Prepared for
Minnesota Pollution Control Agency
April 11, 2018

PROPOSAL FOR:

CATEGORY B: PETROLEUM ONLY REMEDIAL ENVIRONMENTAL SERVICES

MSA PROFESSIONAL SERVICES

MSA PROFESSIONAL SERVICES

332 W. Superior Street, Suite 600, Duluth, MN 55802

Contact: Jeffrey Anderson, PE
Phone: (218) 499-3175
Email: jkanderson@msa-ps.com
Website: www.msa-ps.com

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April 11, 2018

Mary Heininger
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155-4194

RE: RFP for Category B: Petroleum Only Remediation Environmental Services

Dear Ms. Heininger:

Since 2013 MSA Professional Services, Inc. (MSA) has worked as a contractor to the Minnesota Pollution Control Agency (MPCA) to provide services under the Petroleum-Only contract. Our core staff, which remains intact from our previous contract efforts has been supplemented with a few key additions over the past two years, is very eager to continue to support the MPCA with **Category B: Petroleum Only Remediation Environmental Services.**

FIRM INFORMATION

MSA PROFESSIONAL SERVICES, INC.

As a full service, multi-disciplinary consulting firm, MSA is all about creating communities that work. We partner with our public and private clients throughout the Midwest to help them solve today's complex and multi-faceted challenges and improve the quality of their neighborhoods. Our planning, engineering and architectural professionals meet the needs of a diverse client base with an emphasis on creativity and results. We provide our clients with more ideas and better solutions. We focus on providing exceptional service to build strong communities.

MSA's roots reach back to the 1930s. Once a rural Midwestern land survey company, incorporated in 1962, our firm now consists of more than 330 engineers, architects, planners, funding experts, surveyors, GIS experts, public sector management professionals and environmental scientists. Based in 16 offices across six states, our technical teams collaborate to assist communities throughout the Upper Midwest. While we've expanded to serve communities, private developers and government agencies, MSA remains true to our mission of being a trusted partner helping clients succeed. More than a technical resource, MSA strives to earn the privilege of being a part of your project team. We want to help, especially when you face challenging circumstances.

MSA's emphasis on client service begins with our **core values**, which include:

CLIENT FOCUS

We enjoy our ongoing work with the MPCA because of the "people" aspect and it gives us the opportunity to integrate our technical know how with a strong desire to build relationships structured on trust and a willingness to think collaboratively.

WORKING TOGETHER

This contract and associated service needs is dependent upon working in such a fashion that we are simply a technical extension of the MPCA and the inherent goals and objectives of the Petroleum Remediation Program. Being in step with one another is crucial towards facilitating an effort and service that is received by the public with trust and broad reaching acceptance. MSA strives to be a seamless partner in the projects we work on with the MPCA and are always looking for ways in which we can improve and strengthen the working relationship.

MSA LOCATIONS AND CONTACTS SIGNIFICANT TO THIS CONTRACT

PROPOSAL CONTACT PERSON:
Jeffrey Anderson, PE
Team Leader
MSA Professional Services, Inc.
332 W. Superior Street, Suite 600
Duluth, MN 55802
Phone: (218) 499-3175
Fax: (218) 722-4548
Toll Free: (800) 777-7380
Jeffrey Anderson, PE
E-mail: jkanderson@msa-ps.com

REGIONAL OFFICE:
MSA Professional Services, Inc.
332 W. Superior Street, Suite 600
Duluth, MN 55802
Phone (218) 722-3915
Fax (218) 722-4548
Toll Free (800) 777-7380
Jeffrey Anderson, PE
E-mail: jkanderson@msa-ps.com

MSA'S MAIN (HOME) OFFICE:
MSA Professional Services, Inc.
1230 South Blvd.,
Baraboo, WI 53913
Phone (608) 356-2771
Fax (608) 356-2770
Toll Free (800) 362-4505
Website: www.msa-ps.com

REGIONAL OFFICE:
MSA Professional Services, Inc.
60 Plato Blvd. East, Ste 140
St. Paul, MN 55107-1835
Phone (612) 548-3132
Fax (763) 786-4574

DAY-TO-DAY INTERACTION OF STAFF

MSA will administer this Contract in the same manner that it has managed the previous five year contract. **Brian Hegge** will be the **Project Manager** responsible for the overall management of the contract and interfacing with the MPCA on contract issues. **Mr. Hegge** also will be directly responsible for meeting the client's project objectives, interaction and communication with the client, scheduling of all work tasks, invoicing and financial performance of the project. MSA's Duluth office will serve as the regional office for the administration and staffing of work performed under this contract and currently has eight (8) staff assigned to work on the contract. **Jeffrey Anderson** will provide secondary support to the Contract users.

MSA has reviewed the statement of acceptance of classification level and rates (scheduled 1 and 2) and equipment and supplies list contained in the RFP and is prepared to accept the proposed contract conditions.

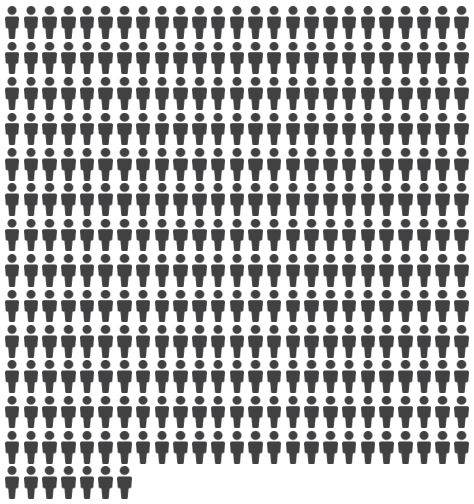
We look forward to working with the MPCA to achieve your project objectives and provide friendly, professional support towards the effort of protecting human health and the environment throughout Minnesota.

Sincerely,
MSA Professional Services, Inc.

Jeffrey Anderson, PE
Team Leader

MSA PROFESSIONAL SERVICES

332 TEAM MEMBERS



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LICENSED + CERTIFIED PROFESSIONALS

(PE, AIA, PG, PLS, PH, SE, EIT, MA, LEED® AP, AICP, CFM, GISP, CPG, DES, PTOE, TSP, GIT, CNU-A, PLA)

ZWEIG **2017 & 2015** "BEST FIRMS TO WORK FOR" HONOREE

48

INDUSTRY AWARDS EARNED SINCE 2010

"ENABLING PEOPLE TO POSITIVELY IMPACT THE LIVES OF OTHERS" SINCE **1962**

MSA PROFESSIONAL SERVICES

PERCENTAGE OF CLIENTS WHO TOLD US WE'VE MET OR EXCEEDED THEIR EXPECTATIONS IN THE LAST YEAR

94.95

ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
FUNDING
PLANNING
SURVEYING

100%

EMPLOYEE OWNED

$500 million

(and counting)

GRANTS AND LOW-INTEREST LOANS WE'VE HELPED OUR CLIENTS SECURE TO OFFSET THE COST OF INFRASTRUCTURE PROJECTS

QUALIFICATIONS AND CAPABILITIES




ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
FUNDING
PLANNING
SURVEYING

Engineering

- *Agricultural*
- *Construction Management*
- *Construction Observation*
- *Facilities Management and Operations*
- *Mechanical, Electrical and Plumbing*
- *Municipal Infrastructure*
- *Structural*
- *Transportation*
- *Urban Reconstruction*
- *Wastewater*
- *Water Supply*

Funding

- *Tax Incremental Financing (TIF)*
- *Grant Writing*
- *Grant Administration*
- *Project Financing*

Water Resources

- *MS4 Compliance Planning*
- *TMDL Compliance Planning*
- *WinSLAMM Water Quality Modeling*
- *Stormwater Management*
- *Floodplain Management*
- *Wetland Management*
- *Dam Engineering*
- *Stormwater Utilities*
- *Grant Funding*

Environmental

- *Brownfields*
- *Planning and Permitting*
- *Remediation and Site Restoration*
- *Waste Management*
- *Wetlands and Natural Resources*

Planning

- *Smart Growth Planning*
- *Comprehensive Plan Development*
- *Strategic Planning*
- *Community Development and Financing*
- *Capital Improvement Planning (CIP)*
- *Economic Development and Analysis*
- *Geographic Information Systems (GIS)*
- *Ordinances and Zoning Regulations*
- *Transportation Planning*
- *Land Use Planning*
- *Funding for Planning Activities*
- *Parks and Recreation Planning*

Architecture

- *Building Analysis*
- *Structural Engineering*
- *Mechanical and Plumbing Engineering*
- *Electrical Engineering*
- *Feasibility Studies*
- *Space Needs Planning*
- *Master Planning*
- *Design/Site Planning*
- *Cost Estimating*
- *Construction Documentation*
- *Construction Administration*
- *Bidding*
- *Post Occupancy Review*

Surveying

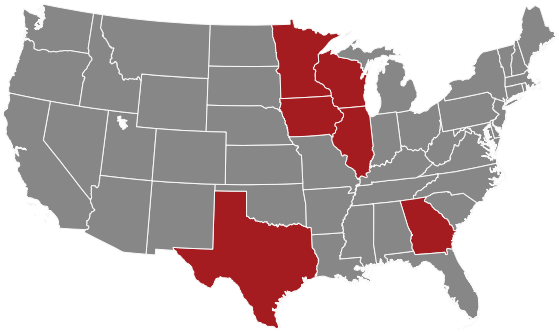
- *Asset Management*
- *Boundary Survey and Land Services*
- *Plats*
- *Topographic Surveys*
- *Mobile GIS*
- *Web-Based GIS*
- *Web and Mobile Delivery*
- *Utility Mapping*
- *Asset Manpower*
- *Tree Inventories*
- *Traffic Sign Inventories*
- *Permit Management*
- *Right-of-Way Easements*

MSA PROFESSIONAL SERVICES

Corporate Overview

As a full-service consulting firm, MSA Professional Services (MSA) is all about creating communities that work. We partner with clients to help solve today's complex and multi-faceted infrastructure challenges and improve the quality of neighborhoods. Our focus is to provide exceptional professional services that build strong communities where we live, work and play.

MSA's roots reach back to the 1930s. Once a rural land survey company, our firm now consists of approximately 325 engineers, architects, planners, funding experts, surveyors, GIS experts and environmental scientists. MSA excels at helping clients identify grant and funding sources and then delivering high quality, cost-effective solutions. Based in 16 offices across six states, our technical teams collaborate to assist communities throughout the United States.



YOUR SUCCESS MATTERS.

Client Service Quality Assurance Program

Our firm constantly strives to improve our processes and tailor the services we provide to best suit each of our clients. As part of our ongoing quality assurance program, we periodically request feedback from clients and project stakeholders to create better project outcomes for you.

These easy-to-complete surveys offer you the opportunity to comment on several areas of our performance throughout the duration of your project, which in turn helps us adapt our processes to your unique needs. Your feedback is specific to your project, and is returned directly to the people working with you. We pledge to respond to any issues you identify as the project proceeds.

Unlike any survey you've ever taken before, your response will initiate specific improvement for you and your project. To fully demonstrate this program, you will soon receive a survey requesting your feedback on our ability to meet your expectations throughout the proposal process. We hope you'll take a few minutes to respond, experience the process first-hand, and see how we follow-up to your feedback.

How it will work during your project:

1. *The project manager or another team member asks for your feedback electronically.*
2. *You respond to a six-eight question, two-three minute survey.*
3. *Your response is immediately routed to the project team via email.*
4. *If any of your responses indicate exceptional performance or a problem, someone on the project team will follow-up and discuss ways to either improve the process, or make sure we continue to provide the level of service you desire.*
5. *We document any process changes and communicate them to the project team and back to you.*

QUALIFICATIONS AND CAPABILITIES

MUNICIPAL INFRASTRUCTURE

Infrastructure is the backbone of communities and the backbone of MSA's business. From bike trails to major roadways, underground utilities to park facilities, MSA provides technical services to help communities, agencies and businesses function. Beyond traditional engineering services, our professionals incorporate sustainable practices where possible, offer innovative solutions to overcome project challenges, and have served as the Engineer-of-Record for numerous municipalities.

Expertise includes:

- Planning and design for:
  - Urban and rural roadways
  - Water distribution systems
  - Sanitary and storm sewer conveyance systems
  - Recreational trails, parks and boat launches
- Trenchless methods for utility projects
- Site and land development civil design services
- Agricultural engineering services
- Construction services
- Municipal engineer, zoning administration and building inspection services

ENVIRONMENTAL

Restoration, conservation and preservation are facts, not options. Respecting the environment is our obligation to future generations. Our environmental scientists and technicians help communities identify and clean up contamination. Beyond clean-up, we understand regulatory requirements and have critical relationships with regulatory agencies. Let's collaborate to leave a positive legacy.

Expertise includes:

- Brownfields
- Planning and permitting
- Remediation and site restoration
- Waste management
- Wetlands and natural resources

WATER RESOURCES

More than designing stormwater detention ponds or sizing storm sewers, water resources engineering encompasses a wide range of services including hydrology, hydraulics, water quality, and groundwater, lake, river and wetland sciences. MSA's dedicated water resources team works on large-scale water resources projects while also providing support to other teams throughout the company. This diverse group consists of professional engineers, hydrologists, floodplain managers and stormwater managers.

Expertise:

- Stormwater master plans
- Stormwater BMP design
- Alternative stormwater management
- Stormwater grants
- Stormwater ordinances
- Hydraulic design for bridges and culverts
- Floodplain studies
- Stormwater utilities
- Water quality evaluation and education
- Channel erosion assessments

- Wetland delineation
- Infiltration evaluations

WASTEWATER TREATMENT

Investing in wastewater collection and treatment infrastructure pays dividends in the long run. Many communities rely on aging, poorly maintained systems that struggle to support demand. MSA works with clients to improve wastewater systems while balancing community requirements with budget and regulatory constraints.

MSA has approximately 40 professionals who focus exclusively on wastewater projects. Armed with information about the latest technological and regulatory developments, our specialists excel at tailoring solutions to the communities they serve.

Specialty areas include:

- Facility planning
- Permitting
- Sanitary sewer evaluation
- Infiltration and inflow reduction
- Sewage pump stations
- Activated sludge
- Fixed film
- Advanced nutrient removal
- Biosolids treatment and disposal
- Contract operations
- Adaptive management studies and effluent trading
- Utility rate studies

WATER SUPPLY

Communities rely on municipalities to provide access to a clean, safe and reliable water supply system. MSA's water system experts excel at working with communities to design, build and maintain economical, long-lasting water supply infrastructure. We strive to develop systems that accommodate resource constraints while meeting current and future community requirements.

Expertise includes:

- Planning and design for:
  - Wells
  - Storage facilities
  - Treatment systems
  - Distribution systems
  - Booster stations
- Water system studies
- Water system modeling
- Construction services

QUALIFICATIONS AND CAPABILITIES

AGRICULTURAL SERVICES

At MSA, we understand the mighty job that this country's agricultural producers do, and we offer many services to help them succeed. We give them advice and assist with planning so they can do their all-important job the best they can.

Our team provides services to dairy, beef, poultry, swine, grain, agro-chemical and animal genetic industries throughout the Midwest. Utilizing our team's expertise and strategic partnerships, we work with clients to develop and implement successful projects.

We offer a wide variety of services to both large and small producers. Our expertise includes the following:

- All required Federal, State and Local Permits
- Anaerobic Digestion Development
- Facility Site Surveys, Planning and Design
- Feed Storage and Leachate Containment Design
- Comprehensive Nutrient Management Plans (CNMPs)
- Spill Prevention Control and Countermeasure Plans
- NRCS Technical Service Provider (TSP)
- Manure Handling, Storage and Transfer Design
- Environmental Assessments
- Stormwater Pollution Prevention Plans (SWPPPs)
- Fertilizer and Pesticide Containment Design
- Composting System Design, Operation and Maintenance
- Equipment Integration
- Septic System Design
- Ventilation Design
- Structural Design and Evaluation
- Construction Management and Observation
- Bidding Management
- Funding Assistance

PLANNING

Effective planning requires a strong, realistic vision for the future. MSA helps clients bring stakeholders together to explore long- and short-term challenges and opportunities. Our clients appreciate our user-friendly, action-oriented plans.

Expertise includes:

- Smart Growth planning
- Comprehensive plan development
- Strategic planning
- Community development and financing
- Capital Improvement Planning
- Economic development and analysis
- Geographic Information Systems (GIS) services
- Ordinances and zoning regulations
- Transportation planning
- Land use planning
- Brownfield redevelopment planning
- Funding for planning activities
- Parks and recreation planning
- Zoning and ordinance plans and implementation
- Community branding and marketing
- Municipal administration support and recruiting

SURVEY & GIS

Survey data and Geographic Information Systems (GIS) help clients understand what they have and where it is. GIS enables clients to organize and analyze geographically tagged information. Our specialists have the resources and expertise to efficiently and accurately complete fieldwork and to provide high-quality survey documents.

Expertise includes:

- Asset management
- Boundary survey and land services
- Plats
- Topographic surveys
- Mobile GIS
- Web-based GIS
- Web and mobile delivery
- Utility mapping
- Tree inventories
- Traffic sign inventories
- Permit management

EDUCATION

M.S., Environmental Studies, Land Resources (Course work), University of Wisconsin-Madison

B.S., Water Resources/Limnology, University of Wisconsin-Stevens Point

REGISTRATIONS | CERTIFICATIONS

- Certified Asbestos Inspector, WI, AII-4464
- Professional Hydrologist, WI, 54-111
- Certified Asbestos Inspector, IA, 05-1190I
- Wisconsin Groundwater Association
- Federation of Environmental Technologists

Brian Hegge, PH

Position Relative to MPCA Proposal
Project Manager / Scientist 2

EXPERTISE:

- Solid and Hazardous Waste Landfill Monitoring/Investigations
- Environmental Site Assessments for Property Transactions
- Leaking Storage Tank Remediations
- Regulatory Compliance
- Asbestos and Lead Inspection
- Brownfields
- Federal SUPERFUND Remedial Investigations/Feasibility Studies
- Agricultural Fertilizer and Pesticide Remedial Actions
- Quality Control, Laboratory and Sampling Methods

EXPERIENCE:

Mr. Hegge has been the MSA Project Manager for the MPCA Petroleum Only contract for the past five years and under his direction, MSA has been involved with 31 projects that have generated Limited Site Investigation (LSI), Remedial Investigations (RI), Conceptual Corrective Action Design (CCAD), Excavation Detailed Corrective Action Design (EDCAD), Focused Investigation Report for LIF, Bid Specifications for Soil Excavations, Remediation System Operation Monitoring Report (RSOM)and Annual Monitoring Reports (AMRs). Mr. Hegge is very familiar with the MPCA Petroleum Remediation Program's Consultant Guidance For UST/AST Release Investigation and Cleanup documents.

SOLID WASTE LANDFILL MANAGEMENT

Mr. Hegge has conducted the operation and maintenance (O&M) of landfill gas/leachate extraction systems, prepared landfill monitoring plans, and conducted a variety of environmental investigative and monitoring projects at both active and closed landfills. He managed the groundwater and surface water sampling programs at public and privately owned solid waste landfills. Management activities included proposal preparation, supervision of field personnel and sample collection, budgeting, and invoicing.

LEAKING UNDERGROUND STORAGE TANK (LUST) INVESTIGATIONS

Mr. Hegge has served as Project Manager on LUST projects throughout Minnesota and Wisconsin. The projects performed by Mr. Hegge have included the initial site assessment, UST closure and reporting requirements at former and existing convenience stores, petroleum bulk facilities, home heating oil tanks, municipal garages and industrial sites. The projects have utilized approaches including vapor intrusion and sub-slab sampling, hollow-stem auger drilling as well as direct-push drilling methods, surface and sediment sampling and indoor vapor monitoring.

Brian Hegge, PH

Position Relative to MPCA Proposal
Project Manager / Scientist 2

ENVIRONMENTAL SITE ASSESSMENTS

Mr. Hegge has performed Phase I and II environmental audits at various industrial and commercial facilities, reviewed the operations and waste handling practices for the purpose of identifying potential environmental problems, including asbestos, PCBs, wetlands, USTs, and radon, and verified compliance with state and federal regulations (RCRA, CERCLA, LUST, etc.). He developed recommendations and conducted Phase II audits to further evaluate the environmental liabilities of the facilities. The Phase II audits included sampling and analysis, engineering diagnostics and cost engineering for recommended remedial actions.

SUPERFUND/RCRA PROJECTS

Mr. Hegge has reviewed Remedial Investigation/Feasibility Study reports for USEPA under the Technical Enforcement Support (TES) contract for the USEPA. He has coordinated personnel and equipment for a variety of environmental investigative and monitoring projects that included: groundwater monitoring programs, landfill gas emissions, and field/health and safety data validation. He was responsible for scheduling and coordinating the USEPA Contract Laboratory Program (CLP) for several USEPA and PRP lead RI/FS projects. He also provided expertise to staff on sampling techniques, CLP protocols, and QAPP and Sampling Plan development.

EDUCATION

B.S., Chemical Engineering
University of Minnesota-Duluth

REGISTRATIONS | CERTIFICATIONS

- Professional Engineer, MN, WI
- Wisconsin PECFA Consultant, 46053
- Minnesota Wetland Delineator Certification, Professional, 1121
- 40 Hour Hazardous Waste Operations and Emergency Response (HAZWOPER) and 8 Hour Refresher

Jeffrey Anderson, PE

Position Relative to MPCA Proposal
Project Manager / Engineer 3

EXPERTISE:

- Regulatory Compliance
- Air Permitting and Stack Testing
- Remedial Investigations/Corrective Action Design
- Leaking Underground Storage Tank Investigations/Remediation
- Agricultural Chemical Facility Investigations
- Solid Waste Landfill Contamination Assessment and Monitoring
- Landfill Gas/Groundwater Data Collection, Management and Reporting
- Remediation System Performance and Operation, and Maintenance Evaluations
- Facility Monitoring for Regulatory Compliance and Natural Attenuation Evaluation
- Technical/Project Management from Investigation to Remediation to Closure

EXPERIENCE:

Mr. Anderson has nearly 25 years of environmental consulting experience with a diverse background dealing with a broad spectrum of environmental issues. He has managed projects from the initial conceptual planning stage, through implementation and closure. Mr. Anderson's experience includes an extensive background in design and oversight of numerous remedial actions including groundwater and vapor extraction systems, contaminated soil excavations, in-situ chemical injections, enhanced bioremediation and institutional control implementation. Mr. Anderson is very familiar with MPCA's Petroleum Remediation Program's Consultant Guidance For UST/AST Release Investigation and Cleanup and Minn. Stat. § 115C.01 – 115C.13, and the Minnesota Department of Commerce Petrofund reimbursement program.

UNDERGROUND AND ABOVEGROUND STORAGE TANK REMOVAL AND ASSESSMENT

Mr. Anderson has served as Project Manager for a multitude of tank removal related projects, including projects conducted as part of MSA's statewide Abandoned Tank Removal contract with the Minnesota Department of Commerce. The tank removal projects managed by Mr. Anderson have included: residential properties, commercial buildings, schools, apartment complexes, gas stations, contractor lots, petroleum bulk storage facilities, seaplane fueling hangers and farms. He has completed notification and scheduling, on-site oversight, sampling, reporting, and management of State required documentation for tank change is status.

LEAKING UNDERGROUND STORAGE TANK (LUST) INVESTIGATIONS AND REMEDIATIONS

Mr. Anderson has acted as Project Manager for numerous LUST projects in Minnesota and Wisconsin. The projects performed by Mr. Anderson have included the initial

Jeffrey Anderson, PE

Position Relative to MPCA Proposal

Project Manager / Engineer 3

site assessment, remedial investigation and clean-up of a wide variety of petroleum release sites. The projects utilized environmental investigative technologies, including: push probe soil, groundwater and soil-gas sampling; hollow-stem auger soil boring; installation of groundwater monitoring wells and piezometers; groundwater monitoring; receptor survey evaluations; potable well sampling; and aquifer determinations. Mr. Anderson is responsible for report writing and review.

ENVIRONMENTAL SITE ASSESSMENTS

Mr. Anderson has performed Phase I and Phase II Environmental Site Assessments, including Property Transaction Screens, for various industrial and commercial facilities. He has completed site walk-throughs and reporting designed to identify potential environmental conditions associated with subject properties, in addition to evaluating potential concerns associated with nearby properties. Mr. Anderson has developed comprehensive recommendations for addressing recognized environmental concerns and complying with applicable state and federal laws dealing with environmental liability protection.

WETLAND PROJECTS

Mr. Anderson has completed wetland delineations, mitigation and permitting for various properties throughout Minnesota and Wisconsin. He has extensive experience providing comprehensive management of wetland related projects ranging from single family residential development to large scale commercial development. Mr. Anderson has also conducted wetland delineation for driveway projects, utility infrastructure and municipal roadway projects.

EDUCATION

B.S., Environmental Science
University of Minnesota-Duluth

REGISTRATIONS | CERTIFICATIONS

- 40 Hour Hazardous Waste Operations and Emergency Response (HAZWOPER)
- EM 2001 Construction Site Management
- MSHA 24-Hour Training
- MN DNR Lake Service Provider Training

Erica Klingfus

Position Relative to MPCA Proposal
Scientist 1 and Field Technician

EXPERTISE:

- Phase I, II, and III Environmental Site Assessments (ESA)s
- Tier II, Toxic Release Inventory, and Air Emission Inventory Reports
- Technical Writing
- Groundwater and Surface Water Sampling and Field Instrument Monitoring
- Groundwater Modeling using IWEM and SESOIL Programs

EXPERIENCE:

Ms. Klingfus joined MSA Professional Services, Inc. (MSA) in June 2016 after working as an Environmental Scientist at Northeast Technical Services, Inc. (NTS) since May 2014. While in school she worked for three summers interning at Minnesota Power as an Environmental Intern, at UMD Facilities Management as a Stormwater Intern, and with the Minnesota Sea Grant as an invasive species education intern.

Ms. Klingfus has more than two years of professional experience in environmental consulting services. She has proficiency in preparing annual reports and monitoring plans for clients, conducting soil, groundwater, and surface water sampling and modeling and assisting with Phase I, II, and III ESA requirements. She has tested soil and water at outflows, reservoirs, and spill sites as well as assisted with air permit application processes for Title V air permit modifications.

EDUCATION

M.S., Hydrology and
Watershed Management
University of Minnesota

B.S., Biology,
University of Wisconsin-River Falls

REGISTRATIONS | CERTIFICATIONS

- Professional Geologist, MN
- Professional Geologist, WI
- 40 Hour Hazardous Waste Operations and Emergency Response (HAZWOPER)
- OSHA 8 Hour HAZWOPER Supervisor Training
- Loss Prevention System

Mark Davidson, PG

Position Relative to MPCA Proposal
Scientist 2 / Scientist 1 / Field Technician

EXPERTISE:

- Project Management
- Remediation
- Phase I and II ESA
- Soil, Groundwater and Air Sampling using EPA and State Specific Sampling Techniques

EXPERIENCE:

Mr. Davidson has more than 15 years of professional experience in environmental consulting services. He has proficiency in preparing annual reports and monitoring plans for clients, conducting soil, groundwater and surface water sampling and modeling and assisting with Phase I, II and III ESA requirements.

Mr. Davidson joined MSA Professional Services, Inc. (MSA) in March 2017 after working with Wenck Associates where he managed, planned, conducted and supervised site assessment and remediation activities at contaminated sites in Minnesota, North Dakota and South Dakota. Prior to that he worked with the Minnesota Department of Natural Resources where he developed and implemented the expansion of the Minnesota groundwater well network.

Prior to joining the Minnesota Department of Natural Resources, Mr. Davidson was employed by private consultants in Florida from 2001 to 2010 where he managed and oversaw investigations and remedial efforts at petroleum, chlorinated solvent, manufactured gas plants and heavy metal contaminated sites. Mr. Davidson has experience creating budgets, work plans, proposals, health and safety plans for projects under local, State and Federal regulatory programs; has conducted extensive oversight of remediation system installation, injections and well installations by Geoprobe, rotary, mud rotary and rotosonic drilling methods; has performed plume delineation and site characterization using Geoprobe MIP analysis, SPT and other geophysical methods; and conducting bidding and negotiated agreements with laboratory and environmental contractors.

Since joining MSA, Mr. Davidson has become involved with the MPCA Fund Financed projects by providing technical review and report writing for the Former Finlayson Co-op Leaksite 005053 and Jensen Timber Products Leaksite 19219, and technical review of the Former Crane Lake Leaksite 18150. Mr. Davidson's prior experience with in-situ injection technologies was instrumental during MSA's preparation of the Corrective Action Design (CAD) for Crane Lake. Mr. Davidson has been assisting with preparation of project invoices and will be further mentored with the preparation of work plans and cost estimates for FY 2018.

EDUCATION

B.S., Earth Science
St. Cloud State University

CERTIFICATIONS

- Certified Hazardous Materials Manager, #11519
- Registered Environmental Manager
- (REM 11203)
- Certified Environmental Auditor
- (CEA 7861)
- OSHA 500 Course Safety in Construction
- OSHA 510 Course Safety Instructor
- IS 100, 200, 700
- Lead Inspector/Risk Manager
- Asbestos Inspector/ Management Planner
- Certified Professional in Erosion and
- Sediment Control (CPESC)
- Construction Quality Management for Contractors (USACE)
- Federal Contracting Officer Training
- First Aid/CPR

Kimberlie Bumgardner

Position Relative to MPCA Proposal
Project Manager / Scientist 2

EXPERTISE:

- Project Management
- Environmental Site Assessments
- Environmental Remediation
- Regulated Materials Assessments
- Emergency Response and Clean Up
- Regulatory Compliance and Permitting, Air, Water, Waste
- Construction Oversight

EXPERIENCE:

Ms. Bumgardner has 24 years of professional experience in environmental consulting services. Her career began in 1994 with an emphasis on regulatory compliance management in Minnesota and Wisconsin. She has provided a variety of environmental, health and safety services in more than 20 states and seven EPA Regions. These services included providing guidance, consultation and assistance on virtually all aspects of environmental management and regulatory compliance to private parties, contractors, local, state and federal governments, environmental firms, community-based organizations and school age children.

Ms. Bumgarnder joined MSA Professional Services, Inc. (MSA) in March 2018 after working with Bay West, LLC where she worked on the following type of projects: environmental site assessments, site investigation and remediation, soil and ground water remediation system design and implementation, environmental restoration, wetland delineation, regulatory compliance, regulated materials assessments, industrial services, emergency response, waste consolidation, transportation and disposal. She also provided project management while at Bay West. Work performed on projects includes work plan preparation; project planning including coordinating with property owners, field staff, and subcontractors; communication with client project staff; completing necessary purchase orders and other administrative tasks; bidding in accordance with client purchasing requirements, accounting; report preparation; decision making and professional judgment.

EDUCATION

B.S., Geology/Geophysics,
University of Wisconsin-Madison

Graduate Course Work:
University of Texas-Odessa, Geology
Wright State University, Dayton,
Ohio, Hydrogeology

Continuing Education:
Department of Engineering
Professional Development,
University of Wisconsin-Madison;
Groundwater Flow through
Fractured Media, and Effective
Techniques for Contaminated
Groundwater and Soil Treatment.

REGISTRATIONS | CERTIFICATIONS

- Professional Geologist, WI, 384
- Professional Geologist, IL, 196-837
- Certified Professional Geologist, US, 8076
- American Institute of Professional Geologists
- American Society for Testing and Materials (ASTM)
- Association of Engineering Geologists

Richard Lyster, PG

Position Relative to MPCA Proposal
Scientist 2

EXPERTISE:

- Landfill Feasibility Studies
- Site and Hydrogeologic Investigations
- Hydrogeology/Geophysics
- Remedial Investigations
- Petroleum Product Contamination Remediation
- Environmental Site Assessments
- In-situ Aquifer Testing/Geophysical Survey
- LUST Site Investigations
- Wellhead Protection Studies
- Municipal Water Supply Well Siting Studies
- Well Construction Inspection and Aquifer Testing

EXPERIENCE:

As a Team Leader in the Baraboo, WI office, Mr. Lyster is responsible for the management of staff, sales and marketing. He also is a client liaison with regulatory agencies, maintains quality control and quality assurance for the team, and project management responsibilities, which include cost estimating and accounting, proposal preparation, scheduling and planning of fieldwork, review and interpretation of project data, and technical report preparation. Project experience includes landfill feasibility studies, remedial investigations at CERCLA sites and remedial investigations at underground storage tank sites. Experience includes directing site investigations, performing as site safety officer and site manager, preparing reports, and operation and assessment of remediation systems. Experience includes geologic logging of well boreholes, pump test analysis, aquifer description and characterization, well installation inspection, groundwater sampling for SDWA parameters, in-situ aquifer testing and geophysical surveys of wells.

SOLID WASTE LANDFILL MANAGEMENT

Mr. Lyster manages several landfill gas/leachate extraction systems, prepares landfill monitoring plans, and conducts a variety of environmental investigative and monitoring projects at both active and closed landfills. He has managed the groundwater and surface water sampling programs at public and privately owned solid waste landfills. Mr. Lyster has provided construction observation to analyze the cause of settlement of leachate control manholes and also performed density testing and geotechnical analysis of soil and compacted landfill liner and sideslopes. Mr. Lyster has performed numerous downhole geophysical surveys in wells, including resistivity, conductivity, sonic, neutron, density, gamma ray, spontaneous potential and caliper logs. Associated work experience includes pilot treatability studies, and

Richard Lyster, PG

Position Relative to MPCA Proposal

Scientist 2

pump test design and analysis. He is experienced in the downhole data collection, and the interpretation of these electric logs as a petrophysical well log analyst.

SUPERFUND/RCRA PROJECTS

Mr. Lyster was the project hydrogeologist and supervised field activities associated with remedial investigations at a PRP-lead CERCLA site and was the primary author of the RI Report submitted to regulatory agencies. He has conducted landfill cover evaluations and preliminary clay searches. Mr. Lyster was the project hydrogeologist, to design and implement a subsurface investigation to determine dense chlorinated solvent contamination of a municipal well that included monitor well installations, groundwater flow analysis and aquifer testing and geophysical survey for buried drums for landfill remedial construction project. Mr. Lyster has monitored well installations for hydrogeologic investigation of impact to aquifer study at a landfill in a former coal mine.

LEAKING UNDERGROUND STORAGE TANK (LUST) INVESTIGATIONS

Mr. Lyster has served as Project Manager on LUST projects throughout Wisconsin and in Illinois. The projects performed by Mr. Lyster have included the initial site assessment, UST closure and reporting requirements at former and existing convenience stores, petroleum bulk facilities, municipal garages and industrial sites. The projects have utilized approaches including soil gas studies, hollow-stem auger drilling methods and GeoProbe sampling methods. Remedial investigation involved installing bedrock monitoring wells, environmental sampling, treatability studies and free product recovery. Mr. Lyster has been the primary author of UST closure reports and remedial investigation reports.

ENVIRONMENTAL SITE ASSESSMENTS

Mr. Lyster has performed numerous WisDOT Phase 1 and Phase 2 Hazardous Materials Assessments and is familiar with FDM procedures, and authored reports submitted to WisDOT concerning environmental assessment and wetland issues. In addition, Mr. Lyster has performed and managed staff that have conducted Phase I and II environmental audits at various industrial and commercial facilities. He developed recommendations and conducted Phase II audits to further evaluate the environmental liabilities of the facilities. The Phase II audits included sampling and analysis, engineering diagnostics and cost engineering for recommended remedial actions.

EDUCATION

M.S., Geology
University of Minnesota-Duluth

B.S., Geology
University of Wisconsin-Oshkosh

American Indoor Air Quality, Strategies for Conducting Meaningful Microbial IAQ Investigations, April 2002
Milwaukee Lead/Asbestos Information Center Asbestos Refresher Course, February 2006, #AIR06022316475

REGISTRATIONS | CERTIFICATIONS

- Certified Professional Geologist, WI, 54
- Certified Professional Geologist, MN, 30281
- Certified Asbestos Inspector, WI,
- AII-113911
- Registered PECFA Consultant, WI, 45755
- Certified Site Assessor, WI, 45755
- Certified Asbestos Inspector, IA, 05-1306I
- Wisconsin Groundwater Association
- Minnesota Groundwater Association
- National Groundwater Association
- American Institute of Professional Geologists (CPG #8907)

Jayne Englebert, PG, CPG

Position Relative to MPCA Proposal
Scientist 2

EXPERTISE:

- Soil and Groundwater Contamination Studies
- Soil and Groundwater Treatment System Monitoring
- Geologic Investigations
- Phase I and II Environmental Site Assessments

EXPERIENCE:

Ms. Englebert's experience includes investigations and remediations relating to petroleum and solvent release sites, hazardous waste compliance, property transactions, including Phase I and Phase II environmental site assessments and Brownfield redevelopment. Ms. Englebert has been involved in the investigation of the extent of soil and groundwater contamination at numerous petroleum contaminated sites throughout Wisconsin and Minnesota. In addition to site investigations, she has conducted operation and monitoring oversight of remedial systems, evaluated system effectiveness, and prepared reports of emissions and system performance to regulatory agencies.

As a senior hydrogeologist, Ms. Englebert oversees and leads all aspects of project planning and coordination, from proposal writing to site closure requests. Her responsibilities include project management and budget tracking, client communications, directing site investigations, field sampling coordination, technical report writing, communication with regulatory agencies, remedial action planning, and remedial action implementation. In addition to project management, she also provides technical expertise for geologic and hydrogeologic characterization, designs and supervises drilling programs to delineate contaminant plumes, and performs aquifer characterization testing through in-field analysis, hydrogeologic calculations and numerical groundwater modeling.

Ms. Englebert has provided senior hydrogeologist and/or project management services for several hundred environmental projects over her career for clients that include private and large chain convenience stores, service station owners, resorts owners, townships, cities and counties, farmers, airports, school districts, hospitals, service fleet facilities and home heating oil. Ms. Englebert has provided clients with the necessary consulting services to complete the investigation and cleanup of their site in conformance with applicable state and federal programs to achieve practical and cost-effective investigations and remediation's that have resulted in site closure.

Ms. Englebert has completed numerous site evaluations to establish closure based on risk criteria. These site characterizations included monitoring for biodegradation

Jayne Englebert, PG, CPG

Position Relative to MPCA Proposal

Scientist 2

potential and natural attenuation capabilities of the contaminants in soil and/or groundwater, applying performance standards, developing site-specific soil cleanup standards and assessing risk to identified or potential receptors. These evaluations were achieved through soil characterizing, long-term groundwater monitoring using low flow sampling and contaminant degradation/mass reduction calculations.

Ms. Englebert has attended workshops and seminars for specialized training in: conducting comprehensive environmental property assessments; soil and groundwater modeling for risk assessment and soil clean-up level evaluation; remediation by natural attenuation; and analytical tools for designing subsurface gas extraction and control systems.

EDUCATION

B.S., Aquatic Biology
University of Wisconsin-Superior
Post Baccalaureate
University of Wisconsin-Superior

ASSOCIATIONS

Member of Environmental Laboratory Association

David Fitzsimmons

Position Relative to MPCA Proposal
Scientist 1 / Field Technician

EXPERTISE:

- Groundwater Monitoring
- Landfill Gas Monitoring
- Municipal and Industrial Effluent Bioassay
- Macroinvertebrate and Microinvertebrate Surveys

EXPERIENCE:

Mr. Fitzsimmons coordinates, conducts and manages the operation and monitoring requirements of solid and hazardous landfill projects at MSA. He is responsible for groundwater sampling programs, leachate sampling and monitoring requirements and landfill gas measurements. He has conducted investigation and remedial activities at LUST sites using standard drilling techniques and excavation of contaminated soils. Mr. Fitzsimmons also operates, maintains, and samples soil and groundwater remediation systems at LUST sites.

Mr. Fitzsimmons collects groundwater samples for municipal and industrial landfills according to the Wisconsin Administrative Code NR500. He uses proper field and laboratory procedures for collecting groundwater, lysimeter, surface water and leachate samples for parameters ranging from general parameters, VOCs, metals and semi-volatiles to air and methane samples by using charcoal tubes and suma canisters. He also collects field parameters such as pH, conductivity, temperature, dissolved oxygen, turbidity and redux potential while collecting samples and provides technical assistance in preparing reports once the laboratory analysis is complete.

Mr. Fitzsimmons has a wide variety of experience in effluent toxicity testing of municipal and industrial wastes, limnological studies, and vertebrate and invertebrate surveys. And he has completed wetland delineation and mitigation activities for private development corporations.

EDUCATION

M.S., Geosciences
University of Wisconsin-Milwaukee

B.S., Geological Sciences
University of Wisconsin-Milwaukee

REGISTRATIONS | CERTIFICATIONS

- Certified Professional Geologist, US, 9564
- Professional Geologist, WI, 0208
- Professional Geologist, MN, 30618
- Certified Underground Storage Tank Professional, MI, 893
- National Groundwater Association
- Minnesota Groundwater Association
- Wisconsin Groundwater Association
- Solid Waste Association of North America - Wisconsin Badger Chapter

Brad Kraemer, PG, CPG

Position Relative to MPCA Proposal
Scientist 2

EXPERTISE:

- Regulatory Compliance
- Remedial Investigations/Corrective Action Design
- Leaking Underground Storage Tank Investigations/Remediation
- Agricultural Chemical Facility Investigations
- Solid Waste Landfill Contamination Assessment and Monitoring
- Remediation System Performance and Operation, and Maintenance Evaluations
- Facility Monitoring for Regulatory Compliance and Natural Attenuation Evaluation
- Technical/Project Management from Investigation to Remediation to Closure

EXPERIENCE:

Mr. Kraemer has more than 25 years of experience in the technical and project management of remedial investigations and compliance assessment at leaking underground storage tank sites, bulk pesticide and fertilizer facilities, solid waste and demolition waste facilities, bulk petroleum storage facilities, commercial and industrial sites, and local, state and federal government facilities. Mr. Kraemer provides technical expertise and project management of remedial investigations and compliance assessment at leaking underground storage tank sites, bulk pesticide and fertilizer facilities, bulk petroleum storage facilities, commercial and industrial sites and local, state and federal government facilities.

Mr. Kraemer has managed leaking underground storage tank (LUST) that included the site investigation, remedial action options analysis, natural attenuation groundwater monitoring, data evaluation, and site closure reporting. Several of those projects implemented the use of soil vapor extraction, groundwater treatment and air injection remediation technologies.

Mr. Kraemer's solid waste O&M experience includes the monitoring, QA/QC technical oversight, data management, GEMS data submittal and reporting for over 25 facilities in Wisconsin. Site monitoring includes the collection of groundwater, leachate, lystimeter and surface water sediment basin samples; collection of fluid levels from leachate head wells and removal of fluid from landfill lysimeters; collection of landfill gas (LFG) data from probes and passive LFG extraction wells; and collection of active LFG system extraction air and condensate samples. Mr. Kraemer also performs monthly LFG contour maps from two landfills for one solid waste facility to help the facility better evaluate and manage its LFG waste-to-energy system.

EDUCATION

B.S., Geology-Environmental/ Hydrogeology,
University of Minnesota-Duluth

REGISTRATIONS | CERTIFICATIONS

- PECFA Consultant, WI, 42022
- Certified Asbestos Inspector, MN
- Certified Asbestos Site Supervisor, MN
- Certified Air Monitoring Technician, MN
- National Groundwater Association
- Minnesota Groundwater Association
- 40-Hour OSHA 29 CFR 1910.120
- 8-Hour Supervisory Training
- 8-Hour MSHA Certification
- American Red Cross Community CPR and Standard First Aid

Phillip Lockett

Position Relative to MPCA Proposal
Scientist 2 / Field Technician

EXPERTISE:

- Geologic/Hydrogeologic Investigations
- Remedial Action Plans and Implementation
- Petroleum Storage Tank Release Investigations
- Emergency Response and Containment/ Environmental Site Assessments
- Site Characterization and Feasibility Studies

EXPERIENCE:

Mr. Lockett's responsibilities include planning and implementation of subsurface hydrogeologic investigations, and remediation of soil and groundwater contamination in Minnesota and Wisconsin. Mr. Lockett has directed projects requiring remedial investigations and hydrogeologic remedial investigations. He also has prepared remedial action plans for underground and aboveground storage tank sites, truck spill sites, pipeline spill sites and property transactions including Phase I and II environmental site assessments. Mr. Lockett has overseen the completion of soil vapor surveys, shallow and deep soil borings, and groundwater sampling with temporary and permanent monitoring wells in his work experience.

Mr. Lockett has worked on solid and hazardous waste sites in Minnesota that are listed on the State of Minnesota NPL. This experience has included risk assessments; the preparation of QAPPs and sampling plans; conducting air, soil, and groundwater monitoring activities; and geophysical and groundwater monitoring activities.

EDUCATION

Associates Degree, Science, Architectural Drafting and CAD Technology
Northwest Technical Institute-
Eden Prairie, Minnesota

Courtney Rooyakkers

Position Relative to MPCA Proposal
GIS/CADD Specialist

EXPERTISE:

- Trimble GeoXT GPS UNIT
- GPS Pathfinder
- TerraSync
- ArcPad/ArcGIS/AutoCAD
- MicroStation/Eagle Point
- CADD Drafting

EXPERIENCE:

Ms. Rooyakkers has been providing CADD services to the Environmental Program for the past 10 years for the MPCA Petroleum-Only Contract.

Ms. Rooyakkers provides technical support to engineers, surveyors and GIS specialists. As an engineering technician, Ms. Rooyakkers provides drafting support to all of MSA's teams. She uses MicroStation and Eagle Point Software to draft design plans of infrastructure including roadways and utilities. As a survey technician, Ms. Rooyakkers uses AutoCAD and MicroStation to draft residential surveys and subdivisions. She also specializes in drafting ALTA surveys, which include mapping of all local utilities as well as on-site building dimensions. As a GIS technician, Ms. Rooyakkers' experience includes research, parcel mapping, address mapping and preparation of utility maps using AutoCAD, ArcView and ArcGIS. She also specializes in data collection and conversion using a Trimble GEOXT GPS unit and GPS Pathfinder, TerraSync and ArcPad Software.

EDUCATION

B.S., Environmental Engineering,
University of Wisconsin-Platteville

REGISTRATIONS

- Professional Engineer, MN
- Professional Engineer, WI

Lucas Jones, PE

Position Relative to MPCA Proposal
Engineer 2

EXPERTISE:

- Stormwater Management
- Drainage Systems Design
- Utility System and Wastewater Treatment Field Inspection
- Commercial, Industrial, Recreational and Residential Land Development
- Construction Staking and Topographic Survey
- Hydrology Modeling
- Municipal Utility Design

EXPERIENCE:

Mr. Jones's background includes land development, municipal, commercial, industrial, recreational and residential projects. His project experience includes hydrologic modeling, stormwater pollution prevention planning and stormwater best management practices. He also has experience with site geometrics, grading, sanitary, water and stormwater systems design. In addition, Mr. Jones has also prepared facility plans, and environmental and engineering design reports as required by state and federal agencies. Mr. Jones has provided inspection services for utility and wastewater treatment construction projects.

EDUCATION

B.S., Biology
University of Minnesota-Duluth

Renee Samuelson

Position Relative to MPCA Proposal
GIS/CADD Specialist

EXPERTISE:

- CADD Drafting
- Record Keeping
- Account Receivables

EXPERIENCE:

Ms. Samuelson provides CADD support to the Duluth office staff. Ms. Samuelson assists with the completion of the MPCA Petroleum Release Notification Follow-up documentation for MSA's projects.

Ms. Samuelson oversees and manages all aspects of inner office activities, scheduling and coordinating active projects, from proposal and report editing/ binding to archiving, maintaining files and library records, account receivables and marketing. Other faculties include CADD drafting for municipal and environmental projects. Her responsibilities include project coordination and account tracking, client communications, technical report editing, in addition to office management.

EDUCATION

B.S., Civil & Environmental Engineering,
University of Wisconsin-Madison

REGISTRATIONS

Professional Engineer, MN, WI, FL

Joseph Jurewicz, PE

Position Relative to MPCA Proposal
Engineer 2

EXPERTISE:

- Stormwater Management
- Water and Wastewater Distribution Systems
- Project Management

EXPERIENCE:

Mr. Jurewicz has been involved in variety of municipal infrastructure projects from conception to completion. He has more than 10 years of experience with a variety of multi-discipline engineering projects including stormwater management facilities, floodplain maintenance, water and sewer distribution systems, site paving and grading, and management and negotiation of planning and zoning issues.

EDUCATION

B.A., Biology and Environmental Science
Coe College

REGISTRATIONS | CERTIFICATIONS

- 40 Hour Hazwoper
- Stormwater Management Inspector, MN
- FAA Remote Drone Pilot

Jeff Powell

Position Relative to MPCA Proposal
Scientist 1 / Field Technician

EXPERTISE:

- ArcGIS Desktop and Online Mapping
- Trimble GPS Equipment (GeoXH, Geo7, TSC3)
- GeoRAS modeling
- Phase I/II ESA's
- Groundwater Modeling (BIOCHLOR)
- Wetland Delineation and Monitoring
- UAS Regulatory Compliance Specialist
- UAS Video and Photogrammetry Applicationss

EXPERIENCE:

Mr. Powell recently joined MSA with a background in GIS data analysis and web solutions, Unmanned Aircraft Systems (UAS) operations and environmental services. He provides GIS services for a number of our municipal clients such as Oak Grove, Newport, Lindstrom, Lexington, St. Croix Falls, Sparta, Luck, and Somerset. He specializes in ArcGIS Online custom web applications, asset management, and configuring GIS tools for field applications.

EDUCATION

A.A.S., Civil Engineering Technology
Lake Superior College

Chris Smith

Position Relative to MPCA Proposal
GIS/CADD Specialist

EXPERTISE:

- CADD, Microstation, Geopak, Land Desktop
- Transportation Engineering
- Drafting
- Construction Inspection

EXPERIENCE:

Mr. Smith is an experienced civil engineering technician with more than 10 years of experience working in the transportation engineering industry. He routinely works with project managers and engineers to draft project plans consistent and in line with project requirements.

STAFF MATRIX

A matrix table is provided at the end of this section that lists staff available for this project, classification, OSHA certification, years of service with the company, summary of educational experience, work experience and licenses and certifications held for each individual assigned to the Contract; and the location of those individuals (i.e., local, home or regional office).

In addition to the staff matrix table described above, we have prepared a **PERSONNEL EXPERIENCE MATRIX** table that summarizes staff experience conducting the services outlined in this RFP that follows the staff matrix table.

MSA PROFESSIONAL SERVICES, INC. PERSONNEL MATRIX

Name	Classifications	OSHA Cert.	Years' Experience		Education	Certifications & License	Regional or Home Office
			Total	MSA			
Brian Hegge	Project Manager, Scientist 2	Yes	39	23	BS	PH	Regional (Rhinelander, WI)
Jeffrey Anderson	Project Manager, Engineer 3	Yes	25	7	BS	PE*, Wetland	Regional (Duluth, MN)
Erica Klingfus	Scientist 1, Field Technician	Yes	6	2	BS		Regional (Duluth, MN)
Mark Davidson	Project Manager, Scientist 1, Scientist 2, Field Technician	Yes	11	1	MS, BS	PG	Regional (Duluth, MN)
Kim Bumgardner	Project Manager, Scientist 2	Yes	24	>1	BS		Regional (Duluth, MN)
Richard Lyster	Scientist 2	Yes	41	27	BS	PG, AIPG	Home (Baraboo, WI)
Jayne Englebert	Scientist 2	Yes	33	27	MS	PG*, AIPG	Home (Baraboo, WI)
David Fitzsimmons	Scientist 1, Field Technician	Yes	35	29	BS		Home (Baraboo, WI)
Brad Kraemer	Scientist 2	Yes	31	23	MS	PG*, AIPG	Home (Baraboo, WI)
Phillip D. Lockett	Scientist 2, Field Technician	Yes	24	21	BS	CAI, CASS	Regional (Duluth, MN)
Courtney Rooyakkers	GIS/CADD Specialist	No	20	19	AS		Regional (Rhinelander, WI)
Lucas Jones	Engineer 2	No	12	12	BS	PE*	Regional (St. Paul, MN)
Glenda (Renee) Samuelson	GIS/CADD Specialist	No	23	18	BS		Regional (Duluth, MN)
Joe Jurewicz	Engineer 2	No	16	6	BS	PE*	Regional (Duluth, MN)

MSA PROFESSIONAL SERVICES, INC. PERSONNEL MATRIX

Name	Classifications	OSHA Cert.	Years' Experience		Education	Certifications & License	Regional or Home Office
			Total	MSA			
Jeff Powell	Scientist 1, Field Technician	No	2	>1	B.A.		Regional (St. Paul)
Chris Smith	GIS/CADD	No	11	>1	A.S.		Regional (Duluth)

PE* = Certified Professional Engineer in Minnesota and other States
PE = Certified Professional Engineer in States other than Minnesota
PG* = Certified Professional Geologist in Minnesota and other States
PG = Certified Professional Geologist in States other than Minnesota
PH = Registered Professional Hydrologist in Wisconsin
AIPG = American Institute of Professional Geologists Certification
CAI= Certified Asbestos Inspector in Minnesota
CASS = Certified Asbestos Site Supervisor in Minnesota
WWTP = Certified Wastewater Treatment Plant Operator in Wisconsin
Wetland = MN Certified Wetland Delineator

QUALIFICATIONS AND CAPABILITIES

STAFF MATRIX

MSA PROFESSIONAL SERVICES, INC.
PERSONNEL EXPERIENCE MATRIX

Name	Oversee site investigation services using standard drilling and push probes	Conduct groundwater, soil, surface water, sediment and air sampling	Conduct vapor/air monitoring for health and safety and air quality criteria	Conduct and oversee ESA, LSI and RI's	Conduct SW, GW, air and vapor receptor surveys	Oversee construction to mitigate vapors	Conduct or oversee O&M on remedial systems	Arrange for transportation, storage and management of wastes	Evaluate and oversee implementation of alternative drinking water systems	Coordinate and cooperate with State-contracted services	Arrange geophysical activities	Oversee Subcontractors and State Contractors during investigation and clean-up activities	Oversee tank removals	Prepare and evaluate reports	Prepare HASPs	Arrange for site access	Coordinate utility locates	Prepare and evaluate bid specifications	Evaluate invoices and data reports	Assist and provide training	Follow MPCA Green practices	Oversee hydrogeologic investigations including fate & transport modeling	Capture zone analysis	Perform aquifer pump tests	Prepare EECA	Oversee Bench-scale studies or pilot tests
Brian Hegge	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Jeffrey Anderson	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X		X		X	X	
Erica Klingfus	X	X	X	X	X		X	X				X	X	X	X	X	X	X	X					X		
Mark Davidson	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X
Kim Bumgardner	X	X	X	X	X	X		X	X	X		X	X	X	X	X	X	X	X	X	X				X	
Richard Lyster	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X		
Jayne Englebert	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X		X		X		X
David Fitzsimmons	X	X	X	X	X		X	X				X		X		X	X									
Brad Kraemer	X	X	X	X	X	X	X	X		X			X	X		X	X	X	X	X		X		X		
Phillip D. Lockett	X	X	X	X	X	X	X	X		X		X	X	X		X	X		X							
Courtney Rooyakkers					X									X												
Lucas Jones												X					X	X								
Renee Samuelson					X									X												
Joseph Jurewicz																										
Chris Smith					X									X												
Jeff Powell	X	X	X	X	X	X		X				X	X	X		X										

STAFF MATRIX

MSA PROFESSIONAL SERVICES, INC.
PERSONNEL EXPERIENCE MATRIX

Name	Oversee equipment start-up and work out problems with contractor/vendor	Prepare and determine if SWPP is being followed and provide recommendations for adjustments	Collect and manage field and laboratory data for electronic submittal using MPCA specified format	Install stainless steel soil-gas sampling parts using and electronic drill																							
Brian Hegge	X		X																								
Jeffrey Anderson	X		X	X																							
Erica Klingfus			X	X																							
Mark Davidson	X		X	X																							
Kim Bumgardner			X																								
Richard Lyster	X		X																								
Jayne Englebert	X		X	X																							
David Fitzsimmons	X			X																							
Brad Kraemer	X		X	X																							
Phillip D. Lockett	X			X																							
Courtney Rooyakkers																											
Lucas Jones		X																									
Renee Samuelson																											
Joseph Jurewicz	X	X																									
Chris Smith																											
Jeff Powell			X	X																							

QUALIFICATIONS AND CAPABILITIES

FIRM LOCATIONS FOR THIS CONTRACT

MSA'S MAIN (HOME) OFFICE:

MSA Professional Services, Inc.
1230 South Blvd.,
Baraboo, WI 53913
Phone (608) 356-2771
Fax (608) 356-2770
Toll Free (800) 362-4505
Website: www.msa-ps.com

REGIONAL OFFICE:

MSA Professional Services, Inc.
332 W. Superior Street, Suite 600
Duluth, MN 55802
Phone (218) 722-3915
Fax (218) 722-4548
Toll Free (800) 777-7380
Jeffrey Anderson, PE
E-mail: jkanderson@msa-ps.com

REGIONAL OFFICE:

MSA Professional Services, Inc.
60 Plato Blvd. East, Ste 140
St. Paul, MN 55107-1835
Phone (612) 548-3132
Fax (763) 786-4574

EXPERIENCE WITH OTHER FEDERAL OR STATE AGENCIES OR DEPARTMENTS UNDER CONTRACT

Listed below are some of the other State and Federal agencies or departments that MSA has had a contract in the last five (5) years.

- Minnesota Army National Guard - Department of Military Affairs
- Minnesota Department of Administration - Division of State Building Construction
- Minnesota Department of Commerce - Abandoned Underground Petroleum Storage Tank Removal Program
- Minnesota Department of Commerce– Petrofund
- Minnesota Department of Natural Resources - Facility Operations Support Bureau
- Minnesota Department of Natural Resources - Division of Parks and Recreation
- Minnesota Pollution Control Agency – Petroleum-Only Contract
- Natural Resources Conservation Service
- The National Park Service
- United States Forest Service
- United States Army, Fort McCoy, Wisconsin
- Wisconsin Department of Natural Resources – Remediation & Redevelopment
- Wisconsin Department of Transportation
- Wisconsin Department of Administration - Division of Facilities Development
- Wisconsin Bureau of Aeronautics

MSA has been contracted for the past 15 years by the Minnesota Department of Commerce Petrofund Program for a Master Contract for Petrofund Abandoned Tank Removal Program to coordinate and conduct removal of abandoned underground storage tanks at sites across Minnesota. We have submitted again for renewal of this contract with high hopes that we remain under contract for UST removal. Instead of sitting back and waiting for the Department of Commerce to assign projects to MSA, MSA has actively looked for eligible tank systems and owners to enroll in this program. This has resulted in numerous orphan tank systems being removed that may not have occurred without MSA's actions.

We have actively engaged with several County Land Departments (including St. Louis, Beltrami, Carlton and Aitkin) to address potential sites with abandoned tanks. In addition, we have followed up with the owners of those properties and encouraged them to proceed with site investigations either privately funded or through the MPCA's Petroleum-Only contract. Because of this contract, we have a very strong working relationsship with John Houck and Joel Fischer at Petrofund.

And finally, MSA is extremely proud of our 5-year contract with the MPCA to provide Petroleum-Only services that ends on June 30, 2018. We have structured our Duluth Team to respond to this contract and have made staff changes over the years to maintain and even grow our level of services. Over the past two years, MSA has rowed through closure on over 50 sites within the Petroleum Remediation Program. In consideration of our relatively small staff, we have satisfaction in looking back at how many projects we have managed through complete investigation and clean-up. From the beginning when MPCA received Federal American Recovery and Reinvestment Act (ARRA) to the incorporation of "green technologies" into projects, MSA has embraced the requests of MPCA staff and worked towards providing the best services possible. We believe these staff efforts culminated with the favorable Contractor Evaluations we've received over the 5-year contract. We do not expect anything to change in the next 5-years and will continue to make the MPCA one of our favorite clients.

RECOMMENDATIONS

"I am pleased with the performance of the project. I understand the process and realize there is a lot involved in completing the process. I am pleased with the process to date. Encountered some non-petroleum contamination on this project, don't believe I have had that happen on other projects. Need to satisfy that issue and then I can close out the project."

- Joe Kleiman, Kleiman Realty

"Jeff does a very good job. He really cares for the project, the work and ourselves. We appreciate having Jeff on the job!"

- Sue Rowley, Buyck Cabin

"Jeff and MSA provide a "booklet" that covers all the necessary pertinent information both to the land owner and the MPCA."

- Richard Moore, Beltrami County

"MSA and Jeff are on the top of my list if I should ever need help again in removing underground storage tanks. Jeff went above and beyond in helpfulness and taking the time to explain the process involved."

- Richard Moore, Beltrami County

"I use MSA for work at all my stores and know that they are just a call away if I have any questions. It is easy for me to see that they are experts at what they do but always explain things in terms I can understand."

- Derek Medved, Gas Station Owner/Operator

"I work with MSA staff regularly and they are consistently on top of things. Even when something unusual comes up, they are ready with solutions that keep the activities moving forward and resolve issues before they become unmanageable."

- Kevin Lund, Twin Ports Environmental Construction

QUALIFICATIONS AND CAPABILITIES

SITE INVESTIGATIONS | REMEDIAL INVESTIGATIONS IN LAST FIVE YEARS IN MINNESOTA

MSA has completed or has underway 126 projects in Minnesota with either a limited site investigation or remedial investigation scope of work over the last five-years.

FAMILIARITY WITH MPCA PETROLEUM REMEDIATION PROGRAM

MSA is very familiar with the MPCA Petroleum Remediation Program's Consultant Guidance for UST/AST Release Investigation and Cleanup and the provision of Minn. Stat. 115C.01 - 115C.13. These statutes detail and clarify the identification of the responsible person, response to releases, consultant duty to notify, the Petroleum Tank Fund reimbursement, to name a few of the sections. MSA has completed, or is actively working on, approximately 126 investigations and/or clean-ups in Minnesota over the past five years, in compliance with the Minnesota Pollution Control Agency Petroleum Remediation Program. In addition, we have managed 70 UST removal projects in Minnesota (individual properties and many with multiple tank systems) in compliance with the MPCA Tanks Program. Our existing contracts with The MPCA and the Minnesota Department of Commerce - Abandoned Underground Petroleum Storage Tank Removal Program demands that we know and understand these rules.

PROJECT DESCRIPTIONS

Two project descriptions are included on the following pages that have been completed by MSA staff over the past three years. The projects were not completed under our past MPCA Petroleum-Only Contract.

PROJECT 1

Project Name: Highland BP
2 Central Entrance
Duluth, MN 55812
Leak Site # 20394

Project Contacts: Joseph Kleiman
1934 London Road
Duluth, MN 55812
Phone – (218) 722-9000

Site Description

The Highland BP is a former gas station and car wash located at 2 Central Entrance in Duluth, St. Louis County, Minnesota. The site is located in a commercial area of Duluth's Central Hillside District surrounded by residential properties and steep topography to the north and south and a general slope east towards Lake Superior. Six Petroleum Remediation Program Leak Sites were identified within 500 feet of the Property to the west, northwest, north and east of the site. The Property is owned by Kleiman Realty and has been vacated for potential future development.

Project Description

On May 24 and 25, 2017, Twin Ports Environmental Construction (TPEC) was contracted to remove two 10,000 gallon E-10 (10% ethanol, 90% gasoline) underground storage tanks (USTs), one 8,000 gallon E-10 UST, one 8,000 gallon gasoline UST and the five associated dispensers and piping from the site. MSA Professional Services, Inc. (MSA) field staff were onsite to observe site conditions and collect tank removal assessment soil samples. Elevated soil headspace readings analyzed with a photoionization detector (PID) and the observation of petroleum odors during the tank removal indicated a release had occurred associated with the dispensers and associated piping and was reported to the Minnesota Duty officer. A tank removal excavation report was prepared which documented the tank removal and assessment activities. Soil contamination identified in proximity to the tank basin and the dispensers resulted in the requirement to complete a Minnesota Pollution Control Agency Limited Site Investigation (LSI).

MSA provided a Petrofund bid form for the required work and was subsequently awarded the project. On July 17-19, 2017, MSA initiated the LSI fieldwork which included the advancement of six soil borings near the former tank basin and the dispensers and the collection of three soil gas vapor probes between the identified contamination and potential receptors. Initial soil boring advancement was completed by Twin Ports Testing (TPT). Site sediments were classified as silty clays and clayey silts with interbedded layers of silty sand and sand and groundwater was encountered between 10 to 15 feet below ground surface (bgs) in all of the soil borings. Soil, groundwater and soil gas samples were collected from the borings for laboratory analysis by ESC Lab Sciences (ESC). Surface water, vapor and water well receptor surveys were also conducted in order to determine potential risk pathways. Based on the analytical results of soil and groundwater samples collected during the initial LSI fieldwork, it was determined that contamination extended past the property boundaries and additional borings were needed on adjacent properties. MSA obtained access agreements with all of the necessary adjacent property owners and on August 31, 2017, seven additional borings were advanced on the adjacent properties. Additional soil and groundwater samples were collected for laboratory analysis by ESC in order to fully delineate the magnitude and extent of the soil and groundwater contamination.

Outcome Achieved

MSA prepared and submitted an LSI report documenting the results of the Limited Site Investigation and the sensitive receptor survey. The report included drafted figures portraying the sampling locations, sampling results, area features, site lithology and the approximate extent of soil and groundwater contamination on the site. The report identified that contamination from other Leak Sites in the area had co-mingled with contamination on the site but did not identify any significant threats to sensitive receptors in the area and MSA recommended closure for the site. The site received closure from the MPCA Petroleum Remediation Program on December 14, 2017. Due to the detection of several non-petroleum related constituents in the soil gas samples, the site was referred to the MPCA Site Assessment Program. MSA mobilized to the site on

PROJECT DESCRIPTIONS

January 10, 2018 with Range Environmental Drilling (Range) to collect heating season soil gas samples as described in MPCA Guidance Document 3-06 *"Best management practices for vapor investigation and building mitigation decisions"* for laboratory analysis. The heating season soil gas sample analytical results did not indicate a significant threat of vapor migration or intrusion and No Further Action was required for the site. A listing of tasks with the personnel who conducted each task during the project and a list of tasks that were subcontracted out is included below.

PROJECT TASK	PERSONNEL	AFFILIATION
Oversight of Tank Removal	Jeff Anderson/Sara Post*	MSA
Soil Sampling during Tank Removal	Sara Post*	MSA
Tank Excavation Report	Mark Davidson/Sara Post*	MSA
Tank Excavation Report Figures	Courtney Rooyakkers	MSA
Tank Excavation Report Review	Jeff Anderson	MSA
Petrofund Bid Forms	Jeff Anderson	MSA
Health and Safety Plan	Erica Klingfus	MSA
Fieldwork Notification	Erica Klingfus	MSA
Soil Boring Oversight	Erica Klingfus/Mark Davidson	MSA
Soil Vapor Sampling Oversight	Erica Klingfus	MSA
Sensitive Receptor Survey	Erica Klingfus	MSA
Offsite Access	Mark Davidson	MSA
LSI Report	Mark Davidson/Erica Klingfus	MSA
LSI Report Figures	Courtney Rooyakkers	MSA
LSI Report Review	Jeff Anderson	MSA
Project Management	Jeff Anderson	MSA

*= Former Employee

SUBCONTRACTED TASK	SUBCONTRACTOR
Tank, Dispenser and Piping Removal	TPEC
Soil Borings	TPT
Soil Gas Vapor Probes	TPT/Range
Laboratory Analytical Services	ESC

PROJECT 2

Project Name: Beaver Bay Water Treatment Plant
1818 Mary Street
Beaver Bay, MN 55601
LS0008297

Project Contact: City of Beaver Bay
Tim Anderson, City Clerk/Treasurer
711 MacDonald Avenue
Beaver Bay, MN 55601
Phone #: (218) 226-3251

Site Description

The Beaver Bay Water Treatment Plant is located in the City of Beaver Bay, Minnesota on the north shore of Lake Superior. MSA was hired in 2012 to plan and oversee remedial work at the water treatment plant, where approximately 500 gallons of fuel oil were released from an on-site tank in 1995. In May 1995, fuel oil odors were noted in the water treatment plant and were traced back to the plant's wet well, which was found to contain approximately three feet of free product (an estimated 160 gallons).

An attempt was made to isolate the wet well feature in 1997, but impacted groundwater was still entering the well. A combination of conditions appeared to allow residual fuel oil contamination existing in the annular space of the vertical wet well to infiltrate the wet well casing and be pumped into the water treatment plant, which was not designed to remove petroleum hydrocarbons. The attempt to isolate the wet well in 1997 included inserting an additional steel casing within the original 36-inch wet well casing. The steel casing, however, had an open base, which allowed for continued impacted groundwater infiltration into the wet well. Additional soil borings were advanced to help define the extent of the site's remaining petroleum contamination and a Limited Site Investigation report was prepared in October 1997. The MPCA granted site closure in November 1997.

In October 1998, petroleum odors and a visible sheen were again observed within the wet well. The MPCA reopened the site's leak file, and additional sampling of the wet well was completed. Results of the additional investigation performed in 1998 were summarized in a report in August 1999, and site closure was again granted in September 1999.

In November 2007, petroleum odors and a visible sheen were again observed in the wet well, and the MPCA reopened the site

once again. In September 2008, a previous consultant oversaw the removal of approximately 168 cubic yards of petroleum impacted soils from the site. No excavation report was prepared, however, MSA was able to obtain field notes outlining excavation activities that took place. Although the excavation appears to have removed a significant portion of the site's contaminated soil, field notes suggested that significantly contaminated soil was left in place in and around the former building foundation at the base of the excavation. Following the contaminated soil excavation activities, the water treatment plant building was reconstructed and enlarged to its current configuration.

Historical data collected by previous consultants, along with data most recently collected by MSA provided evidence that residual petroleum contamination associated with the 1995 fuel oil release appeared to be concentrated along the foundation of the original site building at approximately 7 to 9 feet below ground surface (bgs) and within the vertical shaft containing the wet well feature. Based on soil and groundwater samples collected from soil borings advanced at the property, it appeared that the spill migrated vertically through the relatively thin, unconsolidated sediments overlying bedrock (8 to 9 feet bgs in the area of the existing foundation) and then followed the building foundation until entering a subsurface conduit, diverting the contamination toward the wet well. Groundwater samples collected from soil borings at the property indicated limited down-gradient contaminant migration south of the wet well. It appeared that the wet well feature acted as a collection point and very little migration from the collection feature had occurred.

PROJECT DESCRIPTIONS

Project Description

MSA's work at the site began in September 2012, when MSA oversaw the advancement of seven soil borings at the site. Soil and groundwater samples were collected from the borings and submitted for laboratory analysis of gasoline range organics (GRO), diesel range organics (DRO) and volatile organic compounds (VOCs). MSA also collected water samples from the plant's sanitary sewer lift station, wet well, and clear well features.

A Conceptual Corrective Action Design (CCAD) report was prepared for the site in June 2013, initially identifying the installation of a closed-base steel liner within the existing wet well as the most viable corrective action alternative. A revised CCAD report was prepared in June 2016 after a revised alternative was deemed necessary due to major issues identified during the contractor bidding process that would directly affect the successful completion of the previously approved corrective action. The revised CCAD report was approved by the MPCA on July 15, 2016.

The revised corrective action involved the construction of a new shore well with pump features to the south of the existing water treatment plant. The goal of the corrective action was to eliminate drinking water impacts to the City of Beaver Bay municipal water supply by preventing contact between drinking water acquired from Lake Superior with residual soil and groundwater contamination existing beneath the water treatment plant and specifically concentrated within the annular space of the existing wet well. The installation of a new well would prevent contact with residual contamination, which had accumulated within the existing well feature. The existing well and intake line to the isolation valve were to be sealed and capped using standard grouting procedures after being pumped free of liquid.

To meet the goals of the investigation, a series of work tasks were defined in the CCAD report. These tasks included:

- Construction of an access road to the proposed wet well pump house;
- Installation of a new wet well and construct an associated pump house near the isolation valve location;
- Installation of a new water line from the pump house to the water treatment facility;
- Sealing of the existing wet well and intake line to the location of the isolation valve; and
- Subsequent water monitoring of the Beaver Bay Water Treatment Plant water. Pre- and post-treatment water monitoring were conducted to evaluate the effectiveness of the newly installed system.

Site work began in January 2017, when efforts were initiated to excavate an area to install a pre-fabricated, Minnesota Department of Health (MDH)-approved wet well tank and pump house, in addition to running a new insulated underground water line into the plant building. A slab foundation was poured at the base of the excavation for placement of the wet well feature, and the well was then installed on the foundation.

Following installation of the wet well, new interior piping and extensions to outdoor piping were installed. Electrical and control panel components were installed at the wet well. The new system was tested and brought on line on March 16, 2017. The system was run for two weeks, after which the decommissioning of the former tank features and previous wet well was initiated. Following confirmation of an operational system, the former wet well and intake line to the isolation valve were sealed and capped.

Site restoration activities included the installation of a small access road for equipment and maintenance purposes. The drive was paved and final restoration took place in July 2017.

During post corrective action monitoring at the Beaver Bay Water Treatment Plant, benzo(a)pyrene was detected in the July 2017 finished water sample above the MDH Health Based Value (HBV) of 0.06 ug/L. Raw water entering the system did not show any detections of benzo(a)pyrene above laboratory detection limits. Based on these results, it was determined that the filter media in the two treatment units had likely been impacted by historical undesirable raw water run through the two units. MSA recommended that the filter media be changed out in an email to the MPCA in September 2017, an action that was subsequently approved by the MPCA hydrologist.

The filter media was replaced in the two treatment units during two separate weeks in December 2017. One unit was worked on during the first week, with the second unit completed the following week. The two units were cleaned, vacuumed, and disinfected before new sand and anthracite media were added to the units. The new filter beds were filled with water and chlorinated prior to being brought back on line.

Outcome Achieved

Two rounds of confirmatory water sampling performed after the filter media change out resulted in no constituent detections aside from bromodichloromethane and chloroform, both byproducts of the chlorination process and known, regularly-detected compounds within municipal water supplies. Based on these results, it appears that the replacement of the wet well in addition to the removal and replacement of the filter media in the treatment units eliminated the petroleum impacts that had been observed at the treatment plant. The property is considered remediated to an extent that will provide the citizens of Beaver Bay with a consistent, high level of water quality and eliminate potential exposures to petroleum contaminants.

A Response Action Implementation (RAI) report was prepared following the completion of CCAD objectives and the additional confirmatory sampling and submitted to the MPCA for review. Site closure has now been recommended to the MPCA and this recommendation is under review.

PROJECT TASK	PERSONNEL	AFFILIATION
Site Background/Research	Jeff Anderson	MSA
Health and Safety Plan	Jeff Anderson	MSA
Bid Specifications	Jeff Anderson	MSA
Contractor Oversight	Jeff Anderson, Phil Lockett	MSA
CCAD Report Preparation	Jeff Anderson	MSA
Response Action Implementation Report	Jeff Anderson, Erica Klingfus	MSA
Water Treatment Plant Sampling	Phil Lockett	MSA
CADD Figure Preparation	Courtney Rooyakkers	MSA

SUBCONTRACTED TASK	SUBCONTRACTOR
Fixed Base Laboratories	ESC Lab Sciences, Pace Analytical
Wet Well Excavation, Installation, Sealing	Magney Construction
Access Road Construction	Magney Construction
Filter Media Change Out	Magney Construction
Site Restoration	Magney Construction

SCOPE OF SERVICES

MSA's experience in the investigation and remediation of petroleum contamination is quite extensive. We have worked on projects in Minnesota, Wisconsin, Iowa, Illinois and Michigan. A brief discussion of our capabilities in each of the categories contained in **Section 3, Category B, Scope of Services, Petroleum-Only Environmental Services** is provided below. Specifically, over the past two years, MSA has worked on nearly 50 projects within the MPCA Petroleum Remediation Program that have been granted official closure by the MPCA. We are very proud of the clean- up work we manage and also our ability to evaluate and get sites closed which are found to not be a threat to human health or the environment.

OVERSEE SITE INVESTIGATION SERVICES FOR SOIL BORING ADVANCEMENT AND MONITORING WELL INSTALLATION USING BOTH STANDARD DRILLING METHODS AND PUSH PROBES.

MSA provides the scientific and engineering services necessary to investigate and remediate contaminated soil and groundwater. MSA strives to provide practical, effective, low-cost solutions appropriate for each site, regardless of the source of the contamination or the complexity of the problem. Our site investigation experience ranges from collecting one or two soil samples to installing a complex network of soil and groundwater sample points. Each site is unique, and MSA has the professional staff necessary to plan and design the investigation that is appropriate for each situation. MSA has completed hundreds of subsurface investigations at petroleum sites for clients in the Midwest. Our petroleum site investigation approach follows the MPCA LUST Guidance documents. The primary goal of the subsurface investigation is to define the extent and magnitude of petroleum contamination in soil and groundwater.

MSA has performed subsurface investigation using just about every type of drilling equipment available (i.e., hollow stem, mud rotary, air rotary, rota-sonic, direct push, dual tube, casing overshot, cable tool, and solid stem augers). During drilling operations, split-spoon soil samples are typically collected using Standard Penetration Test procedures (ASTM D1586). MSA may recommend that an initial soil/groundwater survey be conducted with a push probe prior to installation of monitoring wells to help delineate the extent of potential soil and groundwater contamination.

HIGHLAND BP, DULUTH, MN - MSA completed a Limited Site Investigation (LSI) at the Highland BP to determine the extent and magnitude of contamination associated with the site's former

use as a fueling station. A push probe was used to advance six soil borings at the site to define the extent of contamination in the area of the former tank basin and dispenser area. Soil samples were obtained from the push probe in 2.5-ft intervals using a lined, stainless steel 5-ft sampler. MSA staff conducted field supervision of drilling operations and produced stratigraphic logs to represent soils beneath the site. Based on results from the initial sampling, seven additional off-site soil borings were advanced to further delineate the extent of contamination that had migrated to adjacent properties.

FINLAYSON COOP, FINLAYSON, MN – MSA began working at the Finlayson property, an active fueling station and automotive repair shop, in 2014. Since beginning work on the project, MSA staff have overseen the installation of seven monitoring wells at the site, including one bedrock well installed to a depth of 58 feet below ground surface (bgs) and screened within the Hinckley Sandstone bedrock layer. Additional work was completed to install additional four additional wells – two bedrock wells and two shallower wells using rota-sonic drilling techniques in March 2018.

CROMWELL SELF-SERVE, CROMWELL, MN – MSA completed an LSI which included the oversight and sampling of ten soil borings at the site, which is a fueling station and convenience store with active USTs and several dispenser islands located beneath two separate canopies. MSA oversaw the installation of four monitoring wells at the Cromwell property in March 2016.

FIVE CORNERS, DULUTH, MN – MSA oversaw the advancement of fifteen direct push soil borings at the former Five Corners Store and Gas Station as part of a Phase II Environmental Site Assessment (ESA) performed at the site prior to the construction

of a roundabout in the area. After soil and groundwater contamination was detected in one of the Phase II ESA borings, five additional borings were advanced as part of an LSI to provide horizontal and vertical definition of soil and groundwater contamination identified in that area of the site.

FOUR CORNERS, EMBARRASS, MN - In April 2016, MSA oversaw the removal of three underground storage tanks (USTs) from the former Four Corners Store. MSA oversaw the advancement of seven direct push soil borings in October 2016 in an area where a previous consultant had identified soil contamination. The borings were advanced in locations designed to provide adequate vertical and horizontal definition of the extent of soil and potential groundwater petroleum contamination at the site. Two additional borings advanced down gradient of the area of identified soil contamination did not provide plume definition, and it was determined that additional hand auger borings would need to be advanced in the wetland adjacent to the site. In March 2017, an additional boring was advanced in the former tank basin, and two borings were advanced by hand in the wetland.

CONDUCT GROUND WATER, SOIL, SURFACE WATER, SEDIMENT, AND AIR SAMPLING AND MONITORING

MSA provides comprehensive sampling services to both the public and private sectors. MSA provides these services to a wide- ranging clientele from local municipalities to regional industries and large corporations. Our sampling services are typically associated with subsurface investigations, as described above, but also include sampling from remedial systems, tank removals and wastewater sites. MSA tailors each sampling event to project and client-specific requirements to meet state and/or federal regulations. MSA has environmental technicians, geologists and hydrogeologists who have experience sampling groundwater, soil, sediments and air. Work plans are developed that contain detailed sample collection procedures, quality control requirements, and sample handling and packaging requirements.

Soil samples collected from borings and/or excavations are described to provide very detailed stratigraphic logs of the unconsolidated materials and logged according to the Unified Soil Classification System and screened for the presence of organic vapors in the field using a photoionization detector (PID). Soil field screening and sample collection for laboratory analysis is completed in accordance with applicable MPCA guidance documents.

Vapor intrusion and sub-slab sampling has grown in importance over the past several years and MSA performs these activities on projects in both Minnesota and Wisconsin for petroleum and dry-cleaning contaminated properties.

MSA has completed many Limited Site Investigations (LSI) and Full Remedial Investigations (RI) in Minnesota requiring groundwater sample collection services. Each sampling plan is site specific but follows the appropriate MPCA guidance document for each sampling medium. An LSI will initially include the collection of grab groundwater samples utilizing a push probe. This enables MSA to assess potential groundwater contamination and whether the installation of permanent monitoring wells is necessary. If groundwater contamination is identified during the LSI phase, monitoring wells are typically recommended to provide a more comprehensive approach to ground water sample collection. In addition to sampling for petroleum contamination, MSA has experience with collection of physical properties, including water levels, hydraulic conductivity, and site-specific hydrogeologic parameters. MSA has provided long-term monitoring at many petroleum sites that typically include repeat sampling of groundwater for contamination concentration trends and aquifer physical properties. These sample parameters, measured in monitoring wells over time, allow for determination of plume stability.

MSA maintains a comprehensive list of groundwater sampling equipment and supplies. We own submersible pumps, peristaltic bladder pumps, free product recovery equipment, and meters that measure water levels and field parameters such as, pH, dissolved oxygen, conductivity, redox, salinity, and temperature.

DEBS STORE, DEBS, MN – After removing a 2,000-gallon gasoline/diesel UST from the former Debs Store property, two soil samples were collected from the tank basin, one at each

end of the excavation. One soil sample was also collected from beneath each of the fuel dispensers. Although laboratory results did not result in elevated constituent concentrations within the samples, moderately high PID detections were observed during the field screening of excavated soils. Due to the close proximity of a drinking water well to the former tank location, MSA recommended that the private well on site be sampled to confirm that it was not impacted by the release.

MSA staff oversaw the pump removal, well purging, and sampling of the private well at the Debs Store site. Following the pulling of the pump and gathering of information regarding the well's construction, a portable generator was used to purge approximately 30 gallons of water from the well. Upon recharge, MSA collected water samples from the well for laboratory analysis. Based on results from the sampling, it was determined that there was not a threat to the well and no further investigation was necessary at the site.

MORGAN PARK SUPER AMERICA, DULUTH, MN – Groundwater contamination was identified at the Morgan Park Super America Site in soil borings advanced during a Phase II ESA completed by MSA in February 2017. Seven additional soil borings were advanced as part of an LSI to define the extent of soil and groundwater contamination at the site. Soil cores were collected from each boring in two-foot intervals, field logged, and field screened for petroleum-related organic vapors using a PID.

Initial soil gas sampling indicated benzene at a concentration close to the MPCA 33x Industrial Intrusion Screening Value (33x ISV) in one of the soil gas samples collected at the site. Two additional receptor-specific soil-gas samples were collected to determine the extent of soil vapor impacts at the site and determine whether soil vapor impacts had migrated to neighboring properties. No contaminant concentrations in the additional samples exceeded their respective ISVs.

Because of the elevated soil-gas contaminant concentrations detected in the proximity of the municipal storm sewer, vapor screening was also conducted at all of the storm sewer inlets in the vicinity of the sample location. There were no elevated PID or LEL readings detected in any of the storm sewer inlets.

CONDUCT VAPOR/AIR MONITORING FOR HEALTH AND SAFETY AND AIR QUALITY CRITERIA

MSA completes vapor and air quality monitoring at subsurface investigation sites. Our vapor monitoring experience has been

completed in accordance with MPCA Guidance Document 4-01a and 4-02. Vapor and air quality monitoring is typically completed using a MiniRAE Photoionization Detector (PID) with a 10.6 eV lamp and a Drager X-am 2000 four gas meter calibrated for detection of Oxygen (O2), Lower Explosive Limit (LEL), Carbon Monoxide (CO) and Hydrogen Sulfide (H2S).

Each health and safety plan developed by MSA contains information on site contaminants of concern, required personnel protection equipment, emergency procedures, and monitoring requirements. Monitoring requirements are different for each site since vapor migrates along pressure gradients, moving from high to low pressure. Vapor monitoring activities are completed after potential vapor receptors including utility corridors, basements, drains and other subsurface structures where vapors could accumulate are identified in accordance with MPCA Guidance Document 4-02.

Vapor risk assessments include contacting the city utility department to obtain maps and assistance with sewer flow and manhole access and identifying basements and sumps during the 500-foot survey. MSA also contacts the fire department to inquire whether they have knowledge of petroleum vapors complaints or reports in the vicinity of the site.

Vapor Intrusion Assessments are required at all LSI sites in accordance with Guidance Document 4-01a - Vapor Intrusion Assessments Performed During Site Investigations. Methods and procedures for vapor points, below slab and indoor monitoring are completed when and if required as specified in the above referenced guidance unless otherwise approved by the MPCA on a project specific basis. Exterior vapor point extraction is performed using the Geoprobe PRT system or equivalent. Indoor sub slab vapor points are installed using a hammer drill. Vapor sample collection is completed using a Summa canister and analysis must follow the EPA TO-15 method.

ALASPAS STORE, CLOQUET, MN – The MPCA requested that MSA complete additional work at the Alaspas Store site (a former fueling station and convenience store) to identify whether soil-gas vapor contamination identified near a former tank basin had migrated beneath the building on site. Three permanent sub-slab soil gas sampling ports were installed through the building slab and sampled in the former convenience store building. Prior to installation of the sub slab probes, the slab was inspected for cracks, floor drains, utility perforations, sumps, etc. After purging the sampling probe, the sub-slab air samples were collected in a 6-liter Summa canister using a flow control valve to control the airflow to the canister to a maximum flow rate of 200 milliliters per minute (mL/minute). A Vapor Intrusion Building Survey (MPCA Document c-rem3-01a) was also completed at the time of vapor sampling.

HERMANTOWN SUPER AMERICA, HERMANTOWN, MN – A petroleum release was discovered during the removal of diesel and gasoline tanks from the former Hermantown Super America fueling station. Due to the close proximity of a former diesel UST basin to the convenience store building located at the Hermantown Super America site, sub slab vapor sampling was completed in order to verify that concentrations of petroleum vapors in the soils beneath the building slab were below 33X ISV standards. Two permanent sub-slab soil gas sampling ports were installed through the building slab and sampled in the former convenience store building (now a used car sales office) and a Vapor Intrusion Building Survey was completed.

FINLAYSON COOP, FINLAYSON, MN - Based on elevated concentrations of petroleum contaminants detected in groundwater beneath the property, sub-slab soil-gas vapor samples were collected inside the automotive repair shop and the neighboring salon building. Building surveys were also completed at the time of vapor sampling. Because the occupants of both buildings use volatile compounds (oil and solvents in the repair shop, acetone in the salon), these materials were noted in the building surveys and ambient PID readings were collected inside the buildings.

COOK COUNTRY STORE, COOK, MN - The Northwoods Bait and Tackle property was investigated in association with the former Cook Country Store, which has been investigated for a number of petroleum releases over the years. MSA staff collected four water samples and two air samples (indoor and outdoor) from the Northwoods Bait and Tackle site. Water samples were collected from four different locations at the property – two wells (deep and shallow), midway through the minnow tank system, and at the minnow tank system effluent point. Water samples were analyzed for VOCs, GRO, and DRO. To see if aeration of the minnow tanks was causing any off-gassing of VOCs, concentrations at the beginning and end of the water cycle were compared. There was no significant change in concentrations between each sampling point.

Potential off-gassing of VOCs from the tank water into the air within the building was also investigated via indoor and outdoor air samples collected at the site using 100-percent individually certified Summa canisters to ensure no residual contamination was present in the canisters prior to use. Based on the results from three separate indoor and outdoor air sampling events, no correlation was found between benzene concentrations in the minnow tank water and in the indoor air. VOCs detected in the indoor air sample that exceeded 33X Industrial ISVs during the July 2017 sampling event were not detected in any of the water samples, and were believed to be attributable to a gas-powered lawn mower stored in the building.

CONDUCT AND/OR OVERSEE SITE ASSESSMENT ACTIVITIES (PHASE I AND PHASE II), LIMITED SITE INVESTIGATIONS AND REMEDIAL INVESTIGATIONS

MSA staff have completed hundreds of Environmental Site Assessments (ESAs) for private, governmental and industrial clients to identify environmental conditions in connection with the property. ESAs are completed in accordance with MPCA's Brownfield Program guidance documents and ASTM Standard Practice E-1527 Environmental Site Assessment: Phase I Environmental Site Assessment Process and ASTM Standard E 1903, Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process, as applicable. When applicable, the Minnesota Brownfield guidance document #8 for Phase I ESAs will also be followed.

Using the information gathered in the Phase I ESA, a work plan is typically prepared to conduct Phase II ESA site activities to address identified areas of concern. The contents typically include the following:

- ***Site Limitations*** – Evaluation of foreseeable physical and logistical impediments that might interfere with or limit the ability to conduct explorations, sampling and analyses.
- ***Existing Information*** – Review of the findings of the Phase I ESA to identify the characteristics that constitute recognized environmental conditions (areas of concern).
- ***Potential Distribution of Contaminants*** – Discussion of the likely distribution of potential contaminants.

- ***Sampling/Analysis Plan and Quality Control/Quality Assurance Plan*** – This plan will describe with sufficient detail the investigative techniques to be performed during the Phase II ESA site activities.
- ***Site Safety Plan*** - A site safety plan will be developed and followed by MSA and subcontractors.

At petroleum release sites, the Phase II process will typically follow the LSI or full RI guidelines related to investigation requirements (e.g. Guidance Documents 1-01, 4-01) or where applicable Brownfield guidance document #11. Our petroleum site investigation approach follows the MPCA guidance documents. Non-petroleum release site investigations follow guidelines outlined in the MPCA Brownfields Fact Sheets and Risk-Based Site Evaluation Manual.

MSA examines the site's geology and hydrogeology to determine what direction the contamination might be traveling through the subsurface and whether potable water supplies might be affected. MSA's site investigation services include:

- Preparing a work plan for review and approval by the site owner and regulatory agency
- Performing a field investigation to determine the extent of contamination
- Preparing reports documenting investigation results and appropriate clean up.

MSA is capable of performing the investigation in-house, except for commodity services, such as drilling and laboratory analysis, which are purchased based on competitive bidding or using state contractors, as required.

PIEDMONT BARBERS, DULUTH, MN - After a Phase II ESA completed by MSA identified groundwater contamination exceeding MDH HRLs in groundwater samples collected from three soil borings advanced at the site, an LSI was completed for the property to identify the extent and magnitude of soil and groundwater contamination at the site. The site had previously operated as a filling station, with tanks and dispensers located on the property. The tanks and dispensers had been removed at some time prior to current ownership, and the current owner was not aware of when the tanks and dispensers were removed. In addition, a small heating oil UST was removed from the site in December 1994.

Five soil borings advanced at the site defined the area of contamination to the former fuel oil tank basin and the former gasoline tank basin/dispenser area. Three soil gas samples collected within 100 feet of the tank basins identified contaminant concentrations above ISVs, however, none of the contaminant concentrations exceeded their respective 33X ISVs. Based on subsurface geology and the confined nature of the contaminant areas, MSA recommended and received site closure.

NORTH SHORE OIL & PROPANE, SILVER BAY, MN - MSA completed a Phase II ESA at the North Shore Oil & Propane site, which is currently a bulk oil storage facility with shop, storage, and office space. There are twelve above ground storage tanks (ASTs) located at the site. The objective of the investigation was to identify if soil or groundwater impacts were present at the site, and to determine if there were any impacts related to the site's use as a bulk oil storage facility. Three direct-push soil borings were advanced at the site to evaluate subsurface conditions in specific locations that showed indications of possible contamination, including staining and heavy vehicle use. Soil samples collected from the borings did not indicate any contaminant concentrations which exceeded MPCA Tier 1 or Tier 2 Soil Reference Values (SRVs) or Soil Leaching Values (SLVs).

CENTURY MOTOR FREIGHT, VIRGINIA, MN - A Phase II ESA was initially completed at the Century Motor Freight property, which consists of a large garage used as a truck shipping business and adjacent office space. According to the MPCA Tanks Database, three tanks (one diesel and two fuel oil) were historically located at the site. There was no information regarding the locations of the tanks at the property, but MSA referenced historical aerial photographs which showed what appeared to be a fueling dispenser near the northeast side of the building. Borings were advanced in this area as part of the Phase II investigation, which identified soil and groundwater contamination in the former tank basin.

Based on the location of remnant interior piping and a fuel gauge, it was determined during the LSI that the fuel oil tanks were likely located on the southern side of the building. Soil samples

collected from borings advanced in this area showed signs of fuel oil contamination (fuel oil odor, elevated PID readings, DRO), confirming the location of the former fuel oil USTs.

Twelve soil borings and two soil-gas vapor probes were advanced as part of the LSI and defined the extent of soil, groundwater, and soil vapor contamination within the site boundaries. Closure has been pursued for this site.

CONDUCT SURFACE WATER, GROUND WATER, AIR AND VAPOR RECEPTOR SURVEYS

The MPCA requires all potential surface water, groundwater and vapor receptors and vapor migration pathways within 500 feet of each site be identified and mapped.

Well receptor surveys are completed to evaluate the proximity of local water supply wells to the site. This survey includes obtaining MGS, MDH drillers and if available, county well records. The geology data from well logs facilitates planning the depth of subsurface investigations in order to assess whether petroleum contamination could be or is migrating to an aquifer or well. All properties located with 500 feet of the site are identified and placed on a base map. MSA completes inquiries into these properties to evaluate the presence of private water wells, public water supply, basements, sumps and possible petroleum sources. When the down gradient plume extent is known, estimated travel times to nearby wells is calculated using pore velocity.

Surface water risk assessments are used to identify locations of all surface waters within ¼ mile of the site. This information is obtained through the review of USGS topographical maps and on-site surveys. All nearby potential surface water receptors within a 500-foot walking survey are also identified. This information is important for sites involving surface spills that flow directly to a surface water or potential surface water impacts via discharge from contaminated groundwater. MSA uses this survey information to plan sampling locations for the subsurface investigation to evaluate the ground water quality between the site and the surface water.

LEMON TREE, CLOQUET, MN - A well receptor survey and risk assessment completed as part of a comprehensive LSI identified four wells within ½ mile of the former Lemon Tree gas station site. Two of the wells were no longer in use (the buildings had since been connected to city water) and one was used only for filling bait tanks (not for potable use). Based on well usage and the extent of groundwater contamination identified at the site, closure has been pursued for the property.

GRAND AVENUE PARKING LOT, DULUTH, MN - After exterior soil-gas vapor samples collected near the property boundaries of the Grand Avenue Parking Lot site where a fuel oil/diesel tank had been removed indicated contaminant concentrations exceeding MPCA 33x ISVs, the residential property owners on either side of the parking lot were contacted and permission to collect sub slab samples from beneath their buildings and complete an indoor air survey was obtained. Building access was coordinated between MSA and the homeowners to fit their needs and schedules. MSA personnel explained the sampling process to the homeowners and building tenants and answered any questions that they had.

OVERSEE CONSTRUCTION TO MITIGATE VAPORS AND CONDUCT NON- CONSTRUCTION MITIGATION MEASURES SUCH AS USING FANS, ETC

MSA has not been required by the MPCA to complete vapor mitigation for impacts to sanitary and/or storm sewers at our sites in Minnesota. However, we have provided this service to clients in other states. MSA provides vapor mitigation and coordinated

response actions to protect human health and safety.

THE LAUNDRY BASKET, LUCK, WI – The Laundry Basket is a former dry cleaning facility that has been remodeled into a laundromat facility. MSA oversaw the installation of a sub-slab depressurization system in 2011 to mitigate vapor beneath the building. Since system installation, MSA has been monitoring system operation on a quarterly basis concurrent with groundwater and sub-slab vapor sampling being performed at the site and surrounding properties. MSA also prepared an Operations and Maintenance manual for the current property owner and subsequent owners to reference, including information on system construction and equipment specifications, maintenance, inspection requirements, and troubleshooting information.

902-904 BELKNAP STREET, SUPERIOR, WI - Soil contaminated with dry cleaning solvents (tetrachloroethylene and trichloroethylene) was identified at the 902-904 property as part of a Phase 2.5 Investigation completed prior to planned street reconstruction. MSA was contracted in 2016 to address the identified soil contamination at the property. After samples collected from the earthen floor in the building's basement identified concentrations of chlorinated solvents exceeding direct contact standards, MSA recommended the excavation of contaminated soils identified in the earthen section of the basement in order to mitigate the soil direct contact and vapor intrusion threats into the building.

The removal of several yards of contaminated soils in the basement revealed that the soils were actually on top of a poured concrete slab which existed several feet lower than the rest of the basement. After the contaminated soil was completely excavated, clean sand backfill and a drain tile system were installed and a new concrete floor was poured. A sealed sump was also installed and connected to the City of Superior sanitary sewer.

Indoor air results collected after the removal of contaminated soils from the basement still indicated a need for remedial action in order to decrease contaminant concentrations in the indoor air. An indoor air mitigation system was installed in September 2017, and additional indoor air samples were collected to determine the effectiveness of remediation measures. Quarterly indoor air sampling has been recommended for one year in order to continue to monitor the effectiveness of the system and make any necessary adjustments to improve its operation.

CONDUCT OR OVERSEE OPERATION AND MAINTENANCE ON REMEDIAL SYSTEMS

MSA provides professional services, such as preparing specifications, engineering design, permitting, and field supervision of excavators/contractors for remedial actions. Company-wide, MSA has designed, installed and operated several dozen remediation systems including air sparging, soil vapor extraction, groundwater extraction, dual phase extraction, air sparging and free product removal for the remediation of petroleum contaminated soil and groundwater.

MSA has experience with the following remediation technologies:

- Oxygen Release Compound (ORC)
- Biopile Construction and Maintenance
- Active & Passive Free Product Recovery
- Dual Phase Groundwater Extraction
- Groundwater Air Sparge Systems
- Landspreading of Soil
- Lead (Soil) Stabilization
- Carbon Treatment
- Geosynthetic Liner Cap Design
- Air Strippers
- Thermal Desorption
- Bioremediation
- Soil Vapor Extraction

ARRANGE FOR TRANSPORTATION, STORAGE, AND PROPER MANAGEMENT OF WASTES

MSA has to contend with investigation derived waste at all subsurface release sites and groundwater monitoring sites throughout the duration of the project. Contaminated soil and monitoring well development water generated during the investigation is typically collected in drums approved by the Minnesota Department of Transportation and temporarily stored on-site. Soil cuttings generated during the site investigation are field-screened with the PID. All soil that is contaminated, based on field-screening measurements, is to be placed on plastic and covered with plastic or stored on site in DOT-approved 55-gallon drums. Water generated during well development and/or sampling is stored on site in DOT-approved 55-gallon drums.

Following the receipt of the analytical results for the soil and/

or groundwater, the method of disposal is determined and a licensed waste hauler is contracted for disposal services. Our project experience has included sampling, characterizing, and disposing of solid wastes, special wastes, and hazardous wastes. We have containerized, stored, transported and documented the treatment/disposal by landfilling, thermal treatment, and bioremediation of these waste streams.

MSA completes several projects each year where drummed soil cuttings, purge water, and free product recovered from an oil recovery system require treatment/disposal. These services are contracted to licensed firms specializing in contaminated media hauling and disposal.

EVALUATE THE NEED FOR AND OVERSEE THE IMPLEMENTATION OF ALTERNATIVE DRINKING WATER, INCLUDING POINT-OF-USE TREATMENT (I.E. CARBON FILTRATION)

MSA has worked with many water well drillers to complete well inspections and address concerns related to adjacent or on-site potable well adjacent to release sites. We have successfully negotiated solutions to these challenges with the MPCA and MDH.

BEAVER BAY WATER TREATMENT PLANT, BEAVER BAY, MN - MSA was hired to plan and oversee remedial work at the Beaver Bay Water Treatment Plant, where approximately 500 gallons of fuel oil were released from an onsite tank in 1995. Attempts to isolate the wet well and excavate impacted soils had been made, but impacted groundwater was still entering the well. MSA suggested the installation of a new, closed-base wet well system and piping, along with follow-up sampling (raw and finished water samples) to ensure the system was functioning properly.

During post corrective action monitoring, benzo(a)pyrene was detected in the finished water sample above the Minnesota Department of Health Based Value (HBV) of 0.06 ug/L. Raw water entering the system did not show any detections of benzo(a) pyrene above laboratory detection limits. Based on these results, it was determined that the filter media in the two treatment units had likely been impacted by historical undesirable raw water run through the two units. MSA recommended that the filter media be changed out, and the action was approved by the MPCA.

The filter media was replaced in the two treatment units over the course of two weeks, with one unit off line for the first week and the other off line during the second week to avoid service disruption. The two units were cleaned, vacuumed, and disinfected before the new sand and anthracite media were added to the units. The new filter beds were filled with water and chlorinated prior to being brought back on line. Two rounds of confirmatory sampling performed after filter change out activities showed no detections of benzo(a)pyrene in the raw or finished water.

BUYCK CABIN, BUYCK, MN – After initial site monitoring identified petroleum impacts in two private wells (one at the Buyck Cabin site and one at a neighboring residential property), it was determined that the existing wells at each property would need to be sealed and replaced with new, double-cased bedrock wells as a protective measure against potential contamination.

The two new wells were drilled over the course of six days. Due to limited groundwater present in the wells after reaching depths of 282 feet bgs, the decision was made to hydro-frack the wells. In order to determine the best depth interval within the well to frack, the Minnesota Geological Survey (MNGS) was requested to visit the site and log the wells with down-hole geophysical devices. Based on the collected geophysical data and following consultation between MSA, the well driller, the MNGS, and the MPCA, the decision was made to single packer frack the wells at 120 feet below ground surface (bgs). Following fracking, supply lines and ancillary equipment were installed and connected to both wells.

Additional activities completed as part of the remedial action taken with respect to the Buyck Cabin leaksite included abandonment and sealing of the original drinking water wells at both properties. Site monitoring is ongoing, and no subsequent petroleum impacts to either of the new private wells have been

identified.

COORDINATE AND COOPERATE WITH OTHER STATE-CONTRACTED SERVICES SUCH AS SAMPLING AND ANALYTICAL, EMERGENCY RESPONSE CONTRACTORS, AND HAZARDOUS WASTE SERVICES

MSA understands how important it is to coordinate site activities with project team members. Each member of a project typically has a set scope of work or task for which they are responsible. However, in many instances these tasks overlap and performance of one party (contractor or subcontractor) is directly impacted by the other's performance of their task.

MSA's interaction with and cooperation with other contracted services starts with how we train and assign project team members. MSA approaches each project by assigning a team of professionals that is structured based upon the specific project needs. The typical Project Team consists of a Team Leader or Project Manager, and Professional, Technical and Support Staff, which collectively form the Project Team. Prior to starting a project, the Project Manager prepare a project plan which identifies the project scope, project tasks, contractors, and specific personnel to be assigned to the project. The team concept has been successful at MSA because each member shares in direct responsibility and accountability for their share of the project to the Project Manager.

See our discussion in the "Oversee Tank Removals" section below for additional discussion.

ARRANGE FOR GEOPHYSICAL ACTIVITIES

MSA technical staff has performed numerous downhole geophysical surveys in wells, including resistivity, conductivity, sonic, neutron, density, gamma ray, spontaneous potential, and caliper logs. We are experienced in the downhole data collection, and the interpretation of these electric logs. We have used Ground Penetrating Radar (GPR) and electromagnetic (EM) surveys to define subsurface materials and groundwater plumes. In addition, MSA uses electrical resistivity instrumentation to locate buried objects, such as USTs. We use GPR and EM surveys because they are fast, inexpensive techniques that can locate buried objects, buried utilities, underground storage tanks (USTs), buried drums, trenches, landfill boundaries and other subsurface features or objects.

ABC RAIL, SUPERIOR, WI – MSA personnel oversaw the advancement of twenty-nine Laser Induced Fluorescence (LIF) borings by Dakota Technologies Company at the ABC Rail site in May 2017. The borings were advanced in an attempt to delineate the extent of LNAPL on the site identified during monitoring well sampling. The LIF screening tool was advanced via direct push technology and borings were advanced in a grid pattern near monitoring wells that had detections of LNAPL. Boring locations were adjusted in the field based on results of the initial borings.

OVERSEE SUBCONTRACTORS AND STATE CONTRACTORS DURING INVESTIGATION AND CLEANUPS AND TANK REMOVALS

MSA understands how important it is to coordinate site activities with project team members. Both of MSA's current contracts with the State of Minnesota (MPCA Petroleum-Only Contract and the Petrofund Abandoned Underground Petroleum Storage Tank and Contaminated Soil Removal and Disposal Contract) require us to use State-contracted services. We have been using the State Contract Order Forms (SCOFs) to coordinate drilling, laboratory services and waste disposal services since we were first working with the MPCA through the Fund Finance program.

MSA conducts assessments of underground (USTs) and above ground storage tanks (ASTs) to document compliance with removal/abandonment regulations and confirm the presence or absence of contamination due to tank releases. MSA assists clients by preparing project specifications and bid documents, selecting qualified contractors, and documenting the fieldwork.

MSA also has the knowledge and experience to design and implement UST or AST management programs that meet specific client needs and comply with applicable regulations. A storage tank management program typically includes developing a tank inventory program, conducting a risk assessment to identify potential for leakage, obtaining required UST/AST permits, and developing a schedule for upgrading, replacement, or removal.

MSA currently has a contract with the Minnesota Department of Commerce – Petrofund Program to coordinate underground storage tank removals as part of the Abandoned Underground Storage Tanks Program. Over the past 15 years we have had this contract, we have managed the removal of USTs from over 120 different properties. We provide Petrofund with tank removal management and oversight and coordinate removals with MPCA-

certified subcontractors for tank removal and cleaning. MSA has existing relationships with several MPCA-certified tank removal companies. MSA requires subcontractors to submit bids on the standardized Petrofund tank removal bid form. We routinely coordinate site activities with laboratories, drilling contractors, excavation and removal contractors, and regulatory staff. All of the tank projects we have completed in the past have required a high degree of coordination between the owner, subcontractor and Petrofund staff.

In general, our scope of work to perform tank removals under the Petrofund program includes the following tasks.

- **Pre-Removal Site Visit**
  - Provide or coordinate utility clearance.
  - Locate the tanks.
  - Note any obstructions to tank removal.
  - Determine the volume of liquids remaining in tanks.
  - Prepare a Request for Bid (RFB) for prospective tank removal subcontractors.
  - Solicit subcontractor bids and select subcontractors.
  - Prepare and submit cost proposal for tank removals to Petrofund staff.
  - Communicate findings to Petrofund staff.
- **Tank Removal**
  - Solicit subcontractor bids for tank removal services.
  - Submit the received bids to Petrofund staff for approval and selection.
  - Create a site-specific Health and Safety Plan.
  - Coordinate tank removal activities with the tank owner, the tank removal subcontractor and Petrofund staff.
  - Provide or coordinate utility clearance.
  - Collect soil samples in accordance with MPCA guidelines and submit them to a state-contracted laboratory for analysis.
  - If necessary, collect groundwater samples in accordance with MPCA guidelines and submit them to a state-contracted laboratory for analysis.
  - Arrange for the storage, disposal and proper management of the tank, contaminated soils and other wastes.
  - Write an excavation report and submit copies of the report to Petrofund staff, the tank owner and the MPCA within 60 days of the date the tank was removed.
  - Submit all eligible costs to Petrofund staff.
  - Guarantee payment to subcontractors within 10 days of receipt of payment from the state.

PREPARE AND EVALUATE REPORTS (E.G., INVESTIGATION REPORTS, MONITORING REPORTS, FREE PRODUCT RECOVERY REPORTS)

MSA has completed in accordance and is familiar with the MPCA Petroleum Remediation Guidance Documents, which provide required reporting formats for many individual project phases including:

- Spatial Data Reporting
- Corrective Action Design Installation
- Free Product Recover Reporting
- Corrective Action Design System Monitoring
- Excavation Reporting
- Investigation Reporting
- Corrective Action Excavation Reporting
- Annual Monitoring Report
- Conceptual Corrective Action Design

MSA's ability to fulfill the reporting requirements for each phase of the project is enhanced by our GIS Services Team, including analysts, programmers, and technicians, offering a wide range of services such as:

- Technical database design for ARC/INFO, ArcView, AutoCAD Map, AutoCAD, Intergraph and MicroStation GIS and CAD software environments.
- Land Records Systems design and implementation including RFP writing, vendor selection, and contract assistance.
- GIS and CAD digital data conversion using a variety of methods and solutions.
- GIS analysis to support clients' needs in planning and land conservation areas, such as watershed delineation, sediment transport, and GIS process design to achieve specific results.

SCOPE OF SERVICES

PREPARE HEALTH AND SAFETY PLANS (HASPS).

MSA routinely prepares site-specific health and safety plans consistent with OSHA requirements covering MSA employees that are performing work on sites that may result in exposure to hazardous substances. Site safety plans will be developed for all work performed under this Contract. The site safety plans will be made available to the Minnesota Pollution Control Agency (MPCA) and subcontractors who work on the site before work begins.

ARRANGE FOR SITE ACCESS

Coordinating site access is required at all sites with differing degrees of effort required. For the simplest sites, only the property owner needs to be notified and schedules coordinated. For other projects where off-site concerns are identified, a larger degree of effort must be undertaken to arrange for permission to access these adjacent properties for sampling and at times installation of permanent monitoring devices (e.g. monitoring wells). MSA is familiar with coordinating with adjacent property owners and right of way agents for this type of work.

We have prepared written access agreements and coordinated the permit processes under our existing MPCA Petroleum-Only Contract for municipal, county, and private companies and citizens using the Petroleum Remediation Program/Superfund Program Access Agreement, c-prp6-08.

COORDINATE UTILITY LOCATES BY CONTACTING THE APPROPRIATE ENTITY AND IF APPLICABLE COORDINATE TRAFFIC CONTROL

MSA maintains its own identification number with Gopher State One Call. In addition, private utilities are located with the site owner or a private utility company prior to construction activities. Whenever required, we work closely with the subcontractors to ensure our work will not interfere with traffic or other public access issues. Depending on the circumstance, traffic or pedestrian control devices will be employed including but not limited to cones, caution tape, MnDOT regulated signage and/or flagmen, as required.

PREPARE AND EVALUATE BID SPECIFICATIONS

It is difficult, if not impossible, to estimate the number of construction plans and specifications MSA has prepared for our clients. For in-house projects, MSA follows the Standard General Conditions of the Engineers Joint Contract Documents Committee (EJCDC) and MSA uses this bid specification for all of our publicly bid projects. At the completion of the design phase (plans and specifications), the project is reviewed by members of the project team and outside engineers in the same discipline. Reliable contractors also conduct additional constructability review of the project. This review looks at the design and constructability of the project and looks for ways to make it easier to build, and therefore more cost effective. The client's goals and objectives are of the utmost concern during this process.

MSA's environmental staff have developed remedial options and cost estimates to our clients for the design, installation, and operation of remediation systems. These remedial designs present the plans for the construction of the remedial or corrective action for the affected media (i.e., soil, water, sediment) and include the computations, specifications, and engineering costs necessary to prepare a bid specification. Projects have ranged from remediating small amounts of waste identified on a property during a Phase I ESA to excavation and removal of large volumes of waste from landfills.

MSA regularly completes soil excavation and monitoring well drilling and installation bids using the MPCA Contractor and Subcontracting Purchasing Manual, November 2012. MSA has modified our bid package to incorporate our standard specifications into the Specification for Construction form (instead of attachments to the form) that resulted in a more concise bid document. The bids are evaluated on the MPCA Bid Tabulation Sheet and submitted to the MPCA Project Manager.

EVALUATE INVOICES.

One of the most critical project management functions is the tracking and review of project budgets and ability to produce accurate invoices, which reflect the scope of work performed in conformance with the project contract. MSA has a track record working under contract with multiple state agencies (MDNR, MPCA, MDOC-Petrofund) for producing accurate and properly formatted invoices.

MSA utilizes standard contracts to solicit bids for contract services. It is MSA's goal to build a trusting relationship with all subcontractors who complete work on our projects. It is this relationship that allows us to provide contractors with timely payments and to respond quickly to pay requests and account updates.

ASSIST AND PROVIDE TRAINING AS REQUESTED BY THE MPCA. TRAINING MUST BE RELATED TO THE SCOPE OF THIS MASTER CONTRACT

MSA has trained both public and private clients in the operation and maintenance of remedial systems to assist in their project. Each of these situations is project specific and requires an evaluation of the expertise required as well as the projects health and safety requirement. For the purposes of this RFP, it was not identified what type of training would be required/requested as part of this contract. Rest assured, MSA has the capabilities and resources to conduct training sessions for all of the services we conduct as well as special topics of interest to our staff and clients. We hold regular internal "brownbag" training sessions to discuss topics of interest to our staff and clients.

MSA's advanced communications technology allows for a seamless exchange of information among all of our offices. This allows us to turn to our specialized experts located in any of our offices to assist with your projects, using telephone, video conferencing, and internet-based technologies when appropriate to help streamline your project. We also regularly use this technology to provide a high level of cost-effective communications with our clients and strategic partners. These video conferencing capabilities can be used for multiple office training sessions.

FOLLOW MPCA GREEN PRACTICES/PROCEDURES RELATIVE TO REMEDIATION PROJECTS

MSA has been preparing Green Practices Work Plan Attachments for projects administered under the MPCA Petroleum-Only contract for 10 years. These work plan practices are broken down into six (6) categories:

- Category 1 – Purchasing
- Category 2 - Transportation
- Category 3 – Field Work/Laboratory
- Category 4 – Project Management
- Category 5 – Materials/Waste
- Category 6 – Other

MSA identifies appropriate green work practices that are applicable for each project and tracks the progress of meeting those goals during the course of the project. At the end of the project, MSA submits the Work Order Summary Report that present the overall performance of the project and whether green practices were completed as planned.

MSA has evaluated several remedial action construction options for sustainable or green practices using "SiteWiseTM Version 2.0 Tool for Green and Sustainable Remediation" that can calculate and estimate how sustainable a remedial action for the Former Polcara Property in Two Harbors, MN. SiteWiseTM uses a series of Excel spreadsheets to calculate impacts of remediation in terms of sustainability metrics, that was originally developed by Battelle but further development was performed jointly with the Navy and USACE in a collaborative effort.

Input values for remedial action construction (soil excavation and disposal/treatment) were entered for costs, transportation, equipment use, and residual handling. Program output included greenhouse gas emissions, total energy used, water consumption, NOx emissions, SOx emissions, PM10 emissions and accident fatality and risk. Only greenhouse gas emissions were used for purposes of comparison of options. Excel spreadsheets and printouts for the SiteWiseTM program was presented in the Conceptual Corrective Action Design (CCAD) letter report. In summary, the greenhouse gas emissions for the three options evaluated are summarized below:

- Excavation of Contaminated Soil to Remove Direct Contact Risk - 0.50 metric tons
- Asphalt Pavement Over Only the Contaminated Surface Soil Area - 0.61 metric tons
- Asphalt Pavement Over a Portion of the Property - 0.63 metric tons

OVERSEE HYDROGEOLOGIC INVESTIGATIONS INCLUDING FATE & TRANSPORT MODELING

Over the past 10 years, MSA has not performed computer modeling of groundwater contamination plumes due to the relative project sizes and budgets. Historically and professionally, MSA staff has used MODFLOW for particle tracking to predict contaminant movement and travel time to potential groundwater receptors.

ABC RAIL, SUPERIOR, WI - Light non-aqueous phase liquid (LNAPL) baildown testing was completed at the ABC Rail site in Superior, Wisconsin in May 2017. Testing was completed

following procedures outlined in "Manual Skimming Test" for the field procedure ASTM Standard E2856-13 Standard Guide for Estimation of LNAPL Transmissivity and in the American Petroleum Institute (API) API LNAPL Transmissivity Workbook: A Tool for Baildown Test Analysis. LNAPL levels were measured in each of the monitoring wells using an oil/water interface probe prior to initiation of baildown testing. A peristaltic pump designed to pump LNAPL was used to remove as much free product as possible. After the product was removed, thickness of LNAPL and depth to water measurements were collected until levels of LNAPL were restored to near pre-removal, static levels. Data collected from the baildown test was entered into the API LNAPL Transmissivity Workbook spreadsheet to obtain mean LNAPL transmissivity, a standard deviation, and a coefficient of variation for the data set.

PREPARE ENGINEERING EVALUATION COST ANALYSIS (EECA)

As an engineering company, MSA is very familiar with preparing detailed engineering cost estimates for our project designs and feasibility studies. Cost estimates are prepared and reviewed by the Project Manager and the QA/QC professional. These individuals possess a current knowledge of pricing and cost trends in the applicable field or industry segment. All computations are based on an estimating database and checked for accuracy. Our network of contractors and suppliers are also used to verify current prices of materials, equipment and installation. We confer with local contractors in reference to site conditions, and construction trends in the local area

OVERSEE BENCH-SCALE LAB TREATABILITY STUDIES AND PILOT-TESTS/ FIELD DEMOS

The majority of MSA's feasibility and treatability study experience is with petroleum contamination. However, our staff is familiar with EPA's requirements contained in the "Guide for Conducting Treatability Studies under CERCLA".

MSA completed oversight on a dry cleaning project, Quick Cleaners, Marshfield, WI, where potassium permanganate was mixed with soil in-situ to treat tetrachloroethylene contaminated soil and groundwater. MSA collected soil samples for total oxidant demand to perform a bench-scale treatability study to determine mix ratios for the soil treatment. Potassium permanganate is mixed with the soil samples under laboratory conditions in different concentrations to determine oxidant demand of the contaminant in combination with naturally occurring organic material in the sample in order to achieve desired soil cleanup goals. The most effective minimum concentration is then used to calculate the quantity of permanganate required to affect remediation of the contamination at the site. The field application of the potassium permanganate was completed in 2013.

OVERSEE EQUIPMENT START-UP AND WORK OUT PROBLEMS WITH THE CONTRACTOR/VENDOR

MSA has a great deal of experience working with contractors and vendors on environmental and construction projects. Staff are available, either in the field or office, to answer questions and help solve problems quickly and effectively.

BEAVER BAY WATER TREATMENT PLANT, BEAVER BAY, MN – MSA oversaw the installation and startup of the new wet well installed at the Beaver Bay Water Treatment Plant as part of remedial actions performed as outlined in the CCAD. MSA staff worked closely with the construction contractor and were on site through installation, testing, changeover, sealing, and filter change out operations to provide guidance and troubleshooting advice if any problems arose.

PREPARE AND DETERMINE IF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS BEING FOLLOWED AND MAKE RECOMMENDATIONS IF REVISIONS ARE NEEDED DURING THE LIFE OF THE CONSTRUCTION PROJECT

MSA is an engineering firm which designs and manages small to large scale projects, many of which require SWPPPs for stormwater management. MSA has staff familiar with the preparation and implementation of SWPPPs with Designer, Installer, and Construction Site Management stormwater certifications. At sites where SWPPPs are required (sites where more than an acre of land is being disturbed as part of construction activities, or where the MPCA determines construction activities pose a risk to water resources), staff and contractors are made aware of stormwater flow patterns, erosion control best management practices (BMPs), buffer zone locations, and locations of all wetlands, surface waters, or storm ponds which receive runoff from the site. Certified staff are familiar with SWPPP requirements and are able to recognize and remediate issues with the plan or site stormwater management as they arise.

INSTALL STAINLESS STEEL SOIL GAS SAMPLING PORTS USING AN ELECTRIC DRILL TO BORE THROUGH FLOOR SLABS

MSA staff have experience installing stainless steel sub-slab soil gas vapor sampling ports at sites in both Minnesota and Wisconsin. Entech sub slab sampling ports are installed using a hammer drill and hydraulic cement. Sample locations are chosen away from cracks, sumps, utility penetrations, walls, and high traffic areas, if possible.

We realize that explaining the risks of vapor intrusion to neighboring property owners can be a difficult conversation. MSA staff are sensitive to the needs and concerns of home and business owners affected by vapor intrusion, and aim to make the sampling process transparent and as non-intrusive as possible.
Some recent sub-slab vapor sampling projects completed in Minnesota and Wisconsin include:

- Hermantown SuperAmerica (Hermantown, MN)
- Grand Avenue Parking Lot LSI (Duluth, MN)
- Degelau Residence LSI (Minneapolis, MN)
- Finlayson Coop (Finlayson, MN)
- Carlson TV & Electronics (Superior, WI)
- Laundry Basket (Luck, WI)
- Webster Quick Wash (Webster, WI)

COLLECT AND MANAGE FIELD AND LABORATORY DATA FOR ELECTRONIC SUBMITTAL IN A FORMAT SPECIFIED BY THE MPCA

MSA is familiar with the Environmental Quality Information System (EQuIS) database, the system used for the collection and storage of Superfund and surface water-related monitoring data and laboratory results. MSA is also familiar with the electronic submittal of day-to-day report forms and data to the MPCA.

SCENARIO 1

Please see Attachment A - Example Workplan attached to our submittal.

MSA'S TEAM CONCEPT

MSA approaches each project by assigning a team of professionals that is structured based upon the specific project needs and each professional's experience is integrated with the project to achieve effective solutions to the project challenges. The team concept has been successful at MSA because each member shares in direct responsibility and accountability for their share of the project as assigned by the Project Manager.

The typical Project Team consists of a Principal In Charge (PIC), a Team Leader or Project Manager, and Professional, Technical and Support Staff, which collectively form the Project Team. MSA also assigns a Client Liaison to monitor projects performed for a specific client. The Client Liaison provides the client with one contact at MSA to discuss any projects being completed by MSA staff, or talk about issues, problems or concerns with projects or personnel. The Client Liaison role has been very successful for our clients and keeps the lines of communication open and flowing. The MSA Client Liaison for this contract will be Brian Hegge the Environmental Program Manager, who has over 33 years of experience conducting environmental projects.

The Project Manager is directly responsible for meeting the client's project objectives, interaction and communication with the client, scheduling of all work tasks, client liaison, invoicing and financial performance of the project, and participating in public meetings. Mr. Brian Hegge, who has been the Project Manager for MSAs existing MPCA Petroleum-Only Contract, will be the initial Project Manager assigned under this contract. Other project managers, Jeffrey Anderson and Jon Hinkel, will be assigned to match talents to specific projects assigned by the MPCA or MDA.

PROJECT PLAN OR TIMETABLES

MSA prides itself in timely completion of projects. If a project is well thought out and scheduled accordingly, then it will be completed on time. The Project Plan serves as the time line for the project as well as the budget and identifies the project scope, project tasks, level of effort, specific personnel to be assigned, the real problem to be solved, the client's criteria for success, and the team's strengths and weaknesses.

We maintain computers at every desk or workstation throughout the firm. A Wide Area Network connects all of MSAs computers and this advanced technology allows for a seamless exchange of information among all of our offices. Our staff and every office communicate via networked systems, enabling simultaneous access to project documents and information. Across the hall or across the state, we have the ability to reach out to our human resources, share files, and company standards and experience.

QUALITY CONTROL MEASURES

Quality Assurance/Quality Control (QA/QC) reviews are completed at key times throughout the progress of the work. The QA/QC reviews typically include a review of the client's criteria for success, basic assumptions, methods of analysis, and appropriate documentation procedures, as well as results and recommendations. Each review is documented in the project file. The client's goals and objectives are of the utmost concern during this process.

COST ESTIMATES

Cost estimates are prepared and reviewed by the Project Manager and a senior staff professional. These individuals possess a current knowledge of pricing and cost trends in the applicable field or industry segment. All computations are based on an estimating database and checked for accuracy. Our network of contractors and suppliers are also used to verify current prices of materials, equipment and installation. We confer with local contractors in reference to site conditions, and construction trends in the local area.

MSA's accounting system, Vision, is networked throughout the company and accessible to all project staff, at any time of the day. Time slip entry is performed by staff on a daily or weekly basis with the preceding weeks entries available for review by 8:00 a.m. the following Wednesday. Reports can be prepared by anyone at MSA for review and confirmation. This quick turnaround time of timesheet entry allows for prompt review and checking of timesheet entries and reduces accounting issues at a later date.

Project Managers have access and capabilities to generate invoices on a daily basis for every project. The Vision accounting system is capable of generating standard invoices in many formats and can also be tailored to meet the specific invoicing requirements of our clients (i.e., lump sum, time and materials, multiplier based billing rates, by project task, percent complete). Invoices are generated, prepared, and submitted from our main office in Baraboo, Wisconsin.

COMMUNICATION AND INTERACTION WITH THE PUBLIC

Our extensive list of municipal clients requires our staff to be well versed in appearing at council meetings and participating in public meetings with local residents and/or citizens. We develop many presentations for our clients to discuss projects and present to their constituents.

MSA prides itself with our ability to interact with the public while maintaining our confidentiality agreements with our clients. We recognize the importance of maintaining confidentiality during the performance of both sensitive and not so sensitive projects. Before we discuss any project specifics with anyone outside of the project team or not our client, we obtain permission from our client. We will not provide information to the general public about specific projects unless authorized or approved by our client.

MSA will conduct a review of past and current clients for possible conflicts of interest for each project assigned by the MPCA or MDA during the performance of this contract. If conflicts of interest are identified, MSA will promptly notify the MPCA or MDA of the potential conflict and recommended action on how to proceed.

GENERAL REQUIREMENTS

1. CITATIONS / VIOLATIONS

MSA has not had any formal written citation or violations, Administrative Penalty Order, Stipulation Agreement, or lawsuit against Proposer or Proposer's parent company for violation of environmental laws or rules with the past five years.

2. HEALTH & SAFETY

MSA Professional Services, Inc., is committed to providing a safe workplace and has several programs in place to assure all employees act in a safe manner and are provided with the necessary means to carryout their work assignments.

Site Health and Safety Plans

MSA routinely prepares site-specific health and safety plans consistent with OSHA requirements covering MSA employees that are performing work on sites that may result in exposure to hazardous substances. Site safety plans will be developed for all work performed under this Contract. The site safety plans will be made available to the Minnesota Pollution Control Agency (MPCA), Minnesota Dept. of Agriculture (MDA) and subcontractors who work on the site before work begins.

MSA Training Requirements

All MSA employees involved in activities likely to result in exposure to hazardous substances, health hazards, or safety hazards are trained prior to conducting those activities [1910.120(e)].

MSA Safety Manager

Mr. Craig Fields
Director of Human Relations
2117 State Street, Suite 200
Bettendorf, IA 52722
(563) 445-3501

3. LIABILITY AND INSURANCE

Certificates of insurance are attached.

4. AFFIDAVIT OF NONCOLLUSION

The Affidavit of Noncollusion is attached.

5. AFFIRMATIVE ACTION CERTIFICATION OF COMPLIANCE

The Affirmative Action Data Page is attached.

6. CERTIFICATION REGARDING LOBBYING

The Certification Regarding Lobbying is attached.

7. EQUAL PAY CERTIFICATION

The Equal Pay Certification is attached.

8. RESIDENT VENDOR FORM

The Resident Vendor Form is attached.

9. VETERANS-OWNED PREFERENCE FORM

MSA is not claiming veteran preference.

10. CONFLICTS OF INTEREST

MSA has no knowledge of conflict of interest with the work that is contemplated in this request for proposals.

11. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY, AND VOLUNTARY EXCLUSION

MSA certifies compliance the regulations implementing Executive Order 12549.

12. E-VERIFY CERTIFICATION

By the submission of this proposal for services in excess of $50,000, MSA certifies that as of the date of services performed on behalf of the State, MSA and all its subcontractors will have implemented or be in the process of implementing the federal E-Verify program for all newly hired employees in the United States who will perform work on behalf of the State. Upon award of this contract, MSA will be responsible for collecting all subcontractor certifications and may do so utilizing the E-Verify Subcontractor Certification Form and all subcontractor certifications must be kept on file by MSA and made available to the State upon request.

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 8/10/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Samantha DeMars ext198 or Wendy Gerken ext 110
Don-Rick,Inc. 313 Oak Street P.O.Box 528 Baraboo WI 539130528	PHONE (A/C, No. Ext): 800.924.6536 FAX (A/C, No): 608.356.9022 E-MAIL ADDRESS: Samantha@don-rick.com ; Wendy@don-rick.com PRODUCER CUSTOMER ID #:
INSURED MSA Professional Services Inc. 1230 South Boulevard Baraboo, WI 53913	INSURER(S) AFFORDING COVERAGE / NAIC # INSURER A : Cincinnati Insurance Company 10677 INSURER B : SFM Mutual Insurance Company 11347 INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** 2016/2017 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR X CONTRACTUAL LIABILITY X XCU INCLUDED GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC	X		EPP0449127	6/30/2017	6/30/2018	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 500,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS X Per Occurrence	X		EBA0449127	6/30/2017	6/30/2018	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
A	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DEDUCTIBLE X RETENTION $ 0			EPP0449127	6/30/2017	6/30/2018	EACH OCCURRENCE AGGREGATE	$ 5,000,000 $ 5,000,000
A B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N: N If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		EWC0409925 GA and TX 067673.102	10/31/2016 6/30/2017	10/31/2017 6/30/2018	X WC STATU-TORY LIMITS X OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

**CITY OF DULUTH and OLD CITY HALL, LLC are added as an additional insured on the general liability policy shown above above as it refers to Form #GA233 and Business Auto as it refers to Form AA4171 with Cincinnati Insurance, per written contract.

CERTIFICATE HOLDER

CITY OF DULUTH
Attn: City Purchasing Division
411 W. 1ST STREET #211
Duluth, MN 55802-1189

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Wendy Gerken/WSG

ACORD 25 (2009/09)
INS025 (200909)

MSAPROF-01 CJOHNSON

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 01/19/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
Ames & Gough 859 Willard Street Suite 320 Quincy, MA 02169	PHONE (A/C, No, Ext): (617) 328-6555	FAX (A/C, No): (617) 328-6888
	E-MAIL ADDRESS: boston@amesgough.com	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : Berkley Insurance Company A+, XV	32603
INSURED	INSURER B :	
MSA Professional Services, Inc. 1230 South Boulevard Baraboo, WI 53913	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$
	☐ CLAIMS-MADE ☐ OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$
	☐ POLICY ☐ PRO-JECT ☐ LOC						PRODUCTS - COMP/OP AGG	$
	OTHER:							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	☐ ANY AUTO						BODILY INJURY (Per person)	$
	☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	☐ UMBRELLA LIAB ☐ OCCUR						EACH OCCURRENCE	$
	☐ EXCESS LIAB ☐ CLAIMS-MADE						AGGREGATE	$
	☐ DED ☐ RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N						☐ PER STATUTE ☐ OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? ☐ (Mandatory in NH)	N / A					E.L. EACH ACCIDENT	$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$
A	Prof. Liability			AEC901880903	02/01/2018	02/01/2019	Per Claim Limit	5,000,000
A				AEC901880903	02/01/2018	02/01/2019	Aggregate Limit	5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

All Coverages are in accordance with the policy terms and conditions.

Claims Made Policy - Environmental Coverage Included.

CERTIFICATE HOLDER	CANCELLATION
MSA Professional Services 1230 South Blvd Baraboo, WI 53913	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE

ACORD 25 (2016/03)

AFFIDAVIT OF NONCOLLUSION

ATTACHMENT D

STATE OF MINNESOTA
AFFIDAVIT OF NONCOLLUSION

I swear (or affirm) under the penalty of perjury:

1. That I am the Responder (if the Responder is an individual), a partner in the company (if the Responder is a partnership), or an officer or employee of the responding corporation having authority to sign on its behalf (if the Responder is a corporation);

2. That the attached proposal submitted in response to the *MPCA – Remediation Master Contract Request* for Proposals has been arrived at by the Responder independently and has been submitted without collusion with and without any agreement, understanding or planned common course of action with, any other Responder of materials, supplies, equipment or services described in the Request for Proposal, designed to limit fair and open competition;

3. That the contents of the proposal have not been communicated by the Responder or its employees or agents to any person not an employee or agent of the Responder and will not be communicated to any such persons prior to the official opening of the proposals; and

4. That I am fully informed regarding the accuracy of the statements made in this affidavit.

Responder's Firm Name: MSA Professional Services, Inc.

Authorized Representative (Please Print) BRIAN D. MILLER

Authorized Signature: [signature]

Date: 3/28/18

Subscribed and sworn to me this 28 day of March

Notary Public Signature: [signature]

GLENDA R. SAMUELSON
NOTARY PUBLIC - MINNESOTA
My Commission Expires Jan. 31, 2020

My commission expires: 01/31/2020

AFFIRMATIVE ACTION CERTIFICATION OF COMPLIANCE

ATTACHMENT E
STATE OF MINNESOTA – WORKFORCE CERTIFICATE INFORMATION
Required by state law for ALL bids or proposals that could exceed $100,000

Complete this form and return it with your bid or proposal. The State of Minnesota is under no obligation to delay proceeding with a contract until a company becomes compliant with the Workforce Certification requirements in Minn. Stat. §363A.36.

BOX A – MINNESOTA COMPANIES that have employed more than 40 full-time employees within this state on any single working day during the previous 12 months, check one option below:

☐ Attached is our current Workforce Certificate issued by the Minnesota Department of Human Rights (MDHR).

☐ Attached is confirmation that MDHR received our application for a Minnesota Workforce Certificate on _____ (date).

BOX B – NON-MINNESOTA COMPANIES that have employed more than 40 full-time employees on a single working day during the previous 12 months in the state where it has its primary place of business, check one option below:

☐ Attached is our current Workforce Certificate issued by MDHR.

☐ We certify we are in compliance with federal affirmative action requirements. Upon notification of contract award, you must send your federal or municipal certificate to MDHR at compliance.MDHR@state.mn.us. If you are unable to send either certificate, MDHR may contact you to request evidence of federal compliance. The inability to provide sufficient documentation may prohibit contract execution.

BOX C – EXEMPT COMPANIES that have not employed more than 40 full-time employees on a single working day in any state during the previous 12 months, check option below if applicable:

☒ We attest we are exempt. If our company is awarded a contract, we will submit to MDHR within 5 business days after the contract is fully signed, the names of our employees during the previous 12 months, the date of separation, if applicable, and the state in which the persons were employed. Send to compliance.MDHR@state.mn.us.

By signing this statement, you certify that the information provided is accurate and that you are authorized to sign on behalf of your company.

Name of Company: MSA Professional Services Date March 30, 2018

Authorized Signature: _____ Telephone number: 563-445-3501

Printed Name: Craig Fields Title: Director Human Resources

For assistance with this form, contact:

Minnesota Department of Human Rights, Compliance Services

Web: http://mn.gov/mdhr/ TC Metro: 651-539-1095 Toll Free: 800-657-3704
Email: compliance.mdhr@state.mn.us TTY: 651-296-1283

CERTIFICATION REGARDING LOBBYING

ATTACHMENT F

CERTIFICATION REGARDING LOBBYING
For State of Minnesota Contracts and Grants over $100,000

The undersigned certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, A Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, Disclosure Form to Report Lobbying in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

MSA Professional Services, Inc.
Organization Name

BRIAN D. MILLER, V.P.
Name and Title of Official Signing for Organization

By: _____
Signature of Official

3/28/18
Date

EQUAL PAY CERTIFICATE

ATTACHMENT G

State of Minnesota – Equal Pay Certificate

If your response could be in excess of $500,000, please complete and submit this form with your submission. **It is your sole responsibility to provide the information requested and when necessary to obtain an Equal Pay Certificate (Equal Pay Certificate) from the Minnesota Department of Human Rights (MDHR) prior to contract execution. You must supply this document with your submission.** Please contact MDHR with questions at: 651-539-1095 (metro), 1-800-657-3704 (toll free), 711 or 1-800-627-3529 (MN Relay) or at compliance.MDHR@state.mn.us.

Option A – If you have employed 40 or more full-time employees on any single working day during the previous 12 months in Minnesota or the state where you have your primary place of business, please check the applicable box below:

☐ Attached is our current MDHR Equal Pay Certificate.

☐ Attached is MDHR's confirmation of our Equal Pay Certificate application.

Option B – If you have not employed 40 or more full-time employees on any single working day during the previous 12 months in Minnesota or the state where you have your primary place of business, please check the box below.

☒ We are exempt. We agree that if we are selected we will submit to MDHR within five (5) business days of final contract execution, the names of our employees during the previous 12 months, date of separation if applicable, and the state in which the persons were employed. Documentation should be sent to compliance.MDHR@state.mn.us.

The State of Minnesota reserves the right to request additional information from you. **If you are unable to check any of the preceding boxes, please contact MDHR to avoid a determination that a contract with your organization cannot be executed.**

Your signature certifies that you are authorized to make the representations, the information provided is accurate, the State of Minnesota can rely upon the information provided, and the State of Minnesota may take action to suspend or revoke any agreement with you for any false information provided.

Authorized Signature	Gilbert A. Hantzsch Printed Name	CEO Title
MSA Professional Services, Inc. Organization	39-1016174 MN/FED Tax ID#	March 27, 2018 Date
Issuing Entity		Project # or Lease Address

RESIDENT VENDOR FORM

ATTACHMENT H
STATE OF MINNESOTA
RESIDENT VENDOR FORM

In accordance with Laws of Minnesota 2013, Chapter 142, Article 3, Section 16, amending Minn. Stat. § 16C.02, subd. 13, a "Resident Vendor" means a person, firm, or corporation that:

(1) is authorized to conduct business in the state of Minnesota on the date a solicitation for a contract is first advertised or announced. It includes a foreign corporation duly authorized to engage in business in Minnesota;
(2) has paid unemployment taxes or income taxes in this state during the 12 calendar months immediately preceding submission of the bid or proposal for which any preference is sought;
(3) has a business address in the state; and
(4) has affirmatively claimed that status in the bid or proposal submission.

To receive recognition as a Minnesota Resident Vendor ("Resident Vendor"), your company must meet each element of the statutory definition above by the solicitation opening date and time. If you wish to affirmatively claim Resident Vendor status, you should do so by submitting this form with your bid or proposal.

Resident Vendor status may be considered for purposes of resolving tied low bids or the application of a reciprocal preference.

I HEREBY CERTIFY THAT THE COMPANY LISTED BELOW:

1. Is authorized to conduct business in the State of Minnesota on the date a solicitation for a contract is first advertised or announced. *(This includes a foreign corporation duly authorized to engage in business in Minnesota.)*
   _X_ Yes ___No (must check yes or no)

2. Has paid unemployment taxes or income taxes in the State of Minnesota during the 12 calendar months immediately preceding submission of the bid or proposal for which any preference is sought.
   _X_ Yes ___No (must check yes or no)

3. Has a business address in the State of Minnesota.
   _X_ Yes ___No (must check yes or no)

4. Agrees to submit documentation, if requested, as part of the bid or proposal process, to verify compliance with the above statutory requirements.
   _X_ Yes ___No (must check yes or no)

BY SIGNING BELOW, you are certifying your compliance with the requirements set forth herein and claiming Resident Vendor status in your bid or proposal submission.

Name of Company: MSA Professional Services, Inc. Date: March 29, 2018

Authorized Signature: [signature] Telephone: (612) 548-3132

Printed Name: Gilbert A. Hantzsch, P.E. Title: CEO

IF YOU ARE CLAIMING RESIDENT VENDOR STATUS, SIGN AND RETURN THIS FORM WITH YOUR BID OR PROPOSA SUBMISSION.

VETERAN OWNED PREFERENCE

This form is not applicable for MSA.

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

REQUEST FOR PROPOSAL (RFP) ADDENDUM

Addendum No.: 1 Date of Addendum: March 19, 2018

Due Date, Time: April 11, 2018, 2:00 PM

Title: MPCA PT RFP – REMEDIATION MASTER

SCOPE OF ADDENDUM

The Request For Proposal (RFP) is revised as follows with additions underlined, and deletions are ~~struck out~~:

Revision 1. RFP Section 2: Project Goals, Page 3, is amended as follows:

The total amount of money available for work under this Master Contract is approximately ~~$120,000,000.00 (One Hundred Twenty Million Dollars~~) $420,000,000.00 (Four Hundred Twenty Million Dollars) for five years between all Master Contracts issued under this RFP. No payments will be made except for work authorized by a Work Order that is issued from the State. No minimum payment is guaranteed by the State.

Revision 2. RFP Attachment C. Sample Contract, Page 2, Clause 4.1 Consideration. is amended as follows:

4.1 Consideration. The State will pay for all services satisfactorily performed by the Contractor for all Work Order Contracts issued under this Master Contract. The total compensation of all Work Orders may not exceed **~~$120,000,000.00 (One Hundred Twenty Million Dollars)~~ $420,000,000.00 (Four Hundred Twenty Million Dollars)** for five (5) years between all Master Contracts

Revision 3. RFP Section 7. Proposal Content, Category A: Petroleum, Superfund, MDA, and Closed Landfill Program Environmental Services, A.3, Page 31, is amended as follows:

Provide a detailed description of the company's experience as it relates to the scope of services outlined in this RFP; specifically, describe the company's experience with each of the bullets listed in **Section 4 3** of this RFP. The Proposal shall contain the following additional details specific to Category A services:

- A summary of Proposer's experience with agricultural chemical investigation and cleanups.
- A list of remediation technologies with which the Proposer has experience.
- Provide a detailed description of the company's experience as it relates to the scope of services outlined in this RFP for Category A.

Revision 4. RFP Section 3: Scope of Services, Page 3, is amended as follows:

The Contractor shall submit a separate proposal for each Category of Service for which the Contactor would like to be considered. Proposals will be evaluated individually for each Category of Service for which they were submitted. Category B is a subset of Category A. If the Contractor submits Proposals for both Category A and Category B, Category A will be evaluated first for qualification. If the Contractor is not approved for Category A, they will then be evaluated for Category B. Category C will be evaluated individually. Contractors can submit Proposals for all three Categories if desired.

Should a Contractor be approved and selected for more than one Categories, the Contractor will receive only one Master Contract containing all the approved and selected Categories.

Joint ventures and teaming among groups of Contractors is not allowed.

Revision 5. RFP, Attachment C Sample Contract, Clause 38. C. Additional Insurance Conditions, Bullet #5, Page 21, is amended as follows:

- Contractor's policy(ies) shall include legal defense fees in addition to its liability policy limits, with the exception of ~~B.4~~ Professional/Technical, Errors and Omissions, and/or Miscellaneous Liability Insurance above;

Revision 6. RFP, Section 4. Personnel Classifications and Qualifications, Category C: Closed Landfill Program, Project Manager Qualifications,Second Bullet, Page 23, is amended as follows:

- Minimum of three years experience working with landfill, investigation and closure. ~~Minnesota Guidance and Policy with the Superfund/ Petroleum programs. https://www.pca.state.mn.us/waste/cleanup-guidance~~

Revision 7. RFP, Section 6. Supplies and Equipment Pricing, EQUIPMENT RATES, Pages 28 and 29, and RFP, Attachment C, Sample Contract, EQUIPMENT RATES, Pages 5,6,7, is amended as follows:

Equipment	Cost (per day)
Turbidity Meter	$52.00
Oxidation-reduction potential (ORP) Meter	$39.00
~~Hydrolab Quanta~~	~~$80.00~~
Dissolved Oxygen Meter	$46.00
Temperature, pH, conductivity, ORP meter	$68.00
Temperature, pH, conductivity	$35.00
~~YSI Multi Meter w/ Flow Cell~~	~~$117.00~~
Flow Cell	$77.00
Water Quality Meter (6 parameters)	$102.00
2" Trash Pump	$~~189~~75..00
Bladder pump	$118.00
Submersible Pump	$52.00
Peristaltic Pump	$43.00
Diaphram Pump	$53.00
Mechanical Pump Puller	$44.00
Water Level Indicator	$27.00
Hydrocarbon/Water Interface Probe	$55.00
Pump/Slug Testing Equipment	$110.00
Manual direct-push probe equip.	$165.00
X-ray Fluorescent (XRF) for Soil and Lead Paint	$468.00

Nuclear Density Gauge	$69.00
Multi Gas Meter (02/CO/LEL/Methane)	$123.00
O2/Combustible Gas Detector	$110.00
LEL/O2/CO2 Gas Meter	$66.00
LEL/O2Gas Meter	$55.00
Explosimeter	$52.00
Photoionization Detector (PID) 10.6	$99.00
Photoionization Detector (PID) 11.7	$138.00
Flame Ionization Detector (OVA)	$135.00
Velometer / Anemometer	$34.00
Micro Manometer	$64.00
Sound Level Meter	$53.00
Dust Meter	$70.00
Air Compressor	$54.00
Metal/Cable Detector	$47.00
Generator	$65.00
Sump Pump	$33.00
Pressure Washer	$69.00
Magnetometer	$151.00
Coreing Machine with Drill Bits	$110.00
Surveying Equipment - Rotary Laser	$104.00
GPS (Submeter)	$122.00
Laser Level/Lenker Rod	$127.00
Ground Penetrating Radar (GPR)	$426.00
EM-31 Ground Conductivity Meter	$440.00
EM-61 Ground Conductivity Meter	$688.00
55 gal Drums	$70.00
Sub-Slab Soil Gas Sampling Point Insert	$88.00
Screen for Soil Gas Monitoring Points	$51.00
Vapor Pin Installation Kit (per point)	$60.00
Lumex Mercury Monitoring	$187.00
Mercury Analyzer	$179.00
Canoe	$15.68
Boat (includes motor and trailer)	$58.24
ATV **(Hourly Rate)**	$16.80

Revision 8. RFP, Section 7. Proposal Content, Category B. Petroleum Only Remdiation Environmental Services B.5., Scenario 1: Petroleum Only Environmental Services, Page 39, is amended as follows:

5. **Scenario ~~1~~ B: Petroleum Only Environmental Services**

   Scenario ~~1~~B:

Revision 9. RFP, Section 6. Supplies and Equipment Pricing, Item cc., Page 27 and RFP, Attachment C, Sample Contract, Clause 8, Page 5, is amended as follows:

cc. Tubing less than $100.00

Revision 10. RFP, Section 7. Proposal Content, 5. Scenario A., Page 33, is amended as follows:

The property owner conducted a limited investigation consisting of several push probes throughout the facility and adjacent property. This investigation identified chlorinated ethenes (most notably trichloroethylene [TCE]) and agricultural chemicals (nitrogen, dicamba, metolachlor, metribuzin, pendimethalin, and triclopyr) in soils and groundwater above agency-regulated cleanup goals. General geology was noted to generally consist of coarse grained sands with thin lenses of silt and clay. The investigation encountered shallow groundwater approximately 6-10 feet bgs, with an assumed flow direction heading into town. All groundwater samples (blue GW samples) were collected at 30 feet for domestic wells, and 15 feet for investigation borings. The investigation did not evaluate the stream.

A single round of vapor points were also advanced off-site as part of the property owner's investigation, with some of the detections exceeding the 33X ISV for TCE (Figure 1). Vapor samples (orange vapor samples) were collected above the water table. MPCA is aware there is a pregnant person at the property with the sub-slab point. A passive soil-gas sample collected in the vehicle/equipment maintenance garage was several orders of magnitude above screening criteria; however, additional characterization nor remediation occurred in the building by the property owner.

Revision 11. RFP, Section 7., Proposal Content, Category A..; Scenario A, 2nd Paragraph, Page 32, is amended as follows:

The site topography is mostly flat, however the elevation does dip downward toward a small stream running through the northern portion of the property. This stream continues into the town which is located in the west adjoining property (see Figure 1). Older portions of the town (situated closer to the former ag-chem plant) are on private well drinking water (blocks 3, 5, and 7) that are 30 feet deep. Newer portions of the town (farther from the former plant) are on community water from the local municipality (blocks 1, 2, 4, and 6).

Revision 12. RFP, Section 7., Proposal Content, Category B. #5. Scenario 1: Petroleum Only Environmental Sercices, 5th Paragraph , Page 39, is amended as follows:

Municipal services are available in the area; however, the lakeside homes are all on private wells. The wells are 80 feet deep. The fueling station is hooked up to municipal water and other utilities at the site include storm sewer, sanitary sewer, and water that run along main street.

ADDENDUM 1

This addendum shall become part of the RFP and MUST be returned with the RFP Response.

RESPONDER NAME: Brian O'Mella

TITLE: VICE PRESIDENT

DATE: 4/11/18