum contour interval of 2 feet. In addition, where provided by the County in immediately usable format, we will incorporate County specific AutoCAD styles into the updated site plan at the County’s request.
In conjunction with preparing the updated site plan, we will review the previous 2010 site topography against the 2017 topographic survey and create an isopach drawing to identify areas of significant settlement between the two topographies. These areas will be targeted for a focused review during the on-site inspection.

The site inspection will be performed by three (3) HDR personnel and be coordinated with County personnel after data review and preparation of the update site plan. The landfill cap, surface water drainage system, groundwater monitoring system, landfill gas monitoring and control system, and leachate collection system will be inspected during the site visit.

Any items deemed deficient or that are identified as in need of immediate repair will be communicated in a written e-mail and followed up with a telephone call to further discuss. These communications will be held within 24 hours after completion of the on-site inspection. Items of this nature will be further documented in an inspection report that will be provided within forty-five (45) days of the inspection. The inspection report will include opinions of probable cost for each of the identified repair items.

**ACTIVITIES:**
- Historical document and site data review.
- Site Plan update and isopach development.
- Comprehensive site inspection.
- Immediate repair item determination and subsequent communications.
- Site Inspection Report and opinions of probable cost.

**DELIVERABLES:**
- Updated Site Plan in PDF and AutoCAD format.
- Immediate repair item e-mail.
- Site Inspection Report in Word or PDF format.

**ASSUMPTIONS:**
- HDR will prepare a Project Specific Health and Safety Plan prior to completing the site visit.
- 2010 and 2017 topography files are in AutoCAD compatible format and have elevated contours.
- Up to three (3) key HDR personnel will participate in the site inspection.
- The site inspection will be completed in a single four (4) hour visit.
- No adjustments to, or modifications of, the existing system components will be performed during the site inspection.
- County will provide personnel and tools necessary to safely access control systems for inspection.
- Inspection will be limited to visual review through photography and note taking.

**PHASE 3 | COMPREHENSIVE SITE EVALUATION REPORT (AUGUST 8 - AUGUST 24, 2018)**

The objective for Phase 3 is to document the results of the site investigation and system evaluation in a clear and concise report. This task will be accomplished by preparing a Comprehensive Site Evaluation Report within sixty (60) days of the site inspection.

HDR will prepare a draft Comprehensive Site Evaluation Report that includes a discussion of the landfill cap condition and surface water drainage system, current groundwater monitoring system, landfill gas monitoring and control system, leachate collection system, and the potential worst case scenario of long-term management of the landfill and control systems.

The report will also provide recommendations for changes that have been proven to enhance long-term cap stability, identify changes to the groundwater monitoring needed in order to comply with the approved RAP, and long-term changes necessary for monitoring and operation of the landfill gas and leachate systems. The report will contain an annual budgetary opinion of cost that is typically necessary to cover project funding for a similar facility to complete normal site maintenance of the various systems including repairs, groundwater monitoring and testing in accordance with the RAP, and landfill gas and migration control monitoring.

Additionally, the report will provide guidance and specific recommendations for a establishing a reserve fund amount that will provide for funding of post-closure care of a “worst case” scenario versus funding for the normal expected site maintenance and monitoring needs over a 30-year period. The post-closure costs will be developed similarly to the 30-year post-closure fund requirements of Chapter 3 of the Integrated Solid Waste Management Regulations promulgated in Title 132.

After preparation of the draft report, we will coordinate and facilitate a report review meeting to discuss and review County comments. Edits to the draft report will be made to resolve and incorporate the County’s comments prior to finalizing the report. At the County’s request HDR would participate in a County Board meeting to present the report and findings to board members and administrators.

**ACTIVITIES:**
- Preparation of the draft Comprehensive Site Evaluation Report.
- Draft Comprehensive Site Evaluation Report review meeting.
- Preparation of the final Comprehensive Site Evaluation Report.
- Participate in a presentation with County board members, if requested by the County.

**DELIVERABLES:**
- Draft Comprehensive Site Evaluation Report in Word and PDF format.
- Report review meeting agenda in Word or PDF format.
- Report review meeting minutes in Word or PDF format.
- Final Comprehensive Site Evaluation Report in PDF and hard copy.

**ASSUMPTIONS:**
- Up to two (2) key HDR personnel will participate in the report review meeting.
- The report review meeting will be held in Sarpy County and will be attended in person by HDR.
- Final Comprehensive Site Evaluation Report will be provided in searchable PDF format including up to eight (8) hard copies mailed to the County.
- The general public will not be present during the meeting with County board members.

**PROJECT WORK PLAN STAFFING AND HOURS**

Project team member’s hours per phase have been consolidated into the project budget for ease of review and can be found on page 21.
Waste infrastructure is economic challenges through context sensitive solutions. Successful investments keep the big picture in mind, considering a project from traditional boundaries. With an eye on what’s best for your community, we work.

Some of the most innovative solutions come from thinking and responding beyond.

RESPONSIVE AND RELIABLE PROJECT MANAGEMENT. One of our guiding principles, which reflect our values and culture, is to be a trusted advisor. This means we think of our clients’ needs first, beyond what is expected of us as a consultant, and build long-lasting relationships.

INNOVATIVE PROBLEM SOLVING FOR A RAPIDLY CHANGING MARKET. Some of the most innovative solutions come from thinking and responding beyond traditional boundaries. With an eye on what’s best for your community, we work with you to determine where you are with your project, where you want to be and which direction we will take together to reach that goal.

NATIONAL EXPERTISE, STRONG LOCAL PRESENCE. Waste infrastructure is often highly visible in the community and very personal to residents, making local team presence imperative. HDR’s operating philosophy is to be an expertise driven global firm that delivers tailored solutions through a strong local presence.

SUSTAINABLE GROWTH THROUGH INNOVATIVE SOLUTIONS. The most successful investments keep the big picture in mind, considering a project from every angle. This means addressing long-term environmental, community and economic challenges through context sensitive solutions.

For more than a century, HDR has partnered with clients to shape communities and push the boundaries of what’s possible. Our expertise spans nearly 10,000 employees, in more than 200 locations around the world — and counting. Our engineering, architecture, environmental and construction services bring an impressive breadth of knowledge to every project. Our responsive approach builds highly collaborative, cross-company teams that open new doors and solve tough problems for clients.

HDR has successfully provided all the services associated with the Comprehensive Site Evaluation for Cedar Island Road Landfill in Nebraska and across the nation. In addition to our technical qualifications, our unique approach makes us the best choice to continue providing these services.

WATER QUALITY MONITORING & COMPLIANCE REPORTING

Our team has performed water quality monitoring compliance reporting at well over 50 different landfills for a variety of clients. Regulatory and procedurally there is a big difference in how analysis and reporting is conducted at landfills as opposed to hazardous waste type sites. Experience with landfills is critical to timely and accurately complying with each facility’s permit driven water quality compliance reporting. Our project team has that experience.

Long-term post-closure care monitoring represents very significant cost expenditure to the County. Optimization of monitoring systems can result in substantial cost reduction; minimizing the County’s long-term expenditures while not compromising environmental protection. Optimization is an important tool to reduce unnecessary long-term expenditures. Cost savings can be substantial; for example, as a rule of thumb, for every groundwater well that can be deleted from the monitoring system may represent up to $75,000 in savings over a typical 20 to 30 year post closure care life of an older facility. Optimization strategies make environmental programs more cost-effective, without compromising data quality or the ability to make sound decisions. These requests are based on site-specific criteria including groundwater flow velocity, hydraulic conductivity, redundancy along groundwater flow paths, screened intervals, waste stability, and presence of confining layers. HDR’s familiarity with the NDEQ, local geology and experience with similar requests facilitate our ability to successfully optimize water quality monitoring programs.

GROUND WATER ASSESSMENT AND REMEDIATION

HDR is a leader in providing professional technical consulting related to groundwater contamination assessment and remediation at solid waste facilities. We offer a full range of professionals from geologists, chemists, biologists, wetland scientists and engineers that focus on groundwater and surface water related issues solving complex environmental problems with innovative and cost-effective solutions.

OUR HISTORY OF COST-EFFECTIVE SOLUTIONS IN NEBRASKA AND IOWA
effective solutions. We have conducted environmental assessments for numerous public sector clients guiding them through the regulatory process. We are timely with our submittals and very familiar with and enjoy a good working relationship with the NDEQ.

**METHANE MONITORING**

HDR is very experienced in methane gas monitoring. We have successfully achieved optimal results. For example, HDR performed methane monitoring at a Closed Class I landfill for several years, and based on the results we successfully permitted cessation of gas monitoring, reducing the County’s O&M costs.

**LANDFILL GAS MANAGEMENT & GREENHOUSE GAS ALLOWANCES**

HDR’s Landfill Gas Management services are second to none. Several HDR landfill gas projects have recently been the recipient of SWANA Excellence Awards for Landfill Gas Control. Using innovative and cost effective designs to achieve superior results is the cornerstone of HDR’s landfill gas program. HDR maintains a design center for landfill gas projects throughout the Country. HDR staff is fully versed in designing and permitting landfill gas systems, overseeing construction and operating / monitoring the gas systems. HDR has assisted our clients in developing numerous landfill gas-to-energy projects.

**TECHNICAL SERVICES FOR SYSTEM REPAIRS**

The HDR team is experienced in providing technical assistance for a wide variety of system repairs including landfill caps, monitoring systems, stormwater management system, leachate collection systems and landfill gas management systems. Our close proximity to Sarpy County will allow us to respond quickly to minimize response time. Additionally, our team includes the full complement of technical expertise necessary including electrical, mechanical, civil and environmental engineers. As an example, HDR provided a complete evaluation and repair design for a leachate manhole damaged by lightning at a County landfill. Our quick response minimized environmental issues and potential impacts to the closure schedule. HDR recently assisted the same County with stormwater and cap repairs at the Class I landfill.

**BEST MANAGEMENT PRACTICES IN STORMWATER MANAGEMENT**

HDR is uniquely positioned to help our clients given our knowledge of NPDES regulations and familiarity with clients’ operations at their facilities. We assist a variety of municipal and industrial clients in complying with NPDES Phase I stormwater compliance. These facilities range from fleet maintenance centers to airports to coal combustion plants and includes solid waste landfill and recovery facilities. At the core of this compliance is the development of a strong Stormwater Pollution Prevention Plan (SWPPP) and diligent execution of that Plan. A strong SWPPP includes a combination of non-structural Best Management Practices (BMPs) to reduce sources of stormwater pollution and structural BMPs to control and treat stormwater prior to being discharged offsite.

HDR is working with several solid waste clients to evaluate and implement BMPs to manage post construction stormwater runoff. HDR has worked with a client to ensure the incorporation of structural stormwater controls reduced the discharge of sediment and floatables to a nearby creek. In addition, our design effort looks at meeting other holistic stormwater design objective to comply with the local municipality regulations. Another client utilizes HDR staff to review stormwater monitoring data and assist the landfill in selecting appropriate BMPs to reduce the concentrations from operations observed in discharges. We have also helped the same client develop and execute their SWPPP and evaluate the risk for regulation at closed facilities.

Beyond the solid waste industry, HDR is adept at designing and implementing BMPs to selectively treat pollutants providing customized solutions for our clients. Two examples of this include, water recycling and irrigation spraying of a coal pile to reduce dust generation and minimize facility discharge. Additionally, HDR is working with airports to collect and treat de-icing fluids prior to discharge to downstream receiving waters.
PROJECT TEAM

For your project, we have customized a team to leverage the knowledge and experience of our technical resources to effectively meet your goals. Our team members create a stable leadership core and, together, we form a team of solid waste experts and local field personnel with vast experience completing identical services for Midwestern communities similar in size. From top to bottom, our team brings a meaningful familiarity with the County and project leadership, expectations of responsive and efficient delivery inherent in all County projects, and the landfill facility itself.

Identified below is our organization chart which delineates the organizational structure of the team as well as specific areas of responsibility for each team member.

Our team was built to provide the County with a combination of strong local project delivery capabilities and the best technical expertise in the Midwest.

Leading our project team is Eric Sonsthagen, PE, a solution-driven leader with unmatched experience leading and executing similar services at public waste management facilities. Eric brings 14 years of engineering experience on literally hundreds of solid waste projects around the nation. His expertise delivers you a Project Manager who approaches each project as it’s own - bringing innovative ideas and proven best practices that work.

Serving as a project engineer is Lori Calub, PE. Lori has been a practicing Solid Waste Engineer in Nebraska for 26 years. She has been responsible for multiple solid waste management activities in Nebraska, regionally and nationwide including solid waste planning and permitting, feasibility studies/program evaluations for recycling collection systems, composting systems, and transfer stations, managing landfill projects and most recently coal combustion residue (CCR) rule compliance for facilities in Nebraska and surrounding states. Since 1993, she has worked on over 23 permit plans and applications for municipal solid waste landfills, C&D waste landfills, industrial monofills, CCR monofills, transfer stations, and processing/baling facilities – the majority of these were Nebraska facilities.

Megan Seymour, PE will assist with groundwater evaluation and work with Eric to identify the potential for groundwater monitoring network optimization. She is a professional engineer focusing on water quality projects that include groundwater sampling, monitoring, and reporting, assessment of corrective measures, and nature and extent studies. She also specializes in investigations and assessments of hazardous materials impacted properties and contamination plume delineation and source control measures from lined and unlined landfill cells.

Brent Learch, EIT, will support design and field work efforts. Specifically in landfill capping and storm water practices. Brent offers five years of experience in solid waste projects and brings an understanding in landfill permitting and design, leachate collection system design, storm water management design, construction administration, and construction quality assurance.

ORGANIZATION CHART

Our greatest asset is our people.

PROJECT MANAGER
Eric Sonsthagen, PE

PROJECT SUPPORT

Landfill Capping
Eric Sonsthagen, PE
Brent Learch, EIT

Storm Water Practices
Eric Sonsthagen, PE
Brent Learch, EIT

Regulatory
Lori Calub, PE

Groundwater
Megan Seymour, PE

Landfill Gas
Eric Sonsthagen, PE
The capacity to develop a comprehensive study requires experienced solid waste professionals, technical capability, and a collaborative approach. Our project team has been selected based on past success, demonstrated leadership capabilities, specific project experience, and the ability to manage resources for a successful project. Successful projects are those that fulfill the client’s needs, are completed on-time and within a prescribed budget. Achieving this success requires technical proficiency, problem solving abilities, and a team with knowledge and experience.

To date, our experience spans over four decades (1970-present) of providing solid waste engineering services in the Midwest. This includes facility evaluations, financial assurance, tipping fee analyses, airspace utilization reports, landfill permitting, landfill master planning, cell and closure designs, operational fill plans, and environmental monitoring systems. Our clients have relied on us to deliver solutions on their most complex challenges.

The resulting benefit to you is the advantage of having an unrivaled, personable, and County-focused team working to meet the goals and objectives of the requested tasks.

In the end, the best representation of our qualifications lies in the benefits and successes of our long-term clients for whom we’ve completed similar work. The project descriptions and references on the following pages embody project experience of our team that meet and exceed the criteria requested in the RFP.

REFERENCES

Simple, Innovative, Effective:
Our Designs Save Money

VALUE BASED STORMWATER CONTROLS
During fall 2014 while completing construction documents for MWA’s Metro Park East and Metro Park West Landfills, we were instructed to incorporate another consultant’s design for a final cover letdown structure that had previously received bids well outside an acceptable price range. Through a small, but significant, recommended design modification, we reduced construction costs by over $300,000 with a 50% reduction in ongoing maintenance costs and no loss of performance. That’s value engineering in action.

FINAL COVER TIE-IN REVISIONS
While updating site life projections for Cedar Rapids Linn County Solid Waste Agency (CRLCSWA) Site 2 from those of the previous consultant, we identified an inconsistency in the constructed edge of liner with permitted final cover system tie-in points. Rather than requiring waste excavation or a major permitting effort, we creatively resolved the discrepancy while establishing a clear delineation for edge of liner and increasing airspace capacity within Phases 3 and 4 more than 600,000 cubic yards.

MINIMIZATION OF STORM WATER INFILTRATION INTO LEACHATE SYSTEM
Minimizing storm water infiltration into active landfill leachate system during construction and initial stages of waste placement is vitally important to prevent overloading the facility’s leachate management capabilities and the associated operational strains and costs of high volume leachate disposal.

During liner construction projects at two Des Moines area landfills, we developed designs for a sacrificial HDPE rain flap for installation along the exposed edge of existing liners to completely protect the existing granular drainage layers during the entirety of construction. This, combined with a staged removal of the rain flap to coincide with the first lift of waste placement, resulted in a net reduction in potential leachate generation of over 12 million gallons at a negligible cost to the owner.

Additionally, we included provisions for the same type of rain flap at the terminations of the newly constructed cells in preparation for future cell tie-ins.
Solid Waste Engineering Services
York Area Solid Waste Agency
York, NE

HDR began providing groundwater and stormwater services for York Area Solid Waste Agency (YASWA) in 2011 for their closed and active MSW landfills. Our field personnel collect groundwater samples from the existing and historic landfill areas, perform statistical analyses, and prepare a groundwater monitoring report for each groundwater monitoring event. We review and update the Storm Water Pollution Prevention Plan and NPDES Notice of Intent.

In 2012, our partnership grew when we were tasked with preparing a landfill gas remediation plan for the YASWA facility. We prepared a phased landfill gas remediation plan that would allow YASWA to address the gas migration in an economically feasible manner. We designed and installed the system in 2015 which allowed the site to come in compliance by the consent order deadline.

Early in 2013, we prepared a permit renewal document package for YASWA’s C&D landfill. Prior permitting documents were outdated, missing, and not consistent with current operations. Utilizing as many of the existing permits as possible; we were able to minimize reproduction costs. However, once the updates were incorporated, a clear and concise permit renewal document was submitted to NDEQ for approval. No comments were received by the NDEQ on the permit renewal.

Ongoing services included permit renewal application for YASWA MSW landfill in 2015-2016, annual financial assurance updates, review of landfill gas monitoring results and responding to questions as needed, evaluate leachate pump issues and annual budget input.
HDR was initially retained by CRLCSWA in 2008 to provide master planning services to identify improvements necessary to manage additional traffic and accommodate facility users when the Site 1 landfill closed and 200,000 tons of waste per year shifted to the 350-acre greenfield Site 2 landfill. Since that time, the relationship between HDR and CRLCSWA has grown to the point it is today: We currently provide engineering services for all engineering design, construction, planning, operational evaluations, and environmental permitting and regulatory support needs at CRLCSWA Site 2.

Beyond routine site development projects and annual engineering services related to groundwater, gas, storm water, and leachate, our role as CRLCSWA’s engineer includes daily interaction in support of operational decisions and strategic planning at all levels of the organization. Examples of this work acting as an extension of CRLCSWA staff include development of a 3-year operational fill plan, soil borrow usage projections, access road planning and construction, volumetric analysis, financial assurance and budget planning support, Environmental Management System strategic planning, staff training, and implementation of storm water control best management practices.

Specific to environmental monitoring and regulatory compliance, the same project team members proposed for environmental monitoring at your facility have worked together to creatively address landfill gas migration and a benzene contamination plume from unlined cells by a three pronged approach. First, the benzene plume was delineated to an adjacent creek using a temporary Geoprobe sampling regime (in lieu of installing permanent monitoring points) and shown to be confined without need for additional delineation monitoring. Second, modifications were made to the existing outdated and underperforming leachate extraction system utilizing existing system components where possible to save costs while simultaneously increasing the system’s extraction rate ten-fold. Third, data from the gas wellfield was evaluated to identify underperforming wells and to specify recommended actions to improve available well screen, non-functioning wellheads, or leaking bore seals.

KEY FEATURES
- Corrective measures program design and implementation for benzene plume from unlined landfill cells.
- Gas system data review and wellfield performance diagnostics.
- Monitoring network optimization (reduction) and overhaul to outdated sampling and analysis procedures.
- On-call resource for special waste approvals and handling requirements, asbestos management planning, and regulatory interpretations.
- Comprehensive monitoring, reporting, and regulatory support in all phases of environmental compliance: groundwater, storm water, surface water, gas, & leachate.

CONTACT
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Executive Director
1954 County Home Court
Marion, IA 52302
(319) 373-4771
kmcshane@solidwasteagency.org

PROJECT TEAM
Eric Sonsthagen, PE
Mike Classen, PE
Megan Seymour, PE
Lori Calub, PE
Brent Learch, EIT

Solid Waste Engineering Services
Cedar Rapids Linn County Solid Waste Agency
Cedar Rapids, IA
Since designing the original cell of the Metro Park East Landfill in 1970, HDR has provided the complete spectrum of solid waste planning and engineering services to Metro Waste Authority (MWA) in Des Moines, IA. From planning and design of award winning facilities and programs to facilitation of monthly strategic planning sessions and methodical execution of routine regulatory compliance monitoring and reporting, our role as a fully-integrated partner in helping MWA achieve the vision of their solid waste program has extended uninterrupted for five decades.

As Engineer of Record at each of their five primary facilities, we have supported MWA by completing environmental monitoring, compliance, permitting, engineering design, and construction support across a broad array of conventional and alternative solid waste projects. As examples, below is a summary of projects completed by the HDR team specific to the services requested in this RFP:

- Leachate collection, disposal, and recirculation system design, permitting, and operational support, including aeration, evaporation, wetlands treatment, POTW hauling, and load out to direct recirculation.
- Methane migration monitoring system design, monitoring program development, and gas probe installation, including a 30% reduction in annual monitoring requirements and associated costs and improved quality assurance processes.
- Landfill gas system troubleshooting, performance optimization consulting, monthly data validation and analysis, surface emissions monitoring, odor nuisance corrective action, repairs, third-party design reviews and construction administration.
- Air quality permitting and wellfield data management in support of NSPS compliance requirements.
- Site-wide storm water management system design, inspections, soil loss benchmarking, and performance monitoring.
- Special sampling and testing for environmental impacts from landfill programs such as odor, silica, ammonia, leachate overspray, and fugitive dust.
Solid Waste Engineering Services
South Central Iowa Solid Waste Agency
Lucas, Marion, Monroe & Poweshiek Counties, IA

The South Central Iowa Solid Waste Agency landfill (SCISWA) accepts approximately 75,000 tons of waste per year. The 600-acre property on which the landfill is located historically served as a coal strip mine which was subsequently filled with waste as an unlined landfill as far back as the late 1950s.

As the Engineer of Record, HDR provides SCISWA the entire breadth of environmental monitoring, permitting, and compliance; operational and long-term planning; engineering design; construction quality assurance and construction contract administration; and on-call consulting support. Environmental monitoring and compliance support activities include routine groundwater monitoring and water level measurements, storm water and surface water sampling, quarterly methane migration monitoring, air quality compliance, and completion of data analysis and regulatory reporting.

Due to the series of varying regulatory liner design requirements and site uses over the 70-year history of landfill facility, the landfill is faced with managing unique operational and environmental challenges in addition to the traditional compliance challenges faced by all landfills. For example, the same geology and hydrogeology which made the SCISWA property an excellent coal mine also contributes to complex chemical reactions resulting in acid mine drainage leaching from above ground overburden stockpiles scattered throughout the facility and from belowground areas of excavation which have since been filled with waste. Rather than allow groundwater wells with exceedance associated with acid mine drainage to be pushed into costly assessment monitoring and corrective action, HDR team members utilized an alternate source demonstration to show the source of observed exceedances was not the landfill, and helped implement a 15-acre storm water routing and revegetation plan to mitigate the observed impacts.
Solid Waste Engineering Services
City of Lincoln
Lincoln, NE

BLUFF ROAD LANDFILL
Partnered with the City of Lincoln, we have assisted in the design, re-permitting and site upgrades necessary to meet Nebraska Title 132 regulations. We prepared site location descriptions, locational criteria documentation, local and regional hydrogeology summary, assessments of impacts on waters of the state, sequence of site development and fill, composite liner designs, leachate collection system, surface water and storm water controls and plans, final cover and capping plan, groundwater and landfill gas monitoring and corrective action plan, closure and post-closure plan, financial assurance cost estimates and strategy, engineering drawing support, Title V air permits, site volumetrics, landfill gas to energy project development and a storm water site sequencing plan.

In addition, we designed the existing storm water detention facility, Phases 6 through 13 liner system and leachate collection system, an expansion of the City’s yard waste composting pad, Phase 1 - 3 capping, the site screening berms and fencing, a new central leachate load-out station, perimeter access roads, and installation of a groundwater and gas monitoring system.

We also provided construction period services during the construction of Phases 6 to 13 liner and Phases 1 through 3 capping, and the screening structures and leachate load-out station.

Most recently, we prepared, coordinated, and managed field activities for the completion of the hydrogeological study for the future lateral expansion of the Bluff Road Landfill. A Hydrogeological Characterization Report, necessary to meet the Nebraska Title 132 regulations, is required to investigate the suitability of the area for development of future landfill operations and to provide the foundation upon which to establish a permanent environmental monitoring network. Characterization was completed by subsurface exploration through drilling of soil borings, installation of groundwater piezometers, and geotechnical and hydrogeological testing of the soil.

N. 48TH STREET LANDFILL
The N. 48th Street Landfill projects include:
- Design and Construction Services for Landfill Capping and Erosion Control
- Landfill West Capping Design & Construction QA Services, Phase 3, 4, 5 & 6
- Landfill East Capping Design and Construction QA Services, Phases 1, 2 & 3
- Gas Migration Assessment & Control Plan
- Landfill Gas Tier II Analysis, Multiple Events
- Construction & Demolitions Waste Landfill Permitting, Multiple Events
- Financial Assurance and Annual Updates, Multiple Events
- Groundwater and Hydrogeologic Evaluation & Remediation, Ongoing
- Groundwater Assessment & Regulatory Interface
- Site Utilization Evaluation

CONTACT
Ms. Karla Welding
Superintendent of Solid Waste Operations
6001 Bluff Road
Lincoln, NE 68517
(402) 441-7867
kwelding@lincoln.ne.gov

PROJECT TEAM
Mike Classen, PE
Lori Calub, PE
Megan Seymour, PE
When the Dubuque Metropolitan Area Solid Waste Agency (DMASWA) selected HDR as their environmental compliance consultant, it was under the pretense that existing compliance activities and the regulatory relationship were in need of drastic change to avoid regulatory action. Within the first two weeks of working together, a Letter of Inquiry was received by the Iowa DNR prompting even more significant emphasis on completing a complete monitoring system reevaluation and overhaul of the existing regulatory relationship.

The first order of business was to initiate a compliance gap analysis identifying known issues and opportunities, and their respective order of implementation priority based on degree of regulatory violation. As a result, we initiated an aggressive compliance action plan which simultaneously engaged:

- Assessment of corrective measures contamination plume delineation and source control investigation.
- Completion of three (3) missed background sampling events in the series of wells installed in association with the most recent cell liner construction.
- Redevelopment of five (5) groundwater wells with historically elevated turbidity.
- Installation of leachate and groundwater underdrain system piezometers in nine cells to allow monthly monitoring in compliance with Iowa code.

In addition to a complete update to standard monitoring procedures and collaboratively working with regulators to avoid further, more stringent regulatory action, upon review of DMASWA’s existing groundwater monitoring network we identified several key changes which, if implemented, had the potential to save DMASWA significant annual sampling and laboratory analytical costs. This included, but was not limited to:

- Reduction in groundwater analytical sampling frequency for Appendix II parameters from once per year to once every five years.
- Elimination of collection and analysis of dissolved metals and laboratory turbidity during semi-annual sampling events.
- Reduction in the overall number of parameters collected and analyzed during each semi-annual monitoring event based on parameters that have a site-specific history of non-detects and those that have no record of being present in landfill leachate (ongoing).
- Optimization (reduction) in monitoring network from the 40 current monitoring points, based on influence of the groundwater underdrain system on the local groundwater flow regime (ongoing).
- Reduction in groundwater level monitoring frequency from monthly to semi-annually.
Enclosed are the 2018 Hourly Billable Rates for HDR Engineering. These billing rates shall be adjusted annually to reflect any salary adjustments incurred by employees. The rates listed below do not include reimbursable expenses or hourly billing rates for equipment as defined below.

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<th>DESCRIPTION</th>
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<td><strong>ASME DISCIPLINES</strong></td>
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<td>Admin Assistant</td>
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HDR has technical experts in various geographic locations that may be utilized based on specific project need. This specialized expertise is not subject to the above rates and associated billing rates are to be determined at the time of contract negotiation.
Direct Expenses

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<tr>
<td>Survey/GPS Equipment</td>
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Printing:

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OTHER REIMBURSABLE EXPENSES

Reimbursable Expense shall mean the actual expenses incurred directly or indirectly in connection with the Project for transportation travel, subconsultants, subcontractors, computer usage, telephone, telex, shipping and express, and other incurred expense. Unless negotiated otherwise in the contract, ENGINEER will add 10% to invoices received by ENGINEER from subconsultants and subcontractors to cover administrative expenses and vicarious liability. Hourly equipment charges apply to specific equipment used on the project.
QUALITY ASSURANCE/QUALITY CONTROL REVIEW PROCEDURES

Your project calls for accountability and you will find that our attention to detail and adherence to standards leads to successful outcomes. To achieve quality in our work, we have developed a Quality Management System (QMS) based on the fundamental principles and guidelines set forth by the ISO 9001:2008 series of international standards for quality management.

Our QMS provides an important framework for ensuring that we are reaching the highest levels of quality—both for you and for ourselves. We remain focused on continual opportunities for improvement throughout our daily activities to achieve client satisfaction and meet performance expectations. The QMS includes programs, policies, and business processes, and has four key elements:

- **Management Responsibility.** Management actively promotes quality in our business activities and defines responsibilities for maintaining our focus on quality.

- **Resource Management.** Resources are trained, available, and committed to providing quality services.

- **Professional Service Delivery.** Processes and procedures are in place that promote quality in the delivery of our products and services.

- **Measurement, Analysis, and Improvement.** Continual improvement is achieved through performance measurement and identification of areas for improvement.

**Our Policy.** Consistently provide professional services that satisfy statutory and regulatory requirements and that meet or exceed your expectations.

**Our Goal.** Set the industry benchmark for excellence in the services we provide.

A quality work product is one that meets your objective (on-time, on-budget and to your satisfaction) and is prepared in accordance with accepted standards of professional practice. It is the responsibility of our Project Manager and project team to plan and execute each assignment such that the quality of our services is reflected in our deliverables. We expect our professionals to produce quality services, but we also require that Responsible Professionals and Quality Reviewers check service deliverables for conformance to standards and requirements. **You should expect quality from us, without having to ask for it.**

BUDGET AND SCHEDULE CONTROL

For a project to be considered a success, work must be completed on schedule, within budget, and error free. At the start of each project, our project manager prepares a Project Management Plan (PMP) to document all information necessary to execute a successful project.

The PMP is an internal document that serves as a road map for the project team. The PMP defines project resources and includes client contact information, project description, scope of work, deliverables, budget, administration procedures, and filing requirements. It also covers communication methods, such as use of an e-Room, intranet sites, electronic documentation, written documentation, and methods of handling media requests for information. The PMP also includes a project-specific Quality Management Plan which helps maintain high levels of quality in our work efforts.

We use a combination of company-developed tools and procedures for delivering quality and consistency in our work, managing internal tasks, maintaining communication, and staying ahead of schedule and under budget. We are always willing to incorporate new methods as our clients and project work dictates.

RESUMES

Immediately following this page are detailed resumes for our project team.
Eric Sonsthagen, PE
Project Manager, Landfill Capping, Storm Water Practices, Landfill Gas

Eric has 14 years of engineering experience inclusive of over 100 individual solid waste assignments. Eric’s experience includes landfill gas well and groundwater monitoring well installation and monitoring, permitting, and environmental site assessments. His engineering experience includes design, review, and oversight of gas control and mitigation systems, designing construction modifications to gas collection and control systems (GCCS), and oversight and management of construction projects including landfill well installation, cell construction and landfill closure. Eric has experience calculating landfill gas emissions, greenhouse gas (GHG) emissions, and estimating recoverable landfill gas. His permitting experience includes performing landfill locational analysis, Title V permit and renewal applications, minor and major permit modifications, notice of construction applications, New Source Performance Standard (NSPS) reporting, emission inventories and tracking, compliance evaluations, and regulatory assistance.

EDUCATION
BS, Chemical Engineering
(Environental Option)

REGISTRATIONS
Professional Engineer, WA
40-Hour Health and Safety Training (HAZWOPER) with annual 8-hour refresher training
Excavation and Trenching Competent Person
CPN Nuclear Density Gauge Certification
Radiation Safety Officer (RSO)

INDUSTRY TENURE
14 years

RELEVANT EXPERIENCE
City of York, Annual Services, York, NE
Eric has performed an air compliance regulatory applicability review, prepared an Alternative Daily Cover use request to NDEQ, and review of the C&D Landfill permit renewal application services.

Cedar Rapids Linn County Solid Waste Agency, Annual Services, Linn County, IA
Various services for Cedar Rapids/Linn County Solid Waste Agency for 2017 and 2018 including on call services, design of site improvements including a leachate manhole replacement and site civil work including a toe drain and erosion repair, and preparation of a Capacity Study and master plan for potential expansion of the Site 2 landfill.

Waste Management Inc., Closure, Post-Closure Plan and Financial Assurance Cost Updates, Multiple Facilities, OR and WA
Eric was responsible for updating the Closure, Post-Closure Plan and Financial Assurance cost estimate updates for multiple Waste Management landfills located in Oregon and Washington. The updates to the estimated cost for closure, post-closure care for the facilities was based on historical costs escalated to current dollars, as well as current costs to perform the identified activities.

City of Spokane, Revise Closure and Post-Closure Plan and Financial Assurance Plan, Northside Landfill, Spokane, WA
Eric was responsible for technical direction, data review, regulatory evaluation, and report preparation for a Revised Closure and Post-Closure Plan and Updated Financial Assurance Plan for the Northside Landfill located in Spokane, WA. The project was performed to incorporate amendments to the Washington Administrative Code (WAC) 173-351 Criteria for Municipal Solid Waste Landfill that included new performance-based post-closure care standards, the requirement to file an environmental covenant at the time of closure and review of the post-closure financial assurance.

Construction Quality Assurance (CQA) for Phase I Landfill Closure, Campbell River Waste Management Centre, Campbell River, BC
Eric was responsible for development of the Phase I landfill closure plan issued for tender. Design phase tasks included the design plan, technical specifications, engineers construction cost estimate, contractor qualification review, and tender review. The project included integration of a mechanically stabilized earth (MSE) wall to the closure project, design of a drainage piping system associated with the MSE wall, design of the MSE wall storm water drainage channel and culvert, design of a perimeter storm water channel, modifications to an existing down-stream drainage channel including the addition of protective armoring, modifications to the existing transfer station parking lot and pavement, design of a storm water culvert with associated headwalls, design of manholes and roadway catch basins connecting to the storm water culvert, design of a multi-layered closure system including a geomembrane cap, and modifications to the existing frontage roadway pavement.

Comox Strathcona Waste Management, Updated Design, Operations and Closure Plan, Campbell River Waste Management Centre, Campbell River, BC
Eric was responsible for development and preparation of the Updated Design, Operations and Closure (DOC) Plan for the Campbell River Waste Management Centre. The Plan included sited conditions, regulatory requirements, design objectives, landfill operations, surface water control, leachate control, landfill gas control, closure, post closure, and closure and post-closure cost estimates.
Lori has experience in integrated solid waste management. Her efforts involve conceptual site designs for transfer stations, recycling, composting and HHW facilities, transfer station design, solid waste planning and permitting, evaluation of solid waste alternatives, feasibility/economic analyses, waste composition and quantity analyses, mass balance flow diagrams, material recovery rates and capacity analyses of material recovery facilities.

**City of York, Annual Services, York, NE**
Assisted YASWA and their operator, City of York, with landfill gas migration issues and vital communications with NDEQ. Developed the Landfill Gas Migration Action Plan to provide a logical and proactive strategy to control off-site landfill gas migration at the site. The plan considered the contributing sources and migration pathways, and identified remediation activities in a step approach. Subsequently developed the Step 1 Landfill Gas Migration Control Plan and assisted the City with passive control installation and reporting of results. Evaluated additional migration control system options for implementation considerations, pros/cons and probable capital cost, for Step 2. Helped prepare the Step 3 LFG Migration Control Plan for the selected control system, planned activities and quality assurance requirements to satisfy the NDEQ. Directed the development of Standard Operating Procedures for the portable blower system used for the LFG migration control. Work with YASWA staff to ensure that monitoring efforts are being completed and are being reported to the proper agencies to remain in compliance.

**City of Lincoln Landfill Program, Lincoln, NE**
As a Project Engineer, assisted with permitting and permit renewals for the Bluff Road Landfill and the North 48th Street construction and demolition landfill since 1993. Developed capital, operation and maintenance cost estimates on proposed active landfill gas system and energy recovery facility (multiple locations) for the Bluff Road Landfill. This eventually led to assisting the City with development of the RFQ for an active landfill gas collection system at the Bluff Road Landfill and preparing the permit modification to NDEQ.

**Cedar Rapids/Linn County, Iowa Solid Waste Agency, 2016 Engineering Services, Cedar Rapids, IA.**
Updated the Hydrologic Monitoring and Sampling Plan (HMSP) for the CRLCSWA Site 2 landfill. The HMSP includes monitoring wells in detection monitoring, assessment monitoring and groundwater quality delineation monitoring. Updates to the HSMP clearly identified, through tables and figures, which wells were part of each monitoring program.

**Dubuque Metropolitan Area Solid Waste Agency, 2016 Engineering Services, Dubuque, IA.**
Updated the Hydrologic Monitoring and Sampling Plan (HMSP) for the Dubuque Sanitary Landfill. The HMSP includes monitoring wells in detection monitoring, assessment monitoring and a current corrective action. Updates to the HSMP consolidated and eliminated repetitive text and clearly identified through tables and figures which wells were part of each monitoring program. The updated HMSP will be incorporated into the permit renewal.

**Grand Island Regional Landfill, Grand Island, NE.**
Prepared closure and post-closure plan financial assurance estimates and plans for Title 132 permit. Managed and completed NDEQ Title 132 permit renewal applications. Assisted the City in developing operations procedures for accepting and managing significant quantities of sludge/biosolids delivered from their wastewater treatment plant. Project Manager for the two Tier II landfill gas sampling and analysis events. Coordinated conference calls and submittal to the regulatory agency to incorporate revisions to the Groundwater Monitoring Plan which requested approval to change groundwater statistical analysis methods and for installation of replacement monitoring well.

**Waste Management, Inc. of NE, Industrial Waste Monofill, Douglas County, NE**
Project Engineer for developing the original Title 132 permit application, including conditional use zoning and local siting approval, for the Industrial Waste Disposal Area (greenfield site on existing property). Project Manager for the design, construction observation and documentation of the Phase 1 liner; updates to and evaluation of closure and post-closure costs for various closure scenarios; permit renewal services.
Megan Seymour, PE
Groundwater

Megan has been with HDR’s Omaha office since January 2013 where she specializes in groundwater compliance monitoring projects that include sampling, monitoring and reporting, assessment of corrective measures, and nature and extent studies. She also specializes in investigations and assessments of hazardous materials impacted properties for public and private sector clients. She also specializes in Phase I and Phase II Environmental Site Assessments (ESAs), completing Spill Prevention Control and Countermeasure (SPCC) Plans, Stormwater Pollution Prevention (SWPP) Plans, and Air Quality Permitting.

EDUCATION
Master of Science, Environmental Engineering, University of Nebraska
Bachelor of Science, Environmental Engineering, South Dakota School of Mines & Technology

REGISTRATIONS
Professional Engineer, NE

INDUSTRY TENURE
8 years

RELEVANT EXPERIENCE

City of York, Site Groundwater Monitoring, York, NE.
HDR provides for the sampling and analysis of groundwater samples from the York Area Solid Waste Landfill on a semi-annual basis. Activities include collection of groundwater samples from the current operational and historic landfill areas (two landfills), measurement of groundwater levels, measurement of total depth in all monitoring wells, analyses of groundwater samples, performance of statistical analysis of the analytical results, and preparation and submittal a groundwater monitoring and statistical analysis report for each semi-annual groundwater monitoring event as described in the approved Sampling and Analysis Plan.

Cedar Rapids/Linn County Solid Waste Agency, 2015 and 2016 Solid Waste Engineering Services, Cedar Rapids, IA.
Various services for Cedar Rapids/Linn County Solid Waste Agency for fiscal year 2016 and 2016 including on-call services, groundwater sampling, leachate sampling and landfill gas monitoring for three different sites.

Nucor Steel Corp., 2014-2016 Corrective Action Management Unit Sampling and Analysis, NE.
HDR conducted a quarterly assessment of physical and chemical groundwater parameters at Nucor Steel Nebraska’s Corrective Action Management Unit. We used our expertise to take samples using low flow technology and the samples were analyzed for dissolved metals to determine if there is any off-site migration of dissolved metals from capped closure unit.

Valmont Industries, Inc. Valley Facility Environmental Activities, Valley, NE.

Public Power Generation Agency, WEC Ash Disposal Area CCR Compliance Assessment, Hastings, NE.

Omaha Public Power District, CCR Rule Compliance Inspection and Documentation, Omaha, NE.
CCR compliance assessment and documentation for the Nebraska City and North Omaha Stations. Tasks included the CCR Fugitive Dust Control Plans the groundwater monitoring system assessment CCR landfills inspection checklists and annual inspection and stormwater run-on/run-off assessment.

City of Beatrice, NE Board of Public Works, Solid Waste On-Call Services for 2014, Beatrice, NE.
We have been providing solid waste engineering services to the Beatrice Area Solid Waste Agency (BASWA) since 2001. Our initial engineering services consisted of groundwater monitoring and statistical analysis at the site containing the closed Beatrice Landfill and the active baling facility and BASWA MSW Landfill. During the facility permit renewal, we developed a refined and detailed groundwater sampling and analysis plan, with site-specific sampling, analysis, and statistical evaluation methods. The plan refinements included identification of wells that could be removed from the compliance sampling schedule, well registration verification, and Nebraska Department of Environmental Quality (NDEQ) approval to modify historic constituent reporting limits to eliminate false statistically significant changes caused by varying method detection limits with the laboratories.
Brent Learch, EIT
Landfill Capping, Storm Water Practices

Brent is a Solid Waste EIT experienced in solid waste projects including landfill permitting and design, leachate collection system design, storm water management design, construction administration, and construction quality assurance. His responsibilities include design, preparation of plans and specifications, and construction quality assurance.

RELEVANT EXPERIENCE

Metro Waste Authority, 2015 Cell Construction, Des Moines, IA
Project consisted of new cell construction, demolition and reconstruction of capping system in a previously closed portion of the landfill unit, and storm water letdown renovations. Provided construction administration including bidding assistance, shop drawing review, change order preparation and review etc.

Omaha Public Power District, Sideslope Closure Phase 2 Project, Nebraska City, NE
Project consisted of a sideslope final cover system for the existing CCR Monofil and permanent stormwater features. Project consisted of design and construction administration including modeling, specification preparation, bidding assistance, shop drawing review, etc.

Metro Waste Authority, Metro Park East Next Cell Comparative Analysis, Des Moines, IA
Evaluating the optimal cell to develop next between three potential options. Analysis included bulk soil excavation quantities, potential airspace available, storm water controls, customer and operational access, construction costs, and impacts on existing programs and subsequent development.

Metro Waste Authority, Metro Park East Phase II Master Plan Update, Des Moines, IA
Engineering services related to final cover system optimization, development phasing, storm water design and master plan updates for the Phase II municipal solid waste landfill unit at Metro Park East Landfill.

Metro Waste Authority, Metro Park West Sedimentation Area and Borrow Development, Des Moines, IA
Prepared a phased development plan for the Phase II soil borrow and sedimentation basin areas at Metro Park West Landfill. The approximate 20-acre footprint of the Phase II soil borrow and sedimentation basin areas were required for soil borrow and storm water controls through closure of Phase I.

Metro Waste Authority, P54A Cell D North and Stage I Capping Project, Des Moines, IA
Project consisted of new cell construction, final and interim cover systems in an active portion of the landfill, and permanent stormwater features. Project consisted of design and construction administration including modeling, specification preparation, bidding assistance, and shop drawing review, etc.

Cedar Rapids/Linn County Solid Waste Age, 2015 and 2016 Solid Waste Engineering Services, IA
Various services for Cedar Rapids/Linn County Solid Waste Agency for fiscal year FY 2015 and 2016 including on call services, groundwater sampling, leachate sampling and landfill gas monitoring for three different sites.

Cedar Rapids/Linn County Solid Waste Age, Site 2 Leachate System Renovations, IA
Engineering design and bidding phase services for Cedar Rapids/Linn County Solid Waste Agency's Site 2 30 acre closed cell leachate system renovations.

City of Lincoln, Nebraska, Bluff Road Landfill Phase 13 Lincoln, Lancaster, NE
Provided engineering services for basic final design including bidding assistance and basic construction phase services with resident construction observation and inspection services.

Confidential Client, Monofil Cell 7 Design and Construction, Midwest
Produced design documents and cost estimation for Cell 7. Cell 7 is the first of three cells within the critical zone of a levee system. Additional permitting steps were necessary with the USACE prior to cell construction.

EDUCATION
Bachelor of Science, Civil Engineering

REGISTRATIONS
Engineering Intern, Nebraska

INDUSTRY TENURE
4 years
Table 1. Project Budget

Exhibited below is our project budget which includes hourly rates categorized by role/responsibility and skill level with costs for personnel as well as travel and expenses. This includes the total consulting services cost not to exceed $21,075.

<table>
<thead>
<tr>
<th>Phase 1 – Project Initiation and Management</th>
<th>Hours</th>
<th>Labor Hours</th>
<th>$/hr.</th>
<th>Total Labor Expense</th>
<th>TOTAL FEE</th>
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</thead>
<tbody>
<tr>
<td>101 Project Management (Project Guide, EBS, Oversight, Project Setup &amp; Closeout)</td>
<td>12</td>
<td>6 5 4 7</td>
<td>165.00</td>
<td>$4,740</td>
<td>$4,785</td>
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<tr>
<td>102 Internal Project Meetings</td>
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<td>160</td>
<td>$7,380</td>
<td>$7,540</td>
<td></td>
</tr>
<tr>
<td>103 Monthly Invoicing/Progress Reports (Assume 3 months)</td>
<td>3 2 2</td>
<td>150</td>
<td>$8,565</td>
<td>$8,750</td>
<td></td>
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<td>104 Site Specific HASP</td>
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<tr>
<td>105 Data Request</td>
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<td>$9,240</td>
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Table 2. On-Site/Off-Site Hours for each Key Team Member.

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<th>Task Description</th>
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<tr>
<td>2 Data Review and Site Inspection</td>
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<td>16</td>
<td>3</td>
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<tr>
<td>3 Comprehensive Site Evaluation and Report</td>
<td>23</td>
<td>4</td>
<td>22</td>
<td>22</td>
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MUTUAL PROJECT AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT is made as of this 3rd day of April, 2012, between Sarpy County, hereinafter referred to as "OWNER", and HDR Corporation, hereinafter referred to as "ENGINEER," for engineering services as described in this Agreement.

WHEREAS, OWNER desires to retain ENGINEER, a professional engineering firm, to provide professional engineering, consulting and related services ("Services") on one or more projects in which the OWNER is involved; and

WHEREAS, ENGINEER desires to provide such services on such projects as may be agreed, from time to time, by the parties;

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and other good and valuable consideration, the parties agree as follows:

SECTION I. PROJECT TASK ORDER

1.1 This Agreement shall apply to as many projects as OWNER and ENGINEER agree will be performed under the terms and conditions of this Agreement. Each project ENGINEER performs for OWNER hereunder shall be designated by a "Task Order." A sample Task Order is attached to this Agreement and marked as Exhibit "A". No Task Order shall be binding or enforceable unless and until it has been properly executed by both OWNER and ENGINEER. Each properly executed Task Order shall become a separate supplemental agreement to this Agreement.

1.2 In resolving potential conflicts between this Agreement and the Task Order pertaining to a specific project, the terms of the Task Order shall control.

1.3 ENGINEER will provide the Scope of Services as set forth in Part 2 of each Task Order.

1.4 The County’s must provide written approval before any work is performed, which would take cost over the estimated amount provided in this Agreement.

SECTION II. RESPONSIBILITIES OF OWNER

In addition to the responsibilities described in paragraph 6 of the attached "HDR Corporation Terms and Conditions for Professional Services," OWNER shall have the responsibilities described in Part 3 of each Task Order.
SECTION III. COMPENSATION

Compensation for ENGINEER's Services shall be in accordance with Part 5 of each Task Order, and in accordance with paragraph 11 of the attached "HDR Engineering, Inc. Terms and Conditions for Professional Services."

SECTION IV. TERMS AND CONDITIONS OF ENGINEERING SERVICES

The "HDR Engineering, Inc. Terms and Conditions for Professional Services," which are attached hereto, are incorporated into this Agreement by this reference.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first written above.

Sarpy County  
"OWNER"

BY:  

NAME: Rusty Hike  
TITLE: Chairman  
ADDRESS: 1210 Golden Gate Dr. Papillion, NE 68046

HDR ENGINEERING, INC.  
"ENGINEER"

BY:  

NAME: Matthew B. Tondl, PE  
TITLE: Senior Vice President  
ADDRESS: 8404 Indian Hills Drive Omaha, NE 68114
EXHIBIT A

TASK ORDER

This Task Order pertains to an Agreement by and between Sarpy County ("OWNER"), and HDR Engineering, Inc. ("ENGINEER"), dated 4/3/2019 ("the Agreement"). Engineer shall perform services on the project described below as provided herein and in the Agreement. This Task Order shall not be binding until it has been properly signed by both parties. Upon execution, this Task Order shall supplement the Agreement as it pertains to the project described below.

TASK ORDER NUMBER:
PROJECT NAME:

PART 1.0 PROJECT DESCRIPTION:

PART 2.0 SCOPE OF SERVICES TO BE PERFORMED BY ENGINEER ON THE PROJECT:

PART 3.0 OWNER'S RESPONSIBILITIES:

PART 4.0 PERIODS OF SERVICE:

PART 5.0 PAYMENTS TO ENGINEER:

PART 6.0 OTHER:
This Task Order is executed this 20 day of March, 2012.

Sarpy County
"OWNER"

BY: 
NAME: Rusty Hike
TITLE: Chairman
ADDRESS: 1210 Golden Gate Dr.
Dorchester, NE 68230

HDR ENGINEERING, INC.
"ENGINEER"

BY: 
NAME: Matthew B. Tondl, PE
TITLE: Senior Vice President
ADDRESS: 8404 Indian Hills Drive
Omaha, NE 68114
2018 Comprehensive Site Evaluation
Cedar Island Road Landfill
Sarpy County, Nebraska

HDR Engineering, Inc.
Terms and Conditions for Professional Services

1. STANDARD OF PERFORMANCE
The standard of care for all professional engineering, consulting and related services performed or furnished by ENGINEER and its employees under this Agreement will be the care and skill ordinarily used by members of ENGINEER's profession practicing under the same or similar circumstances at the same time and in the same locality. ENGINEER makes no warranties, express or implied, under this Agreement or otherwise, in connection with ENGINEER's services.

2. INSURANCE/INDEMNITY
ENGINEER agrees to procure and maintain, at its expense, Workers' Compensation Insurance as required by statute; Employer's Liability of $250,000; Automobile Liability Insurance of $1,000,000 combined single limit for bodily injury and property damage covering all vehicles, including hired vehicles, owned and non-owned vehicles; Commercial General Liability insurance of $1,000,000 combined single limit for personal injury and property damage; Professional Liability Insurance of $1,000,000 per claim for protection against claims arising out of the performance of services under this Agreement caused by negligent acts, errors, or omissions for which ENGINEER is legally liable. Upon request, OWNER shall be made an additional insured on Commercial General and Automobile Liability insurance policies and certificates of insurance will be furnished to the OWNER. ENGINEER agrees to indemnify OWNER for claims to the extent caused by ENGINEER's negligent acts, errors or omissions.

3. OPINIONS OF PROBABLE COST (COST ESTIMATES)
Any opinions of probable project cost or probable construction cost provided by ENGINEER are made on the basis of information available to ENGINEER and on the basis of ENGINEER's experience and qualifications, and represents its judgment as an experienced and qualified professional engineer. However, since ENGINEER has no control over the cost of labor, materials, equipment or services furnished by others, or over the contractor's methods of determining prices, or over competitive bidding or market conditions, ENGINEER does not guarantee that proposals, bids or actual project or construction cost will not vary from opinions of probable cost ENGINEER prepares.

4. CONSTRUCTION PROCEDURES
ENGINEER's observation or monitoring portions of the work performed under construction contracts shall not relieve the contractor from its responsibility for performing work in accordance with applicable contract documents. ENGINEER shall not control or have charge of, and shall not be responsible for, construction means, methods, techniques, sequences, procedures of construction, health or safety programs or precautions connected with the work and shall not manage, supervise, control or have charge of construction. ENGINEER shall not be responsible for the acts or omissions of the contractor or other parties on the project. ENGINEER shall be entitled to review all construction contract documents and to require that no provisions extend the duties or liabilities of ENGINEER beyond those set forth in this Agreement. OWNER agrees to include ENGINEER as an indemnified party in OWNER's construction contracts for the work, which shall protect ENGINEER to the same degree as OWNER. Further, OWNER agrees that ENGINEER shall be listed as an additional insured under the construction contractor's liability insurance policies.

5. CONTROLLING LAW
This Agreement is to be governed by the law of the state where ENGINEER's services are performed.

6. SERVICES AND INFORMATION
OWNER will provide all criteria and information pertaining to OWNER's requirements for the project, including design objectives and constraints, space, capacity and performance requirements, flexibility and expandability, and any budgetary limitations. OWNER will also provide copies of any OWNER-furnished Standard Details, Standard Specifications, or Standard Bidding Documents which are to be incorporated into the project. OWNER will furnish the services of soil/geotechnical engineers or other consultants that include reports and appropriate professional recommendations when such services are deemed necessary by ENGINEER. The OWNER agrees to bear full responsibility for the technical accuracy and content of OWNER-furnished documents and services.

7. SUCCESSORS AND ASSIGNS
OWNER and ENGINEER, respectively, bind themselves, their partners, successors, assigns, and legal representatives to the covenants of this Agreement. Neither OWNER nor ENGINEER will assign, sublet, or transfer any interest in this Agreement or claims arising therefrom without the written consent of the other.

8. RE-USE OF DOCUMENTS
All documents, including all reports, drawings, specifications, computer software or other items prepared or furnished by ENGINEER pursuant to this Agreement, are instruments of service with respect to the project. ENGINEER retains ownership of all such documents. OWNER may retain copies of the documents for its information and reference in connection with the project; however, none of the documents are intended or represented to be suitable for reuse by OWNER or others on extensions of the project or on any other project. Any reuse without written verification or adaptation by ENGINEER for the specific purpose intended will be at OWNER's sole risk and without liability or legal exposure to ENGINEER, and OWNER will defend, indemnify and hold harmless ENGINEER from all claims, damages, losses and expenses, including attorney's fees, arising or resulting therefrom. Any such verification or adaptation will entitle ENGINEER to further compensation at rates to be agreed upon by OWNER and ENGINEER.

9. TERMINATION OF AGREEMENT
OWNER or ENGINEER may terminate the Agreement, in whole or in part, by giving seven (7) days written notice, if the other party substantially fails to fulfill its obligations under the Agreement through no fault of the terminating party. Where the method of payment is "lump sum," or cost reimbursement, the final invoice will include all services and expenses associated with the project up to the effective date of termination. An equitable adjustment shall also be made to provide for termination settlement costs ENGINEER incurs as a result of commitments that had become firm before termination, and for a reasonable profit for services performed.

10. SEVERABILITY
If any provision of this agreement is held invalid or unenforceable, the remaining provisions shall be valid and binding upon the parties. One or more waivers by either party of any provision, term or condition shall not be construed by the other party as a waiver of any subsequent breach of the same provision, term or condition.

(2/2011)
11. INVOICES
ENGINEER will submit monthly invoices for services rendered and OWNER will make prompt payments in response to ENGINEER’s invoices.

ENGINEER will retain receipts for reimbursable expenses in general accordance with Internal Revenue Service rules pertaining to the support of expenditures for income tax purposes. Receipts will be available for inspection by OWNER’s auditors upon request.

If OWNER disputes any items in ENGINEER’s invoice for any reason, including the lack of supporting documentation, OWNER may temporarily delete the disputed item and pay the remaining amount of the invoice. OWNER will promptly notify ENGINEER of the dispute and request clarification and/or correction. After any dispute has been settled, ENGINEER will include the disputed item on a subsequent, regularly scheduled invoice, or on a special invoice for the disputed item only.

OWNER recognizes that late payment of invoices results in extra expenses for ENGINEER. ENGINEER retains the right to assess OWNER interest at the rate of one percent (1%) per month, but not to exceed the maximum rate allowed by law, on invoices which are not paid within thirty (30) days from the date of the invoice. In the event undisputed portions of ENGINEER’s invoices are not paid when due, ENGINEER also reserves the right, after seven (7) days prior written notice, to suspend the performance of its services under this Agreement until all past due amounts have been paid in full.

12. CHANGES
The parties agree that no change or modification to this Agreement, or any attachments hereto, shall have any force or effect unless the change is reduced to writing, dated, and made part of this Agreement. The execution of the change shall be authorized and signed in the same manner as this Agreement. Adjustments in the period of services and in compensation shall be in accordance with applicable paragraphs and sections of this Agreement. Any proposed fees by ENGINEER are estimates to perform the services required to complete the project as ENGINEER understands it to be defined. For those projects involving conceptual or process development services, activities often are not fully definable in the initial planning. In any event, as the project progresses, the facts developed may dictate a change in the services to be performed, which may alter the scope. ENGINEER will inform OWNER of such situations so that changes in scope and adjustments to the time of performance and compensation can be made as required. If such change, additional services, or suspension of services results in an increase or decrease in the cost of or time required for performance of the services, an equitable adjustment shall be made, and the Agreement modified accordingly.

13. CONTROLLING AGREEMENT
These Terms and Conditions shall take precedence over any inconsistent or contradictory provisions contained in any proposal, contract, purchase order, resolution, notice-to-proceed, or like document.

14. EQUAL EMPLOYMENT AND NONDISCRIMINATION
In connection with the services under this Agreement, ENGINEER agrees to comply with the applicable provisions of federal and state Equal Employment Opportunity for Individuals based on color, religion, sex, or national origin, or disabled veteran, recently separated veteran, other protected veteran and armed forces service medal veteran status, disabilities under provisions of executive order 11248, and other employment, statutes and regulations, as stated in Title 41 Part 60 of the Code of Federal Regulations § 60-1.4 (a-f), § 60-300.5 (a-e), § 60-741 (a-e).

15. HAZARDOUS MATERIALS
OWNER represents to ENGINEER that, to the best of its knowledge, no hazardous materials are present at the project site. However, in the event hazardous materials are known to be present, OWNER represents that to the best of its knowledge it has disclosed to ENGINEER the existence of all such hazardous materials, including but not limited to asbestos, PCB’s, petroleum, hazardous waste, or radioactive material located at or near the project site, including type, quantity and location of such hazardous materials. It is acknowledged by both parties that ENGINEER’S scope of services do not include services related in any way to hazardous materials. In the event ENGINEER or any other party encounters undisclosed hazardous materials, ENGINEER shall have the obligation to notify OWNER and, to the extent required by law or regulation, the appropriate governmental officials, and ENGINEER may, at its option and without liability for delay, consequential or any other damages to OWNERS, suspend performance of services on that portion of the project affected by hazardous materials until OWNER: (i) retains appropriate specialist consultant(s) or contractor(s) to identify and, as appropriate, abate, remediate, or remove the hazardous materials; and (ii) warrants that the project site is in full compliance with all applicable laws and regulations. OWNER acknowledges and agrees that ENGINEER is performing professional services for OWNER and that ENGINEER is not and shall not be required to become an "arranger," "operator," "generator," or "transporter" of hazardous materials, as defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), which are or may be encountered at or near the project site in connection with ENGINEER’s services under this Agreement. If ENGINEER’s services hereunder cannot be performed because of the existence of hazardous materials, ENGINEER shall be entitled to terminate this Agreement for cause on 30 days written notice. To the fullest extent permitted by law, OWNER shall indemnify and hold harmless ENGINEER, its officers, directors, partners, employees, and subcontractors from and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) caused by, arising out of or resulting from hazardous materials, provided that (i) any such cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or injury to or destruction of tangible property (other than completed Work), including the loss of use resulting therefrom, and (ii) nothing in this paragraph shall obligate OWNER to indemnify any individual or entity from and against the consequences of that individual’s or entity’s sole negligence or willful misconduct.

16. EXECUTION
This Agreement, including the exhibits and schedules made part hereof, constitute the entire Agreement between ENGINEER and OWNER, supersede and controls over all prior written or oral understandings. This Agreement may be amended, supplemented or modified only by a written instrument duly executed by the parties.

17. LIMITATION OF LIABILITY
ENGINEER’s and its employees’ total liability to OWNER for any loss or damage, including but not limited to special and consequential damages arising out of or in connection with the performance of services or any other cause, including ENGINEER’s and its employees’ professional negligent acts, errors, or omissions, shall not exceed the greater of $50,000 or the total compensation received by ENGINEER hereunder, except as otherwise provided under this Agreement, and OWNER hereby releases and holds harmless ENGINEER and its employees from any liability above such amount.

18. LITIGATION SUPPORT
In the event ENGINEER is required to respond to a subpoena, government inquiry or other legal process related to the services in connection with a legal or dispute resolution proceeding to which ENGINEER is not a party, OWNER shall reimburse ENGINEER for reasonable costs in responding and compensate ENGINEER at its then standard rates for reasonable time incurred in gathering information and documents and attending depositions, hearings, and trial.

19. UTILITY LOCATION
If underground sampling/testing is to be performed, a local utility locating service shall be contracted to make arrangements for all utilities to determine the location of underground utilities. In addition, OWNER shall notify ENGINEER of the presence and location of any underground utilities located on the OWNER’s property which are not the responsibility of private/public utilities. ENGINEER shall take reasonable precautions to avoid damaging underground utilities that are properly marked. The OWNER agrees to waive any claim against
ENGINEER and will indemnify and hold ENGINEER harmless from any claim of liability, injury or loss caused by or allegedly caused by ENGINEER's damaging of underground utilities that are not properly marked or are not called to ENGINEER's attention prior to beginning the underground sampling/testing.
Sarpy County Purchasing Department

Request for Proposals

Engineering Services
For the
2018 Comprehensive Site Evaluation for the Cedar Island Road Closed Sanitary Landfill Site
NDEQ Facility ID 63334

Introduction

Sarpy County is seeking proposals for engineering services for the 2018 Comprehensive Site Evaluation for the Cedar Island Road Closed Sanitary Landfill Site, NDEQ Facility ID 63334. Proposals will be accepted until 12:00 p.m., Thursday, May 3, 2018. Requests for information and clarification questions must be received by April 26, 2018 at 12:00 p.m. in order for Sarpy County to have time to issue an addendum.

There will be a non-mandatory pre-proposal conference at the Cedar Island Landfill on Tuesday, April 24, 2018 at 10:00 a.m. The landfill is located on Cedar Island Road between Cornhusker and Giles Roads and 26th and 25th Streets. We will meet at a location on Cedar Island Road. This will be the only time firms will be allowed onsite with Sarpy personnel.

Proposal criteria must be received online in the bid portal or from Beth Garber, Purchaser, 1210 Golden Gate Drive, Suite 1220, Papillion, NE 68046, (402) 593-4476, bgarber@sarpy.com.

Firms that obtain specifications from external internet sites are responsible for obtaining any addenda that may be added at a later time.

Electronic copies of the proposal must be sent online using the online bid system. Hard copies are not necessary.

All proposals submitted shall be valid for a period of ninety (90) days following the final date for submission of bids.

Sarpy County will not be liable for costs incurred by firms for proposal preparation, printing, demonstration, or any other costs associated with or incurred in reliance on proposal creation. All such costs shall be the responsibility of the firm.
Background Information

- Sarpy County responsible for environmental activities related to former use as a sanitary landfill site.
- Site is 197.7 acres in extent with a solid waste footprint of about 80 acres.
- The site is owned by the City of Bellevue (142.23 acres), City of Omaha (49.7 acres in Swanson Park) and OPPD (6.0 acres).
- The site was initially a City of Bellevue burning dump starting in the 1950’s to 1960’s.
- NDEQ license # SW-43810872 issued to Sarpy County in October 1973.
- Groundwater monitoring system initially installed 1983 with multiple expansions to current set of 20 monitoring wells.
- NDEQ approved Remedial Action Plan (RAP) on March 30, 2017
- Landfill gas monitoring system initially installed 1988 with multiple expansions to current set of 38 monitoring probes.
- A landfill gas migration control system was installed in 2016 with operation as needed to control off-site gas migration.
- The site has no other regulatory permits.

Scope of Services – Comprehensive Site Evaluation

1. Meet with Sarpy County Environmental Services and Sarpy County Administration to discuss goals of this comprehensive site evaluation.

2. Review available file documents, including current RAP, previous studies, NDEQ correspondence and site construction documents.

3. Prepare a current topographic survey with contour interval of 2 feet, minimum, using 2017 LIDAR file data provided by Sarpy County Information Services. This topographic survey is to be annotated with all ground water monitoring wells, landfill gas monitoring probes, storm water drainage systems, structures and other surface features as shown on enclosed 2010 topographic survey prepared by TD2. AutoCAD drawings that contain many of these site features will be provided by Sarpy County.

4. On-site inspection with personnel from Sarpy County Environmental Services of areas identified on topographic survey or aerial photos that have potential needs for immediate repair and long-term maintenance activities.

5. Communicate verbally or via email within one business day of on-site inspection noted deficiencies or items for immediate repair and attention. Submittal of an inspection report with recommendations for immediate repairs and cost estimate for those repairs within 45 days of the on-site inspection.

6. Submittal of draft Comprehensive Site Evaluation report within 60 days of the on-site inspection that provides recommendations for the following items:

   a. Evaluation of current landfill cap condition and surface water drainage system with recommendations for changes to enhance long-term cap stability.
b. Evaluation of current groundwater monitoring system with recommendations for changes as needed to maintain compliance with NDEQ approved RAP.

c. Evaluation of current landfill gas monitoring / control system with recommendations for changes for long-term monitoring and operation.

d. Evaluation of current leachate collection system with recommendations for changes for long-term operation.

e. Discussion of “worst case” scenario that Sarpy County should plan for in the long-term management of this site.

f. Recommendation for annual budget amount to provide adequate resources for normal site maintenance/repairs, groundwater monitoring and landfill gas monitoring / migration control.

g. Recommendation for reserve fund amount that will provide for funding to resolve a “worst case” scenario situation and/or provide funds for the normal site maintenance/repairs, groundwater monitoring and landfill gas monitoring / migration control over a 30-year period similar to the 30-year post-closure fund required by NDEQ for the Sarpy County Fairview Road site.

7. Meet with Sarpy County Environmental Services and Sarpy County Administration to discuss review comments of the draft Comprehensive Site Evaluation report.

8. Revisions to the draft Comprehensive Site Evaluation Report that resolve Sarpy County review comments and submittal of 8 hard copies of a final report and one electronic copy in a searchable PDF format.

9. Presentation to interested Sarpy County Board members, if requested by Sarpy County Administrators, in a non-public meeting.

Attachments

1. 2017 Aerial photo from Sarpy County GIS with the site limits shown.
2. 2010 Topographic Survey prepared by TD2 that show site features to be annotated onto new topographic map.
3. 2017 NDEQ approved Title 118 RAP with Groundwater Sampling and Analysis Plan.
4. 2016 Construction plans and details for soil vapor extraction system for landfill gas migration control.
Proposal Content and Format Requirements

Consultants shall use the below format to submit a proposal. Proposals shall be within the page limitations defined below.

1. **Cover Sheet – 1 page**

   General introduction of the Firm. Include the parent firm address and the local firm address, if applicable. List the contact information of the project manager including name, office location, phone number, and email address.

2. **Table of Contents**

   Each page should be numbered for ease of reference.

3. **Exceptions – 1 page**

   List any exceptions to this proposal as identified above.

4. **General Project Approach – 1 page**

   4.1 Describe the approach you would use in providing services for this project. Include the techniques, procedures, documents and tools you would use.

   4.2 Define the effort, input, and/or information you would need from the County.

5. **Project Schedule and Work Plan – 2 pages**

   5.1 Consultant should provide a timetable for the work requested, which will show the approximate times when key activities will occur and their general sequence.

   5.2 A project work plan should be constructed to show the estimated number of hours each person will work per task as determined by the Consultant. This should include the hours’ team members will perform on-site work and project time by support staff.

6. **Qualifications of the Consultant – 3 pages**

   6.1 Provide a brief description of the firm, including a description of the firm’s experience in storm water management best practices.

   6.2 Organization Chart—Provide an organization chart of the proposed team, which identifies the project manager and any subconsultants. The chart should show the organizational structure of the team, the scope of services provided by each team member and the names of all key personnel. Include specialty subconsultants that you would expect to use on this type of project. Provide a brief description of relevant experience from this team.
7. **References**
   Describe three (3) similar projects in the last 10 years for which your firm has successfully provided services. The descriptions should include:
   - Client name, contact person, address and telephone number
   - Project name and location
   - Project team
   - Project scope

8. **Billing Rates**
   Provide your current standard hourly billing rates for each labor category, including subconsultants.

9. **Other**
   Provide any other information regarding your qualifications that you feel is appropriate for consideration for this project.

10. **Project Budget – 1 page**
   Shall be the total consulting services cost for the project including personnel, travel and expenses. This cost should be a not-to-exceed amount. Include hourly rate(s) categorized by role/responsibility and skill level that might be applicable to any changes/additions to the scope of work. If necessary, the County reserves the right to extend the agreement per the change order policy.

<table>
<thead>
<tr>
<th>Example of Project Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personnel</strong></td>
</tr>
<tr>
<td>Consultants</td>
</tr>
<tr>
<td>(listed separately)</td>
</tr>
<tr>
<td>Support Staff</td>
</tr>
<tr>
<td>(listed by position)</td>
</tr>
<tr>
<td>Subtotal Personnel</td>
</tr>
<tr>
<td><strong>Travel</strong></td>
</tr>
<tr>
<td>Airfare, auto, etc.</td>
</tr>
<tr>
<td>Lodging</td>
</tr>
<tr>
<td>Meals</td>
</tr>
<tr>
<td>Other (list major items)</td>
</tr>
<tr>
<td>Subtotal Travel</td>
</tr>
<tr>
<td><strong>Supplies &amp; Other</strong></td>
</tr>
<tr>
<td>Office Supplies</td>
</tr>
<tr>
<td>Telephone</td>
</tr>
<tr>
<td>Postage</td>
</tr>
<tr>
<td>Reproduction</td>
</tr>
<tr>
<td>Subtotal Supplies &amp; Other</td>
</tr>
<tr>
<td><strong>Total Budget</strong></td>
</tr>
</tbody>
</table>


11. Sample Agreement – no page limit defined

If Consultant has a standard agreement, it should be included within this section. The agreement should take into account this RFP along with the proposal submitted by the Consultant. The final agreement must be approved by the Sarpy County Attorney’s Office and Board of Commissioners.

Selection Procedures

After an initial review of each of the proposals for completeness, Consultants may be invited for interviews prior to final selection. The County reserves the right to award a contract without holding interviews, in the event the written proposals provide a clear preference on the basis of the criteria described.

The following criteria will be used in evaluating and selecting the prospective consultant:

1. Clarity of the proposal submitted and responsiveness to this RFQ.

2. Project Team Qualifications: relevant qualifications, education and experience of the individuals and firms who will provide the services. The Contractor is expected to have sufficient staff and resources to meet the requirements of the contract including redundancy of qualified personnel such that key persons can be readily replaced, with County’s pre-approval, in the event of illness, employment change or other reason.

3. Firm Experience and Ability: The successful Consultant is expected to have successfully provided a full range of services as described above for at least three (3) similar projects in the last 10 years.

4. Project Control: Quality and performance of previous projects, record of budget and schedule performance, and adequacy of quality assurance and control.

5. Proposed project budget

6. Any other criteria deemed relevant to the selection.

7. Tentative Schedule

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>RFP Released</td>
<td>April 13, 2018</td>
</tr>
<tr>
<td>Pre-Proposal Meeting</td>
<td>April 24, 2018</td>
</tr>
<tr>
<td>Deadline for submission of questions</td>
<td>April 26, 2018</td>
</tr>
<tr>
<td>Proposals Due</td>
<td>May 3, 2018</td>
</tr>
<tr>
<td>Contract Approved by Board of Commissioners</td>
<td>May 22, 2018</td>
</tr>
</tbody>
</table>
Sarpy County Cedar Island Road Closed Sanitary Landfill Site With Adjacent Areas That Have Groundwater Monitoring Wells.

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the source records and information sources to ascertain the usability of the information.
TITLE 118 REMEDIAL ACTION PLAN

SARPY COUNTY CEDAR ISLAND ROAD
CLOSED SANITARY LANDFILL
BELLEVUE, NEBRASKA

December 2016
Revised March 16, 2017

Prepared By:
Arthur D. Beccard, P.E.
Manager of Environmental Services
Sarpy County, Nebraska

Attachment 3 to RFP - 24 pages
INTRODUCTION

The Sarpy County Cedar Island Road sanitary landfill operated at this site November 1983 through November 1990 in compliance with all Nebraska Department of Environmental Quality (NDEQ) licenses requirements. Please see attached Site Plan provided as Exhibit 1. Portions of this site were previously filled prior to 1983 without a bottom liner. The site groundwater has been monitored starting with 5 groundwater monitoring wells constructed in 1983 and supplemented by two additional wells in 1990, one additional well in 1991, seven additional wells installed in 1993 and six more in 2009. Several wells have been replaced as needed to provide representative groundwater sampling points.

It has been determined that the groundwater at this site has been contaminated as a result of a release from the landfill. The primary contaminants of concern detected in the groundwater are volatile organic compounds (VOCs) and metals. NDEQ compared contaminant concentrations detected in the groundwater to maximum contaminant levels (MCLs) and NDEQ Voluntary Cleanup Program (VCP) Remediation Goals (RGs) for tap water to determine the significance of the contamination. MCLs are established by Nebraska Title 118 – Groundwater Quality Standards and Use Classification.

The nature and extent of the groundwater pollution occurrence was characterized by phased investigations and by the installation / long-term sampling of the groundwater monitoring wells. The characterization was initiated in response to concentrations of VOCs that exceeded MCLs during a groundwater sampling event in 1992. Groundwater samples collected from the monitoring well network determined that the groundwater contamination is confined onsite, with no offsite migration.

Contamination at the site is limited in the downgradient extent by the perennial stream Squaw Creek, which represents a hydrogeologic barrier to the flow of contaminated groundwater. Additionally, the groundwater contamination is limited to the upper saturated soils, which are perched above a dense glacial till. The underlying glacial till is characterized by very low hydraulic conductivity, and acts as an effective aquitard separating the contaminated groundwater from lower units. Regionally, groundwater is drawn from these lower water-bearing units for private and public use.

The main exposure pathway at the site would be ingestion of contaminated groundwater, however, investigations conducted by Sarpy County have shown that contamination is limited to an upper impacted hydrologic unit, and is not migrating offsite. There is one drinking water well located within 500 feet of the area of contamination. This well is installed in the lower regional aquifer, is located cross-gradient of the site, and has not detected any site-related contaminants of concern.

In August of 2016 NDEQ published “Proposed Remedial Action Decision” and in October 2016, requested that Sarpy County prepare this Remedial Action Plan (RAP). NDEQ has assigned a Remedial Action Class 2 (RAC-2) for this pollution event. A RAC-2 is appropriate for this pollution event because it has impacted an aquifer which has the potential of being used as a public or
private water supply and because the only domestic well within 500 feet of the site is not threatened by the pollution occurrence.

**PLAN OVERVIEW**

The RAP consists of the following items:

1. **Long Term Monitoring of Groundwater**
   
   Long term monitoring will assure early detection of any significant changes in groundwater conditions and demonstrate achievement of final clean-up goals within a reasonable period of time. The existing groundwater well locations are provided on Exhibit 2 of this plan. The most current Sampling and Analysis Plan (SAP) is provided as Exhibit 3 of this plan.

2. **Landfill Cap Maintenance**
   
   Landfill cap maintenance is a presumptive remedy that inhibits the formation of leachate.

3. **Institutional Controls**
   
   Institutional controls prevent human exposure to the groundwater contamination by prohibiting the installation of domestic water wells in the vicinity of the Cedar Island Road Closed Sanitary Landfill site. Please see attached Site Plan that shows the 500-foot setback area provided as Exhibit 1.
**Long Term Monitoring of Groundwater**

Sarpy County will use the following groundwater monitoring schedule as listed in the current Sampling and Analysis Plan (SAP) dated February 2017.

<table>
<thead>
<tr>
<th>1st Quarter</th>
<th>2nd Quarter</th>
<th>3rd Quarter</th>
<th>4th Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Monitoring Wells 5, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 and 21: Acetone, Arsenic, Benzene, Beryllium, Cadmium, Chlorobenzene, Chloroethane, Chloroform, Chloromethane, Cobalt, 1, 4-Dichlorobenzene, Dichlorodifluoromethane, 1,1-Dichloroethene, 1, 2-Dichloroethane, 1,1-Dichloroethene, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, 1, 2-Dichloropropane, Ethylbenzene, Lead, Methylene Chloride, Nickel, Selenium, Tetrachloroethene, Toluene, Total Xylenes, 1,1,1-Trichloroethane, Trichloroethene, Trichlorofluoromethane, Vanadium, Vinyl Chloride, Total Iron</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Iron is to be sampled as an additional parameter for one or more sampling events until notification is provided to suspend (per February 2, 2016 request of NDEQ).

Monitoring Wells 1, 2, 3, 4, 6, and 10 will be measured for water levels only.

All sampling shall be done in accordance with the most current revision of the SAP dated February 1, 2017 currently being used for the routine monitoring of the Sarpy County Closed Cedar Island Road landfill.
Landfill Cap Maintenance

The City of Bellevue provides annual mowing of the landfill cap. Sarpy County inspects the landfill cap on a periodic basis and schedules maintenance and/or repairs as needed. Several cap repair projects occurred in 2010 to remove surface water ponding areas by placing additional cover soils and to repair storm drainage pipes that were damaged by settlement.

Institutional Controls

Sarpy County shall institute a watch area to monitor and prevent the installation of new private drinking water wells within 500 feet of the site. This will be accomplished by the following:

1. Annually search the groundwater well records of the Nebraska Department of Natural Resources for new registered wells in Section 21 and the North ½ of Section 28, Township 14 North, Range 13 East, Sarpy County Nebraska and verify that any new registered wells are more than 500 feet from the limits of the site.

2. Annually drive the impacted area and inspect with a windshield survey for any signs of groundwater well development within 500 feet of the site.

3. If during the conduct of the annual records search or inspections noted in 1 and 2 above, a new well is discovered within 500 feet of the site, Sarpy County shall provide that user with bottled water until the user is provided with a public or private water source more than 500 feet from the site and the new well within 500 feet is abandoned.
Remedial Action Completion

Remedial Action shall be considered complete when the following occurs:

1. No new contaminants have been found for three consecutive years.
2. The maximum level of any of the following contaminants is no greater than the Table below for three consecutive years.

| Proposed Final Cleanup Levels for Sarpy County Cedar Island Closed Sanitary Landfill |
|----------------------------------|-------------------------------|
| Contaminant                      | Concentration, ug/L |
| Acetone                          | 5,400*                        |
| Arsenic                          | 10                            |
| Benzene                          | 5                             |
| Beryllium                        | 4                             |
| Cadmium                          | 5                             |
| Chlorobenzene                    | 100                           |
| Chloroethane                     | 5,200*                        |
| Chloroform                       | 80*                           |
| Chloromethane                    | 47*                           |
| Cobalt                           | 2.7*                          |
| 1, 4-Dichlorobenzene             | 75                            |
| Dichlorodifluoromethane          | 98*                           |
| 1,1-Dichloroethane               | 2.4*                          |
| 1, 2-Dichloroethane              | 5                             |
| 1,1-Dichloroethene               | 7                             |
| cis-1,2-Dichloroethene           | 70                            |
| trans-1,2-Dichloroethene         | 100                           |
| 1, 2-Dichloropropane             | 5                             |
| Ethylbenzene                     | 700                           |
| Lead                             | 15                            |
| Methylene Chloride               | 5                             |
| Nickel                           | 180*                          |
| Selenium                         | 50                            |
| Tetrachloroethene                | 5                             |
| Toluene                          | 1,000                         |
| Total Xylenes                    | 10,000                        |
| 1,1,1-Trichloroethane            | 200                           |
| Trichloroethene                  | 5                             |
| Trichlorofluoromethane           | 310*                          |
| Vanadium                         | 38*                           |
| Vinyl Chloride                   | 2                             |

ug/L – micrograms per liter. Based on Nebraska Title 118 Maximum Contaminant Levels – MCLs, or NDEQ VCP Remediation Goals – RGs*

The anticipated time frame needed for completion of these remedial measures is 10 years.
Reporting Requirements

Sarpy County shall submit annual reports to the Nebraska Department of Environmental Quality as part of the 2nd semi-annual groundwater monitoring test results report within thirty (30) days of the end of the calendar year. The remedial action section of the annual report shall contain the following:

1. A description of the groundwater monitoring results, including statistical methods to assess whether iron may be attributed to background or natural spatial variability for events when iron is analyzed.
2. The results from the search of Department of Natural Resources records for any new drinking water wells.
3. The results of any findings from the windshield survey of the area as well as documenting by whom and when the survey was conducted.
4. Notice of any contingency actions taken which resulted from finding a new drinking water well.

Financial Assurance

NDEQ provided verbal confirmation (December 13, 2016 phone conversation with Sarah Jeffrey) to Sarpy County that financial assurance for this RAP will not be required. Sarpy County is committed to performing the tasks of this RAP until completion of remedial action as listed previously.

Exhibits

- Exhibit 1 - Site Plan (1 page)
- Exhibit 2 – Groundwater Well Locations (1 page)
- Exhibit 3 – Sampling and Analysis Plan (Revised 2/6/2017)
Sarpy County Public Works
15100 South 84th Street
Papillion, NE 68046
p. 402.253.2371
ebecard@sarpy.com

Remedial Action Plan

Exhibit 1
Exhibit 2

Groundwater Well Locations

Sarpy County Cedar Island Road Closed Sanitary Landfill

Sarpy County Public Works
15100 South 84th Street
Papillion, NE 68046
p.402.253.2371   abecard@sarpy.com

LEGEND

Property Line
Surface Water
Flow Direction
Drainage Culvert
Existing Private Well
Monitoring well

APPROXIMATE LIMITS
OF SOLID WASTE, TYP.

Meisinger Private Well
189' Depth, 15' Screen
Elevation = 1105+0

Note:
Data & have not been verified by field survey.
Property lines shown are based on available
information.

City of Omaha Property
City of Bellevue Property
OPPD Property
Big Elk Creek
MW-12
MW-1
MW-14
MW-10
MW-3
MW-6
MW-2
MW-5
MW-7
MW-15
MW-9
MW-11
MW-17
MW-21
MW-20
MW-19
MW-18
MW-16
MW-13
MW-4 & 8

Drainage Culvert
Surface Water
Property Line
Existing Private Well
Flow Direction

Exhibit 2

Sarpy County
Cedar Island Road
Closed Sanitary
Landfill

Sarpy County Public Works
15100 South 84th Street
Papillion, NE 68046
p.402.253.2371   abecard@sarpy.com

LEGEND

Property Line
Surface Water
Flow Direction
Drainage Culvert
Existing Private Well
Monitoring well

APPROXIMATE LIMITS
OF SOLID WASTE, TYP.

Meisinger Private Well
189' Depth, 15' Screen
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Note:
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City of Omaha Property
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MW-12
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MW-6
MW-2
MW-5
MW-7
MW-15
MW-9
MW-11
MW-17
MW-21
MW-20
MW-19
MW-18
MW-16
MW-13
MW-4 & 8

Drainage Culvert
Surface Water
Property Line
Existing Private Well
Flow Direction
Updated Sampling and Analysis Plan Sarpy County Landfill

Sarpy County Landfill Cedar Island Road

for

Sarpy County Environmental Services
1210 Golden Gate Drive
Papillion, NE 68046

October 29, 2008
Revised December 12, 2008
Revised May 7, 2009
Revised March 16, 2017
Revised April 12, 2018
1.0 Introduction

This updated Sampling and Analysis Plan has been prepared to reflect the sampling requirements of the Remedial Action Plan required by Nebraska Department of Environmental Quality (NDEQ) and will revise the existing plan submitted in May, 2009. This sampling plan will address sample collection and analysis of groundwater samples from the existing monitoring well system. Please see Attachment 1 for plan map showing ground water monitoring well locations.

2.0 On-Site Well and Monitoring and Sample Collection

2.1 Equipment

- HYDRASleeve™ Groundwater samplers with associated suspension line, anchor line and weights. Each well will have dedicated groundwater sampler equipment not utilized at any other well site.
- Heron Electric Water Tape (static water levels)
- Field Log Book

2.2 Measurement of Static Water Level

Condition of the well and the surface seal will be observed for damage or change since the previous sampling will be documented in the field log book. The area around the well will be cleared of weeds or other material, prior to water level measurement. The water level will be measured from the top of the PVC casing to the static water level by a Heron Electric Water Tape. The equipment will be decontaminated between well by wiping the tape with a paper towel moistened with de-ionized water as the cable is withdrawn from the well. Please see Attachment 2 for listing of ground water monitoring well historical depth to water levels and depth to bottom of each well.

2.3 Well Purging

No purging will be completed as the HYDRASleeve™ groundwater sampling system is a “No-Purge” type system.

2.4 Sample Collection (Monitoring Wells)

The monitoring wells the wells will be sampled as follows:

HYDRASleeve™ groundwater samplers will be installed within each well immediately after measurement of static water levels. The samplers will be set so that the sampling interval is at the bottom of each screen section. Each sampler will be left in wells for approximately 24 hours. Sampling procedures will be in accordance with HYDRASleeve™ Field Manual (©2016, GeoInsight)
provided as Attachment 3 to this SAP. Samples will be collected, preserved and containerized in the order of the parameter’s volatilization sensitivity.

Existing Monitoring Wells 5, 7, 8, 9, 11, 12, 14, 15, 16, 17, 18, 19, 20 and 21 will be sampled for the following parameters: Acetone, Arsenic Benzene, Beryllium, Cadmium, Chlorobenzene, Chloroethane, Chloroform, Chloromethane, Cobalt, 1,4-Dichlorobenzene, Dichlorodifluoromethane, 1,1-Dichloroethane, 1, 2-Dichloroethane, 1,1-Dichloroethene, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, 1, 2-Dichloropropane, Ethylbenzene, Lead, Methylene Chloride, Nickel, Selenium, Tetrachloroethene, Toluene, Total Xylenes, 1,1,1-Trichloroethane, Trichloroethene, Trichlorofluoromethane, Vanadium, Vinyl Chloride and Total Iron. Total Iron is to be sampled as an additional parameter for one or more sampling events until notification is provided to suspend (per February 2, 2016 request of NDEQ).

Monitoring Wells 1, 2, 3, 4, 6 and 10 will be measured for water levels only as they are upgradient of existing wells.

- The time and date of sample collection and sample field measurements will be recorded in the field log.
- Sampling order is to be from least to most contaminated based on the previous sampling.
- Sampling previously described will be performed on an annual basis during the 2nd quarter of each calendar year unless otherwise directed by the Nebraska Department of Environmental Quality.

2.5 Field Analysis

No field analysis will be completed as the HYDRASleeve™ groundwater sampling system is a “No-Purge” type system and field analysis is not needed.

2.6 Sample Containers, Preservation, and Handling

Containers used for holding samples are new and rinsed once with a portion of the sample. No rinsing occurs on Volatile Organic Compounds and Total Organic Halides.

After completion of sampling the well head will be secured. After collection, samples will be placed in insulated containers with ice and transported to the laboratory by sampling personnel under chain-of-custody rules. Samples sent to collaborating laboratories by common carrier will be sealed with custody tape, and a chain-of-custody form sent with the samples.
3.0 Chain-of-Custody and Sampling Records

3.1 Sample Labels

Labels will be attached to each sample bottle. A field sample identification number, site name, well number, date and time of collection, name of collector, preservatives used and analyses to be performed are included on each label.

3.2 Field Log

Field sampling data sheet will continue to be used to record pertinent information for each sample collected. Samples are recorded by field sample identification number. Information recorded for each sample will include but is not limited to, site description, sampling location, well number, weather conditions, date, time, name of collector and other personnel present, description of sample, and any other modifications to the sampling plan.

3.3 Chain-of-Custody and Sample Tracking

A chain of custody record will be maintained for all samples. Analysis requests for each sample will be recorded on the chain-of-custody record. Each sample is assigned a unique laboratory identification number by the receiving sample custodian. Identifying information and analyses to be performed are entered into the laboratory computer system and a laboratory worksheet for each sample is forwarded to the appropriate section supervisor. Samples are stored in a locked cooler and are released to individual analysts by the sample custodian.

4.0 Analytical Procedures

Analytical procedures utilized will follow protocols specified in 40 CFR Parts 136 and 258. Detection limits will be those established by the method or method validation unless dilutions are required to remove interference effects or bring a concentration with a calibration curve.

5.0 Field Quality Assurance/Quality Control

5.1 Trip Blank

Two sample bottles for volatile organics by EPA 8260 will be filled with laboratory pure water (ASTM Type II) and appropriately preserved and transported to the site. These blanks are then returned with the samples to the laboratory for analysis. A trip blank will not be collected for sampling events that do not include VOCs.
5.2 Equipment Blank

On the Heron Electric Water Tape equipment used at multiple well sites, laboratory pure water (ASTM Type II) shall be rinsed over this equipment and transferred to sample bottles and returned to the laboratory for analysis. Typically, one equipment blank is collected for each sampling event.

5.3 Field Blank

Will be collected to assess contamination resulting from ambient conditions. Typically, one field blank is collected for every ten or fewer groundwater samples.

5.4 Field Duplicates

Will be prepared for ground water monitoring wells at a rate of 10% of the number of wells sampled or once per event, whichever is more frequent.

6.0 Reporting

Reports will be submitted on an annual basis using a similar format as has been presented in since 2000.

7.0 Attachments

- Attachment 1: Groundwater Well Locations Map
- Attachment 2: Monitoring Well Data from Historical Measurements
- Attachment 3: HYDRASleeve™ Interim Field Manual (©2016, GeoInsight)
Sampling and Analysis Plan

Sarpy County
Cedar Island Road
Closed Sanitary Landfill

Groundwater
Well Locations

ATTACHMENT 1

File: Landfill (\orion) (H:) abecard\Cedar Island Road Landfill\Groundwater Monitoring\2-06-17 Well Location Map SAP Attachment 1 ADB.dwg

Note:
Property lines shown are based on available data & have not been verified by field survey.
### Monitoring Well Data from Historical Measurements

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* Total depth values for these wells based on measured bottom of casing which is deeper than construction records.
The HydraSleeve is a simple tool. In keeping with the Simple by Design motto, these are the basic instructions. Please call if you have any questions.
800-996-2225

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Introduction

Please read the manual in its entirety before sampling with HydraSleeve.

The HydraSleeve groundwater sampler can be used to collect a representative sample for most physical and chemical parameters without purging the well. It collects a whole water sample from a user-defined interval (typically within the well screen), without mixing fluid from other intervals. One or more HydraSleeves are placed within the screened interval of the monitoring well, and a period of time is allocated for the well to re-equilibrate. Hours to months later, the sealed HydraSleeve can be activated for sample collection. (Note: the new SpeedBags can be immediately deployed and recovered.) When activated by rapid upward motion, the check value opens and the HydraSleeve collects a sample with no drawdown and minimal agitation or displacement of the water column. Once the sampler is full, the one-way reed valve collapses, preventing mixing of extraneous, non-representative fluid during recovery. HydraSleeves go in flat and closed and come out full and closed.

Assembly

Assembling the HydraSleeve is simple, and can be done by one person in the field, taking only a minute or two.

1. Remove HydraSleeve from package and grasp top to “pop” open. Remember to save the discharge tube for later.

2. Squeeze side fins together at top to bend reinforcing strips outward. Crimp the corners to remain open.

3. Preferred
   Attach the tethered spring clip (see separate spring clip instructions); or

4. Option B
   Alternatively attach the line to one side of the HydraSleeve if spring clips are not being used. Be sure the top is sharply crimped open.

5. Align the two holes at bottom of HydraSleeve together and attach weight with the weight clip.

6. Sampler is ready to be placed in the well.
Placing the HydraSleeve(s)

To collect a representative groundwater sample without purging, the well usually needs to be allowed time to equilibrate after placement of the sampler. When any device is lowered into a well, some mixing of the water column occurs. The diameter of the device, how tightly it fits in the well, and its shape greatly affect the degree of mixing. The flat cross-section of the empty HydraSleeve minimizes the disturbance to the water column as the sampler is lowered into position, reducing the time needed for the well to return to equilibrium. Using a SpeedBag HydraSleeve eliminates equilibration time for most wells.

There are several methods for holding a HydraSleeve in position as the well equilibrates.

Most HydraSleeves and SuperSleeves are 3-5 feet long. The weight will go to the bottom of well but sample will come from upper half of well; because the sleeve will be suspended ~3-5 feet from the bottom up.

Most Common

TOP DOWN DEPLOYMENT (Figure 1)
Measure the correct amount of suspension line needed to “hang” the top of the HydraSleeve(s) at the desired sampling depth (in most cases, this will be at the bottom of the sampling zone). The upper end of the tether can be connected to the well cap to suspend the HydraSleeve at the correct depth until activated for sampling.
Note: For deep settings, it may be difficult to accurately measure long segments of suspension line in the field. Using our optional calibrated tether (marked sequentially in feet) will help solve this problem.

BOTTOM DEPLOYMENT (Figure 2)
Sound the well to determine the exact depth. Lower the weighted HydraSleeve into the well and let it rest on the bottom. The HydraSleeve sits suspended off the bottom & typically sample will be collected from the area directly above the top of the sleeve at this point without adjustment. Attach the suspension line to the top of the well to suspend it at this depth. (It is often easier to measure a few feet from the bottom of the well up to the sample point, than it is to measure many feet from the top of the well down.)
BOTTOM ANCHOR (Figure 3)
Determine the exact depth of the well. Calculate the distance from the bottom of the well to the desired sampling depth. Attach an appropriate length anchor line between the weight and the bottom of the sampler and lower the assembly until the weight rests on the bottom of the well, allowing the top of the sampler to float at the correct sampling depth.

TOP WEIGHTED ASSEMBLIES (Figure 4)
Using a top weight for short water columns will compress the HydraSleeve into the bottom of the well. This allows for sample collection to begin at the lowest point possible. It provides for more saturated screen above the check valve from which to collect the sample. Insert the top weighted assembly into the well. Allow it to reach the bottom. Be sure to leave enough slack (at least the length of the sampler) so that there is enough tether to allow the HydraSleeve to compress over a period of time. The length of time and compression area are determined by the type and size of HydraSleeve being used.
Multiple Interval Deployment

There are 3 basic methods for placing multiple HydraSleeves in a well to collect samples from different levels simultaneously.

**ATTACHED TO A SINGLE TETHER (Figure 5)**
To use 3 or more samplers simultaneously, we recommend attaching them all to a tether for support to prevent the sampling string from pulling apart. The weight is attached to a single length of suspension line and allowed to rest on the bottom of the well. The top and bottom of each HydraSleeve are attached to the tether at the desired sample intervals. Cable tie or stainless steel clips (optional) work well for attaching the HydraSleeves to the line. Simply push one end of the clip between strands of the rope and tie a knot at the desired point before attaching the clip to the HydraSleeve.

*Note: if many HydraSleeves are attached to a tether, more bottom weight will be required than with a single sampler.*

**ATTACHED TO A SINGLE TETHER WITH A TOP WEIGHT ON THE BOTTOM (Figure 6)**
Attach the HydraSleeves in the same manner as figure 5 but put a top weight on the bottom HydraSleeve. Remember to leave enough slack in the tether (at least the length of the bottom sleeve) so the assembly can be compressed into the bottom of the well.
ATTACHED END TO END (Figure 7)
To place 2 stacked HydraSleeves for vertical profiling, use one of the methods described above to locate where you want to place the bottom sampler. Attach the bottom of the top sampler to the top of the following HydraSleeve with a carefully measured length of suspension cable. Connect the weight to the bottom sampler. Heavier bottom weight will be required for this application.

NOTE: If multiple sleeves are being used solely to provide additional sample volume, consider a single longer (often top-weighted) custom sleeve instead of multiple shorter sleeves. It's simpler and more reliable.
Sample Collection

The HydraSleeve must move upward at a rate of one foot per second or faster (about the speed a bailer is usually pulled upward) for water to pass through the check valve into the sample sleeve. For most applications the HydraSleeve will fill within the length of the sampler. For example, a 30-inch HydraSleeve needs a total upward movement of 30 inches to fill. There are times when the total upward distance the check valve must travel to fill the sample sleeve is longer. When using a smaller sleeve diameter in a larger diameter well the pull-to-fill distance will be longer. The upward motion can be accomplished using one of several variations of cycling or long continuous pull or any combination that moves the check valve the required distance within the saturated screen zone in the open position.

To ensure the Hydrasleeve is full and check valve closed we recommend one of the cycling methods is followed see below.

CONTINUOUS PULL (Figure 8)
Pull the HydraSleeve continuously upward from its starting point at a constant 1 to 2 feet per second until full. This method is analogous to coring the water column from the bottom up.

Note: When using this method, the screen interval must be long enough so the sampler fills before exiting the top of the screen. Fill rate is dependent on the sleeve being sized for the well diameter. 2-inch sleeves for 2-inch wells. 4-inch sleeves for 4-inch wells. If using undersized sleeves please use a cycling method to assure the sleeve fills in the screened interval.

CYCLING THE SLEEVE (Figure 9)
Pull the sampler upward at about 1 to 2 feet or the length of the sampler and let it drop back to the starting point. Repeat the cycle 3 to 5 times. This method provides a shorter sampling interval than the continuous pull method (above), and usually reduces the turbidity levels of the sample below that of numerous rapid, short cycles (below). The sample comes from between the top of the cycle and the bottom of the sampler at its lowest point.
Sample Discharge

The best way to remove a sample from the HydraSleeve with the least amount of aeration and agitation is with the short plastic discharge tube (included).

First, squeeze the full sampler just below the top to expel water resting above the flexible check valve. (Fig. 10, top right) Fold the stiffeners over to make sure all of the water is off the top of the check valve.

Then, push the pointed discharge tube through the outer polyethylene sleeve as desired but at least 3-4 inches below the white reinforcing strips. (Fig. 11, middle right)

Note: For some contaminants (VOC’s/sinkers) the best location for discharge is the middle to bottom of the sampler. This would be representative of the deeper portion of the well screen.

Discharge the sample into the desired container. (Fig. 12, bottom right)

Raising and lowering the bottom of the sampler or pinching the sample sleeve just below the discharge tube will control the flow of the sample. The sample sleeve can also be squeezed, forcing fluid up through the discharge tube, similar to squeezing a tube of toothpaste. With a little practice, and using a flat surface to set the sample containers on, HydraSleeve sampling becomes a one-person operation.
Soil Vapor Extraction System Trench Locations

LEGEND

EXISTING ROCK SURFACE
NEW ROCK SURFACE
EXISTING GAS MONITORING PROBE
REMEDIAITION TRENCH LOCATION

Attachment 4 to RFP - 2 of 2 pages