



STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET

This contract authorizes the professional services contractor to provide professional services.
(Authority: 1984 PA 431)

CONTRACT FOR PROFESSIONAL ENVIRONMENTAL SERVICES:
Indefinite Scope-Indefinite Delivery

THIS CONTRACT, authorized this 17th day of February the year two-thousand and twenty-three (2023), by the Director, Department of Technology, Management and Budget, BETWEEN the STATE OF MICHIGAN acting through the STATE FACILITIES ADMINISTRATION, DESIGN AND CONSTRUCTION DIVISION of the DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET, 3111 W. St. Joseph Street, Lansing, Michigan, 48917, hereinafter called the Department, and

DLZ Michigan, Inc.
1425 Keystone Avenue
Lansing, MI 48911

the Prime Professional Services Contractor, hereinafter called the Professional. WHEREAS the Department proposes securing professional services for:

Indefinite-Scope, Indefinite-Delivery Contract No. 00925

Index No. (To Be Established)
Contract Order No. Y (To Be Assigned)
File No. (To Be Assigned)

Department of Technology, Management and Budget, State Facilities Administration, Design and Construction Division, Professional Environmental Services Indefinite-Scope, Indefinite-Delivery Contract (ISID) for Minor Projects –

2023 Environmental ISID Services

Various State Departments and Facilities
Various Site Locations, Michigan

NOW THEREFORE, the Department and the Professional in consideration of the covenants of this Contract agree as follows:

- I. The Professional shall provide primary environmental investigation/assessment/design/construction oversight services for the assigned projects to the extent authorized by the Department of Technology, Management and Budget State Facilities Administration (SFA), Design and Construction Division (DCD) [The Department] and be solely responsible for such professional services. The Professional's services shall be performed in strict accordance with the assigned Project scope of work.
- II. If authorized, the Professional shall provide environmental services for the regions and project types identified below.

Regions							
Western UP	Eastern UP	Northern LP	Saginaw Bay	Western LP	Central LP	Southwestern LP	Southeastern LP
X	X	X	X	X	X	X	X

Project Types and Services Offered												
X	Asbestos/Lead/Mold/Biohazard/Free Product Regulated Waste Survey/Abatement											
X	Brownfield Development											
X	Ecological Risk Assessment / Forestry and Land Management / Wetland Mitigation / Streams and Lakes Restoration											
X	Environmental Investigation / Characterization / Pilot Tests / Feasibility Study											
X	Environmental Roto Sonic Drilling / Well Abandonment											
X	Ground Penetrating Radar (GPR) / Laser-Induced Fluorescence (LIF) Field Screening											
X	Landfill Maintenance / Monitoring											
	Nuclear Waste Management / Disposal / Remediation											
X	Per- & Polyfluoroalkyl Substances (PFAS) Sampling / Mitigation / Remediation											
X	Phase I / Phase II / Baseline Environmental Assessments											
X	Remediation Systems Design / Construction Oversight / O & M / Decommissioning											
	Specialty Sub-Surface / Utility Inspection / Sewer Camera / Cleaning											
X	Underground / Aboveground Storage Tank (UST / AST) Removal / Demolition/ Soil Excavation / Closure											
X	Vapor Intrusion Assessments / Risk Mitigation / Design / Installation / O & M Services											

NOTE: Blackened box(es) indicate a service that the committee did not select for your firm.

- III. The State of Michigan shall compensate the Professional for providing their professional services for the Project in accordance with the conditions of this Professional Services Contract.

IN WITNESS, WHEREOF, each of the parties has caused this Professional Services Contract to be executed by its duly authorized representatives on the dates shown beside their respective signatures, with the Contract to be effective upon the date on which the Professional received a copy executed by the authorized State of Michigan representative(s) by regular, registered, or certified mail or by delivery in person.

FOR THE PROFESSIONAL:

DLZ Michigan, Inc.

Firm Name



Signature

President

Title

CV0016067

SIGMA Vendor ID Number

2/24/2023

Date

FOR THE STATE OF MICHIGAN:



Director, DTMB | SFA | Design and Construction

March 2, 2023

Date

WHEREAS this Professional Services Contract constitutes the entire agreement as to the Project between the parties, any Contract Modification of this Contract and the Department's approved and attached Project/Program Statement scope of work requirements must be in writing, signed by duly authorized representatives of the parties, and shall be in such format and detail as the State may require. No Contract Modification may be entered into to compensate the Professional for correcting, or for responding to claims or litigation for, the Professional firm's final design Contract Documents/architectural and engineering design errors, omissions, or neglect on the part of the Professional.

ARTICLE I PROFESSIONAL SERVICES SCOPE OF WORK

Provide professional environmental services, technical staff, and support personnel for ISID minor projects on an as-needed basis at various State/Client Agencies within the various site location areas as defined by the State of Michigan.

This Contract is for professional environmental investigation and/or design services for an unspecified number of ISID projects ("Assignment"). The scope of work for each assigned project will be defined at the time the project is awarded by the State to the Professional firm. The professional environmental services required for each of these assigned projects requested by the Department may include any or all of the Tasks included in the Phase 100 – Study through the Phase 900 – Operation and Maintenance Management.

The Professional firm's environmental services shall be performed in strict accordance with this Professional Services Contract and be in compliance with the Department's approved and attached Appendix I– Project/Program Statement.

This Contract does not warrant or imply to the Professional environmental firm, entitlement to perform any specific percentage (%) amount of environmental work during the life of this Contract.

This Contract will remain in effect for **three (3) years** from the date of this Contract award but may be unilaterally terminated by the State of Michigan at any time, for cause or its convenience, by written notification of the State, to the Professional. Furthermore, this Contract may be extended for **one (1) additional year**, at the sole option and discretion of the State upon the Department providing written notice to the Professional prior to the expiration of the original Contract time period. Any such time extension shall be subject to the terms and conditions of this Contract, including, but not limited to, the existing hourly billing rates included in this Contract for the Professional, their Consultant, and their employees or agents.

Please note that the Professional Services Contract ISID Contract No., as noted on page 1, must be provided on all Project correspondence and documents. Also, services are not to be provided or expenses incurred until individual ISID Projects are assigned to this Contract (see the Article II – Compensation and the Appendix 1 – Project/Program Statement).

Upon award of this Contract and each subsequent assignment, the Professional understands and agrees that time is of the essence. Failure to adhere to timely completion will be grounds for the Department, at its sole discretion, to terminate or limit future work under this Contract.

The Professional shall provide all professional services, technical staff, and support personnel necessary to complete the Project as described in its Project/Program Statement, in the best interest of the State, and within the Professional's fee(s) herein authorized by the State. Assigned project services shall comprise, without exception, every professional discipline and expertise necessary to meet all the requirements as described in the Project/Program Statement and in accordance with the accepted industry standards for professional practice and services. The Professional's services include attendance at all Project related meetings and conferences. Professional services for the assigned projects under this contract shall be provided in the Phase/Task sequence shown below and shall be rendered in accordance with the Professional's proposed and approved Project Study, Design, and Proposed Construction Schedule. The Professional's study, design, and proposed construction schedule shall be detailed, undated, and time sequence related for all Phase/Task services appropriate for the Project. The Professional shall field-check and verify the accuracy of all study/drawing and any data furnished by the Department, the State/Client Agency or any other Project related source. The Professional shall not employ or consult with any firms in completing the Professional's obligations herein who it anticipates will be a construction Bidder for the Project or any part thereof, unless specifically authorized, in writing, by the Department.

The Professional acknowledges that the Department is the first interpreter of the Professional's performance under this Contract.

The Professional acknowledges by signing this Professional Services Contract having a clear understanding of the requested professional environmental services required by the Department, and further agrees that the terms and conditions of this Professional Services Contract provide adequate professional fee(s) for the Professional to provide the requested Project scope of work requirements for each assigned project. No increase in compensation to the Professional will be allowed unless there is a material change made to the scope of work of the Assignment/Program Statement and the change is accepted and approved, in writing, by the State. Professional services shall not be performed, and no Project expenses shall be incurred by the Professional prior to the issuance of a written and signed Professional Services Contract and a Contract Order authorizing the Professional to start the Project work. Compensation for Department directed changes to the Project will be provided to the Professional by a Contract Modification and/or Contract Change Order signed by the Department and the Professional. The preparation of Bulletins and Contract Change Orders resulting from changes in the Project scope of work or previously unknown on-site field conditions will be compensated to the Professional, as approved by the Project Director/Agency Project Manager, on an hourly billing rate basis in accordance with this article. This compensation shall not exceed seven and half percent (7.5%) of the Construction Contractor's quotation for the Bulletin or Contract Change Order or an amount mutually agreed upon by the Professional and the Project Director/Agency Project Manager.

The Professional shall immediately inform the Department whenever it is indicated that the Professional's authorized not-to-exceed Budget for any of the assigned Projects may be exceeded. The Professional shall make recommendations to the Department for revisions to be implemented in order to not exceed the original authorized Budget. Any revision to the Project must be accepted and approved by the Department in writing.

The professional services may also include participation in legislative presentations as described in the "Major Project Design Manual for Professional Services Contractors and State/Client Agencies" and as the legislature or the Department may prescribe.

No substitution of any "Key Personnel/Employee" essential for the successful completion of the Project and identified in the Professional's Organizational Chart will be allowed by the Professional for this Contract without the prior written consent from the Project Director/Agency Project Manager. Before any "Key Personnel/Employee" substitution takes place, the Professional shall submit a written request to the Project Director/Agency Project Manager, and this substitution request shall include the following information: (1) A request in writing for a No Cost Contract Modification; (2) Detailed written justification for this substitution; (3) The Professional's qualifications of any proposed "Key Principal Personnel/Employee" replacement; and (4) A written statement from the Professional assuring the Department that the Project scope of work will not be adversely affected by this substitution. This request to modify their Professional Services Contract must be accepted and approved in writing by the Project Director/Agency Project Manager and the Director of the Department.

The Department will designate individuals to serve as the Project Director and Agency Project Manager for the Project scope of work who shall be fully acquainted with the Project/Program Statement and have the authority to render Project decisions and furnish information promptly. Except in connection with issues under the Article XII - Contract Claims and Disputes text, the Project Director/Agency Project Manager will exercise general management and administration for the Professional's services in so far as they affect the interest of the State. The Professional shall indemnify, defend, and hold harmless the State against exposure to claims arising from delays, negligence, or delinquencies by the Professional for the professional services of this Contract.

During the Construction Administration Services Phase of the Project, the Professional is required to complete and submit, the on-site inspection record form, "DTMB-0452, The Professional's Inspection Record," for all on-site inspection visits to the Project site. The Inspection Record shall be completed and signed by the Professional and submitted monthly, with the original document sent to the Project Director/Agency Project Manager and copies sent to the Construction Contractor. The Inspection Record shall accompany the Professional's monthly payment request.

The "DTMB-0460, Project Procedures" contains Department forms which shall be used during the Construction Administration Phase of this Contract. All professional services will be consistent with the Department's current "Major Project Design Manual for Professional Services Contractors and State/Client Agencies" unless otherwise approved in writing by the Department.

The professional services required for each Phase of this Contract shall be performed by the Prime Professional and their Consultants in accordance with service descriptions in this article. The following service descriptions outlined in this Contract represent the Department's standard of care for the Professional's responsibilities for providing the professional services of this Contract; but by inclusion, or omission, the descriptions do not limit or exclude any regular or normal professional services necessary to accomplish the Project in accordance with the approved Project Budget and the industries accepted practice and standards for professional services. All of the services outlined in this Contract may not be applicable to the Project/Program Statement. The Professional shall determine and coordinate the interface of the services required for the Project and is responsible for identifying any additional services necessary to successfully complete the Project.

The professional shall execute the following PHASES upon written authorization from the Project Director.

PHASE 100 - ENVIRONMENTAL INVESTIGATION/STUDY SERVICES

Provide complete and comprehensive Environmental Investigation/Study Deliverables to meet the requirements of the Project/Program Statement. Upon completion of all field investigation, assessment, research, review and/or oversight, prepare a complete report with an executive summary, and in such detail, as the Project Director may prescribe. The services under this phase may include but not be limited to coordination, environmental assessments, drilling, field sampling/oversight, data/document review/management, feasibility study, and reporting as described in the Project/Program Statement. Project reports must be in accordance with Department/Client/Agency requirements and as outlined in the Project/Program Statement but shall include, as a minimum and as appropriate, the following items: (1) Problem; (2) Conclusion; (3) Recommendations; and (4) Discussion, details, and documentation.

PHASE 300—SCHEMATIC DESIGN

Prepare Schematic Design Deliverables consistent with the Project/Program Statement. The deliverables shall consist of conceptual remediation system, drawings, outline specifications, a Schematic Construction Cost Estimate, other related documentation, and shall diagrammatically depict the areas, scales, and relationships of the functions. The services under this phase may include but not be limited to coordination, construction codes and design reviews, civil/site staging investigation, schematic design and utilities review, drafting, and project cost/proposed construction schedule, as required by the Department/Client/Agency and as outlined in the Project/Program Statement. Acceptance of the Schematic Design by the Department/Client/Agency does not limit subsequent inclusion of minor, but essential, schematic or design details whose necessity and arrangement may best become apparent during subsequent Phases of the Project design. Revise design as necessary and obtain approval from the Department/Client/Agency.

PHASE 400—DESIGN DEVELOPMENT

Prepare Design Development Deliverables based on the Owner-accepted Schematic Design to depict the intent of the designed remediation system(s). The deliverables shall consist of draft drawings and specifications, Construction Cost Estimates and other related documentation to clearly establish the complete basis for further detail into final design drawings/specifications. The deliverables shall further define the Project by fixing and describing the Project size, character, site relationships, and other appropriate elements including the environmental, civil, structural, architectural, mechanical, electrical, and safety systems. The services under this phase may include but not be limited to coordination, draft drawings/specifications, site specific staging investigation, structural calculations and preliminary environmental/architectural/engineering design development/reviews of drawings/specifications, as required by the Department/Client/Agency and as outlined in the Project/Program Statement.

PHASE 500—CONSTRUCTION DOCUMENTS AND BIDDING DOCUMENTS

Prepare Construction Documents that revise, refine, amplify, and depict, in detail, the Project. The documents shall set forth, in detail, quality levels of and requirements for the construction, and shall consist of final drawings/specifications that comply with applicable regulatory and construction code requirements, enacted at the time of completion of the one hundred percent (100%) Construction Documents. Prepare Bidding Documents in Phases/Bid packages appropriate to the Project requirements and funding. Incorporate the current edition of DTMB "MICHSPEC", "DCSPEC" or "50KSPEC", as adopted and modified by the State of Michigan. The Construction Documents shall contain all information necessary to bid and construct the Project. The services under this phase may include but not be limited to coordination, final drawings/specifications and bidding documents, civil/site staging design, final structural calculations, final environmental/architectural/engineering design development/reviews of drawings/specifications, construction testing program, hazardous materials, health and safety risks, final design correction procedures, design and construction budget, construction codes/permits and construction schedule, as required by the Department/Client/Agency and as outlined in the Project/Program Statement.

PHASE 600 - CONSTRUCTION ADMINISTRATION - OFFICE SERVICES

Provide all required construction oversight administration and timely professional review and administrative services, as the circumstances of the Construction may require, allowing the successful review/implementation of the Construction Documents into a completed remedial actions/abatement measures and/or for the use intended by the Department/Client/Agency. The services under this phase may include but not be limited to coordination, review and approval of shop drawings and submittals, reporting of construction progress, construction quality testing, construction contractor performance review, punch list procedures, claims, establishing close-out procedures and developing/review of as-built documents, as required by the Department/Client/Agency requirements and as outlined in the Project/Program Statement.

PHASE 700 - CONSTRUCTION ADMINISTRATION - FIELD SERVICES

Provide all required Construction Oversight and Field Services, including timely inspection and professional services, as the circumstances of the Construction may require, allowing the successful review/implementation of the Construction Documents into a completed remedial action/abatement measures and/or for the use intended by the Department/Client/Agency. The services under this phase may include but not be limited to coordination, field inspections, progress meetings and final project inspection, as required by the Department/Client/Agency requirements and as outlined in the Project/Program Statement.

PHASE 900 – OPERATION AND MAINTENANCE SERVICES – REMEDIATION FACILITY

Provide all required Operation and Maintenance (O&M) Services and perform, in a safe and secure environment, all functions, including timely inspection, sampling and professional services, necessary to maintain uninterrupted, effective and efficient facility/system components for the use intended by the Department/Client/Agency. The services under this phase may include but not be limited to coordination, general system operation/inspections, routine system/building/ground maintenance, sampling, spare replacement parts, consumable supplies, utilities, waste materials removal/treatment/disposal, non-routine emergency services, progress meetings and reporting, as required by the Department/Client/Agency requirements and as outlined in the Project/Program Statement.

ARTICLE II COMPENSATION

In consideration of the performance of this Contract, the Department agrees to pay the Professional, as compensation for professional services, an hourly billing rate for each employee providing a direct service to this Project, on a not-to-exceed basis as specified herein, subject to subsequent modifications mutually agreeable to the parties hereto; provided, however, the Professional may not incur costs, or bill the Department, for professional services in excess of the estimates established for this Project without the prior written agreement of the Department. The attached proposal prepared by the Professional in response to the Request for Proposal, by the Owner, may describe methodology, services, schedule, and other aspects of the work to be performed under the Contract but does not supersede the Contract.

Compensation to the Professional shall be on an hourly billing rate basis for professional services rendered by salaried and non-salaried professional, technical, and technical support employees, except for any authorized reimbursable expenses provided for in this Contract. Total compensation for any Phase shall not exceed the amount authorized for that Phase, unless authorized in writing by the Department's approved Contract Change Order. Professional services shall not be performed, and no Project expense shall be incurred by the Professional firm prior to the issuance of a written and signed Professional Services Contract and a DTMB Form 0402 - Contract Order by the Department to the Professional, authorizing the Professional to start the Project.

Compensation to the Professional for services and authorized technical and technical support employees performing a direct service for this Project shall be determined using the Professional firm's billing rates. The Professional firm's hourly billing rate shall be the actual amount paid for the employee services on the Project including fringe benefits, vacations, sick leave, other indirect costs, and profit. The Professional firm's hourly billing rates shall not change during the life of this Contract without written approval by the Department. See attached Appendix, **Overhead Items Allowed for the Professional Services Contractor Firm's Hourly Billing Rate Calculation**, for the guide to overhead items allowed for the professional services contractor firm's hourly billing rate calculation. Reimbursement for the Project/Program Statement scope of work requirements will be provided only for Department approved items authorized for reimbursement compensation in this Contract. The State will not reimburse the Professional for downtime, or for personnel involved in downtime due to mechanical problems or failure of Professional's or Subcontractor equipment.

The preparation of Bulletins and Contract Change Orders resulting from changes to the Project scope of work or previously unknown on-site field conditions will be compensated to the Professional, as approved by the Department on an hourly billing rate basis in accordance with this article. This compensation shall not exceed seven and one-half percent (7.5%) of the Construction Contractor's quotation for the Bulletin or Contract Change Order or an amount mutually agreed upon by the Professional and the Project Director/Agency Project Manager.

The Professional shall provide, but no additional monetary compensation shall be allowed for the services necessary to respond to and resolve all claims arising wholly or in part from the Professional's errors and/or omissions or other aspects of the Project's design or the Professional firm's performance which is inconsistent with the Professional or Construction Contract.

- 2.1 PREMIUM TIME/OVERTIME: This Contract anticipates that no premium or overtime is required to achieve the Project's scope of work. No compensation will be allowed to the Professional for any premium or overtime cost incurred to achieve the Project schedule of this Contract, unless directed in writing by the Project Director/Agency Project Manager and approved by the Department.
- 2.2 EMPLOYEE HOURLY BILLING RATES: Hourly billing rates will include all direct and indirect monetary costs to the State for the Professional's services under this Contract other than the authorized and approved reimbursements. Hourly billing rates shall be based on the Professional's documented historical operating expenses and adjusted for Project specific costs. In no case shall this documentation period include more than eighteen (18) months prior to the date of award of this Contract.

Lump-sum payments to employees are not allowed under this Contract. Billing rates for employees who perform professional services of a subordinate or of a position classification having a lower classification/pay range shall be accounted and paid for at the lower hourly billing pay rate. The hourly billing rate charge of any employee may be changed by the Professional with a written and Department approved Contract Modification to account for normal personnel pay increases.

Hourly billing rates include, but are not limited to: Overhead items such as employee fringe benefits, vacations, sick leave, insurance, taxes, pension funds, retirement plans, meals, lodging, and all Project related travel expenses for Projects less than one-hundred (100) miles in each direction from the Professional's nearest Michigan office, computer costs/operating costs, data entry, and time, telephone, telephone- related services, and all reproduction services (except Contract Bidding Documents/Deliverables).

The hourly billing rate also includes all reproduction costs for design interpretations, study/design clarifications and Bulletins related to design errors or omissions, construction code compliance (precipitating either from design code compliance and plan review, design interpretations, or construction on-site/field inspections), and all similar, or avoidable costs.

All incidental postage, mail, or other shipping or delivery services, acquisition, bad debts, previous business losses, employment fees, depreciation, and operating costs for equipment, including computer design and/or computer drafting systems, and any specialized testing equipment are to be included. The hourly billing rate shall include, without exception, secretarial, computer/typing/word processing, editing, and clerical services utilized in any way for the Project as well as other non-technical and/or employees providing indirect services. The hourly billing rate also includes all profit without regard to its form or distribution.

Items not allowable as part of the Professional's calculated hourly billing rate include but are not limited to: Any costs associated with litigation and settlements for the Professional, other liability suits, out-of-state offices and associated travel, bonuses, profit sharing, premium/overtime costs, public relations, entertainment, business promotion, contributions, and various speculative allowances.

The hourly billing rate for the Professional may not be applied to the work of the Professional's Sub- Consultant's staff. Each Sub-Consultant firm must submit a separate hourly billing rate with proper documentation for Sub-Consultant services provided as part of the Proposal. The hourly billing rate of the respective Consultant firm shall be used for that Consultant firm's personnel only. No mark-up to Consultant firm's charges will be allowed.

- 2.3 RANGE OF EMPLOYEE HOURLY BILLING RATES: The Professional shall identify the service being provided and include the Professional's or Consultant's employee(s) full names and position classifications for the Project and their current hourly billing rates at the beginning and at the anticipated end of the Project. This hourly billing rate range shall reflect any anticipated pay increases over the life of the Contract. The range of hourly billing rates for any employee position or classification may not be changed without an approved Contract Modification.

- 2.4 DIRECT COST REIMBURSEMENT ITEMS: The Professional's Consultant services and authorized reimbursable expenses shall be treated as an authorized reimbursable expense item at a direct cost. The Professional shall be responsible for the selection of the supplier of the professional services or materials; the coordination, adequacy, and application of the professional services, whether provided by the Professional's staff or provided by their Consultant, and any Project costs that exceed the budget for each Phase.

Project related travel expenses (mileage, meals, lodging) for Projects more than one-hundred (100) miles in one- way from the Professional's nearest office shall be treated as an authorized reimbursable expense at the State of Michigan's current travel rates.

Unless authorized elsewhere in this Contract, direct cost reimbursement items shall be limited to the actual cost of printing and reproduction of project deliverables such as Final Study Reports, Surveys, Bidding Documents, and U. S. Mail regular shipping postage of the project deliverables listed above. In addition, direct cost reimbursement items may include soil borings, site surveys and any required laboratory testing, Design Code Compliance and Plan Review Approval Fees by the licensing agency; reproduction of documents for legislative presentation, artistic productions, mobilization of testing equipment, laboratory costs for testing samples, per-linear-foot cost of soil borings and specialized inspections of the structural, mechanical, electrical, chemical or other essential components of the Project.

Compensation for this Contract shall not exceed the budget per Project Phase identified in the attached Contract Order unless authorized by a Department approved Contract Modification. It shall be the Professional's responsibility to carefully monitor Project costs, activities, and progress and to provide the Project Director/Agency Project Manager timely notification of any justifiable need to increase the authorized budget. The Professional may not proceed with professional services that have not been authorized by the Project Director/Agency Project Manager and shall immediately notify the Project Director/Agency Project Manager if such services have been requested or have become necessary.

Professional/Sub-Consultant staff and hourly billable rates are identified in the attached Professional's proposal.

ARTICLE III PAYMENTS

Payment for the professional services shall be based on the Professional's performance of authorized professional service(s) performed prior to the date of each submitted payment request. Payment requests shall be submitted monthly to the Project Director/Agency Project Manager on a payment request form (DTMB-440). Payment for each monthly submitted payment request shall be made within thirty (30) consecutive calendar days following the Department's approval of the payment request. Payment requests shall include signed certification by the Professional of the actual percentage of work completed as of the date of invoicing for each Phase and summarize the amounts authorized, earned, previously paid, and currently due for each Project Phase.

Payment requests shall be supported by itemized records or documentation in such form and detail as the Department may require.

Each of the Professional's Consultant's submitted payment request applications shall include similar information. This includes, but is not limited to:

- Phase Numbers for the professional services provided.
- Professional's personnel and position/classification providing service and hours worked. Current hourly billing rate charges for each individual position/classification.
- Copy of certified on-site visitation log or site visit report showing time on-site.
- Itemized invoices from each of the Professional's Consultant's documenting that firm's professional services charge and the Project work related services provided.
- Authorized reimbursable expense items provided with receipts and invoices.

The State has the right to withhold payment of any disputed amounts until the parties agree as to the validity of the disputed amount. The State will notify the Professional of any dispute within a reasonable time. Payment by the State will not constitute a waiver of any rights as to the Professional's continuing obligations, including claims for deficiencies or substandard Contract Activities. The Professional's acceptance of final payment by the State constitutes a waiver of all claims by the Professional against the State for payment under this Contract, other than those claims previously filed in writing on a timely basis and still disputed.

The State will only disburse payments under the Contract through Electronic Funds Transfer (EFT). Contractor must register with the State at <http://www.michigan.gov/SIGMAVSS> to receive electronic funds transfer payments. If Contractor does not register, the State is not liable for failure to provide payment. Without prejudice to any other right or remedy it may have, the State reserves the right to set off at any time any amount then due and owing to it by Contractor against any amount payable by the State to Contractor under this Contract

ARTICLE IV ACCOUNTING

The Professional shall keep current and accurate records of Project costs and expenses, hourly billing rates, authorized reimbursable expense items, and all other Project related accounting documents to support the Professional's monthly application for payment. Project records shall be kept on a generally recognized accounting basis. Such records shall be available to the Department for a period of ten (10) years after the Department's final payment to the Professional. The State of Michigan reserves the right to conduct, or have conducted, an audit and inspection of these Project records at any time during the Project or following its completion.

ARTICLE V INSURANCE

The Professional shall purchase, maintain and require such insurance that will provide protection from claims set forth below which may arise out of or result from the Professional firm's services under this Contract, whether such service is performed by the Professional or performed by any of the Professional firm's Consultant's or by anyone directly or indirectly employed by them, or by anyone for whose acts they may be liable. The following insurance policy limits described below are intended to be the minimum coverage acceptable by the State:

For the purpose of this Section, "State" includes its departments, divisions, agencies, offices, commissions, officers, employees, and agents.

- (a) The Contractor must provide proof that it has obtained the minimum levels of insurance coverage indicated or required by law, whichever is greater. The insurance must protect the State from claims that may arise out of or result from or are alleged to arise out of or result from the Contractor's or a Subcontractor's performance, including any person directly or indirectly employed by the Contractor or a Subcontractor, or any person for whose acts the Contractor or a Subcontractor may be liable.
- (b) The Contractor waives all rights against the State for the recovery of damages that are covered by the insurance policies the Contractor is required to maintain under this Section. The Contractor's failure to obtain and maintain the required insurance will not limit this waiver.
- (c) All insurance coverage provided relative to this Contract is primary and non-contributing to any comparable liability insurance (including self-insurance) carried by the State.
- (d) The State, in its sole discretion, may approve the use of a fully-funded self-insurance program in place of any specified insurance identified in this Section.
- (e) Unless the State approves, any insurer must have an A.M. Best rating of "A" or better and a financial size of VII or better, or if those ratings are not available, a comparable rating from an insurance rating agency approved by the State. All policies of insurance must be issued by companies that have been approved to do business in the State. To view the latest A.M. Best's Key Ratings Guide and the A.M. Best's Company Reports (which include the A.M. Best's Ratings) visit the A.M. Best Company internet web site at <http://www.ambest.com>.
- (f) Where specific coverage limits are listed in this Section, they represent the minimum acceptable limits. If the Contractor's policy contains higher limits, the State is entitled to coverage to the extent of the higher limits.

- (g) The Contractor must maintain all required insurance coverage throughout the term of this Contract and any extensions. However, in the case of claims-made Commercial General Liability policies, the Contractor must secure tail coverage for at least three (3) years following the termination of this Contract.
- (h) The minimum limits of coverage specified are not intended and may not be construed; to limit any liability or indemnity of the Contractor to any indemnified party or other persons.
- (i) The Contractor is responsible for the payment of all deductibles.
- (j) If the Contractor fails to pay any premium for a required insurance policy, or if any insurer cancels or significantly reduces any required insurance without the State's approval, the State may, after giving the Contractor at least 30 days' notice, pay the premium or procure similar insurance coverage from another company or companies. The State may deduct any part of the cost from any payment due the Contractor or require the Contractor to pay that cost upon demand.
- (k) In the event the State approves the representation of the State by the insurer's attorney, the attorney may be required to be designated as a Special Assistant Attorney General by the Michigan Attorney General.

The Professional firm's Errors and Omissions coverage shall include coverage for claims resulting from acts of forbearance that cause or exacerbate pollution and claims of bodily injury and property damage in the amount of \$1,000,000 minimum coverage per occurrence, \$3,000,000 annual aggregate. This insurance is required of all professional firms who conduct professional environmental services including, but not limited to, any of the following services:

- (i) Remedial System Design.
- (ii) Remediation Management.
- (iii) Feasibility Development and Implementation.
- (iv) Hydrogeological Evaluation.
- (v) Media Testing and Analysis.
- (vi) Subsurface and Geophysical Investigation.
- (vii) Other related activities as determined by the Department.

Required Limits	Additional Requirements
Commercial General Liability Insurance	
<u>Minimum Limits:</u> \$1,000,000 Each Occurrence Limit \$1,000,000 Personal & Advertising Injury Limit \$2,000,000 General Aggregate Limit \$2,000,000 Products/Completed Operations	Professional must have their policy endorsed to add "the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents" as additional insureds using endorsement CG 20 10 11 85, or both CG 20 10 12 19 and CG 20 37 12 19.
Umbrella or Excess Liability Insurance	
<u>Minimum Limits:</u> \$2,000,000 General Aggregate	Professional must have their policy follow form.
Automobile Liability Insurance	
<u>Minimum Limits:</u> \$1,000,000 Per Accident	Professional must have their policy: (1) endorsed to add "the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents" as additional insureds; and (2) include Hired and Non-Owned Automobile coverage.
Workers' Compensation Insurance	
<u>Minimum Limits:</u> Coverage according to applicable laws governing work activities.	Waiver of subrogation, except where waiver is prohibited by law.
Employers Liability Insurance	
<u>Minimum Limits:</u> \$500,000 Each Accident \$500,000 Each Employee by Disease \$500,000 Aggregate Disease.	
Professional Liability (Errors and Omissions) Insurance	
<u>Minimum Limits:</u> \$1,000,000 Each Occurrence \$2,000,000 Annual Aggregate <u>Deductible Maximum:</u> \$50,000 Per Loss	

Environmental and Pollution Liability (Errors and Omissions) ***	
<u>Minimum Limits:</u> \$1,000,000 Each Occurrence \$2,000,000 Annual Aggregate	Professional must have their policy: (1) be applicable to the work being performed, including completed operations equal to or exceeding statute of repose; (2) not have exclusions or limitations related to Transportation (upset overturn, spills during loading or unloading, Hazardous Materials Handling, and Non-Owned disposal site liability; and (3) endorsed to add "the State of Michigan, its departments, division, agencies, offices, commissions, officers, employees, and agents" as additional insured.

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Contractual Liability insurance for claims for damages that may arise from the Professional's assumption of liability on behalf of the State under Article VI concerning indemnification for errors, omissions, or negligent acts in the course of the professional service or other provision within this Contract to the extent that such kinds of contractual liability are insurable in connection with and subject to limits of liability not less than for the general liability insurance and the professional liability insurance and set forth in subsections (c) and (d) above.

Except where the State has approved a subcontract with other insurance provisions, the Professional must require any Consultant/Subcontractor to purchase and maintain the insurance coverage required in this Article. Alternatively, the Contractor may include a Consultant/Subcontractor under the Professional's insurance on the coverage required in that Section. The failure of a Consultant/Subcontractor to comply with insurance requirements does not limit the Professional's liability or responsibility.

Certificate of Insurance documents, acceptable to the State, shall be provided and filed with the Department prior to commencement of the Professional's Project services, unless otherwise approved in writing, and not less than 20 days before the insurance expiration date every year thereafter. Facsimile copies of the Certificate of Insurance will not be accepted. Certificate of Insurance documents must be either submitted hard copy or portable document file (.pdf). The Certificate of Insurance documents must specify on the certificate in the oblong rectangle space labeled "Description of Operations/Locations/Vehicles/Exclusions Added By Endorsement/Special Provisions/Special Items" the following items: **(1) The ISID Title; (2) The ISID Contract Number; and (3) The State of Michigan must be named as an "Additional Insured on the General Liability and Automobile Insurance Policy."** The Certificate of Insurance documents shall contain a provision that the Project insurance coverage afforded under the insurance policies for this Contract will not be modified or canceled without at least thirty (30) consecutive calendar days prior written notice, except for 10 days for non-payment of premium, to the State of Michigan, Department.

This Section is not intended to and is not to be construed in any manner as waiving, restricting, or limiting the liability of either party for any obligations under this Contract (including any provisions hereof requiring Professional to indemnify, defend and hold harmless the State).

The attached, Certificates of Insurance documents required for this Project shall be in force for this Project until the final payment by the State to the Professional is made and shall be written for not less than any limits of liability specified above. The Professional has the responsibility for having their consultant firms comply with these insurance requirements.

ARTICLE VI INDEMNIFICATION

- (a) To the extent permitted by law, the Professional shall indemnify, defend and hold harmless the State from liability, including all claims and losses, and all related costs and expenses (including reasonable attorneys' fees and costs of investigation, litigation, settlement, judgments, interest, and penalties), accruing or resulting to any person, firm or corporation that may be injured or damaged by the Professional in the performance of this Contract and that are attributable to the negligence or tortious acts of the Professional or any of its Subcontractors/Consultants, or by anyone else for whose acts any of them may be liable.
- (b) Employee Indemnification: In any and all claims against the State of Michigan, its departments, divisions, agencies, boards, sections, commissions, officers, employees and agents, by any employee of the Professional or any of its Subcontractors/Consultants, the indemnification obligation under this Contract shall not be limited in any way by the amount or type of damages, compensation or benefits payable by or for the Professional or any of its Subcontractors/Consultants under worker's disability compensation acts, disability benefit acts or other employee benefit acts. This indemnification clause is intended to be comprehensive. Any overlap in provisions, or the fact that greater specificity is provided as to some categories of risk, is not intended to limit the scope of indemnification under any other provisions.
- (c) Patent/Copyright Infringement Indemnification: To the extent permitted by law, the Professional shall indemnify, defend and hold harmless the State from and against all losses, liabilities, damages (including taxes), and all related costs and expenses (including reasonable attorneys' fees and costs of investigation, litigation, settlement, judgments, interest, and penalties) incurred in connection with any action or proceeding threatened or brought against the State to the extent that such action or proceeding is based on a claim that any piece of equipment, software, commodity or service supplied by the Professional or its Subcontractors/Consultants, or the operation of such equipment, software, commodity or service, or the use of reproduction of any documentation provided with such equipment, software, commodity or service infringes any United States patent, copyright, trademark or trade secret of any person or entity, which is enforceable under the laws of the United States.

In addition, should the equipment, software, commodity, or services, or its operation, become or in the State's or Professional's opinion be likely to become the subject of a claim of infringement, the Professional shall at the Professional's sole expense (i) procure for the State the right to continue using the equipment, software, commodity or service or, if such option is not reasonably available to the Professional, (ii) replace or modify to the State's satisfaction the same with equipment, software, commodity or service of equivalent function and performance so that it becomes non-infringing, or, if such option is not reasonably available to Professional, (iii) accept its return by the State with appropriate credits to the State against the Professional's charges and reimburse the State for any losses or costs incurred as a consequence of the State ceasing its use and returning it.

Notwithstanding the foregoing, the Professional shall have no obligation to indemnify or defend the State for, or to pay any costs, damages or attorneys' fees related to, any claim based upon (i) equipment developed based on written specifications of the State; or (ii) use of the equipment in a configuration other than implemented or approved in writing by the Professional, including, but not limited to, any modification of the equipment by the State; or (iii) the combination, operation, or use of the equipment with equipment or software not supplied by the Professional under this Contract.

ARTICLE VII OWNERSHIP OF DOCUMENTS

All Project deliverables, including but not limited to: reports, Bidding Documents, Contract Documents, electronic documents and data, and other Project related documents, including the copyrights, prepared and furnished by the Professional shall become the property of the State of Michigan upon completion of the Project, completion and acceptance of the professional's work, or upon termination of the Contract. Project deliverables shall be delivered to the Department upon their request. The Professional shall have no claim for further employment or additional compensation as a result of this Contract requirement. The Professional may retain a copy of all Project documents for their files.

If the Professional is in default or breach of its obligations under this Contract, the State shall have full ownership rights of the Project deliverables, including Bidding Documents and Contract Documents, including all electronic data. If the Professional is in default or this Contract Agreement is terminated, the State shall not use the Contract Documents and deliverables of this Contract for completion of the Project by others without the involvement of other qualified Professionals who shall assume the professional obligations and liability for the Project work not completed by the Professional.

To the fullest extent allowed by law, the State releases the Professional, the Professionals Consultant(s) and the agents and employees of any of them from and against legal claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of the State's use of the Contract Documents other than in accordance with this Contract Agreement.

All Contract deliverables listed may be published or issued for informational purposes without additional compensation to the Professional. The Professional may not use any of the Contract Documents and Contract deliverables for any purpose that may misrepresent the professional services they provided.

The Professional shall retain full rights to the Contract Documents and deliverables and the right to reuse component information contained in them in the normal course of the Professional's professional activities.

The Contract deliverables, Contract Documents, or other documents produced under this Contract may be used by the Department, or others employed by the Department or State of Michigan, for reference in any completion, correction, remodeling, renovation, reconstruction, alteration, modification of or addition to the Project, without monetary compensation to the Professional.

The State of Michigan will not construct additional Projects or buildings based on the work of this Contract without notice to the Professional. Whenever renderings, photographs of renderings, photographs or models, or photographs of the Project are released by the State of Michigan for publicity, proper credit for design shall be given to the Professional, provided the giving of such credit is without cost to the State of Michigan.

ARTICLE VIII TERMINATION

The State may, by written notice to the Professional, terminate this Contract and/or any Assignments, in whole or in part at any time, either for the State's convenience or because of the failure of the Professional to fulfill their Contract obligations. Upon receipt of such notice, the Professional shall:

- a) Immediately discontinue all professional services affected (unless the notice directs otherwise), and
- b) Deliver to the State all data, drawings, specifications, reports, estimates, summaries, and such other information and materials as may have been accumulated by the Professional in performing this Contract, whether completed or in process.

8.1 If the termination is for the convenience of the State, an equitable adjustment in the Contract price shall be made, but no amount shall be allowed for anticipated profit on unperformed professional services.

8.2 If the termination is due to the failure of the Professional to fulfill their Contract obligations, the State may take over the work and prosecute the same to completion by Contract or otherwise. In such case, the Professional shall be liable to the State for any additional cost occasioned to the State thereby.

- 8.3 If, after notice of termination for failure to fulfill Contract obligations, it is determined that the Professional had not so failed, the termination shall be deemed to have been affected for the convenience of the State. In such event, adjustment in the Contract price shall be made as provided in Section 8.1 of this article.
- 8.4 The rights and remedies of the State provided in this article are in addition to any other rights and remedies provided by law or under this Contract.

ARTICLE IX SUCCESSORS AND ASSIGNS

This Contract shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns; provided, however, that neither of the parties hereto shall assign this Contract without the prior written consent of the other.

ARTICLE X GOVERNING LAWS

This Contract shall be construed in accordance with the current laws of the State of Michigan. Some Assignments to this Contract will be funded wholly or in part by the Federal Government through grant agreements and/or federal programs. The Professional must comply with such funding requirements along with any current applicable federal regulations in performing the tasks described in the Scope of Work, including but not limited to the following current federal regulations. The absence of reference to any law or regulation does not preclude its applicability to this Contract.

1. The Comprehensive Environmental Response Compensation and Liability Act of 1980 as amended CERCLA (The Superfund Act);
2. Section 306 of the Clean Air Act (42 U.S.C. 1857 (h));
3. Section 508 of the Clean Water Act (33 U.S.C. 1368);
4. Public Law 98-473 as implemented in the Department of the Interior, Bureau of Indian Affairs;
5. Executive Order 11738; Office of Management and Budget Circular A-87, "Cost Principles for State, Local, and Indian Tribal Governments."
6. 25 CFR Part 20; Financial Assistance and Social Services Programs
7. 40 CFR Part 31; Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments
8. 40 CFR Part 32 Subpart F; Drug-Free Workplace
9. 40 CFR Part 33; Participation by Disadvantaged Business Enterprises in United States Environmental Protection Agency Programs
10. 40 CFR Part 35; State and Local Assistance

11. 40 CFR Part 35 Subpart 0; Cooperative Agreements and Superfund State Contracts for Superfund Response Actions

12. 48 CFR Chapter 1 Part 31 Subpart 31.2; Contracts with Commercial Organizations.

ARTICLE XI NONDISCRIMINATION

In connection with the performance of the Project under this, the Professional agrees as follows:

- a) The Professional will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, age, sex (*as defined in Executive Directive 2019-09*), height, weight, marital status, or a physical or mental disability that is unrelated to the individual's ability to perform the duties of the particular job or position. The Professional will provide equal employment opportunities to ensure that applicants are employed and that employees are treated during employment, without regard to their race, color, religion, national origin, age, sex, height, weight, marital status, or a physical or mental disability that is unrelated to the individual's ability to perform the duties of the particular job or position.

Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

- b) The Professional will, in all solicitations or advertisements for employees placed by or on behalf of the Professional, state that all qualified applicants will receive equal employment opportunity consideration for employment without regard to race, color, religion, national origin, age, sex, height, weight, marital status, or a physical or mental disability that is unrelated to the individual's ability to perform the duties of the particular job or position.
- c) The Professional or their collective bargaining representative will send to each labor union or representative of workers with which is held a collective bargaining agreement or other Contract or understanding, a notice advising the said labor union or workers' representative of the Professional's nondiscrimination commitments under this article.
- d) The Professional will comply with the Elliot-Larsen Civil Rights Act, 1976 PA 453, as amended, MCL 37.2201 et seq; the Michigan Persons with Disabilities Civil Rights Act, 1976 PA 220, as amended, MCL 37.1101 et seq; *Executive Directive 2019-09*; and all published rules, regulations, directives and orders of the Michigan Civil Rights Commission which may be in effect on or before the date of award of this Contract.
- e) The Professional will furnish and file nondiscrimination compliance reports within such time and upon such forms as provided by the Michigan Civil Rights

Commission; said forms may also elicit information as to the practices, policies, program, and employment statistics of the Professional and of each of their Consultant firms. The Professional will permit access to all books, records, and accounts by the Michigan Civil Rights Commission, and/or its agent, for purposes of investigation to ascertain nondiscrimination compliance with this Contract and with rules, regulations, and orders of the Michigan Civil Rights Commission relevant to Article 6, 1976 PA 453, as amended.

- f) In the event that the Michigan Civil Rights Commission finds, after a hearing held pursuant to its rules, that the Professional has not complied with the contractual nondiscrimination obligations under this Contract, the Michigan Civil Rights Commission may, as part of its order based upon such findings, certify said findings to the State Administrative Board of the State of Michigan, which the State Administrative Board may order the cancellation of the Contract found to have been violated, and/or declare the Professional ineligible for future Contracts with the State and its political and civil subdivisions, departments, and officers, and including the governing boards of institutions of higher education, until the Professional complies with said order of the Michigan Civil Rights Commission.

Notice of said declaration of future ineligibility may be given to any or all of the persons with whom the Professional is declared ineligible to Contract as a contracting party in future Contracts. In any case before the Michigan Civil Rights Commission in which cancellation of an existing Contract is a possibility, the State shall be notified of such possible remedy and shall be given the option by the Michigan Civil Rights Commission to participate in such proceedings.

- g) The Professional shall also comply with the nondiscrimination provisions of 1976 PA 220, as amended, concerning the civil rights of persons with physical or mental disabilities.
- h) The Professional will include, or incorporate by reference, the nondiscrimination provisions of the foregoing paragraphs a) through g) in every subcontract or Contract Order unless exempted by the rules, regulations or orders of the Michigan Civil Rights Commission, and will provide in every subcontract or Contract Order that said nondiscrimination provisions will be binding upon each of the Professional's Consultant's or seller.

ARTICLE XII

CONTRACT CLAIMS AND DISPUTES

In any claim or dispute by the Professional which cannot be resolved by negotiation, the Professional shall submit the claim or dispute for an administrative decision by the Department of Technology, Management and Budget, Director of State Facilities Administration within thirty (30) consecutive calendar days of the end of the disputed negotiations, and any decision of the Director of State Facilities Administration may be appealed to the Michigan Court of Claims within one (1) year of the issuance of the Director's decision.

The Professional agrees that the Department's appeal procedure to the Director of State Facilities Administration is a prerequisite to filing a suit in the Michigan Court of Claims.

ARTICLE XIII DEFINITION OF TERMS

The definition of terms and conditions of this Contract are described and outlined in the following Articles I through XIV and attached appendices. The capitalized defined terms used in this Professional Services Contract shall have the following definitions:

ADDENDA: Written or graphic numbered documents issued by the Department and/or the Professional prior to the execution of the Construction Contract which modify or interpret the Project Bidding Documents, including drawings, and specifications, by additions, deletions, clarifications or corrections. The Addenda shall: (1) Be identified specifically with a standardized format; (2) Be sequentially numbered; (3) Include the name of the Project; (4) Specify the Project Index No., Project File No., the Contract Order No. Y, and a description of the proposed Addenda; and (5) Specify the date of Addenda issuance. As such, the Addenda are intended to become part of the Project Contract Documents when the Construction Contract is executed by the Professional's recommended lowest responsive, responsible qualified Construction Contractor.

An Addendum issued after the competitive construction Bid opening to those construction Bidders who actually submitted a Bid, for the purpose of rebidding the Project work without re-advertising, is referred to as a post-Bid Addendum.

AGENCY PROJECT MANAGER: The assigned staff of the Department or the State/client Agency authorized by the State to represent and act on behalf of the Project Director on a given Project and to thereby provide direction and assistance to the Construction Contractor. The Agency Project Manager may designate in writing a person to act on behalf of the Agency Project Manager when they are unable to perform their required duties or is away from the office. In such cases, the Agency Project Manager must notify the Construction Contractor and the Project Director.

AGENCY FIELD INSPECTOR: An employee of the State of Michigan under the direction of the State/client Agency who provides the on-site, Inspection of construction Projects for compliance with the study/design intent of the Professional firm's Contract Documents/drawings and specification requirements and the building construction codes. The Agency Field Inspector is the liaison between the Construction Contractor, the Professional, and the Agency Project Manager. The Agency Project Manager, or their Agency Field Inspector, has the authority to require the Professional to respond to and resolve study/design related problems, construction on-site field problems and to attend Project related meetings.

BID: A written offer by a construction Bidder for the Department. Project construction work, as specified, which designates the construction Bidder's base Bid and Bid price for all alternates.

BIDDER: The person acting directly, or through an authorized representative, who submits a competitive construction Bid directly to the Department.

BIDDING DOCUMENTS: The Professional's Project Contract Documents as advertised, and all Addenda issued before the construction Bid opening, and after the construction Bid opening, if the Project construction work is rebid without re-advertising. Bidding Documents shall consist of the Phase 500 - Final Design drawings and specifications, any Addenda issued, special, general, and supplemental conditions of the Construction Contract, and modifications, if any, to standard forms provided by the Department. Such forms consist of the Project advertisement, the instructions to Bidders, the proposal forms, general, supplemental, and any special conditions of the Construction Contract, and the form of agreement between the Department and the Construction Contractor for the Project work requirements.

BID SECURITY: The monetary security serving as guarantee that the Bidder will execute the offered Construction Contract or as liquidated damages in the event of failure or refusal to execute the Construction Contract.

BUDGET: The maximum legislatively authorized Budget amount to be provided by the State of Michigan and available for a specific purpose or combination of purposes to accomplish the Project for this Contract.

BULLETIN: A standard document form (DTMB-0485, Bulletin Authorization No. and the DTMB-0489, Instructions to Construction Contractors for Preparation of Bulletin Cost Quotations for Contract Change Orders) used by the Department to describe a sequentially numbered change in the Project under consideration by the Department and the Professional and to request the Construction Contractor to submit a proposal for the corresponding adjustment in the Contract price and/or Contract time, if any. These standard document forms are a part of the "DTMB-0460, Project Procedures" documents package.

CONSTRUCTION CONTRACT: A separate written Contract agreement between the Construction Contractor and the Department for the construction, alteration, demolition, repair, or rebuilding of a State/Client Agency building or other State property.

CONSTRUCTION CONTRACTOR: Any construction firm under a separate Contract to the Department for construction services.

CONSTRUCTION INSPECTION SERVICES: The Professional's field Inspections of the Project during the construction Phase of this Contract which includes but is not limited to: (1) Documenting the quantity and quality of all Project construction work and verifying that the Project construction work is properly completed; (2) Resolve Project problems that are affecting the Project construction work, certify payment requests, process Bulletins, Contract Change Order recommendations, and requests for information (RFI's) in a timely manner as prescribed in the Department's, "MICHSPEC 2001 Edition of The Owner and Contractor Standard Construction Contract and General Conditions for Construction (Long Form)" or the current Department, DTMB Short Form 401 - Proposal and Contract/Front-End Package for Small Projects for Professional Services Contractors (PSC) with General Conditions for Construction and Instructions to Bidders" as adopted and modified by the State of Michigan and incorporated into the Construction Contract; and the (3) Inspection of Project construction work completed or in progress by the Construction Contractor to determine and verify to the Department's Project

Director/Agency Project Manager and their Department Field Representative that the Project construction work is in compliance with the Professional's design intent and that the Project has been completed by the Construction Contractor in accordance with the Professional's Phase 500 - Contract Documents/drawings and specifications requirements.

The Professional shall provide sufficient Inspections of the Project during the construction Phase to administer the construction Phase field and office services as directly related to the degree of Project complexity, up to and including full-time field Inspections. Construction field Inspections shall occur as the construction field conditions and the Project may require and during the regularly scheduled monthly progress and payment meetings.

The Professional shall use for their construction field Inspection services, only personnel having professional expertise, experience, authority, and compatibility with departmental procedures as the Department may approve. The Professional agrees that such characteristics are essential for the successful completion of the Project. Such individuals shall be replaced for cause where the Department determines and notifies the Professional, in writing, of their unacceptable performance.

CONSULTANT: Any individual, firm, or employee thereof, not a part of the Professional's staff, but employed by the Professional and whose professional service cost is ultimately paid by the State of Michigan, either as a direct cost or authorized reimbursement. This includes the recipient(s) of Contract Orders for material, support, and/or technical services. Also, included are persons and firms whose management and/or direction of services are assigned to the Prime Professional as may be provided elsewhere in this Contract.

CONTRACT CHANGE ORDER: A standard document form (DTMB-0403) issued and signed by the State of Michigan and signed by the Professional which amends the Project Design Professional's Contract Documents for changes in the Project/Program Statement or an adjustment in Contract price and/or Contract time, or both.

CONTRACT DOCUMENTS: The Professional's Phase 100 – Study, Final Report and Phase 500 - Final Design plans/drawings, specifications, Construction Contract, instructions to construction Bidders, proposal, Bidding Documents, agreement, conditions of the Contract, payment bond, performance/labor and material bond, prevailing wages, all Addenda, and attachments as may be necessary to comprise a Construction Contract for the Project. Specifications for this Contract will be prepared for Division 00 through 49, in the current version MasterFormat Outline by the Construction Specifications Institute (C.S.I.), as appropriate for the Project.

CONTRACT MODIFICATION: A form (DTMB-0410) amending the Contract signed by the Department and the Professional. The preparation of Bulletins and Contract Change Orders resulting from changes in the Project/Program Statement or previously unknown on-site field conditions as approved by the Department will be compensated to the Professional by way of the Contract Modification in accordance with the Article II, Compensation text of this Contract.

Any Contract Modification of this Professional Services Contract must be in writing, signed by duly authorized representatives of the parties, and shall be in such format and detail as the Department may require. No Contract Modification will be approved to compensate the Professional for correcting, or for responding to claims or litigation for, the Professional's Phase 100 – Study, Final Report and Phase 500 - Contract Documents study/design errors, omissions or neglect on the part of the Professional.

CONTRACT ORDER: A form (DTMB-0402) issued and signed by the State of Michigan authorizing a Professional to: (1) Begin to incur Project expenses and proceed with the Project on-site; and (2) Provide professional services for the fee amount designated in the Phases of the Contract Order. Issuance of the DTMB-0402 certifies that: (1) The State will enter into a Professional Services Contract for the professional services described in the various Phases of this Contract; and that (2) The proper three (3) sets of Certificate of Insurance documents have been received and accepted by the State along with the approval and signing of the Professional's Professional Services Contract by the SFA, DCD Director.

DEPARTMENT: The Department of Technology, Management and Budget, Facilities and Business Administration, Design and Construction Division. The Department will represent the State of Michigan in all matters pertaining to this Project. This Professional Services Contract will be administered through the Department on behalf of the State of Michigan and The State/Client Agency.

DESIGN MANUAL: Provides the Professional with information regarding the Department's current "Major Project Design Manual for Professional Services Contractors and State/Client Agencies" review process requirements regarding the uniformity in Contract materials presented to it by the Professional and the State/Client Agency(ies). This manual contains the following noted standards, instructions, and procedures information for: (1) General instructions for planning documents from Phase 100-Study through Phase 500-Final Design; (2) Net and gross area/volume; (3) Project cost format; (4) Outline architectural and engineering specifications; (5) Specifications in documentation Phase; (6) Instructions for proposal; (7) Bidders questionnaire; and the (8) Project job sign.

DIRECTOR: The Director of the Department of Technology, Management and Budget or their authorized State of Michigan representative.

DIRECTOR-SFA: The Director of the Department of Technology, Management and Budget, State Facilities Administration or their authorized State of Michigan representative.

DEPARTMENT FIELD REPRESENTATIVE: An employee of the State under the direction of the Department who provides the Inspection of construction Projects for compliance with the design intent of the Professional's Phase 500 - Contract Documents/ architectural and/or engineering drawings and specification requirements and the building construction codes. The Department Field Representative is the liaison between the Construction Contractor, the Professional, and the Project Director/Agency Project Manager. The Project Director/Agency Project Manager, or their Department Field Representative, has the authority to require the Professional to respond to and resolve study/design related problems, construction field problems and to attend Project

meetings. Unless delegated by specific written notice from the Department, the Department Field Representative has no authority to order any changes in the Project scope of work or authorize any adjustments in Contract price or Contract time.

INSPECTION: The Professional and their Consultant firm's on-site and/or off-site examination of the Project construction work completed or in progress by the Construction Contractor to determine and verify to the Department's, Project Director/Agency Project Manager and their Department Field Representative that the quantity and quality of all Project construction work is in accordance with the design intent of the Professional's Phase 500 - Contract Documents/ drawings and specifications requirements.

KEY PRINCIPAL PERSONNEL/EMPLOYEE: An individual employee of a Professional who is essential for the successful completion of the Project.

NOTICE OF INTENT TO AWARD: A written notice to the Construction Contractor, by the Department accepting the Professional's written recommendation to award the construction Bid to the lowest responsive, responsible qualified construction Bidder. The Notice of Intent to Award letter will also designate the Contract price and itemize the alternates that the Department, at its sole discretion has accepted.

PHASE: A discretely distinguishable step necessary to produce the Project in the course of the Professional providing study, design and construction administration services.

PRIME PROFESSIONAL SERVICES CONTRACTOR/PROFESSIONAL: An individual, firm, partnership, corporation, association, or other legal entity who is legally permitted by law to sign and seal final design construction Contract Documents and licensed under the State of Michigan's professional licensing and regulation provisions of the Occupational Code (State Licensing Law), Act 299 of the Public Acts of 1980, Article 20, as amended, to practice architecture, engineering, environmental engineering, geology, civil, land surveying, or landscape architecture services in the State of Michigan.

The Prime Professional Services Contractor/Professional is also legally permitted by the State of Michigan's regulation provisions of the State Construction Code, Act 230 of the Public Acts of 1972, as amended, and designated in a Construction Contract by the Department to recommend construction progress payments to the Construction Contractor.

PROJECT: Any new construction, existing site, new utilities, existing building renovation, roof repairs and/or removal and replacement, additions, alteration, repair, installation, construction quality control and material testing services, painting, decorating, demolition, conditioning, reconditioning or improvement of public buildings, works, bridges, highways or roads authorized by the Department that requires professional study/design services as part of this Contract.

PROJECT COST: The total Project cost including, but not limited to, site purchase, site survey and investigation, hazardous material abatement, construction, site development, new utilities, telecommunications (voice and data), professional fees, construction quality control and material testing services, testing and balancing services, furnishings, equipment, plan(s)/drawing(s) design code compliance and plan review approval fees and all other costs associated with the Project.

PROJECT DIRECTOR: The professional licensed employee of the Department who is responsible for directing and supervising the Professional's services during the life of this Contract. The Project Director, or their Department Field Representative, has the authority to require the Professional to respond to and resolve study/design related problems, construction field problems and to attend Project related meetings.

PROJECT/PROGRAM STATEMENT: The Project/Program Statement is provided by the Department and defines the scope of the problem, describes why this Project is desirable, and provides a preferred resolution of the problem.

PROJECT TEAM: The Professional, the Project Director/Agency Project Manager, Department Field Representative, a representative of the State/Client Agency, and others as considered appropriate by the Department.

PUNCH LIST: A list of minor construction Project items to be completed or corrected by the Construction Contractor, any one of which do not materially impair the use of the Project work, or the portion of the Project work inspected, for its intended purpose. A Punch List shall be prepared by the Professional upon having made a determination that the Project work, or a portion of the Project construction work inspected, in concert with the Professional, the Construction Contractor, the Department, the Project Director/Agency Project Manager and their Department Field Representative, and any construction manager, is substantially complete and shall be attached to the respective DTMB-0455, Certificate of Substantial Completion form. This standard document form is a part of the "DTMB-0460, Project Procedures" documents package.

SOIL EROSION AND SEDIMENTATION CONTROL: The planning, design and installation of appropriate Best Management Practices (as defined by the most current version of the Department's Soil Erosion and Sedimentation Control Guidebook) designed and engineered specifically to reduce or eliminate the off-site migration of soils via water runoff, wind, vehicle tracking, etc. and comply with the Soil Erosion and Sedimentation Control in the State of Michigan as regulated under the 1994 Public Act 451, as amended – The Natural Resources Environmental Protection Act, Part 91 – Soil Erosion and Sedimentation Control. Soil Erosion and Sedimentation Control associated with this Contract will be monitored and enforced by the Department of Technology, Management and Budget, State Facilities Administration, Soil Erosion and Sedimentation Control Program.

STATE: The State of Michigan in its governmental capacity, including its departments, agencies, boards, commissions, officers, employees, and agents. Non-capitalized references to a state refer to a state other than the State of Michigan.

STATE/CLIENT AGENCY: A Department of the State of Michigan, for whose use the Project will ultimately serve, which requires professional design services.

SUBSTANTIAL COMPLETION: The form (DTMB-0445) stating that the Project work, or a portion of the Project work eligible for separate Substantial Completion, has been completed in accordance with the design intent of the Professional's Contract Documents to the extent that the Department and the State/Client Agency can use or occupy the entire Project work, or the designated portion of the Project work, for the use intended without any outstanding, concurrent work at the Project work site, except as may be required to complete or correct the Project work Punch List items.

SUSTAINABLE DESIGN: The Professional's use of a balance of appropriate materials, products and design methods that reduce the impact to the natural ecosystems and be within the Budget constraints of the Project. Sustainable Design shall be used wherever possible by the Professional in their Project design and an itemized list shall be provided with the Professional's Contract Documents that identifies the processes and products.

TASK: Shall mean the following: (1) A quantifiable component of design related professional study/design Task services required to achieve a Phase of the Project; (2) The most manageable sub-element within a study/design Phase; (3) A unique item of work within a study/design Phase for which primary responsibility can be assigned; and (4) Has a time related duration and a cost that can be estimated within a study, design, and construction Phase.

ARTICLE XIV

COMPLETE AGREEMENT / MODIFICATION

This Professional Services Contract constitutes the entire agreement as to the Project between the parties. Any Contract Modification of this Contract and the Project/Program Statement scope of work requirements must be in writing, signed by duly authorized representatives of the parties, and shall be in such format and detail as the State may require. No Contract Modification may be entered into to compensate the Professional for correcting, or for responding to claims or litigation for the Professional firm's final design Contract Documents/study/design errors, omissions or neglect on the part of the Professional.

APPENDIX 1

PROJECT/PROGRAM STATEMENT

PROJECT STATEMENT

STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
State Facilities Administration
Design and Construction Division
3111 West St. Joseph Street
Lansing, Michigan 48909

FILE NUMBER Various	PROPOSAL DUE DATE Thursday, January 12, 2023, at 2:00 p.m., EASTERN
CLIENT AGENCY Department of Environment, Great Lakes, and Energy (EGLE)	
PROJECT NAME AND LOCATION 2023 Environmental Indefinite Services Indefinite Delivery (ISID)	
PROJECT ADDRESS (if applicable) Various	
CLIENT AGENCY CONTACT Bridget Walsh	TELEPHONE NUMBER (517) 420-6379
DTMB - DCD PROJECT DIRECTOR Indumathy Jayamani	TELEPHONE NUMBER (517) 582-1089

WALK-THROUGH INSPECTION DATE, TIME, AND LOCATION:

There is no Pre-Proposal Meeting required.

☐ **MANDATORY** (Check box if Mandatory)

☐ **LEIN Check** (Department of Corrections ONLY) All contractor / vendor representatives attending Preproposal Walk Through Meeting must submit a Vendor / Contractor LEIN Request form five business days prior to the meeting date (See the attached Vendor/Contractor LEIN Request Form). Send the LEIN Request form, filled and signed, by email to Daniel T. Smith at email address: smithD76@michigan.gov. The email "Subject" must include (facility name, project name, date, and time of Pre-Proposal Walk Through Meeting).

PROJECT DESCRIPTION/SERVICES REQUESTED

Provide professional environmental ISID services for a variety of State or Federally funded cleanup sites. The professional will be required to effectively perform tasks at assigned contaminated and/or hazardous waste sites through appropriate screening/investigation and/or remedial/corrective action plan to abate human health or environmental risks or bring an assigned site to an acceptable closure in accordance with the applicable Part 201 or Part 213 of the Michigan Natural Resources and Environmental Protection Act (NREPA) Public Act 451 of 1994, as amended and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and other relevant state and federal statutes and requirements. The Professional is required to refer to State and Federal statutes, procedures, guidelines, and the administration rules when providing the services or entering contracts with sub-consultants / subcontractors to provide the services. The Professional MUST upload their proposal to the State of Michigan Procurement website (SIGMA VSS). The Professional must use the attached appropriate forms to indicate the billing rates and questionnaires. The Professional may check one or more of the project types that they are interested in providing services. The State of Michigan reserves the right not to award the contract(s) or award the contract(s) to one or more firms.

Please NOTE:

- Proposal responses MUST be uploaded to SIGMA VSS. Please enter the total cost for all phases as the bid amount.
- Firms should only submit one (1) attachment (being less than 6 MB) for proposal submission. The attachment is to be the technical and cost proposal combined.
- Do not wait until just before the 2:00 p.m. solicitation deadline to submit your proposal response. SIGMA VSS will not allow a proposal to be submitted after 2:00 p.m., even if a portion of the

proposal response has been uploaded.

- If you experience issues or have questions regarding your electronic submission, you must contact the SIGMA Help Desk for assistance prior to the 2:00 p.m., solicitation deadline. You may contact the SIGMA Help Desk by telephone at 517.284.0540 or toll-free at 888.734.9749. You may also email the SIGMA Help Desk at sigma-procurement-helpdesk@michigan.gov
- Please email the Design and Construction Contract Specialists if you are having SIGMA VSS issues. Please include your SIGMA ticket number and any supporting documentation (i.e., screenshots) to Anne Watros (WatrosA@michigan.gov) and Don Klein (KleinD4@michigan.gov).
- You may be asked by our contract specialists to email your proposal. Emailed submissions will require DCD approval and will be handled on a case-by-case basis.
- Approved emailed submissions MUST be received prior to 2:00 p.m. deadline to be considered responsive and responsible.
- Responses should not be emailed to the Project Director.

NIGP CODES

90629; 91842; 91843; 92535; 92577; 92615; 92623; 92629; 92630; 92645; 92652; 92658; 92678; 92683; 92685; 92690; 92691; 92693; 92696; and 96273

DESIRED SCHEDULE OF WORK

Dependent on the assigned project

ACCEPTING RFP QUESTIONS UNTIL:

Please do not submit online questions via SIGMA VSS. ALL questions should be emailed to Indumathy Jayamani at jayamanii1@michigan.gov address no later than 2:00 p.m., Eastern on December 16, 2022.

REFERENCE STANDARDS: This project will comply with all codes, standards, regulations, and workers' safety rules that are administered by federal agencies (EPA, OSHA, and DOT), state agencies (DHHS, EGLE, DNR, and MIOSHA), and any other local regulations and standards that may apply.

This form is required to be a part of the professional service contract. (Authority: 1984 PA 431)



MINOR STATE CAPITAL OUTLAY PROJECTS

REQUEST FOR PROPOSALS FROM PROFESSIONAL SERVICE CONTRACTORS

(Authority PA 431 of 1984)

**For Indefinite Scope Indefinite Delivery
Not-to-Exceed Fee, Billable-Rate**

DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
Request for Proposal for
2023 Indefinite Scope Indefinite Delivery (ISID) for Environmental Services
Various Locations, Michigan

PROPOSAL DUE DATE: Thursday, January 12, 2023, 2:00 p.m., Eastern Time

ISSUING OFFICE

Department of Technology, Management & Budget
State Facilities Administration
Design and Construction Division



Minor State Capital Outlay Projects REQUEST FOR PROPOSALS

Part I - Technical Proposal

Part II – Cost Proposal

Professional Services for DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET 2023 Indefinite Scope Indefinite Delivery (ISID) Contract for Environmental Services Various Locations, Michigan

SECTION I GENERAL INFORMATION

I-1 Purpose

This Request for Proposals invites the prospective professional service contractor (Professional) to prepare a qualifications statement and proposal for an Indefinite Scope Indefinite Delivery (ISID) contract. ISID contracts provide the State of Michigan with a simple and streamlined qualifications-based selection process for obtaining professional environmental services for minor, emergency and / or routine investigation and remediation projects. Professionals holding an ISID contract may be contacted by a Department of Technology, Management and Budget (DTMB), State Facilities Administration (SFA), Design and Construction (DCD) Project Director to provide a specific proposal of services and fees for a particular project, which, if found acceptable, will then be assigned to that Professional under their ISID contract. Services requested may include, but not be limited to investigate, evaluate, design and supervise the implementation of abatements / remedies at assigned sites of environmental contamination under Parts 201 and 213 of the Michigan Natural Resources and Environmental Protection Act (NREPA) Public Act 451 of 1994, as amended, Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 (42 U. S. C. Chapter 103) and other relevant state / federal statutes and requirements. The services to be completed should encompass as a minimum the following phase(s) from DTMB's Sample Standard ISID Contract for Professional Environmental Services.

Projects will be located statewide, within both developed and undeveloped areas. Proposing firms must indicate regions and service areas in which they are willing to provide services, (refer to Questionnaire Articles 2 and 3, Project Types and Service Offered and Project Location, respectively).

The ISID contracts will supplement, but not replace, standard requests for proposals or qualifications as a method for obtaining professional services.

The 2023 Professional Environmental Services ISID contract will be limited to a term of three base years and one option year for assignments. A firm holding an ISID contract may not re-propose until their contract term is exhausted.

Firms with ISID contracts are eligible to participate in MIDeal, a cooperative purchasing program, local units of government, K-12 schools, state colleges and universities, and not for profit hospitals, may, if the firm agrees to participate, contract with an ISID contract holder at the billable rates specified in the ISID contract.

Please Note:

1. FIRMS HOLDING ISID CONTRACTS ARE NOT GUARANTEED ANY ASSIGNMENTS

If DTMB, Design and Construction Division (DCD) determines that a particular project is suited to the ISID contracting method, The DCD Project Director will select an ISID Professional to provide a specific proposal of services and fee for that project. If the proposal is acceptable, the project will be assigned to that Professional under their ISID contract.

DCD reserves the option of requesting such proposals from more than one professional for a particular project.

ISID contracts may include, but not be limited to, the following phase(s) from DTMB's attached Sample Standard ISID Contract for Professional Environmental services.

Phase—

- 100 Study
- 300 Schematic Design
- 400 Preliminary Design
- 500 Final Design
- 600 Construction Administration - Office Services
- 700 Construction Administration - Field Services
- 900 Operation and Maintenance Management – Remediation Facility

The minimum professional qualifications to complete the scope of work for this project are demonstrated experience in the successful planning and execution of similar projects in full accordance with all applicable Local, State, and Federal regulations.

I-2 Project/Program Statement

See attached project/program statement for more detailed information. The Professional, by submitting a Technical (Part I) and Cost (Part II) Proposal to DTMB for evaluation, states that they can and will provide complete services when an individual project is assigned to them.

No increase in compensation to the Professional will be allowed unless there is a material change made to the scope of work of the project/program statement and the change to the project/program statement is approved in writing by DTMB, State Facilities Administration (SFA), Design and Construction Division (DCD).

I-3 Issuing Office

This RFP is issued by the Department of Technology, Management and Budget (DTMB), on behalf of the State of Michigan and its Client Agencies. PROPOSALS SHALL BE RETURNED TO THE ISSUING OFFICE via State of Michigan Procurement website – SIGMA VSS.

The point of contact for all other items in this Request for Proposal is:

Indumathy Jayamani, Project Director
Department of Technology, Management and Budget
State Facilities Administration, Design and Construction Division
Telephone Number: (517) 582-1089
Email: jayamani1@michigan.gov

I-4 Contract Award

Professionals are requested to submit a two-part proposal, Technical Proposal - Part I, including a Qualifications Questionnaire, and Cost Proposal - Part II. Proposals will be evaluated by an Ad Hoc Advisory Committee based on the Technical Portion - Part I eighty percent (80%) and the Cost Proposal - Part II twenty percent (20%) with the following tentative percentage breakdown:

The Technical Portion will include the following breakdown:

Capacity and Quality	30%
Experience	30%
Personnel Staffing	30%
Business Organization and Contract Understanding	5%
Special Factors	5%

The Cost Portion will include the following breakdown:

Professional Billing Rates	75%
Billing Rate Increase	25%

The professional firm must complete the Professional Questionnaire (Appendix III) and select the Project Types and Project Locations they wish to be considered for. Provide attachments illustrating a minimum of three (3) examples, with references, of successful projects performed in the last five years for each item selected. Please include all the submitted resumes for all Project Types under one (1) appendix.

DTMB will offer a contract to several professional firms recommended by the Ad Hoc Advisory Committee after evaluation of the proposals. Recommendation is expected within forty-five (45) days following the due date of the proposal.

The Professional must include signed PSC Certification forms and the Addendum Acknowledgment form located at the end of this RFP as part of your proposal response.

I-5 Rejection of Proposals

The State of Michigan reserves the right to reject any or all proposals, in whole or in part, received because of this Request for Proposals.

I-6 Incurring Costs

The State of Michigan is not liable for any cost incurred by the Professional prior to acceptance of a proposal and the award and execution of a contract and issuance of the state's contract order.

I-7 Mandatory Pre- Proposal Meeting

NO MANDATORY PRE-PROPOSAL MEETING will be conducted by the Issuing Office for this Request for Proposal.

Questions that arise because of this RFP **MUST BE EMAILED to Indumathy Jayamani at jayamani1@michigan.gov** to the issuing office no later than **Friday, December 16, 2022, at 2:00 p.m., Eastern time (ET)**. If it becomes necessary to amend any part of this RFP, addenda will be posted on the SIGMA VSS website.

I-8 Responsibilities of Professional

The Professional will be required to assume responsibility for all professional services offered in their proposal whether they possess them within their organization or not. Further, the State of Michigan will consider the Professional to be the sole point of contact regarding contractual matters, including payment of all charges resulting from the contract. The prime professional shall possess a license to practice in the State of Michigan pursuant to the Occupational Code (PA 299 of 1980).

I-9 Proposals

The professional must submit a complete, straightforward response to this Request for Proposal. The proposal should describe the professional's ability to meet the requirements of the Request for Proposal.

The proposal must be submitted electronically through the State of Michigan Procurement System (SIGMA VSS). No other distribution of proposals will be made by the Professional. To be considered responsible and responsive, proposals must be uploaded to SIGMA VSS **on or before 2:00 p.m., Eastern time (ET), on Thursday, January 12, 2022**. The proposal must be signed by an official authorized to bind the professional firm to its provisions. **NO FACSIMILES OR E-MAILS OF THE REQUEST FOR PROPOSAL WILL BE ACCEPTED.**

The proposal and attachments must be fully uploaded and submitted prior to the proposal deadline. **Please do not wait until the last minute to submit a proposal**, as the SIGMA VSS system **will not** allow a proposal to be submitted after the proposal deadline identified in the solicitation, even if a portion of the proposal has been uploaded.

SIGMA has a maximum size limit on file uploads. When uploading, your attachment(s) the attachment must be 6mb or less.

Also, when entering proposal amount, please enter the total cost amount as \$1.00. Bidder's failure to submit a proposal as required may result in being deemed nonresponsive.

Questions on vendor registration, proposal submissions, or navigation in the SIGMA VSS system can be answered by contacting the SIGMA Help Desk either by telephone at 517.284.0540 or toll free at 888.734.9749 or by email at sigma-procurement-helpdesk@michigan.gov

SECTION II PROPOSAL FORMAT - PART I – TECHNICAL

The proposal must be submitted in the format outlined below. Paginate proposals and ensure that the proposals refer specifically to the project at hand. Proofread proposals for language and mathematical errors. The items shown below are considered in the Ad Hoc Committee proposal review of technical qualifications.

II-1 General Information and Project Team

State the full name, address, and SIGMA Vendor Number of the organization and, if applicable, the branch office, consultants or other subordinate elements that will provide or assist in providing the service. Indicate whether you operate as an individual, partnership, or corporation. If a corporation, include the state in which you are incorporated. State whether you are licensed to operate and practice in the State of Michigan.

II-2 Understanding of Project and Tasks

The professional must demonstrate an understanding of the project being considered and the professional services needed to achieve the state's goal. State your understanding of the project requirements and summarize your plan for accomplishing the project. Outline your experience with similar projects, sites, and clients as examples.

Explain how your firm or project team is the best suited to provide the services required for this project and would provide the best value to the State of Michigan for this work.

II-3 Personnel

The professional must be able to staff a project team which has the qualifications and expertise necessary to undertake the project. Include the full names of all personnel by classification that will be employed in the project.

Indicate which of these individuals you consider to be "Key Personnel" for the successful completion of these project types, identify them by position and classification and provide their resumes.

The Professional must identify all Key Personnel that will be assigned to this contract in the table below which includes the following:

- a. Name and title of staff that will be designated as Key Personnel.
- b. Key Personnel years of experience in the current classification.

- c. Key Personnel's roles and responsibilities, as they relate to this RFP, if the Professional is successful in being awarded the Contract. Descriptions of roles should be functional and not just by title.
- d. Identify if each Key Personnel is a direct, or consultant employee.
- e. Identify where each Key Personnel staff member will be physically located (city and state) during the Contract performance.

The Professional must provide detailed, chronological resumes of all proposed Key Personnel, including a description of their work experience relevant to their proposed role as it relates to the RFP. Qualifications will be measured by education and experience with particular emphasis to experience on projects similar to that described in the RFP.

Provide an organization chart outlining authority and communication lines for each professional firm, including Key Personnel, including sub-consultants, client agency, and DTMB.

II-4 Management Summary, Work Plan, and Schedule

This is for reference only and will be required for future assignments, but not required at this time. The professional must outline their work plan and methodology so that it is understood what services and deliverables will be provided, and the quality of the services and deliverables as well. Describe in detailed narrative form your plan for accomplishing the project. Describe clearly and concisely each professional task, event, and deliverable required for project completion. Do not simply reiterate language and tasks from the DTMB Professional Services Contract. Describe your constructability review and quality control plan. Include a detailed time sequenced – related but undated schedule, showing each event, task, and phase in your work plan. Allow time in the assignment schedule for the Owner's review.

II-5 Questionnaire

The professional firm submitting a proposal must complete the Professional Questionnaire (refer to attached fillable form in Microsoft Word format). This questionnaire must be accompanied by a narrative addressing the items above.

NOTE: Any information provided in one location can be referenced as needed in other locations

II-6 References

Provide references, with contact information of previous clients, particularly for similar projects. Outline your experience with similar projects, sites, and contacts.

SECTION III PROPOSAL FORMAT - PART II - COST

III-1 Instructions and Information – Billable Rate

Outline the billable rates for the Professional's staff members who may be assigned to these projects. Specific proposals for individual projects will be obtained at the time of individual project assignment and shall correspond to all phases/tasks of the work plan requested at that time.

If sub-consultants are used for a particular assigned project, their fees shall be provided. **No mark-up** of the sub-consultants' fees or billing rates will be allowed.

Reimbursable Expenses: The State will reimburse the Professional for the actual cost of printing and reproduction of project deliverables such as surveys, reports, and bidding documents (drawings and specifications).

The State will also reimburse for U.S. Mail regular shipping or postage, soil borings, and any required laboratory testing. **No mark-up** of reimbursable expenses will be allowed.

The Professional firm's hourly billing rate shall be the actual amount paid for the employee services on the Project including fringe benefits, vacations, sick leave, other indirect costs, and profit. The Professional firm's hourly billing rates shall not change during the life of this Contract without written approval by the Department. See attached, **Overhead Items Allowed for the Professional Services Contractor Firm's Hourly Billing Rate Calculation**, for the guide to overhead items allowed for the professional services contractor firm's hourly billing rate calculation. Reimbursement for the Project/Program Statement scope of work requirements will be provided only for Department approved items authorized for reimbursement compensation in this Contract. The State will not reimburse the Professional for downtime, or for personnel involved in downtime due to mechanical problems or failure of Professional's or sub-consultant/subcontractor equipment.

Project related travel expenses (mileage, meals, lodging) for Projects **more than** one hundred (100) miles in one-way from the Professional's nearest office shall be treated as an authorized reimbursable expense at the State of Michigan's current travel rates based on DTMB's Vehicle and Travel Services Travel Rate.

III-2 Identification of Personnel and Estimated Compensation

Provide compensation information for the Professional as well as any Sub-consultants. Note that employees of a separate professional firm or consultant, if proposed, should also be included, and noted.

A. Primary Professional and Sub-consultant(s) – Position, Classification and Employee Billable Rate Information

Using the format of Form II-2-A (attached), identify the service being provided and the Professional's or Sub-consultant's employee(s) names and position classifications.

See Appendix II for guidelines for position classifications. For each employee, list the current hourly billable rate for each year covered under this proposal. Hourly billing rates shall include any anticipated pay increases over the life of the Professional's three-year ISID contract duration. Sub-consultant fees will be included in individually assigned project contracts as not-to-exceed reimbursable amounts.

For individual assigned projects, the proposal will identify the estimated cost for each task.

The total of all phases/tasks shall become the Professional's maximum not-to-exceed cost for the assigned project. Compensation for each phase will be in accordance with the attached sample contract Article II – Compensation.

The following items B, C, and D will be required only at the time a proposal for an individual assigned project is requested.

Forms II-2-B, II-2-C, and II-2-D are for reference only and will be required for future assignments. These forms are not required for this proposal at this time.

A. Fee with Anticipated Hours by Phase – for Individual Assigned Projects

Using the format of Form II-2-B, identify for each phase the estimated hours for each employee and include the billable rate for each employee. Provide totals.

B. Reimbursable Expenses – for Individual Assigned Projects

Using the format of Form II-2-C, identify the phase number, firm name, and description of sub-consulting services, and/or description of all reimbursable direct expenses expressed as a not-to-exceed amount (travel over 100 miles one-way, printing, tests, etc.). Provide totals.

C. Total, Summarized by Phase – for Individual Assigned Projects

Using the format of Form II-2-D, provide a total of the fees and reimbursable expenses, by phase, as outlined in items B and C above. The total of all phases shall become the Professional's maximum not-to-exceed contract for all design services. Compensation for each phase will be in accordance with the "Sample Standard ISID – Environmental Contract for Professional Services."

Use the attached forms to establish your total compensation and trade contract reimbursables.

The following instructions are to be used by the Professional Services Contractor firms to determine the hourly billing rate to use on State of Michigan Projects.

The Professional's Consultant must submit a separate hourly billing rate for the professional consultant services they will provide for State of Michigan Projects. No mark – up of the Professional's Consultant services hourly billing rates will be allowed.

The Department will reimburse the Professional for the actual cost of printing and reproduction of the Contract Bidding Documents, soil borings, surveys and any required laboratory testing services and use of field equipment. **No mark-up of these Project costs will be allowed if services are performed in house.**

2023 HOURLY BILLING RATE

Based on 2022 Expenses

OVERHEAD ITEMS ALLOWED FOR THE PROFESSIONAL SERVICES CONTRACTOR FIRM'S HOURLY BILLING RATE CALCULATION

SALARIES:

Principals (Not Project
Related)
Clerical / Secretarial

Technical (Not Project
Related)
Temporary Help Tax
Technical Training
Recruiting Expenses

EMPLOYEE BENEFITS:

Hospitalization
Employer's
Federal Insurance
Contributions Act (FICA)Tax
Unemployment Insurance
Federal Unemployment
Disability
Worker's Compensation
Vacation
Holidays
Sick Pay
Medical Payments
Pension Funds
Insurance - Life
Retirement Plans

INSURANCE:

Professional Liability Insurance
Flight and Commercial Vehicle
Valuable Papers
Office Liability
Office Theft
Premises Insurance
Key – Personnel Insurance
Professional Liability Insurance

TAXES:

Franchise Taxes
Occupancy Tax
Unincorporated
Business Tax
Single Business Tax
Property Tax
Income Tax

SERVICES (PROFESSIONAL)

Accounting
Legal
Employment Fees
Computer Services Bond)
Research
Project / Contract Bond

EQUIPMENT RENTALS:

Computers
Typewriter
Bookkeeping
Dictating
Printing
Furniture and Fixtures
Instruments

OFFICE FACILITIES:

Rents and Related
Expenses
Utilities
Cleaning and Repair

LOSSES:

Bad Debts (net)
Uncollectible Fee
Thefts (not covered by
Project / Contract)
Forgeries (not covered by
Project / Contract)

FINANCIAL:

Depreciation

SUPPLIES:

Postage
Drafting Room
Supplies
General Office
Supplies
Library
Maps and Charts
Magazine
Subscriptions

**PRINTING AND
DUPLICATION:**

Specifications (other than
Contract Bidding documents)
Drawings (other than
Contract Bidding documents)
Xerox / Reproduction
Photographs

**SERVICES
(NONPROFESSIONAL):**

Telephone and Telegram
Messenger Services

TRAVEL:

All Project – Related
Travel*

MISCELLANEOUS:

Professional Organization
Dues for Principals and
Employees
Licensing Fees

II-2-A. Position, Classification and Employee Billing Rate Information

Firm Name

XYZ, Inc.

Yearly Hourly Billing Rate Increase

≈2%

Position/Classification				
	Year 2023	Year 2024	Year 2025	Year 2026
Principal/Project Manager**	\$100.00	\$105.00	\$110.00	\$116.00
Senior Architect	\$100.00	\$105.00	\$110.00	\$116.00
Quality Control/Assurance	\$100.00	\$105.00	\$110.00	\$116.00
Licensed Surveyor**	\$90.00	\$95.00	\$99.00	\$104.00
Project Engineer**	\$90.00	\$95.00	\$99.00	\$104.00
Mechanical Engineer**	\$90.00	\$95.00	\$99.00	\$104.00
Sr. Structural Engineer	\$80.00	\$84.00	\$88.00	\$92.00
Electrical Engineer	\$80.00	\$84.00	\$88.00	\$92.00
Scientist/Surveyor	\$65.00	\$68.00	\$71.00	\$75.00
Staff Engineer	\$65.00	\$68.00	\$71.00	\$75.00
Staff geologist	\$65.00	\$68.00	\$71.00	\$75.00
CAD Operator	\$75.00	\$79.00	\$83.00	\$87.00
Technician	\$65.00	\$68.00	\$71.00	\$75.00
Field Technician	\$50.00	\$53.00	\$56.00	\$59.00
Technical Support	\$35.00	\$37.00	\$39.00	\$41.00

*Billing Rate will be in accordance with the attached guideline page for instructions regarding the "Overhead Items used for Professional Billing Rate Calculation," and the "Sample Standard Contract for Professional Services," Article 5, Compensation Text.

** Key Project Personnel

II-2-B. Fee with Anticipated Hours and Billing Rate

		TOTAL HOURS	BILLING RATE	TOTAL
	POSITION/ CLASSIFICATION			
	Principal/Project Manager	30	100.00	3,000.00
	Senior Architect	17	100.00	1,700.00
	Licensed Surveyor	9	90.00	810.00
	Project Engineer	8	90.00	720.00
	Mech. Engineer.	8	90.00	720.00
	Sr. Structural Engineer	8	80.00	640.00
	Electrical Engineer	22	80.00	1,760.00
	Draftsperson	40	35.00	1,400.00
	Quality Control	2	100.00	200.00
	CAD Operator	42	35.00	1,470.00
SUBTOTAL		186		\$10,667.50

II-2C. Authorized Reimbursables -- Sub-consultants, Testing and Expenses

*Firm's Mark-Up Percentage: _____

PHASE	NAME OF FIRM	DESCRIPTION OF SERVICES PROVIDED	TOTAL AMOUNT* (Including mark-up)
Phase 400	Forrest T. Arrea, Landscape Architect, Howell, Michigan	Design of Stormwater Management Rain Garden	500.00
Phase 500	XYZ Productions, Inc. Lansing, Michigan	Printing and reproduction of bidding documents	500.00
Phase 500	Forrest T. Arrea, Landscape Architect, Howell, Michigan	Design of Stormwater Management Rain Garden	500.00
	SUBTOTAL		\$ 1,500.00

III-2D. Total, Summarized by Phase

PHASE	Phase 300	Phase 400	Phase 500	Phase 600	Phase 700	TOTAL
Professional Fee	1,597.50	2,820.00	3,970.00	1,120.00	1,160.00	10,667.50
Reimbursable Expenses	0.00	750.00	1,250.00	0.00	500.00	1,500.00
SUB-TOTAL	1,597.50	3,570.00	5,220.00	1,120.00	1,660.00	
TOTAL CONTRACT AMOUNT						\$ 12,167.50



DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
State Facilities Administration
Design & Construction Division

Certification of a Michigan Based Business

(Information Required Prior to Contract Award for Application
of State Preference/Reciprocity Provisions)

To qualify as a Michigan business:

Vendor must have, during the 12 months immediately preceding this bid deadline:
or

If the business is newly established, for the period the business has been in existence, it has:

(Check all that apply):

- ☐ Filed a Michigan single business tax return showing a portion, or all the income tax base allocated or apportioned to the State of Michigan pursuant to the Michigan Single Business Tax Act, 1975 PA 228, MCL • 208.1 – 208.145: or
- ☐ Filed a Michigan income tax return showing income generated in or attributed to the State of Michigan; or
- ☐ Withheld Michigan income tax from compensation paid to the bidder's owners and remitted the tax to the Department of Treasury; or

I certify that **I have personal knowledge** of such filing or withholding, that it was more than a nominal filing for the purpose of gaining the status of a Michigan business, and that it indicates a significant business presence in the state, considering the size of the business and the nature of its activities.

I authorize the Michigan Department of Treasury to verify that the business has or has not met the criteria for a Michigan business indicated above and to disclose the verifying information to the procuring agency.

Bidder shall also indicate one of the following:

- ☐ Bidder qualifies as a Michigan business (provide zip code: _____)
- ☐ Bidder does not qualify as a Michigan business (provide name of State: _____).
- ☐ Principal place of business is outside the State of Michigan, however service/commodity provided by a location within the State of Michigan (provide zip code: _____)



**DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
State Facilities Administration
Design & Construction Division**

Bidder: _____

Authorized Agent Name (print or type)

Authorized Agent Signature & Date

Fraudulent Certification as a Michigan business is prohibited by MCL 18.1268 § 268. A BUSINESS THAT PURPOSELY OR WILLFULLY SUBMITS A FALSE CERTIFICATION THAT IT IS A MICHIGAN BUSINESS OR FALSELY INDICATES THE STATE IN WHICH IT HAS ITS PRINCIPAL PLACE OF BUSINESS IS GUILTY OF A FELONY, PUNISHABLE BY A FINE OF NOT LESS THAN \$25,000 and subject to debarment under MCL 18.264.



DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
State Facilities Administration
Design & Construction Division

Responsibility Certification

The bidder certifies to the best of its knowledge and belief that, within the past three (3) years, the bidder, an officer of the bidder, or an owner of a 25% or greater interest in the bidder:

- (a) Has not been convicted of a criminal offense incident to the application for or performance of a contract or subcontract with the State of Michigan or any of its agencies, authorities, boards, commissions, or departments.
- (b) Has not had a felony conviction in any state (including the State of Michigan).
- (c) Has not been convicted of a criminal offense which negatively reflects on the bidder's business integrity, including but not limited to, embezzlement, theft, forgery, bribery, falsification, or destruction of records, receiving stolen property, negligent misrepresentation, price-fixing, bid rigging, or a violation of state or federal anti-trust statutes.
- (d) Has not had a loss or suspension of a license or the right to do business or practice a profession, the loss or suspension of which indicates dishonesty, a lack of integrity, or a failure or refusal to perform in accordance with the ethical standards of the business or profession in question.
- (e) Has not been terminated for cause by the Owner.
- (f) Has not failed to pay any federal, state, or local taxes.
- (g) Has not failed to comply with all requirements for foreign corporations.
- (h) Has not been debarred from participation in the bid process pursuant to Section 264 of 1984 PA 431, as amended, MCL 18.1264, or debarred or suspended from consideration for award of contracts by any other State or any federal Agency.
- (i) Has not been convicted of a criminal offense or other violation of other state or federal law, as determined by a court of competent jurisdiction or an administrative proceeding, which in the opinion of DTMB indicates that the bidder is unable to perform responsibly or which reflects a lack of integrity that could negatively impact or reflect upon the State of Michigan, including but not limited to, any of the following offenses under or violations of:
 - i. The Natural Resources and Environmental Protection Act, 1994 PA 451, MCL 324.101 to 324.90106.
 - ii. A persistent and knowing violation of the Michigan Consumer Protection Act, 1976 PA 331, MCL 445.901 to 445.922.



DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
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- iii. 1965 PA 166, MCL 408.551 to 408.558 (law relating to prevailing wages on state projects) and a finding that the bidder failed to pay the wages and/or fringe benefits due within the period required.
- iv. Repeated or flagrant violations of 1978 PA 390 MCL 408.471 to 408.490 (law relating to payment of wages and fringe benefits).
- v. A willful or persistent violation of the Michigan Occupational Health and Safety Act, 1974, PA 154, MCL 408.10001 to 408.1094, including: a criminal conviction, repeated willful violations that are final orders, repeated violations that are final orders, and failure to abate notices that are final orders.
- vi. A violation of federal or state civil rights, equal rights, or non-discrimination laws, rules, or regulations.
- vii. Been found in contempt of court by a Federal Court of Appeals for failure to correct an unfair labor practice as prohibited by Section 8 of Chapter 372 of the National Labor Relations Act, 29 U. s. C. 158 (1980 PA 278, as amended, MCL 423.321 et seq).

(j) Is NOT an Iran linked business as defined in MCL 129.312.

I understand that a false statement, misrepresentation, or concealment of material facts on this certification may be grounds for rejection of this proposal or termination of the award and may be grounds for debarment.

Bidder: _____

Authorized Agent Name (print or type)

Authorized Agent Signature & Date

☐ I am unable to certify to the above statements. My explanation is attached.



DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
State Facilities Administration
Design & Construction Division

ACKNOWLEDGMENT OF ADDENDUMS

PSC acknowledges receipt of Addenda: No. ____ dated: _____,

No. ____ dated: _____ No. ____ dated: _____



2023 Indefinite Scope Indefinite Delivery (ISID) Contract for Professional Environmental Consulting Services Scope of Work

SUMMARY

The State of Michigan is requesting the services of Professional Services Contractor(s) to provide high-quality environmental services to investigate, evaluate, design, and supervise the implementation of abatements/remedies at assigned sites of environmental contamination under Parts 201 and 213 of the Michigan Natural Resources and Environmental Protection Act (NREPA), 1994 P.A. 451, as amended; Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); and other relevant federal statutes and requirements. The State intends to form a list of firms for several project types. If the professional chooses to be considered for one or more of the project types, the Professionals must be able to perform tasks required by each checked project type to bring the assigned site(s) into compliance with current state and federal environmental requirements.

For the list, preference will be given to firms, in the State of Michigan, generally meeting the following requirements.

- Experience working at Parts 201 and 213 of NREPA 1994 P.A. 451, as amended sites.
- Experience working at CERCLA regulated sites.
- Experience in conducting effective environmental assessment, RI, and FS services.
- Experience in conducting effective vapor intrusion to indoor air assessments and mitigation of vapor intrusion risks to both residential and non-residential structures.
- Experience with the development of human health and ecological risk assessments.
- Experience with database development and management.
- Ability to perform sampling and provide technical review and Quality Assurance/Quality Control (QA/QC) of provided laboratory data.
- Ability to provide comprehensive professional services for the assigned projects.
- Accounting systems with capability to provide detailed cost documentation.

- Consideration will be given to the number and location of the satellite offices, record of past performance, and financial and technical resources.
- Expertise with the selected project type(s).

A number of contaminated sites have been identified in Michigan. This includes sites appearing on the list of contaminated sites authorized by Part 213 and Part 201 of the NREPA 1994 PA 451, as amended. Major steps in resolving the contamination problems at these sites are environmental assessment/investigation and abatement. The State, through review and evaluation of the responses to this RFP, anticipates selecting one or more Professionals to place on a list to provide environmental services on small, urgent, and simple projects. The professional will be required to provide professional environmental services, technical staff, and support personnel for the ISID minor projects on an as- needed basis for various State/Client Agencies within the State of Michigan.

The executed contract will be for professional environmental services for an unspecified number of ISID projects. The scope of work for each assigned project will be defined at the time the project is awarded by the State to the Professional. The professional environmental services required for each of these assigned projects requested by the Department may include any or all the Tasks included in the Phase 100 – Study through the Phase 900 – Operation and Maintenance Management as detailed in the attached SAMPLE contract.

SCOPE OF WORK

The typical environmental services to be performed at these sites under these ISID contracts may include but not be limited to:

1. Asbestos / Lead / Mold / Biohazard / Free Product / Regulated Waste Survey / Abatement
2. Brownfield Development
3. Ecological Risk Assessment / Forestry and Land Management / Wetland Mitigation / Streams and Lakes Restoration
4. Environmental Investigation / Characterization / Pilot Tests / Feasibility Study
5. Environmental/ Roto Sonic Drilling / Well Abandonment
6. Ground Penetrating Radar (GPR) / Laser-Induced Fluorescence (LIF) Field Screening
7. Landfill Maintenance / Monitoring
8. Nuclear Waste Management / Disposal / Remediation
9. Per- & Polyfluoroalkyl Substances (PFAS) Sampling / Mitigation / Remediation
10. Phase I / Phase II / Baseline Environmental Assessments
11. Remediation Systems Design / Construction Oversight / O&M / Decommissioning
12. Specialty Sub-Surface / Utility Inspection / Sewer Camera / Cleaning

13. Underground / Aboveground Storage Tank (UST/AST) Removal / Demolition / Soil Excavation / Closure
14. Vapor Intrusion Assessments / Risk Mitigation / Design / Installation / O&M Services

While performing this work, the consultant may be required to develop site specific project work plans, health, and safety plans (HASPs), quality assurance/quality control plans, bid specifications, and community relations plans.

In addition to these activities, the State may request the Professional to perform the following additional tasks, including but not limited to: assisting the State in acquiring site access; professional assistance for assessing potential uncontrolled hazardous material sites; obtain any permits which are required for the performance of the work; conduct work in a timely manner; ensure security of the site and equipment; comply with the State Environmental Policy Act and local, State and Federal permit requirements prior to conducting remedial actions; provide enforcement support, such as documentation of facts and information about a site and expert testimony during enforcement proceedings; and provide other program development and management assistance for the State departments/agencies. This assistance may include review of plans, drawings, specifications, proposals, technical reports, and other work products associated with a hazardous substance/contaminated site where a release has occurred or is likely to occur; the assessment of environmental and public health risks; record searches; historical reviews; research on technical issues; and personnel training.

ASSIGNMENTS

Services will be requested for an assigned project and will be in accordance with a cost proposal submitted and approved at that time. The professional is expected to have the costs of all required activities needed to complete the assignment.

Individual project assignments will be based on a written Statement of Objectives provided by the State and a proposal from the Professional to perform the scope of work. It is anticipated the assigned work will be completed before the expiration date of the Contract. However, assignments made during the period of the Contract may include work that will continue after the end date of the Contract period. If the State determines there is an imminent endangerment of human health or the environment, design of an emergency abatement system may be assigned under the Contract.

DISPOSAL OF WASTE

Any wastes generated during the performance of work under this Contract must be disposed of in conformance with all applicable state and federal laws, rules, and/or regulations. For all wastes being disposed under this Contract, it is the responsibility of the Professional to ensure compliance with this directive.

The Professional shall sign waste manifests on behalf of the State attesting to the accuracy and completeness of the manifest, when requested, at sites for which they are performing oversight. The State will retain generator status for these wastes. If necessary, the State will provide a letter to the Professional conveying this authority.

The Professional shall properly dispose of any samples they retain during site work upon written permission from the Agency Project Manager. Disposal of samples is not a billable expense but may be included in the Professional's overhead.

ENVIRONMENTAL DRILLING

The Professional shall competitively bid environmental drilling work to at least three (3) drilling contractors for each drilling assignment unless the Professional can demonstrate to the Agency Project Manager's satisfaction that there is only one qualified firm who can adequately perform the work as specified. If the Professional determines the services of a specific drilling firm are required, the Professional must state those reasons in writing to the Agency Project Manager for concurrence. The written request will address cost effectiveness, time constraints, geologic situations, and drilling methodologies.

The format and process used for bidding will be in accordance with industry standards and based upon a method chosen by the Professional that is most advantageous to the State. The frequency of bidding necessary within one project assignment will be decided upon between the Professional and the Agency Project Manager. Copies of all bid documents will be provided to the Agency Project Manager. Costs incurred by the subcontractor for environmental drilling shall be billed to the State as a reimbursement.

Ineligible Costs - The Professional cannot bill the State for the drilling subcontractor's time to develop work plans, prepare bid specifications for work plans, or to attend site safety meetings.

Billing Rates - If a drilling subcontractor provides other technical services such as geophysical testing, then the Professional must submit billing rates, fees, resumes, wages, and salary ranges for that Subcontractor.

Downtime for Equipment and Supplies - The Agency Project Manager has the option to purchase supplies and equipment. If the State purchases equipment for use at a site, the State is responsible for that equipment and may need to compensate the Professional for downtime or demobilization costs if the equipment does not function properly. If the Professional furnishes supplies and equipment that do not function properly and causes downtime, the State will not compensate the Professional for the downtime. Also, the State will not reimburse the Professional for backup supplies and equipment. The State will only reimburse the Professional for supplies and equipment used at the site or that must be available as indicated specifically by the health and safety or work plan.

LABORATORIES

The Professional may be required to obtain samples, prepare them for shipping, ship, and pick up samples or any other activity associated with sample collection and interpretation as determined necessary by the Agency Project Manager.

All laboratory analyses shall be performed by the EGLE lab, unless the Agency Project Manager approves use of a current ISID Environmental Laboratory contract holder, an EPA - CLP lab, or another lab as deemed necessary by the State. If a private lab, other than an ISID State Contract Lab, is to be used to perform the analyses, prior written permission by the Agency Project Manager is required.

The private lab must report data in a format consistent with the format used by the State and must include the same level of detail regarding QA/QC documentation and chain of custody records.

EQUIPMENT AND SUPPLY PURCHASES AND RENTAL PROCEDURES

Certain Agency procedures may apply to equipment, supplies, surveys, and other items as specified by the Project Director/Agency Project Manager and will be treated as reimbursements or Other Direct Costs (ODCs). Computers and computer related materials may be included as part of such procedures; however, prior written approval from the Department regarding computers and software must be secured.

If an item will be consumed or would be expected to be rendered unusable during the project assignment, then renting is not a viable alternative and purchasing the item is necessary. Examples of consumption are bags of cement and installed casing. Examples of items expected to be rendered unusable are tyveks and disposable bailers. If the rental price or price of using the Professional's equipment exceeds the purchase price the item shall be purchased.

If renting is an option, the cost shall be based upon the expected time of usage of that service or equipment or supply. The rental charge or charge for the Professional's equipment shall include maintenance, calibration, parts replacement, and service charges for the equipment. A table recording the costs incurred to date to rent equipment, or to use the Professional's equipment, shall be included in each monthly progress report. This table shall also include the purchase price for each piece of equipment. Each item required for the project shall be listed separately.

At the end of the project, the State has the OPTION to accept ownership of a purchased piece of equipment.

If an assignment must be modified to provide for additional scope of work, the cost effectiveness of purchasing, renting, or using the Professional's equipment must be determined for the additional work.

All deposit charges will be paid by the Professional and will not be reimbursed by the State.

HEALTH AND SAFETY PLANS (HASP)

The nature of the work to be performed under this Contract is hazardous.

In addition to Health and Safety Plan requirements noted in the Phase/Task section of the Contract the following will also apply:

The Professional shall satisfy **29 CFR 1910.120** and Section 24 of Act 154 PA 1974 as amended and corresponding rules and all federal, state, and local statutes, regulations, ordinances, etc., regarding health and safety (**40 CFR 35.6055(b)**).

Prior to executing any work at the assigned site, the Professional shall develop and submit all HASPs for the site to the Agency Project Manager for review, acceptance, and inclusion into the work plan.

The Professional shall arrange for all its employees that will be working on a contaminated site to attend a health and safety training course, and/or a personnel protection course. The Professional is responsible for all costs related to the training. When requested by the State, the Professional must provide proof of completion of health and safety training for each employee working on a site prior to the employee entering the site for any purpose.

The Professional will ensure that employees and sub-consultant's/subcontractor's employees wear protective clothing and use equipment specified in the site Health and Safety Plan at all times the employee is on the site.

Health and Safety Training and Medical Monitoring are not considered reimbursable items under this Contract. When working in any level of safety equipment, the level itself does not dictate additional costs, but the equipment costs above Level D are reimbursable.

INVOICING AND PAYMENT PROCEDURES

Documentation for payment will be submitted monthly per the requirements in the Contract. Project costs will be reimbursed to the Professional on an as-incurred basis in accordance with the terms of the Contract for Professional Services. Invoices received covering service periods for which the progress reports have not been received by the State will not be processed until the progress reports are received. These will be considered incomplete invoices.

Each invoice that includes labor will include a one-page summary sheet that lists by date the name of the individual providing the professional service, the individual's position/classification, hours worked that day, and hourly billing charge. Each invoice that includes reimbursable expenses will include a one-page summary with the following categories: *Meals, Lodging, Travel, Shipping, Equipment Rental, Field Supplies/Equipment Purchase, sub-consultants, and Miscellaneous*. Under Meals and Lodging categories, the date, name of the individual and total daily cost will be included. Under Travel category, the Professional will include the date, name of the individual, total mileage (above the allowed amount specified in the Contract), mileage rate, and total daily cost. Under Shipping, the Professional will include the date shipped, description of item shipped (e.g., tech memo, etc.) and the cost to ship the item. Under Equipment Rental, the Professional will include the range of dates equipment rented, description of equipment rented and rental cost. Under Field Supplies/Equipment Purchase and Miscellaneous categories, the Professional will include the date purchased, description and purpose of the item purchased and the cost. Under sub-consultants/subcontractors, the Professional will list the date of the sub-consultant/subcontractor work, name of the sub-consultant/subcontractor, description of work conducted, and the cost. The cost for each category will be totaled.

Contract Close-Out – Final payment shall be withheld until all deliverables have been received and accepted by the State. In addition, the Professional will be required to submit to the Agency Project Manager, an unconditional waiver, signed by an authorized representative of each sub-consulting/subcontracting firm, used on the project, indicating that they have been paid in-full by the Professional for all work performed.

LITIGATION SUPPORT

The Professional's personnel and the personnel of its sub-consultants/subcontractors will be required, if requested by the Agency Project Manager on behalf of EGLE's attorneys, to provide assistance to the State in the form of participation in legal actions against alleged responsible parties for violation of state and/or federal environmental law or the recovery of public expenditures regarding any of the operations the Professional or its sub-consultants/subcontractors are involved in under this Contract. This assistance may include, but is not limited, to the preparation of reports and assisting state and/or federal attorneys in preparation of the government's case, including the preparation and execution of interrogatories, affidavits, and testimony as a fact witness.

The State will reimburse the Professional for such assistance as described above at the contractually approved rates for the Professional's personnel at the time services are required. The Professional shall insert an identical obligation to provide such assistance in all sub-consultants/subcontractor agreements to perform work under this Contract. Failure to meet the requirement of this section shall be considered a breach of this Contract.

In addition, the Professional agrees that upon the Agency Project Manager request on behalf of the State attorney, that the Professional's personnel or the personnel of its sub-consultants/subcontractor will appear at trial as an expert witness. If expert testimony is requested, the Professional and State mutually agree while the State cannot, due to Section 2164 of the Revised Judicature Act, guarantee to pay the Professional's personnel any sum in excess of the current per day expert witness fee, the State attorney may ask the court to permit the State to pay the Professional's personnel for the appearance as an expert witness on behalf of the State, at a rate equal to the rate of the employee's contractually approved rates at the time services are required, for the actual time of court appearance plus travel time and standard expenses as defined in the Contract. To the extent that the court grants such a request, the Professional agrees to reimbursement at such rates.

1. If the Professional receives a subpoena or if an Assistant Attorney General assigned to the site requests information regarding one of the Professional's assignments, the Professional may release that information without the Agency Project Manager's prior written permission. However, the Professional must provide, in writing, to the Agency Project Manager a letter documenting what information has been released, to whom and when. Any other requests to release information continue to require the Agency Project Manager prior written permission. The party requesting the information has an obligation to pay for any copying costs. If the State requests duplicate copies, the State will reimburse the Professional for copying costs.
2. If a party other than the State requests the Professional provide testimony regarding an assignment for which they have performed work under this Contract, either through deposition or testimony in court, the State will NOT reimburse the Professional for that testimony. Depositions or testimony requested by parties other than the State are not covered by this Contract, and payment for a deposition or testimony may be prohibited by MCL 600.2164.

3. If a State Assistant Attorney General requests the Professional assist in preparation for litigation, i.e., answering interrogatories, preparing for trial via interviews, and discussions concerning the site, this time is reimbursable under this Contract.

PROJECT CONTROL REPORTS AND DELIVERABLES

1. Deliverables

The Professional shall provide electronic copies of all final reports, plans, specifications, drawings, and other significant deliverables in Microsoft Word, Excel, AutoCAD, and ArcGIS as applicable, as well as in separate PDF format, provided on one (1) portable media device. Reports that require submittal into RIDE shall be submitted by the Professional as applicable. In addition, the Professional shall provide one unbound, reproducible copy of each deliverable for each of the assigned projects or as specified in the assigned project scope of work. The Department/Agency will be responsible for obtaining access to the assigned sites, providing a map for the assigned sites, and where applicable, previous investigation/analytical results for work conducted at the assigned sites.

2. Project Control

- A. The Professional will carry out the assignments under this Contract under the direction of the Project Director and/or the Agency Project Manager.
- B. The Professional will submit brief written monthly (or any other interval deemed necessary by the State) progress reports that outline: the work accomplished during the reporting period including basis for significant decisions; work to be accomplished during the subsequent reporting period; daily field activity logs; problems, encountered or anticipated; notification of any significant deviation from the approved work plans; and budget/expenditure information including: project budget, cumulative expenses, projected expenses, and explanations of budget deviations for each major task. Staff time and costs to correct errors, omissions, and deficiencies in the work are not reimbursable. The Agency Project Manager may adjust the frequency of reports depending upon the nature of the project or phase of a particular project.

3. Reports

All project reports required as deliverables to this Contract will begin with an Executive Summary.

This will briefly outline the conditions encountered at the site, work performed at the site, conclusions drawn from this work, a list of the recommended alternatives for site remediation (where applicable), and a short description of any specifications prescribed by the report. The Executive Summary will be a synopsis of all information presented in the report and organized in logical manner to present an overview of the specific report. Each assignment will require specific reporting requirements.

The following are examples of reports that may be required from the Professional:

- A. Monthly progress reports.
- B. Draft and Final Preliminary Site Investigation Work Plans and assessment reports
- C. Draft and Final FS/RI Work Plans and reports
- D. RI technical memoranda for groundwater sampling, surface water sampling, soil/sediment sampling, air quality sampling, and site hazards assessment. The technical memoranda should summarize the data and collection techniques and include an evaluation of the data.
- E. Daily field logs which include equipment and supply charges and personnel on site. These shall be maintained and attached to the corresponding monthly-progress reports.

The following tasks may be required to produce reports/work products listed above:

- Community Relations
- FS (including Risk Assessment)
- Natural Resource Damage Assessment (NRDA)
- UST removal/closure and other Related Work
- Potentially Responsible Party (PRP) Identification
- Preliminary Site Investigation
- Risk-Based-Corrective-Action Activities
- RI and recommendations
- Baseline Environmental Assessments Review
- Contract Transition Tasks

All draft documents and communications with the State regarding guidance, input, acceptance, and approval shall be marked "DRAFT" and "Deliberative Process – FOIA Exempt". Information so designated shall not be provided in response to a Freedom of Information Act (FOIA) request.

4. The Professional and/or its sub-consultants/subcontractors shall follow the current edition of ASTM Standard D 5299-92 (Standard Guide for Decommissioning Ground Water Wells, Vadose Zone Monitoring Devices, Boreholes, and Other Devices for Environmental Activities) and other guidance as provided by the State as a performance standard for monitoring well, soil boring, and vadose zone monitoring device abandonment.

SELECTION CRITERIA

Responses to this RFP will be evaluated based upon the technical merit, conciseness, clarity, creativity, thoroughness of the proposal, understanding of the assignments and contract requirements. Also, evaluations of qualifications and experience will be conducted for each of the project types checked in the proposal.

Depending on available funding for cleanup activities, the State anticipates awarding contracts to one or more professionals meeting the requirements of the RFP and receiving the highest scores in the evaluation. The State reserves the right not to award the contract(s) or award contract(s) to one or more firms for the submitted proposals. The State may reject proposals in whole or in part and may waive any informality or technical defects if, in the judgment of the selection committee, the best interest of the State will be served.



**Department of Technology, Management and Budget
2023 Indefinite-Scope Indefinite-Delivery – Request for Qualifications
Professional Environmental Consulting Services Questionnaire
Various Locations, Michigan**

INSTRUCTIONS: Firms shall complete the following information in the form provided. A separate sheet may be used if additional space is needed; please key the continuation paragraphs to the questionnaire. Answer questions completely and concisely to streamline the review process. If you provide information in this questionnaire that is relevant to any other parts of the proposal, please reference the article numbers to avoid repetition.

ARTICLE 1: BUSINESS ORGANIZATION

1. Full Name: [Click or tap here to enter text.](#)

Address: [Click or tap here to enter text.](#)

Telephone and Fax: [Click or tap here to enter text.](#)

Website: [Click or tap here to enter text.](#) E-Mail: [Click or tap here to enter text.](#)

SIGMA Vendor ID: [Click or tap here to enter text.](#)

If applicable, state the branch office(s), partnering organization or other subordinate element(s) that will perform, or assist in performing, the work: [Click or tap here to enter text.](#)

If awarded a contract and / or subsequent assignment(s), state the specific SIGMA business address which you would like associated for all communication (Contracts, Contract Order, Contract Modifications and Payments)? [Click or tap here to enter text.](#)

Please list all person(s) authorized to receive and sign a resulting contract and / or subsequent assignment(s). Please include persons name, title, address, email and phone number. [Click or tap here to enter text.](#)

2. Check the appropriate status:

☐ Individual firm ☐ Association ☐ Partnership ☐ Corporation, or ☐ Combination –

Explain: [Click or tap here to enter text.](#)

If you operate as a corporation, include the state in which you are incorporated and the date of incorporation: [Click or tap here to enter text.](#)

Include a brief history of the Professional's firm: [Click or tap here to enter text.](#)

3. Provide an organization chart depicting key personnel and their roles for a typical assigned project. Include generic supporting staff positions.

4. Has there been a recent change in organizational structure (e.g., management team) or control (e.g. merger or acquisition) of your company? If the answer is yes: (a) explain why the change occurred and (b) how this change affected your company. [Click or tap here to enter text.](#)
5. Provide a four year rate schedule per position.

ARTICLE 2: PROJECT TYPES AND SERVICES OFFERED

Identify the project types and professional services for which your firm is exceptionally qualified and experienced. Contractor should have the capability to form potential teams with adequate experience in environmental investigation and remediation services. Provide attachments illustrating a minimum of three examples, with references, of successful projects performed in the last five years for each item checked. Identification of specialties will assist the State project directors/managers in matching firms with projects.

- ☐ Asbestos / Lead / Mold / Biohazard / Free Product / Regulated Waste Survey / Abatement
- ☐ Brownfield Development
- ☐ Ecological Risk Assessment / Forestry and Land Management / Wetland Mitigation / Streams and Lakes Restoration
- ☐ Environmental Investigation / Characterization / Pilot Tests / Feasibility Study
- ☐ Environmental/ Roto Sonic Drilling / Well Abandonment
- ☐ Ground Penetrating Radar (GPR) / Laser-Induced Fluorescence (LIF) Field Screening
- ☐ Landfill Maintenance / Monitoring
- ☐ Nuclear Waste Management / Disposal / Remediation
- ☐ Per-& Polyfluoroalkyl Substances (PFAS) Sampling / Mitigation / Remediation
- ☐ Phase I / Phase II / Baseline Environmental Assessments
- ☐ Remediation Systems Design / Construction Oversight / O&M / Decommissioning
- ☐ Specialty Sub-Surface / Utility Inspection / Sewer Camera / Cleaning
- ☐ Underground / Aboveground Storage Tank (UST/AST) Removal / Demolition / Soil Excavation / Closure
- ☐ Vapor Intrusion Assessments / Risk Mitigation / Design / Installation / O&M Services

ARTICLE 3: PROJECT LOCATION

Identify the regions where your firm can most efficiently provide services. Assignments may vary from the regions checked, depending on the specialties and services required.

- ☐ Western Upper Peninsula (west of Marquette)
- ☐ Eastern Upper Peninsula (east of Marquette)
- ☐ Northern Lower Peninsula (north of Grayling)
- ☐ Saginaw Bay area (east of 127, north of I-69 and M 57, south of Grayling)
- ☐ Western Lower Peninsula (west of 127, north of Muskegon, south of Grayling)
- ☐ Central Lower Peninsula (east of Battle Creek, west of Chelsea, south of M 46 and M 57)
- ☐ Southwestern Lower Peninsula (west of Battle Creek, south of Muskegon)
- ☐ Southeastern Lower Peninsula (east of Chelsea, south of I-69)

ARTICLE 4: CONTRACT UNDERSTANDING

The following items should be addressed on the assumption that your firm is awarded an Indefinite-Scope, Indefinite-Delivery contract. (See attached sample contract).

- 4.1 Is it understood that your firm is required to respond to small projects (less than \$25,000) as well as larger projects?

Yes ☐ No ☐

- 4.2 Is it understood that there is no guarantee of any work under this contract?

Yes ☐ No ☐

- 4.3 Is it understood that your firm will be required to execute the attached standard State of Michigan contract language for professional services?

Yes ☐ No ☐

- 4.4 Is it clearly understood that professional liability insurance is required at the time of execution of the ISID contract? (See Article 5 of the attached Sample Contract.)

Yes ☐ No ☐

- 4.5 Is it understood that your firm must comply with State of Michigan law as it applies to your services?

Yes ☐ No ☐

4.6 Does your firm have prior experience working with the State of Michigan?

Yes ☐ No ☐

If yes, explain: [Click or tap here to enter text.](#)

ARTICLE 5: CAPACITY AND QUALITY

5.1 Briefly describe your firm's methods and procedures for quality control for your deliverables and services.

[Click or tap here to enter text.](#)

5.2 Has your firm been involved in claims or suits associated with professional services errors and / or omissions?

Yes ☐ No ☐

If yes, explain: [Click or tap here to enter text.](#)

5.3 Will there be a key person who is assigned to a project for its duration?

Yes ☐ No ☐

5.4 Please present your understanding of the relationship between your firm, the DTMB Design and Construction Division, and the State Agency for whom a project will be completed.

[Click or tap here to enter text.](#)

5.5 Describe your approach if a bidder proposes a substitution of a specified material during bidding.

[Click or tap here to enter text.](#)

5.6 Describe your approach if a contractor proposes a substitution of a specified material or detail with shop drawing submittals or in construction.

[Click or tap here to enter text.](#)

5.7 How will your firm provide consistent and continuous communication pertaining to project activities and project status to the State of Michigan during the progress of projects?

[Click or tap here to enter text.](#)

5.8 Does your company have an FTP or similar site for quick posting and distribution of information, drawings, field inspection reports, and other communications?

Yes ☐ No ☐

- 5.9 Describe your method of estimating construction costs and demonstrate the validity of that method.

[Click or tap here to enter text.](#)

- 5.10 Describe your approach to minimizing construction cost over-runs.

[Click or tap here to enter text.](#)

- 5.11 What percentage of the construction cost should be devoted to construction administration (office and field)?

[Click or tap here to enter text.](#) %

- 5.12 What portion of the assigned work will be performed with your staff and what portion will be provided by sub-consultants?

[Click or tap here to enter text.](#) %

- 5.13 On a typical project, what would be your response time, from the time receive a project assignment to starting investigation and design work? A typical project might be one involving several disciplines and in the neighborhood of a \$25,000 fee.)

[Click or tap here to enter text.](#) Days/Weeks

- 5.14 How do you assess whether a construction bidder is responsive and responsible?

[Click or tap here to enter text.](#)

- 5.15 Describe your experience with similar ISID contracts.

[Click or tap here to enter text.](#)

- 5.16 Describe your approach to a construction contractor's request for additional compensation for a change in the project scope.

[Click or tap here to enter text.](#)

- 5.17 Is a sample of field activity logs detailing a 1-week period (from one of the three (3) prior experience sites) and a weekly report provided?

☐Yes

☐No

ARTICLE 6: PERSONNEL STAFFING

- 6.1 Is an organizational chart that includes each person on your project team and their identified roles for a typical assigned project provided?

☐Yes

☐No

6.2 Please fill out the following information regarding the personnel your firm considers key to the successful completion of the study or project scope of work:

Key Personnel 1

Name: Click or tap to enter text

Job Title: Click or tap to enter text

Labor Classification: Click or tap to enter text

College Degree(s): Click or tap to enter text

Has this individual successfully completed 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training with an up to date 8 hour HAZWOPER refresher training?

☐Yes ☐No

Key Personnel 2

Name: Click or tap to enter text

Job Title: Click or tap to enter text

Labor Classification: Click or tap to enter text

College Degree(s): Click or tap to enter text

Has this individual successfully completed 40-hour HAZWOPER training with an up to date 8-hour HAZWOPER refresher training? ☐Yes ☐No

Key Personnel 3

Name: Click or tap to enter text

Job Title: Click or tap to enter text

Labor Classification: Click or tap to enter text

College Degree(s): Click or tap to enter text

Has this individual successfully completed 40-hour HAZWOPER training with an up to date 8-hour HAZWOPER refresher training? ☐Yes ☐No

Key Personnel 4

Name: Click or tap to enter text

Job Title: Click or tap to enter text

Labor Classification: Click or tap to enter text

College Degree(s): Click or tap to enter text

Has this individual successfully completed 40-hour HAZWOPER training with an up to date 8-hour HAZWOPER refresher training? ☐Yes ☐No

Key Personnel 5

Name: Click or tap to enter text

Job Title: Click or tap to enter text

Labor Classification: Click or tap to enter text

College Degree(s): Click or tap to enter text

Has this individual successfully completed 40-hour HAZWOPER training with an up to date 8-hour HAZWOPER refresher training? ☐Yes ☐No

6.3 Does the Professional Project Manager (PM) have at least three years' experience as a PM? ☐Yes ☐No

6.4 Does the Professional PM have a minimum of 10 years' experience with similar projects? ☐Yes ☐No

6.5 Are the resumes for the key personnel provided? ☐Yes ☐No

ARTICLE 7: SPECIAL FACTORS

Include a brief description of your firm's special qualifications such as awards, recognitions, innovations, etc. that would pertain to this RFP. (As examples: any awards or recognition received by the firm or individuals for similar work, special approaches or concepts developed by the firm appropriate to this project, financial capacity, etc. Respondents may say anything they wish in support of their qualifications). Click or tap here to enter text.

ARTICLE 8: EXPERIENCE

- 8.1 Provide a client reference and brief descriptions of **at least three (3) projects in the last five years closely related to each of the project types** and professional services requested in this RFP. Emphasis shall be placed on recent work at sites of environmental contamination:

Project 1 Reference Information

Project Name: Click or tap to enter text

Project Address: Click or tap to enter text

Key Personnel: Click or tap to enter text

Project City / State / Zip: Click or tap to enter text

Contact Name / Phone Number / Email Address: Click or tap to enter text

Project Description: Click or tap to enter text

Project 2 Reference Information

Project Name: Click or tap to enter text

Project Address: Click or tap to enter text

Key Personnel: Click or tap to enter text

Project City / State / Zip: Click or tap to enter text

Contact Name / Phone Number / Email Address: Click or tap to enter text

Project Description: Click or tap to enter text

Project 3 Reference Information

Project Name: Click or tap to enter text

Project Address: Click or tap to enter text

Key Personnel: Click or tap to enter text

Project City / State / Zip: Click or tap to enter text

Contact Name / Phone Number / Email Address: Click or tap to enter text

Project Description: Click or tap to enter text

GUIDELINES FOR POSITION CLASSIFICATIONS

The Professionals are required to use the following guidelines as the basis for classification of personnel to be assigned under their contracts. Changes in the key personnel under the contract must be done by Contract Modification. In addition, the Professionals must provide with their modification requests the names, hourly billing rates, and resumes for the new **Key Personnel** to be added to the contracts. A Key Personnel is any staff member of the Professional who is essential for the successful completion of the Project scope of work and authorized to make decisions affecting the work at the sites under the contracts.

1. PROFESSIONAL KEY PERSONNEL

- A. **Level 4** (P4) - Plans, conducts, and supervises projects of major significance, necessitating proven managerial skills and knowledge of hazardous waste sites. Must demonstrate ability to originate and apply new and/or unique methods and procedures. Supplies technical advice and council to other professionals. Generally, operates with wide latitude for independent action.

Typical Title:

National Manager, Project Leader, Chief Engineer, or Scientist.

Qualifications and Experience:

Ph.D. degree with 10 years or more experience.

MS degree with 12 years or more experience.

BS degree with 14 years or more experience.

Experience Factors:

Technical experience in discipline directly related to the requirements of this contract. Minimum of 4 years' experience in supervising multidisciplinary professionals and general office management including budgetary requirements.

- B. **Level 3** (P3) - Under general supervision of P4 Manager, plans, conducts and supervises assignments on a project- by-project basis. Estimates and schedules work to meet completion dates. Directs assistance, reviews progress and evaluates results; makes changes in methods, design or equipment are made where necessary. Responsible for safe and cost-effective approaches to achieve the objectives of the project.

Typical Title:

Regional Team Leader, Project Engineer.

Qualifications and Experience:

Ph.D. degree with 4 to 10 years' experience

MS degree with 6 to 12 years' experience

BS degree with 8 to 14 years' experience

Experience Factors:

Technical experience in disciplines directly related to the requirements of this contract. Minimum of 4 years' experience or equivalent. Must have demonstrated ability to manage group of interdisciplinary professionals.

2. PROFESSIONAL NON-KEY PERSONNEL

- A. **Level 2** (P2) - Under supervision of a senior or project leader, carries out assignments associated with projects. Work assignments are varied and require some originality and ingenuity. Applies training of professional discipline to assigned projects and translates technical guidance and training received into usable data products and reports. Evaluates data associated with various watersheds for use in developing digital flood insurance map production and development of updated flood data.

Typical Title:

Surveyor, Engineer, Construction Manager, Project Manager, Scientist, Analyst

Qualifications and Experience:

MS degree with 2 to 6 years' experience.

BS degree with 3 to 8 years' experience.

Experience Factors:

Minimum of 2 years in area directly related to contract requirements.

- B. **Level 1** (P1) - Entry level for professional classification; works under supervision of team or project leader. Gathers and correlates basic data and performs routine tasks and other duties as assigned. Makes recommendations on work assignments and on variables which affect field operations. Assists field operations as directed, including manual tasks of equipment setup and maintenance. Performs other duties as assigned.

Typical title:

Junior Associate (Surveyor, Engineer, Scientist, Geologist, etc.)

Qualifications and Experience:

MS degree with 0 to 2 years' experience.

BS degree with 0 to 3 years' experience.

Experience Factor: None

3. TECHNICIAN NON-KEY PERSONNEL

- A. **Level 3** (T3) - Performs non-routine and complex assignments. Works under general supervision of a surveyor, scientist or engineer. Performs experiments or tests which may require non-standard procedures and complex instrumentation. Records, computes and analyzes test data, prepares test reports. May supervise lower level technicians or trades personnel.

Typical Title:

Senior Technician

Qualifications and Experience:

6 years or more experience.

Experience Factor:

Related to scope of contract.

- B. **Level 2** (T2) - Performs non-routine and complex tasks in addition to routine assignments. Works at the direction of the team or project leader. Gathers and correlates basic data and performs routine analyses. May also perform experiments or tests which may require non-standard procedures and complex instrumentation. May construct components or sub-assemblies or prototype models. May troubleshoot malfunctioning equipment and make simple repairs as authorized by team or project leader.

Typical Title:

Senior Technician

Qualifications and Experience:

Two to six years' experience or equivalent

Experience Factor:

Related to scope of contract.

- C. **Level 1** (T1) - Entry level; performs simple, routine tasks under supervision as established in chain-of- command procedures. Performs routine maintenance and may install, set up or operate field equipment of moderate complexity. Provides a wide variety of support functions during field operations.

Typical Title:

Junior Technician (field technician)

Qualifications and Experience:

0 to 2 years' experience.

Experience Factor:

None

4. TECHNICAL SUPPORT (TS) NON-KEY PERSONNEL

Performs project specific technical support work such as spreadsheet preparation, data entry, etc.

Typical Title:

Project Assistant, Data Entry Clerk, etc.

Qualifications and Experience:

0 to 2 years or more

POSITION, CLASSIFICATION AND EMPLOYEE BILLING RATE INFORMATION

PROFESSIONAL SERVICES - 2023 ENVIRONMENTAL ISID

Firm Name _____

Yearly Percentage Billing Rate Increase _____

LEVEL	CLASSIFICATION	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027

*Billing Rate will be in accordance with the attached guideline page for instructions regarding the "Overhead Items used for Professional Billing Rate Calculation," and the attached "Sample Standard Contract for Professional Services," Article II, Compensation.

** Key Project Personnel



COST OR PRICE SUMMARY

(see accompanying instructions before completing this form)

Form approved
OMB No. 2030-0011
Approval expires 10-31-86

PART I - GENERAL

1. RECIPIENT		2. ASSISTANCE IDENTIFICATION NO.	
3. NAME CONTRACTOR OR SUBCONTRACTOR		4. DATE OF PROPOSAL	
5. ADDRESS OF CONTRACTOR OR SUBCONTRACTOR (Include ZIP Code)		6. TYPE OF SERVICE TO BE FURNISHED	
TELEPHONE NUMBER(Include Area Code)			

PART II - COST SUMMARY

7. DIRECT LABOR (specify labor categories)	ESTIMATED HOURS	HOURLY RATE	ESTIMATED COST	TOTALS
		\$	\$	
DIRECT LABOR TOTAL:				\$
8. INDIRECT COSTS (Specify indirect cost pool)	RATE	x BASE =	ESTIMATED COST	
		\$	\$	
INDIRECT COSTS TOTAL:				\$
9. OTHER DIRECT COSTS				
a. TRAVEL			ESTIMATED COST	
(1) TRANSPORTATION			\$	
(2) PER DIEM			\$	
TRAVEL SUBTOTAL:			\$	
b. EQUIPMENT, MATERIALS, SUPPLIES (Specify categories)			ESTIMATED COST	
			\$	
EQUIPMENT SUBTOTAL:				
c. SUBCONTRACTS			ESTIMATED COST	
			\$	
SUBCONTRACTS SUBTOTAL:			\$	
d. OTHER (Specify categories)			ESTIMATED COST	
			\$	
OTHER SUBTOTAL:			\$	
e. OTHER DIRECT COSTS TOTAL:				
			\$	
10. TOTAL ESTIMATED COST				\$
11. PROFIT				\$
12. TOTAL PRICE				\$

PART III - PRICE SUMMARY

13. COMPETITOR'S CATALOG LISTINGS, IN-HOUSE ESTIMATES, PRIOR QUOTES (Indicate basis for price comparison)	MARKET PRICE(S)	PROPOSED PRICE
		\$

PART IV - CERTIFICATIONS

14 CONTRACTOR		
14a. HAS A FEDERAL AGENCY OR FEDERALLY CERTIFIED STATE OR LOCAL AGENCY PERFORMED ANY REVIEW OF YOUR ACCOUNTS OR RECORDS IN CONNECTION WITH ANY OTHER FEDERAL ASSISTANCE AGREEMENT OR CONTRACT WITHIN THE PAST 12 MONTHS? <input type="checkbox"/> YES <input type="checkbox"/> NO (If "Yes" give name, address, and telephone number of reviewing office)		
14b. THIS SUMMARY CONFORMS WITH THE FOLLOWING COST PRINCIPLES		
14c. This proposal is submitted for use in connection with and in response to: (1)		
This is to certify to the best of my knowledge and belief that the cost and pricing data summarized herein are complete, current, and accurate as of:		(2) DATE
I further certify that a financial management capability exists to fully accurately account for the financial transactions under this project. I further certify that I understand that the subagreement price may be subject to downward renegotiation and/or recoupment where the above cost and pricing data have been determined, as a result of audit, not to have been complete, current, and accurate as of the date above.		
(3) TITLE OF PROPOSER	SIGNATURE OF REVIEWER	DATE OF EXECUTION
15. RECIPIENT REVIEWER		
I certify that I have reviewed the cost/price summary set forth herein and the proposed cost/price appear acceptable for subagreement award.		
TITLE OF PROPOSER	SIGNATURE OF REVIEWER	DATE OF EXECUTION
16. EPA REVIEWER		
TITLE OF PROPOSER	SIGNATURE OF REVIEWER	DATE OF EXECUTION

PURPOSE AND APPLICABILITY

The purpose of this form is to provide a simple form for the display of cost and price data. 40 CFR 33.290 requires the recipient to perform cost or price analysis for every procurement action, including subagreement modifications. This form is not required by EPA, but may be used at the recipient's option. If the recipient currently uses a cost and price analysis form which accomplishes the same objectives as this form, the recipient may use its own form.

INSTRUCTIONS

If this form is used, CAREFULLY READ AND FOLLOW ALL INSTRUCTIONS. Many items are not self-explanatory. Attach additional sheets if necessary.

Use only the applicable portion of this form:

Part I is applicable to all subagreements.

Part II is applicable to all subagreements requiring a cost analysis pursuant to EPA procurement regulations.

Part III is applicable to all subagreements where review is based on price comparison (i.e., price analysis).

Part IV certification will be executed as required by the instructions for each block.

PART I - GENERAL

Item 1 - Enter the name of the recipient as shown on the assistance agreement.

Item 2 - Enter the assistance identification number shown on the assistance agreement (or assigned to the project, if no assistance agreement has yet been executed).

Item 3 - Enter the name of the contractor or subcontractor with whom the subagreement is proposed to be executed.

Item 4 - Enter the date of the contractor's or subcontractor's proposal to the recipient.

Item 5 - Enter the full mailing address of the contractor or subcontractor.

Item 6 - Give a brief description of the work to be performed under the proposed subagreement.

Part II - COST SUMMARY

This portion of the form is to be completed by the contractor (or his/her subcontractor) with whom a subagreement is a formally advertised, competitively bid, fixed price subagreement.

Nothing in the following discussion should be interpreted as recommending the inclusion as direct costs any items normally treated as overhead costs in the firm's accounting or estimating system. 40 CFR Part 30 identifies general cost principles applicable to subagreements under EPA assistance. Pursuant to that Part, all subagreements awarded to profit-making organizations are subject to cost principles of 48 CFR 31.2. Architect engineer and construction contracts are also subject to 48 CFR 31.105.

Item 7 - Direct Labor

Direct labor costs normally include salaries at a regular time rate. Overtime premiums should be identified separately on an attachment. Incurrence of unanticipated overtime costs requires the approval of the recipient at the time of incurrence. If significant overtime is known to be needed at the time of completion of the cost review form, the reasons therefore, labor categories, rates and hours should be identified on the attachment. Also included is the cost of partners' or principals' time when they are directly engaged in services to be rendered under the subagreement. In case the full time of any employee is not to be devoted to work to be performed under the subagreement, only the cost of actual time to be applied should be included. The compensation of a partner or principal shall be included as direct cost only for the time that she/he is expected to be engaged directly in the performance of work under the subagreement and only if it is the firm's normal practice to charge such time directly to all jobs. The rate of compensation of a partner or principal shall be commensurate with the cost of employing another qualified person to do such work, but the salary portion shall not exceed the actual salary rate of the individual concerned. Distribution of profits

shall not be included in the rate of compensation.

Enter in block 7 the categories of professional or technical personnel necessary to perform each major element of work under the subagreement scope of services. Estimate hours worked for each category and extend them by the wage rates to be paid during the actual performance of the work. Current rates, adjusted for projected increases, if any should be useful for the actual categories of labor contemplated. All projected increases should be supported by recent experience or established personnel policy. Enter in the far right column the total estimated direct labor cost.

Supporting records to be maintained by the contractor and which must be submitted or made available to the recipient or EPA upon request include:

- The method of estimating proposed hours worked.
- The computation techniques used in arriving at proposed labor rates.
- The specific documents, books or other records used as factual source material to develop proposed hours worked and labor rates.
- Detailed rate computations which were used in computing the information submitted on the form.

If in block 14a, the contractor has checked "No," a brief narrative description of the methods used in arriving at items a through d above shall be included on an attached sheet.

Item 8- Indirect Costs

Indirect cost may consist of one or more pools of expenses which are grouped on the basis of the benefits accruing to the cost objectives represented by the distribution base or bases to which they are allocated. Since accounting practices vary, the use of particular groupings is not required. Neither is the use of any particular allocation base mandatory. However, it is mandatory that the method used results in an equitable allocation of indirect costs objectives which they support.

Normally, the firm's accounting system and estimating practices will determine the method used to allocate overhead costs. The firm's established practices, if in accord with generally accepted accounting principles and PROVIDED THEY PRODUCE EQUITABLE RESULTS IN THE CIRCUMSTANCES, will generally be accepted. Proposed overhead rates should represent the firm's best estimate of the rates to be experienced during the subagreement period. They should be based upon recent experience and be adjusted for known factors which will influence experienced trends.

Common overhead groupings are overhead on direct labor and general and administrative expenses. The first groupings usually include employment taxes, fringe benefits, holidays, vacation idle time, bonuses, applicable and direct labor, etc. The second generally includes the remaining costs, which, because of their incurrence for common or joint objectives, are not readily subject to treatment as direct costs. It is expected, however, that proposal groupings will correspond with the firm's normal method for accumulating indirect costs. (Under some accounting systems, the first grouping would be included instead under item 7.) No special categorization is required, provided the results are realistic and equitable.

Direct salaries are the normal distribution base for overhead cost but in some circumstances other bases produce more equitable results. As in the case of overhead cost groupings, the method to be used will depend upon the firm's normal practices and the equity of the results produced in the circumstances.

In the case of multibranch firms, joint ventures, or affiliates, it is expected that overhead costs applicable to specific location(s) where

work is to be based on cost data from the most recent fiscal periods updated to reflect changes in volume of business or operations.

Enter in block 8 the indirect cost pools normally used by the firm for allocation of indirect costs. Enter indirect cost rate for each pool and extend each one by the rate base to which it applies to arrive at the estimated indirect costs to be incurred during the actual performance of the work. If the indirect labor total from block 7 is not used as the rate base for any of the indirect cost pools, the rate base used must be explained on an attached sheet.

A brief narrative statement outlining the firm's policies and practices for accumulating indirect costs. Enter the indirect cost rate costs and the method used to compute the proposed rate or rates shall accompany the form. Include comment on the firm's policies regarding the pricing and costing of principals' time. The normal accounting treatment of principals' salaries, the annual amounts, and the hourly charge rate, if used, should be discussed.

Enter in the far right column the total estimated indirect costs.

Supporting records to be maintained by the contractor and which must be submitted or made available to the recipient or EPA upon request include:

a. Detailed cost data showing overhead accounts, allocation bases, and rate computations for the preceding fiscal period. If more than six months of the current fiscal period have elapsed, cost data for this period should be included as one of the three period(s).

b. Company budgets, budgetary cost data and overhead rates computations for future period(s).

Item 9 - Other Direct Costs

The following items are illustrative of costs normally included in this category of costs:

a. *Travel cost, including transportation, lodging, subsistence, and incidental expenses incurred by personnel or consultants while in travel status in connection with the performance of services required by the contract. The cost principles generally require the use of less than first class air accommodations and also limit the cost of private aircraft.*

b. *Equipment, Materials, and Supplies*

(1) Long distance telephone calls, telegraph and cable expenses to be incurred in connection with the performance of services required in connection the subagreement.

(2) Reproduction costs, including blueprints, black and white prints, ozalid prints, photographs, photostats, negatives; and express charges.

(3) Commercial printing, binding, artwork, and models.

(4) Special equipment.

c. *Subcontractors*

d. *Other Direct costs, if any, not included above.*

Enter in blocks 9a-d all other direct costs proposed. Travel costs entered must be supported by an attachment which identifies the number of staff trips proposed and the estimated cost per staff trip for both local and long distance transportation. The number of days and the rate per day must be provided to support the per diem shown. Each subcontract and consultant agreement must be identified separately in block 9c.

Enter in the far right column on line 9e the total of all other direct costs (9a-d).

Supporting data to be maintained by the contractor and which must be submitted or made available to the recipient or EPA upon request include:

a. basis for other direct costs proposed.

b. factual sources of costs, rates, etc., used in computing proposed amount of each cost element.

Item 10 - Total Estimated Cost

Enter the total of all direct labor, indirect costs and other direct costs from items 7, 8, and 9.

Item 11 - Profit

A fair and reasonable provision for profit cannot be made by simply applying a certain predetermined percentage to the total estimated cost. Rather, profit will be estimated as a dollar amount after considering:

a. *degree of risk.*

b. *nature of the work to be performed.*

c. *extent of firm's investment.*

d. *subcontracting of work, and*

e. *other criteria.*

The Federal Acquisition Regulation cost principles applicable to subagreements with profit-making organizations (40 CFR 31.2 and 31.105) disallow certain types of costs which are sometimes incurred by firms in the normal conduct of their business. Examples of costs which are not allowable under these cost principles include, but are not limited to, entertainment, interest on borrowed capital, and bad debts. Because the Government considers "profit" to be the excess of price over allowable costs, such computation can indicate a higher profit estimate than the firm's experienced profit as it customarily computes it. The contractor may separately disclose to the recipient its customary computations.

Enter the dollar amount of profit in block 11.

Item 12 - Total Price

Enter the total of items 10 and 11.

Part III - PRICE SUMMARY

This portion of the form is for use by a recipient when price comparison, i.e., price analysis, is used subagreement review. It may also be used by a contractor when price comparison is used as a basis for award of a subcontract.

Item 13 - Competitor's Catalog Listings, In-House Estimates, Price Quotes

Enter sources of all competitive bids or quotes received, or catalogs used and their prices, or in-house estimates made, if appropriate, for comparison. Attach additional sheets if necessary, particularly for purchases of several different items.

Enter in the far right column the proposed price for the subagreement.

Part IV - CERTIFICATIONS

Item 14 - Contractor - FOR USE BY CONTRACTOR OR SUBCONTRACTOR ONLY.

Complete this block only if part II has been completed.

Enter the specific cost principles with which the costs summary of Part II conforms. Cost principles applicable to subagreements with various types or organizations are identified in 40 CFR Part 30.4010. Cost principles applicable to subagreements with profit-making organizations are those at 48 CFR 31.2 and, for architect-engineer or construction contracts, 48 CFR 31.105.

c. (1) **Describe** the proposal, quotation, request for price adjustment, or other submission involved, giving appropriate identifying number (e.g., RFP No. _____).

(2) **Enter** the date when the price negotiations were concluded and the contract price was agreed to. The responsibility of the subagreement is not limited by the personal knowledge of the contractor's negotiator if the time of agreement, showing that the negotiated price is not based on complete, current, and accurate data.

(3) **Enter** the date of signature. This date should be as close as practicable to the date when the price negotiations were concluded and the subagreement price was agreed to (not to exceed 30 days).

Item 15 - Recipient Reviewer - FOR USE BY RECIPIENT ONLY.

If required by applicable assistance regulations, the recipient must submit the signed form for EPA review prior to execution of the subagreement.

Item 16 - EPA Reviewer - FOR USE BY EPA ONLY.



STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET

This contract authorizes the professional services contractor to provide professional services.
(Authority: 1984 PA 431)

CONTRACT FOR PROFESSIONAL ENVIRONMENTAL SERVICES:
Indefinite Scope-Indefinite Delivery

THIS CONTRACT, authorized this **DATE** day of **MONTH** the year two-thousand and twenty-three (2023), by the Director, Department of Technology, Management and Budget, BETWEEN the STATE OF MICHIGAN acting through the STATE FACILITIES ADMINISTRATION, DESIGN AND CONSTRUCTION DIVISION of the DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET, 3111 W. St. Joseph Street, Lansing, Michigan, 48917, hereinafter called the Department, and

PSC NAME
MAILING ADDRESS
CITY, STATE, ZIP

the Prime Professional Services Contractor, hereinafter called the Professional. WHEREAS, the Department proposes securing professional services for:

Indefinite-Scope, Indefinite-Delivery Contract No. 00XXX

Index No. (To Be Established)

Contract Order No. Y (To Be Assigned)

File No. (To Be Assigned)

Department of Technology, Management and Budget, State Facilities Administration, Design and Construction Division, Professional Environmental Services Indefinite-Scope, Indefinite-Delivery Contract (ISID) for Minor Projects –

2023 Environmental ISID Services

Various State Departments and Facilities

Various Site Locations, Michigan

NOW THEREFORE, the Department and the Professional in consideration of the covenants of this Contract agree as follows:

- I. The Professional shall provide primary environmental investigation/assessment/design/construction oversight services for the assigned projects to the extent authorized by the Department of Technology, Management and Budget State Facilities Administration (SFA), Design and Construction Division (DCD) [The Department] and be solely responsible for such professional services. The Professional's services shall be performed in strict accordance with the assigned Project scope of work.
- II. If authorized, the Professional shall provide environmental services for the identified project types.

Regions								Project Types and Services Offered													
Western UP	Eastern UP	Northern LP	Saginaw Bay	Western LP	Central LP	Southwestern LP	Southeastern LP	Regulated Waste Survey/Abatement	Utility Inspection/Cleaning	Nuclear Waste Mgmt./Disposal/Remediation	GPR/LIF Field Screening	Phase I/Phase II/BEA	Well Drilling/Abandonment	Env Investigation/Pilot Tests/Feasibility Study	UST & AST removal/Demolition/Excavation	Remediation Sys Design/O&M/Decommissioning	Vapor Intrusion Mitigation Design and O&M	Ecological RA/Forestry/Wetland/Streams/Lakes	Landfill Maintenance/Monitoring	Brownfield Development	Per-& Polyfluoroalkyl Substances (PFAS) Sampling
x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x

NOTE: Blackened box(es) indicate a service that the committee did not select for your firm.

- III. The State of Michigan shall compensate the Professional for providing their professional services for the Project in accordance with the conditions of this Professional Services Contract.

IN WITNESS, WHEREOF, each of the parties has caused this Professional Services Contract to be executed by its duly authorized representatives on the dates shown beside their respective signatures, with the Contract to be effective upon the date on which the Professional received a copy executed by the authorized State of Michigan representative(s) by regular, registered, or certified mail or by delivery in person.

FOR THE PROFESSIONAL:

Firm Name

SIGMA Vendor ID Number

Signature

Date

Title

FOR THE STATE OF MICHIGAN:

Director, DTMB | SFA | Design and Construction

Date

WHEREAS, this Professional Services Contract constitutes the entire agreement as to the Project between the parties, any Contract Modification of this Contract and the Department's approved and attached Project/Program Statement scope of work requirements must be in writing, signed by duly authorized representatives of the parties, and shall be in such format and detail as the State may require. No Contract Modification may be entered into to compensate the Professional for correcting, or for responding to claims or litigation for, the Professional firm's final design Contract Documents/architectural and engineering design errors, omissions or neglect on the part of the Professional.

ARTICLE I PROFESSIONAL SERVICES SCOPE OF WORK

Provide professional environmental services, technical staff, and support personnel for ISID minor projects on an as-needed basis at various State/Client Agencies within the various site location areas as defined by the State of Michigan.

This Contract is for professional environmental investigation and/or design services for an unspecified number of ISID projects ("Assignment"). The scope of work for each assigned project will be defined at the time the project is awarded by the State to the Professional firm. The professional environmental services required for each of these assigned projects requested by the Department may include any or all of the Tasks included in the Phase 100 – Study through the Phase 900 – Operation and Maintenance Management.

The Professional firm's environmental services shall be performed in strict accordance with this Professional Services Contract and be in compliance with the Department's approved and attached Appendix I– Project/Program Statement.

This Contract does not warrant or imply to the Professional environmental firm, entitlement to perform any specific percentage (%) amount of environmental work during the life of this Contract.

This Contract will remain in effect for **three (3) years** from the date of this Contract award but may be unilaterally terminated by the State of Michigan at any time, for cause or its convenience, by written notification of the State, to the Professional. Furthermore, this Contract may be extended for **one (1) additional year**, at the sole option and discretion of the State upon the Department providing written notice to the Professional prior to the expiration of the original Contract time period. Any such time extension shall be subject to the terms and conditions of this Contract, including, but not limited to, the existing hourly billing rates included in this Contract for the Professional, their Consultant, and their employees or agents.

Please note that the Professional Services Contract ISID Contract No., as noted on page 1, must be provided on all Project correspondence and documents. Also, services are not to be provided or expenses incurred until individual ISID Projects are assigned to this Contract (see the Article II – Compensation and the Appendix 1 – Project/Program Statement).

Upon award of this Contract and each subsequent assignment, the Professional understands and agrees that time is of the essence. Failure to adhere to timely completion will be grounds for the Department, at its sole discretion, to terminate or limit future work under this Contract.

The Professional shall provide all professional services, technical staff, and support personnel necessary to complete the Project as described in its Project/Program Statement, in the best interest of the State, and within the Professional's fee(s) herein authorized by the State. Assigned project services shall comprise, without exception, every professional discipline and expertise necessary to meet all the requirements as described in the Project/Program Statement and in accordance with the accepted industry standards for professional practice and services. The Professional's services include attendance at all Project related meetings and conferences. Professional services for the assigned projects under this contract shall be provided in the Phase/Task sequence shown below and shall be rendered in accordance with the Professional's proposed and approved Project Study, Design, and Proposed Construction Schedule. The Professional's study, design, and proposed construction schedule shall be detailed, undated, and time sequence related for all Phase/Task services appropriate for the Project. The Professional shall field-check and verify the accuracy of all study/drawing and any data furnished by the Department, the State/Client Agency or any other Project related source. The Professional shall not employ or consult with any firms in completing the Professional's obligations herein who it anticipates will be a construction Bidder for the Project or any part thereof, unless specifically authorized, in writing, by the Department.

The Professional acknowledges that the Department is the first interpreter of the Professional's performance under this Contract.

The Professional acknowledges by signing this Professional Services Contract having a clear understanding of the requested professional environmental services required by the Department, and further agrees that the terms and conditions of this Professional Services Contract provide adequate professional fee(s) for the Professional to provide the requested Project scope of work requirements for each assigned project. No increase in compensation to the Professional will be allowed unless there is a material change made to the scope of work of the Assignment/Program Statement and the change is accepted and approved, in writing, by the State. Professional services shall not be performed, and no Project expenses shall be incurred by the Professional prior to the issuance of a written and signed Professional Services Contract and a Contract Order authorizing the Professional to start the Project work. Compensation for Department directed changes to the Project will be provided to the Professional by a Contract Modification and/or Contract Change Order signed by the Department and the Professional. The preparation of Bulletins and Contract Change Orders resulting from changes in the Project scope of work or previously unknown on-site field conditions will be compensated to the Professional, as approved by the Project Director/Agency Project Manager, on an hourly billing rate basis in accordance with this article. This compensation shall not exceed seven and half percent (7.5%) of the Construction Contractor's quotation for the Bulletin or Contract Change Order or an amount mutually agreed upon by the Professional and the Project Director/Agency Project Manager.

The Professional shall immediately inform the Department whenever it is indicated that the Professional's authorized not-to-exceed Budget for any of the assigned Projects may be exceeded. The Professional shall make recommendations to the Department for revisions to be implemented in order to not exceed the original authorized Budget. Any revision to the Project must be accepted and approved by the Department in writing.

The professional services may also include participation in legislative presentations as described in the "Major Project Design Manual for Professional Services Contractors and State/Client Agencies" and as the legislature or the Department may prescribe.

No substitution of any "Key Personnel/Employee" essential for the successful completion of the Project and identified in the Professional's Organizational Chart will be allowed by the Professional for this Contract without the prior written consent from the Project Director/Agency Project Manager. Before any "Key Personnel/Employee" substitution takes place, the Professional shall submit a written request to the Project Director/Agency Project Manager, and this substitution request shall include the following information: (1) A request in writing for a No Cost Contract Modification; (2) Detailed written justification for this substitution; (3) The Professional's qualifications of any proposed "Key Principal Personnel/Employee" replacement; and (4) A written statement from the Professional assuring the Department that the Project scope of work will not be adversely affected by this substitution. This request to modify their Professional Services Contract must be accepted and approved in writing by the Project Director/Agency Project Manager and the Director of the Department.

The Department will designate individuals to serve as the Project Director and Agency Project Manager for the Project scope of work who shall be fully acquainted with the Project/Program Statement and have the authority to render Project decisions and furnish information promptly. Except in connection with issues under the Article XII - Contract Claims and Disputes text, the Project Director/Agency Project Manager will exercise general management and administration for the Professional's services in so far as they affect the interest of the State. The Professional shall indemnify, defend, and hold harmless the State against exposure to claims arising from delays, negligence, or delinquencies by the Professional for the professional services of this Contract.

During the Construction Administration Services Phase of the Project, the Professional is required to complete and submit, the on-site inspection record form, "DTMB-0452, The Professional's Inspection Record," for all on-site inspection visits to the Project site. The Inspection Record shall be completed and signed by the Professional and submitted monthly, with the original document sent to the Project Director/Agency Project Manager and copies sent to the Construction Contractor. The Inspection Record shall accompany the Professional's monthly payment request.

The "DTMB-0460, Project Procedures" contains Department forms which shall be used during the Construction Administration Phase of this Contract. All professional services will be consistent with the Department's current "Major Project Design Manual for Professional Services Contractors and State/Client Agencies" unless otherwise approved in writing by the Department.

The professional services required for each Phase of this Contract shall be performed by the Prime Professional and their Consultants in accordance with service descriptions in this article. The following service descriptions outlined in this Contract represent the Department's standard of care for the Professional's responsibilities for providing the professional services of this Contract; but by inclusion, or omission, the descriptions do not limit or exclude any regular or normal professional services necessary to accomplish the Project in accordance with the approved Project Budget and the industries accepted practice and standards for professional services. All of the services outlined in this Contract may not be applicable to the Project/Program Statement. The Professional shall determine and coordinate the interface of the services required for the Project and is responsible for identifying any additional services necessary to successfully complete the Project.

The professional shall execute the following PHASES upon written authorization from the Project Director.

PHASE 100 - ENVIRONMENTAL INVESTIGATION/STUDY SERVICES

Provide complete and comprehensive Environmental Investigation/Study Deliverables to meet the requirements of the Project/Program Statement. Upon completion of all field investigation, assessment, research, review and/or oversight, prepare a complete report with an executive summary, and in such detail, as the Project Director may prescribe. The services under this phase may include but not be limited to coordination, environmental assessments, drilling, field sampling/oversight, data/document review/management, feasibility study, and reporting as described in the Project/Program Statement. Project reports must be in accordance with Department/Client/Agency requirements and as outlined in the Project/Program Statement but shall include, as a minimum and as appropriate, the following items: (1) Problem; (2) Conclusion; (3) Recommendations; and (4) Discussion, details, and documentation.

PHASE 300—SCHEMATIC DESIGN

Prepare Schematic Design Deliverables consistent with the Project/Program Statement. The deliverables shall consist of conceptual remediation system, drawings, outline specifications, a Schematic Construction Cost Estimate, other related documentation, and shall diagrammatically depict the areas, scales, and relationships of the functions. The services under this phase may include but not be limited to coordination, construction codes and design reviews, civil/site staging investigation, schematic design and utilities review, drafting, and project cost/proposed construction schedule, as required by the Department/Client/Agency and as outlined in the Project/Program Statement. Acceptance of the Schematic Design by the Department/Client/Agency does not limit subsequent inclusion of minor, but essential, schematic or design details whose necessity and arrangement may best become apparent during subsequent Phases of the Project design. Revise design as necessary and obtain approval from the Department/Client/Agency.

PHASE 400—DESIGN DEVELOPMENT

Prepare Design Development Deliverables based on the Owner-accepted Schematic Design to depict the intent of the designed remediation system(s). The deliverables shall consist of draft drawings and specifications, Construction Cost Estimates and other related documentation to clearly establish the complete basis for further detail into final design drawings/specifications. The deliverables shall further define the Project by fixing and describing the Project size, character, site relationships, and other appropriate elements including the environmental, civil, structural, architectural, mechanical, electrical, and safety systems. The services under this phase may include but not be limited to coordination, draft drawings/specifications, site specific staging investigation, structural calculations and preliminary environmental/architectural/engineering design development/reviews of drawings/specifications, as required by the Department/Client/Agency and as outlined in the Project/Program Statement.

PHASE 500—CONSTRUCTION DOCUMENTS AND BIDDING DOCUMENTS

Prepare Construction Documents that revise, refine, amplify, and depict, in detail, the Project. The documents shall set forth, in detail, quality levels of and requirements for the construction, and shall consist of final drawings/specifications that comply with applicable regulatory and construction code requirements, enacted at the time of completion of the one hundred percent (100%) Construction Documents. Prepare Bidding Documents in Phases/Bid packages appropriate to the Project requirements and funding. Incorporate the current edition of DTMB "MICHSPEC", "DCSPEC" or "50KSPEC", as adopted and modified by the State of Michigan. The Construction Documents shall contain all information necessary to bid and construct the Project. The services under this phase may include but not be limited to coordination, final drawings/specifications and bidding documents, civil/site staging design, final structural calculations, final environmental/architectural/engineering design development/reviews of drawings/specifications, construction testing program, hazardous materials, health and safety risks, final design correction procedures, design and construction budget, construction codes/permits and construction schedule, as required by the Department/Client/Agency and as outlined in the Project/Program Statement.

PHASE 600 - CONSTRUCTION ADMINISTRATION - OFFICE SERVICES

Provide all required construction oversight administration and timely professional review and administrative services, as the circumstances of the Construction may require, allowing the successful review/implementation of the Construction Documents into a completed remedial actions/abatement measures and/or for the use intended by the Department/Client/Agency. The services under this phase may include but not be limited to coordination, review and approval of shop drawings and submittals, reporting of construction progress, construction quality testing, construction contractor performance review, punch list procedures, claims, establishing close-out procedures and developing/review of as-built documents, as required by the Department/Client/Agency requirements and as outlined in the Project/Program Statement.

PHASE 700 - CONSTRUCTION ADMINISTRATION - FIELD SERVICES

Provide all required Construction Oversight and Field Services, including timely inspection and professional services, as the circumstances of the Construction may require, allowing the successful review/implementation of the Construction Documents into a completed remedial action/abatement measures and/or for the use intended by the Department/Client/Agency. The services under this phase may include but not be limited to coordination, field inspections, progress meetings and final project inspection, as required by the Department/Client/Agency requirements and as outlined in the Project/Program Statement.

PHASE 900 – OPERATION AND MAINTENANCE SERVICES – REMEDIATION FACILITY

Provide all required Operation and Maintenance (O&M) Services and perform, in a safe and secure environment, all functions, including timely inspection, sampling and professional services, necessary to maintain uninterrupted, effective and efficient facility/system components for the use intended by the Department/Client/Agency. The services under this phase may include but not be limited to coordination, general system operation/inspections, routine system/building/ground maintenance, sampling, spare replacement parts, consumable supplies, utilities, waste materials removal/treatment/disposal, non-routine emergency services, progress meetings and reporting, as required by the Department/Client/Agency requirements and as outlined in the Project/Program Statement.

ARTICLE II COMPENSATION

In consideration of the performance of this Contract, the Department agrees to pay the Professional, as compensation for professional services, an hourly billing rate for each employee providing a direct service to this Project, on a not-to-exceed basis as specified herein, subject to subsequent modifications mutually agreeable to the parties hereto; provided, however, the Professional may not incur costs, or bill the Department, for professional services in excess of the estimates established for this Project without the prior written agreement of the Department. The attached proposal prepared by the Professional in response to the Request for Proposal, by the Owner, may describe methodology, services, schedule, and other aspects of the work to be performed under the Contract but does not supersede the Contract.

Compensation to the Professional shall be on an hourly billing rate basis for professional services rendered by salaried and non-salaried professional, technical, and technical support employees, except for any authorized reimbursable expenses provided for in this Contract. Total compensation for any Phase shall not exceed the amount authorized for that Phase, unless authorized in writing by the Department's approved Contract Change Order. Professional services shall not be performed, and no Project expense shall be incurred by the Professional firm prior to the issuance of a written and signed Professional Services Contract and a DTMB Form 0402 - Contract Order by the Department to the Professional, authorizing the Professional to start the Project.

Compensation to the Professional for services and authorized technical and technical support employees performing a direct service for this Project shall be determined using the Professional firm's billing rates. The Professional firm's hourly billing rate shall be the actual amount paid for the employee services on the Project including fringe benefits, vacations, sick leave, other indirect costs, and profit. The Professional firm's hourly billing rates shall not change during the life of this Contract without written approval by the Department. See attached Appendix, **Overhead Items Allowed for the Professional Services Contractor Firm's Hourly Billing Rate Calculation**, for the guide to overhead items allowed for the professional services contractor firm's hourly billing rate calculation. Reimbursement for the Project/Program Statement scope of work requirements will be provided only for Department approved items authorized for reimbursement compensation in this Contract. The State will not reimburse the Professional for downtime, or for personnel involved in downtime due to mechanical problems or failure of Professional's or Subcontractor equipment.

The preparation of Bulletins and Contract Change Orders resulting from changes to the Project scope of work or previously unknown on-site field conditions will be compensated to the Professional, as approved by the Department on an hourly billing rate basis in accordance with this article. This compensation shall not exceed seven and one-half percent (7.5%) of the Construction Contractor's quotation for the Bulletin or Contract Change Order or an amount mutually agreed upon by the Professional and the Project Director/Agency Project Manager.

The Professional shall provide, but no additional monetary compensation shall be allowed for the services necessary to respond to and resolve all claims arising wholly or in part from the Professional's errors and/or omissions or other aspects of the Project's design or the Professional firm's performance which is inconsistent with the Professional or Construction Contract.

- 2.1 PREMIUM TIME/OVERTIME: This Contract anticipates that no premium or overtime is required to achieve the Project's scope of work. No compensation will be allowed to the Professional for any premium or overtime cost incurred to achieve the Project schedule of this Contract, unless directed in writing by the Project Director/Agency Project Manager and approved by the Department.
- 2.2 EMPLOYEE HOURLY BILLING RATES: Hourly billing rates will include all direct and indirect monetary costs to the State for the Professional's services under this Contract other than the authorized and approved reimbursements. Hourly billing rates shall be based on the Professional's documented historical operating expenses and adjusted for Project specific costs. In no case shall this documentation period include more than eighteen (18) months prior to the date of award of this Contract.

Lump-sum payments to employees are not allowed under this Contract. Billing rates for employees who perform professional services of a subordinate or of a position classification having a lower classification/pay range shall be accounted and paid for at the lower hourly billing pay rate. The hourly billing rate charge of any employee may be changed by the Professional with a written and Department approved Contract Modification to account for normal personnel pay increases.

Hourly billing rates include, but are not limited to: Overhead items such as employee fringe benefits, vacations, sick leave, insurance, taxes, pension funds, retirement plans, meals, lodging, and all Project related travel expenses for Projects less than one-hundred (100) miles in each direction from the Professional's nearest Michigan office, computer costs/operating costs, data entry, and time, telephone, telephone- related services, and all reproduction services (except Contract Bidding Documents/Deliverables).

The hourly billing rate also includes all reproduction costs for design interpretations, study/design clarifications and Bulletins related to design errors or omissions, construction code compliance (precipitating either from design code compliance and plan review, design interpretations, or construction on-site/field inspections), and all similar, or avoidable costs.

All incidental postage, mail, or other shipping or delivery services, acquisition, bad debts, previous business losses, employment fees, depreciation, and operating costs for equipment, including computer design and/or computer drafting systems, and any specialized testing equipment are to be included. The hourly billing rate shall include, without exception, secretarial, computer/typing/word processing, editing, and clerical services utilized in any way for the Project as well as other non-technical and/or employees providing indirect services. The hourly billing rate also includes all profit without regard to its form or distribution.

Items not allowable as part of the Professional's calculated hourly billing rate include but are not limited to: Any costs associated with litigation and settlements for the Professional, other liability suits, out-of-state offices and associated travel, bonuses, profit sharing, premium/overtime costs, public relations, entertainment, business promotion, contributions, and various speculative allowances.

The hourly billing rate for the Professional may not be applied to the work of the Professional's Sub- Consultant's staff. Each Sub-Consultant firm must submit a separate hourly billing rate with proper documentation for Sub-Consultant services provided as part of the Proposal. The hourly billing rate of the respective Consultant firm shall be used for that Consultant firm's personnel only. No mark-up to Consultant firm's charges will be allowed.

- 2.3 RANGE OF EMPLOYEE HOURLY BILLING RATES: The Professional shall identify the service being provided and include the Professional's or Consultant's employee(s) full names and position classifications for the Project and their current hourly billing rates at the beginning and at the anticipated end of the Project. This hourly billing rate range shall reflect any anticipated pay increases over the life of the Contract. The range of hourly billing rates for any employee position or classification may not be changed without an approved Contract Modification.

- 2.4 DIRECT COST REIMBURSEMENT ITEMS: The Professional's Consultant services and authorized reimbursable expenses shall be treated as an authorized reimbursable expense item at a direct cost. The Professional shall be responsible for the selection of the supplier of the professional services or materials; the coordination, adequacy, and application of the professional services, whether provided by the Professional's staff or provided by their Consultant, and any Project costs that exceed the budget for each Phase.

Project related travel expenses (mileage, meals, lodging) for Projects more than one-hundred (100) miles in one-way from the Professional's nearest office shall be treated as an authorized reimbursable expense at the State of Michigan's current travel rates.

Unless authorized elsewhere in this Contract, direct cost reimbursement items shall be limited to the actual cost of printing and reproduction of project deliverables such as Final Study Reports, Surveys, Bidding Documents, and U. S. Mail regular shipping postage of the project deliverables listed above. In addition, direct cost reimbursement items may include soil borings, site surveys and any required laboratory testing, Design Code Compliance and Plan Review Approval Fees by the licensing agency; reproduction of documents for legislative presentation, artistic productions, mobilization of testing equipment, laboratory costs for testing samples, per-linear-foot cost of soil borings and specialized inspections of the structural, mechanical, electrical, chemical or other essential components of the Project.

Compensation for this Contract shall not exceed the budget per Project Phase identified in the attached Contract Order unless authorized by a Department approved Contract Modification. It shall be the Professional's responsibility to carefully monitor Project costs, activities, and progress and to provide the Project Director/Agency Project Manager timely notification of any justifiable need to increase the authorized budget. The Professional may not proceed with professional services that have not been authorized by the Project Director/Agency Project Manager and shall immediately notify the Project Director/Agency Project Manager if such services have been requested or have become necessary.

Professional/Sub-Consultant staff and hourly billable rates are identified in the attached Professional's proposal.

ARTICLE III PAYMENTS

Payment for the professional services shall be based on the Professional's performance of authorized professional service(s) performed prior to the date of each submitted payment request. Payment requests shall be submitted monthly to the Project Director/Agency Project Manager on a payment request form (DTMB-440). Payment for each monthly submitted payment request shall be made within thirty (30) consecutive calendar days following the Department's approval of the payment request. Payment requests shall include signed certification by the Professional of the actual percentage of work completed as of the date of invoicing for each Phase and summarize the amounts authorized, earned, previously paid, and currently due for each Project Phase.

Payment requests shall be supported by itemized records or documentation in such form and detail as the Department may require.

Each of the Professional's Consultant's submitted payment request applications shall include similar information. This includes, but is not limited to:

- Phase Numbers for the professional services provided.
- Professional's personnel and position/classification providing service and hours worked. Current hourly billing rate charges for each individual position/classification.
- Copy of certified on-site visitation log or site visit report showing time on-site.
- Itemized invoices from each of the Professional's Consultant's documenting that firm's professional services charge and the Project work related services provided.
- Authorized reimbursable expense items provided with receipts and invoices.

The State has the right to withhold payment of any disputed amounts until the parties agree as to the validity of the disputed amount. The State will notify the Professional of any dispute within a reasonable time. Payment by the State will not constitute a waiver of any rights as to the Professional's continuing obligations, including claims for deficiencies or substandard Contract Activities. The Professional's acceptance of final payment by the State constitutes a waiver of all claims by the Professional against the State for payment under this Contract, other than those claims previously filed in writing on a timely basis and still disputed.

The State will only disburse payments under the Contract through Electronic Funds Transfer (EFT). Contractor must register with the State at <http://www.michigan.gov/SIGMAVSS> to receive electronic funds transfer payments. If Contractor does not register, the State is not liable for failure to provide payment. Without prejudice to any other right or remedy it may have, the State reserves the right to set off at any time any amount then due and owing to it by Contractor against any amount payable by the State to Contractor under this Contract

ARTICLE IV ACCOUNTING

The Professional shall keep current and accurate records of Project costs and expenses, hourly billing rates, authorized reimbursable expense items, and all other Project related accounting documents to support the Professional's monthly application for payment. Project records shall be kept on a generally recognized accounting basis. Such records shall be available to the Department for a period of ten (10) years after the Department's final payment to the Professional. The State of Michigan reserves the right to conduct, or have conducted, an audit and inspection of these Project records at any time during the Project or following its completion.

ARTICLE V INSURANCE

The Professional shall purchase, maintain and require such insurance that will provide protection from claims set forth below which may arise out of or result from the Professional firm's services under this Contract, whether such service is performed by the Professional or performed by any of the Professional firm's Consultant's or by anyone directly or indirectly employed by them, or by anyone for whose acts they may be liable. The following insurance policy limits described below are intended to be the minimum coverage acceptable by the State:

For the purpose of this Section, "State" includes its departments, divisions, agencies, offices, commissions, officers, employees, and agents.

- (a) The Contractor must provide proof that it has obtained the minimum levels of insurance coverage indicated or required by law, whichever is greater. The insurance must protect the State from claims that may arise out of or result from or are alleged to arise out of or result from the Contractor's or a Subcontractor's performance, including any person directly or indirectly employed by the Contractor or a Subcontractor, or any person for whose acts the Contractor or a Subcontractor may be liable.
- (b) The Contractor waives all rights against the State for the recovery of damages that are covered by the insurance policies the Contractor is required to maintain under this Section. The Contractor's failure to obtain and maintain the required insurance will not limit this waiver.
- (c) All insurance coverage provided relative to this Contract is primary and non-contributing to any comparable liability insurance (including self-insurance) carried by the State.
- (d) The State, in its sole discretion, may approve the use of a fully-funded self-insurance program in place of any specified insurance identified in this Section.
- (e) Unless the State approves, any insurer must have an A.M. Best rating of "A" or better and a financial size of VII or better, or if those ratings are not available, a comparable rating from an insurance rating agency approved by the State. All policies of insurance must be issued by companies that have been approved to do business in the State. To view the latest A.M. Best's Key Ratings Guide and the A.M. Best's Company Reports (which include the A.M. Best's Ratings) visit the A.M. Best Company internet web site at <http://www.ambest.com>.
- (f) Where specific coverage limits are listed in this Section, they represent the minimum acceptable limits. If the Contractor's policy contains higher limits, the State is entitled to coverage to the extent of the higher limits.

- (g) The Contractor must maintain all required insurance coverage throughout the term of this Contract and any extensions. However, in the case of claims-made Commercial General Liability policies, the Contractor must secure tail coverage for at least three (3) years following the termination of this Contract.
- (h) The minimum limits of coverage specified are not intended and may not be construed; to limit any liability or indemnity of the Contractor to any indemnified party or other persons.
- (i) The Contractor is responsible for the payment of all deductibles.
- (j) If the Contractor fails to pay any premium for a required insurance policy, or if any insurer cancels or significantly reduces any required insurance without the State's approval, the State may, after giving the Contractor at least 30 days' notice, pay the premium or procure similar insurance coverage from another company or companies. The State may deduct any part of the cost from any payment due the Contractor or require the Contractor to pay that cost upon demand.
- (k) In the event the State approves the representation of the State by the insurer's attorney, the attorney may be required to be designated as a Special Assistant Attorney General by the Michigan Attorney General.

The Professional firm's Errors and Omissions coverage shall include coverage for claims resulting from acts of forbearance that cause or exacerbate pollution and claims of bodily injury and property damage in the amount of \$1,000,000 minimum coverage per occurrence, \$3,000,000 annual aggregate. This insurance is required of all professional firms who conduct professional environmental services including, but not limited to, any of the following services:

- (i) Remedial System Design.
- (ii) Remediation Management.
- (iii) Feasibility Development and Implementation.
- (iv) Hydrogeological Evaluation.
- (v) Media Testing and Analysis.
- (vi) Subsurface and Geophysical Investigation.
- (vii) Other related activities as determined by the Department.

Required Limits	Additional Requirements
Commercial General Liability Insurance	
<u>Minimum Limits:</u> \$1,000,000 Each Occurrence Limit \$1,000,000 Personal & Advertising Injury Limit \$2,000,000 General Aggregate Limit \$2,000,000 Products/Completed Operations	Professional must have their policy endorsed to add "the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents" as additional insureds using endorsement CG 20 10 11 85, or both CG 20 10 12 19 and CG 20 37 12 19.
Umbrella or Excess Liability Insurance	
<u>Minimum Limits:</u> \$2,000,000 General Aggregate	Professional must have their policy follow form.
Automobile Liability Insurance	
<u>Minimum Limits:</u> \$1,000,000 Per Accident	Professional must have their policy: (1) endorsed to add "the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents" as additional insureds; and (2) include Hired and Non-Owned Automobile coverage.
Workers' Compensation Insurance	
<u>Minimum Limits:</u> Coverage according to applicable laws governing work activities.	Waiver of subrogation, except where waiver is prohibited by law.
Employers Liability Insurance	
<u>Minimum Limits:</u> \$500,000 Each Accident \$500,000 Each Employee by Disease \$500,000 Aggregate Disease.	
Professional Liability (Errors and Omissions) Insurance	
<u>Minimum Limits:</u> \$1,000,000 Each Occurrence \$2,000,000 Annual Aggregate <u>Deductible Maximum:</u> \$50,000 Per Loss	

Environmental and Pollution Liability (Errors and Omissions) ***	
<u>Minimum Limits:</u> \$1,000,000 Each Occurrence \$2,000,000 Annual Aggregate	Professional must have their policy: (1) be applicable to the work being performed, including completed operations equal to or exceeding statute of repose; (2) not have exclusions or limitations related to Transportation (upset overturn, spills during loading or unloading, Hazardous Materials Handling, and Non-Owned disposal site liability; and (3) endorsed to add "the State of Michigan, its departments, division, agencies, offices, commissions, officers, employees, and agents" as additional insured.

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Contractual Liability insurance for claims for damages that may arise from the Professional's assumption of liability on behalf of the State under Article VI concerning indemnification for errors, omissions, or negligent acts in the course of the professional service or other provision within this Contract to the extent that such kinds of contractual liability are insurable in connection with and subject to limits of liability not less than for the general liability insurance and the professional liability insurance and set forth in subsections (c) and (d) above.

Except where the State has approved a subcontract with other insurance provisions, the Professional must require any Consultant/Subcontractor to purchase and maintain the insurance coverage required in this Article. Alternatively, the Contractor may include a Consultant/Subcontractor under the Professional's insurance on the coverage required in that Section. The failure of a Consultant/Subcontractor to comply with insurance requirements does not limit the Professional's liability or responsibility.

Certificate of Insurance documents, acceptable to the State, shall be provided and filed with the Department prior to commencement of the Professional's Project services, unless otherwise approved in writing, and not less than 20 days before the insurance expiration date every year thereafter. Facsimile copies of the Certificate of Insurance will not be accepted. Certificate of Insurance documents must be either submitted hard copy or portable document file (.pdf). The Certificate of Insurance documents must specify on the certificate in the oblong rectangle space labeled "Description of Operations/Locations/Vehicles/Exclusions Added By Endorsement/Special Provisions/Special Items" the following items: **(1) The ISID Title; (2) The ISID Contract Number; and (3) The State of Michigan must be named as an "Additional Insured on the General Liability and Automobile Insurance Policy."** The Certificate of Insurance documents shall contain a provision that the Project insurance coverage afforded under the insurance policies for this Contract will not be modified or canceled without at least thirty (30) consecutive calendar days prior written notice, except for 10 days for non-payment of premium, to the State of Michigan, Department.

This Section is not intended to and is not to be construed in any manner as waiving, restricting, or limiting the liability of either party for any obligations under this Contract (including any provisions hereof requiring Professional to indemnify, defend and hold harmless the State).

The attached, Certificates of Insurance documents required for this Project shall be in force for this Project until the final payment by the State to the Professional is made and shall be written for not less than any limits of liability specified above. The Professional has the responsibility for having their consultant firms comply with these insurance requirements.

ARTICLE VI INDEMNIFICATION

- (a) To the extent permitted by law, the Professional shall indemnify, defend and hold harmless the State from liability, including all claims and losses, and all related costs and expenses (including reasonable attorneys' fees and costs of investigation, litigation, settlement, judgments, interest, and penalties), accruing or resulting to any person, firm or corporation that may be injured or damaged by the Professional in the performance of this Contract and that are attributable to the negligence or tortious acts of the Professional or any of its Subcontractors/Consultants, or by anyone else for whose acts any of them may be liable.
- (b) Employee Indemnification: In any and all claims against the State of Michigan, its departments, divisions, agencies, boards, sections, commissions, officers, employees and agents, by any employee of the Professional or any of its Subcontractors/Consultants, the indemnification obligation under this Contract shall not be limited in any way by the amount or type of damages, compensation or benefits payable by or for the Professional or any of its Subcontractors/Consultants under worker's disability compensation acts, disability benefit acts or other employee benefit acts. This indemnification clause is intended to be comprehensive. Any overlap in provisions, or the fact that greater specificity is provided as to some categories of risk, is not intended to limit the scope of indemnification under any other provisions.
- (c) Patent/Copyright Infringement Indemnification: To the extent permitted by law, the Professional shall indemnify, defend and hold harmless the State from and against all losses, liabilities, damages (including taxes), and all related costs and expenses (including reasonable attorneys' fees and costs of investigation, litigation, settlement, judgments, interest, and penalties) incurred in connection with any action or proceeding threatened or brought against the State to the extent that such action or proceeding is based on a claim that any piece of equipment, software, commodity or service supplied by the Professional or its Subcontractors/Consultants, or the operation of such equipment, software, commodity or service, or the use of reproduction of any documentation provided with such equipment, software, commodity or service infringes any United States patent, copyright, trademark or trade secret of any person or entity, which is enforceable under the laws of the United States.

In addition, should the equipment, software, commodity, or services, or its operation, become or in the State's or Professional's opinion be likely to become the subject of a claim of infringement, the Professional shall at the Professional's sole expense (i) procure for the State the right to continue using the equipment, software, commodity or service or, if such option is not reasonably available to the Professional, (ii) replace or modify to the State's satisfaction the same with equipment, software, commodity or service of equivalent function and performance so that it becomes non-infringing, or, if such option is not reasonably available to Professional, (iii) accept its return by the State with appropriate credits to the State against the Professional's charges and reimburse the State for any losses or costs incurred as a consequence of the State ceasing its use and returning it.

Notwithstanding the foregoing, the Professional shall have no obligation to indemnify or defend the State for, or to pay any costs, damages or attorneys' fees related to, any claim based upon (i) equipment developed based on written specifications of the State; or (ii) use of the equipment in a configuration other than implemented or approved in writing by the Professional, including, but not limited to, any modification of the equipment by the State; or (iii) the combination, operation, or use of the equipment with equipment or software not supplied by the Professional under this Contract.

ARTICLE VII OWNERSHIP OF DOCUMENTS

All Project deliverables, including but not limited to: reports, Bidding Documents, Contract Documents, electronic documents and data, and other Project related documents, including the copyrights, prepared and furnished by the Professional shall become the property of the State of Michigan upon completion of the Project, completion and acceptance of the professional's work, or upon termination of the Contract. Project deliverables shall be delivered to the Department upon their request. The Professional shall have no claim for further employment or additional compensation as a result of this Contract requirement. The Professional may retain a copy of all Project documents for their files.

If the Professional is in default or breach of its obligations under this Contract, the State shall have full ownership rights of the Project deliverables, including Bidding Documents and Contract Documents, including all electronic data. If the Professional is in default or this Contract Agreement is terminated, the State shall not use the Contract Documents and deliverables of this Contract for completion of the Project by others without the involvement of other qualified Professionals who shall assume the professional obligations and liability for the Project work not completed by the Professional.

To the fullest extent allowed by law, the State releases the Professional, the Professionals Consultant(s) and the agents and employees of any of them from and against legal claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of the State's use of the Contract Documents other than in accordance with this Contract Agreement.

All Contract deliverables listed may be published or issued for informational purposes without additional compensation to the Professional. The Professional may not use any of the Contract Documents and Contract deliverables for any purpose that may misrepresent the professional services they provided.

The Professional shall retain full rights to the Contract Documents and deliverables and the right to reuse component information contained in them in the normal course of the Professional's professional activities.

The Contract deliverables, Contract Documents, or other documents produced under this Contract may be used by the Department, or others employed by the Department or State of Michigan, for reference in any completion, correction, remodeling, renovation, reconstruction, alteration, modification of or addition to the Project, without monetary compensation to the Professional.

The State of Michigan will not construct additional Projects or buildings based on the work of this Contract without notice to the Professional. Whenever renderings, photographs of renderings, photographs or models, or photographs of the Project are released by the State of Michigan for publicity, proper credit for design shall be given to the Professional, provided the giving of such credit is without cost to the State of Michigan.

ARTICLE VIII TERMINATION

The State may, by written notice to the Professional, terminate this Contract and/or any Assignments, in whole or in part at any time, either for the State's convenience or because of the failure of the Professional to fulfill their Contract obligations. Upon receipt of such notice, the Professional shall:

- a) Immediately discontinue all professional services affected (unless the notice directs otherwise), and
- b) Deliver to the State all data, drawings, specifications, reports, estimates, summaries, and such other information and materials as may have been accumulated by the Professional in performing this Contract, whether completed or in process.

8.1 If the termination is for the convenience of the State, an equitable adjustment in the Contract price shall be made, but no amount shall be allowed for anticipated profit on unperformed professional services.

8.2 If the termination is due to the failure of the Professional to fulfill their Contract obligations, the State may take over the work and prosecute the same to completion by Contract or otherwise. In such case, the Professional shall be liable to the State for any additional cost occasioned to the State thereby.

- 8.3 If, after notice of termination for failure to fulfill Contract obligations, it is determined that the Professional had not so failed, the termination shall be deemed to have been affected for the convenience of the State. In such event, adjustment in the Contract price shall be made as provided in Section 8.1 of this article.
- 8.4 The rights and remedies of the State provided in this article are in addition to any other rights and remedies provided by law or under this Contract.

ARTICLE IX SUCCESSORS AND ASSIGNS

This Contract shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns; provided, however, that neither of the parties hereto shall assign this Contract without the prior written consent of the other.

ARTICLE X GOVERNING LAWS

This Contract shall be construed in accordance with the current laws of the State of Michigan. Some Assignments to this Contract will be funded wholly or in part by the Federal Government through grant agreements and/or federal programs. The Professional must comply with such funding requirements along with any current applicable federal regulations in performing the tasks described in the Scope of Work, including but not limited to the following current federal regulations. The absence of reference to any law or regulation does not preclude its applicability to this Contract.

1. The Comprehensive Environmental Response Compensation and Liability Act of 1980 as amended CERCLA (The Superfund Act);
2. Section 306 of the Clean Air Act (42 U.S.C. 1857 (h));
3. Section 508 of the Clean Water Act (33 U.S.C. 1368);
4. Public Law 98-473 as implemented in the Department of the Interior, Bureau of Indian Affairs;
5. Executive Order 11738; Office of Management and Budget Circular A-87, "Cost Principles for State, Local, and Indian Tribal Governments."
6. 25 CFR Part 20; Financial Assistance and Social Services Programs
7. 40 CFR Part 31; Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments
8. 40 CFR Part 32 Subpart F; Drug-Free Workplace
9. 40 CFR Part 33; Participation by Disadvantaged Business Enterprises in United States Environmental Protection Agency Programs
10. 40 CFR Part 35; State and Local Assistance

11. 40 CFR Part 35 Subpart 0; Cooperative Agreements and Superfund State Contracts for Superfund Response Actions

12. 48 CFR Chapter 1 Part 31 Subpart 31.2; Contracts with Commercial Organizations.

ARTICLE XI NONDISCRIMINATION

In connection with the performance of the Project under this, the Professional agrees as follows:

- a) The Professional will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, age, sex (*as defined in Executive Directive 2019-09*), height, weight, marital status, or a physical or mental disability that is unrelated to the individual's ability to perform the duties of the particular job or position. The Professional will provide equal employment opportunities to ensure that applicants are employed and that employees are treated during employment, without regard to their race, color, religion, national origin, age, sex, height, weight, marital status, or a physical or mental disability that is unrelated to the individual's ability to perform the duties of the particular job or position.

Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

- b) The Professional will, in all solicitations or advertisements for employees placed by or on behalf of the Professional, state that all qualified applicants will receive equal employment opportunity consideration for employment without regard to race, color, religion, national origin, age, sex, height, weight, marital status, or a physical or mental disability that is unrelated to the individual's ability to perform the duties of the particular job or position.
- c) The Professional or their collective bargaining representative will send to each labor union or representative of workers with which is held a collective bargaining agreement or other Contract or understanding, a notice advising the said labor union or workers' representative of the Professional's nondiscrimination commitments under this article.
- d) The Professional will comply with the Elliot-Larsen Civil Rights Act, 1976 PA 453, as amended, MCL 37.2201 et seq; the Michigan Persons with Disabilities Civil Rights Act, 1976 PA 220, as amended, MCL 37.1101 et seq; *Executive Directive 2019-09*; and all published rules, regulations, directives and orders of the Michigan Civil Rights Commission which may be in effect on or before the date of award of this Contract.
- e) The Professional will furnish and file nondiscrimination compliance reports within such time and upon such forms as provided by the Michigan Civil Rights

Commission; said forms may also elicit information as to the practices, policies, program, and employment statistics of the Professional and of each of their Consultant firms. The Professional will permit access to all books, records, and accounts by the Michigan Civil Rights Commission, and/or its agent, for purposes of investigation to ascertain nondiscrimination compliance with this Contract and with rules, regulations, and orders of the Michigan Civil Rights Commission relevant to Article 6, 1976 PA 453, as amended.

- f) In the event that the Michigan Civil Rights Commission finds, after a hearing held pursuant to its rules, that the Professional has not complied with the contractual nondiscrimination obligations under this Contract, the Michigan Civil Rights Commission may, as part of its order based upon such findings, certify said findings to the State Administrative Board of the State of Michigan, which the State Administrative Board may order the cancellation of the Contract found to have been violated, and/or declare the Professional ineligible for future Contracts with the State and its political and civil subdivisions, departments, and officers, and including the governing boards of institutions of higher education, until the Professional complies with said order of the Michigan Civil Rights Commission.

Notice of said declaration of future ineligibility may be given to any or all of the persons with whom the Professional is declared ineligible to Contract as a contracting party in future Contracts. In any case before the Michigan Civil Rights Commission in which cancellation of an existing Contract is a possibility, the State shall be notified of such possible remedy and shall be given the option by the Michigan Civil Rights Commission to participate in such proceedings.

- g) The Professional shall also comply with the nondiscrimination provisions of 1976 PA 220, as amended, concerning the civil rights of persons with physical or mental disabilities.
- h) The Professional will include, or incorporate by reference, the nondiscrimination provisions of the foregoing paragraphs a) through g) in every subcontract or Contract Order unless exempted by the rules, regulations or orders of the Michigan Civil Rights Commission, and will provide in every subcontract or Contract Order that said nondiscrimination provisions will be binding upon each of the Professional's Consultant's or seller.

ARTICLE XII

CONTRACT CLAIMS AND DISPUTES

In any claim or dispute by the Professional which cannot be resolved by negotiation, the Professional shall submit the claim or dispute for an administrative decision by the Department of Technology, Management and Budget, Director of State Facilities Administration within thirty (30) consecutive calendar days of the end of the disputed negotiations, and any decision of the Director of State Facilities Administration may be appealed to the Michigan Court of Claims within one (1) year of the issuance of the Director's decision.

The Professional agrees that the Department's appeal procedure to the Director of State Facilities Administration is a prerequisite to filing a suit in the Michigan Court of Claims.

ARTICLE XIII DEFINITION OF TERMS

The definition of terms and conditions of this Contract are described and outlined in the following Articles I through XIV and attached appendices. The capitalized defined terms used in this Professional Services Contract shall have the following definitions:

ADDENDA: Written or graphic numbered documents issued by the Department and/or the Professional prior to the execution of the Construction Contract which modify or interpret the Project Bidding Documents, including drawings, and specifications, by additions, deletions, clarifications or corrections. The Addenda shall: (1) Be identified specifically with a standardized format; (2) Be sequentially numbered; (3) Include the name of the Project; (4) Specify the Project Index No., Project File No., the Contract Order No. Y, and a description of the proposed Addenda; and (5) Specify the date of Addenda issuance. As such, the Addenda are intended to become part of the Project Contract Documents when the Construction Contract is executed by the Professional's recommended lowest responsive, responsible qualified Construction Contractor.

An Addendum issued after the competitive construction Bid opening to those construction Bidders who actually submitted a Bid, for the purpose of rebidding the Project work without re-advertising, is referred to as a post-Bid Addendum.

AGENCY PROJECT MANAGER: The assigned staff of the Department or the State/client Agency authorized by the State to represent and act on behalf of the Project Director on a given Project and to thereby provide direction and assistance to the Construction Contractor. The Agency Project Manager may designate in writing a person to act on behalf of the Agency Project Manager when they are unable to perform their required duties or is away from the office. In such cases, the Agency Project Manager must notify the Construction Contractor and the Project Director.

AGENCY FIELD INSPECTOR: An employee of the State of Michigan under the direction of the State/client Agency who provides the on-site, Inspection of construction Projects for compliance with the study/design intent of the Professional firm's Contract Documents/drawings and specification requirements and the building construction codes. The Agency Field Inspector is the liaison between the Construction Contractor, the Professional, and the Agency Project Manager. The Agency Project Manager, or their Agency Field Inspector, has the authority to require the Professional to respond to and resolve study/design related problems, construction on-site field problems and to attend Project related meetings.

BID: A written offer by a construction Bidder for the Department. Project construction work, as specified, which designates the construction Bidder's base Bid and Bid price for all alternates.

BIDDER: The person acting directly, or through an authorized representative, who submits a competitive construction Bid directly to the Department.

BIDDING DOCUMENTS: The Professional's Project Contract Documents as advertised, and all Addenda issued before the construction Bid opening, and after the construction Bid opening, if the Project construction work is rebid without re-advertising. Bidding Documents shall consist of the Phase 500 - Final Design drawings and specifications, any Addenda issued, special, general, and supplemental conditions of the Construction Contract, and modifications, if any, to standard forms provided by the Department. Such forms consist of the Project advertisement, the instructions to Bidders, the proposal forms, general, supplemental, and any special conditions of the Construction Contract, and the form of agreement between the Department and the Construction Contractor for the Project work requirements.

BID SECURITY: The monetary security serving as guarantee that the Bidder will execute the offered Construction Contract or as liquidated damages in the event of failure or refusal to execute the Construction Contract.

BUDGET: The maximum legislatively authorized Budget amount to be provided by the State of Michigan and available for a specific purpose or combination of purposes to accomplish the Project for this Contract.

BULLETIN: A standard document form (DTMB-0485, Bulletin Authorization No. and the DTMB-0489, Instructions to Construction Contractors for Preparation of Bulletin Cost Quotations for Contract Change Orders) used by the Department to describe a sequentially numbered change in the Project under consideration by the Department and the Professional and to request the Construction Contractor to submit a proposal for the corresponding adjustment in the Contract price and/or Contract time, if any. These standard document forms are a part of the "DTMB-0460, Project Procedures" documents package.

CONSTRUCTION CONTRACT: A separate written Contract agreement between the Construction Contractor and the Department for the construction, alteration, demolition, repair, or rebuilding of a State/Client Agency building or other State property.

CONSTRUCTION CONTRACTOR: Any construction firm under a separate Contract to the Department for construction services.

CONSTRUCTION INSPECTION SERVICES: The Professional's field Inspections of the Project during the construction Phase of this Contract which includes but is not limited to: (1) Documenting the quantity and quality of all Project construction work and verifying that the Project construction work is properly completed; (2) Resolve Project problems that are affecting the Project construction work, certify payment requests, process Bulletins, Contract Change Order recommendations, and requests for information (RFI's) in a timely manner as prescribed in the Department's, "MICHSPEC 2001 Edition of The Owner and Contractor Standard Construction Contract and General Conditions for Construction (Long Form)" or the current Department, DTMB Short Form 401 - Proposal and Contract/Front-End Package for Small Projects for Professional Services Contractors (PSC) with General Conditions for Construction and Instructions to Bidders" as adopted and modified by the State of Michigan and incorporated into the Construction Contract; and the (3) Inspection of Project construction work completed or in progress by the Construction Contractor to determine and verify to the Department's Project

Director/Agency Project Manager and their Department Field Representative that the Project construction work is in compliance with the Professional's design intent and that the Project has been completed by the Construction Contractor in accordance with the Professional's Phase 500 - Contract Documents/drawings and specifications requirements.

The Professional shall provide sufficient Inspections of the Project during the construction Phase to administer the construction Phase field and office services as directly related to the degree of Project complexity, up to and including full-time field Inspections. Construction field Inspections shall occur as the construction field conditions and the Project may require and during the regularly scheduled monthly progress and payment meetings.

The Professional shall use for their construction field Inspection services, only personnel having professional expertise, experience, authority, and compatibility with departmental procedures as the Department may approve. The Professional agrees that such characteristics are essential for the successful completion of the Project. Such individuals shall be replaced for cause where the Department determines and notifies the Professional, in writing, of their unacceptable performance.

CONSULTANT: Any individual, firm, or employee thereof, not a part of the Professional's staff, but employed by the Professional and whose professional service cost is ultimately paid by the State of Michigan, either as a direct cost or authorized reimbursement. This includes the recipient(s) of Contract Orders for material, support, and/or technical services. Also, included are persons and firms whose management and/or direction of services are assigned to the Prime Professional as may be provided elsewhere in this Contract.

CONTRACT CHANGE ORDER: A standard document form (DTMB-0403) issued and signed by the State of Michigan and signed by the Professional which amends the Project Design Professional's Contract Documents for changes in the Project/Program Statement or an adjustment in Contract price and/or Contract time, or both.

CONTRACT DOCUMENTS: The Professional's Phase 100 – Study, Final Report and Phase 500 - Final Design plans/drawings, specifications, Construction Contract, instructions to construction Bidders, proposal, Bidding Documents, agreement, conditions of the Contract, payment bond, performance/labor and material bond, prevailing wages, all Addenda, and attachments as may be necessary to comprise a Construction Contract for the Project. Specifications for this Contract will be prepared for Division 00 through 49, in the current version MasterFormat Outline by the Construction Specifications Institute (C.S.I.), as appropriate for the Project.

CONTRACT MODIFICATION: A form (DTMB-0410) amending the Contract signed by the Department and the Professional. The preparation of Bulletins and Contract Change Orders resulting from changes in the Project/Program Statement or previously unknown on-site field conditions as approved by the Department will be compensated to the Professional by way of the Contract Modification in accordance with the Article II, Compensation text of this Contract.

Any Contract Modification of this Professional Services Contract must be in writing, signed by duly authorized representatives of the parties, and shall be in such format and detail as the Department may require. No Contract Modification will be approved to compensate the Professional for correcting, or for responding to claims or litigation for, the Professional's Phase 100 – Study, Final Report and Phase 500 - Contract Documents study/design errors, omissions or neglect on the part of the Professional.

CONTRACT ORDER: A form (DTMB-0402) issued and signed by the State of Michigan authorizing a Professional to: (1) Begin to incur Project expenses and proceed with the Project on-site; and (2) Provide professional services for the fee amount designated in the Phases of the Contract Order. Issuance of the DTMB-0402 certifies that: (1) The State will enter into a Professional Services Contract for the professional services described in the various Phases of this Contract; and that (2) The proper three (3) sets of Certificate of Insurance documents have been received and accepted by the State along with the approval and signing of the Professional's Professional Services Contract by the SFA, DCD Director.

DEPARTMENT: The Department of Technology, Management and Budget, Facilities and Business Administration, Design and Construction Division. The Department will represent the State of Michigan in all matters pertaining to this Project. This Professional Services Contract will be administered through the Department on behalf of the State of Michigan and The State/Client Agency.

DESIGN MANUAL: Provides the Professional with information regarding the Department's current "Major Project Design Manual for Professional Services Contractors and State/Client Agencies" review process requirements regarding the uniformity in Contract materials presented to it by the Professional and the State/Client Agency(ies). This manual contains the following noted standards, instructions, and procedures information for: (1) General instructions for planning documents from Phase 100-Study through Phase 500-Final Design; (2) Net and gross area/volume; (3) Project cost format; (4) Outline architectural and engineering specifications; (5) Specifications in documentation Phase; (6) Instructions for proposal; (7) Bidders questionnaire; and the (8) Project job sign.

DIRECTOR: The Director of the Department of Technology, Management and Budget or their authorized State of Michigan representative.

DIRECTOR-SFA: The Director of the Department of Technology, Management and Budget, State Facilities Administration or their authorized State of Michigan representative.

DEPARTMENT FIELD REPRESENTATIVE: An employee of the State under the direction of the Department who provides the Inspection of construction Projects for compliance with the design intent of the Professional's Phase 500 - Contract Documents/architectural and/or engineering drawings and specification requirements and the building construction codes. The Department Field Representative is the liaison between the Construction Contractor, the Professional, and the Project Director/Agency Project Manager. The Project Director/Agency Project Manager, or their Department Field Representative, has the authority to require the Professional to respond to and resolve study/design related problems, construction field problems and to attend Project

meetings. Unless delegated by specific written notice from the Department, the Department Field Representative has no authority to order any changes in the Project scope of work or authorize any adjustments in Contract price or Contract time.

INSPECTION: The Professional and their Consultant firm's on-site and/or off-site examination of the Project construction work completed or in progress by the Construction Contractor to determine and verify to the Department's, Project Director/Agency Project Manager and their Department Field Representative that the quantity and quality of all Project construction work is in accordance with the design intent of the Professional's Phase 500 - Contract Documents/ drawings and specifications requirements.

KEY PRINCIPAL PERSONNEL/EMPLOYEE: An individual employee of a Professional who is essential for the successful completion of the Project.

NOTICE OF INTENT TO AWARD: A written notice to the Construction Contractor, by the Department accepting the Professional's written recommendation to award the construction Bid to the lowest responsive, responsible qualified construction Bidder. The Notice of Intent to Award letter will also designate the Contract price and itemize the alternates that the Department, at its sole discretion has accepted.

PHASE: A discretely distinguishable step necessary to produce the Project in the course of the Professional providing study, design and construction administration services.

PRIME PROFESSIONAL SERVICES CONTRACTOR/PROFESSIONAL: An individual, firm, partnership, corporation, association, or other legal entity who is legally permitted by law to sign and seal final design construction Contract Documents and licensed under the State of Michigan's professional licensing and regulation provisions of the Occupational Code (State Licensing Law), Act 299 of the Public Acts of 1980, Article 20, as amended, to practice architecture, engineering, environmental engineering, geology, civil, land surveying, or landscape architecture services in the State of Michigan.

The Prime Professional Services Contractor/Professional is also legally permitted by the State of Michigan's regulation provisions of the State Construction Code, Act 230 of the Public Acts of 1972, as amended, and designated in a Construction Contract by the Department to recommend construction progress payments to the Construction Contractor.

PROJECT: Any new construction, existing site, new utilities, existing building renovation, roof repairs and/or removal and replacement, additions, alteration, repair, installation, construction quality control and material testing services, painting, decorating, demolition, conditioning, reconditioning or improvement of public buildings, works, bridges, highways or roads authorized by the Department that requires professional study/design services as part of this Contract.

PROJECT COST: The total Project cost including, but not limited to, site purchase, site survey and investigation, hazardous material abatement, construction, site development, new utilities, telecommunications (voice and data), professional fees, construction quality control and material testing services, testing and balancing services, furnishings, equipment, plan(s)/drawing(s) design code compliance and plan review approval fees and all other costs associated with the Project.

PROJECT DIRECTOR: The professional licensed employee of the Department who is responsible for directing and supervising the Professional's services during the life of this Contract. The Project Director, or their Department Field Representative, has the authority to require the Professional to respond to and resolve study/design related problems, construction field problems and to attend Project related meetings.

PROJECT/PROGRAM STATEMENT: The Project/Program Statement is provided by the Department and defines the scope of the problem, describes why this Project is desirable, and provides a preferred resolution of the problem.

PROJECT TEAM: The Professional, the Project Director/Agency Project Manager, Department Field Representative, a representative of the State/Client Agency, and others as considered appropriate by the Department.

PUNCH LIST: A list of minor construction Project items to be completed or corrected by the Construction Contractor, any one of which do not materially impair the use of the Project work, or the portion of the Project work inspected, for its intended purpose. A Punch List shall be prepared by the Professional upon having made a determination that the Project work, or a portion of the Project construction work inspected, in concert with the Professional, the Construction Contractor, the Department, the Project Director/Agency Project Manager and their Department Field Representative, and any construction manager, is substantially complete and shall be attached to the respective DTMB-0455, Certificate of Substantial Completion form. This standard document form is a part of the "DTMB-0460, Project Procedures" documents package.

SOIL EROSION AND SEDIMENTATION CONTROL: The planning, design and installation of appropriate Best Management Practices (as defined by the most current version of the Department's Soil Erosion and Sedimentation Control Guidebook) designed and engineered specifically to reduce or eliminate the off-site migration of soils via water runoff, wind, vehicle tracking, etc. and comply with the Soil Erosion and Sedimentation Control in the State of Michigan as regulated under the 1994 Public Act 451, as amended – The Natural Resources Environmental Protection Act, Part 91 – Soil Erosion and Sedimentation Control. Soil Erosion and Sedimentation Control associated with this Contract will be monitored and enforced by the Department of Technology, Management and Budget, State Facilities Administration, Soil Erosion and Sedimentation Control Program.

STATE: The State of Michigan in its governmental capacity, including its departments, agencies, boards, commissions, officers, employees, and agents. Non-capitalized references to a state refer to a state other than the State of Michigan.

STATE/CLIENT AGENCY: A Department of the State of Michigan, for whose use the Project will ultimately serve, which requires professional design services.

SUBSTANTIAL COMPLETION: The form (DTMB-0445) stating that the Project work, or a portion of the Project work eligible for separate Substantial Completion, has been completed in accordance with the design intent of the Professional's Contract Documents to the extent that the Department and the State/Client Agency can use or occupy the entire Project work, or the designated portion of the Project work, for the use intended without any outstanding, concurrent work at the Project work site, except as may be required to complete or correct the Project work Punch List items.

SUSTAINABLE DESIGN: The Professional's use of a balance of appropriate materials, products and design methods that reduce the impact to the natural ecosystems and be within the Budget constraints of the Project. Sustainable Design shall be used wherever possible by the Professional in their Project design and an itemized list shall be provided with the Professional's Contract Documents that identifies the processes and products.

TASK: Shall mean the following: (1) A quantifiable component of design related professional study/design Task services required to achieve a Phase of the Project; (2) The most manageable sub-element within a study/design Phase; (3) A unique item of work within a study/design Phase for which primary responsibility can be assigned; and (4) Has a time related duration and a cost that can be estimated within a study, design, and construction Phase.

ARTICLE XIV COMPLETE AGREEMENT / MODIFICATION

This Professional Services Contract constitutes the entire agreement as to the Project between the parties. Any Contract Modification of this Contract and the Project/Program Statement scope of work requirements must be in writing, signed by duly authorized representatives of the parties, and shall be in such format and detail as the State may require. No Contract Modification may be entered into to compensate the Professional for correcting, or for responding to claims or litigation for the Professional firm's final design Contract Documents/study/design errors, omissions or neglect on the part of the Professional.

APPENDIX 1

PROJECT/PROGRAM STATEMENT

APPENDIX 2

PROFESSIONAL'S PROPOSAL

APPENDIX 3
PROFESSIONAL CERTIFICATION FORMS

SAMPLE

APPENDIX 4

OVERHEAD ITEMS ALLOWED FOR THE PROFESSIONAL SERVICES CONTRACTOR FIRM'S HOURLY BILLING RATE CALCULATION

SAMPLE

APPENDIX 5

CERTIFICATES OF INSURANCE

SAMPLE



DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
State Facilities Administration
Design and Construction Division

REQUEST FOR PROPOSAL
ADDENDUM NO. 01

This form identifies an Addendum to a Request for Proposal for Professional Services, and incorporates interpretations or clarifications, modifications, and other information into the Request for Proposals. Addenda will be numbered by the Project Director and distributed through SIGMA Vendor VSS as an attachment.

TO: ALL PROPOSERS	DATE ISSUED December 7, 2022
PROJECT NAME 2023 Environmental Services ISID	FILE NUMBER N/A
PROJECT DIRECTOR Indumathy Jayamani	PROPOSAL DUE DATE: Thursday, January 12, 2023

ADDENDUM ITEMS: (attach additional sheets and drawings if required)

This addendum is to clarify the date for questions.

Questions are to be emailed to Indumathy Jayamani at jaymanii1@michigan.gov, no later 2:00 p.m., EASTERN than on Friday, December 16, 2022

APPROVED BY:

PROJECT DIRECTOR Indumathy Jayamani

DATE December 6, 2022

STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
State Facilities Administration
3111 W. St. Joseph Street
Lansing, Michigan 48917
ADDENDUM NO. 2

To: **All applicants and interested parties**

Date: December 21, 2022

Subject: **Department of Technology, Management and Budget (DTMB)**
2023 Environmental Remediation ISID RFP
Professional Environmental Consulting Services
Various Locations, Michigan
Request for Proposal

Please acknowledge receipt of this Addendum in your proposal.

Questions and Answers:

The following questions have been compiled to clarify answers to questions regarding portions of the RFP package:

Q1. Please confirm only one sample 1-week period of field activity logs and a sample weekly report must be provided with the proposal and not under each scope area.

A1. Confirmed.

Q2. Based on the RFP text that Section II-4 is “not required at this time.” Please confirm DTMB is not expecting the consultant to provide an outline or any response to this requirement in the proposal at this time and it will only be “required at the time of future assignments”?

A2. Confirmed.

Q3. Please confirm which format is required for a proposal response: A) Only one questionnaire is required for the entire submission with the appropriate scope categories checked, regions checked, and applicable references/personnel for each desired scope; or B) A questionnaire is required for each scope category checked with applicable references/personnel for that desired scope (understanding there likely will be repetition across multiple questionnaires from a single company)?

A3. Only one questionnaire is required for the submission.

Q4. Please confirm whether or not a standalone document addressing Sections II-1 through II-6 of the RFP is required with the Questionnaire as part of this document (II-5) OR can just the Qualifications Questionnaire be submitted as the primary headings of Sections II-1 through II-6 are addressed within the Questionnaire?

A4. Yes, a written narrative addressing Section II-1 through Section II-6 (Section II-4 is for reference only, see A2), must accompany the questionnaire.

Q5. The RFP asks the respondent to provide "...at least three (3) projects in the last five years closely related to each of the project types". Is it acceptable for the respondent to provide a project example(s) that was completed while under the employ of another company?

A5. No, the project's provided as example should have been completed by the company responding to the RFP.

Q6. The Questionnaire and Proposal Format Part I – Technical, appear redundant. The RFP includes, "NOTE: Any information provided in one location can be referenced as needed in other locations." Please confirm that statements such as, "Refer to Questionnaire Response 5.1." or "Refer to Proposal Response II-4." is sufficient if a response is provided in one of the two documents. Or is the format intentionally redundant and EGLE requires a response in both locations, with a more expansive response provided in the proposal response narrative?

A6. For any information that is already provided in the questionnaire, referring that information is sufficient.

Q7. The billing rate document example provided as II-2-A. Position, Classification and Employee Billing Rate Information is similar, but differs from the MS Word document 2023 Environmental Fillable Position Class Billing Rate Worksheet (rev 221205). Please confirm the MS Word document is the format to include in the submittal.

A7. Confirmed.

Q8. Will EGLE include a list of sites and project types that will be included in the ISID contract in Year 1?

A8. No.

Q9. Is there a limit or targeted number of vendors the Department/Advisory Committee will offer a contract?

A9. No.

Q10. May respondents modify the 2023 Environmental Questionnaire to include additional project reference information (i.e., Project 4 Reference Information, Project 5 Reference Information)?

A10. Yes.

Q11. Page 9 of the proposal states, "The following items B, C, and D will be required only at the time a proposal for an individual assigned project is requested."; however, the statement is followed by bulleted items A, B, C. Please clarify.

A11. Typo noted. The Bullets should have been named B, C, and D.

Q12. Section I-9 of the RFP ("Proposals") states "when uploading, your attachment(s) the attachment must be 6mb or less." Can a bidder's proposal consist of more than one attachment, each being less than 6mb?

A12. Yes.

Q13. RFP, Section II, Part 1 Technical; Section II-3 Personnel. Please provide further detail regarding what is meant by chronological.

A13. Resumes of all proposed Key Personnel should include the period the experience occurred.

Q14. RFP, Section II, Part 1 Technical; II-5 Questionnaire? Please clarify what is meant by "narrative addressing the items above".

A14. See A4.

Q15. Questionnaire, Article 1, subsections 3, requests an organization chart depicting key personnel and their roles for a typical assigned project. The projects under this contract are anticipated to include a wide range of scopes and required skill sets. Please provide additional detail on what constitutes a typical assigned project for use in developing the requested organizational chart.

A15. The organizational chart should note the Key Personnel and staff needed for the project types and services identified in the questionnaire.

Q16. Questionnaire, Article 1, subsections 5, states "provide a four-year rate schedule per position". What is being asked for here? Is this different from II-2-A Position, Classification and Employee Billing Rate Information?

A16. The same information is being requested in both places.

Q17. Page 6 of the RFP states “when entering the proposal amount, please enter the total cost amount as \$1.00”, but the Project Statement states, “please enter the total cost for all phases as the bid amount.” Which method is preferred?

A17. Discrepancy noted. Please enter the bid amount as “\$1.00” as stated in the RFP.

Q18. In section II-2 of the RFP (page 6) states that the bidder should “Indicate which of these individuals you consider to be “Key Personnel” for the successful completion of these project types, identify them by position and classification and provide their resumes.” Should resumes only be included for individuals that meet the “Professional Key Personnel” criteria in the “Guidelines for Position Classifications” or can we include resumes for personnel we consider key, but may be considered non-key in the position classification criteria?

A18. Yes.

Q19. Section II of the RFP (proposal format) states that the proposal must be submitted in the format outlined. However, in subsection II-4 “Management Summary, Work Plan, and Schedule,” it is noted that this section is for reference only. May we omit this section heading from our proposal?

A19. See A2.

Q20. Question 4 in Article 1 of the questionnaire asks about recent changes in organizational structure (e.g., management team) or control of your company. Please define recent.

A20. Any changes within the past 12 months.

Q21. Several of the questionnaire questions, especially in Article 5, appear to request a singular number answer (as a percentage or number of days/weeks). We believe it may be helpful to provide more context for several of these questions. Will that type of response be accepted, or shall we limit our response to the singular, numerical answer only?

A21. At a minimum the percentage is required.

Q22. Article 6 of the questionnaire includes 5 Key Personnel. Should these include only the “Level 4” key personnel as described in the Guidelines for Position Classification or all Level 3 and Level 4 Key Personnel. If the latter, may we add an attachment for additional Key Personnel beyond the 5 spaces included in the questionnaire?

A22. See A18. Additional spaces can be added as needed.

Q23. In Article 6 of the questionnaire, questions 6.3 and 6.4 refer to the Professional Project Manager. Can you define "Professional Project Manager." Can this be more than one person?

A23. Please refer to the Guidelines for Position Classifications. Yes, Project Manager, can be more than one person.

Q24. The RFP asks in II-2 for an "Outline your experience with similar projects, sites, and clients as examples." The ask for similar project descriptions is repeated in II-6 and in Article 8 of the questionnaire. Is there a preference for which section includes the project examples?

A24. Responses are required for both parts. Also, see A6.

Q25. Page 6 of the Scope of Work document indicates that the Professional shall arrange for all its employees that will be working on a contaminated site to attend a health and safety training course, and/or a personnel protection course. Can you specifically identify which safety training courses are required?

A25. The professional, needs to identify all training required by State and Federal laws for personal working on a particular site type, and ensure that their employees working on that project/site have the necessary training.

Q26. RFP Page 8 and 12, Table II-2-A: Do we input employee names on this table? And classification (from "Guidelines for Position Classifications")?

A26. Yes.

Q27. Under Article 8 of the Questionnaire, is it expected we provide three references overall that encompass all the service areas we select or three references per service area.

A27. Please ensure you provide a minimum of three references per service area.

Q28. Please clarify the preference provisions for Michigan-based firms. Preference is not stated in the RFP document, but it is stated in the Scope of Work, and a certification form is attached to the RFP. If there is a preference, how is it applied?

A28. None.

Q29. Are there any preference provisions for Small Business Enterprises or Disadvantaged Business Enterprises?

A29. None.

Q30. The RFP states that “The ISID contracts will supplement, but not replace, standard requests for proposals or qualifications as a method for obtaining professional services.” Please clarify how this contract will be used to supplement other methods for obtaining professional services.

A30. ISID contract is a standalone method in addition to the standard request for proposal process.

Q31. The RFP states that “DCD reserves the option of requesting ...proposals from more than one professional for a particular project.” Please clarify the conditions, metrics or process for how the DCD decides whether to ask multiple ISID contract-holders to submit proposals for the same project.

A31. This will be decided on a case-by-case basis.

Q32. Are any terms of this (sample) contract negotiable, including, but not limited to, subjects of Indemnification, defend and hold harmless, and limitation of liability?

A32. No.

Q33. The scope of work states “The Professional’s personnel and the personnel of its sub-consultants/subcontractors will be required, if requested by the Agency Project Manager on behalf of EGLE’s attorneys, to provide assistance to the State in the form of participation in legal actions against alleged responsible parties... including the preparation and execution of interrogatories, affidavits, and testimony as a fact witness... “The State will reimburse the Professional for such assistance as described above at the contractually approved rates for the Professional’s personnel at the time services are required.” May respondents submit classification-based labor rates for litigation support with the schedule of Position, Classification, and Employee Billing Rate Information, to be approved in the contract? And similarly, for Expert Witness Fees?

A33. The hourly billing rates for these types of services can be included.

Q34. Are subcontractors bound to contract rates (provided in the rate sheet)?

A34. No.

Q35. Can a sub (contractor) do lumpsum on the task orders?

A35. Payment of subcontractors is determined between the contractor and subcontractor.

Q36. Experience (questionnaire) – Do project examples need to be Michigan-specific (extra points?) or countrywide?

A36. Can be either.

Q37. Personnel (questionnaire) - Michigan based personnel required or given extra points?

A37. No.

Q38. Do sub-consultants need to complete the Environmental questionnaire?

A38. No.

APPENDIX 2

PROFESSIONAL'S PROPOSAL



**PROPOSAL - 2023 INDEFINITE SCOPE INDEFINITE
DELIVERY (ISID) CONTRACT
FOR ENVIRONMENTAL SERVICES
VARIOUS LOCATIONS, MICHIGAN**

JANUARY 12, 2023

SUBMITTED TO:

Department of Technology,
Management and Budget
State Facilities Administration,
Design and Construction Division

ATTN: Indumathy Jayamani,
Project Director

P.O. Box 30026
Lansing, MI 48909

January 12, 2023

Indumathy Jayamani, Project Director
Department of Technology, Management & Budget
State Facilities Administration
Design and Construction Division

Re: Request for Proposal - 2023 Environmental Indefinite Scope Indefinite Delivery (ISID)

Dear Indumathy Jayamani:

DLZ Michigan, Inc. is pleased to submit our proposal to demonstrate our experience and qualifications to perform professional design services associated with this 2023 Minor State Capital Outlay Projects Indefinite-Scope Indefinite-Delivery (ISID) contract with the Michigan Department of Technology, Management, and Budget (DTMB). We acknowledge Addendum No. 1 issued December 7, 2022 and Addendum No. 2 issued December 21, 2022.

DLZ is a full-service, multidisciplinary engineering/architectural Minority-Owned Business Enterprise (MBE) that has, for 65 years, provided quality professional services throughout Michigan and the Midwest. Through this period, DLZ has established a reputation for quality in investigating, evaluating, designing, and preparing the plans and specifications for a variety of project types, including a full range of project complexities.

The DLZ team is uniquely qualified for this project because we possess experience and knowledge of similar ISID contracts for similar work. Our depth of experience combined with our technical expertise allows the DLZ team to effectively approach and manage anticipated projects. As you review our qualifications, we trust that key characteristics of our team will become apparent:

- **Project Understanding** – DLZ understands the nature of anticipated projects that may be assigned. DLZ fully understands the nature of this effort including the demands that are placed on staff in executing multiple simultaneous work orders, and the need to be flexible, communicate and integrate the DTMB and Client Agency staff, operations, and procedures.
- **Design Capacity and Strength** – DLZ is composed of nearly 800 qualified professionals who are available to meet your projects specific needs. Complete environmental, architectural, landscape architecture, structural, mechanical, electrical, civil engineering, and construction inspection services are provided for a successful project that is developed on schedule, within the established budget, and to the level of quality that the DTMB demands. DLZ's full-service ability allows informed decisions to be made and appropriate design solutions developed within a timely manner. No subconsultants will be necessary, except for those projects that warrant the use of highly specialized expert consultant.
- **Project Process and Approach** – DLZ has a long, successful history in working with various federal, state, and local government agencies. For example, DLZ has more than 30 years of environmental experience working as a partner and consultant with the DTMB, EGLE, and the Michigan Department of Military and Veterans Affairs (MDMVA). DLZ has held previous DTMB ISID contracts since the early 1990s. We have been a DTMB/EGLE Level of Effort (LOE) Contractor continuously since 1994, and were one of the initial contractors for the

DTMB/EGLE Project Management contract. We have worked with MDMVA through DTMB and U.S. Army Corps of Engineers contracts since the early 1990s. We understand the procurement and administrative process and the necessary approach in project development and delivery for similar contracts.

- Key Staff – Mr. Scott G. Park, C.P.G, has been assigned as the Contract Manager for this contract. Mr. Park is a seasoned Geologist, with experience in indefinite scope and delivery contracts. Mr. Park is based in our Lansing office, in close proximity of the DTMB, which allows him to respond to your needs and to the necessary demands of the assigned projects.
- Quality Management – DLZ has emphasized Quality Management into the overall culture and working environment of our employees. DLZ is known for its personal service, responsiveness, and teamwork. Our goal is to exceed your expectation and provide a high level of service which allows our team to partner with the DTMB and Client Agencies in their operations. More than 90% of DLZ projects involve repeat clients, which is a testimony to our personal service and attention of staff to provide a quality project, on budget, and on schedule.
- Commitment – DLZ is located in Lansing, Michigan with additional offices in Kalamazoo, St. Joseph, Muskegon, Waterford, Detroit, and Melvindale. DLZ has maintained a presence in Michigan for the past 65 years. Our employees are a part of this area's communities and have a vested interest in securing this work and successfully completing each project assigned under this potential contract.

DLZ appreciates this opportunity to present our qualifications. Thank you for our past ISID contracts, and we look forward to continuing our relationship with the DTMB. If you have any questions do not hesitate to contact our office.

Sincerely,

DLZ MICHIGAN, INC.



Manoj Sethi, PE - President
msethi@dlz.com

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PART I: TECHNICAL PROPOSAL

II-1 GENERAL INFORMATION AND PROJECT TEAM

DLZ MICHIGAN, INC.

1425 Keystone Avenue
Lansing, Michigan 48911
(517) 393-6800
www.dlz.com

CORPORATE STATUS:

Michigan Corporation Licensed to Operate and Practice in the State of Michigan

Certified Minority-Owned Business Enterprise (MBE)

FEDERAL ID #: 35-1291652

SIGMA VENDOR #: CV001067

DLZ is a full-service, multidisciplinary, Minority-Owned Business Enterprise (MBE) that has been providing complete engineering, architectural, environmental, planning, construction, and survey services to both public and private sector clients since 1916. DLZ is an American success story, having graduated in 1984 from the 8(a) Small Disadvantaged Business Program. Since then, DLZ has grown to be one of the most reliable and experienced professional consulting firms in the Midwest with nearly 800 employees at over twenty eight offices.

DLZ offers a full range of environmental and civil engineering services including: complete surveying services; sanitary and storm sewer and water system design and analysis; road and pathway services; traffic and signal design services; hydraulics services, including hydraulic modeling, water resources management, and hydrogeologic reports; **environmental services, including environmental due diligence, remedial investigations/feasibility studies, remediation specification and design, impacted soil and UST removals, ecological services, asbestos and universal waste surveys and demolition specifications and supervision.**

DLZ also provides clients with technology services including Geographic Information System (GIS) development, Supervisory Control and Data Acquisition (SCADA) program development and implementation, computer modeling of water systems, sanitary and storm sewer systems, and river systems, development and implementation of Computer Maintenance Management Systems (CMMS), and Asset Management Program development and implementation.

OFFICE LOCATIONS

We operate nine full-service offices in Michigan—Lansing, Detroit, Kalamazoo, Melvindale, Muskegon, Port Huron Township, Saint Joseph, Grand Rapids, and Waterford. DLZ also has offices in Indiana, Ohio, Illinois, Kentucky, Wisconsin, and Pennsylvania.

The team proposed for this project will be working out of our Lansing, Detroit, and Kalamazoo offices.



DLZ's corporate philosophy has always been to provide consulting services as team members to the public sector since 1959 in Michigan. DLZ has more than 30 years of experience working as a partner and consultant on various contracts with DTMB and EGLE, including many requiring source soil and tank removal activities.

Therefore, DLZ is well-suited to team with the DTMB and EGLE. This experience working as a team member with the public sector has provided DLZ the opportunity to:

- Understand the needs of our clients.
- Provide solutions to their problems.
- Document existing, and pre and post conditions.
- Develop sound environmental investigations and solutions.

Our Project Managers and staff assigned to this contract have developed good working relationships with EGLE Project Managers, which allows us to be able to develop work plans and costs that are complete and cost effective to meet the objectives of the project. We understand the need to keep our clients informed of project progress and potential issues. Being afforded this opportunity to work with government agencies for so many years, DLZ has been able to tailor our Environmental Department to the needs of public clients.

Additional information provided in **Article 1: Business Organization**.



**WHY SELECT
DLZ MICHIGAN, INC?**

SCOTT PARK, C.P.G.

**DEDICATED
PROJECT MANAGER**

**INNOVATIVE
IDEAS**

**EXCEPTIONAL
DESIGN**

**UNMATCHED
CLIENT SERVICE**

DLZ

The DLZ Difference
At DLZ, our clients come first, not external shareholders. The fact that we are a private, family-owned company enables us to provide far superior customer service than our larger publicly traded competitors. Our ownership structure enables us to invest for the long term without the approval of Wall Street analysts who have no understanding of the needs experienced by the communities we serve. This translates into a far better client experience at DLZ than at other firms. We view every engagement, no matter how small, as a long-term relationship.

There are many characteristics that set DLZ apart from the competition. The four listed below are of most interest to DTMB as you make your decision on who to trust to deliver a successful project.

II-2 UNDERSTANDING OF PROJECT AND TASKS

DLZ has been providing environmental services to the State of Michigan for more than 30 years. DLZ understands the DTMB is seeking proposals from qualified firms to provide professional environmental consulting services. Specifically, these services are to evaluate and design abatements and remedies and provide oversight to cleanup environmental contamination in accordance with the applicable Part 201/Part 213 of the Michigan Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and other relevant state and federal statutes and requirements.

DLZ understands that each project has its own unique environmental conditions that will need to be thoroughly evaluated to effectively design an investigation and/or remedial strategy. As a result, the State of Michigan needs to have qualified firms available with experience needed to quickly assess site conditions, develop a plan, and methodically carry out tasks necessary to investigate potentially effected media (soil, groundwater and soil gas), and then determine a remedial strategy to reduce and/or mitigate risk to potential receptors or nearby properties. Of utmost importance is to have a team in place that will include design engineers, geologists, scientists, and experienced and qualified contractors necessary to support the site investigation activities following all applicable laws and standards and handle all tasks while efficiently solving problems as they arise.

DLZ understands that the success of the project is not simply based on the results of field work but is contingent

OBJECTIVES

- » Satisfied Client
- » Efficient Flow of Communication
- » Adherence to Priorities and Schedules
- » Achievement of Standards of Excellence
- » Delivery of Quality Project on Time and Within Budget

on having a process in place from beginning to end. This process must include the ability to:

- Adequately assess the project site, including potential limitations based on the site topography, utilities, buildings, roadways; and complete a detailed file review of all existing site investigation data which may include data from the Environmental Expanded Triage Indefinite-Scope Indefinite Delivery (ISID) contract, and data from adjacent sites, as applicable. DLZ will also conduct interviews of existing or former site owners/contacts and any adjacent property occupants or owners, as needed.
- Prepare adequate Workplans and supporting Health and Safety Plans to address the objectives defined by DTMB/EGLE and that include input from EGLE staff and any previous data collected at the site or adjacent site.
- Complete all necessary preconstruction surveys, approvals, permitting, access agreements, etc. to allow the site work to proceed efficiently.
- Understand and clearly communicate safety concerns and establish robust safety procedures to be followed by all involved parties for safe completion of the project.
- Adequately mark and confirm the location of all subsurface utilities for workplan development as they can be “preferential pathways” for contaminant migration.



- Solicit subcontractors for key tasks (e.g.; soil boring advancement and monitoring well installation, analytical laboratories, removal and disposal of investigation derived waste, etc) and thoroughly vet to avoid risk of unsatisfactory job performance. Where possible, leverage existing subcontractor relationships to ensure quality job performance.
- Perform quality work, on schedule and on budget. Maintain frequent communication throughout the project with the EGLE project manager to discuss progress, potential issues, ideas for resolution, investigation data etc. Conduct work through proper planning and communication including telephone call and email updates, weekly meetings, conference calls, and other methods of memorialization as desired by the DTMB/EGLE.
- Provide quality, concise reports for EGLE review which document the activities undertaken by DLZ on behalf of EGLE.
- Incorporate EGLE comments on draft reports into final reports, issue final reports as prescribed by DTMB/EGLE.

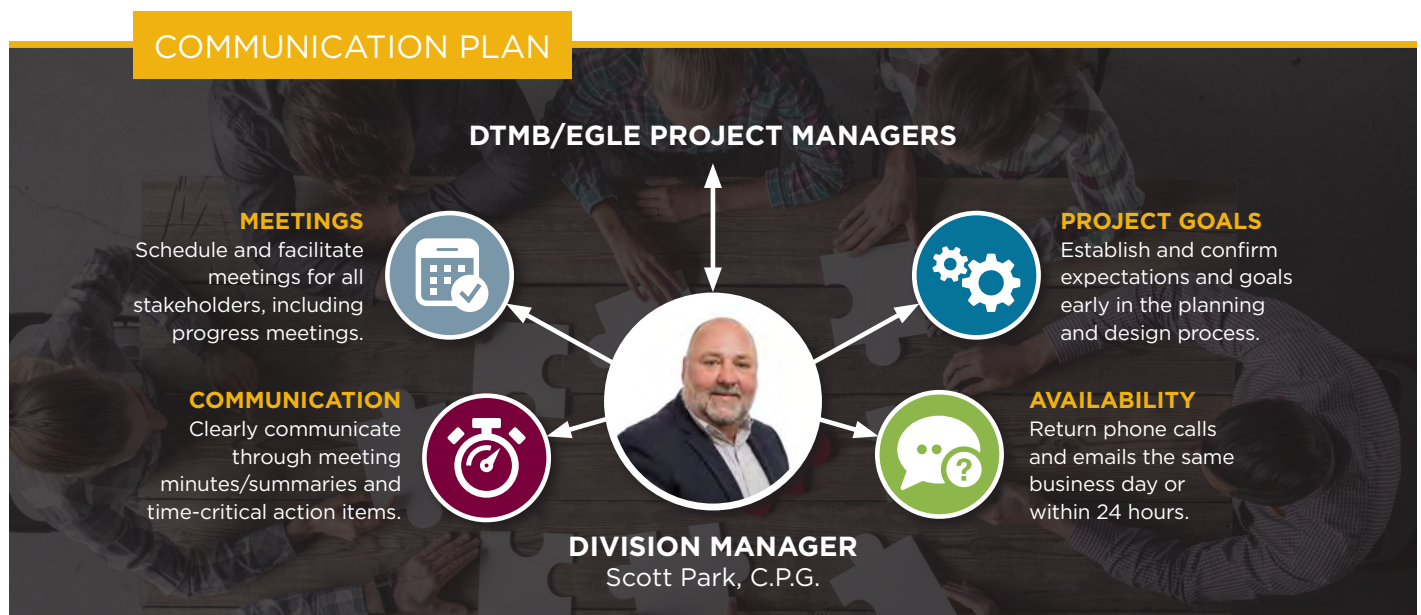
If the results indicate that there is an unacceptable risk, DLZ will work with the EGLE project manager to outline the best option to mitigate exposure to building occupants through vapor intrusion, potable wells, or locations where

the contaminants could daylight into local water ways. The proposed source control would be an interim measure to eliminate exposure.

For over 30 years, DLZ, working with DTMB and EGLE, has successfully investigated, remediated and/or mitigated potential exposure on many Part 201 and Part 213 sites. Several select projects showing DLZ experience over the last five years for each selected category are detailed in Article 8 of the attached Professional Environmental Consulting Services Questionnaire.

The DLZ team has been dedicated to support EGLE on investigation and remediation projects throughout the state of Michigan. With over 30 years of project experience working with EGLE, under other EER/ISID contracts, DLZ knows what tasks are needed to successfully initiate and complete site investigations, remedial or interim mitigation actions to reduce or eliminate exposure to building occupants or other receptors.

We at DLZ are very confident in our understanding of the project and our ability to accomplish the goals while working with DTMB/EGLE staff as a partnership.



II-3 PERSONNEL

DLZ has a strong, multidisciplinary team that is currently providing services to the DTMB and EGLE under several ISID contracts for over 30 years. Resumes of our key staff (Project Managers) that will be utilized on this contract as well as a listing of other staff that can be made available as required, based on the needs of the projects. For continuity, DLZ will use the same staff members who have had a key role in the successful completion of past environmental projects with DTMB and EGLE.

Scott Park, CPG will be DLZ's program manager, and will be directly responsible for the day-to-day operations of the contract. Scott has been an environmental consultant for 34 years and as extensive experience working successfully with DTMB and EGLE on Site Investigations, and Corrective Actions involving many technologies including source removal and/or in-situ remediation.

The DLZ team is shown on the DLZ Personnel Matrix below. This table identifies DLZ Key Personnel that will be assigned to this contract. In addition, project organizational team charts are included on the following pages and are also included with this proposal on the Questionnaire. Resumes of the identified DLZ Personnel and Key Personnel are included in Appendix A.

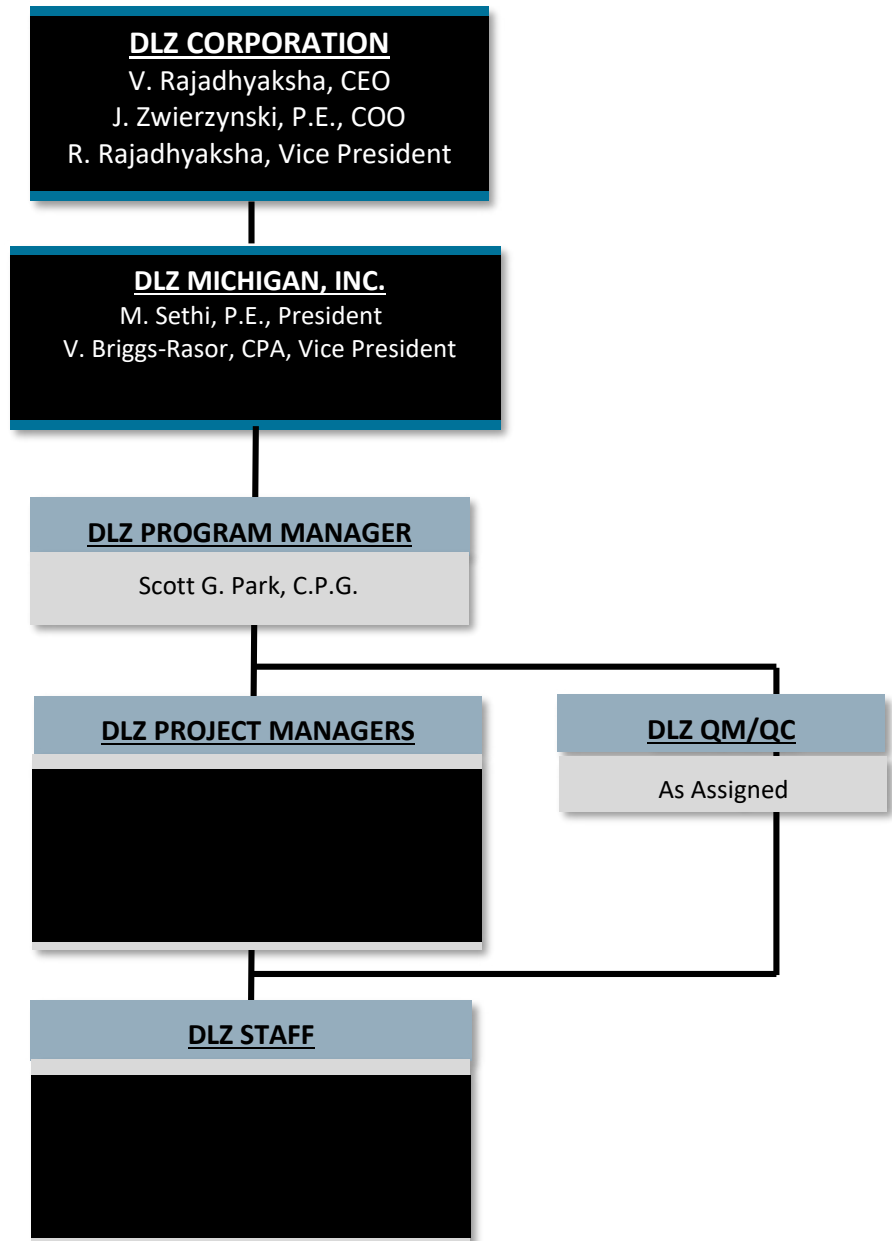


DLZ Personnel Matrix				Years of Experience	Direct Employee (D) / Consultant (C)
NAME	TITLE	ROLE	LOCATION		
Scott Park, CPG ¹	Division Manager	Project Manager – Liaison and Program Oversight	Lansing	34	D
Sarat Bobba, PE ¹	Senior Environmental Engineer	Site Manager – Client and Subcontract Correspondence- Field Planning/Design and Construction Oversight	Kalamazoo	20	D
Thomas Kaugher, PG ¹	Senior Environmental Geologist	Site Manager – Client and Subcontract Correspondence- Field Planning/Design and Construction Oversight	Detroit	32	D
Natalie Dingleline ¹	Environmental Scientist/Biologist	Site Manager – Client and Subcontract Correspondence- Field Planning/Design and Survey Oversight	Lansing	19	D
Robert Butler, PE ¹	Environmental Engineer	Site Manager – Client and Subcontract Correspondence- Field Planning/Design and Construction Oversight	Lansing	19	D
Bridget Smith ¹	Environmental Scientist	Due Diligence Manager – Phase I ESAs, BEAs, and Project Area Contamination Surveys	Lansing	16	D
Dirk Anderson, AAI ¹	Senior Field Inspector	Senior Inspector – Asbestos, Lead, Mold, Regulated Waste Surveys and Abatement Oversight	Melvindale	28	D
Danielle Wilcox ²	Environmental Geologist	Field Geologist – Field Sampling and Construction Oversight	Detroit	5	D
Clare Thomassen ²	Environmental Geologist	Field Geologist - Field Sampling and Construction Oversight	Kalamazoo	4	D
Dan McNeely	Environmental Scientist	Field Geologist - Field Sampling and Construction Oversight	Detroit	18	D
Josh Varelman	Health & Safety Coordinator	Safety Engineer – Safety Audits – Safety Coordination with Staff and Subcontractors	Columbus	15	D

¹ - Key Personnel, ² - Resume Included

3. Provide an organization chart depicting key personnel and their roles for a typical assigned project.
Include generic supporting staff positions.

ORGANIZATIONAL CHART



ARTICLE 6: PERSONNEL STAFFING

6.1 Is an organizational chart that includes each person on your project team and their identified roles for a typical assigned project provided?

☒ Yes

☐ No

DTMB PROGRAM MANAGER

State of Michigan Project Managers

As Assigned

DLZ PROGRAM MANAGER

Scott G. Park, C.P.G.

QM/QC

S. Park, C.P.G.
S. Bobba, P.E.
M. Tuckey, Ph.D, C.P.G.
S. Lidgard, P.E.
T. Kaugher, P.G.

PROJECT MANAGERS

S. Park, C.P.G.

S. Lidgard, P.E.

S. Bobba, P.E.

N. Dingledine

T. Kaugher, P.G.

DLZ TECHNICAL SUPPORT TEAM

GEOLOGISTS/SCIENTISTS/ HYDROGEOLOGISTS

T. Kaugher, P.G.
S. Park, C.P.G.
M. Tuckey, Ph.D., C.P.G.
D. Wilcox
B. Mott, C.P.G.
C. Vega

SAFETY ENGINEER/H&S

J. Varelmann

GEOTECHNICAL ENGINEERS

B. Wong, P.E.
T. Hampshire, P.E.

CLERICAL

L. Colbert (Marketing)
J. Almer (Marketing)
E. Dormer (Accounting)

ENVIRONMENTAL/REMEDIAL DESIGN ENGINEERS

S. Bobba, P.E.
R. Butler, PE
S. Lidgard, P.E.

ASBESTOS/CONSTRUCTION INSPECTORS/ESTIMATORS

D. Anderson, AAI
W. Schlacht
U. Mason

CADD/GIS

J. Mrva
S. Willis
C. Vega

SURVEY

A. Toscani, P.S.
D. Westgate, P.S.
R. Keilman, P.S.

ENVIRONMENTAL SCIENTISTS

N. Dingledine
B. Smith
D. McNeely
S. Winters
D. Stevens

PLANNING/COMMUNITY AWARENESS

S. Metzger, AICP
L. Holtz

ARCHITECTURE/ LANDSCAPE ARCHITECTURE

E. Beaulieu, AIA, LEED AP
S. Laubenthal, AAIA, LEED AP
R. Sherman, RLA

MDOT ROAD & BRIDGE

S. Riley, P.E.
B. Park, E.T.

BIOLOGISTS/ECOLOGISTS/ LIMNOLOGISTS

N. Dingledine
S. Metzger, AICP, PWS
D. Stevens

CIVIL/ MECHANICAL/ ELECTRICAL ENGINEERS

M. Mattson, P.E.
J. Apling, P.E.
T. Fought, P.E.

STRUCTURAL ENGINEER

C. Van Luchene, P.E., S.E.

II-4 MANAGEMENT SUMMARY WORK PLAN & SCHEDULE

NOT REQUIRED AT THIS TIME

II-5 QUESTIONNAIRE

The Questionnaire is on the following pages.

II-6 REFERENCES

References and contact information of previous clients are included in the Questionnaire on the following pages.



**Department of Technology, Management and Budget
2023 Indefinite-Scope Indefinite-Delivery – Request for Qualifications
Professional Environmental Consulting Services Questionnaire
Various Locations, Michigan**

INSTRUCTIONS: Firms shall complete the following information in the form provided. A separate sheet may be used if additional space is needed; please key the continuation paragraphs to the questionnaire. Answer questions completely and concisely to streamline the review process. If you provide information in this questionnaire that is relevant to any other parts of the proposal, please reference the article numbers to avoid repetition.

ARTICLE 1: BUSINESS ORGANIZATION

1. Full Name: DLZ Michigan, Inc.
Address: 1425 Keystone Avenue, Lansing, MI 48911
Telephone and Fax: 517-393-6800 / 517-272-7390
Website: www.dlz.com E-Mail: lansing@dlz.com
SIGMA Vendor ID: CV0016067

If applicable, state the branch office(s), partnering organization or other subordinate element(s) that will perform, or assist in performing, the work:

- Kalamazoo Office: 535 S. Burdick Street, Suite 248, Kalamazoo, Michigan 49007
- Detroit Office: 607 Shelby, 6th Floor, Suite 650, Suite 605, Detroit, Michigan 48226
- Melvindale Office: 4041 Martel, P.O. Box 3059, Melvindale, Michigan 48122
- Waterford Office: 4494 Elizabeth Lake Road, Waterford, Michigan 48328
- St. Joseph Office: 505 Pleasant Street, Suite 204, Saint Joseph, Michigan 49085

If awarded a contract and / or subsequent assignment(s), state the specific SIGMA business address which you would like associated for all communication (Contracts, Contract Order, Contract Modifications and Payments)?

1425 Keystone Avenue, Lansing, MI 48911

Please list all person(s) authorized to receive and sign a resulting contract and / or subsequent assignment(s). Please include persons name, title, address, email and phone number.



Manoj Sethi, PE

PRESIDENT/PRINCIPAL/AUTHORIZED NEGOTIATOR

1425 Keystone Avenue
Lansing, Michigan 48911
517.393.6800 | msethi@dlz.com



Vicki Briggs-Rasor, CPA

VICE PRESIDENT/AUTHORIZED NEGOTIATOR

1425 Keystone Avenue
Lansing, Michigan 48911
517.393.6800 | vbriggs@dlz.com

2. Check the appropriate status:

☐ Individual firm ☐ Association ☐ Partnership ☒ Corporation, or ☐ Combination –

Explain:

If you operate as a corporation, include the state in which you are incorporated and the date of incorporation:

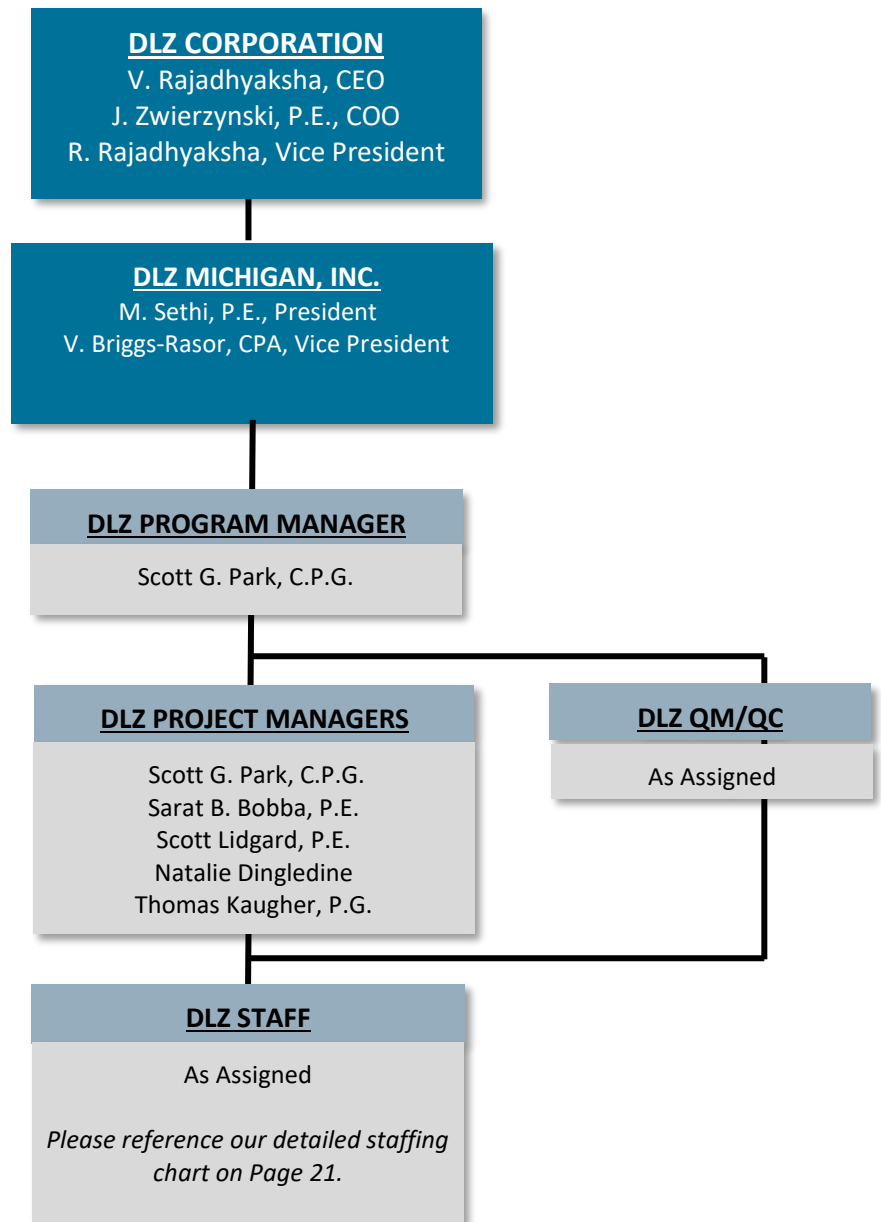
State of Michigan, Date of Incorporation: November 18, 1999 (Current Corporation Name – DLZ Michigan, Inc.)

Include a brief history of the Professional's firm:

DLZ's Michigan operation was founded in 1955 by Dr. John R. Snell (Snell Environmental Group, Inc.). In 1998, to supplement and expand our engineering capabilities, Cole Associates (founded in 1916) joined with Snell Environmental Group as a separate corporation (Cole Associates of Michigan). In January 2000, the Michigan operation assumed the DLZ corporate name to form DLZ Michigan, Inc

3. Provide an organization chart depicting key personnel and their roles for a typical assigned project. Include generic supporting staff positions.

ORGANIZATIONAL CHART



4. Has there been a recent change in organizational structure (e.g., management team) or control (e.g. merger or acquisition) of your company? If the answer is yes: (a) explain why the change occurred and (b) how this change affected your company. No
5. Provide a four year rate schedule per position.

SEE PART II – COST – BILLIABLE RATE

ARTICLE 2: PROJECT TYPES AND SERVICES OFFERED

Identify the project types and professional services for which your firm is exceptionally qualified and experienced. Contractor should have the capability to form potential teams with adequate experience in environmental investigation and remediation services. Provide attachments illustrating a minimum of three examples, with references, of successful projects performed in the last five years for each item checked. Identification of specialties will assist the State project directors/managers in matching firms with projects.

- ☒ Asbestos / Lead / Mold / Biohazard / Free Product / Regulated Waste Survey / Abatement
- ☒ Brownfield Development
- ☒ Ecological Risk Assessment / Forestry and Land Management / Wetland Mitigation / Streams and Lakes Restoration
- ☒ Environmental Investigation / Characterization / Pilot Tests / Feasibility Study
- ☒ Environmental/ Roto Sonic Drilling / Well Abandonment
- ☒ Ground Penetrating Radar (GPR) / Laser-Induced Fluorescence (LIF) Field Screening
- ☒ Landfill Maintenance / Monitoring
- ☐ Nuclear Waste Management / Disposal / Remediation
- ☒ Per-& Polyfluoroalkyl Substances (PFAS) Sampling / Mitigation / Remediation
- ☒ Phase I / Phase II / Baseline Environmental Assessments
- ☒ Remediation Systems Design / Construction Oversight / O&M / Decommissioning
- ☐ Specialty Sub-Surface / Utility Inspection / Sewer Camera / Cleaning
- ☒ Underground / Aboveground Storage Tank (UST/AST) Removal / Demolition / Soil Excavation / Closure
- ☒ Vapor Intrusion Assessments / Risk Mitigation / Design / Installation / O&M Services

In the Article 8: Experience section of this questionnaire response we have included additional information on the brief descriptions of three projects for each of the project types selected above. The chart on the next page is a brief snapshot listing several recent projects within the last 5 years for each of the 12 project types in our submittal. This chart is followed by client references with full contact details.

	Asbestos/Lead/Mold/Biohazard/Free Product/Regulated Waste Survey/Abatement	Ground Penetrating Radar (GPR)/Laser-Induced Fluorescence (LIF) Field Screening	Phase I/Phase II/Baseline Environmental Site Assessment	Environmental/ Rotosonic Drilling/Well Abandonment	Environmental Investigation/Characterization/Pilot Tests/Feasibility Study	Underground/Aboveground Storage Tank Removal/Demolition/Soil Excavation	Remediation Systems Design/Construction Oversight/O&M/Decommissioning	Vapor Intrusion Mitigation Design/O&M	Eco Assessment/Forestry & Land Management/Wetland Mitigation/Streams & Lakes Restoration	Landfill Maintenance/Monitoring	Brownfield Development	Per-& Polyfluoroalkyl Substances (PFAS) Sampling
Paw Paw Laundry, Paw Paw, Michigan	X			X	X							
144 E. Third Street, Imlay City PCE	X	X		X	X		X	X				
Wayland Recycling, Wayland, Michigan	X	X		X	X							
Berrien County Sherriff’s Substation, Galien, Michigan		X		X	X	X						
Action Auto, Holt, Michigan		X		X	X		X					
Production Painting Company, Kalamazoo, Michigan	X	X	X	X	X	X					X	
Frank’s Service, Durant, Michigan			X	X	X	X	X					
Former Kalamazoo Creamery Site, Kalamazoo, Michigan	X		X	X	X	X			X		X	
Former Michigan State Fairgrounds, Detroit, Michigan	X	X	X	X							X	
Matthews Service, Vernon Township, Michigan	X			X		X						
Detroit BRA, FCA Mack Engine Plant Redevelopment	X	X	X	X		X	X				X	
Former Lansing USPFO/CSMS, Lansing, Michigan				X	X	X						
Paw Paw Plating, Paw Paw, Michigan					X							
Wessel Road Quarry, Alpena, Michigan				X	X		X		X			
Sumpter Road Property, Belleville, Michigan				X	X	X						
South End Mobil, Eaton Rapids, Michigan				X	X							
D&L Fuels, Charlotte, Michigan				X	X	X						
Former Raymond Ayotte Property, Byron, Michigan					X	X						
D&L Fuels, Charlotte, Michigan				X	X	X						
Millie’s Market, Gregory, Michigan				X	X		X	X				
McDonalds Crosstown, Kalamazoo, Michigan								X				
MDMVA Fort Custer, Integrated Training Area Management, Range and Training Land Assessments, Augusta, Michigan									X			
Bay Harbor Environmental Testing and Analysis, Bay Harbor, Michigan					X				X			
Ohio Turnpike & Infrastructure Commission Westgate Toll Plaza Wetland Permitting and Mitigation Design, Ohio Turnpike, Ohio					X				X			
Flint Bishop Airport Landfill, Flint, Michigan										X		
Young's Landfill Closure and Wetland Construction, Burr Oak, Michigan										X		
Gratiot Metals Landfill, Ithaca, Michigan										X		
McDonald Country Store Fire Site, Oscoda, Michigan				X	X							X
Wurtsmith AFB PFAS Investigations, Oscoda, Michigan					X							X
Van Etten Lake, PFAS Foam Abatement, Oscoda, Michigan					X							X
Thermofil, Green Oak Township, Michigan – PFAS Evaluation and Litigation				X	X			X				X

	Client Reference Information: Name, Entity, Email Address, and Phone Number		Client Reference Information: Name, Entity, Email Address, and Phone Number
1	Mr. David McKee Independence Township/DPW Director Email: dmckee@indtwp.com Phone: (248) 625-8222	7	Mr. David Harn Michigan Department of Environmental Quality (MDEA) Kalamazoo District Email: harnd@michigan.gov Phone: (248) 625-8222
2	Ms. Janice Adams Michigan Department of Environmental Quality (MDEA) Gaylord Field Office Email: adamsj1@michigan.gov Phone: (989) 705-3434	8	Mr. Cleveland Daily City of Detroit Email: cdailey@degc.org Phone: (313) 963-2940
3	Ms. Autumn Henney Michigan Department of Environment, Great Lakes, and Energy (EGLE) Lansing District Email: HenneyA@michigan.gov Phone: (517) 284-5125	9	Mr. Orza Robertson City of Detroit Email: orobertson@degc.org Phone: (313) 963-2940
4	Ms. Kim Sakowski Michigan Department of Environment, Great Lakes, and Energy (EGLE) Lansing District Email: sakowski.k@michigan.gov Phone: (517) 582-2219	10	Ms. Abby Leinbach Michigan Department of Environment, Great Lakes, and Energy (EGLE) Lansing District Email: leinbacha@michigan.gov Phone: (517) 284-5127
5	Ms. Julie Werner Michigan Department of Military & Veteran Affairs (Environmental Office) Email: ernerJ1@mail.mil Phone: (517) 481-5125	11	Ms. Emily Peabody Michigan Department of Environment, Great Lakes, and Energy (EGLE) Lansing District Email: peabodye@michigan.gov Phone: (517) 388-5719
6	Ms. Beth Vens Michigan Department of Environment, Great Lakes, and Energy (EGLE) Southeast District Email: VensB@michigan.gov Phone: (586) 753-3813	12	Mr. Robert Delaney (Retired) Michigan Department of Environment, Great Lakes, and Energy (EGLE) Lansing District Email: delaneyr@michigan.gov Phone: (517) 284-5085

ARTICLE 3: PROJECT LOCATION

Identify the regions where your firm can most efficiently provide services. Assignments may vary from the regions checked, depending on the specialties and services required.

- ☒ Western Upper Peninsula (west of Marquette)
- ☒ Eastern Upper Peninsula (east of Marquette)
- ☒ Northern Lower Peninsula (north of Grayling)
- ☒ Saginaw Bay area (east of 127, north of I-69 and M 57, south of Grayling)
- ☒ Western Lower Peninsula (west of 127, north of Muskegon, south of Grayling)
- ☒ Central Lower Peninsula (east of Battle Creek, west of Chelsea, south of M 46 and M 57)
- ☒ Southwestern Lower Peninsula (west of Battle Creek, south of Muskegon)
- ☒ Southeastern Lower Peninsula (east of Chelsea, south of I-69)

ARTICLE 4: CONTRACT UNDERSTANDING

The following items should be addressed on the assumption that your firm is awarded an Indefinite-Scope, Indefinite-Delivery contract. (See attached sample contract).

- 4.1 Is it understood that your firm is required to respond to small projects (less than \$25,000) as well as larger projects?

Yes ☒ No ☐

- 4.2 Is it understood that there is no guarantee of any work under this contract?

Yes ☒ No ☐

- 4.3 Is it understood that your firm will be required to execute the attached standard State of Michigan contract language for professional services?

Yes ☒ No ☐

- 4.4 Is it clearly understood that professional liability insurance is required at the time of execution of the ISID contract? (See Article 5 of the attached Sample Contract.)

Yes ☒ No ☐

- 4.5 Is it understood that your firm must comply with State of Michigan law as it applies to your services?

Yes ☒ No ☐

4.6 Does your firm have prior experience working with the State of Michigan?

Yes ☒ No ☐

If yes, explain:

DLZ has been providing these environmental services to the State of Michigan for more than 30 years.

DLZ's experience with State of Michigan environmental contracts has provided us with the background necessary to continue serving the DTMB under this contract. From the late 1980s to the present, DLZ has provided environmental due diligence, remedial investigation, feasibility studies, remedial systems design, building demolition and associated abatement of asbestos and wastes, bid specification packages, Trade Contractor procurement, oversight, management and contract bulletins and pay request, report preparation, and client communication and management on more than **300 State of Michigan projects for DTMB, EGLE, and MDMVA**. DLZ is accustomed to the DTMB and EGLE's contractual and review processes and systems. In addition, we have developed a good rapport with various State of Michigan Departments and Client Agencies. Since the State of Michigan work has been the focus of DLZ's Environmental Department for several years, we have customized our project team structure, documentation preparation, field protocol, QM/QC procedures, progress reporting, and billing processes to meet the needs and expectations of the DTMB and EGLE.

ARTICLE 5: CAPACITY AND QUALITY

5.1 Briefly describe your firm's methods and procedures for quality control for your deliverables and services.

Quality Management/Quality Control (QM/QC): DLZ has implemented time-tested QM/QC procedures on our projects to verify quality performance, reproducible results, and confidence in the reliability and accuracy of prepared documents. We have developed procedures for Project Planning, Field Activities, Report Preparation, and Design and Remedial Engineering Studies.

Sampling/Investigation Activities: DLZ follows a strict quality control program for all field activities that meets the requirements defined in EGLE Part 201 Operational Memorandum No. 2, SW-846 Test Methods for Evaluating Solid Waste-Field Manual (SW846), and the United States Environmental Protection Agency (USEPA) EPAS/540G-90/004 QM/QC Guidance for Removal Activities, and other Part 201 Operational Memoranda. Chain-of-Custody (COC) records are completed for each sample collected by field sampling personnel and are used to document sample integrity from collection through final reporting of analytical data in accordance with SW846 and the USEPA's 330/2/9/78/001R. The COC documentation process is required for litigation purposes; however, it is DLZ's policy to follow proper COC procedures for all samples, regardless of their nature or purpose.

Document Control: DLZ has a cloud-based document control system to facilitate easy storage and retrieval of documents from a centralized immutable cloud storage system that is available at all DLZ working locations and to the staff to whom the project is assigned. In addition, important correspondence, field notes, and other documents are stored in this same centralized project system which has 'snapshot' backups saved hourly.

Technical Review of Documents: DLZ believes that QM/QC, including technical review, begins early in the project and occurs at all levels of production and includes work plans, acquired data, data compilations, calculations, drawings, reports, designs, specifications, and other documents.

Acquired Data: This is one of the first and one of the most important production processes requiring technical review. During the field investigation phase, daily field reports, boring and well construction logs, sampling logs, and COC forms are reviewed on a daily basis by the Project Geologist/Engineer to confirm accuracy and to make sure that work has been performed in accordance with the approved work plan. **The cost of QC at this stage is minor in comparison to the cost of having to re-collect data for an investigation event.**

Data Compilation, Calculations, and Drawings: All data tables, drawings, and calculations generated using the collected data are first checked by the author followed by technical review by a peer. Once the data compilations and calculations are reviewed by the peer reviewer, they are given to the Site Manager and the Technical Reviewer for approval for incorporation into the respective document.

Reports, Designs, Specifications, Drawings, and Other Documents: The project team and Site Manager incorporate all the data, drawings, tables, etc. into the preparation of a draft document. The draft document is initially checked by the author prior to review by a peer. Following incorporation of revisions based on the peer review, the draft document is reviewed by the Site Manager and Technical Reviewer to confirm that the document is technically sound and meets project objectives. The Program Manager conducts a final review prior to submittal of the draft document to the client. The Site Manager and a peer also review the final document verifying that all client comments are addressed in the document prior to its submittal.

Deliverables: DLZ understands the importance of following State and Federal regulations. As well as documenting the work performed on each project starting with the work plan, continuing with field notes and data and culminating in a report that describes the methodologies used to collect the data. DLZ presents the data in an easy to understand format that includes tables, graphs, and figures. DLZ also understands the importance of the differences between different types of reports such as an investigation report compared to a Corrective Action Plan, as well as the differences between a full scale remedial investigation report compared to a data submittal. DLZ has prepared complete remedial investigation reports, feasibility studies, corrective action plans, Leaking Underground Storage Tanks (LUST) initial and final assessment reports, as well as remedial system designs, bid specifications, and drawings for State of Michigan projects. We have also prepared data submittals, technical memoranda, ASTM International's E- 1527 Phase I Environmental Site Assessment (ESA) reports, Baseline Environmental Assessment (BEA) reports, and Due Care documentation for State of Michigan projects.

Based on our experience of presenting data for State of Michigan projects, DLZ is aware that no two projects are the same and will work closely with the designated State of Michigan Project Managers to provide deliverables specific to the project that meet the objectives and needs of the various State/Client Agencies within the State of Michigan.

- 5.2 Has your firm been involved in claims or suits associated with professional services errors and / or omissions?

Yes ☒ No ☐

If yes, explain:

DLZ MICHIGAN - 10 years litigation history 2012-2023:

Battle Creek Motor Lodge, Inc. v. Clark Construction Company, Inc., Hoffman Bros., Inc., DLZ Michigan, Inc., and Michigan Paving and Materials Company, Calhoun County Circuit Court Case No. 2011-2856-NZ – Plaintiff filed this lawsuit in September 2011 against a number of companies, including DLZ. The defendant companies worked on a roadway project. Plaintiff was an adjacent property owner, claiming that the roadway design and construction caused June 2009 flooding damage to plaintiff's property. In November 2012, plaintiff agreed to dismiss its lawsuit for a small nuisance amount.

DLZ MICHIGAN - 10 years claim history 2012-2023:

Mt. Hope Bridge: In July 2014, the City of Lansing requested DLZ to provide a two-year maintenance bond covering bridge painting on the Mt. Hope bridge project. DLZ provided the bond in response to MDOT concerns about the extent to which documentation from DLZ's subconsultant fully reported certain construction field conditions and testing. In November 2015, a routine, scheduled bridge inspection revealed deficiencies in the painting; so, the City of Lansing asserted a claim against the maintenance bond. In April 2018, DLZ successfully settled the issue with the City of Lansing, and DLZ separately settled with its subconsultant.

- 5.3 Will there be a key person who is assigned to a project for its duration?

Yes ☒ No ☐

Each project will be assigned a dedicated key person (Project Manager) from the project inception until completion.

- 5.4 Please present your understanding of the relationship between your firm, the DTMB Design and Construction Division, and the State Agency for whom a project will be completed.

DLZ's corporate philosophy has always been to provide consulting services as team members to the public sector since 1916, and since 1959 in Michigan. Our corporate client base is composed of federal, state and local units of government. **DLZ has more than 30 years** of environmental experience working as a partner and consultant with the Michigan Department of Technology, Management and Budget (DTMB), EGLE, and the MDMVA. DLZ has held previous DTMB Indefinite Services, Indefinite Delivery (ISID) contracts since the early 1990s, has been a **DTMB/EGLE Level of Effort (LOE) Contractor continuously since 1994**, was one of the initial contractors for the DTMB/EGLE Project

Management contract, and has worked with MDMVA through DTMB and U.S. Army Corps of Engineers (USACE) contracts since the early 1990s. This experience working as a team member with the public sector has provided DLZ the opportunity to:

• Understand the needs of our clients	• Perform constructability reviews
• Provide solutions to their problems	• Manage trade contractors
• Document existing, and pre and post conditions.	• Review shop drawings and pay requests.
• Develop sound engineered designs.	• Assist with contract disputes and delay claims.

DLZ's Partnership with DTMB, EGLE and MDMVA

DLZ's management approach centers on our commitment to forming a partnership with the DTMB, EGLE, and MDMVA Project Managers. DLZ believes this philosophy promotes a cooperative working environment centered on open communication and exchange of ideas that will establish a shared vision of your project. This partnering begins at the project Kickoff Meeting where project scope and objectives are established, and continues throughout the course of the project via frequent progress meetings and monthly progress updates. Project planning and management have been fundamental to the successful completion of all our projects, regardless of size. From being afforded this opportunity to work with DTMB, EGLE, and MDMVA for so many years, DLZ has been able to tailor our Environmental Department to the needs of the State of Michigan. Our Project Managers have developed good working relationships with State of Michigan Project Managers, which allows us to be able to develop work plans and costs that are complete and cost effective to meet the objectives of the project. We understand the need to communicate, not only with the State Project Manager but with the Environmental Laboratory of EGLE.

Management Summary

Our years of experience with State of Michigan contracts have provided us with the background necessary to continue serving the State of Michigan under this contract. DLZ is accustomed to the DTMB, EGLE, and MDMVA contractual and review processes and systems. In addition, we have developed a good rapport with various State of Michigan Departments and Agencies. Since State of Michigan work has been the focus of DLZ's Environmental Department for several years, we have customized our project team structure, documentation preparation, field protocol, QM/QC procedures, progress reporting, and billing processes to meet the needs and expectations of the DTMB, EGLE, and the MDMVA.

To successfully complete these projects, we understand the needs and reporting/documentation requirements of EGLE and USEPA, including detailed Work Plans, Quality Assurance Project Plans (QAPPs), Field Sampling Plans, Site-Specific Health and Safety Plans (HASPs), and the various reports required by P.A. 451. **As a part of our commitment to excellence, DLZ maintains the philosophy that we are a part of the State of Michigan's team, working together for the successful completion of the project.** We realize the importance of working closely with the DTMB and State of Michigan/Client Agency Project Managers and maintaining open communication in order to meet project objectives

and keep the State of Michigan's best interests in mind. In addition, we are comfortable with the role we play in contractor oversight and management, public relations, and stakeholder considerations.

DLZ fully understands and is thoroughly familiar with DTMB contracting procedures, reporting, and interacting with the State of Michigan Project Managers such that the **project is performed to their expectations on schedule and within budget**. Building on our extensive experience, our proven project management approach, consists of a strong, proactive, project management philosophy that begins with providing unmatched client service. **The key to any successful project is understanding the client's needs including budget and schedule objectives.**

DLZ utilizes a matrix management approach that establishes a Project Manager/ Project Team approach for project performance. With this matrix organizational structure, the Project Manager draws specialists from functional groups required to staff a team including use of our subconsultants. This team reports directly to the Project Manager who maintains communication with the DTMB or State of Michigan/Client Agency Project Manager throughout the project, as well as follows up with the project upon completion. The Project Manager oversees the data collection, project cost controls, scheduling, preparation of reports, and management of subcontractors. This matrix structure accomplishes the following objectives:

- Produces a satisfied Client, whose needs are met, resulting in confidence and goodwill.
 - Provides an efficient flow of communication through the system with the DTMB and State of Michigan/Client Agency and the DLZ project team.
 - Verifies adherence to established priorities and schedules.
 - Verifies the achievement of standards of excellence in the technical and professional quality of services provided.
- OBJECTIVES**

 - ***Satisfied Client***
 - ***Efficient Flow of Communication***
 - ***Adherence to Priorities and Schedules***
 - ***Achievement of Standards of Excellence***
 - ***Delivery of Quality Project on Time and Within Budget***

5.5 Describe your approach if a bidder proposes a substitution of a specified material during bidding.

DLZ's standard procedure requires that bidders submit substitution requests no less than 10 calendar days prior to the bid date to allow adequate review time for the proposed substitution. DLZ includes a Substitution Request Form within the Project Manual; bidders must complete the proper form and submit adequate backup documentation to evaluate the proposed product or system. With input from the Owner, DLZ reviews the proposed substitution to determine if the proposed product or system complies with the design intent and meets or exceeds the performance criteria of the specified product or system. If the specified procedure is followed and the proposed substitution is found to be acceptable, then the product is added by addendum as an acceptable product.

- 5.6 Describe your approach if a contractor proposes a substitution of a specified material or detail with shop drawing submittals or in construction.

When a contractor proposes a substitution or revised detail during construction, DLZ reviews the proposed substitution with the Owner and the contractor along with specific reasoning behind the proposal and identifies potential alternatives that will result in the best value and cost benefits for the Owner. Typically, product substitutions are not approved after the bidding phase without good cause or documentation of a hardship associated with the specified product.

- 5.7 How will your firm provide consistent and continuous communication pertaining to project activities and project status to the State of Michigan during the progress of projects?

DLZ will identify a Project Manager that will be the single point-of-contact for all work performed under this ISID contract. The Project Manager will remain in regular communication with the DTMB and applicable State of Michigan/Client Agency representatives through the progress of each project. DLZ will provide written progress status reports for each project under this contract; status reports will be submitted on a regular basis.

DLZ will provide and maintain, to the State of Michigan, a proactive approach regarding the exchange and processing of information by implementing several actions to minimize the potential for problems. First, we will identify interests, goals, and positions between the user and stakeholders (if appropriate) early in the process. This will maximize the amount of time available for resolving and minimizing conflicts. We also make sure that discussions during progress meetings are for agency interests, rather than on positions and perceptions.

The DLZ approach to this contract will not be unlike our other multidisciplinary discretionary contracts where the emphasis of careful preliminary analysis, close client contract throughout project development, and communication with all appropriate parties prior to commencing design is stressed. Each project will begin with a project Kickoff Meeting. DLZ will meet with the State of Michigan and other applicable Client Agency representatives, together with other stakeholders deemed necessary. The main purpose of this meeting will be to exchange information, define the established level of quality for the project, discuss opportunities and constraints of the project, establish communication protocols, discuss project goals and objectives, and review the scope of work and schedule for the project. This meeting will develop a baseline for coordination and communication throughout the project. During project development, periodic progress meetings will be conducted. The frequency of these meetings will be determined during the Kickoff Meeting and based primarily on the size, complexity, and schedule of each project. For a "fast track" project, additional forms of coordination and communication, including video and phone conferencing and/or web-based communications, can be utilized.

Beyond these items, we structure meetings, so we obtain consensus at key decision points and build on previous decisions. This prevents revisiting old decisions and redoing work. We effectively apply this approach of conflict avoidance/resolution to each of our projects, regardless of size, from kickoff to project construction closeout.

- 5.8 Does your company have an FTP or similar site for quick posting and distribution of information, drawings, field inspection reports, and other communications?

Yes ☒ No ☐

- 5.9 Describe your method of estimating construction costs and demonstrate the validity of that method.

DLZ uses a combination of previous project bid results for similar projects, RSMeans National Cost Estimating Guidelines, and resources from the local construction market to validate and verify the anticipated project budget through considerations of the local bidding climate and historical data. When appropriate, DLZ utilizes the services of an independent cost estimating consultant or a contractor to confirm the opinion of probable construction costs. Using a combination of various references has proven to be an effective approach to developing cost estimates. Cost estimates are routinely developed during the Feasibility Study of the remediation systems being consider.

- 5.10 Describe your approach to minimizing construction cost over-runs.

DLZ takes pride in our track record of cost management during construction. This process begins early in the design process by establishing an understanding of the project parameters and maintaining a high standard for communication and quality management throughout the project with the Client and the Trade Contractor. DLZ has successfully discussed with State of Michigan representatives, and implemented a variety of strategies to manage costs during construction; specific strategies may depend on project goals, schedule, funding source, and procurement process. DLZ works closely with the DTMB and State of Michigan/Client Agency Project Managers to develop the most effective strategies for cost management. Under our current ISID environmental contract, four large assignments completed in the last two years have involved the use of Trade Contractors for remediation system installation, demolition, and source area removal. DLZ has successfully completed all four projects without Trade Contractor change orders for cost over-runs. DLZ has found that the most effective strategy is to develop a set of construction documents that clearly identifies the scope of work and the design intent.

Cost overrun is typically a result of unforeseen conditions, Owner requested changes, errors or omissions, or schedule delays. DLZ's approach to controlling change orders begins with a clear understanding of the project scope, budget, level of quality, and schedule for each assignment. We then prepare accurate and detailed construction documents in accordance with our work plan; perform constructability reviews of construction documents; and make certain regulatory agencies with jurisdiction over the project, as well as appropriate stakeholders, that coordination and communication has been fully implemented throughout the design process.

- 5.11 What percentage of the construction cost should be devoted to construction administration (office and field)?

The appropriate percentage varies based on project size, complexity, location, and degree of service required. Typically, fees for construction administration basic services vary between 7% and 10% for environmental projects.

5.12 What portion of the assigned work will be performed with your staff and what portion will be provided by sub-consultants?

DLZ Staff: 95-100%

Subconsultants: 0-5%

DLZ anticipates that 95% to 100% of the professional services that might be required for the successful completion of this contract can be provided in-house. However, DLZ understands the importance of providing the proper qualified staff to work on a project and does not hesitate in adding additional professionals for specific projects through expertise from our other offices and subcontracting. In addition to our Key and Proposed Staff for the contract, our Michigan operation has access to 75 employees in our Michigan operation as well as nearly 800 employees corporate-wide. All DLZ personnel are available to perform work for this contract as the situation presents itself. DLZ makes every effort to perform State of Michigan work in their Michigan offices, preferring to bring the expertise here rather than sending the work to their other Midwest offices. In addition, DLZ routinely has subcontracted work under our various State of Michigan contracts since the 1990s to specialty consulting firms, university professors, industry experts recognized in their fields, geophysical contractors and drillers, and other contractors to aid in the successful completion of assignments. Examples include:

- National Environmental Policy Act (NEPA) compliance consultants such as Kalamazoo Nature Center, Civil and Environmental Consultants, and Orbis to conduct flora and fauna investigations, bat surveys, and archeological investigations.
- Natural Resource Damage Assessment specialty consulting firms such as Stratus Consulting, Inc. to assess contamination impacts to the sediment, surface water, and the environment.
- University professors and industry experts recognized in their fields for cement kiln dust, chemistry, forestry/timber management, and threatened and endangered species.
- Alternative free product collection methods being tried by Western Michigan University professors.
- Local consultants for mold and specific industrial hygiene requirements.
- Microbial Insights, and also Michigan State University Microbiology professor involved with the development of the microbes used at specific sites for bioremediation; and Regensis, Orin Technologies LLC, and Tersus Environmental for biological and chemical injections for enhanced bioremediation.
- Geophysical companies for large and/or complex geophysical investigations including utility, subsurface structures and/or storage tank location.
- Vibration and air monitoring consultants for demolition projects.
- Noise specialty engineers for noise reduction of Soil Vapor Extraction Systems.
- Grand Valley State University Annis Water Resource Institute for monitoring landfill leachate spray irrigation.
- Specialty Drillers, contractors and laboratories to aid in remedial investigations.

DLZ is also capable of hiring needed staff on a part-time basis for a particular project or service, such as Ellen Marsden, Ph.D., from the University of Vermont who is an expert on freshwater reefs and has worked with us on the successful completion of a reef restoration in Thunder Bay, Lake Huron Michigan. DLZ also established a working relationship with the

Michigan State University Center for Integrative Toxicology, headed by Director Norbert Kaminski, Ph.D., to provide staff and resources as needed on projects.

Through the years, DLZ has developed many different contractual mechanisms to provide the State of Michigan the necessary expertise for each project whether it is drilling, natural resource damage assessment, reef design, geophysics, or any number of other specialties.

DLZ understands that if we are awarded a contract and a need arises for expertise on a project, the appropriate forms and submittals will be prepared for approval in accordance with the conditions of the contract, and that subcontracting activities such as drilling, geophysical, and laboratory will be competitively bid with a minimum of the qualified bidders.

DLZ understands the importance of providing the right professional personnel to perform the work for every project and will routinely team with other consultants as the need arises. DLZ is also very aware of federal contract requirements regarding small businesses, minority and disadvantaged businesses, and Section 8a participation. DLZ has held contracts with the USACE Detroit District since 1991 and has diligently tried to meet the participation goals of each of our contracts during that time. In providing environmental consulting services for the DTMB, the EGLE, and the MDMVA for more than 30 years, DLZ has developed internal procedures and contracts to verify the appropriate subcontractor is secured for a particular project or to hire the subcontractor specifically requested by EGLE for a project.

- 5.13 On a typical project, what would be your response time, from the time receive a project assignment to starting investigation and design work? A typical project might be one involving several disciplines and in the neighborhood of a \$25,000 fee.)

Our typical response time would be three to five calendar days.

For a typical project, DLZ anticipates making contact with the State of Michigan Project Manager within 24 hours of receiving the contract change order for the project, at which time a Kickoff Meeting or phone call will be scheduled to discuss the Scope of Work and project schedule. During this time, DLZ will also schedule subcontractors, such as drillers, and notify the Environmental Laboratory of EGLE using their applicable forms for upcoming samples. Typically, field work is scheduled within five to ten business days of receiving the contract change order. In special circumstances that require urgent attention, DLZ has a strong record of responding to the immediate needs of the project, especially in emergency conditions which requires immediate timely response and action.

- 5.14 How do you assess whether a construction bidder is responsive and responsible?

DLZ's process to assess whether or not a bidder is responsive and responsible includes a thorough review of the bid packets received from each bidder, including documentation of a checklist for each bidder to identify if all the appropriate documents were filled out in their entirety and included proper signatures and certifications. In the event that minor irregularities are identified, these are documented and discussed with the Owner. Depending on the circumstances, the bidder may be afforded the opportunity to correct minor irregularities, if appropriate and with the Owner's concurrence. Typically, DLZ also performs post-bid interviews with the three apparent low bidders to confirm bid amounts and to verify that bidders have a thorough understanding of the project requirements.

and scope of work. In the event that qualifications and references are also to be considered a part of the evaluation criteria, then DLZ also reviews the bidder's qualifications and may contact references as appropriate. If there are no discrepancies found in the documents and all other factors appear to be in order, then DLZ will discuss with the Owner and prepare a recommendation of award based on all the information available.

5.15 Describe your experience with similar ISID contracts.

Understanding of Project and Tasks

DLZ has been providing these environmental services to the State of Michigan for more than 30 years. DLZ understands the DTMB is seeking proposals from qualified firms to provide professional environmental consulting services. Specifically, these services are to evaluate and design abatements and remedies and provide oversight to cleanup environmental contamination in accordance with the applicable Part 201/Part 213 of the Michigan Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and other relevant state and federal statutes and requirements. DLZ understands for this contract, the work will be performed under the following DTMB Phases.

Phase

- 100 Study
- 300 Schematic Design
- 400 Preliminary Design
- 500 Final Design
- 600 Construction Administration – Office Services
- 700 Construction Administration – Field Services
- 900 Operation and Maintenance Management – Remediation Facility

DLZ's experience with State of Michigan environmental contracts has provided us with the background necessary to continue serving the DTMB under this contract. From the early 1990s to the present, DLZ has provided environmental due diligence, remedial investigation, feasibility studies, remedial systems design, building demolition and associated abatement of asbestos and wastes, bid specification packages, Trade Contractor procurement, oversight, management and contract bulletins and pay request, report preparation, and client communication and management on more than **300 State of Michigan projects for DTMB, EGLE, and MDMVA**. DLZ is accustomed to the DTMB and EGLE's contractual and review processes and systems. In addition, we have developed a good rapport with various State of Michigan Departments and Client Agencies. Since the State of Michigan work has been the focus of DLZ's Environmental Department for several years, we have customized our project team structure, documentation preparation, field protocol, QM/QC procedures, progress reporting, and billing processes to meet the needs and expectations of the DTMB and EGLE.

To successfully complete these projects, we understand the needs and reporting/documentation requirements of EGLE and USEPA, including detailed Work Plans, Quality Management Project Plans, Field Sampling Plans, Site-Specific HASPs, and the various

reports required by P.A. 451. **As a part of our commitment to excellence, DLZ maintains the philosophy that we are a part of the State of Michigan's team, working together for the successful completion of the project.** We realize the importance of working closely with the DTMB and State of Michigan/Client Agency Project Managers and maintaining open communication in order to meet project objectives and keep the State of Michigan's best interests in mind. In addition, we are comfortable with the role we play in contractor oversight and management, public relations, and stakeholder considerations.

All services for the project will be provided by our Michigan offices in Lansing, Kalamazoo, Detroit, Melvindale, and Waterford. Our centrally located Lansing office will serve as the project headquarters with key individuals including the Program Manager, Scott G. Park, C.P.G., stationed there for the duration of the project.

Experience with Governmental or Institutional Client Construction Strategy Consulting:

DLZ's corporate philosophy has always been to provide consulting services as team members to the public sector since 1916. Our corporate client base is composed of federal, state, and local units of government. DLZ has more than 30 years of environmental experience working as a partner and consultant with the DTMB, EGLE and MDMVA. DLZ has held previous DTMB ISID contracts since the early 1990s, has been a DTMB/EGLE LOE Contractor continuously since 1994, was one of the initial contractors for DTMB/EGLE Project Management contract, and has worked with MDMVA DTMB and USACE contracts since the early 1990s. In addition, DLZ has held as needed environmental contracts with the City of Kalamazoo continuously since 2000. DLZ has also provided environmental services since the late 1980s to the cities of Lansing, Detroit, and Port Huron. This experience working as a team member with the public sector has provided DLZ the opportunity to:

• Understand the needs of our clients	• Perform constructability reviews.
• Provide solutions to their problems.	• Manage trade contractors.
• Document existing, and pre and post conditions.	• Review shop drawings and pay requests.
• Develop sound engineered designs.	• Assist with contract disputes and delay claims.

DLZ has worked closely with DTMB and EGLE since the early 1990's and has established working relationships with other state and federal agencies. DLZ has extensive experience in Michigan with local, state, and federal requirements. We have dealt extensively with the Toxic Substances Control Act (TSCA), CERCLA, Resource Conservation and Recovery Act (RCRA), and respective amendments. Regulations under the Federal Clean Water Act and the Clean Air Act, Hazardous Material Transportation Act, Endangered Species Act, and Occupational Safety and Health Administration (OSHA) have also been factors in executing projects. Many of the regulations promulgated by the State of Michigan parallel those enacted by the federal government. The State of Michigan has adopted environmental regulations under NREPA that include:

- Hazardous Waste Management, Part 111
- Water Resources, Part 31
- Environmental Remediation, Part 201
- Wetland Protection, Part 303
- Endangered Species Protection, Part 365
- Air Pollution Control, Part 55
- LUST, Part 213
- Solid Waste Management, Part 115
- Mineral Wells, Part 625
- Underground Storage Tanks (UST), Part 211

- Soil Erosion and Sedimentation Control, Part 91
Spillage of Oil and Polluting Materials, Part 5

DLZ remains current with all federal, state, and local regulations affecting the environment. All hazardous material and petroleum investigations and testing are performed in accordance with applicable Parts of Part 201 and Part 213 of NREPA, EGLE, and Michigan Department of Transportation (MDOT) operational memoranda, as well as USEPA, OSHA, and USACE regulations.

The majority of our business comes from the government sector. Therefore, we are thoroughly familiar with state and federal procurement procedures. Our overhead rates are regularly audited by the aforementioned agencies, in accordance with Federal Acquisition Regulations. Our staff is very familiar with the State of Michigan contracting procedures and construction services requirements, including:

- State of Michigan Procurement Procedures
- DTMB Professional Services Contracts
- DTMB Contract Modification and Change Order Procedures
- State Advertising and Bidding Procedures
- Construction Contractor Procurement Procedures
- State Construction Administration Requirements

This familiarity was derived from our experience with the State of Michigan over the past 30+ years. Our working knowledge of these procedures provides the State of Michigan with the benefit of having an environmental consulting firm who knows what it takes to streamline the management of contracts.

We are also very familiar with and have assisted EGLE and DTMB with procurement of trade contractors for large drilling projects, remedial system installation and Operation and Maintenance (O&M), and Brownfield demolition work. DLZ has routinely assisted with the following:

- Development of the bid package including drawings and specifications
- Preparation and submittal of the project advertisement
- Distribution of bid packages
- Conduct the Pre-Bid Meeting
- Preparation and distribution of addenda
- Tabulation and evaluation of the three lowest responsive bids submitted
- Recommendation of Trade Contract award

From being afforded this opportunity to work with DTMB and EGLE for so many years, DLZ has been able to tailor our Environmental Department to the needs of the State of Michigan. Our Project Managers have developed good working relationships with State of Michigan Project Managers that allow us to be able to develop work plans and costs that are complete and cost effective to meet the objectives of the project. We understand the need to communicate, not only with the State of Michigan Project Manager but with the Environmental Laboratory of EGLE to order bottles and inform them of the anticipated schedule at least 14 days in advance, delivery of samples, scheduling the field work and informing the EGLE Project Manager of the schedule, arranging MISS DIG clearance prior to beginning work, obtaining necessary permits, and coordinating with any subcontractors for the successful completion of field work.

5.16 Describe your approach to a construction contractor's request for additional compensation for a change in the project scope.

In the event the contractor requests additional compensation associated with a change in the project scope or for unforeseen conditions, DLZ reviews the circumstances with the contractor to gain an understanding of the questioned scope or conditions and whether or not it is a legitimate change or if the scope is actually included within the contract. In the event there is a legitimate change in scope or change in conditions, then the circumstances which led to the change are evaluated and documented. If the change in scope also requires a change in contract amount, the circumstances are discussed with the Owner and a recommendation is prepared for the Owner's consideration. If the compensation is legitimate and acceptable to the Owner, a Contractor Bulletin is prepared to document the change. If additional funding is required, the bulletin is used to prepare the contract change order.

5.17 Is a sample of field activity logs detailing a 1-week period (from one of the three (3) prior experience sites) and a weekly report provided?

☒ Yes

☐ No

Sample Project Log Sheets and a Progress Report are included in Appendix C.

ARTICLE 6: PERSONNEL STAFFING

6.1 Is an organizational chart that includes each person on your project team and their identified roles for a typical assigned project provided?

☒ Yes

☐ No

DTMB PROGRAM MANAGER

State of Michigan Project Managers

As Assigned

DLZ PROGRAM MANAGER

Scott G. Park, C.P.G.

QM/QC

S. Park, C.P.G.

S. Bobba, P.E.

M. Tuckey, Ph.D, C.P.G.

S. Lidgard, P.E.

T. Kaugher, P.G.

PROJECT MANAGERS

S. Park, C.P.G.

S. Lidgard, P.E.

S. Bobba, P.E.

N. Dingleline

T. Kaugher, P.G.

DLZ TECHNICAL SUPPORT TEAM

GEOLOGISTS/SCIENTISTS/ HYDROGEOLOGISTS

T. Kaugher, P.G.

S. Park, C.P.G.

M. Tuckey, Ph.D., C.P.G.

D. Wilcox

B. Mott, C.P.G.

C. Vega

SAFETY ENGINEER/H&S

J. Varelmann

GEOTECHNICAL ENGINEERS

B. Wong, P.E.

T. Hampshire, P.E.

CLERICAL

L. Colbert (Marketing)

J. Almer (Marketing)

E. Dormer (Accounting)

ENVIRONMENTAL/REMEDIATION DESIGN ENGINEERS

S. Bobba, P.E.

R. Butler, PE

S. Lidgard, P.E.

ASBESTOS/CONSTRUCTION INSPECTORS/ESTIMATORS

D. Anderson, AAI

W. Schlacht

U. Mason

CADD/GIS

J. Mrva

S. Willis

C. Vega

SURVEY

A. Toscani, P.S.

D. Westgate, P.S.

R. Keilman, P.S.

ENVIRONMENTAL SCIENTISTS

N. Dingleline

B. Smith

D. McNeely

S. Winters

D. Stevens

PLANNING/COMMUNITY AWARENESS

S. Metzger, AICP

L. Holtz

ARCHITECTURE/ LANDSCAPE ARCHITECTURE

E. Beaulieu, AIA, LEED AP

S. Laubenthal, AAIA, LEED AP

R. Sherman, RLA

MDOT ROAD & BRIDGE

S. Riley, P.E.

B. Park, E.T.

BIOLOGISTS/ECOLOGISTS/ LIMNOLOGISTS

N. Dingleline

S. Metzger, AICP, PWS

D. Stevens

CIVIL/ MECHANICAL/ ELECTRICAL ENGINEERS

M. Mattson, P.E.

J. Apling, P.E.

T. Fought, P.E.

STRUCTURAL ENGINEER

C. Van Luchene, P.E., S.E.

6.2 Please fill out the following information regarding the personnel your firm considers key to the successful completion of the study or project scope of work:

Key Personnel 1

Name: Scott G. Park, C.P.G.

Job Title: Environmental Department Manager

Labor Classification: P4

College Degree(s): B.A., M.S. Geology

Has this individual successfully completed 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training with an up to date 8 hour HAZWOPER refresher training?

☒ Yes ☐ No

Key Personnel 2

Name: Sarat Bobba, P.E.

Job Title: Environmental Engineer

Labor Classification: P3

College Degree(s): M.S. Environmental Engineering, B.S. Civil Engineering

Has this individual successfully completed 40-hour HAZWOPER training with an up to date 8-hour HAZWOPER refresher training? ☒ Yes ☐ No

Key Personnel 3

Name: Thomas Kaugher, P.G.

Job Title: Project Manager

Labor Classification: P4

College Degree(s): B.S. Geology

Has this individual successfully completed 40-hour HAZWOPER training with an up to date 8-hour HAZWOPER refresher training? ☒ Yes ☐ No

Key Personnel 4

Name: Natalie Dingleline

Job Title: Environmental Scientist/Biologist

Labor Classification: P3

College Degree(s): B.S. Zoology, M.S. Zoology

Has this individual successfully completed 40-hour HAZWOPER training with an up to date 8-hour HAZWOPER refresher training? ☒Yes ☐No

Key Personnel 5

Name: Robert Butler, P.E.

Job Title: Environmental Engineer

Labor Classification: P3

College Degree(s): B.S. Geological Engineering

Has this individual successfully completed 40-hour HAZWOPER training with an up to date 8-hour HAZWOPER refresher training? ☒Yes ☐No

Key Personnel 6

Name: Bridget Smith

Job Title: Environmental Scientist

Labor Classification: P2

College Degree(s): B.S. Natural Resources and Environmental Policy

Has this individual successfully completed 40-hour HAZWOPER training with an up to date 8-hour HAZWOPER refresher training? ☒Yes ☐No

Key Personnel 7

Name: Dirk Anderson, AAI

Job Title: Senior Field Inspector

Labor Classification: T3

College Degree(s): A.S. Heavy Equipment

Has this individual successfully completed 40-hour HAZWOPER training with an up to date 8-hour HAZWOPER refresher training? ☒Yes ☐No

6.3 Does the Professional Project Manager (PM) have at least three years' experience as a PM? ☒ Yes ☐ No

6.4 Does the Professional PM have a minimum of 10 years' experience with similar projects? ☒ Yes ☐ No

6.5 Are the resumes for the key personnel provided? ☒ Yes ☐ No

ARTICLE 7: SPECIAL FACTORS

Include a brief description of your firm's special qualifications such as awards, recognitions, innovations, etc. that would pertain to this RFP. (As examples: any awards or recognition received by the firm or individuals for similar work, special approaches or concepts developed by the firm appropriate to this project, financial capacity, etc. Respondents may say anything they wish in support of their qualifications).

We are sincerely grateful for the opportunity to have provided environmental services to the State of Michigan since the late 1980s. We were selected as one of the first State of Michigan consultants for the Project Management contract in 1993 and again in 1998. In addition, we have been selected on the four LOE contracts and have held Indefinite Delivery Order Contracts with the DTMB for more than 30 years. This extensive experience with the State of Michigan has provided us with the background necessary to continue serving the State of Michigan under this contract. DLZ is accustomed to the DTMB and EGLE's contractual and review processes and systems. We have found State of Michigan personnel to be highly qualified, knowledgeable, and dedicated, which is critical in allowing us to form the professional relationships that are necessary to verify that each project is successfully completed. It is also the reason that the State of Michigan is our most important and highly valued client. It is our desire to continue to serve the State of Michigan and we will guarantee that your expectations will be met.

We will use a Michigan-based management team that has clearly defined roles and responsibilities and has successfully performed and completed previous work assignments to the satisfaction of the State of Michigan. DLZ realizes the importance of working closely with State of Michigan Project Managers and maintaining open communication in order to meet project objectives and keep the State of Michigan's best interests in mind. In addition, we are comfortable with the role it plays for contractor oversight and management, public relations, and stakeholder considerations. As a part of our commitment to excellence, we maintain the philosophy that we are a part of the State of Michigan team, working together for the successful completion of the project. To foster the teamwork concept, we believe communication is extremely important and has and will continue to arrange meetings with applicable State of Michigan/Client Agency representatives to ask for their input on our performance so that we may provide a higher level of service.

DLZ is a full-service, multidisciplinary, Minority-Owned Business Enterprise (MBE) that has been providing complete engineering, architectural, environmental, planning, construction and survey services to both public and private sector clients since 1916. DLZ is an American success story, having graduated in 1984 from the 8(a) Small Disadvantaged Business Program. Since then, DLZ has grown to be one of the most reliable and experienced professional consulting firms in the Midwest.

We are very proud of our heritage and continue to place particular emphasis, in the procurement of subcontractors/suppliers, on small disadvantaged businesses (DBE), minority-owned businesses, and women-owned businesses (WBE). DLZ is committed to the creation, growth and expansion of DBEs, MBEs and WBEs and currently serves as a mentoring firm for other minority firms through the Michigan Minority Business Development Council. DLZ actively identifies DBEs, MBEs and WBEs and provides them the opportunity of collaborating on projects.

Consistently ranked as one of Engineering News-Record (ENR)'s Top 500 Design Firms, DLZ's continual growth and success is a testament to our work quality and client satisfaction.



ARTICLE 8: EXPERIENCE

- 8.1 Provide a client reference and brief descriptions of **at least three (3) projects in the last five years closely related to each of the project types** and professional services requested in this RFP. Emphasis shall be placed on recent work at sites of environmental contamination:

Asbestos/lead/mold/biohazard/free product/regulated waste survey/abatement

Project 1 Reference Information

Project Name: Former Action Auto

Project Address: 1943 Cedar Street

Key Personnel: Scott Park CPG, Robert Butler PE, Sarat Bobba PE

Project City / State / Zip: Holt, Michigan 48842

Contact Name / Phone Number / Email Address: Autumn Henney, EGLE, (517) 648-4003, henneya@michigan.gov

Project Description:

Key Elements: LUSTRI | Multiphase Extraction of LNAPL (Free Product) | (Conceptual Site Model, Vapor Intrusion Investigation | Treatment System Evaluation and Pilot Testing

DLZ was selected by EGLE under the EER ISID contract in 2017, to complete a Remedial Investigation/Feasibility Study (RIFS) evaluating exposure risks including vapor intrusion resulting from both residual and mobile LNAPL under the Former Action Auto property and extending under the adjacent roadway. The site is located on the south end of downtown Holt, Michigan and borders residential neighborhoods to the east and west.

Due to the historical presence of measurable “mobile” LNAPL, the investigation included Laser Induced Fluorescence (LIF) technology to evaluate the vertical and horizontal extent of LNAPL originating from the source location. Results confirmed the presence of gasoline source contamination extending vertically to the underlying sandstone bedrock and laterally under a majority of the property extending under the adjacent roadway. Due to the depth of contamination, vertical aquifer profiling was then completed into bedrock to evaluate the extent of the dissolved plume. The vertical profiling included the collection of bedrock cores while drilling to evaluate its competence and fracture patterns for possible contaminant migration. Wash rotary methods were employed during drilling with the placement of secondary casing to eliminate vertical migration of contaminants along the installed monitoring wells.

Due to the large amount of measureable mobile LNAPL on site, LNAPL removal was initiated during the ongoing RI using Multi-Phase Recovery efforts. The MPR activities were also used to evaluate the aquifer characteristics and recoverability of LNAPL by both dewatering and soil vapor extraction methods.

The RI, completed in phases between 2018 and 2022, included the delineation of LNAPL and its migration, evaluation of contaminant mass in the source area, and a vapor intrusion assessment.

DLZ oversaw the installation of a temporary Multi-Phase Extraction (MPE) system at the site in July 2020 for completion of a six-month duration pilot test. The temporary system was connected to recovery wells installed in the late 1990s. The goals of the pilot test were to determine if MPE could be a viable remedial strategy for the site, and to determine if the existing recovery well network could be utilized. Based on the positive results of pilot tests, DLZ determined that MPE was a viable remedial strategy, but the existing recovery well network was not usable for a full-scale implementation. Working with EGLE staff, DLZ completed a full-scale MPE system design in 2022. DLZ anticipates that the full-scale MPE system will be installed in spring 2023.

Project 2 Reference Information

Project Name: Superstop #9 LUST Site

Project Address: 1600 S. Washington

Key Personnel: Scott Park CPG, Robert Butler PE, Thomas Kaugher, PG

Project City / State / Zip: Lansing, Michigan 48906

Contact Name / Phone Number / Email Address: Autumn Henney, EGLE, (517) 648-4003, hennya@michigan.gov

Project Description:

Key Elements: LUST RI | Submerged LNAPL (Free Product Mitigation) Conceptual Site Model | Vapor Intrusion Investigation | INSITU Chemical Oxidation and Pilot Testing

DLZ was selected by the Department of Environment, Great Lakes, and Energy (EGLE) to complete a remedial investigation to evaluate exposure risks including vapor intrusion as a result of both residual and mobile Light Non-Aqueous Phase Liquid (LNAPL) under a highly contaminated active gasoline station (> 80 mg/L VOCs) in a residential area of Lansing, Michigan. The investigation included the delineation of LNAPL and its migration on and off the site. Geological challenges involved the recent rise in the water table submerging mobile LNAPL below the groundwater, thus reducing viable options for mitigation. The investigation also included an indepth vapor intrusion investigation including (vapor wells and subslab vapor pins) in both commercial and nearby residential buildings to evaluate vapor migration.

Due to the submerged nature of the LNAPL (free product) DLZ, working with EGLE, proceeded with a focused feasibility study (FS) and a Pilot Study on site, which included the inSitu injection of approximately 1,100 gallons of PermeOx Ultra (sodium persulfate, and calcium peroxide) mixture at

a targeted area on site. **Based on the positive results from the pilot test, DLZ proceed with a full scale injection strategy in 2020 to abate the high levels of petroleum VOCs and submerged LNAPL (Free Product).**

Prior to the implementation of the full scale injections, DLZ installed eleven extraction wells at locations around the site to aid with the injections and distribution of the chemicals throughout the impacted area. For the full scale injections, a total of 8,200 gallons PermeOx Ultra mixture was injected sitewide using Geoprobe push points to the desired depths. Due to contaminant distribution and complex interbedded sands and cohesive clay rich soils at the site, the injections were targeted at multiple depths to evenly distribute the mixture into the subsurface. In addition, a vacuum truck simultaneously was used drawing a vacuum on the installed extraction wells to draw the PermeOx Ultra mixture through the effected zone to ensure an even distribution throughout the site and to remove extracted LNAPL that might be liberated during the injection activities.

Currently, DLZ is completing on-going quarterly monitoring of the groundwater and soil vapor points at the site to monitor the reduction of the submerged LNAPL and the dissolved phase in the plume. **After only one primary application, Results of groundwater monitoring have been very positive showing a 50% to 95% reduction of petroleum VOCs across the site.**

Project 3 Reference Information

Project Name: Former Michigan State Fairgrounds

Project Address: 1120 West State Fair Avenue

Key Personnel: Thomas Kaugher PG, Scott Park CPG, Dirk Anderson AAI, Dan McNeely

Project City / State / Zip: Detroit, Michigan 48203

Contact Name / Phone Number / Email Address: Orza Robertson, DBRA, (313) 237-4636, orobertson@degc.org

Project Description:

Key Elements: Asbestos and Regulated Waste Surveys/ Asbestos Abatement Design and Mitigation Oversight | Knowledge of Recognized Environmental Conditions | Understanding of ASTM E 1527 | State and Federal Regulatory Agency Requirements for RI/FS | Site Development Recommendations| ALTA/NSPS Survey



DLZ was selected by the Detroit Brownfield Redevelopment Authority (DBRA) to conduct multiple phases of environmental related services relating to this very large and important brownfield redevelopment project of 32 buildings and structures on the 157-acre former Michigan State Fairgrounds located in Detroit, Michigan. DLZ's services completed between 2019 and 2022 included an asbestos, lead, and regulated waste surveys of the multiple buildings, Phase I Environmental Site Assessment (ESA), Phase II ESA, a Ground Penetrating Radar (GPR) Survey, and a

Baseline Environmental Assessment (BEA). DLZ completed asbestos, lead, and a regulated waste surveys of each building or structure to identify and quantify all asbestos containing materials (ACM), lead based paint, and other regulated waste materials that would require removal and/or abatement prior to demolition or renovations of any buildings. Due to the number of buildings on this large 157-acre site and that the proposed development would be completed by different entities, DLZ recommended that each building or associated structure have a stand-alone report listing the findings and quantities of material that would need to be removed prior to the demolition or renovations on each building or structure.

Project 4 Reference Information

Project Name: Stellantis (Formerly FCA) Mack Engine Plant Expansion

Project Address: Various Locations in Detroit, Michigan

Key Personnel: Thomas Kaugher PG, Scott Park CPG, Dan McNeely, Bridget Smith, Dirk Anderson AA

Project City / State / Zip: Detroit, MI 48203

Contact Name / Phone Number / Email Address: Cleveland Dailey, (313) 237-4605, cdailey@degc.org

Project Description:

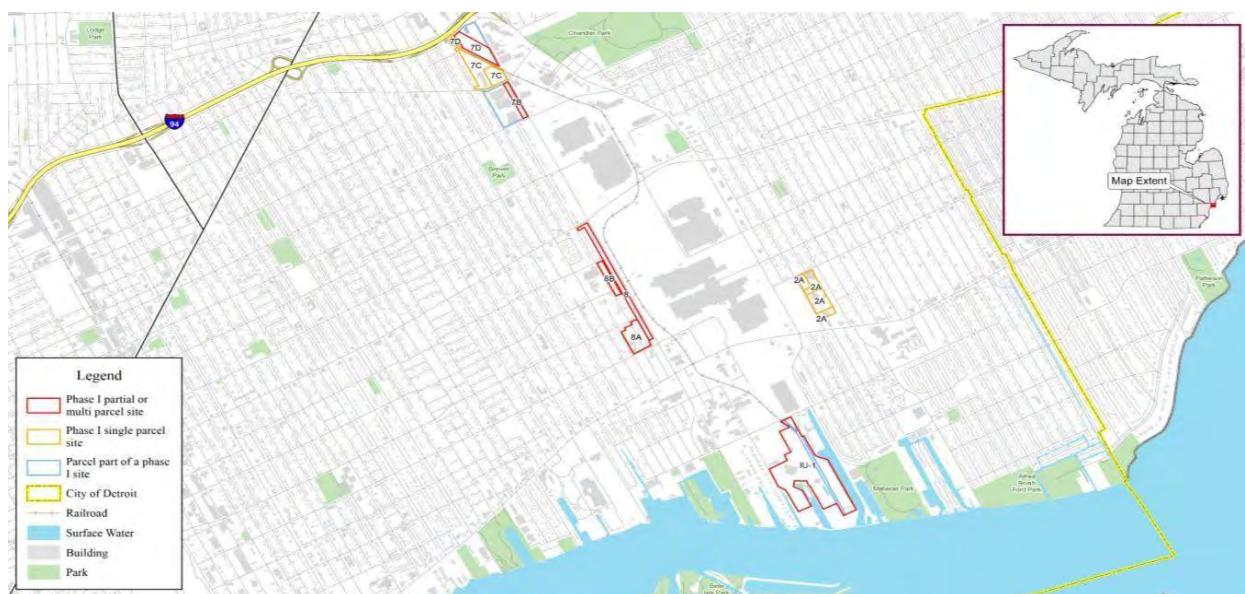
Key Elements: Asbestos Hazardous Material Surveys/ Asbestos Abatement Design and Mitigation Oversight | ALTA Survey | Construction Inspection | Construction Observation | Materials Testing | Laboratory Testing | Environmental Due Diligence | Geotechnical

DLZ was retained by the Detroit Brownfield Redevelopment Authority (DBRA) as primary team member on this large manufacturing expansion that included over 140 parcels (residential and

commercial) that included Phase I Environmental Site Assessments (ESAs), Phase II ESAs, and Baseline Environmental Assessments (BEAs). Within a one-year period, DLZ completed twenty-seven (27) Phase I Environmental Site Assessments, and eleven (11) Phase II Environmental Site Assessments that included the drilling of over 450 soil borings with the collection of over 740 soil samples to investigate and characterize the subsurface soils. After parcel consolidation, DLZ prepared and submitted nine (9) Baseline Environmental Assessments and Due Care Plans.

In addition to the services listed above, DLZ provided asbestos and regulated waste surveys of twelve buildings (residential and commercial) that would need to be abated and properly disposed prior to any demolition. A report was prepared for each building documenting the type and quantity of all materials within the building that would need to be properly removed and disposed. DLZ also provide demolition oversight to ensure that all materials were being removed, properly contained, and was responsible for signing of all manifests for disposal.

In addition to the Stellantis (Formerly FCA) Mack Engine Plant Expansion project, DLZ continues to be a leading consultant to the City of Detroit for Asbestos and Regulated Waste Surveys, Phase I/II and BEA Due Diligence Services and is currently contracted to conduct engineering surveys/asbestos and Regulated waste surveys on over 200 residential and commercial properties across the City.



Ground Penetrating Radar (GPR)/laser-induced fluorescence (LIF) field screening

Project 1 Reference Information

Project Name: Wayland Recycling

Project Address: 736 Elm Street

Key Personnel: Sarat Bobba PE, Mike Tuckey CPG, PhD, Dirk Anderson AAI, Danielle Wilcox, Scott Park CPG

Project City / State / Zip: Wayland, Michigan 49348

Contact Name / Phone Number / Email Address: David Harn, EGLE, (517) 897-0881, harnd@michigan.gov

Project Description:

Key Elements: *Remedial Investigations | UVOST/LIF-MIP | Vapor Intrusion Investigations | ACM Inspection and Abatement | Bidding Specifications | Demolition | Dewatering | NPDES Permitting | Waste Characterization and Profiling | Source Removal | Excavation & Disposal | Trade Contractor Oversight*

DLZ was selected by the Michigan Department of Environment, Great Lakes and Energy (EGLE), under the Expanded Environmental Remediation (EER) Indefinite-Scope Indefinite-Delivery (ISID)) Contract, to provide professional services for a phased remedial investigation, asbestos and regulated waste assessment, feasibility study, design and specification preparation for source area removal, Trade Contractor procurement assistance, demolition and remediation oversight, verification of soil remediation (VSR) sampling, construction summary report preparation, and remedial investigation reports development at the former Wayland Recycling site, a former used oil recycling facility, in Wayland, Michigan.

After completion of the primary source removal phase of work, in 2021, and due to the large size of the project site and extensive contamination, DLZ conducted additional remedial investigations to assess the extent of residual non-aqueous phase liquids (NAPLs), and soil and groundwater contamination away from the primary source area, using ultraviolet optical screening tool/laser induced fluorescence (UVOST/LIF) and Membrane Interface Probe (MIP) techniques. The investigation also included confirmation soil borings using direct push and hollow-stem auger methods including vertical aquifer profile sampling and monitoring well installation and geophysical methods. Work also included indoor vapor intrusion Investigations: installation and monitoring of vapor pins and soil-gas wells at several residences and businesses off-site.

The MIP investigation covered over 20 acres urbanized area to delineate the chlorinated VOC contaminants in groundwater. MIP borings were advanced at a total of 22 locations. Each boring was advanced by a Geoprobe equipped with MIP which consists of a downhole membrane where volatile contaminants in soil diffuse across the membrane and partition into a stream of the carrier gas which sweeps to the MIP controller at the surface with detectors. The MIP controller consists of three detectors: a photoionization detector (PID), a flame ionization detector (FID), and a halogen specific detector (XSD). The probe utilized at the site is a combination membrane interface probe / hydraulic profiling tool (MiHpt) that can perform MIP, hydraulic profiling tool (HPT), and soil electrical conductivity (EC) measurements in one push. The MiHpt probe detects volatile contaminants with the MIP, measures soil electrical conductivity with a standard dipole array, and measures HPT injection pressure using a down-hole transducer. In post-processing the log data, hydraulic conductivity (K) and water table elevation are estimated, as well as preparing the graphical outputs of the log data.

The controller was switched to low level membrane interface probe (LLMIP) as the MIP detector didn't respond at the first boring location. Based on response of the detectors, the VOC contaminant levels were anticipated to be generally low in groundwater off-site. MIP data identified the groundwater plume to be much more extensive than previously estimated. Based on the MIP data, soil borings were advanced using a Geoprobe to collect soil and groundwater to delineate the plume.

A total of 7 UVOST/LIF profile borings were advanced to delineate the LNAPL adjacent to the former excavation perimeter where oils were observed seeping from the excavation walls. Each boring was advanced by a Geoprobe equipped with Dakota Technologies' UVOST/LIF apparatus. LIF is a technique that uses laser light to excite fluorescent molecules that exist in the NAPLs. A UVOST/LIF log showing the fluorescence signal versus depth, relative to the Reference Emitter (% RE) was produced for each boring. Waveforms on the plot can be used to identify LNAPL type (diesel, gasoline, kerosene, and motor oil). The data indicated the LNAPL was not extensive; however, the data indicated the potential presence of LNAPL under the adjacent apartment building. Monitoring wells were installed adjacent to the building based on the LIF data, and mobile LNAPL was identified in several wells. Bail down testing of LNAPL was performed in December 2021 and further LNAPL investigations and recovery measures are underway.

Project 2 Reference Information

Project Name: Michigan State Fairgrounds

Project Address: 1120 West State Fair Avenue

Key Personnel: Thomas Kaugher PG, Scott Park CPG, Dan McNeely, Bridget Smith, Dirk Anderson, AAI

Project City / State / Zip: Detroit, Michigan 48203

Contact Name / Phone Number / Email Address: Orza Robertson, DBRA, (313) 237-4636, orobertson@degc.org

Project Description:

Key Elements: *Ground Penetrating Radar (GPR) Survey | ASTM E 1527 Phase I/II ESA | BEA | State and Federal Regulatory Agency Requirements for RI/FS | Site Development Recommendations | ALTA/NSPS Survey*

DLZ was retained by the Detroit Brownfield Redevelopment Authority (DBRA) to conduct a Phase I Environmental Site Assessment (ESA), Phase II ESA, a Ground Penetrating Radar (GPR) Survey, and a Baseline Environmental Assessment (BEA) of 157 acres and associated 24 buildings at the former Michigan State Fairgrounds located in Detroit, Michigan. The Phase I ESA identified 14 recognized environmental conditions (RECs) that required further evaluation through soil sampling and/or groundwater sampling. The Phase II investigation involved the drilling and sampling of 121 soil borings in the areas of the identified RECs as well as to investigate areas where potential fill or debris may be located. **A detailed GPR survey was also completed on the entire 157 acres to identify any orphan underground storage tanks (USTs), delineation of fill material, utility locations and depths, old building foundations, and other anomalies that might be indicative of other RECs that may need investigation.** DLZ also completed a hazardous materials surveys of all 24 buildings to identify and quantify all asbestos containing materials (ACM) and other materials that would require removal and/or abatement prior to demolition of the buildings. DLZ is currently in the process of preparing a BEA based on the findings of the Phase II investigation that defines the site as a facility.

Project 3 Reference Information

Project Name: Cosmos/Zoobies, Lansing

Project Address: 1200 N. Larch Street

Key Personnel: Scott Park CPG, Robert Butler PE

Project City / State / Zip: Lansing, Michigan 48906

Contact Name / Phone Number / Email Address: Autumn Henney, EGLE, (517) 648-4003, henneya@michigan.gov

Project Description:

Key Elements: *| LUST RI, Laser Induced Fluorescence (LIF) | Conceptual Site Model | Vapor Intrusion Investigation | Monitoring Well Installation | Multiple Aquifer Monitoring*

The Cosmos/Zoobies site is a combined pizza restaurant and pub in Lansing's Old Town. Prior to the current development, the site was the location of a gasoline service station from 1927 to 1945 and again in the 1970's. DLZ was selected by EGLE to conduct a Remedial Investigation designed to evaluate risks related to the contamination in soil and groundwater, possible presence of mobile LNAPL, potential contaminant migration along utility corridors, and potential vapor migration/intrusion, all required that investigation and possible corrective actions be completed at the Site.

DLZ completed a Remedial Investigation (RI) in 2018 through 2020 consisting of an ultraviolet optical screening tool/laser induced fluorescence profile, soil borings, monitoring well installation, vapor point installation, soil sampling, groundwater sampling, and soil gas sampling. The primary goal of the RI was to delineate environmental impacts in various media and generate a conceptual site model.

Due to the historical presence of measurable "mobile" LNAPL, and due to a complex geology, the investigation included Laser Induced Fluorescence (LIF) technology to evaluate the vertical and horizontal extent of LNAPL originating from the source location, prior to the installation of compliance monitoring wells. Results confirmed the presence of gasoline source contamination extending vertically to multiple water bearing units, from an isolated perched layer downward to the primary aquifer. Due to the depth of contamination, vertical aquifer profiling was then completed to evaluate the extent of the dissolved plume.

The uppermost water bearing zone (14 to 20 feet bgs) appears to be perched, in which sands lying above a clay layer are saturated during some portions of the year and are dry in other portions of the year. The perched zone is not laterally extensive, as it is present in the central and northern portions of the site but was not present at some locations on the east and variably present on the west portions of the site. The deeper water bearing zone represents the water table, which is present at approximately 27 to 29 feet bgs.

The RI, completed in 2020, included the delineation of LNAPL and its migration, evaluation of contaminant mass in the source area, and a vapor intrusion assessment. Although LNAPL is present adjacent to the site building, the results of the vapor intrusion assessment has shown no vapor migration into the vacant site building and no exceedances of current applicable screening levels.

Project 4 Reference Information

Project Name: Detroit Brownfield Redevelopment Authority – Site 8

Project Address: St. Jean Street

Key Personnel: Thomas Kaugher PG, Scott Park CPG, Dan McNeely, Bridget Smith, Dirk Anderson AAI

Project City / State / Zip: Detroit, Michigan 48203

Contact Name / Phone Number / Email Address: Cleveland Dailey, (313) 237-4605, cdailey@degc.org

Project Description:

Key Elements: *Ground Penetrating Radar (GPR) Survey | ALTA Survey | Construction Inspection | Construction Observation Materials Testing | Environmental Due Diligence | Geotechnical Evaluation*



DLZ was retained by the Detroit Brownfield Redevelopment Authority (DBRA) to complete various due diligence assessments including a Phase I Environmental Site Assessment (ESA) and Phase II ESA across approximately 100 individual parcels over 20 acres. Baseline Environmental Assessments were then completed and filed by DLZ on behalf of DBRA to qualify them for liability protection associated with ownership of contaminated property. **DLZ also performed a limited subsurface survey**

using ground penetrating radar (GPR) and electromagnetic (EM) methods across the 20 acre site, to identify and document any potential anomalies and/or subsurface features that might be encountered during construction which could impact timely redevelopment of the site. Identified features/anomalies were subsequently investigated through supplemental Phase II ESAs and test-pitting to determine the subsurface characteristics at anomalous locations. DLZ's responsibilities also included pre-construction asbestos and hazardous material surveying of the site, a geotechnical investigation for a sound barrier wall, and ALTA survey.

Throughout 2019, DLZ oversaw removal and disposal of contaminated soil including an approximately 20-foot-tall berm at Site 8. A total of approximately 313,000 cubic yards of contaminated soil was direct loaded into gravel trains and hauled to an appropriately licensed disposal facility for disposal as non-hazardous waste. DLZ was responsible for ensuring soils removed from the site were properly characterized and tracked waste manifests for each load of contaminated soil removed. Soil removal operations were visually monitored in case of encountering potential asbestos-containing or other hazardous materials and were monitored for contaminants using a photo-ionization detector as well as through visual and olfactory observations. To replace the berm, a sound wall consisting of 10- to 20-foot precast concrete panels between 6 and 8 inches thick was installed. Additionally, a stormwater detention pond was created to manage runoff resulting from the additional impermeable surfaces of the proposed development.



Phase I/Phase II/Baseline Environmental Assessment

Project 1 Reference Information

Project Name: 14 Mile Transmission Loop Project

Project Address: 8 Mile and 14 Mile Roads, Novi Michigan

Key Personnel: Scott Park CPG, Bridget Smith, Natalie Dingedine, Michael Tuckey CPG, PhD, Mark Mattson, PE

Project City / State / Zip: Novi Michigan, 48203

Contact Name / Phone Number / Email Address: Mike McReynolds, PE (703) 340-1087, mmcreynolds@BrwnCald.com

Project Description:

Key Elements: Phase I/II Assessments | Ecological Assessments | Management Support Services | Field Services | Survey | Geotechnical Services | Design Services | Fast Track Design | Jurisdictional Authority Coordination | EGLE Permits | Landscape/Tree Restoration

The Great Lakes Water Authority (GLWA) is responsible for operating and maintaining five water treatment plants, one wastewater plant and associated water transmission and wastewater collection infrastructure serving 126 municipalities and nearly 4 million people in the metro-Detroit area. Prior to the development of this project, several major customers in the western part of the service area were served only by two single dead-end water transmission mains in 8 Mile and 14 Mile Roads. A recent break in one the mains left nearly 300,000 customers without safe water for almost a week. To avoid this issue in the future, GLWA proposed to develop a connecting water main to close this gap and provide a loop for system redundancy and reliability.

In early 2019 GLWA awarded this project to the Brown and Caldwell and DLZ team. As a principal member of this Team, DLZ provides:

- Design and Management Assistance.
- Ecological Services related to wetlands and endangered species.
- Phase I and Phase II Assessments / Hazardous Materials and Contamination Investigation.
- Topographical and Property Surveying Services.
- Geotechnical Services for the project
- Maintenance of Traffic Design
- Tree Restoration and Landscape Services
- Resident Project Representation

The overall project began with the design a short 24-inch transmission main in 14 Mile Road between M-5 and Novi Road to address a redundancy gap in this area. DLZ performed the topographical survey, geotechnical drilling and reporting, ecological services related to an EGLE Joint Permit Application, and a short Phase I Environmental Report. DLZ lead the efforts in

obtaining MOT permit approval by the Road Commission for Oakland County (RCOC) and is currently providing Resident Project Representation on this segment of water main.

Concurrent to this initial design work, a detailed route study was performed reviewing potential routes causing the least impact to the surrounding communities. **This detailed study included a multi-route Phase I Environmental Site Assessment (Phase I ESA) of over 10 miles of potential construction corridor, to evaluate potential environmental concerns which would dictate the most practical route for the project. After considering many factors, including results of the DLZs expedited Phase I ESA, the final route was established to generally follow I-275, Meadowbrook Road, 13 Mile Road, and M-5. Upon establishing the route for construction, DLZ proceeded with a Phase II ESA, including Direct Push soil sampling and well installation for groundwater investigations to evaluate all sites of potential environmental impacts.** As a result, DLZ assisted with recommendations and permitting relating to future soil removal and requirements for dewatering efforts.

For this larger project, DLZ performed the topographical survey, geotechnical drilling and reporting, ecological services related to wetland restoration and an EGLE Joint Permit Application. DLZ prepared MDOT and signal plans to support permitting with RCOC, Wayne County Department of Public Service, and MDOT, and developed tree restoration plans as a permit condition required by MDOT.

Project 2 Reference Information

Project Name: Stellantis (Formerly FCA) Mack Engine Plant Expansion

Project Address: Various Locations in Detroit, MI

Key Personnel: Thomas Kaugher PG, Scott Park CPG, Dan McNeely, Dirk Anderson, Robert Butler PE, Bridget Smith

Project City / State / Zip: Detroit, MI 48203

Contact Name / Phone Number / Email Address: Cleveland Dailey, (313) 237-4605, cdailey@degc.org

Project Description:

Key Elements: ASTM E 1527 Phase I ESA | Phase II ESA | Baseline Environmental Assessments (BEA) | ALTA Survey | Construction Inspection | Construction Observation | Materials Testing | Laboratory Testing | Environmental Due Diligence | Geotechnical

DLZ was retained by the Detroit Brownfield Redevelopment Authority (DBRA) as primary team member on this large manufacturing expansion that included over 140 parcels (residential and commercial) that included Phase I Environmental Site Assessments (ESAs), Phase II ESAs, and Baseline Environmental Assessments (BEAs). Within a one-year period, DLZ completed twenty-seven (27) Phase I Environmental Site Assessments, and eleven (11) Phase II Environmental Site

Assessments that included the drilling of over 450 soil borings with the collection of over 740 soil samples to investigate and characterize the subsurface soils. After parcel consolidation, DLZ prepared and submitted nine (9) Baseline Environmental Assessments and Due Care Plans.

Additionally, DLZ has provided services on this project that included:

- Provided oversight during the abatement and demolition of industrial and residential buildings to document the removal, handling, and disposal of all asbestos containing materials and other hazardous materials identified within the buildings as part of the hazardous materials surveys.
- Oversight for the removal and disposal of over 350,000 cubic yards of contaminated soils.
- Provided oversight of any identified underground storage tanks (USTs) and the collection of confirmation soil samples to confirm that the removal efforts satisfy the Michigan Department of Environment, Great Lakes, and Energy (EGLE) closure criteria.
- Completed additional GPR surveys once areas are cleared of debris piles, soil piles, berms, and buildings to look for areas of fill material or USTs.
- Completed additional follow-on Phase II investigation activities in areas that were not identified during the Phase I and Phase II ESAs that were found during soil removal activities.
- Completed Baseline Environmental Assessments (BEAs) of each site to confirm that the property is a “facility” so that the new owner or operator is not held liable for the cost of cleaning up the contamination caused by the previous owners.
- Provide Due Care Plans for each site to comply with the Due Care Obligations to prevent exacerbation of the existing contamination and exercise due care by undertaking response activity necessary to mitigate unacceptable exposure to hazardous substances, mitigate fire and explosions hazards due to hazardous substances, and allow for the intended use of the facility in a manner that protects the public health and safety.

Project 3 Reference Information

Project Name: Former Kalamazoo Creamery Site

Project Address: 201 West Kalamazoo Avenue, Room 104

Key Personnel: Sarat Bobba PE, Steven Winters, Dirk Anderson AAI

Project City / State / Zip: Kalamazoo, Michigan 49007

Contact Name / Phone Number / Email Address: Matt Hollander, (269) 388-4677,
matt@hollanderdevelopment.com

Project Description:

Key Elements: Phase I ESA | Phase II ESA | Baseline Environmental Assessment (BEA) | Vapor Encroachment Screening | Response Activity Plan | Brownfield Redevelopment, Act 381 Work Plan | Documentation of Due Care Compliance

DLZ was retained by the Kalamazoo County Land Bank and later the brownfield land developer Hollander Corporation to conduct Phase I and Phase II environmental site assessments (ESA). DLZ was also retained by Hollander to prepare a Baseline Environmental Assessment (BEA), and a Brownfield Redevelopment Plan and assist with due care obligations.

PHASE I ESA

In 2019, DLZ conducted a Phase I ESA following American Society for Testing and Materials (ASTM) E 1527 standards and the All Appropriate Inquiry Standards, 40 CFR Part 312, as well as Section 26(3)(h) of Part 201, Public Act 451. The Phase I ESA was also performed in compliance with Michigan State Housing Development Authority (MSHDA) requirements.

VAPOR ENCROACHMENT SCREENING

DLZ conducted a vapor encroachment screening (VES) of the project site in accordance with ASTM E2600 to identify a vapor encroachment condition (VEC), which is the presence or likely presence of the vapors of chemicals of concern (COCs) in the vadose zone of the property. The VES was conducted as part of the Phase I ESA non-scope consideration.

PHASE II ESA

DLZ conducted a Phase II ESA of impacted soil to assess the due care requirements of the proposed development at the project site includes a multiuse residential commercial structure. DLZ conducted limited soil sampling at several geotechnical borings on the project site to assess for potential vapor intrusion, due care issues, and to characterize for potential soil disposal necessary during construction.

RESPONSE ACTIVITY PLAN

DLZ prepared a Response Activity Plan (RAP) as required by Michigan State Housing Development Authority (MSHDA) and submitted to the Michigan Department of Environment, Great Lakes and Energy (EGLE) formerly MDEQ for review. An approval of the RAP was obtained from the MDEQ.

BASELINE ENVIRONMENTAL ASSESSMENT

In 2019 DLZ also prepared a BEA on behalf of the site developer to establish an exemption of liability for the new owner. The BEA was prepared within 45 days of the new entity took ownership of the property and submitted to the MDEQ/EGLE with all the required data.

BROWNFIELD REDEVELOPMENT PLAN (ACT 381 WORK PLAN)

DLZ worked closely with Hollander Development Corporation, as well as the Land Bank and City in development of the Act 381 Work Plan. The Act 381 Work Plan was prepared identifying the proposed project, eligible activities that will be undertaken to alleviate Brownfield conditions, associated costs and the time frame of the project. DLZ assisted in discussions with MSHDA prior to submission of an Act 381 Work Plan.

DOCUMENTATION OF DUE CARE COMPLIANCE

DLZ completed a Documentation of Due Care Compliance (DDCC) report upon completion of the property redevelopment and the implementation of response activities preventing unacceptable exposure. DLZ also prepared an operation, monitoring and maintenance manual which included necessary procedures and schedule to conduct necessary inspections and maintenance. The multi phase redevelopment project was completed in 2022 as the DDCC along with the form EQP4402 was submitted to EGLE and final approval was received by DLZ and the site Developer, Hollander Corporation.

Project 4 Reference Information

Project Name: Former Michigan State Fairgrounds

Project Address: 1120 West State Fair Avenue

Key Personnel: Thomas Kaugher PG, Scott Park CPG, Dan McNeely, Dirk Anderson AAI

Project City / State / Zip: Detroit, Michigan 48203

Contact Name / Phone Number / Email Address: Orza Robertson, DBRA, (313) 237-4636, orobertson@degc.org

Project Description:

Key Elements: ASTM E 1527 | Phase I ESA | Phase II ESA | Baseline Environmental Assessment (BEA) | State and Federal Regulatory Agency Requirements for RI/FS | Site Development Recommendations| ALTA/NSPS Survey

DLZ was retained by the Detroit Brownfield Redevelopment Authority (DBRA) conduct a Phase I Environmental Site Assessment (ESA), Phase II ESA, a Ground Penetrating Radar (GPR) Survey, and a Baseline Environmental Assessment (BEA) of 157 acres and associated 24 buildings at the former Michigan State Fairgrounds located in Detroit, Michigan. The Phase I ESA identified 14 recognized environmental conditions (RECs) that required further evaluation through soil sampling and/or groundwater sampling. The Phase II investigation involved the drilling and sampling of 121 soil borings in the areas of the identified RECs as well as to investigate areas where potential fill or debris may be located. A GPR survey was completed on all areas to identify potential fill areas or subsurface anomalies that may be indicative of an underground storage tanks (USTs) that were also investigated during the phase II investigation. DLZ also completed a hazardous materials surveys of all 24 buildings to identify and quantify all asbestos containing materials (ACM) and other materials that would require removal and/or abatement prior to demolition of the buildings. DLZ is currently in the process of preparing a BEA based on the findings of the Phase II investigation that defines the site as a facility.

Environmental/Rotosonic drilling/well abandonment

Project 1 Reference Information

Project Name: Cosmos/Zoobies, Lansing

Project Address: 1200 N. Larch Street

Key Personnel: Scott Park CPG, Robert Butler PE

Project City / State / Zip: Lansing, Michigan 48906

Contact Name / Phone Number / Email Address: Autumn Henney, EGLE, (517) 648-4003, henneya@michigan.gov

Project Description:

Key Elements: LUST RI, Monitoring Well Installation | Multiple Aquifer Monitoring | Contaminant Plume Delineation | Conceptual Site Model | Vapor Intrusion Investigation | Laser Induced Fluorescence (LIF) Investigation | Well Abandonment

The Cosmos/Zoobies site is a combined pizza restaurant and pub in Lansing's Old Town. Prior to the current development, the site was the location of a gasoline service station from 1927 to 1945 and again in the 1970's. DLZ was retained by EGLE to conduct a Remedial Investigation designed to evaluate risks related to the contamination in soil and groundwater, possible presence of mobile LNAPL, potential contaminant migration along utility corridors, and potential vapor migration/intrusion, all required that investigation and possible corrective actions be completed at the Site.

DLZ REMEDIAL INVESTIGATION AND QUARTERLY MONITORING

DLZ conducted a Remedial Investigation (RI) in 2018 through 2020 consisting of an ultraviolet optical screening tool/laser induced fluorescence profile, soil borings, monitoring well installation, vapor point installation, soil sampling, groundwater sampling, and soil gas sampling. The primary goal of the RI was to delineate environmental impacts in various media and generate a conceptual site model.

Due to the historical presence of measurable "mobile" LNAPL, and due to a complex geology, the investigation included Laser Induced Fluorescence (LIF) technology to evaluate the vertical and horizontal extent of LNAPL originating from the source location, prior to the installation of compliance monitoring wells. Results confirmed the presence of gasoline source contamination extending vertically, from an isolated perched layer downward to the primary aquifer. Due to the depth of contamination, vertical aquifer profiling was then completed to evaluate the extent of the dissolved plume.

The uppermost water bearing zone (14 to 20 feet bgs) appears to be perched, in which sands lying above a clay layer are saturated during some portions of the year and are dry in other portions of the year. The perched zone is not laterally extensive, as it is present in the central and northern portions of the site but was not present at some locations on the east and variably present on the west portions of the site. The deeper water bearing zone represents the water table, which is present at approximately 27 to 29 feet bgs.

The RI, completed in 2020, included the delineation of LNAPL and its migration, evaluation of contaminant mass in the source area, and a vapor intrusion assessment. Although LNAPL is present adjacent to the site building, the results of the vapor intrusion assessment has shown no vapor migration into the vacant site building and no exceedances of current applicable screening levels.

After completion of the successful multi-phased investigation, EGLE was able to complete an approved partial closure, and as a result all 21 monitoring wells on site were properly abandoned in 2022.

Project 2 Reference Information

Project Name: Paw Paw Laundry

Project Address: 711 East Michigan Avenue

Key Personnel: Sarat Bobba PE, Scott Park CPG, Mike Tuckey CPG, PhD, Danielle Wilcox

Project City / State / Zip: Paw Paw, Michigan 49079

Contact Name / Phone Number / Email Address: Pablo Mora, EGLE, (269) 910-0136, morap@michigan.gov

Project Description:

Key Elements: Remedial Investigations | Vertical Profile Borings | Monitoring Well Installation | Vapor Intrusion Investigations | ACM Inspection and Abatement | Bidding Specifications | Demolition | Dewatering | Source Removal | Excavation & Disposal | Trade Contractor Oversight

DLZ was selected by the Michigan Department of Environment, Great Lakes and Energy (EGLE), under the Expanded Environmental Remediation (EER) Indefinite-Scope Indefinite-Delivery (ISID) Contract, to provide professional services for remedial investigations, asbestos and universal waste assessment, feasibility study, design and specification preparation for source area removal, Trade Contractor procurement assistance, demolition and remediation oversight, verification of soil remediation (VSR) sampling, construction summary report preparation, and remedial investigation reports development at the Paw Paw Laundry (PPL) site, a former dry cleaning facility, in Paw Paw, Michigan.

Due to complexity and size of the groundwater contaminant plume, DLZ continues to conduct remedial investigations to assess the soil and groundwater contamination at the site using Membrane Interface Probe (MIP) and confirmation soil borings including vertical aquifer profile sampling and monitoring well installation using direct push methods. The groundwater contamination extended over 2,000 feet from the site in an urbanized area. Twenty-two direct push soil borings were advanced using Geoprobe to collect vertical profile groundwater samples to delineate the horizontal and vertical extent of the plume.

Twenty-six monitoring wells were installed along the center line of the plume for routine monitoring and to assist in the future pilot testing and remedial activities. The wells were installed using Geoprobe direct push tooling. The wells consisted of 2-inch diameter PVC casing and screens.

Investigations also included the installation and monitoring of vapor pins and soil-gas wells at several residences off-site within the groundwater plume.

Additional remedial investigations to delineate the off-site groundwater contamination and potential receptors including monitoring well installation and vertical aquifer profiling is on-going.

Project 3 Reference Information

Project Name: Former Sunshine Center Laundry

Project Address: 16795 Old U.S. 27, Lansing MI, 48906

Key Personnel: Mike Tuckey CPG, PhD, Scott Park CPG, Robert Butler PE

Project City / State / Zip: Lansing, Michigan 48917

Contact Name / Phone Number / Email Address: Autumn Henney, EGLE, (517) 648-4003, henneya@michigan.gov

Project Description:

Key Elements: Former Dry Cleaner Remedial Investigations | Vertical Profile Borings | Multi-aquifer Monitoring Well Installation and PCE Plume Delineation | Vapor Intrusion Investigations, Soil Gas Monitoring | Monitoring Well Abandonment

EGLE contracted with DLZ to perform a Vapor Intrusion Investigation Soil/Groundwater Remedial Investigation at the former Sunshine Center Drycleaner & Laundry, in Dewitt Township, Michigan. The site was formerly a drycleaning business, which was renovated for occupancy by a new Dewitt Twp. commercial business.

After receipt of a BEA completed by the property developer, which identified elevated concentrations of chlorinated solvents beneath the floor of the site building, DLZ was retained by EGLE to conduct both a vapor intrusion investigation and to delineate potential impacts to groundwater. Of imminent concern was the potential vapor intrusion (VI) risks to a residential mobile home park adjacent to the east and commercial businesses adjacent south.

To evaluate risks, DLZ performed a remedial investigation and a vapor intrusion investigation that involved advancement of soil borings, and installation of groundwater monitoring wells and soil gas wells. Vapor pins for sub-slab soil gas monitoring were also installed in the on-site building floor. Although no VI migration was identified beyond the property, the investigation did confirm the presence of tetrachloroethene (PCE) in soil, groundwater and soil gas beneath and adjacent to the site building. PCE was detected in soil at concentrations exceeding applicable screening levels for vapor intrusion and drinking water protection. PCE was detected in vapor pin samples collected inside the site building at concentrations exceeding soil gas screening levels. PCE impacted groundwater was also identified from 10 feet bgs to over 50 feet bgs in multiple water bearing units. Contaminant migration was found to be limited to the subject property.

DLZ worked with EGLE and the current owner who constructed a sub-slab vapor mitigation system to reduce potential vapor intrusion to comply with the owners Due Care obligations. After completion of the successful multi-phased investigation, EGLE was able to complete an approved partial closure, and as a result all monitoring wells on site were properly abandoned in 2022.

Environmental investigation/characterization/pilot tests/feasibility study

Project 1 Reference Information

Project Name: Sumpter Road Pilot Test – LUST Closure

Project Address: 19566 Sumpter Road

Key Personnel: Mike Tuckey CPG, PhD, Scott Park CPG

Project City / State / Zip: Belleville, Michigan 48112

Contact Name / Phone Number / Email Address: Beth Vens, (586) 753-3825, vensb@michigan.gov

Project Description:

Key Elements: Groundwater and vapor intrusion investigation | Pilot Test Remediation Design and Implementation | Design Cost Estimate | Bid Specifications | Contractor Procurement and Management Dewatering | Source Soil Removal | UST Removal



DLZ was contracted by the EGLE Remediation and Redevelopment Division (RRD), Warren District Office, to conduct consulting services associated with the interim response for source soil removal, and in-situ treatment associated with the 19566 Sumpter Site (site) located in Belleville, Michigan. **The project also included the oversight of abandoned underground storage tank removal as part of site corrective actions.**

The vacant site is a former gas station located on the northwest corner of Sumpter and Willis Roads in Belleville, Michigan. Limited available information indicates that underground storage tanks (USTs) and pumps were removed prior to 1975 and that the site operated as a party store from approximately 1987 to the mid-1990s. In 1993, two 1,000-gallon gasoline USTs, one 500-gallon gasoline UST, and one 500-gallon heating oil UST were discovered and removed.

The primary objective of the 2018 site activities was to reduce risk by removing as much impacted source soil as feasible. The soil was impacted with gasoline related volatile organic compounds

(VOCs) exceeding the Natural Resources and Environmental Protection Act Part 213 Risked Based Screening Levels (RBSLs).

Both soil and groundwater contamination were present on the site and data suggested that impacted groundwater was migrating off site, under Sumpter Road and/or Willis Road. Specifically, the highest concentrations of Volatile Organic Compounds (VOCs) in both soil and groundwater confirmed by DLZs investigation were within 15 feet of Sumpter Road and Willis Road respectively, at the southeast corner of the Site. Various petroleum constituents were detected at concentrations exceeding vapor intrusion screening levels and groundwater surface water interface criteria.



Based on investigation results and meetings with EGLE, it was recommended that **DLZ conducted an interim response pilot test, which involved excavation and removal of contaminated source area soils, excavation dewatering, and applying an oxygen release powder into the excavation to treat remaining contaminated soils and groundwater.** The primary objective of the site activities was to reduce risk by removing as much impacted source soil as feasible, without extending into the adjacent roadways. However, to remove source material, up to the County Roads, DLZ worked closely with Wayne County

Road Commission, providing the engineering design, which was approved and permitted.

DLZ began excavation activities for the pilot test on April 9, 2018 and the excavation was considered substantially complete on April 17, 2018.

During the excavation process, an underground storage tank (UST) was discovered. The abandoned UST (approximately 1000 gallons) contained approximately 300 gallons of water. DLZ collected a sample of the tank contents for waste characterization purposes and worked with the EGLE project manager to properly register the UST with the Michigan Department of Licensing and Regulatory Affairs (LARA). Following registration, the UST contents were emptied and properly disposed, and the tank was removed from the ground. The tank was ultimately crushed and transported off site for recycling.

A total of 392 tons of contaminated soil and 37,000 gallons of impacted groundwater were removed and disposed of off-site. A Calcium Peroxide powder (EOx) was applied to the backfill at and below the water table to a depth of approximately seven feet bgs. The excavation was backfilled using pea gravel, a geotextile, and clean fill sand. **Post excavation groundwater monitoring indicated that the soil removal/Oxygen amendment was very successful at increasing bio-attenuation, thereby reducing residual petroleum contamination on site. The project success, completed within the design budget, allowed EGLE to complete an Approved Partial Closure (APC).**

Project 2 Reference Information

Project Name: Paw Paw Plating

Project Address: 139 Commercial Street

Key Personnel: Sarat Bobba, PE, Scott Park CPG, Mike Tuckey CPG, PhD, Scott Lidgard PE, Danielle Wilcox

Project City / State / Zip: Paw Paw, Michigan 49079

Contact Name / Phone Number / Email Address: David Harn, EGLE, (517) 897-0881, harnd@michigan.gov

Project Description:

Key Elements: Remedial Investigations | Monitoring Well Installation | Vapor Intrusion Investigations and Mitigation | Anaerobic Bioremediation Implementation | Pilot Tests

DLZ was retained by the Michigan Department of Environment, Great Lakes and Energy (EGLE), under the Level of Effort (LOE) and Expanded Environmental Remediation (EER) Indefinite-Scope Indefinite-Delivery (ISID) Contracts, to provide professional services to conduct Remedial Investigations (RI), Feasibility Studies, Exposure Risk Mitigation, and Site Remediation at the Paw Paw Plating (PPP) site in Paw Paw, Michigan. PPP is one of the four distinct chlorinated solvent groundwater contaminant plumes at the Commercial Street Industrial Area (CSIA).

DLZ performed remedial investigations at the site to characterize the extent of chlorinated volatile organic compounds (VOCs) in the aquifer at a former industrial site. DLZ conducted an Enhanced Anaerobic Bioremediation (EAB) pilot test at the PPP site utilizing Regenesys 3D Microemulsion® (3DMe) technology to enhance reductive dechlorination of chlorinated VOCs. Injection of the 3DMe was accomplished using direct-push methods with targeted injection over an approximately 10-foot interval. The pilot test included weekly to monthly monitoring of water quality parameters, groundwater sampling, and monitoring of *Dehalococcoides* spp. using BioTraps.

Based on the results of the pilot study, DLZ conducted full-scale applications of the 3DMe and currently conducting long-term monitoring of the contaminant plume. The application of Chemical Reducing Solution (CRS) PlumeStop™ Collodial Biomatrix (PlumeStop), Hydrogen Release Compound® (HRC®) and Bio-Dechlor Inoculum Plus® (BDI Plus®) was conducted by DLZ. **In May 2018, DLZ implemented an additional Pilot Testing program using the application of 3DME and BDI Plus to target hotspots.**

Continued monitoring has shown that the in-situ remediation technologies used have enhanced the anaerobic degradation of CVOCs at the site with over 90% reduction of the chlorinated contaminants.

Further remedial investigations and mitigation measures are underway due to the recent discovery of per- and polyfluoroalkyl substances (PFAS) at the site.

Project 3 Reference Information

Project Name: Wessel Road Quarry

Project Address: Wessel Road

Key Personnel: Mike Tuckey CPG, PhD, Scott Lidgard PE

Project City / State / Zip: Alpena, Michigan 49707

Contact Name / Phone Number / Email Address: Janice Adams, EGLE, (989) 705-3434, adamsj1@michigan.gov

Project Description:

Key Elements: Pilot test | Permeable Reactive Barrier | Permeable Reactive Barrier | Groundwater Remediation | Cement kiln dust (CKD)



Complexity of Project - The Wessel Road Quarry is an abandoned limestone quarry in Alpena Michigan, that was closed in 1989 under the Michigan Mine Reclamation Act. The open quarry was ultimately filled with cement kiln dust (CKD) and mine overburden, in addition to groundwater which infiltrated the quarry. In May 2000, elevated pH levels, up to 13.0 standard units, as well as arsenic, mercury and selenium were found at very high concentrations venting into the

adjacent Newton Creek. These high metals can biomagnify causing long term negative effects to surface water biology. The concentrations which exceeded EGLE criteria made the quarry a “facility” under Public Act 451, Part 201.

Results of the hydrogeologic investigation completed by DLZ indicated that groundwater impacted with high levels of both arsenic and mercury, was leaching from the CKD in the quarry, and was flowing into Newton Creek, and then into Lake Huron. To help resolve this ongoing ecological dilemma, DLZ teamed with Dr. Daniel Cassidy of Western Michigan University and Perivallon, Inc. to conduct batch and column treatability tests to evaluate remedial amendments for reducing the metal impacts to surface waters. Based on results of the treatability study a permeable reactive barrier (PRB) consisting of a permeable mixture of iron sulfide and sand was selected as the remedial method to remove heavy metals from groundwater.

In 2018, DLZ teamed with Professor Dan Cassidy, Orin Technologies and EGLE on Phase II of the Pilot study. This included the installation of a 120-foot-long Permeable Reactive Barrier (PRB) composed of iron sulfide and sand to intercept and remediate heavy metals in groundwater prior to reaching the sensitive surface waters of Newton Creek, and Lake Huron. Groundwater monitoring, performed over a 3-year period, confirmed the successful reductions in mercury concentrations of over 90% and reductions in arsenic concentrations of 70 to 90% in monitoring wells downgradient of the PRB, when compared with the baseline concentrations.

Based on the success of the Pilot Study, the EGLE project manager contacted DLZ in January 2022 to begin plans for a possible full-scale treatment at the site for long term groundwater/ surface water treatment and possible stream restoration efforts.

Teamwork

The Wessel Road Quarry project was a great example of combining four interested entities into one successful team:

Consultant – Team Leader – DLZ

Regulatory – (EGLE)

Academia – WMU, Dan Cassidy, PhD

Environmental Remediation Contractor – Orin Technologies

Future PR Value

The Wessel Road Quarry project is a great example of DLZ's ability to build a collaborative team and work alongside academic institutions and regulatory agencies to identify a problem and reach a scientific solution to reduce contamination and benefit the sensitive habitats of the Great Lakes.

Project 4 Reference Information

Project Name: Former Action Auto

Project Address: South end of Downtown Holt, Michigan

Key Personnel: Scott Park CPG, Robert Butler PE, Sarat Bobba PE

Project City / State / Zip: Holt, Michigan

Contact Name / Phone Number / Email Address: Autumn Henney, EGLE, (517) 284-5125, henneya@michigan.gov

Project Description:

Key Elements: *LUST RI | Conceptual Site Model | Vapor Intrusion Investigation | Multiphase Extraction of LNAPL (Free Product), Feasibility Study, Treatment System Evaluation and Pilot Testing*

DLZ was selected by the EGLE under the EER ISID contract to complete a Remedial Investigation/Feasibility Study (RIFS) evaluating exposure risks including vapor intrusion resulting from both residual and mobile LNAPL under the Former Action Auto property and extending under the adjacent roadway. The site is located on the south end of downtown Holt, Michigan and borders residential neighborhoods to the east and west. This site represents one of the most highly impacted petroleum LUST sites in Ingham County.

Due to the historical presence of measurable “mobile” LNAPL, DLZ oversaw the installation of a temporary Multi-Phase Extraction (MPE) system at the site in July 2020 for completion of a six-month duration pilot test. The temporary system was connected to recovery wells installed in the late 1990s. The goals of the pilot test were to determine if MPE could be a viable remedial strategy for the site, and to evaluate if the existing recovery well network could be utilized. Based on the pilot test results, DLZ determined that MPE was a viable remedial strategy, but the existing recovery well network was not usable for a full-scale implementation. In October 2022, DLZ conducted an additional pilot testing **to collect data required to calculate hydraulic and pneumatic radii-of-influence.** DLZ completed a full-scale MPE system design and bid package in 2022. DLZ anticipates that the full-scale MPE system will be installed in spring 2023.

Project 5 Reference Information

Project Name: Oakland CSO, Groundwater Modeling – Lusher Street Superfund

Project Address: Oakland Avenue

Key Personnel: Scott Park CPG, Sarat Bobba PE, Michael Tuckey CPG, PhD

Project City / State / Zip: Elkhart Indiana

Contact Name / Phone Number / Email Address: Tory Irwin, City Engineer, (574) 293-2572
tory.irwin@coei.org

Project Description:

Key Elements: *Contaminant Transport GW Modeling | Particle Tracking | Hydrogeology | GW Contaminant Treatment Design*

The United States Environmental Protection Agency (USEPA) Combined Sewer Overflow Control Policy was issued in 1994 and required communities to create Long Term Control Plans (LTCP) to mitigate combined sewer overflow (CSO) discharge to surface waters.

The Oakland Avenue CSO Control Measure, in Elkhart Indiana will reduce the first and second highest overflow volume locations in the City’s combined sewer system. However, the CSO project will

require the construction of an approximate 1.4 million-gallon CSO storage tank (anticipated to be constructed below ground) necessary to store overflows during periods of increased precipitation.

The below grade construction would extend up to 19 feet below existing groundwater (estimated 34-foot construction depth below grade). Therefore, it would necessitate continued dewatering for up to one year during its construction.

PROJECT CHALLENGE - LUSHER STREET SUPERFUND SITE - GROUNDWATER MODELING AND EVALUATION

The chosen location for the proposed CSO storage tank is at the approximate eastern boundary of the Lusher Street Superfund Site groundwater contaminant plume. The groundwater plume contains volatile organic compounds (VOCs) primarily comprised of chlorinated VOCs including trichloroethene (TCE). Therefore, an in-depth evaluation including groundwater modeling was necessary to:

- 1) Evaluate the necessary pumping rate to effectively dewater the construction excavation to 19 feet below the existing water table for up to one year and,
- 2) Evaluate the influence the pumping will have on the adjacent Superfund contaminant plume.

To address this challenge, DLZ completed groundwater modeling to simulate the locations and pumping rates of dewatering wells which would be installed to dewater the proposed CSO tank excavation. The groundwater modeling also estimated the capture zone of the proposed dewatering wells to evaluate the potential for contaminated groundwater from the Lusher Street Superfund site to be captured during the dewatering process. The model used was Visual Modflow 4.0.

Dewatering Well Configurations and Pumping Rates

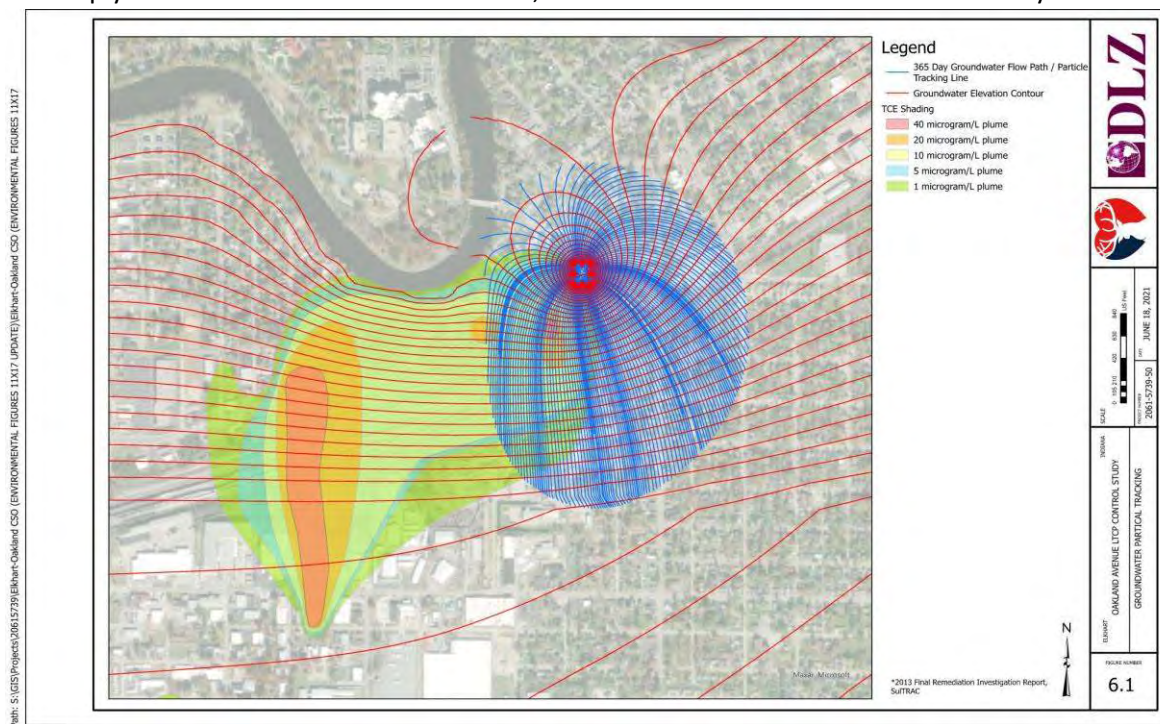
DLZ modeled a dewatering scenario consisting of eight dewatering wells located around the edge of the proposed CSO tank excavation. A total flow rate of 840 gpm would dewater the excavation to approximately three feet below the anticipated depth of the CSO tank.

To evaluate the influence on the Superfund plume, groundwater modeling particle tracking was also performed to estimate the capture zone that would be generated during the dewatering process. The particle tracking plot for a 365 day travel time indicates that the eastern portion of the Lusher Street VOC plume would be affected by the dewatering wells. However, based on the proposed location of the CSO tank, the pathlines indicate that the plume will not be displaced into uncontaminated areas by the dewatering. However, It was confirmed that that the dewatering process may cause contaminants within the geographic footprint of the Lusher Street VOC plume to be drawn toward the dewatering wells.

The groundwater model zone budget was used to estimate flow from the portion of the VOC plume captured by the dewatering wells. The total flow from the VOC plume represents approximately 36%

of the total flow into the dewatering wells resulting in an influent concentration of approximately 5.8 ug/L TCE requiring treatment and disposal.

In order to comply with the schedule in the consent decree, the City is committed to moving forward on the project. The City plans to start design by the end of 2021 and start construction in 2023, and to comply with the consent decree schedule, the CSO tank is scheduled to be on-line by 2028.



Underground/aboveground storage tank removal/demolition/soil excavation

Project 1 Reference Information

Project Name: Sumpter Road Property

Project Address: 19566 Sumpter Road

Key Personnel: Mike Tuckey CPG, PhD, Scott Park CPG

Project City / State / Zip: Belleville, Michigan 48112

Contact Name / Phone Number / Email Address: Beth Vens (586) 753-3825, vensb@michigan.gov

Project Description:

Key Elements: *Groundwater and vapor intrusion investigation | Remediation Design | Design Cost Estimate | Bid Specifications | Contractor Procurement and Management Dewatering | **Source Soil Removal** | **UST Removal***

DLZ was contracted by the EGLE Remediation and Redevelopment Division (RRD), Warren District Office, to conduct consulting services associated with the interim response for source soil removal, and in-situ treatment associated with the 19566 Sumpter Site (site) located in Belleville, Michigan. **The project also included the oversight of abandoned underground storage tank removal as part of site corrective actions.**

The vacant site is a former gas station located on the northwest corner of Sumpter and Willis Roads in Belleville, Michigan. Limited available information indicates that underground storage tanks (USTs) and pumps were removed prior to 1975 and that the site operated as a party store from approximately 1987 to the mid-1990s. In 1993, two 1,000-gallon gasoline USTs, one 500-gallon gasoline UST, and one 500-gallon heating oil UST were discovered and removed.

The primary objective of the 2018 site activities was to reduce risk by removing as much impacted source soil as feasible. The soil was impacted with gasoline related volatile organic compounds (VOCs) exceeding the Natural Resources and Environmental Protection Act Part 213 Risked Based Screening Levels (RBSLs).

Both soil and groundwater contamination were present on the site and data suggested that impacted groundwater was migrating off site, under Sumpter Road and/or Willis Road. Specifically, the highest concentrations of Volatile Organic Compounds (VOCs) in both soil and groundwater confirmed by DLZs investigation were within 15 feet of Sumpter Road and Willis Road respectively, at the southeast corner of the Site. Various petroleum constituents were detected at concentrations exceeding vapor intrusion screening levels and groundwater surface water interface criteria.

Based on investigation results and meetings with EGLE, it was recommended that DLZ conduct an interim response pilot test, which involved excavation and removal of contaminated source area soils, excavation dewatering, and applying an oxygen release powder into the excavation to treat remaining contaminated soils and groundwater. The primary objective of the site activities was to reduce risk by removing as much impacted source soil as feasible, without extending into the adjacent roadways. However, to remove source material, up to the County Roads, DLZ worked closely with Wayne County Road Commission, providing the engineering design, which was approved and permitted.

DLZ began excavation activities for the pilot test on April 9, 2018 and the excavation was considered substantially complete on April 17, 2018.

During the excavation process, an underground storage tank (UST) was discovered. The abandoned UST (approximately 1000 gallons) contained approximately 300 gallons of water. DLZ collected a sample of the tank contents for waste characterization purposes and worked with the EGLE project manager to properly register the UST with the Michigan Department of Licensing and Regulatory Affairs (LARA). Following registration, the UST contents were emptied and properly

disposed, and the tank was removed from the ground. The tank was ultimately crushed and transported off site for recycling.

A total of 392 tons of contaminated soil and 37,000 gallons of impacted groundwater were removed and disposed of off-site. A Calcium Peroxide powder (EOx) was applied to the backfill at and below the water table to a depth of approximately seven feet bgs. The excavation was backfilled using pea gravel, a geotextile, and clean fill sand. **Post excavation groundwater monitoring indicated that the soil removal/Oxygen amendment was very successful at increasing bio-attenuation, thereby reducing residual petroleum contamination on site. The project success, completed within the design budget, allowed EGLE to complete an Approved Partial Closure (APC).**

Project 2 Reference Information

Project Name: Matthews Service

Project Address: 7350 M-71

Key Personnel: Scott Park CPG, Robert Butler PE

Project City / State / Zip: Vernon Michigan, 48892

Contact Name / Phone Number / Email Address: Autumn Henney, EGLE, (517) 284-5125, henneya@michigan.gov

Project Description:

Key Elements: Groundwater and vapor intrusion investigation | Remediation Design | Design Cost Estimate | Bid Specifications | Contractor Procurement and Management | Source Soil Excavation | UST Removal | Asbestos and Regulate Waste Survey | Building Demolition Oversight

DLZ was selected by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) to perform a soil, groundwater, and vapor intrusion investigation and **manage subsequent source soil removal, UST removal** and building demolition activities at the location of a former gasoline station, which was converted for residential use. Historic releases of petroleum resulted in soil and groundwater contamination which extended around and underneath the residence and posed a potential vapor inhalation exposure risk for the residents of the property. DLZ completed a remedial investigation (RI) which included collection of soil, groundwater, soil vapor, and indoor air samples to delineate the extent of contamination and evaluate potential indoor air exposure hazards for the residents of the property. DLZ completed a feasibility study to evaluate remedial options and selected demolition of the residence and excavation of the contaminated soil under and around the residence as the most feasible method of remediation.

DLZ prepared the design and bid specifications for the abatement of all asbestos containing materials, the removal of all hazardous materials, the demolition of the building, removal of contaminated soil, backfill and compaction of sand, and the restoration of the site with topsoil and seed. DLZ reviewed all bids on behalf of EGLE and made the recommendation for award to the selected contractor. DLZ also obtained a permit from the Michigan Department of Transportation for excavation into the M-71 right-of-way.



In late November of 2020 through early January 2021, DLZ provided project oversight for the abatement and disposal of all asbestos containing materials, the removal of all hazardous materials, **building demolition and the removal of 5,090 tons of impacted soil. During the excavation process, a previously unknown and unregistered underground storage tank (UST) was discovered during excavation activities.** The tank contained approximately 200 to 250 gallons of oil and approximately 250 to 300 gallons of water. DLZ

collected a sample of the tank contents for waste characterization purposes and worked with the EGLE project manager to properly register the UST with the Michigan Department of Licensing and Regulatory Affairs (LARA). Following registration, the UST contents were emptied and properly disposed, and the tank was removed from the ground. The tank was ultimately crushed and transported off site for recycling.

Following the removal of the soil, DLZ collected 33 verification soil samples from the excavation for lab analysis; of which 20 were collected from sidewalls and 13 were collected from the excavation floor. All samples were analyzed for volatile organic compounds (VOCs). Excavation sidewall samples and floor samples corresponding with the location of the UST were also analyzed for waste oil parameters (polynuclear aromatic hydrocarbons, cadmium, chromium, and lead). Following completion of all excavation activities, DLZ installed five monitoring wells to replace wells destroyed during excavation activities and one new monitoring to delineate the site to the northwest. **Initial results of post excavation monitoring shows a 99% reduction in petroleum contamination, indicating that exposure risks have been eliminated. The response actions were successfully completed within the design cost estimate generated by DLZ and provided to EGLE.**



Project 3 Reference Information

Project Name: Connors Creek Power Plant

Project Address: 200 Lyncaste Street and 11860 Freud Street

Key Personnel: Thomas Kaugher PG, Scott Park CPG, Dan McNeely, Dirk Anderson AAI

Project City / State / Zip: Detroit, MI 48203

Contact Name / Phone Number / Email Address: Cleveland Dailey, (313) 237-4605, cdailey@degc.org

Project Description:

Key Elements: *Environmental due diligence (Phase I and Phase II ESAs, asbestos, hazardous material and universal waste surveys) | Removal and disposal of 6,500-gal Underground Storage Tank (UST) and associated piping | Removal of PCB-impacted building materials, fuels and sludge | Building demolition oversight | Contaminated soil excavation oversight | Temporary wastewater treatment system including discharge permitting and compliance sampling*



DLZ was retained by the Detroit Brownfield Redevelopment Authority (DBRA) and Detroit Economic Growth Corporation (DEGC) to provide environmental due diligence and construction management services during redevelopment of the former Connors Creek Power Plant (CCPP) located at 200 Lyncaste Street and 11860 Freud Street in Detroit, Michigan.

DLZ performed Phase I and II ESAs across eight parcels covering over 75 acres. DLZ also performed sitewide surface and near-surface soil characterization for future disposal, and supplemental soil sampling beneath a 90-year-old former machine and carpenter shop to evaluate for PCB impacts. DLZ completed pre-demolition building characterization and performed hazardous materials abatement oversight including removal of asbestos containing materials, PCB-impacted debris, concrete, fuel, and sludge. DLZ then performed oversight during demolition of the carpenter shop and removal of an approximately 6,500-gallon underground storage tank (UST) adjacent the

carpenter shop. Soil was sampled in the vicinity of the UST in accordance with the Michigan Department of Environmental Quality (MDEQ), now Michigan Department of Environment, Great Lakes, and Energy (EGLE) Sampling Strategies and Statistics Training Materials (S3TM) and in accordance with Part 201 requirements. Building demolition and UST removal was successfully completed working in close proximity to live high-voltage power lines which were constructed atop the site after installation of the UST. **Additional precautions were also necessary for UST removal due to the proximity of the carpenter shop to the UST. Removal of the UST could undermine and thereby jeopardize the foundational integrity of the carpenter shop. Therefore, the building was removed while protecting the UST and its fill and vent piping, with the UST removed once the building had been demolished to a slab. The UST was placed within a bermed area atop the concrete pad and evaluated, cleaned, and containerized for disposal.**

DLZ also oversaw removal of 209,000 tons of contaminated soil at the site to facilitate construction of onsite stormwater infrastructure. Soil was direct loaded into gravel trains and hauled to an appropriately licensed disposal facility for disposal as non-hazardous waste. DLZ was responsible for ensuring soils removed from the site were properly characterized and tracked waste manifests for each load of contaminated soil removed. Soil removal operations were visually monitored in case of encountering potential asbestos-containing or other hazardous materials and were monitored for contaminants using photo-ionization detectors as well as through visual and olfactory observations. DLZ provided a temporary wastewater treatment system and performed permitting and compliance sampling during construction, which facilitated off-site discharge of over 1.5 million gallons of treated water throughout the course of the project. DLZ also sampled offsite sources of imported sand and clay and sampled onsite clay for reuse. DLZ participated in daily health and safety meetings and provided project management assistance related to environmental and quality affairs on an as-needed basis throughout the course of the project (2018-2020).

Project 4 Reference Information

Project Name: Former Bell Oak Grocery

Project Address: 5123 Bell Oak Road

Key Personnel: Scott Park CPG, Thomas Kaugher PG, Robert Butler PE, Dirk Anderson AAI, Danielle Wilcox

Project City / State / Zip: Webberville, Michigan 48892

Contact Name / Phone Number / Email Address: Jaclyn Merchant, EGLE, (517) 702-6000, merchantj1@michigan.gov

Project Description:

Key Elements: LUST Remedial Investigation | Conceptual Site Model | Vapor Intrusion | Bid Specifications | Asbestos Abatement and Hazardous Material Removal | **Building Demolition Oversight and Source Soil Excavation**



Based on the results of the remedial investigation, DLZ recommended that the building be demolished as impacted soils were remaining under the building. DLZ prepared bid specifications for the abatement of all asbestos containing materials, the removal of all hazardous materials, the demolition of the building, removal of contaminated soil, backfill and compaction of sand, and the restoration of the site with topsoil and seed. DLZ reviewed all bids on behalf of EGLE and made the

recommendation for award to the selected contractor.

In October and November of 2020, DLZ provided project oversight for the abatement and disposal of all asbestos containing materials, the removal of all hazardous materials, building demolition and the removal of 538 tons of impacted soil. Following the removal of the soil, DLZ collected 12 verification soil samples from the excavation for lab analysis; of which 9 were collected from sidewalls and 3 were collected from the excavation floor. All samples were analyzed for VOCs, polynuclear aromatic hydrocarbons (PNAs), gasoline range organics (GRO), and total lead. For post closure monitoring, DLZ installed four additional monitoring wells in and around the excavation area for the collection of four quarters of groundwater samples to verify the remedial action completed at the site and is still on-going.

Remediation systems design/construction oversight/O&M/decommissioning

Project 1 Reference Information

Project Name: Production Rubber Products

Project Address: 153 Commercial Street

Key Personnel: Sarat Bobba PE, Scott Park CPG, Scott Lidgard PE, Danielle Wilcox

Project City / State / Zip: Paw Paw, Michigan 49079

Contact Name / Phone Number / Email Address: David Harn, EGLE, (517) 897-0881, harnd@michigan.gov

Project Description:

Key Elements: Remedial Investigations | Vapor Intrusion Investigations | Pilot Testing | Soil Vapor Extraction System Design | System Installation and Operational Oversight | Anaerobic Bioremediation Implementation

DLZ was retained by the Michigan Department of Environment, Great Lakes and Energy (EGLE), under the Expanded Environmental Remediation (EER) Indefinite-Scope Indefinite-Delivery (ISID) Contract, to provide professional services at the Production Rubber Products (PRP) site in Paw Paw, Michigan. PRP is one of the four distinct chlorinated solvent groundwater contaminant plumes at the Commercial Street Industrial Area (CSIA).

DLZ conducted remedial investigations to delineate the soil and groundwater contamination, conducted pilot testing and designed a Soil Vapor Extraction (SVE) system to remediate the contaminated soils and mitigate sub-slab contaminant vapor accumulation. DLZ prepared specifications and assisted with Trade Contractor (TC) procurement, and oversaw the TC's system installation activities. The SVE system was installed with a total of twelve SVE wells connected to five banks / headers that are combined into one extraction manifold inside the SVE trailer. The trailer-mounted SVE system consists of an air/water separator, vacuum blower and heat exchanger. Extracted air flows through two 1,000-pound vapor-phase granular activated carbon units, and the treated air is discharged through a 20-foot exhaust stack. The system is currently in operation, and DLZ performs the oversight of TC during the system operation and maintenance.

DLZ conducted a pilot test with the injection of 3-D Microemulsion (3DMe) to enhance the anaerobic bioremediation of chlorinated contaminants in groundwater. Based long-term monitoring of the contaminant plume, DLZ conducted the injection of 3DMe and sulfidated colloidal micro zero valent iron (S-MZVI) to target the hot spots in 2020. Continued monitoring has shown that the in-situ remediation technologies used have enhanced the anaerobic degradation of CVOCs at the site with significant reduction of the chlorinated contaminant plume.

Project 2 Reference Information

Project Name: Former Action Auto

Project Address: 1943 Cedar Street

Key Personnel: Scott Park CPG, Sarat Bobba PE, Robert Butler PE

Project City / State / Zip: Holt, Michigan 48842

Contact Name / Phone Number / Email Address: Autumn Henney, EGLE, (517) 284-5125, henneya@michigan.gov

Project Description:

Key Elements: LUST RI, Conceptual Site Model | Vapor Intrusion Investigation | Multiphase Extraction of LNAPL (Free Product) | Treatment System Evaluation and Pilot Testing

DLZ was retained by the EGLE under the EER ISID contract to complete a Remedial Investigation/ Feasibility Study (RIFS) evaluating exposure risks including vapor intrusion resulting from both residual and mobile LNAPL under the Former Action Auto property and extending under the adjacent roadway. The site is located on the south end of downtown Holt, Michigan and borders residential neighborhoods to the east and west.

Due to the historical presence of measurable “mobile” LNAPL, DLZ oversaw the installation of a temporary Multi-Phase Extraction (MPE) system at the site in July 2020 for completion of a six-month duration pilot test. The temporary system was connected to recovery wells installed in the late 1990s. The goals of the pilot test were to determine if MPE could be a viable remedial strategy for the site, and to determine if the existing recovery well network could be utilized. The temporary MPE system was removed from the site in early 2021. Based on the pilot test results, DLZ determined that MPE was a viable remedial strategy, but the existing recovery well network was not usable for a full-scale implementation. In October 2022, DLZ conducted an additional one-day pilot test at a newly installed extraction well to collect data required to calculate hydraulic and pneumatic radii-of-influence. DLZ completed a full-scale MPE system design and bid package in 2022. DLZ anticipates that the full-scale MPE system will be installed in spring 2023.

Project 3 Reference Information

Project Name: Millies Market

Project Address: 153 Main Street

Key Personnel: Scott Park CPG, Robert Butler PE, Mike Tuckey CPG, PhD, Sarat Bobba PE

Project City / State / Zip: Gregory, Michigan

Contact Name / Phone Number / Email Address: Rebecca Taylor, EGLE, (517) 284-5085, taylorr@michigan.gov

Project Description:

Key Elements: Conceptual Site Model | Low Flow Biosparge – In-situ Aerobic Bioremediation | Vapor Intrusion Investigation

The former Millies Market site is a LUST site in Gregory Michigan with former LNAPL and a contaminant plume that parallels Main Street and is present beneath commercial buildings on both sides of the street. In 2015, DLZ was retained by EGLE to provide oversight of ongoing groundwater remediation, including the monitoring of the effectiveness of system operation, and conducting vapor intrusion investigations. **Ongoing groundwater treatment of the glacial aquifer through 2022 includes the use of nutrient enhanced low flow biosparging to aid in the bio- attenuation of gasoline related groundwater impacts adjacent to and beneath commercial buildings while reducing effects of volatilization.** Due to the risk of volatilization from the biosparge operation, DLZ

conducted weekly indoor VI monitoring and quarterly subslab VI sampling from 2016 through 2018. In addition, DLZ continues to conduct semiannual indoor air monitoring using 8 hr and 24 hr Suma canisters in highest risk areas to confirm lack of vapor migration, and unacceptable human exposure. Results have shown that the biosparge system has successfully reduced VOC concentrations beneath the downtown business, and Main Street in Gregory up to 90%, and demonstrate that the vapor migration has been mitigated, even during biosparge operation. DLZ continues to monitor the progress of the low flow biosparge system, and conducts post quarterly groundwater and VI monitoring at the site.

Project 4 Reference Information

Project Name: Oakland CSO, Groundwater Modeling – Lusher Street Superfund

Project Address: Oakland Avenue

Key Personnel: Scott Park CPG, Sarat Bobba PE, Michael Tuckey CPG, PhD

Project City / State / Zip: Elkhart Indiana

Contact Name / Phone Number / Email Address: Tory Irwin, City Engineer, (574) 293-2572
tory.irwin@coei.org

Project Description:

Key Elements: Contaminant Transport GW Modeling | Particle Tracking | Hydrogeology | GW Contaminant Treatment Design

The United States Environmental Protection Agency (USEPA) Combined Sewer Overflow Control Policy was issued in 1994 and required communities to create Long Term Control Plans (LTCP) to mitigate combined sewer overflow (CSO) discharge to surface waters.

The Oakland Avenue CSO Control Measure, in Elkhart Indiana will reduce the first and second highest overflow volume locations in the City's combined sewer system. However, the CSO project will require the construction of an approximate 1.4 million-gallon CSO storage tank (anticipated to be constructed below ground) necessary to store overflows during periods of increased precipitation.

The below grade construction would extend up to 19 feet below existing groundwater (estimated 34-foot construction depth below grade). Therefore, it would necessitate continued dewatering for up to one year during its construction.

PROJECT CHALLENGE - LUSHER STREET SUPERFUND SITE - GROUNDWATER MODELING AND EVALUATION

The chosen location for the proposed CSO storage tank is at the approximate eastern boundary of the Lusher Street Superfund Site groundwater contaminant plume. The groundwater plume contains volatile organic compounds (VOCs) primarily comprised of chlorinated VOCs including trichloroethene (TCE). Therefore, an in-depth evaluation including groundwater modeling was necessary to:

- 1) Evaluate the necessary pumping rate to effectively dewater the construction excavation to 19 feet below the existing water table for up to one year and,
- 2) Evaluate the influence the pumping will have on the adjacent Superfund contaminant plume.

To address this challenge, DLZ completed groundwater modeling to simulate the locations and pumping rates of dewatering wells which would be installed to dewater the proposed CSO tank excavation. The groundwater modeling also estimated the capture zone of the proposed dewatering wells to evaluate the potential for contaminated groundwater from the Lusher Street Superfund site to be captured during the dewatering process. The model used was Visual Modflow 4.0.

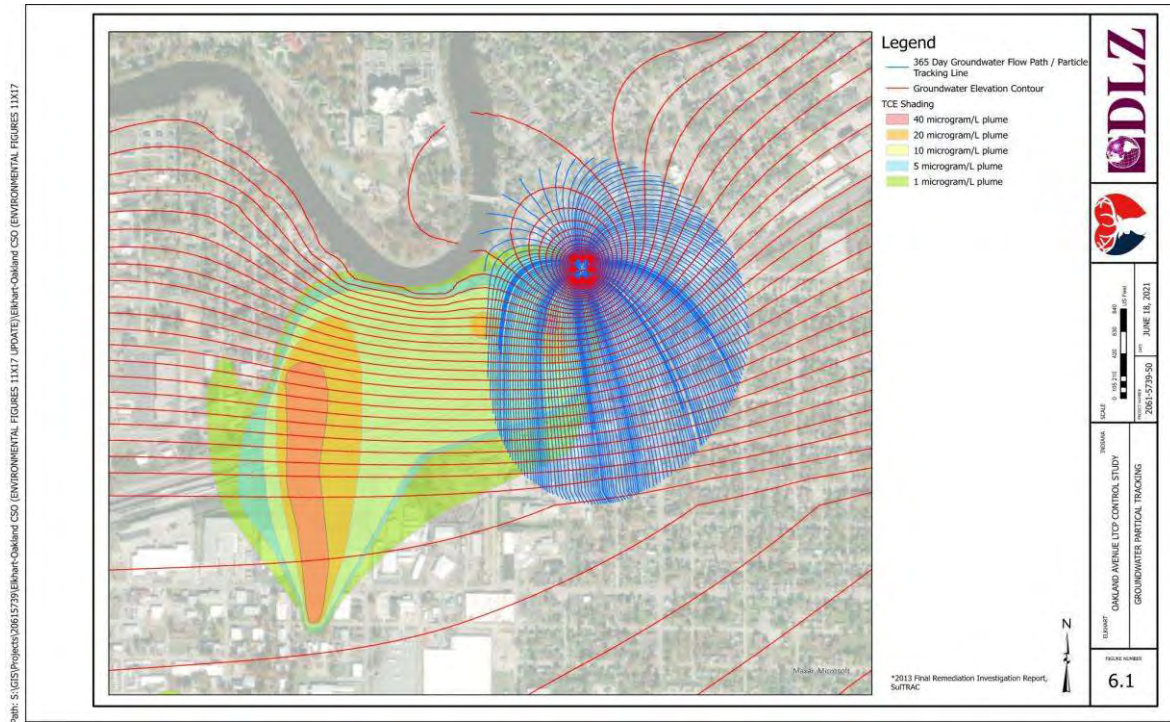
Dewatering Well Configurations and Pumping Rates

DLZ modeled a dewatering scenario consisting of eight dewatering wells located around the edge of the proposed CSO tank excavation. A total flow rate of 840 gpm would dewater the excavation to approximately three feet below the anticipated depth of the CSO tank.

To evaluate the influence on the Superfund plume, groundwater modeling particle tracking was also performed to estimate the capture zone that would be generated during the dewatering process. The particle tracking plot for a 365 day travel time indicates that the eastern portion of the Lusher Street VOC plume would be affected by the dewatering wells. However, based on the proposed location of the CSO tank, the pathlines indicate that the plume will not be displaced into uncontaminated areas by the dewatering. However, It was confirmed that that the dewatering process may cause contaminants within the geographic footprint of the Lusher Street VOC plume to be drawn toward the dewatering wells.

The groundwater model zone budget was used to estimate flow from the portion of the VOC plume captured by the dewatering wells. The total flow from the VOC plume represents approximately 36% of the total flow into the dewatering wells resulting in an influent concentration of approximately 5.8 ug/L TCE requiring treatment and disposal.

In order to comply with the schedule in the consent decree, the City is committed to moving forward on the project. The City plans to start design by the end of 2021 and start construction in 2023, and to comply with the consent decree schedule, the CSO tank is scheduled to be on-line by 2028.



Project 5 Reference Information

Project Name: McDonald's Crosstown Service

Project Address: 1517 South Westnedge Ave

Key Personnel: Sarat Bobba PE, Scott Park CPG, Mike Tuckey CPG, PhD, Danielle Wilcox

Project City / State / Zip: Kalamazoo, Michigan 49008

Contact Name / Phone Number / Email Address: Adam Wrubel, EGLE, (269) 308-1495, wrubela@michigan.gov

Project Description:

Key Elements: *Pump and Treat | System O&M | System Efficiency| Groundwater Monitoring | Groundwater Modeling*

DLZ was retained as a trade contractor by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), formerly MDEQ, to provide contracting services to perform groundwater monitoring, and operation and maintenance (O&M) of a groundwater pumping system.

The groundwater at the site was impacted due to releases from an underground storage tank (UST). The groundwater at the site has been impacted with hydrocarbon contaminants. The overall remedial goal of the system is to contain the groundwater contamination from migrating into the Kalamazoo city potable water wells directly down-gradient of the site. DLZ coordinates with the City

and operates the system when the potable water wells are in production. DLZ performed groundwater modeling to determine the capture of the groundwater plume by the pumping system.

DLZ has been operating and maintaining the groundwater pumping system with specific tasks to include, but not limited to, procure a well drilling contractor to clean the pumping wells and pumps; check the operation of pumps; adjust pumping flow rates; setup/monitor auto dialer system for system shutdown notifications; prepare monthly discharge reports to the City; shutdown and winterize system when no longer needed for the season; sampling groundwater from monitoring wells; procure drilling contractor to install new monitoring wells; and conducted several repairs and replacements to the pumping system as necessary for the continuous operation of the system during the operational season.

Vapor Intrusion Mitigation Design/O&M

Project 1 Reference Information

Project Name: Paw Paw Plating

Project Address: 139 Commercial Street

Key Personnel: Sarat Bobba PE, Scott Park CPG, Mike Tuckey CPG, PhD, Scott Lidgard PE, Danielle Wilcox

Project City / State / Zip: Paw Paw, Michigan 49079

Contact Name / Phone Number / Email Address: David Harn, EGLE, (517) 897-0881, harnd@michigan.gov

Project Description:

Key Elements: Remedial Investigations | Monitoring Well Installation | Vapor Intrusion Mitigation | Anaerobic Bioremediation Implementation

DLZ was selected by the Michigan Department of Environment, Great Lakes and Energy (EGLE), under the Level of Effort (LOE) and Expanded Environmental Remediation (EER) Indefinite-Scope Indefinite-Delivery (ISID) Contracts, to provide professional services to conduct Remedial Investigations (RI), Feasibility Studies, Exposure Risk Mitigation, and Site Remediation at the Paw Paw Plating (PPP) site in Paw Paw, Michigan. PPP is one of the four distinct chlorinated solvent groundwater contaminant plumes at the Commercial Street Industrial Area (CSIA).

DLZ performed remedial investigations at the site to characterize the extent of chlorinated volatile organic compounds (VOCs) in the aquifer at a former industrial site. The analytical results from the sump sampling conducted in the residential houses indicated the presence of VOCs in the sump water. DLZ subsequently oversaw the procurement of a qualified subcontractors and installation activities for capping and venting of the sumps and installation of radon-type vapor mitigation systems at several houses. Additionally, DLZ oversaw the procurement and installation of B-Dry

systems and application of Retro-Coat™ to mitigate vapor intrusion at several house. Within the last five years, DLZ has continued to provide system O&M services relating to both vapor mitigation systems.

Project 2 Reference Information

Project Name: EGLE, 144 E. Third Street

Project Address: 144 E. Third Street

Key Personnel: Scott Park CPG, Thomas Kaugher PG, Robert Butler PE, Danielle Wilcox

Project City / State / Zip: Imlay City, Michigan 48444

Contact Name / Phone Number / Email Address: Emily Peabody, EGLE, (517) 388-5719, peabodye@michigan.gov

Project Description:

Key Elements: Vapor Intrusion Investigation | Mitigation System Design | Installation and O&M | Remedial Investigation of soil and groundwater, and Conceptual Site Model

144 East Third Street is a building located in downtown Imlay City that was used from 1962 to 2001 for dry cleaning operations and was owned by four different entities. Based on the historical usage, DLZ was contracted by EGLE to complete a remedial investigation (RI) to investigate soil, groundwater, vapor intrusion into any residences or businesses effected by the tetrachloroethene (PCE) release. The investigation is on-going and to date, DLZ has completed thirteen soil borings, installation of seven monitoring wells, sixteen vertical profiling borings with the collection of groundwater samples, installation and sampling of twenty-two vapor pins, the collection of 34 indoor air samples from residences and commercial buildings and worked with its subcontractors to complete the installation and operation & maintenance of four vapor mitigation systems.

Prior to the installation of each vapor mitigation system, DLZ completed pressure field extension (PFE) diagnostic testing for each design by installing sampling ports through the slab and measuring the vacuum during performance testing. Additionally, any opening, holes, cracks that could allow preferential communication between the sub slab soil gas and indoor air were temporarily sealed prior to testing with the installation of suction pits and pulling a vacuum for testing. Based on the results of the testing at each location, a system was designed with one or more fans along with the locations of the discharge venting ports was designed. The systems are currently performing as designed with quarterly monitoring, indoor air sampling, and needed operation and maintenance (O&M) to ensure that the vacuum readings visa the sampling ports or vapor pins are maintain vacuum readings of -0.020 inches of water according to the EGLE recommended design standard and operational criteria for sub slab depressurization systems.

Project 3 Reference Information

Project Name: EGLE, Mitigation System Operation and Maintenance – Wyandotte Sites

Project Address: 191 Labadie Street and 230 – 232 Mulberry

Key Personnel: Scott Park CPG, Thomas Kaugher PG, Danielle Wilcox

Project City / State / Zip: Wyandotte, Michigan 48192

Contact Name / Phone Number / Email Address: Elaine Pelc, EGLE, (989) 619-5016, pelce@michigan.gov

Project Description:

Key Elements: Vapor Mitigation System Operation and Monitoring \ Operation and Maintenance (O&M) Manual Preparation \ Annual Vapor Sampling

DLZ was contracted by EGLE, under a competitive bid process, to conduct Operation and Maintenance (O&M) of sixteen active sub-slab depressurization (SSD) systems installed in single and condo-units to mitigate chlorinated vapors from dry-cleaning solvents. DLZ completed annual vapor pin sampling and analysis of over 32 vapor pins installed in the residential structures and also completed annual O&M inspection results along with recommendations for any follow-on repairs or system adjustments. Additionally, the operating units were going to be turned over the residences and DLZ prepared an O&M manual for the homeowners to provide system information, mitigation contractors, and the needed annual inspections to ensure that each system remains in operation to prevent vapors from entering into the residences.

Project 4 Reference Information

Project Name: Millies Market

Project Address: 1035 Lansing Road

Key Personnel: Scott Park CPG, Robert Butler PE, Mike Tuckey CPG, PhD, Sarat Bobba PE

Project City / State / Zip: Gregory, Michigan

Contact Name / Phone Number / Email Address: Rebecca Taylor, EGLE, (517) 284-5085, taylorr@michigan.gov

Project Description:

Key Elements: Conceptual Site Model \ Vapor Intrusion Investigation and monitoring | Low Flow Biosparge – In-situ Aerobic Bioremediation

The former Millies Market site is a LUST site in Gregory Michigan with former LNAPL and a contaminant plume that parallels Main Street and is present beneath commercial buildings on both sides of the street. In 2015, DLZ was retained by EGLE to provide oversight of ongoing groundwater remediation, including the monitoring of the effectiveness of system operation, and conducting vapor intrusion investigations and mitigation as necessary. Ongoing groundwater treatment of the glacial aquifer includes the use of nutrient enhanced low flow biosparging to aid in the bio-attenuation of gasoline related groundwater impacts adjacent to and beneath commercial buildings while reducing effects of volatilization. Due to the risk of volatilization from the biosparge operation, DLZ conducted weekly indoor VI monitoring and quarterly subslab VI sampling through 2019. In addition, DLZ has conducted semiannual indoor air monitoring using 8 hr and 24 hr Summa canisters in highest risk areas to confirm lack of vapor migration, and unacceptable human exposure. Through mid 2019, at times of measured elevated indoor air concentrations, DLZ working with EGLE, utilized mobile air purifying units to reduce indoor air vapor concentrations in both the former Millies Market building (Gregory Market) and Gordies Small Engine Repair Shop, both along the axis of the contaminant plume.

Results have shown that the biosparge system has reduced VOC concentrations beneath Gregory up to 90%, and demonstrate that the vapor migration has been mitigated, even during biosparge operation. DLZ is currently conducting post treatment quarterly groundwater and VI monitoring at the site.

Ecological risk assessment/forestry & land management/wetland mitigation/streams & lakes restoration

Project 1 Reference Information

Project Name: Integrated Training Area Management – Range and Training Land Assessments

Project Address: Fort Custer Training Center (FCTC)

Key Personnel: Nataline Dingleline, Dan McNeeley

Project City / State / Zip: Augusta, Michigan

Contact Name / Phone Number / Email Address: Brian Huggett, Michigan Department of Military and Veteran Affairs, FCTC Environmental (269) 282-7878, huggettb@michigan.gov

Project Description:

Key Elements: Forest and Land Management | Ecological Assessments | GIS



DLZ was retained in 2021 to assist with the Range and Training Land Assessments (RTLA) program to support the Integrated Training Area Management (ITAM) program. Seven assessment tasks were identified to be performed within the 6500 acres of training land at FCTC. Standard Operating Procedures to perform the work were provided. Assessments have included 12 bivouac sites, 4 landing zones, 45 wetland buffer areas, 10 miles of maneuver trails, 40 land navigation courses, and photo monitoring at 30 photo station points. Most of the assessments occur on a twice-yearly basis. Assessment parameters include observations on vegetation encroachment, vegetation regrowth,

erosion concerns, and vehicular traffic. Data and photos were collected using Survey 123 on a tablet and uploaded into a DMVA geodatabase layer.

Project 2 Reference Information

Project Name: Bay Harbor Environmental Testing and Analysis

Project Address: Bay Harbor

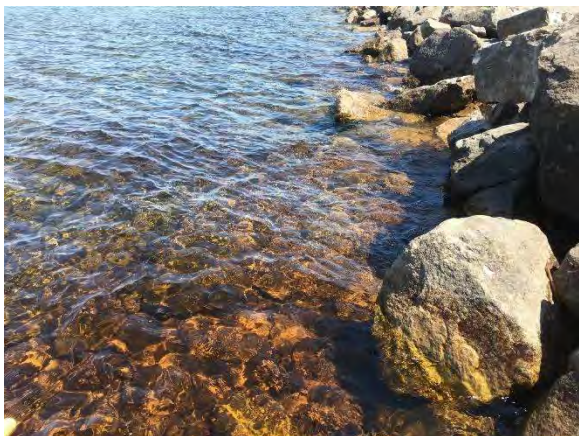
Key Personnel: Natalie Dingleline, Mike Tuckey CPG, PhD, Scott Lidgard PE

Project City/State/Zip: Bay Harbor, Michigan

Contact Name and Telephone #: Elaine Pelc (989) 619-5016, pelce@michigan.gov

Project Description:

Key Elements: Technical Review | Ecological Assessments | Statistical Analysis\ Lake Restoration



The Bay Harbor Site is located near Petoskey in Emmet County, Michigan, and within the treaty delineated reservation of the Little Traverse Bay Band of Odawa Indians (LTBB). The Bay Harbor site today is a mix of residential, commercial, open space, golf course, and park. Historically, the site and area have been used since the late 1800s as quarries for cement production and an eventual storage area for cement kiln dust (CKD). The CKD is the by-product of cement production and typically contains metals, including mercury, and exhibits a

pH as high as 13.0. Groundwater migrating through CKD discharged into Little Traverse Bay, which created a reddish-brown seepage

plume with elevated pH and high concentrations of mercury, as well as CKD impacted leachate pools along the beach. In response to the discharge of CKD impacted groundwater into the bay, the property owner began interim response activities. EGLE contracted DLZ Michigan, Inc. under the Level of Effort (LOE) Contract (#8013) to assist with the implementation of various activities.

DLZ performed technical review of interim response activities and reports associated with control, mitigation and monitoring of the CKD impacted groundwater. DLZ prepared summary reports on CKD interim response activities and developed an electronic administrative record of Bay Harbor monitoring documents. DLZ performed a statistical analysis of mercury flux into Little Traverse Bay to evaluate the effectiveness of CKD impacted groundwater remediation efforts. DLZ performed technical reviews on behalf of EGLE on the Baseline Ecological Investigation and the 10-year Ecological Investigation Reports prepared by CMS consultants. EGLE requested DLZ to determine if algae could be the likely cause to the high pH readings (9 and above) in some of the CKD areas and in the West Park reference location. A literature review was performed on the chemical and physical factors influencing pH measurements, in particular the correlation between algae and pH was researched. In addition, DLZ reviewed whether other measurable parameters such as dissolved oxygen and chlorophyll-*a* levels might provide additional insight into the cause of the fluctuating pH levels. This research was summarized in a technical memo provided to EGLE entitled *Algal Bloom & Surface Water pH Literature Review* (DLZ 2013). DLZ was asked to assess the potential presence of mercury bioaccumulation associated with Cement Kiln Dust (CKD) leachate, along the shores of Bay Harbor, Lake Michigan. Sampling occurred at three sites: Pine Ridge Court vent, Seep 1 (a historic CKD leachate release site), and a Reference site (EREF) located near East Park. Sampling and analysis, of near shore surface water, periphyton, amphipods and prey fish communities, was performed to establish if there is bioavailable mercury, entering from a groundwater vent location, bioaccumulating through the Bay Harbor food chain. Results were provided in the *Bay Harbor Mercury Bioaccumulation Assessment Report* (DLZ 2018).

Project 3 Reference Information

Project Name: Ohio Turnpike & Infrastructure Commission (OTIC) Westgate Toll Plaza Wetland Permitting and Mitigation Design

Project Address: Ohio Turnpike Mileage Post 4 (Westgate)

Key Personnel: Steve Metzger AICP, SPWS, Natalie Dingleline

Project City/State/Zip: Williams County, Ohio

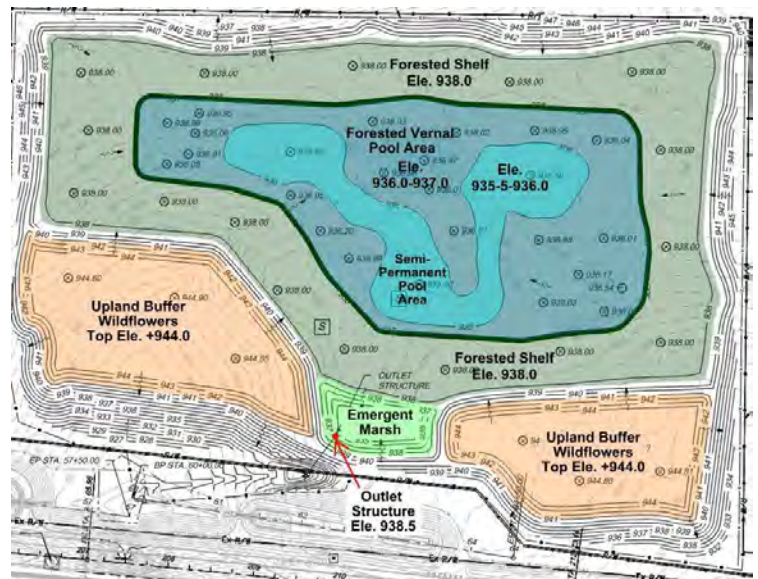
Contact Name and Telephone #: Mike Brookbank, P.E. (440) 971-2012,
mike.brookbank@ohioturnpike.org

Project Description:

Key Elements: Ecological Assessments | Wetland Delineations | Construction Plans | Wetland Mitigation Design\ Permitting

DLZ was retained to provide services for wetland delineations and design services for a new toll plaza near the Indiana border on the Ohio Turnpike. The location and design of the new plaza impacted sensitive environmental resources, including several wetlands delineated by DLZ during the development of preliminary alternatives for the plaza location. These unavoidable impacts required mitigation, with stream mitigation being provided through the purchase of 107 credits via the In-Lieu Fee Program at an existing bank managed by the Nature Conservancy. There were no wetland banks within Ohio near the project that could be utilized, which resulted in on-site mitigation being selected. DLZ assisted OTIC with identification of a suitable mitigation site immediately adjacent to the new plaza and performed the necessary site investigations and design for a minimum of 5.52 acres of forested wetland and 0.12 acres of emergent wetland. Additional investigations, including a review for several protected species, were required on the mitigation site prior to disturbance.

As part of the Wetland Mitigation Plan developed for the individual wetland permit from the U.S. Army Corps of Engineers (USACE), OTIC provided a total of 21.47 acres within an Environmental Covenant. This area included the constructed wetland, a portion of the Category 3 wetland that was impacted, and an upland buffer surrounding the wetland that included a large area of mature upland hardwoods. DLZ developed the mitigation design and prepared construction plans, assisted with responding to questions during the bidding, and provided assistance during construction. Grading, installation of the outfall structure, and seeding of the upland areas was completed in late 2021, with the



planting of approximately 1500 trees, and over 1100 shrubs; most of the seeding of three (3) different wetland seed mixes was installed in early 2022. DLZ documented the construction with inspections and prepared the required post-construction report for USACE. The permit requires 10 years of monitoring of the development of the wetland, which will begin in 2023.

Project 4 Reference Information

Project Name: 14 Mile Transmission Loop Project

Project Address: 8 Mile and 14 Mile Roads, Novi Michigan

Key Personnel: Scott Park CPG, Natalie Dingledine, Steve Metzger AICP, SPWS,
Mark Mattson PE

Project City/State/Zip: Novi Michigan, 48203

Contact Name and Telephone #: Mike McReynolds, PE (703) 340-1087,
mmcreynolds@BrwnCald.com

Project Description:

***Key Elements:** Phase I/II Assessments | **Ecological Assessments** | Management Support Services | Field Services | Survey | Geotechnical Services | Design Services | Fast Track Design | Jurisdictional Authority Coordination | EGLE Permits | Landscape/Tree Restoration*

The Great Lakes Water Authority (GLWA) is responsible for operating and maintaining five water treatment plants, one wastewater plant and associated water transmission and wastewater collection infrastructure serving 126 municipalities and nearly 4 million people in the metro-Detroit area. Prior to the development of this project, several major customers in the western part of the service area were served only by two single dead-end water transmission mains in 8 Mile and 14 Mile Roads. A recent break in one the mains left nearly 300,000 customers without safe water for almost a week. To avoid this issue in the future, GLWA proposed to develop a connecting water main to close this gap and provide a loop for system redundancy and reliability.

In early 2019 GLWA awarded this project to the Brown and Caldwell and DLZ team. As a principal member of this Team, DLZ provided:

- Design and Management Assistance.
- **Ecological Services related to wetlands and endangered species.**
- Phase I and Phase II Assessments / Hazardous Materials and Contamination Investigation.
- Topographical and Property Surveying Services.
- Geotechnical Services for the project
- Maintenance of Traffic Design
- Tree Restoration and Landscape Services
- Resident Project Representation

The overall project began with the design a short 24-inch transmission main in 14 Mile Road between M-5 and Novi Road to address a redundancy gap in this area. DLZ performed the topographical

survey, geotechnical drilling and reporting, ecological services related to an EGLE Joint Permit Application, and a short Phase I Environmental Report. DLZ lead the efforts in obtaining MOT permit approval by the Road Commission for Oakland County (RCOC) and is currently providing Resident Project Representation on this segment of water main.

Concurrent to this initial design work, a detailed route study was performed reviewing potential routes causing the least impact to the surrounding communities. **After considering many factors the final route was established to generally follow I-275, Meadowbrook Road, 13 Mile Road, and M-5. Upon establishing the route for construction, DLZ performed a desk top review for potential ecological resources and a field review to evaluate all sites of potential environmental impacts. DLZ performed stream assessments and wetland delineations.** As a result, DLZ assisted with recommendations for avoidance of water resources including alternative culvert designs and directional drilling.

For this larger project, DLZ performed the topographical survey, geotechnical drilling and reporting, **ecological services related to wetland restoration** and an EGLE Joint Permit Application. DLZ prepared MDOT and signal plans to support permitting with RCOC, Wayne County Department of Public Service, and MDOT, and developed tree restoration plans as a permit condition required by MDOT.

Landfill maintenance/monitoring

Project 1 Reference Information

Project Name: Flint Bishop Airport Landfill

Project Address: Flint Bishop Airport

Project Address: 3425 W Bristol Rd

Key Personnel: Scott Lidgard PE, Steven Winters

Project City/State/Zip: Flint, Michigan 48507

Contact Name and Telephone #: Paul Bucholtz, EGLE, (517) 284-5158, bucholtzp@michigan.gov

Project Description:

Key Elements: Landfill Boundary Survey | CAP Design | Construction CQA Plan and Post Closure O&M Plan

DLZ was selected by EGLE to review and collect survey data, identify boundary of landfill via electromagnetic (EM) inductive profiling, develop a design, construction quality assurance plan (CQA Plan), and post closure O&M plan for the capping of the landfill. The landfill is approximately 22 acres and is bordered by the Swartz Creek drainage ditch. Heavy metals, PCBs, and VOCs have impacted the soil and groundwater. DLZ prepared the design and associated documents. The design addresses methane gas generation and leachate collection, storm water management and erosion control, and was completed in 2018.

Project 2 Reference Information

Project Name: Young's Landfill Closure and Wetland Construction

Project Address: 903 Carpenterson Road

Key Personnel: Scott Lidgard PE

Project City/State/Zip: Burr Oak, Michigan 49030

Contact Name and Telephone #: Michael Baranoski, EGLE, (269) 567-3524,
baranoskim@michigan.gov

Project Description:

Key Elements: Landfill Boundary Survey | Part 115 Alternatives Evaluation | CAP Design | Construction CQA Plan | Construction Oversight Management and Post Closure O&M Plan

DLZ was retained by EGLE under their Level of Effort (LOE) contract to close an existing Type II Landfill by designing and preparing construction specifications and drawings for a cap in accordance with Act 451, Part 115, Solid Waste Management and Part 201, Environmental Remediation. The existing 30-acre landfill is located adjacent to two wetlands and was closed in 1983 with only an intermediate cover. DLZ has successfully performed the following tasks related to the landfill closure:

- Verified the existing survey data including legal descriptions for landfill boundary and access road easements.
- Determined the boundary of buried waste at the landfill by utilizing the electromagnetic conductivity meter (EM-31) and a magnetometer/gradiometer.
- Evaluated the existing cap including infiltration estimation using the HELP model Version 3.0, soil erosion estimating using the Universal Soil Loss Equations (USLE), geotechnical considerations, cost and constructability. Five alternatives were developed from the Part 115 requirements consisting of all the applicable combinations of earthen and geosynthetic materials. Analysis was performed for infiltration, erosion, slope stability and cost.
- Prepared and coordinated preparation of a Wetland Protection and Construction Permit as required by Part 303. This included extensive wetland mitigation and planting restoration.
- Collected and evaluated soil borings in the wetland areas using both geoprobe and hand augers.
- Developed and prepared the drawings, specifications and construction quality assurance/quality control (QA/QC) plans. The construction elements included the cap components (PVC liner and earthen materials), soil erosion control plan, temporary leachate control systems, gas venting/monitoring system and the access road.

- Extensive construction oversight management of landfill construction including mitigated wetland planting and site restoration.
- Ongoing wetland operation and maintenance (O&M) to ensure proper restoration and mitigation of newly constructed wetlands.
- Ongoing Post Closure monitoring and repair of landfill cap (i.e., soil erosion control/repair, tree removal, fence repair, mowing, re-establishment of vegetation, gas vent monitoring)

DLZ continues to work with EGLE to conduct post closure monitoring and repair of the landfill cap (i.e., soil erosion control/repair, tree removal, fence repair, mowing, re-establishment of vegetation, gas vent monitoring)

Project 3 Reference Information

Project Name: Former Gratiot Metals

Project Address: West of intersection of S. Elm St and W. South St.

Key Personnel: Scott Park CPG, Robert Butler PE

Project City / State / Zip: Ithaca Michigan 48847

Contact Name / Phone Number / Email Address: Ms. Barb Cowles, EGLE, (517) 284-5081, cowlesb@michigan.gov

Project Description:

Key Elements: CAP Placement Design | Bid Spec preparation | Trade Contractor Procurement | Construction Oversight Management and Construction Summary Documentation

The Gratiot Metal site was formerly used by the Gratiot Metal Company as a junk and scrap metal yard until 1983. In 1990, both the United States Environmental Protection Agency (USEPA) and the Michigan Department of Natural Resources (MDNR) conducted investigations at the site. The USEPA identified drums of unknown wastes, pressurized-gas cylinders, and leaking electrical equipment. Soil samples collected by the MDNR and the USEPA from the site and surrounding properties during previous investigations contained contaminants including volatile organic compounds, polynuclear aromatic hydrocarbons, and metals (including lead and cadmium). As an interim response measure, the USEPA removed drums, electrical equipment, and gas cylinders for off-site disposal. Surface soils in off-site areas with lead concentrations exceeding 500 mg/kg were excavated, treated on-site, and transported to an off-site facility for disposal. With the exception of a small volume of soil contaminated by leakage from electrical equipment, and surface soils removed during the initial response, soil within the boundaries of the Gratiot Metal property were not remediated. The electrical equipment and associated soils were removed from the site by the USEPA.

In 1998, a Remedial Action Plan (RAP) was completed for the site. The RAP called for construction of a cap across the site and a detention basin to control stormwater runoff. The waste cap and detention basin were constructed in 1999. The cap consists of a geocomposite clay liner placed over

graded and compacted excavated common borrow soils of varying thickness. Common borrow soils of 8-inch thickness were placed over the clay liner and with a 4-inch-thick vegetative topsoil on the surface.

In 2021, DLZ was selected by EGLE to oversee landfill CAP repairs and final CAP placement, including design and preparation of e-bid documents, assist in construction trade contractor procurement, assist in construction trade contractor management and oversight, and prepare a construction summary report related to landfill CAP repair and placement of an additional three inches of topsoil cover at the Site. In June 2021, bid documents were prepared by DLZ for a Trade Contractor to complete the following tasks:

- Site services, mobilization, demobilization.
- Acquisition, transportation, and placement of topsoil cover over the approximately 4-acre capped waste area at the site.
- Site restoration, including seeding and mulching.

Work commenced on September 13, 2021 and was considered substantially complete on September 29, 2021. The project objectives at the Site were addressed by the placement, grading, seeding, fertilizing, and mulching of 2,942 cubic yards of topsoil. DLZ submitted the Construction Summary Report to EGLE in December 2021.

Brownfield development

Project 1 Reference Information

Project Name: Stellantis (Formerly FCA) Mack Engine Plant Expansion

Project Address: Various Locations in Detroit, MI

Key Personnel: Thomas Kaugher PG, Scott Park CPG, Dan McNeely, Dirk Anderson AAI, Robert Butler PE

Project City / State / Zip: Detroit, MI 48203

Contact Name / Phone Number / Email Address: Cleveland Dailey, (313) 237-4605, cdailey@degc.org

Project Description:

Key Elements: Brownfield Redevelopment | ALTA Survey | Construction Inspection | Construction Observation | Materials Testing | Laboratory Testing | Environmental Due Diligence | Geotechnical

DLZ is a primary member of the City's team which is clearing the way for a new automotive manufacturing facility. **This multi-billion-dollar project is game-changing for the City and is one of**

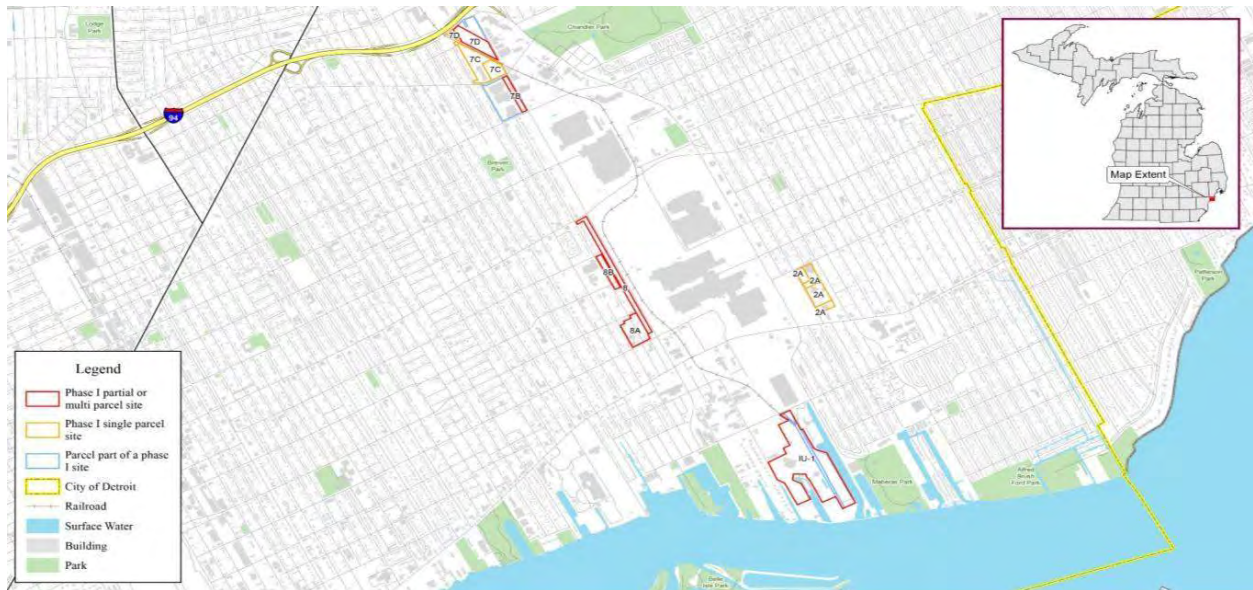
the largest brownfield projects in the country. Hundreds will be employed for many decades in this new facility.

The City accepted a tremendous challenge, to make these brownfield sites ready for construction, in a matter of months. DLZ's responsibilities included environmental assessments (Phase I and Phase II Environmental Site Assessment), asbestos and hazardous materials surveys of two former industrial facilities and three residential homes, ground penetrating radar (GPR) surveys to clear subsurface utilities and look for underground storage tanks (USTs), geotechnical investigations for a sound barrier wall, and ALTA surveys on this fast-track, ever evolving project.

Within a one-year period, DLZ has completed twenty-seven (27) Phase I Environmental Site Assessments, and eleven (11) Phase II Environmental Site Assessments that included the drilling of over 450 soil borings with the collection of over 740 soil samples to investigate and characterize the subsurface soils. Additionally, DLZ completed Baseline Environmental Assessments and Due Care Plans where applicable.

Additionally, DLZ has provided additional services on this project that included:

- Provided oversight during the abatement and demolition of industrial and residential buildings to document the removal, handling, and disposal of all asbestos containing materials and other hazardous materials identified within the buildings as part of the hazardous materials surveys.
- Oversight for the removal and disposal of over 350,000 cubic yards of contaminated soils.
- Provided oversight of any identified underground storage tanks (USTs) and the collection of confirmation soil samples to confirm that the removal efforts satisfy the Michigan Department of Environment, Great Lakes, and Energy (EGLE) closure criteria.
- Completed additional GPR surveys once areas are cleared of debris piles, soil piles, berms, and buildings to look for areas of fill material or USTs.
- Completed additional follow-on Phase II investigation activities in areas that were not identified during the Phase I and Phase II ESAs that were found during soil removal activities.
- Completed Baseline Environmental Assessments (BEAs) of each site to confirm that the property is a "facility" so that the new owner or operator is not held liable for the cost of cleaning up the contamination caused by the previous owners.
- Provide Due Care Plans for each site to comply with the Due Care Obligations to prevent exacerbation of the existing contamination and exercise due care by undertaking response activity necessary to mitigate unacceptable exposure to hazardous substances, mitigate fire and explosions hazards due to hazardous substances, and allow for the intended use of the facility in a manner that protects the public health and safety.



Project 2 Reference Information

Project Name: Former Kalamazoo Creamery Site

Project Address: 201 West Kalamazoo Avenue, Room 104

Key Personnel: Sarat Bobba PE, Steven Winters, Dirk Anderson AAI

Project City / State / Zip: Kalamazoo, Michigan 49007

Contact Name / Phone Number / Email Address: Matt Hollander, (269) 388-4677, matt@hollanderdevelopment.com

Project Description:

Key Elements: Phase I ESA | Phase II ESA | Baseline Environmental Assessment (BEA) | Vapor Encroachment Screening | Response Activity Plan | Brownfield Redevelopment, Act 381 Work Plan | Documentation of Due Care Compliance

DLZ was retained by the Kalamazoo County Land Bank and later the brownfield land developer Hollander Corporation to conduct Phase I and Phase II environmental site assessments (ESA). DLZ was also retained by Hollander to prepare a Baseline Environmental Assessment (BEA), and a Brownfield Redevelopment Plan and assist with due care obligations.

PHASE I ESA

In 2019, DLZ conducted a Phase I ESA following American Society for Testing and Materials (ASTM) E 1527 standards and the All Appropriate Inquiry Standards, 40 CFR Part 312, as well as Section 26(3)(h) of Part 201, Public Act 451. The Phase I ESA was also performed in compliance with Michigan State Housing Development Authority (MSHDA) requirements.

VAPOR ENCROACHMENT SCREENING

DLZ conducted a vapor encroachment screening (VES) of the project site in accordance with ASTM E2600 to identify a vapor encroachment condition (VEC), which is the presence or likely presence of the vapors of chemicals of concern (COCs) in the vadose zone of the property. The VES was conducted as part of the Phase I ESA non-scope consideration.

PHASE II ESA

DLZ conducted a Phase II ESA of impacted soil to assess the due care requirements of the proposed development at the project site includes a multiuse residential commercial structure. DLZ conducted limited soil sampling at several geotechnical borings on the project site to assess for potential vapor intrusion, due care issues, and to characterize for potential soil disposal necessary during construction.

RESPONSE ACTIVITY PLAN

DLZ prepared a Response Activity Plan (RAP) as required by Michigan State Housing Development Authority (MSHDA) and submitted to the Michigan Department of Environment, Great Lakes and Energy (EGLE) formerly MDEQ for review. An approval of the RAP was obtained from the MDEQ.

BASELINE ENVIRONMENTAL ASSESSMENT

In 2019 DLZ also prepared a BEA on behalf of the site developer to establish an exemption of liability for the new owner. The BEA was prepared within 45 days of the new entity took ownership of the property and submitted to the MDEQ/EGLE with all the required data.

BROWNFIELD REDEVELOPMENT PLAN (ACT 381 WORK PLAN)

DLZ worked closely with Hollander Development Corporation, as well as the Land Bank and City in development of the Act 381 Work Plan. The Act 381 Work Plan was prepared identifying the proposed project, eligible activities that will be undertaken to alleviate Brownfield conditions, associated costs and the time frame of the project. DLZ assisted in discussions with MSHDA prior to submission of an Act 381 Work Plan.

DOCUMENTATION OF DUE CARE COMPLIANCE

DLZ completed a Documentation of Due Care Compliance (DDCC) report upon completion of the property redevelopment and the implementation of response activities preventing unacceptable exposure. DLZ also prepared an operation, monitoring and maintenance manual which included necessary procedures and schedule to conduct necessary inspections and maintenance. The multi phase redevelopment project was completed in 2022 as the DDCC along with the form EQP4402 was submitted to EGLE and final approval was received by DLZ and the site Developer, Hollander Corporation.

Project 3 Reference Information

Project Name: Former Michigan State Fairgrounds

Project Address: 1120 West State Fair Avenue

Key Personnel: Thomas Kaugher PG, Scott Park CPG, Dirk Anderson AAI, Dan McNeely

Project City / State / Zip: Detroit, Michigan 48203

Contact Name / Phone Number / Email Address: Orza Robertson, DBRA, (313) 237-4636, orobertson@degc.org

Project Description:

Key Elements: Brownfield Redevelopment | Knowledge of Recognized Environmental Conditions | Understanding of ASTM E 1527 | State and Federal Regulatory Agency Requirements for RI/FS | Site Development Recommendations| ALTA/NSPS Survey



DLZ was selected by the Detroit Brownfield Redevelopment Authority (DBRA) to conduct a multi-faceted environmental scope of work to position the Former State of Michigan Fairgrounds for Brownfield Redevelopment. DLZ conducted a Phase I Environmental Site Assessment (ESA), Phase II ESA, a Ground Penetrating Radar (GPR) Survey, and a Baseline Environmental Assessment (BEA) of 157 acres and associated 24 buildings at the former Michigan State Fairgrounds located in Detroit, Michigan. The Phase I ESA identified 14

recognized environmental conditions (RECs) that required further evaluation through soil sampling and/or groundwater sampling. The Phase II investigation involved the drilling and sampling of 121 soil borings in the areas of the identified RECs as well as to investigate areas where potential fill or debris may be located. A detailed GPR survey was also completed on the entire 157 acres to identify any orphan underground storage tanks (USTs), delineation of fill material, utility locations and depths, old building foundations, and other anomalies that might be indicative of other RECs that may need investigation. DLZ also completed hazardous materials surveys of all 24 buildings to identify and quantify all asbestos containing materials (ACM) and other materials that would require removal and/or abatement prior to demolition of the buildings. DLZ is currently in the process of preparing a BEA based on the findings of the Phase II investigation that defines the site as a facility.

Project 4 Reference Information

Project Name: Greater Detroit Resource Recovery Authority – Former Waste Energy Facility

Project Address: 5700 Russell Street in Detroit, MI

Key Personnel: Thomas Kaugher PG, Scott Park CPG, Dirk Anderson AAI, Dan McNeely

Project City / State / Zip: Detroit, Michigan 48203

Contact Name / Phone Number / Email Address: Cleveland Dailey, (313) 237-4605, cdailey@degc.org

Project Description:

Key Elements: Brownfield Redevelopment | Pre-Demolition Asbestos Containing Materials Survey | Hazardous Materials Survey | Phase I Environmental Site Assessment | Phase II Environmental Site Assessment | Abatement and Demolition Oversight

In April 2021, DLZ was retained by the City of Detroit, Detroit Building Authority (DBA) to complete multi-phase Pre-demolition services, including a detailed environmental site review at the Former Waste Energy Facility (WEF) located at 5700 Russell Street, in Detroit Michigan. DLZ assisted The City of Detroit in beginning the redevelopment process by developing a preliminary budget for the decommissioning and demolition of the former WEF. Based on experience with other projects of a similar nature, DLZ also evaluated other potential items of concern that may require decommissioning prior to site demolition. DLZ subsequently performed a Phase I Environmental Site Assessment in October 2021 to identify current and historical recognized environmental conditions at the property, which was used for railcar manufacturing starting in the 1880s, and at one point was the largest employer in the City of Detroit. DLZ performed an expedited Phase I ESA as well as National Emission Standards for Hazardous Air Pollutants (NESHAPs)-compliant Asbestos Containing Material Survey of the site buildings and grounds, as well as a Hazardous Materials Survey to document the locations and quantities of asbestos-containing materials and hazardous materials that will be required to be properly abated prior to demolition of the site structures, process tanks, cooling tower, outbuildings, etc. present at the property. DLZ also prepared a Scope of Work for a Phase II Environmental Site Assessment based on the historical uses of the property, which is currently ongoing and planned for January 2022 completion.

Per- and Polyfluorinated Alkyl Substances (PFAS)

Project 1 Reference Information

Project Name: Thermofil PFAS Environmental Investigation and Cost Evaluation

Project Address: 6150 Whitmore Lake Road

Key Personnel: Scott Park CPG, Sarat Bobba PE, Michael Tuckey CPG, PhD, Robert Butler PE

Project City / State / Zip: Brighton MI, 48116

Contact Name / Phone Number / Email Address: Emily Peabody, EGLE, (517) 388-5719,
peabodye@michigan.gov

Project Description:

***Key Elements: PFAS Investigation | PFAS Remediation Cost Development | PFAS Witness Testimony
| Groundwater and Vapor Intrusion Investigation***

PFAS Investigation - In 2018 DLZ was selected by EGLE to perform a groundwater and vapor intrusion investigation at the location of a factory where releases of chlorinated solvents and per and polyfluoroalkyl substances (PFAS) have occurred. Previous investigations by DLZ in the early 2000's had identified an approximately ½ mile long TCE plume in groundwater migrating to the southeast. In 2020, due to the historical documentation of a large fire that occurred in 1997, and historical industrial operations possibly involving PFAS compounds, DLZ assessed the site and surrounding area for PFAS compounds. Elevated PFAS compounds were confirmed throughout the length of the plume. As a result, DLZ conducted on-site soil and groundwater sampling in an attempt to identify the primary source of PFAS in soil and groundwater. After completion of a thorough source investigation involving both soil and groundwater sampling, the primary source was confirmed to be the location of a stormwater retention basin that received runoff from the multi-day fire fighting process.

PFAS Mitigation Design and Cost Analysis - Upon confirmation of the source, DLZ was selected by EGLE to generate an in-depth budgetary review of mitigation costs, including PFAS source material removal and remediation of the contaminant plume extending at least ½ mile downgradient. This cost evaluation process included multiple meetings with EGLE staff and staff from the Michigan Attorney General's office.

PFAS Fact/Expert Witness - In 2022, DLZ staff (Scott Park, CPG) was selected by the AG's office to represent the State of Michigan (Plaintiff) in litigation activities in an effort to assign PFAS mitigation obligations to a responsible party. DLZ worked closely with EGLE and Michigan's AG office throughout the litigation process providing both fact witness testimony and expert witness assistance.

Project 2 Reference Information

Project Name: Wurtsmith AFB PFAS Foam Removal Pilot Study

Project Address: 3960 East Arrow Street

Key Personnel: Thomas Kaugher PG, Scott Park CPG

Project City/State/Zip: Oscoda, Michigan 48750

Contact Name and Telephone #: Robert Delaney (Retired), EGLE, (517) 284-5085,
delaneyr@michigan.gov

Project Description:

Key Elements: Determine method to collect PFAS foam from shoreline | Determine proper handling and disposal of collected material | Recruit qualified resident(s) from Oscoda area to collect foam | Develop method of notification when foam is on shoreline | Develop method of notifying qualified “PFAS foam collector” | Document activities

Groundwater contaminated with PFAS is migrating from Wurtsmith Air Force Base to surrounding surface waters (Van Etten Lake, Clark's Marsh, Au Sable River, and various streams around the base).

When the conditions, particularly wind speed and direction are right, foam was identified as forming on the downwind shoreline of Van Etten Lake. DLZ has collected samples of the foam for analysis, finding concentrations of PFAS that exceed the surface water concentrations by orders of magnitude. DLZ has worked with the EGLE to better understand where, when, and how the foam forms, and has collected foam samples from various locations on the lake. MDHHS has begun the process of establishing safe swimming guidelines. Because of DLZ's experience with PFAS contamination at and around Wurtsmith AFB, DLZ and EGLE will begin testing methods to collect foam that forms on sensitive areas of the shoreline - specifically the Township controlled swim beach the State of Michigan park and the YMCA swim beach. Foam sampling will continue as directed by EGLE. DLZ is also working with EGLE to develop a standard method for collecting foam. Foam has since been identified at other beaches in Michigan that are adjacent to sites with known PFAS contamination.

- Determine a method of collecting PFAS (per- and polyfluorinated alkyl substances) foam from public areas of the Van Etten Lake shoreline (Township Beach and State Park),
- Establishing proper collection procedures and handling of the collected material,
- Contracting with qualified local residents to collect foam during a foam accumulation event,
- Develop a system to be notified of foam collecting on the shoreline of concern and notifying the subcontracted “foam collector”:
- Establish proper handling and storage of collected foam
- Determine disposal options
- Manage all aspects of the project
- Prepare monthly summary reports



After being retained by EGLE, DLZ was also tasked with collecting annual ice samples from Van Etten Lake for PFAS analysis. After an ice core was collected, three samples were taken from the core: at the top, in the middle, and at the bottom of the core. The samples were processed and shipped to the laboratory for PFAS analysis. DLZ prepared a report of the collection method and the findings from each sampling event for submission to EGLE.

Project 3 Reference Information

Project Name: Paw Paw Plating

Project Address: 139 Commercial Street

Key Personnel: Sarat Bobba PE, Scott Park CPG, Mike Tuckey CPG, PhD, Scott Lidgard PE
Danielle Wilcox

Project City/State/Zip: Paw Paw, Michigan 49079

Contact Name and Telephone #: David Harn, EGLE, (517) 897-0881, harnd@michigan.gov

Project Description:

***Key Elements: Remedial Investigations | Monitoring Well Installation | Vapor Intrusion Mitigation
| Anaerobic Bioremediation Implementation | PFAS investigations & Mitigation***

DLZ was selected by the Michigan Department of Environment, Great Lakes and Energy (EGLE), under the Level of Effort (LOE) and Expanded Environmental Remediation (EER) Indefinite-Scope Indefinite-Delivery (ISID) Contracts, to provide professional services to conduct Remedial Investigations (RI), Feasibility Studies, Exposure Risk Mitigation, and Site Remediation at the Paw Paw Plating (PPP) site in Paw Paw, Michigan. PPP is one of the four distinct chlorinated solvent groundwater contaminant plumes at the Commercial Street Industrial Area (CSIA).

After characterizing the contaminant plume containing chlorinated solvents, DLZ and EGLE identified PFAS as a potential contaminant of concern based on historical operations. Additional investigations completed by DLZ confirmed the presence of per- and polyfluorinated alkyl substances (PFAS) in groundwater extending at least ¼ downgradient of the source area (subject site). Based on an environmental concern to surface water receptors, DLZ also performed storm sewer manhole and outfall sampling due to the detection of PFAS in shallow groundwater within the depth of storm sewers. The sewer sampling identified the presence of PFAS in storm sewer manholes and outfall exceeding both GSI and Drinking Water criteria.

DLZ is in the process of:

- 1) Designing and preparing specifications to line the sewers within the area of contamination to eliminate further seepage and continued discharge of contaminated groundwater into surface waters, and
- 2) Conducting vertical aquifer profile borings to delineate the horizontal and vertical extent of the PFAS contamination in groundwater.

Project 4 Reference Information

Project Name: Independence Township - PFAS

Project Address: Clarkston Gardens Municipal Well

Key Personnel: Scott Park CPG, Laura Gruzowski, Dan McNeely, Rob Butler PE, Danielle Wilcox

Project City / State / Zip: Clarkston, Michigan 48346

Contact Name / Phone Number / Email Address: David McKee, DPW Director, (248) 625-8222
dmckee@indtwp.com

Project Description:

***Key Elements:** Well Head Protection Plan | Grant Preparation and Award | Proposed Residential Well Survey and sample | **Proposed PFAS investigations & Mitigation Plan** \ Water Distribution Modeling*

In 2019 DLZ was selected by Independence Township to evaluate the municipal well field and complete a Well Head Protection Plan, identifying potential sites of concern within the 1-year and 5-year and 10-year capture zones of the Municipal wellfields. As part of the 2019 contaminant source inventory, DLZ identified the Clarkston Road Landfill (CRL) as a potential source of PFAS in the local groundwater.

As part of the Michigan PFAS Action Response Team efforts to investigate sources and location of PFAS contamination in the state of Michigan, EGLE tested all sixteen (16) wells within Independence Township. DLZ understands that the Charter Township of Independence has recently received sample results from the Clarkston Gardens well with one compound (PFOA) at 50% of the USEPA MCL for drinking water. **Upon receipt of PFAS compounds in this well, the Township proactively shut this wellhead down, as it remains to this day.**

Results from an additional municipal well also detected five PFAS substances; two of which (PFOA and PFHxS) exceed 50% of the MCL. Although the concentrations detected at both wells are below current USEPA drinking water criteria, concentrations at two municipal wells are increasing, therefore, the Township has selected DLZ to assist the township with environmental and engineering related efforts to address the PFAS in the local groundwater aquifer and municipal water supply.

As a result of the findings, DLZ has worked with Independence Township to secure specific State of Michigan and County grant funding which will allow the Township to properly investigate the PFAS source and generate a mitigation plan to eliminate potential future PFAS exposure. In the fall of 2022, DLZ was selected to:

- 1) Determine the nature and extent of the PFAS contamination, if possible, including confirmation of the CRL as the primary source,
- 2) Evaluate water quality within private drinking water wells in the general vicinity and downgradient of the CRL, and
- 3) Conduct an engineering water system reliability study including water distribution modeling to proactively develop potential mitigation plans and evaluate future funding mechanisms for alternate water distribution.

Because of DLZs combined Grant Writing, Environmental and Civil/Water Engineering capabilities, we are able to work alongside Independence Township with a multifaceted approach to resolving this complicated PFAS issue.

PART II: COST PROPOSAL

III-2 BILLABLE RATE

COST SUMMARY

The project cost summary table and the required cost breakdown tables are identified on the following page.

POSITION, CLASSIFICATION AND EMPLOYEE BILLING RATE INFORMATION

PROFESSIONAL SERVICES - 2023 ENVIRONMENTAL ISID

Firm Name: DLZ Michigan, Inc.

Yearly Percentage Billing Rate Increase: 4%

Level	Employee Name	Position/Classification	Year 2023	Year 2024	Year 2025	Year 2026
T3	Anderson, Dirk	Asbestos/Construction Inspector	107.24	111.53	115.99	120.63
P3	Apling, Josh	Mechanical Engineer	195.72	203.55	211.70	220.16
P4	Beaulieu, Eric	Architect	253.74	263.89	274.44	285.42
P1	Bennett, Allison	Civil Engineer	86.02	89.47	93.04	96.77
P4	Bobba, Sarat	Environmental Engineer	154.41	160.59	167.01	173.69
P3	Butler, Robert	Environmental Engineer	120.57	125.39	130.41	135.62
P3	Cerling, Stephanie	Environmental Engineer	198.65	206.60	214.86	223.46
P4	Cherian, M.P.	Hydrogeologist/Hydraulics	232.64	241.95	251.63	261.69
CL	Colbert, Lela	Clerical	95.52	99.34	103.31	107.44
P4	Dean, Zachary	Civil Engineer	145.62	151.45	157.50	163.80
P3	Dingledine, Natalie	Environmental Scientist/Biologist	147.38	153.27	159.41	165.78
P3	Ellenberger, Andrew	Senior Safety Coordinator	140.20	145.81	151.64	157.71
P3	Govender, Gopalan	Construction Estimator	235.28	244.69	254.48	264.66
P3	Gruzwalski, Laura	Environmental Scientist	132.73	138.04	143.56	149.30
P4	Hampshire, Timothy	Geotechnical Engineer	243.34	253.07	263.19	273.72
P2	Huss, Sara	Landscape Architect	148.26	154.19	160.36	166.77
P2	Hirsch, Jeffrey	Landscape Architect	171.11	177.96	185.07	192.48
P1	Holtz, Lauren	Planner/Environmental Scientist	86.44	89.89	93.49	97.23
P1	Hong, Daniel	Environmental Engineer	96.54	100.41	104.42	108.60
T4	Hoover, Daniel	CADD/Designer	111.63	116.10	120.74	125.57
T3	Jones, Steven	Surveyor	231.76	241.03	250.67	260.70
P4	Kaughner, Thomas	Project Manager/Project Geologist	179.11	186.28	193.73	201.48
T3	Keilman, Raymond	Surveyor	208.62	216.96	225.64	234.66
P2	Lakatos, Dava	Civil Engineer	97.13	101.01	105.06	109.26
P2	Lehman, Ben	Civil Engineer	139.91	145.50	151.32	157.38
P4	Lemberis, Andrew	Civil Engineer	288.17	299.69	311.68	324.15
P4	Lidgard, Scott	Civil Engineer	196.16	204.01	212.17	220.66
T2	Mason, Umar	Asbestos/Construction Inspector	70.94	73.77	76.72	79.79
P4	Mattson, Mark	Civil Engineer	237.77	247.28	257.17	267.46
P2	McNeely, Daniel	Environmental Scientist	117.70	122.41	127.30	132.39
P3	Metzer, Stephen	Planner/Environmental Scientist	186.20	193.65	201.40	209.45
P3	Mott, Brian	Geologist	162.18	168.66	175.41	182.43
P4	Paglia, Andrew	Senior Engineer	217.64	226.35	235.40	244.82
P4	Park, Scott	Program Manager/Geologist	214.62	223.21	232.14	241.42
P3	Riley, Sean	Transportation Engineer	198.51	206.45	214.71	223.29
T2	Schlacht, William	Asbestos/Construction Inspector	78.23	81.36	84.61	88.00
P4	Sethi, Manoj	Officer	369.33	384.10	399.46	415.44
P3	Sherman, Robert	Landscape Architect	153.83	159.98	166.38	173.03
P2	Sjogren, Andrew	Civil Engineer	104.89	109.09	113.45	117.99
P2	Smith, Bridget	Environmental Scientist	97.57	101.47	105.53	109.75
P2	Stevens, Daniel	Environmental Scientist	123.06	127.98	133.10	138.43
T3	Stevenson, Elizabeth	Designer	115.44	120.06	124.86	129.86
P3	Stone, Jason	Environmental Scientist	178.82	185.97	193.41	201.15
P1	Thomassen, Claire	Environmental Geologist	93.32	97.05	100.94	104.97
T4	Toscani, Anthony	Surveyor	178.14	185.27	192.68	200.39
P3	Tuckey, Michael	Hydrogeologist	148.11	154.04	160.20	166.61
P4	VanLuchene, Corey	Structural Engineer	216.23	224.88	233.88	243.23
P3	Varelmann, Josh	Safety Coordinator	119.10	123.87	128.82	133.98
P1	Vega, Christian	Environmental Geologist	82.04	85.32	88.73	92.28
P3	Waddell, Robbie	Civil Engineer	163.93	170.49	177.31	184.40
T2	Westgate, Doug	Surveyor	148.99	154.95	161.15	167.59
P2	Wilcox, Danielle	Environmental Geologist	98.30	102.23	106.32	110.58
T2	Willis, Samuel	Designer	84.97	88.37	91.90	95.58
P3	Winters, Steven	Environmental Scientist	159.10	165.46	172.08	178.96
P4	Wong, Barry Ka-hock	Geotechnical/Materials Testing	265.60	276.23	287.28	298.77
T3	Woodman, Jason	IT	162.47	168.97	175.73	182.75

*Billing Rate will be in accordance with the attached guideline page for instructions regarding the "Overhead Items: used for Professional Billing Rate Calculation," and the attached "Sample Standard Contract for Professional Services," Article II, Compensation

****Key Project Personnel (Bold)**



EDUCATION

MS, Geology, Western Michigan University, 1987
BA, Geology, Albion College, 1984
ASFE Fundamentals of Professional Practice #16
Magna cum Laude

REGISTRATIONS

Certified Professional Geologist, AIPG #10371

AFFILIATIONS

American Institute of Professional Geologists (AIPG)
Western Michigan University Faculty
Lansing Community College Faculty
Lansing/Dewitt Sunrise Rotary Past President

SPECIAL TRAINING

PSMJ Project Manager Training, 2015
40 Hour OSHA 29 CFR HAZWOPER Trained
8 Hour OSHA Annual Refresher Health and Safety Training

**Work with Previous Employer*

SCOTT G. PARK, C.P.G.

ENVIRONMENTAL DEPARTMENT MANAGER

Mr. Park is a Senior Geologist responsible for department management, project supervision and management, client contact, evaluation and assessment of contaminated sites including PFAS, coordination of field efforts, preparation of reports, and oversight of staff. His areas of specialty include: underground storage tank (UST) regulations, Corrective Action and Closures – Michigan’s Part 213 of Public Act 451; Hazardous site investigations and closures – Part 201 of Michigan’s Public Act 451; Phase I/II environmental site assessments and baseline environmental assessments – Part 201 of Michigan’s Public Act 451; groundwater contamination and remediation; soil contamination and remediation; RCRA facility and former Manufacture Gas Plants (MGPs) investigations.

Mr. Park has developed a very strong relationship with staff at EGLE, working closely with EGLE for over 30 years. He has been the principal investigator and project manager for industrial, commercial, and underground storage tank projects, bedrock, soil, and groundwater site investigations, including multiple aquifer evaluations throughout Michigan. He has prepared RIFS, Remedial Action Plans, No Further Action reports, and underground storage tank site assessment documentation including initial and final assessment reports and closure reports in accordance with Part 213 of Act 451. Mr. Park’s experience also includes on-site geologist/coordinator for numerous groundwater and soil sampling events, monitoring well installations, UST removals and site remediation.

Mr. Park has provided project management and supervisory experience for more than 1,000 Transaction Due Diligence assessments in Michigan, Ohio, and Indiana, including extensive multiple city block assessments in urban and commercial districts in Michigan. He managed field exploration and report preparation relating to the completion of Baseline Environmental Assessments (BEAs) in accordance with Part 201 of Act 451.

Mr. Park has provided technical presentations to many clients and in public forums involving site investigations and a variety of corrective actions. In 2017 and 2018, Mr. Park gave public presentations on Perfluorinated (PFAS) chemicals at the Michigan Airport Conference, and the Michigan AIPG Conference, respectively.

PROJECT EXPERIENCE

LEAKING UNDERGROUND STORAGE TANK SITE

- **Michigan Department of Environment, Great Lakes, and Energy (EGLE), Former Matthews Service, Durand, Michigan.** Project Manager for a Part 213 LUST investigation, remedial design, and subsequent source soil interim action. DLZ was retained to evaluate exposure risks including vapor intrusion as a result of both residual and mobile LNAPL under the former station (converted to a residential duplex) and adjacent to residential homes. The Site investigation completed in 2020 included the delineation of LNAPL, its migration, and a thorough risk assessment to evaluate potential exposure to site residents. Subsequent corrective action in 2021 included engineering design, bid specifications, contractor management, building demolition, dewatering, contaminated soil, and UST removal. Post excavation monitoring has shown a 99% reduction in soil and groundwater impacts and elimination of risk (2018-current).
- **Michigan Department of Environment, Great Lakes, and Energy (EGLE), Superstop #9, Lansing, Michigan.** Project Manager for a Part 213 LUST investigation of a highly contaminated active gasoline station in Lansing. DLZ was retained to evaluate exposure risks including vapor intrusion as a result of both residual and mobile LNAPL under the station and adjacent to residential homes. The investigation completed in 2016 included the delineation of LNAPL and its migration, and the installation and sampling of 12 vapor points for vapor intrusion assessment (2016 – current).
- **Michigan Department of Environment, Great Lakes, and Energy (EGLE), Gregory Market, Gregory, Michigan.** Project Manager for a large-scale Part 213 LUST investigation of both bedrock and glacial aquifers in a multi-block area of Gregory Michigan. The project has included a Remedial Investigation, Feasibility Study, Remedial Design, System Installation Oversight and Operation and Maintenance. Ongoing groundwater treatment of the glacial aquifer includes the use of nutrient enhanced low flow biosparging to aid in the bio- attenuation of gasoline related groundwater impacts adjacent to and beneath commercial buildings while reducing effects of volatilization (2012 – current). *
- **Parks & Recreation LUST Closure Waterford Township, Michigan.** Project geologist involved in contaminant and geological review and interpretation of a Leaking Underground Storage Tank closure. Closure included LIF/UVOST data used to delineate residual contamination on private property and Michigan Department of Transportation (MDOT) Right-of Way. Closure included the preparation of an MDOT Technical Summary Report and approved MDOT Licensing Agreement (2016).
- **Michigan Department of Environment, Great Lakes, and Energy (EGLE), Former Frank’s Service, Durand, Michigan.** Project Manager for a Part 213 LUST investigation of a former gasoline station; now converted into a restaurant. After completion of an interim response excavation, DLZ was retained to monitor groundwater impacts and evaluate ways to enhance natural attenuation of contaminants. A sulfate-based chemical “Nutrisulfate” was selected to increase the anaerobic bioattenuation. DLZ oversaw the injection of 1,000 gallons into the impacted zone of groundwater. Initial results show good distribution of the product and increased contaminant attenuation (2015 – current).

WELLHEAD PROTECTION PLANS

- **Waterford Township and Independence Township, Wellhead Protection Plans in Oakland County, Michigan.** Project and Technical Manager for completion of two Wellhead Protection Plans in Oakland County, Michigan. Both plans involved research and review of potential contaminant sources that may

impact municipal well field locations and public water supply and quality. Each Plan also included the review of potential sources of emerging PFAS contaminants (2019 – 2022).

MANUFACTURED GAS PLANTS (MGP)

- **Manufactured Gas Plant (MPG)** – Prior to joining DLZ in July 2015, Mr. Park was a Senior Geologist and Project Manager with AECOM. His experience at AECOM includes being the Project Manager of Five Michigan MGP sites for **Consumers Energy** that included Remedial Investigation (RI) reporting, exposure pathway analyses, source remediation, deed restrictions and No Further Action (NFA) reports (2013 – 2015).

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MUNICIPAL BROWNFIELD

- **RCRA Brownfield Site, Lansing, Michigan.** Project Manager and Principal Investigator for industrial redevelopment of one of Michigan's first brownfield sites. The project entailed initial due diligence investigations including Phase I, Phase II studies, Category S baseline environmental assessments, and subsequent RCRA facility investigation and proposed RCRA corrective measures. Project involved exposure pathway evaluations and fate and transport of volatile organics in groundwater and potential risks to third parties and municipal water supply systems (1998 – 2013). *
- **Arcadia Creek Corridor - Phase II Environmental Assessment, Kalamazoo, Michigan.** Project Manager and Principal Investigator of an extensive Phase II assessment for business redevelopment of nine square blocks. This project included identification and definition of six groundwater contaminant plumes and multiple areas of soil contamination through the installation of 58 monitor wells and the drilling of numerous soil borings (1989 – 1991). *
- **Arcadia Creek Corridor –Soil Remediation, Kalamazoo, Michigan.** Project Manager for soil remediation on three city blocks for downtown Brownfield Redevelopment (1989 – 1991). *
- **Township of Owosso, Brownfield Site, Owosso, Michigan.** Project Manager and Principal Investigator of a 60-acre abandoned industrial brownfield property. Project included preparation of a brownfield revitalization loan on behalf of the township, soil and groundwater investigation, geophysical investigation, free product identification and evaluation, and completion of a Category S baseline environmental assessment on behalf of proposed new property owners. The BEA, involving use of designed engineered controls was approved for adequacy by the EGLE (1991 – 1993). *

PHASE I ESA/TRANSACTION DUE DILIGENCE

- **Standard Federal Bank/Lasalle Bank/Bank of America, Michigan.** Project Manager and staff geologist for over 200 Phase I ESAs on behalf of various financial institutions in Michigan. Projects covered vacant greenspace, to large industrial and commercial businesses, and included purchases, refinances, and bank foreclosures. *
- **Demmer Corporation, Michigan, Minnesota, South Dakota.** Project Manager for over 20 Phase I ESAs and multiple BEAs for Demmer Corporation redevelopment in Michigan, Minnesota, and South Dakota. *
- **7-Eleven, Various Locations in Michigan.** Staff Geologist for completion of 15 BEA and Due Care Plans on behalf of 7-Eleven for the purchase and redevelopment of 15 retail gas stations in Michigan. *

- **Michigan Department of Transportation, Due Diligence Program, Monroe, Michigan.** Technical Manager for a multi-phase due diligence program on a portion of an abandoned paper mill in downtown Monroe, Michigan. Completed transaction due diligence on a 33-acre portion of a former paper mill that operated for more than 75 years. This included Phase I ESA, Phase II Investigation, preparation of a Baseline Environmental Assessment (BEA), and Due Care Documentation. *
- **Lansing Board of Water & Light, Lansing, Michigan.** Project Manager. Conducted the investigation for all environmental related issues during planning and construction of 7 miles of a transmission line corridor in Lansing, Michigan. The evaluation identified 32 sites of environmental concerns and required soil and ground sampling at 9 properties along the corridor easement. The environmental investigation also included the completion of all related NEPA related surveys and permitting including wetland delineation and ecological surveys.
- **14 Mile Corridor Project, Oakland County, Michigan.** Lead geologist investigating environmental related issues during planning and design of over 8 miles of water main placement in Oakland County Michigan. The investigation identified over 15 sites of known or potential contamination that could adversely impact construction. Subsequent Phase II investigations were completed with results used to quantify the risk for construction planning.

LANDFILL INVESTIGATION/HYDROGEOLOGY

- **Former Thermofil Site (Chlorinated VOCs and PFAS), Brighton, Michigan.** Lead Environmental Engineer for a feasibility study involving the remediation of PFAS chemicals in groundwater and soil at an industrial site in Brighton MI. Working with the Michigan AG, and Dept. of EGLE, the feasibility study involved the evaluation of multiple options for disposal of source soil and remediation of PFAS and CVOC impacted groundwater extending at least ½ mile downgradient of the source location. (2021-Ongoing).
- **Waste Management Peoples Landfill, Birch Run, Michigan.** Principal Investigator for a large-scale landfill hydrogeology investigation involving potential leachate migration from a former Act 87 waste cell into adjacent surface water. The investigation included a detailed analysis of stratigraphy, groundwater migration, and seasonal geochemical analyses of both surface water and groundwater. The results prompted the proposal and subsequent construction of a impermeable landfill cap and slurry wall around the former Act 87 cell. Due to the project complexity of the results and corrective action, a presentation was made to the EGLE WHMD Quality Review Team (QRT), and the subsequent Final Assessment Report (FAR) was approved by the EGLE. *
- **Consumers Energy BC Cobb Ash Landfill, Muskegon, Michigan.** Principal Geologist for the site evaluation including potential offsite surface water discharges of metals originating from coal ash placement. The project resulted in the preparation of a Remedial Action Plan, approved by the EGLE, and the subsequent installation of a slurry wall around the ash landfill to eliminate offsite groundwater migration. The successful abatement efforts resulted in the property being redeveloped into municipal recreational facilities.

BEDROCK INVESTIGATION

- **Michigan Department of Environment, Great Lakes, and Energy (EGLE), Gregory Market, Gregory, Michigan.** Project Manager for a bedrock investigation, involving the potential migration of hydrocarbons

into the shallow drinking water bedrock aquifer. The investigation involved coring and logging the upper 75 feet of the Pennsylvanian age Marshall Sandstone, vertical aquifer sampling using inflatable packers, and installation of six bedrock monitor wells. The investigation trace concentrations of chemicals in the bedrock aquifer, unrelated to the local petroleum impacts (2010 – current).

- **Thermos Factory – Norwich, Connecticut.** Field manager and principal site geologist for the investigation of migrating DNAPL (TCE) in fractured bedrock in Connecticut. The six-month investigation included bedrock coring and logging, vertical aquifer sampling using inflatable packers, and monitor well installation in bedrock horizons showing highest dissolved DNAPL concentrations (1995 – 1997).*

WATER RESOURCES

- **JBS Plainwell/Murco Foods, Plainwell, Michigan** - Principal geologist and project manager of long-term monitoring of groundwater impacts resulting from land application of waste generated at the beef processing facility. Many years of land application of process waste waters resulted in groundwater impacted with elevated nitrate, phosphorous and ammonia. After converting to a wastewater treatment facility in 2000, processes of phytoremediation and natural attenuation have resulted in a contaminant reduction of at least 80% in the potable aquifer and have greatly reduced exposure risk to impacted groundwater. Groundwater monitoring continues through monitoring well and residential well sampling (1998 – current).

LITIGATION AND EXPERT WITNESS

- **Fred's Tire & Auto, Fowlerville, Michigan.** Project Manager for evaluation of potentially responsible party and source locations regarding commingling of groundwater contaminant plumes at adjacent sites. The evaluation included forensic analysis of gasoline free product (NAPL) for relative age dating of releases. Litigation support was provided for issues relating to identification of responsible party for investigation and remediation of groundwater contaminated with gasoline free product (NAPL). *

PUBLIC FORUMS AND PRESENTATIONS

- **Municipal Well Field Vulnerability Assessments.** Coordinator and certified instructor of municipal well field vulnerability assessments, as governed through the Department of Homeland Security. Instruction through Inter Tribal Council at municipalities in Michigan, Wisconsin, and Minnesota. *
- **Michigan Department of Environment, Great Lakes, and Energy (EGLE), Birch Run, Michigan.** Presented corrective measures proposal relating to leachate containment for a solid waste landfill. Presentation led to DEQ approval of the remedial action plan (RAP). *
- **Michigan Airport Conference, February 2017** – Presented “Perfluorochemicals: Public Health and Environmental Challenge” at the Michigan Airport Conference in February 2017.
- **Michigan AIPG, June 2018** – Presented “Perfluorochemicals: Wurtsmith Airforce Base” at the Michigan Section of the American Institute of Professional Geologist conference, June 2018.



SARAT B. BOBBA, P.E.

PROJECT MANAGER

Mr. Bobba is a Professional Engineer with over 25 years of experience in providing environmental consulting services including contaminated site remedial investigations and feasibility studies, pilot tests, remedial options analyses, remedial design, plans and bid specifications, system installations, construction oversight, monitoring, operations and maintenance, groundwater modeling, air use permits, NPDES permits, MS4 and SWMP, SESC Guidebook, groundwater discharge permits, SPCC plans, SWPPP regulatory compliance, Phase I and Phase II Environmental Site Assessments, and Baseline Environmental Assessments using ASTM standards and State guidelines.

Mr. Bobba has extensive experience in project management/oversight, contractor management, budgeting, technical report preparation, proposal development, conducting pilot tests and feasibility studies, developing, and implementing corrective actions plans, compliance document preparation, and report preparation at numerous sites. Mr. Bobba also has experience in traffic analysis, signal design, modeling, and crash analysis.

EDUCATION

M.S. Environmental Engineering, South Dakota School of Mines and Technology, South Dakota, 1993

B.S. Civil Engineering, Nagarjuna University, AP, India, 1990

REGISTRATIONS

Professional Engineer
Michigan 1999, #6201046254

CERTIFICATIONS

UST Certified Professional,
Michigan, 2003, #1019

Certified Wastewater
Treatment Plant Operator, A-
2d, B-3b, #W4702

SPECIAL TRAINING

OSHA 40-Hour HAZWOPER
Training, and Annual Updates

OSHA 30 Hour Construction
Safety & Health Course

**Work with Previous Employer*

PROJECT EXPERIENCE

SITE INVESTIGATIONS AND REMEDIATION

- **Paw Paw Plating, Paw Paw, Michigan.** Senior Engineer. Involved in the site remediation activities in the implementation of anerobic biodegradation of chlorinated contaminants in groundwater using 3DMe. Conducted remediation performance monitoring, and vapor intrusion investigations and mitigation system installation and maintenance. (2008-Ongoing)
- **McDonald's Crosstown Service, Kalamazoo, Michigan.** Project Manager. The project scope included groundwater pumping system operation and improvements, groundwater monitoring, and groundwater modeling. The groundwater extraction system is operating to extract petroleum contaminated groundwater at 200 gallons per minute. The pumping system had been capturing the groundwater contamination from further spreading into the water supply wells downgradient. (2008-Ongoing)
- **Wayland Recycling, Wayland, Michigan.** Project Manager. A former fuel recycling facility located in Wayland, Michigan. Conducted remedial investigations, prepared bidding specifications, and assisted in the procurement of a trade contractor for building demolition, and the removal and off-site disposal of contaminated non-hazardous and hazardous soils from grossly contaminated areas. Oversaw the source removal, disposal, and cleanup activities. Designed and planned the dewatering and treatment to allow source soil removal. Obtained and managed National Pollutant Discharge Elimination System (NPDES) permit for the discharge of the treated dewatering liquids. (2008-Ongoing)

- **Nolichucky, Kalamazoo, Michigan.** Senior Engineer. Conducted bench and pilot scale feasibility studies for in-situ chemical oxidation (ISCO); prepared bidding specifications and oversaw the contractor for the removal and off-site disposal of contaminated soils. Conducted extensive sampling to identify the presence and extent of PFAS contamination in groundwater and surface water. (2013-Ongoing)
- **Paw Paw Laundry, Paw Paw, Michigan.** Senior Engineer. Conducted investigations to delineate hazardous soils for obtaining hazardous waste disposal facility approvals. Prepared bidding specifications and oversaw the contractor for building demolition, and the removal and off-site treatment/disposal of contaminated hazardous soils. (2016 – 2017)
- **D & L Fuels, Charlotte, Michigan.** Senior Engineer. Prepared bidding specifications and assisted in the procurement of trade contractor for partial demolition, and the removal and off-site disposal of contaminated soils. (2017 – 2018)
- **Berrien County Sheriff's Substation and Sterling Express Ltd., Galien, Michigan.** Senior Engineer. Prepared bidding specifications and oversaw trade contractor for building demolition, and the removal and off-site disposal of contaminated soils, and the application RegenOx. Planned and implementing in-situ chemical oxidation to reduce contaminants. (2014 – Current)
- **Production Rubber, Paw Paw, Michigan.** Senior Engineer. Involved in the site remediation activities in the implementation of soil vapor extraction and anerobic biodegradation of chlorinated contaminants in groundwater using 3DMe. Conducted oversight of trade contractor, remediation performance monitoring, and vapor instruction monitoring. (2018 – Current)
- **Osceola Refinery, Reed City, Michigan.** Project Engineer. Planning, design, and construction and operational oversight of a soil vapor extraction/ air sparging (SVE/AS) system with catalytic oxidizer and vapor-phase carbon units for off-gas treatment. The SVE/AS system capable of extracting 2,000 cfm of contaminated vapors from a series of horizontal SVE wells and injecting 200 cfm of clean air through a series of vertical sparge wells. (2007-2013)
- **Davis Country Corners, Mancelona, Michigan.** Project Engineer. Planning, design, and construction and operational oversight of an SVE/AS system with vapor-phase carbon units for off-gas treatment. The SVE/AS system capable of extracting 250 cfm of contaminated vapors from vertical SVE wells and injecting 75 cfm of clean air through vertical sparge wells. (2008-2014)
- **Dave's Repair and Herb's Auto, Dowagiac, Michigan.** Project Engineer. Planning, design, and construction and operational oversight of an SVE/AS system with catalytic oxidizer initially and vapor-phase carbon units for off-gas treatment. The SVE/AS system capable of extracting 500 cfm of contaminated vapors from vertical SVE wells and injecting 100 cfm of clean air through vertical sparge wells. (2008-2014)
- **Production Painting, Kalamazoo, Michigan.** Senior Engineer. The project scope included the investigation of subsurface soil and groundwater contamination resulting from historic operation at the facility, develop and implement soil remediation. The contaminants include petroleum and chlorinated solvents. Prepared bidding specifications for the demolition of the old industrial structure, and dewatering, and excavation and off-site disposal of grossly contaminated soils. (2013-2017)

- **Aero-Motive Company, Kalamazoo, Michigan.** Project Engineer. Planning, design and construction oversight of two groundwater pump and treat systems using an air stripper and liquid-phase carbon units. Conducted pump tests and SVE pilot studies to determine feasible alternatives for cleanup at the site. *

BROWNFIELDS AND DEMOLITION

- **Former Kalamazoo Creamery Site for the Kalamazoo County Land Bank Authority, Kalamazoo, Michigan.** Senior Engineer/Task Manager. The project scope included the preparation of Phase I Environmental Site Assessment (ESA) to MSHDA standards, asbestos and hazardous material survey, structural survey of a common wall between the Creamery being demolished and the adjacent building to remaining intact, panoramic survey of the site, boundary survey, bid specification preparation for waste removal and building demolition, construction oversight, and reporting, Phase II ESA, and Due Care Plan. (2011 – 2012)
- **Former Kalamazoo Creamery Site for Hollander Development Corp, Kalamazoo, Michigan.** Senior Engineer. The project scope included conducting Vapor Encroachment Screening (VES), preparing Response Activity Plan (RAP), assisting in the development of Brownfield Redevelopment Plan (Act 381 Work Plan), and the preparation the Documentation of Due Care Compliance. (2018 – Current)
- **Demolition at Several Sites for the City of Kalamazoo, Kalamazoo, Michigan.** Project Engineer. Demolition design and specification preparation, and contractor demolition oversight. Work included the demolition and removal of buildings, USTs, ACM, and other miscellaneous structures. The sites include residential commercial and industrial properties within the City of Kalamazoo’s redevelopment area. (2006 – 2019)
- **Merchant’s Publishing for the Kalamazoo County Land Bank Authority, Kalamazoo, Michigan.** Project Engineer. Demolition design and specification preparation, and contractor demolition oversight. Work included the demolition and removal of buildings, ACM, and other miscellaneous structures. (2015 – 2016)
- **Berrien County Sheriff’s Substation and Sterling Express Ltd., Galien, Michigan.** Senior Engineer. Prepared bidding specifications and oversaw the contractor for building demolition, and the removal and off-site disposal of contaminated soils. (2014 – 2015)
- **Production Painting, Kalamazoo, Michigan.** Senior Engineer. Prepared bidding specifications and oversaw the trade contractor for building demolition, and the removal and off-site disposal of source area contaminated soils. (2013 – 2014)
- **Numerous Properties and Sites, Southwest Michigan.** Involved/assisted in conducting several Phase I and Phase II Environmental Site Assessments (ESAs), and Baseline Environmental Assessments (BEAs) and Due Care Plans for prospective purchasers of contaminated properties.

UNDERGROUND STORAGE TANKS (USTS)

- **Dave’s Shell Site, Buchanan, Michigan.** Project Manager. Responsible for UST removal, remedial investigations, system design, construction oversight, and Operation and Maintenance (O&M). (2008-2012)
- **Production Painting, Kalamazoo, Michigan.** Project Engineer. Responsible for the design and oversight of UST removal, demolition of the old industrial structures, and excavation and off-site disposal of grossly contaminated soils. (2013-2017)

- **Former Superior Cleaners, Kalamazoo, Michigan.** Project Engineer. Demolition design and specification preparation, and contractor oversight of UST removal and demolition of structures. DLZ followed the Michigan Department of Environmental Quality (MDEQ) Public Act 451, Part 211 and 213 for the registration, removal, disposal, and investigation of the USTs. (2009)
- **Baker Oil Co, Battle Creek, Michigan.** Prepared bid specifications for underground storage tank (UST) removal and conducted the UST removal oversight. *
- **Numerous Other Sites in Michigan.** Conducted and involved in the UST removal at several sites in Michigan. Prepared specifications for the removal of the USTs. Conducted LUST site investigations and remediation at numerous sites.

PERMITS AND REGULATORY

- **Michigan Department of Military and Veterans Affairs (MDMVA), Various Facilities in Michigan: Air Emissions Inventory.** Senior Engineer/Project Manager. Performed Air Emission Inventories at various Michigan Army National Guard (MIARNG) facilities throughout the State in compliance with the U.S. Clean Air Act and Amendments as well as federal greenhouse gas reporting requirements per 40 CFR part 98 and Executive Order 13514. Assessed all existing and potential emission sources including, but not limited to, Ozone Depleting Substances (ODSs), Criteria Pollutants, hazardous air pollutants (HAPs), and greenhouse gases (GHGs). Conducted facility inspections and prepared emission inventory reports.
- **Michigan Department of Military and Veterans Affairs (MDMVA), Various Facilities in Michigan: Integrated Contingency Plans (ICP). SPCC Plans. SWPP Plans.** Senior Engineer/Project Manager. Prepared and updated ICPs at several Michigan Army National Guard (MIARNG) armories, organizational maintenance shops (OMSs), training sites, and other miscellaneous support facilities. Reviewed available background information, inspected facilities, and prepared ICPs. Work included the preparation and updating of Storm Water Pollution Prevention Plans (SWPPPs) in compliance with stormwater discharge National Pollutant Discharge Elimination System (NPDES) general permits, Spill Prevention Control and Countermeasure Plans (SPCC), and Pollution Incident Prevention Plans (PIPP).
- **Michigan Department of Military and Veterans Affairs (MDMVA), Municipal Separate Storm Water System (MS4), Michigan.** Senior Engineer/Project Manager. Prepared Municipal Separate Storm Water System (MS4) permit application and Storm Water Management program (SWMP) for storm water discharges at Joint Forces Headquarters (JFHQ) under the NPDES permit. Currently, assisting DMVA in the assessment of applicability and development of a State-wide MS4 permit for Michigan Army National Guard facilities in urbanized areas throughout the State.
- **Michigan Department of Military and Veterans Affairs (MDMVA), Various Facilities in Michigan: Water System Vulnerability Studies.** Senior Engineer/Project Manager. Performed drinking water system vulnerability assessment at several Michigan Army National Guard facilities in accordance with the Safe Drinking Water Act (SDWA) Amendments and the Department of Defense policies. Reviewed available background information, inspected water system assets at the facilities, and prepared Water System Vulnerability Assessment (WSVA), Emergency Response Plan (ERP), and Drinking Water Sampling Management Plan (DWSMP) reports.

- **Capital Regional Airport Authority, Lansing, Michigan.** Senior Engineer/Project Manager. Prepared and updated, as needed, Storm Water Pollution Prevention Plans (SWPPPs) in compliance with stormwater NPDES permits, Spill Prevention Control and Countermeasure Plan (SPCC), and Pollution Incident Prevention Plan (PIPP) for Lansing International Airport, and Mason Jewett Field. Conducted surface water retention pond sampling activities due to airport de-icing activities utilizing ethylene glycol.
- **Michigan Department of Environment, Great Lakes, and Energy (EGLE), Wayland Recycling, Wayland, Michigan.** Project Manager. Prepared and obtained NPDES permit for discharges to surface waters from the dewatering treatment system. Conducted the operation of the remediation systems to meet the permit requirements and required monthly permit reports. Oversaw the trade contractor's source removal and disposal, and operation of the dewatering treatment system to meet the permit requirements. Completed and submitted the required monthly discharge monitoring and compliance reports in MiWaters.
- **Michigan Department of Technology Management and Budget (MDTMB), State Secondary Complex, Lansing, Michigan:** Senior Engineer/Project Manager. DLZ was retained to assist in the mercury minimization efforts in the sanitary sewer. Work included inventory of sanitary sewer manholes, prepare sewer map, review past sewer sample data, and make recommendations for mercury source identification and minimization.
- **NPDES Permits.** Prepared and obtained several National Pollutant Discharge Elimination System (NPDES) permits for discharges from several groundwater remediation systems. Conducted the operation of the remediation systems to meet the permit requirements and required monthly permit reports.
- **Air Permits.** Prepared and obtained several General Permit to Install for air discharges from several soil/groundwater remediation systems. Conducted the operation of the remediation systems to meet the permit requirements/permit exemptions.

ADDITIONAL PROJECT EXPERIENCE

- **Michigan Department of Military and Veterans Affairs (MDMVA), Grand Rapids Veterans Affairs, Grand Rapids, Michigan.** Project Engineer for pond sediment contamination investigation, cleanup assessment options, grant options, and working with stake holders and government agencies to remediate the sediment and improve the flow of the stream by possible dam removal. (2014-2016)
- **Michigan Department of Military and Veterans Affairs (MDMVA), Camp Grayling MATES Facility, Grayling, Michigan.** Project Manager. Operation, maintenance, and monitoring of gray water treatment system. (2011 – Ongoing)
- **Fort Custer Berm Recycling, Augusta, Michigan.** Project Manager responsible for development of plans, specifications, bidding documents and contractor oversight management for the Clearing and Grubbing of the Project Area, Excavation of Designated Berms, Mechanical Sifting of Excavated Berm Materials, Segregation of Lead Fragments from Clean Materials, Restoration of Excavated Berms, Placement of Lime into Lifts, Transportation and Disposal of Lead containing material. (2010)



EDUCATION

Ph.D. Geology, Michigan State University, 1988

Ph.D. Studies in Geology, University of Kansas and Michigan State University, 1977-1981 and 1985-1988

M.S. Geology, Michigan State University, 1975

B.S. Earth Science, Michigan State University, 1972

Course work in Groundwater Modeling and Contaminant Hydrology, Western Michigan University

CERTIFICATIONS

AIPG Certified Professional Geologist 1995, #9540

Certified Underground Storage Tank Professional, EGLE, 1996, #899

AFFILIATIONS

National Ground Water Association

American Institute of Professional Geologists

MICHAEL E. TUCKEY, PH.D., C.P.G.

GEOLOGIST/HYDROGEOLOGIST

Dr. Tuckey has 34 years of experience in performing and managing environmental investigations and cleanups including aquifer modeling, development of work plans and corrective action plans, data interpretation, writing hydrogeologic reports, conducting pump and slug tests, and technical review of company reports. He is also experienced in fieldwork and report writing for environmental audits. Before becoming a hydrogeologist, he served as a Water Resources Planner for the Michigan Department of Natural Resources and as a Geophysicist in the petroleum industry. While pursuing his doctoral studies in geology, he served as a Research Assistant for the Groundwater Section of the Kansas Geological Survey, and also served as a Geology Instructor at Lansing Community College and Jackson Community College and as a Teaching Assistant at Michigan State University.

Dr. Tuckey has extensive experience using the following groundwater models and software: FLOWPATH, VISUAL MODFLOW, GMS MODFLOW, WELFLO, CAPZONE, GWPATH, ARMOS, AQTESOLV and SURFER. Dr. Tuckey is also familiar with the following groundwater models: WHPA, QUICKFLOW, MT3D and BIOPLUME II.

PROJECT EXPERIENCE

BROWNFIELDS/INVESTIGATIONS

- **Osceola Refinery, Reed City, Michigan.** Geologist. Performed groundwater sampling in response to a fuel release at a former oil refinery under the MDEQ Level of Effort (LOE) Contract. (2008 – 2012)
- **Canadian National Rail Corridor, Port Huron, Michigan.** Geologist. Performed soil sampling to determine disposal options for soils to be removed during construction. (2012)
- **Scott Brass, Mishawaka, Indiana.** Geologist. Installation of soil borings and groundwater sampling to investigate the extent of chlorination solvents in groundwater at an industrial site. (2012)
- **Camp Grayling Area 3, Camp Grayling, Michigan.** Project Geologist. Soil investigation at a waste disposal area at a military training site under a contract with the Department of Management and Budget. Dr. Tuckey prepared a remedial action plan for installation of an exposure barrier over contaminated soils, and a No Further Action Report for site closure. (2009 – 2014)

SPECIAL TRAINING

40-Hour HAZWOPER Training,
including Annual Updates,
OSHA, #1705

OSHA Hazardous Waste
Supervisors Training

CPR Training

Principles and Applications of
MODFLOW - International
Ground Water Modeling
Center

ASTM RBCA TRAINING
SEMINAR

MDEQ Statistics Training
Seminar

- **Bay Harbor, Petoskey, Michigan.** Project Geologist. Review of hydrogeologic reports for a site contaminated with cement kiln dust under the LOE contract with the Department of Environmental Quality. (2009 – 2011)
- **McDonalds Crosstown Service, Kalamazoo, Michigan.** Project Geologist. Three dimensional groundwater modeling and groundwater sampling to evaluate the performance of the groundwater remediation system under the LOE contract with the Department of Environmental Quality. (2009 – 2016)
- **Southwest Cass County Landfill, Niles Michigan.** Project Geologist. Hydrogeologic investigation of a former landfill site. Project involved vertical aquifer profiling using rotosonic drilling and monitoring well installation under the LOE contract with the Department of Environmental Quality. (2008 – 2011)
- **MDMVA Environmental Compliance Camp Grayling North Post 40 and Range 30, Camp Grayling, Michigan.** Project Geologist. Hydrogeologic investigation, including groundwater sampling for PFAS (2018), at a military training site under a contract with the Department of Management and Budget and under the LOE contract with the Department of Environmental Quality. (2007 – 2020)
- **Sunshine Laundry, Dewitt, Michigan.** Geologist. Performed soil, groundwater and soil gas sampling in response to a solvent release at a former laundry under the LOE contract with the Department of Environmental Quality. (2018-2019)
- **Four Corners Site, Traverse City, Michigan.** Geologist. Performed groundwater modeling for the design of a groundwater remediation system, installation of soil borings and groundwater sampling under the LOE contract with the Department of Environmental Quality. (2005 – 2011)
- **National Gypsum, Alpena, Michigan.** Geologist. Hydrogeologic investigation, interpretation of slug tests, groundwater sampling, and report preparation at a site contaminated with cement kiln dust under the LOE contract with the Department of Environmental Quality. (1999 – 2011)
- **Wayland Recycling, Wayland, Michigan.** Geologist. Groundwater, soil, and vapor intrusion sampling at an industrial site under the LOE contract with the Department of Environmental Quality. Subsurface drilling was performed using a laser induced fluorescence (LIF) probe to estimate the extent of nonaqueous phase liquids (NAPL) in the subsurface. Performed groundwater modeling to predict groundwater flow volumes during proposed excavation dewatering. (2007 – 2018)
- **W.L. Hamilton, Bangor, Michigan.** Geologist. Soil and groundwater sampling and subsurface investigation using a membrane interface probe (MIP) to determine the extent of chlorinated solvents in soil and groundwater under a contract with the Department of Environmental Quality. (2015-2018)

- **Mishawaka Central Services Facility, Mishawaka, Indiana.** Geologist. Remedial investigation to assess soil and groundwater contamination at a site with buried fill material. (2018-2019)
- **Wessel Road Quarry, Alpena, Michigan.** Geologist. Groundwater and surface water sampling at a site contaminated with cement kiln dust under a contract with the Department of Environmental Quality. Conducted performance monitoring and evaluation of a permeable reactive barrier to remediate metals in groundwater. (2014-2022)
- **Nolichucky site, Kalamazoo, Michigan.** Geologist. Soil and groundwater sampling to investigate the extent of contamination at a former paper manufacturing site under a contract with the Department of Environmental Quality. (2016)
- **Mishawaka LTCP Tunnel, Mishawaka, Indiana.** Geologist. Soil and groundwater sampling to investigate the potential for contamination along the proposed route of a tunnel. (2016)
- **Production Rubber, Kalamazoo, Michigan.** Geologist. Groundwater sampling at an industrial site under a contract with the Department of Environmental Quality. (2014-2017)
- **Paw Paw Laundry, Paw Paw, Michigan.** Geologist. Soil, groundwater, and vapor sampling at a former laundry to investigate a solvent release under a contract with the Department of Environmental Quality. (2016-2017)
- **Star Tire, Elkhart, Indiana.** Geologist. Soil and groundwater sampling at a former tire store to investigate a solvent release under a contract with the City of Elkhart. (2017)
- **Rush County Jail, Rushville, Indiana.** Geologist. Soil and groundwater investigation to investigate impacted soil encountered during demolition of a building. (2017)
- **INDOT US-27, Fort Wayne, Indiana.** Geologist. Soil sampling to investigate the potential for contamination along the proposed US-27 maintenance and traffic signal modernization construction zone. (2017)
- **INDOT US-12, East Chicago, Indiana.** Geologist. Soil and groundwater sampling to investigate the potential for contamination along the proposed US-12 intersection improvement area construction zone. (2017)
- **Grand Rapids Veterans Facility, Grand Rapids, Michigan.** Geologist. Soil sampling to investigate the extent of contaminated sediments in a pond.
- **Gary Airport, Gary, Indiana.** Geologist. Groundwater sampling to investigate environmental impacts from former industrial operations at the site. (2015-2016)
- **Production Painting, Kalamazoo, Michigan.** Geologist. Soil and groundwater sampling at an industrial site under a contract with the Department of Environmental Quality. (2014)
- **Camp Grayling Small Arms Range, Camp Grayling, Michigan.** Project Geologist. Hydrogeologic investigation at a military training site under a contract with the Department of Management and Budget. (2007 – 2009)

- **Fort Custer Training Center, Augusta, Michigan.** Geologist. Hydrogeologic investigation at the small arms firing ranges of a military training center under a contract with the U.S. Army Corps of Engineers and under the LOE contract with the Department of Environmental Quality. (1999 – 2022)
- **State Prison of Southern Michigan, Jackson, Michigan.** Project Geologist. Soil and groundwater investigations at a number of sites at the State Prison in Jackson. (1994 – 2014)
- **Three Rivers Anodizing, Three Rivers, Michigan.** Project Manager and Geologist. Hydrogeologic investigation at a site where a treatment lagoon for metal anodizing operations discharged to the groundwater. (1991 – 2009)
- **WLEW Radio Station, Bad Axe, Michigan.** Project Geologist and Manager. Groundwater monitoring and a soil investigation in response to a release from an aboveground storage tank under a contract with the U.S. Army Corps of Engineers. (2002 – 2006)
- **A-1 Disposal Landfill, Otsego, Michigan.** Geologist. Groundwater performance monitoring evaluation under the LOE contract with the Department of Environmental Quality. (2002 – 2006)
- **Jackson County Airport, Jackson, Michigan.** Project Geologist. Hydrogeologic investigation at two former landfills at the Jackson County Airport. (2004 – 2005)
- **Thermofil Site, Brighton, Michigan.** Geologist. Performed low-flow groundwater sampling, soil vapor sampling, monitoring well installation and PFAS source area soil and groundwater sampling under the LOE contract with the Department of Environmental Quality. (2004 – 2005 and 2018-2022)
- **Commercial Street Area, Paw Paw, Michigan.** Geologist. Hydrogeologic investigation at multiple contaminated sites under the LOE contract with the Department of Environmental Quality. (2001 – 2015)
- **Detroit Artillery Armory, Oak Park, Michigan.** Project Geologist. Soil investigation and statistical evaluation of lead contamination at a military site. (1999 – 2005)
- **Former Federal Surplus Warehouse, Lansing, Michigan.** Geologist. Prepared a Due Care Plan under a contract with the Michigan Department of Military and Veterans Affairs. (2005)
- **State Prison of Southern Michigan, Jackson, Michigan.** Project Geologist. Hydrogeologic investigation of the drift and bedrock aquifers at the State Prison in Jackson. Performed and interpreted a pump test to evaluate aquifer characteristics to design an interim remediation system. Completed a performance evaluation of the groundwater treatment system. (1993 – 2004)
- **Center Tool and Machine, Cheboygan, Michigan.** Geologist. Preparation of a work plan for a remedial investigation under the LOE contract with the Department of Environmental Quality. (2004)
- **Spartan Chemical, Wyoming, Michigan.** Geologist. Study of the effectiveness of natural attenuation in remediation of chlorinated solvents and petroleum hydrocarbons in groundwater and additional remedial investigation under the LOE contract with the Department of Environmental Quality. (2000 – 2003)

- **Zephyr Refinery, Muskegon, Michigan.** Geologist. Hydrogeologic data interpretation and report preparation at the site of a former oil refinery under the LOE contract with the Department of Environmental Quality. (1997 – 2003)
- **Selastomer Facility, Farmington Hills, Michigan.** Geologist. Hydrogeologic investigation to determine the extent of DNAPL at a manufacturing facility under the LOE contract with the Department of Environmental Quality. (1996 – 2001)
- **Mill Street Area, Ortonville, Michigan.** Geologist. Hydrogeologic investigation at multiple contaminated sites under the LOE contract with the Department of Environmental Quality. (1999 – 2000)
- **Ionia Reformatory, Ionia, Michigan.** Project Geologist. Hydrogeologic investigation at two former dump sites at the Ionia State Reformatory, field inspection of site remediation and preparation of No Further Action Reports. (1995 – 2014)
- **Capital City Regional Airport Authority, Lansing, Michigan.** Geologist. Hydrogeological investigation in response to a release of ethylene glycol from a retention pond. (1998 – 1999)
- **Diamond Reo Site, Lansing, Michigan.** Project Geologist. Hydrogeologic investigation at a large industrial site. This project also included groundwater modeling for the design of a remediation system consisting of purge wells and a collection trench. (1991 – 1999)
- **Southeast Berrien County Landfill, Berrien County, Michigan.** Geologist. Hydrogeologic investigation at the proposed expansion area of a landfill. (1997 – 1998)
- **Camp Grayling, Range 13, Camp Grayling, Michigan.** Site Manager. Remedial investigation to determine the extent of the explosive compound 2, 4-dinitrotoluene in soils. (1996 – 1997)
- **Lamina-Bronze Products, Inc., Bellaire, Michigan.** Geologist. Implemented an MDNR/RCRA-approved groundwater monitoring program for a Michigan Hazardous Waste Treatment Storage and Disposal Facility. (1993 – 1996)
- **Aurelius Road Landfill, Lansing, Michigan.** Geologist. Performed and interpreted a pump test to evaluate remedial options and determine aquifer characteristics at a former landfill. (1993 – 1994)
- **Conoco #10 Water Flood Unit, Onondaga, Michigan.** Site Manager and Geologist. Hydrogeologic investigation in response to a brine release at an oil field. Performed and interpreted a pump test to facilitate design of a remediation system. (1991 – 1992)
- **Conoco Dunn #2 Salt Water Disposal Unit, Convis Township, Calhoun County, Michigan.** Site Manager and Geologist. Hydrogeologic investigation in response to a brine release at an oil field. (1992)
- **New Albany Water Supply, New Albany, Ohio.** Geologist. Hydrogeologic investigation to determine the effect of sewer construction dewatering operations on the water supply wells in the New Albany, Ohio area. (1992)

- **Peregrine Falcon Site, Detroit, Michigan. Geologist.** Soil sampling investigations and due care reporting for a former industrial site. (2019-2020).

CORRECTIVE ACTION

- **Owosso Armory, Owosso, Michigan. Geologist.** Soil and groundwater sampling to investigate the extent of metals and polynuclear aromatic compounds at a former armory, under a contract with the Department of Military & Veterans Affairs. Supervised excavation of lead contaminated soil. (2015-2020)
- **Family Bookshelf, Fairview, Michigan. Geologist.** Pilot test involving injection of in-site chemical oxidation (ISCO) and oxygen releasing compounds (ORC) and ground water extraction for bioremediation of petroleum compounds at a UST release site. (2013-2014)
- **Detroit Light Guard Armory, Detroit, Michigan. Site Manager and Geologist.** Excavation of contaminated soils and soil verification sampling. Prepared remedial action plan for a limited site closure. (2005 – 2011)
- **Lansing USPFO/CSMS Armory, Lansing, Michigan. Site Manager and Geologist.** Excavation of contaminated soils and soil verification sampling. Prepared remedial action plan for a limited site closure. (2003 - 2014)
- **Emma Milner Site, Waterford, Michigan. Geologist.** Pilot test involving injection of in-site chemical oxidation (ISCO) and oxygen releasing compounds (ORC) and groundwater extraction for bioremediation of petroleum compounds at an UST release site. (2014-2015)
- **Fort Custer Berm Remediation and Relocation, Augusta, Michigan. Geologist.** Oversight of relocation and remediation of firing range berms and recovery of lead bullet fragments. Performed soil sampling and soil sieving of firing range berms for a feasibility study for berm lead remediation (2004 – 2010, 2021)
- **Americhem Site, Mason, Michigan. Geologist.** Performed free product recovery under the LOE contract with the Department of Environmental Quality. (2005 – 2007)
- **Adrian Armory, Adrian, Michigan. Site Manager and Geologist.** Excavation of contaminated soils and soil verification sampling. Prepared remedial action plan for a site closure and obtained closure of the site. (2006)
- **Former Plymouth Water Works Site, Plymouth, Indiana. Geologist.** Performed a pump test and groundwater modeling to evaluate the effectiveness of a groundwater recovery well in capturing a contaminant plume, and designed modifications to the recovery system. (2005 – 2006)
- **WLEW Radio Station, Bad Axe, Michigan. Site Manager and Geologist.** Excavation of contaminated soils and soil verification sampling. (2005 – 2006)
- **Zephyr Refinery, Muskegon, Michigan. Geologist.** Groundwater and free product modeling for the design of a remediation system consisting of purge wells and infiltration galleries at the site of a former oil refinery. (1994 – 2006)
- **Schoolcraft Bioremediation Site, Schoolcraft, Michigan. Geologist and Field Inspector.** Oversight of purge well and injection well installation for groundwater remediation system. (2004 – 2005)



SCOTT C. LIDGARD, P.E.

SENIOR PROJECT ENGINEER

Mr. Lidgard has more than 33 years of design and project management experience in the civil and environmental engineering fields. His areas of expertise includes: soil and groundwater remediation system design, site development, design and closure of landfills, storage tank system design, environmental feasibility and pilot studies, and demolition specification development. Project activities include project management, planning, design, coordinating field activities, construction management, permitting and preparing project reports. Field related tasks include construction oversight, soil gas sampling, remedial pilot testing, soil and groundwater sampling, density and concrete testing, and landfill inspections.

EDUCATION

B.S. Engineering, Michigan Technological University, 1985

B.S. Biological Sciences, Michigan Technological University, 1985

REGISTRATIONS

Professional Engineer
Michigan, 1991, #36802
Arizona, 2006, #46339

SPECIAL TRAINING

OSHA 40-Hour HAZWOPER Training, including Annual Updates

First Aid & CPR Training, including Updates

Industrial Solid Waste Management Regulations, 1993

Design of Double Containment Piping Systems, 1991

Sanitary Landfill Design, 1989

Implementing Ground Water Remediation Actions, 1988

Concrete Testing and Inspection, 1986

PROJECT EXPERIENCE

REMEDIATION

- **Thunder Bay Reef Habitat Rehabilitation, Alpena, Michigan.** Project Engineer. Responsible for design and development of construction documents for the construction of 29 limestone reefs in Thunder Bay, Lake Huron for the purpose of restoring historical breeding areas for lake trout, whitefish and walleye. Work entailed the loading of donated 6" to 16" diameter limestone from Lafarge, onto a barge then placed in predestinated areas in the bay. Eight small reefs were designed and created with stainless steel monitoring tubes for future biological study.
- **Bob's Standard, Newberry, Michigan.** Project Engineer. Responsible for the feasibility study, pilot test, and design of an ozone sparging system and groundwater monitoring. Also, responsible for the development of bid documents for the system along with construction and operation and maintenance oversight. The ozone sparge system includes 12 sparge points, air compressor, oxygen concentrator, 3 pound/day ozone generator, and associated control equipment housed in a mobile trailer. Several monitor wells are positioned to monitor residual contamination from the former UST area.

- **Mr. Mugs Donut Shop Former UST Site, Sault Ste. Marie, Michigan.** Project Engineer. Responsible for the development of bid documents for the removal of chlorinated and petroleum related contaminated soils and groundwater along with the addition of Regenesix oxidant for in-situ degradation of VOCs. A passive soil vapor system was also constructed. Oversaw a soil gas study after the soil removal.
- **Lakeside Former UST Site, South Haven, Michigan.** Project Engineer. Responsible for the development of bid documents for the removal of 3,000 cubic yards of petroleum related contaminated soils and groundwater. The work included steel sheeting to protect a state highway and 140 year old onsite structure.
- **Coral UST Site, Coral, Michigan.** Project Engineer. Responsible for the oversight of the operation and maintenance of an air sparging and soil vapor extraction (SVE) system along with groundwater and air monitoring. The sparge/SVE system includes 24 sparge points, air compressor, air blower, vapor carbon air treatment, and associated control equipment housed in an onsite building. Several monitor wells are positioned to monitor residual contamination from the former UST area.
- **Emma Milner Former UST Site, Waterford, Michigan.** Project Engineer. Responsible for the oversight of the operation and maintenance of an air sparging and soil vapor extraction (SVE) system along with groundwater and air monitoring. The sparge/SVE system includes several shallow and deep sparge points, air compressors, air blower, vapor carbon air treatment, and associated control equipment housed in an onsite building. Several monitor wells are positioned to monitor residual contamination from the former UST area, which are monitored by DLZ quarterly.
- **Free and Dissolved Product Removal, Carson City, Michigan.** Senior Engineer. Responsible for development of specifications and drawings for the removal of contaminated petroleum products from the groundwater. The removed liquids were conveyed to a free product tank and an onsite biological treatment reactor. System was designed to operate on compressed air. System elements include: Air compressor/dryer, pneumatic pumps/skimers, plastic and steel piping, retrofitting of existing electric pumps, and 10" diameter recovery wells.
- **CR 378 Sludge Pits, Covert Township, Michigan.** Project Manager. Responsible for oversight and direction of a consultant and remediation contractor for the site characterization and remedial remedy of two sludge pits. The sludge pits were created from discharge of residue from aboveground storage tanks containing crude oil.
- **Dickman Road Landfill, Battle Creek, Michigan.** Project Manager. Responsible for managing scientists and engineers to investigate the source area (former drum disposal area), delineate a TCE plume in the groundwater and develop an FFS. The project included soil gas investigation, test pitting, limited drum excavation and removal in Level B PPE, remedial investigation using cone penetrometer and rotosonic drilling, and an FFS.
- **Dye Road Dump, Flint, Michigan.** Project Manager. Responsible for development of specifications and construction management for removal of approximately 200 drums containing hazardous and non-hazardous materials, 3,000 tires, contaminated soils, chain link fence, decontamination facilities and restoration.

- **Former Magnetek Site, Owosso, Michigan.** Project Manager. Responsible for managing geologists on a limited remedial investigation of upgradient sources of chlorinated VOCs and delineation of chlorinated VOCs downgradient of the site.
- **400 and 410 3rd Street, Imlay City, Michigan.** Project Manager. Responsible for managing geologists on the delineation of free product and dissolved petroleum constituents due to leaking USTs.
- **Biosparge System, Tar Lake, Mancelona, Michigan (Superfund).** Project Manager. Responsible for managing scientists, engineers, and contractors on the operation and maintenance of a biosparging system and groundwater monitoring. The biosparge system includes 19 sparge points over a 700-foot long stretch, positive displacement blower, dryer, and associated control equipment housed in an on-site building. The monitor well network includes eight biosparge wells for the purpose of monitoring sparge point performance. Twenty-seven monitor wells are positioned to monitor residual contamination from the former tar disposal area.
- **Biological Treatment System, Camp Grayling, Grayling, Michigan.** Designed the collection and groundwater re-injection systems for a biological treatment system. The client decided to reuse a previously purchased ex-situ fixed film biological reactor. The bioreactor was reused in this design. Plans and specifications were developed.
- **Thumb Radiator, Lapeer, Michigan.** Project Manager. Stabilization, removal and disposal of metal-contaminated soils (hazardous and non hazardous).
- **PCB Cleanup, Willow Run Creek Site, Washtenaw County, Michigan.** Project Manager. Responsible for design review and construction oversight of a PCB remediation project on behalf of the State of Michigan. General duties included coordination of design review and construction oversight. The project included the following elements: stabilization and excavation of PCB-contaminated sludge/sediments, hazardous/TSCA landfill, sheeting/shoring, wastewater treatment facilities (mobile and permanent), health and safety issues, and restoration.
- **Detroit River Sediment Study, Detroit, Michigan.** Project Manager. Treatability study project. The project included procuring five different vendors to perform five types of remedial technologies and sediments from the Trenton Channel area. The study will be used to establish the most appropriate technologies for the eventual remediation of contaminated sediments. Primary contaminants include metals, PCBs, PNAs, and oil and grease.
- **Sediment Remediation, Coldwater, Michigan.** Project Manager. Responsible for construction oversight activities for the removal of PCB-contaminated sediments from a creek.
- **Sediment Study, Milwaukee, Wisconsin.** Performed biotreatment pilot study of dredged sediments from the Port of Milwaukee. Used composting techniques to evaluate effectiveness of biodegradation of organic contaminants, i.e. PNAs, PCBs, etc. Contracted a consultant and trade contractor to assist in the study.

- **Gladstone Creosote Site, Gladstone, Michigan.** Project Manager. Responsible for operation and maintenance of an in situ organo/carbon absorption groundwater treatment system. The project also includes monitor well installation and sampling.

BROWNFIELDS/DEMOLITION

- **Thermal Desorption of Soils, City-Owned Sites, Port Huron, Michigan.** Construction Engineer. Soil remediation project. Duties included design and construction oversight of containment pads for heavily contaminated petroleum soils (>700 ppm VOCs), destruction of contaminated soils via low temperature thermal destruction units, design and discharge of contaminated waters, and general construction coordination. This site was redeveloped as a residential subdivision.
- **Clinton Depot, St. Johns, Michigan.** Project Manager. Clean Michigan Initiative Site including soil, asbestos, lead abatement, and general site characterization for restoration of a historic site. The project also included specification development and construction oversight for lead, asbestos, AST and soil abatement. This Site was ultimately redeveloped for retail and commercial activities.
- **Groundwater Remediation, Diamond Reo Site, Lansing, Michigan.** Project Engineer. Responsible for treatment design using activated granular carbon and oil/water separation, extraction wells, and collection trenches. Developed drawings, specifications and construction documents for bidding. Construction Manager for project. Also prepared drawings and specifications for soil removal. This site was developed into a commercial park.
- **Dredging, Whitehall, Michigan.** Senior Engineer. Responsible for development of specifications and drawings for the removal, treatment, and disposal of 85,000 cubic yards of sediments in White Lake's Tannery Bay. Sediments were contaminated with tannery bi-products, such as hair, leather, dyes, chromium, arsenic, and cadmium. Dredging techniques used were both hydraulic and mechanical, while treatment of sediments, for the purpose of disposal, included polymer injection and belt presses. This site is slated to be redeveloped into a multifamily facility with a marina.
- **Industrial Site Demolitions, Albion, Michigan.** Senior Design Engineer. Provided senior technical review of bid documents for the demolition of an industrial site. The building to be demolished included removal and disposal of asbestos, VOC, SVOC, and PCB contaminated material as well as general construction debris. This site will be redeveloped as an industrial park.
- **Old Rockwell Site (NPL Site), Allegan, Michigan.** Project Manager. Responsible for oversight of a professional service contractor to complete a remedial investigation, pre-demolition assessment, development of demolition specification, oversight of demolition contractor, and site restoration of a former auto parts manufacturing facility. The work also included coordination with the U.S. EPA, property owner (city of Allegan), MDEQ and the responsible party. This site will be redeveloped as an industrial or commercial site.
- **Hospital Demolition, Lapeer, Michigan.** Project Manager. Responsible for oversight of engineers and scientists on the development of bid documents for the demolition of a former hospital. The project included pre-demolition sampling (asbestos, lead, miscellaneous containers), preparation of drawings,

specifications and bid manual, construction bidding, construction management and oversight. This site has been redeveloped as a commercial site.

- **AGST Demolition, Petroleum Specialist, Inc.** Construction Manager. Demolition of 30 aboveground storage tanks, two buildings and boiler, and removal of contaminated soils and water. Primary contaminants were lead, PCBs, BTEX and PNA. The project was substantially completed in two and one-half months. This site has been redeveloped as a commercial site.
- **Miscellaneous Demolition Sites.** Senior Engineer. Responsible for the development of project specifications and drawings for the demolition and restoration of a plating facility, automotive/truck service station, and fueling service stations. All of these sites were slated to be redeveloped into viable commercial or industrial properties.

WATER SYSTEM PROJECTS

- **City of Portage, Michigan.** Project Engineer. Responsible for the preparation of specifications and plans for a 1.5 MG elevated water storage tank (three options bid-pedestal, fluted and composite), two-way altitude valves, valve vaults, infiltration pond for overflow discharge, 800 linear feet of 20-inch D.I. pipe, and miscellaneous site work. Also included life cycle cost analysis.
- **City of East Lansing, Ingham County, Michigan.** Project Engineer. Responsible for the preparation of specifications and plans for a 0.5 MG elevated water storage tank (two options bid-pedestal and fluted), two-way off site altitude valves, valve vaults, 1,200 linear feet of 10-inch and 12-inch D.I. transmission line, asphalt access road, fencing and miscellaneous site work. Construction Manager for the entire project.
- **City of Battle Creek, Calhoun County, Michigan.** Project Engineer. Responsible for design and specification of 2,000 linear feet of 36-inch diameter low-pressure, concrete pipe and 5,000 linear feet of 30-inch diameter D.I. transmission line including 270 feet of river crossing. Construction Manager on the 30-inch transmission line.
- **Bath Charter Township, Michigan.** Layout of approximately 10,000 linear feet of 12-inch ductile iron and polyethylene water main. Also included was the design of a Type I municipal water supply well and telemetry.
- **Genesee County, Michigan.** Design, specification and construction observation of several water distribution projects in Genesee County, Michigan. Projects, in general, included expansion or repair of existing drinking water distribution systems throughout the county. More specifically, the projects included installation of 8" to 12" D.I. pipe, hydrants, valves, residential connections, jack and bore beneath roads and railways, river crossings, and restoration of roads and disturbed areas (turf, fences, culverts, etc.).
- **Water/Wastewater Master Plan, Moran Twp, Michigan.** Project Engineer. Responsible for the development of water and wastewater options within the township. Project included; water utilization and wastewater discharge estimates, water supply options (i.e., connection to a nearby municipal system or installation of new municipal wells), and wastewater collection and discharge options. All options were presented with preliminary layouts and cost estimates.

- Designed several RCP storm sewer systems at landfills, ranging from 12" to 60" in diameter. Designed several leachate collection systems utilizing PVC and HDPE piping as well as a variety of geosynthetic drainage components.
- Prepared plans and specifications for a 48" diameter storm water sewer, as part of a CSO project for the City of Dearborn, Michigan.

DRAINAGE/HYDRAULICS

- **City Management Corporation, Wayne County, Michigan.** Engineer. Responsible for design and specifications to relocate the Mosquito (5,000 LFT) and Manke (1,000 LFT) drains. Project included HEC-2 modeling of existing and proposed conditions for several storm events, compliance with the Intercounty Drain Board and Michigan Department of Agriculture requirements, clay dikes, wetland mitigation, and culvert construction (CMP Arches and multiple conc. boxes.)
- **Michigan Department of Transportation, Livingston County, Michigan.** Engineer. Responsible for the hydraulic analysis of the Shiawassee River for a bridge expansion. Project included HEC-2 modeling of four miles of river and four bridges for 50-, 100- and 500-year storm events.
- **Gilbert Drain, Ingham County, Michigan.** Evaluation of the effects of a culvert extension using HEC-2 computer model.
- **Brownstown Drain, Desbrow Drain, and Kirkham Drain.** Prepared drawings for the relocation of approximately 1500 feet of the Kirkham Drain. The HEC-2 model was used to evaluate existing and proposed conditions of the drain, bridges and culverts for various flood flows. Preliminary HEC-2 modeling for Brownstown and Desbrow Drain was also included.
- **Bowman Drain, Genesee County, Michigan.** Redefined the drainage district through survey, topographic maps, aerials and historical data. Estimated runoff for various rainfall events using SCS TR-55. The drainage district was divided into subbasins such that critical areas of the drain could be evaluated. The data was used to clean out the drain, construct storm sewers, and reconstruct culverts at road crossings.
- **Keego Harbor, Michigan.** Established the drainage district and predicted flows in an area of Keego Harbor that experienced frequent flooding. The data was used to design more efficient drains and a storm water pump station using mixed flow vertical pumps.
- **Storm Water Detention.** Developed and reviewed storm water management plans/designs for a number of commercial, industrial, and residential developments. Techniques included HEC-1, HEC-2, Rational Method, SCS TR-55, and various other locally adapted methods as required.
- **Dearborn Combined Sewer Overflow Retention Tunnel.** Design engineer responsible for plans and specifications for the tunnel alignment and diversion of three major outfall structures to the new tunnel. Also coordinated the development of all construction drawings (215 sheets) and specifications between five consultants. Provided assistance with hydrologic runoff estimating and hydraulic modeling using the SWMM model.



THOMAS KAUGHER

PROJECT MANAGER

Experienced managing numerous environmental projects as a Project Geologist, Project Manager, and Client Service Manager. Highly experienced Project Technical Lead with projects ranging from Phase I Environmental Site Assessment (ESAs) and Phase II investigations to very complex projects involving detailed soil/groundwater investigations and remediation, background metals investigations, underground storage tank (UST) removal and closure, abatement and demolition excess facilities and construction management/oversight for federal, state, and private clients. Experienced in the preparation of work plans, quality assurance project plans, and project completion/closure reports for a variety of environmental projects located within Michigan (Michigan Public Act 451, Part 201, and Part 213) and throughout the Midwest. Successful history working on contracts for the United States Coast Guard (USCG), National Guard Bureau (NGB), United States Army Corps of Engineers (USACE, various districts), Air Force Civil Engineer Center (AFCEC), and industrial clients. Established long-term relationships with clients and regulators over years based on the successful completion of projects. Worked directly with clients to assist in project scoping, forecasting, and budgeting to allow for quick turnarounds on proposals.

EDUCATION

B.S. in Geology, Western Michigan University, 1988

CERTIFICATIONS

Certified Underground Storage Tank Professional, Michigan #335

Professional Geologist, Indiana, #1526

SKILLS/TRAINING

USACE Construction Quality Management for Contractors (April 2015)

40-Hour Hazardous Waste Training Certification (OSHA)

Hazardous Waste Operations 8 Hour Refresher (March 2022)

Project Management Institute (PMI) Preparation Course

American Red Cross Standard First Aid and Adult CPR training (Nov 2021)

**Work with Previous Employer*

PROJECT EXPERIENCE

- **FCA – New Mack Engine Plant, City of Detroit Brownfield Redevelopment Authority, Detroit, Michigan.** DLZ was contracted was retained by the City of Detroit Brownfield Redevelopment Authority to complete Phase I and Phase II ESAs on sixteen sites as part of this large redevelopment project for a large expansion project within the City of Detroit for Fiat Chrysler America, U.S. LLC (FCA). DLZ completed 18 Phase I ESAs of sites that were proposed redevelopment sites for this large expansion project. After completion of the Phase I ESAs that identified RECs at each site, DLZ completed a GPR survey of each site to identify any anomalies and/or areas of fill material. Phase II ESAs have been completed on 8 of the sites with the rest waiting on access and property transfers. Once the phase II site work is completed Baseline Environmental Assessments will be completed for each site transferred (2018-2020).
- **Phase I ESA, Phase II ESA, Ground Penetrating Radar Survey, Baseline Environmental Site Assessment – Former Michigan State Fairgrounds, Detroit, Michigan.** Project Manager to complete a Phase I to identify RECs and phase II ESA to investigate the RECs on 157 acres of property that also included a hazardous materials survey of 24 buildings at the Former Michigan State Fairgrounds. In addition, DLZ completed a GPR survey of the entire site to identify any subsurface anomalies that may be indicative of USTs or historical fill areas (2018-2019).

- **Superstop 9 – Remedial Investigation, Feasibility Study and Corrective Action.** Project Manager for the investigation and in situ remediation of a leaking underground storage tank (LUST) site for the Michigan Department of Environment, Great Lakes, and Energy (EGLE) to evaluate exposure risks including vapor intrusion as a result of both residual and mobile Light Non-Aqueous Phase Liquid (LNAPL) under a highly contaminated active gasoline station in a residential area of Lansing, Michigan. DLZ installed eleven extraction wells at designed locations around the site to aid with the injections and distribution of the chemicals throughout the impacted area. For the full scale injections, a total of 8,200 gallons PermeOx Ultra mixture was injected sitewide using Geoprobe push points (2018-Ongoing).
- **Former Bell Oak Grocery – Remedial Investigation, Building Demolition and Corrective Action.** Project Manager for this EGLE led project where DLZ designed a RI to properly investigate the vertical and horizontal extent of the onsite and offsite impacts as a result of the former leaking USTs. Following the RI, DLZ prepared bid specifications and provided oversight for the abatement and disposal of all asbestos containing materials, the removal of all hazardous materials, building demolition and the removal of 538 tons of impacted soil (2018-Ongoing).
- **Former Lakeland Montessori School – Remedial Investigation and In Situ Remediation.** Project Manager for this EGLE led project that included focused injections in areas to address contamination under the building. DLZ injected approximately 2,240 gallons of a Tersus Environmental, LLC (Tersus) Nutrisulfate® and Tersus Advanced Surface Kinetics (TASK™) surfactant solution along the building boundaries and up gradient to reduce the residual contamination under the site building (2018-Ongoing).
- **Former Fred White Engineering – Remedial Investigation.** Project Manager for this EGLE led project where DLZ was contracted to complete an RI to delineate the extent of soil and groundwater impacts from former LUSTs. The RI included the installation of ten monitoring wells to delineate the extent of impacted soils and to verify if LNAPL was present. DLZ also installed three soil vapor pins within the on-site building to collect soil gas samples to verify that the migrating contaminants are not venting into the building (2018-2021).
- **144 East Third Street – Vapor Intrusion Investigation and Mitigation.** Project Manager for this large vapor intrusion investigation as a result of a former dry-cleaning facility located in downtown Imlay City where the project is being funded by EGLE. DLZ completed the installation and sampling of over 22 vapor pins in buildings that were affected by the migrating PCE plume under residential and commercial buildings in the downtown area. Based on the results of the soil gas sampling DLZ completed indoor air monitoring and if the results indicated that the PCE concentrations were above the Vapor Intrusion Screening Criteria DLZ installed vapor mitigation systems to remove the vapors from the sub-slab to protect the occupants of the building. This vapor intrusion investigation is currently on-going with continued sampling and installation of vapor mitigation systems (2018-Ongoing).
- **Phase I ESA, Phase II, and Baseline Environmental Site Assessment, Oscoda-Wurtsmith Airport Authority, Oscoda, Michigan.** As project manager for this brownfield grant, DLZ was awarded a contract to complete environmental services for the development of two large hangars that would support the addition of up to 350 more jobs. Completed a Phase I ESA to identify Recognized Environmental Concerns (RECs) addressed during the Phase II ESA. Completed a large-scale Vapor Intrusion Assessment and a Due Care Plan for the

soil removal and handling during the development of the aircraft hangars and to prevent potential exposures to the occupants working in the aircraft hangars (2018-2021).

- **Phase I and Phase II, Former Coast Guard Facility, Detroit, Michigan.** As the Project Manager, completed the Phase I that identified RECs that included former aboveground storage tanks (ASTs) and adjoining properties that were former industrial properties. Completed the Phase II investigation along the property boundary and around the location of the former ASTs to determine if the area had been impacted (2016).*
- **National Guard Bureau Contract – Various Sites.** Program Manager/Project Manager. As the Program Manager worked with the client and project managers to scope environmental restoration projects across the United States and in Puerto Rico. Most of the projects were site investigations to delineate the extent of soil and groundwater contaminants (mainly fuels or solvents) to applicable State or Federal criteria. Remedial strategies included the physical removal of soil/groundwater for onsite treatment or off-site disposal. At one of the sites utilized a green remediation strategy (phytoremediation) that saved over \$100k in soil removal and treatment/disposal costs. Over 145 Delivery Orders were executed under the contract (2006 – 2015).*
- **Multiple Sites, Former Wurtsmith AFB, Air Force Civil Engineer Center (AFCEC), Oscoda, Michigan.** Project Geologist/Technical Lead who provided both geologic and technical support under various task orders under several contracts. Earlier work involved the installation of a biovent/biosparge system to treat jet fuel (JP-4) impacted soil and groundwater and the abatement, removal, and demolition of the old base central heat plant that contained four large boilers. Provided sampling and program oversight of an ongoing pilot study to monitor the degradation of the contaminants and recommendations for study modifications to optimize further treatment strategies based on the sampling results and site conditions. Prepared work plans and completed remedial investigations for the delineation of migrating plumes by using vertical aquifer sampling methods and the use of a mobile lab to aid in rapid low-cost delineation efforts. Prepared a focused feasibility study for a former fire training area impacted with Perfluorinated Compounds (PFCs). Activities on this included the installation of numerous monitoring wells and piezometers, sampling and analysis, and groundwater and surface water quality assessments. Worked with the regulators and potentially affected parties to ensure that all regulations and concerns are being met during the execution of all site work (2001-2015).*
- **Site Inspections for Perfluorinated Compounds (PFCs) at 20 Air National Guard Sites, National Guard Bureau (ANG), Various Cities throughout the United States.** Project Manager responsible for all aspects of the work being completed at four Bases in the Midwest. Assessed both these bases for the presence or absence of per- and polyfluoroalkyl substances (PFASs) compounds in soil, groundwater, sediment, and surface water. The work involved the advancement of soil borings, installation of new groundwater monitoring wells, and use of existing monitoring points to provide a picture of PFAS impacts and potential direction of transport towards base property boundaries or the potential for off-site migration (2016-2017).*
- **A-E Services for Environmental Services at Marion Engineer Depot (MED) and Scioto Ordnance Plant (SOP), Marion, Ohio.** Project Geologist/Technical Reviewer. As the project geologist/technical reviewer, provided program support for HTRW sites over a 10-year period for this project from work plan preparation,

field oversight, and reporting. Performed a time critical removal action of over 50 drums located at three areas that involved sampling drum contents, soil sampling and waste characterization sampling for disposal. Performed numerous soil and groundwater investigations at various HTRW sites throughout MED and SOP that involved the installation of monitoring wells, soil borings, soil and groundwater sample collection and analysis. Provided site investigations and oversight for the removal of USTs and associated impacted soil and the collection and analysis of confirmation soil samples, and the technical review of the associated closure/no further action reports. Performed a Preliminary Assessment (Phase I ESA) of over 84 areas of concern for MED and SOP and a Preliminary Assessment of a FUSRAP site. Prepared an Engineering Evaluations and Cost Estimates for two sites on SOP. Performed technical reviews of all site closure reports and no further action reports. Worked directly with the regulators from project scoping to the remedial implementation to ensure project success with closure of all sites as the ultimate end goal (1999-2011).*

- **USCG Rescue 21 Program, Various Locations – General Dynamics C4 Systems, Inc.** As the Client Service Manager/Technical Lead, provided programmatic environmental technical support for the Coast Guard Rescue 21 Program. Oversaw more than 300 Phase-I ESAs and limited National Environmental Protection Act (NEPA) evaluations and documentation at proposed tower communication sites in 24 coastal states, U.S. territories, and the Great Lakes States. Worked with regional offices to simultaneously support the multiple field and report efforts to ensure that the right people were involved on the site surveys and provided technical reviews of all documents prior to client review for program consistency. Some sites required further evaluation that involved soil sampling and analysis, archeological investigations with monitoring during construction activities, lead based paint and asbestos sampling and quantitation. Provided hazard evaluations at several sites for onsite contaminants and health and safety risks to ensure adequate protection of human health and the environment during tower demolition (2006-2015).*
- **Phase I Desktop Reviews, Coast Guard, Multiple Sites along the Ohio River and Mississippi River.** Project Manager for the completion of 24 Phase I desktop reviews for sites where the Coast Guard was leasing space on existing communication towers as part of the Rescue 21 Program. Sites were located in Ohio, Kentucky, Indiana, Illinois, Missouri, Tennessee, Arkansas, and Louisiana (2016-2017).*
- **Drinking Water Sampling for Per- and Polyfluoroalkyl Substances (PFAS) and Contingent Drinking Water Supply at 7 Air National Guard (ANG) Sites, National Guard Bureau (ANG), Various Cities throughout the United States.** As the Regional Project Manager was responsible for all drinking water sampling for the presence of per- and polyfluoroalkyl substances (PFASs), also referred to as perfluorinated chemicals (PFCs), at two Air National Guard bases located in the Midwest. Worked with homeowners to provide contingent drinking water supplies where findings exceeded the established health advisories until a permanent water supply was connected (2016-2017).*
- **Former Fire Training Area – Residential Well Receptor Survey and Sampling, Minnesota Air National Guard/former Duluth Air Force Base, Duluth, Minnesota.** The Minnesota Air National Guard (MNANG) and the former Duluth Air Force Base both used a Fire Training Area formerly located on the north side of the Duluth International Airport (DIA). Fire training activities included use of an aqueous film forming foam (AFFF) for fire suppression that contained perfluorochemicals (PFCs). The site had been previously investigated as IRP Site 2 and closed based on fuel constituents. Because PFC plumes have the potential to travel long distances with minimal attenuation or degradation, the MPCA requested that MNANG

complete a groundwater receptor survey of private domestic wells within a 1.75 mile radius in the likely groundwater gradient direction. Approximately 20 residential wells were selected for sampling and the list was also provided to the MPCA for review and concurrence. Contacted owners to set up times to collect sample from each well. Provided sample results to the MPCA and each resident and also provided recommendations to the MNANG (2007-2008).*

- **Phase I of 83 Acres, West Bloomfield, Michigan.** Site lead and report author for 83 acres of undeveloped land for the future residential subdivision development (1994).*
- **Phase I and Phase II of former Automotive Dealership, Detroit, Michigan.** Project lead for the Phase I portion to identify and recognized environmental conditions (RECs) on the property. The Phase II investigation focused on USTs and the hydraulic automotive lifts where soil and groundwater samples were collected and analyzed (1995).*
- **Phase I and Phase II, Former Plating Facility, Detroit, Michigan.** Completed the Phase I and Phase II simultaneously for this site due to the past use as a plating facility and the known use of hexavalent chromium. Collected both soil and groundwater samples to determine if the site had been impacted by the past site use (1995).*
- **Background Metals Investigation, Mt. Clemens, Michigan.** Confirmation soil sampling around a release from an AST at a construction equipment storage yard found that above average (regional values) levels of metals were detected with no fuel related compounds. Collected soil samples from other locations around the site at areas and provided statistical calculations to show that the detected metals values were within the range. The MDEQ concurred with the analysis and closed the release at the site (1994).*
- **Phase II Investigation, Basement of Building, Detroit, Michigan.** Completed a phase II investigation around a heating oil UST in the basement of a building with limited access. A special compact drill rig was used to gain access to the areas where the drilling could occur, and soils samples were collected for laboratory analysis. A report was prepared and submitted to the MDEQ that allowed closure of the UST in-place (1994).*
- **Expanded Phase II Investigation, Warren, Michigan.** Completed an expanded phase II investigation around a drum storage area at a tool and die facility. Initially, soil borings were completed to delineate the soil impacts and then monitoring wells were installed to verify the direction of groundwater flow and if groundwater was impacted. The findings showed that the area of contamination was limited that an excavation would effectively remove impacted area of soil (1994).*
- **Phase II and UST Removal, Baking Company, Detroit, Michigan.** Complete a Phase II around three gasoline USTs and collected confirmation soil samples. A confirmed release was reported to the MDEQ based on the laboratory results. Monitored the removal of the USTs and 2,844 cubic yards of contaminated soils. Confirmation soil samples indicated that only residual contamination remained, and a closure was granted by the MDEQ for the site (1994).*

- **Stratigraphic Detailing and Geotechnical Analysis, Automotive Facility, Pontiac, Michigan.** Completed a detailed subsurface investigation to collect soil samples to delineate PCB contaminated soil and preferred migration pathways through sand seams interbedded in clay. Collected soil samples for geotechnical analysis for a bench test and ultimate installation of an insitu vitrification system to reduce the PCBs in the soil (1994).*



EDUCATION

M.S. Zoology, The Ohio State University, 1996

B.S. Zoology, Michigan State University, 1987

Associate of Arts Degree, Liberal Arts, Northwestern Michigan College, 1985

CERTIFICATIONS

OSHA 40-Hour Hazardous Waste Operations Course, 2001

OSHA 8-Hour Hazardous Waste Operations Refresher Course, 2002-2022, #1704

SPECIAL TRAINING

USACE Hydric Soils Indicators, 2022

Ohio Department of Transportation's (ODOT) NEPA Training, 2021

Michigan EGLE Stream Quantification Tool Training, 2020

PSMJ Project Manager Training, 2015

Wetland Delineation, Northcentral and Northeast Supplement, Michigan Wetland Association, 2012

ODOT Ecological Training, 2021

ODOT Waterways Permit Training, 2021

NATALIE A. DINGLEDINE

SENIOR ENVIRONMENTAL SCIENTIST

Ms. Dingledine has more than 30 years of professional experience in aquatic and terrestrial ecology including fisheries ecology, invertebrate biology, stream and wetland ecology, and natural resource management. Her specialized skills include biological and water quality sampling, plant, and invertebrate taxonomy, Threatened and Endangered Species (T&E) habitat reviews, state and federal permitting, project management, and technical writing. Ms. Dingledine has been a co-recipient of grants and has been responsible for managing the multi-agency collaboration efforts, including budget, reporting, and fieldwork. She has extensive experience in the management and implementation of various types of projects for federal and state agencies including ecological surveys, ecological restorations, and NEPA compliance projects.

Ms. Dingledine has given numerous presentations to citizen groups and at professional meetings, and she is the author of a variety of publications and technical reports. The following projects are representative of Ms. Dingledine's experience.

PROJECT EXPERIENCE

ECOLOGICAL RESTORATION

- **Burke Brook Open Channel Improvements, Northeast Ohio Regional Sewer District, Cleveland, Ohio.** Senior Environmental Scientist. A new Combined Sewer Overflow (CSO) separation pipe is proposed in two existing open channels located along I-77 that convey urban/highway runoff to Cuyahoga River. Impacts to wetlands and an existing stream is anticipated. Advised Client on permitting and mitigation options. Prepared preliminary stream and wetland restoration concepts for Corps review. (2017 – 2019)
- **Reef Habitat Restoration Study, Reef Habitat Implementation, National Gypsum Site, Thunder Bay, Lake Huron, Michigan, Michigan Department of Environmental Quality.** Senior Environmental Scientist. Provide project coordination and management for post construction monitoring activities. Study activities include characterizing the natural reef, evaluating use of reef by spawning fish, assessing egg and fry survival. Responsible for permitting activities, managing reef design, and construction oversight during the construction of 29 artificial reefs. Assist with public outreach activities. (2010 – 2019)
- **Lamberton Creek Restoration, Grand Rapids Home for Veterans, Grand Rapids, Michigan, Michigan Department of Military and Veterans Affairs.** Senior Environmental Scientist. Provide coordination and management for

SPECIAL TRAINING (Continued)

Biocriteria and QHEI Training,
OEPA, 2005

Water Quality Modeling, North
American Lake Management
Society Workshop, 1998

FEDERAL T&E PERMIT

TE90426C-0

proposed by-pass channel project to restore connectivity of Lamberton Creek to Grand River. Responsible for early coordination with state agencies (EGLE, MDOT, DMVA), permitting activities, managing sub-consultant, public outreach, and grant writing. Project was taken to Preliminary design; funding was not available for construction phase. (2014 – 2016)

- **Prescription Burn Tekonsha Rest Area, Michigan Department of Transportation, Tekonsha, Michigan.** Senior Burn Crew. DLZ was retained by MDOT to conduct a prescription burn at the Tekonsha Rest Area near Tekonsha, Michigan. This effort was a part of the ecological restoration project planned for the rest area. Provided burn crew support to the MDOT burn crew. (2008)
- **Prescription Burn Program, Fort Custer Training Center, Augusta, Michigan.** Environmental Scientist. This is an annual program to apply prescribed fire to management units at FCTC. The program started in 2004 with 80 acres and more than 2000 acres being burned in subsequent years. This is the fourth largest burn program of any state or federal agency in the State of Michigan. Provided burn crew support to FCTC and post burn monitoring. (2006 – 2010)
- **Grand River Watershed Wetland Mitigation Design, Michigan Department of Transportation, Ottawa County, Michigan.** Wetland Scientist for wetland mitigation design and preparation of construction plans, hydrology analysis, preparation of special provisions, cost estimating, CADD, and project management for creation of 40 to 50-acre wetland mitigation site.
- **Eagle Marsh Aquatic Nuisance Species Control Wetland Mitigation Design, Indiana Department of Natural Resources, Ft. Wayne, Indiana.** Wetland Scientist assisting with developing the Wetland Mitigation Plan for submittal to the U.S. Army Corps of Engineers for the Section 404 permit and design of approximately 20 acres of mitigation wetlands. The project is being done as part of the Great Lakes and Mississippi River Interbasin Study (GLMRIS) to provide separation between the basins to prevent the movement of species that are not desired. For this project, it is the silver carp that is of particular concern. A large area of floodplain and wetland was filled to provide a break between the two watersheds at Eagle Marsh which commonly share floodwaters.
- **Wayne County Detroit Metropolitan Airport Runway 4/22 Environmental Mitigation Project, Wayne County, Michigan.** Wetland Scientist for wetland mitigation design, construction, and five years of monitoring of over 300 acres of wetlands to compensate for fills necessary to construct a new runway at Detroit Metro Airport. One of the largest wetland mitigation projects in the state, the project included extensive coordination with local units of government, EGLE, Michigan Department of Agriculture, and Wayne County.
- **Jackson County Airport Wetland Mitigation Site, Jackson, Michigan.** Wetland Scientist. Provided wetland permitting and long-term monitoring for mitigation site. Monitoring entailed annual reporting to the EGLE.
- **Section 1135 Preliminary Design and Analysis (PDA) for Sea Lamprey Barrier Control Projects on Various Sites in Michigan, Indiana and Wisconsin, Detroit District, U.S. Army Corps of Engineers.** Environmental Scientist. Responsible for various aspects of project coordination and gathering of background information for the proposed placement of in-stream barriers to prevent sea lamprey spawning in the Great Lakes

region. Reviewed data necessary for selection of final sea lamprey barrier designs and assisted in the documentation for the PDA phase. (2003 – 2004)

- **Section 206 Preliminary Restoration Plan (PRP) for Otsego Lake Restoration, Detroit District, U.S. Army Corps of Engineers.** Environmental Scientist. Collected background information, coordinated with local sponsor, and prepared PRP for aquatic restoration study. (2001 – 2002)
- **Section 1135 Preliminary Restoration Plans (PRPs) for Sea Lamprey Barrier Control Projects in Indiana, Michigan and Wisconsin, Detroit District, U.S. Army Corps of Engineers.** Environmental Scientist. Coordinated project activities and attended initial site visits with federal and state agencies. Collected existing background information for each proposed site, worked closely with sponsors, recommended barrier types and placements at site locations, and prepared PRPs for eight sites identified to be potentially suitable for sea lamprey barrier placement. (2001 – 2002)

ECOLOGICAL SURVEYS

- **Ecological Surveys along I-94, MDOT University Region, Michigan.** Environmental Scientist. Over 70 wetland delineations were determined along 8 miles of Michigan Department of Transportation (MDOT) right of way. Responsible for performing wetland delineations, tree tagging surveys, *Phragmites* delineations, managing field staff, coordination with MDOT PM, and assisting with report preparation. (2022- present)
- **Herpetological Surveys, Fort Custer Training Center, Augusta, Michigan.** Ecologist. Responsible for leading the efforts on a herpetological survey at various locations on base. Conducted surveys to determine occurrence, abundance, and distribution of the herpetofauna community of Fort Custer Training Center. Conducted acoustic survey data analyses, synthesis, and developed standard operating procedures for all existing acoustic data using the Kaleidoscope software package.
- **Wetland Delineations along US-127 and I-94, MDOT University Region, Michigan.** Environmental Scientist. Over 70 wetland delineations were determined along 18 miles of Michigan Department of Transportation (MDOT) right of way. Responsible for performing delineations, managing field staff, coordination with MDOT PM, and assisting with report preparation. (2021- present)
- **Great Lakes Water Authority, 14 Mile Road Transmission Water Main Loop, Novi Township, Michigan.** Senior Environmental Scientist. Responsible for pre-application meeting with EGLE staff regarding potential impacts to WOTUS resources. Performed field surveys to document streams and wetlands, mussel reconnaissance surveys, and potential T&E resources. Prepared Individual Permit application, reviewed mitigation plans, wrote planting specifications, and coordinated with EGLE staff. Delineated *Phragmites* within MDOT right-of-way for removal by contractor. (2019- present)
- **Natural Resource Assessments, Lansing Board of Water and Light, Lansing, Michigan.** Environmental Scientist. Performed natural resource assessments for two proposed transmission line upgrades, Southside reinforcement and the new Ultium line for the GM Delta Assembly plant. Sites were assessed for T&E species, Waters of the U.S., invasive plant species establishment, and potential permitting concerns. Prepared the summary of our findings in a report. (2020- present)
- **Hungerford's Crawling Water Beetle Surveys, Camp Grayling Training Center, Grayling, Michigan.** Ecologist. The HCWB is listed as federally endangered and is limited to known locations in northern

Michigan and Ontario, Canada Ms. Dingledine has led the efforts to perform HCWB surveys in various rivers within the base to document presence/absence. A new occurrence for the beetle has been made in Portage Creek at several locations. (2019 - present)

- **Surface Water Assessment at Fort Custer Training Center, Augusta, Michigan.** Ecologist. Responsible for leading the efforts on a surface water assessment at FCTC. Surface water samples and water quality data are being collected from several stream and wetland locations on a quarterly basis. All sites will be assessed within a four-year rotation. Water sample results are compared to Surface Water Criteria to ensure FCTC is meeting obligations for Michigan's Water Quality Standards and the Clean Water Act. (2019 - present)
- **Portage Creek Surface Water, Biological, and Habitat Assessment, Camp Grayling Training Center, Grayling, Michigan.** Ecologist. Responsible for leading the efforts on a surface water assessment at CGTC. Surface water samples and water quality data are being collected from Portage Creek at four locations three times a year. Additional samples are being collected upstream and downstream of the confluence into the Manistee River. Habitat evaluations and biological assessments of Portage Creek were performed at the four sample locations and summaries of the qualitative evaluations of the macroinvertebrate, fish, and mussel communities were made. (2020 - present)
- **Ohio Turnpike and Infrastructure Commission (OTIC) Toll Road Improvements, various locations in Ohio.** Senior Environmental Scientist. Responsible for determining potential environmental impacts to state and federal T&E and Waters of the U.S., which included delineation of wetlands. Oversaw surveys for four T&E species including copper-bellied watersnake. Coordination with USACE (Buffalo and Pittsburgh Districts), OEPA, ODNR and USFWS. (2018 - present)
- **Pigeon Creek Welcome Center Bat Surveys, Indiana Department of Transportation, Pleasant Lake, Indiana.** Ecologist. Performed bat tree habitat surveys for the Indiana bat and northern long-eared bat in a woodlot with trees that were selected for removal for the construction of a new Welcome Center along I-69. Participated in an emergence survey for bats on those trees that were identified with the appropriate habitat features for roosting. Coordinated with U.S. Fish and Wildlife Service on behalf of INDOT. (2018)
- **Little Traverse Bay Cement Kiln Dust Release Site, Bay Harbor, EGLE, Gaylord, Michigan.** Ecologist. Provide technical review of work plan proposals and reports. Assist on determining additional research needed to document potential mercury contamination in nearshore benthic community. Literature review and reporting on topics such as algae and methyl mercury fate in freshwater lakes to assist state project manager in restoration efforts. (2016 – 2018)
- **Portage Creek Tributary Assessment, Camp Grayling, Michigan. Michigan Department of Military and Veterans Affairs.** Ecologist. Performed an assessment of several small, headwater tributaries to Portage Creek. Verified existing locations of streams and delineated new streams unaccounted for in mapping. General physical and biological observations were made, erosion concerns and crossing points were noted. Data and photos will be uploaded into a geodatabase layer. (2016 – 2018)
- **NIPSCO-University of Notre Dame Gas Pipeline, South Bend, Indiana.** Ecologist. Performed field investigations along an approximate 4-mile proposed pipeline corridor to determine the presence and location of protected resources. Wetland delineations were performed, stream habitat quality was assessed

using HHEI and QHEI protocols and threatened and endangered habitat surveys were conducted. (2016 - 2017)

- **Stream Habitat Quality Assessment of Stony Run Creek, Fort Wayne, Indiana. City of Fort Wayne, Indiana.** Ecologist. Assessed the stream habitat quality of Stony Run Creek as part of a bank stabilization project in a portion of the creek. Performed QHEI evaluations in 3 locations. Wrote a memo report that was submitted to IDEM for review. (2016)
- **5th Avenue Dam Removal and Lower Olentangy River Restoration Monitoring, 1st Year Permit Compliance Report, Columbus, Ohio.** Ecologist. Performed monitoring of in-stream geomorphology for the Olentangy River in downtown Columbus. The river was restored to include a series of riffles, runs, and pools following removal of the 5th Avenue dam. Performed QHEI investigation and analysis. Prepared monitoring report to the U.S. Army Corps of Engineers to document findings. (2014 – 2015)
- **Fort Custer Training Center (FCTC) CONUS Missile Base EIS, Augusta, Michigan.** Ecologist. Project oversight for sub-consultants collecting data on historic, environmental, and hydrologic resources. Performed wetland delineations within two proposed CONUS missile base sites within FCTC. Prepared wetland delineation report for documentation by Missile Defense Agency in their Environmental Impact Statement evaluating impacts at four different sites in the Eastern United States. (2015)
- **Level 2 Ecological Survey, PIK- Waverly South Connector, Pike County, Ohio.** Senior Environmental Scientist. Conducted a background literature search to review potential resource issues. Performed a field inspection along the corridor to review ecological features and threatened and endangered (T&E) habitat surveys including those for Indiana and northern long-eared bat habitat. Project was being done as part of the design of a roadway on new alignment to provide a bypass to SR-220 around the downtown of the City of Waverly (2015).
- **Level 1 Ecological Survey, WOO-Lime City Road and Buck Road Intersection, Wood County, Ohio.** Senior Environmental Scientist. Performed ecological survey to assess the potential impacts of roadway improvements including two roundabouts, road widening, and enclosure of approximately 2,100 feet of ditch. Site background information was collected, a field survey performed, and a Level 1 Ecological Survey Report was prepared. (2015 - 2016)
- **Level 1 Ecological Survey, STA-US 62/Harrisburg Road/Middlebranch Avenue Intersection, Stark County, Ohio.** Senior Environmental Scientist. Performed ecological survey to assess the potential impacts of adding a roundabout and intersection improvements to the corridor. Site background information was collected, a field survey performed, and a Level 1 Ecological Survey Report was prepared. (2015)
- **Level 1 Ecological Survey, LUC-SR-64- Finzel Road Roundabout, Lucas County, Ohio.** Senior Environmental Scientist. Performed ecological survey to assess the potential impacts of realigning the offset intersection of SR-64 and Finzel Road by constructing a modern roundabout. Site background information was collected, a field survey performed, and a Level 1 Ecological Survey Report was prepared. (2013 – 2015)
- **Level 1 Ecological Survey, ALL-Shawnee Road Corridor Study, Allen County, Ohio.** Senior Environmental Scientist. Intersection study of Shawnee Road and Fort Amanda Road (which includes the scheduled bridge replacement over the Ottawa River). Performed fieldwork for threatened & endangered species habitat

evaluation (Indiana bat) and Qualitative Habitat Evaluation Index (QHEI) on the Ottawa River crossing and Zurmehly Creek culvert extension. Prepared LV1 ecological survey report and prepared the U.S. Army Corps of Engineers 404 Nationwide permit. (2011 – 2014)

- **Level 2 Ecological Survey, CLE-East Fork Bike Path, Clermont County, Ohio.** Senior Environmental Scientist. Performed ecological survey to assess the potential impacts of constructing two bikeway bridges over two tributaries. A Primary Headwater Habitat Evaluation form was completed for the bike path crossings, a biological evaluation was performed for aquatic invertebrates and salamanders, potential Indiana bat habitat was assessed, and a LV2 ecological survey report was completed. Provided QM/QC for state Section 401 and federal Section 404 permitting for the project. (April 2008 – 2013)
- **Level 1 Ecological Survey, SUM-82 City of Macedonia, Summit County, Ohio.** Senior Environmental Scientist. Performed ecological survey to assess the potential impacts of the widening of SR 82. A Qualitative Habitat Evaluation Index (QHEI) was completed on two stream crossings, site background information was collected, and a LV1 ecological survey report was completed. Assisted in preparing the Level 1 Categorical Exclusion document for the project. (September 2011 – June 2013)
- **Level 1 Ecological Survey, FRA- Scioto Bikeway, Franklin County, Ohio.** Aquatic Ecologist. Performed ecological survey to assess the potential impacts of constructing two bikeway bridges to cross the Scioto River. The ecological report was required because of a realignment of the Scioto Bikeway through the project area. A Qualitative Habitat Evaluation Index (QHEI) form was completed for each river crossing, site background information was collected, and an ecological survey report was completed. (April 2008)
- **Level 1 Ecological Survey, State Route 528 Culvert Replacement, Griswold Creek, Lake County, Ohio.** Environmental Scientist. Performed biological sampling in Griswold Creek at study site to evaluate existing aquatic resources. Stream habitat and water quality data were collected, and fish and macroinvertebrates were qualitatively sampled. Assisted in preparing Level 1 Ecological Survey Report. (2001)
- **Winter Surface Water Sampling, National Gypsum Site, Thunder Bay, Lake Huron, Michigan, Michigan Department of Natural Resources and Environment.** Environmental Scientist. Collected water samples under ice using low-level mercury collection methods, conducted in-situ water quality sampling, and prepared final letter report. (2003)
- **Qualitative Habitat Evaluation, Ohio State University Airport, Columbus, Ohio.** Environmental Scientist. Performed site assessment on airport tributaries to measure habitat quality to complete Qualitative Habitat Evaluation Index and Primary Headwater Habitat Evaluation forms. Aspects of habitat assessed included substrate, cover, channel morphology and bank erosion. (2002)
- **Tree Survey for a Sanitary Sewer Line, Canton Township, Michigan.** Environmental Scientist. Phase I Environmental Site Assessment (ESA), Tree Inventory, Wetland Delineation, and Threatened Endangered Species (T&E) Habitat Review on a one-mile long portion of the Lower Rouge River located in Canton, Michigan. Canton Township intended to install a 42-inch diameter sanitary sewer parallel to an existing sewer to address service needs in the area. Responsible for performing tree survey and T&E habitat review. (2006)



ROBERT BUTLER, PE

ENVIRONMENTAL ENGINEER

Mr. Butler has over 20 years of technical and engineering experience designing and overseeing feasibility studies; pilot testing; and designing, installing, operating, and optimizing remediation systems. He has experience with various remediation technologies including excavation and dewatering, soil vapor extraction, air sparging, product recovery, vacuum enhanced groundwater extraction, and multi-phase extraction. Robert has also developed implemented in-situ chemical oxidation (ISCO) feasibility studies and remediation programs and has provided field oversight for the implementation of in-situ chemical reduction (ISCR) programs. Robert also has experience with Phase I and Phase II environmental site assessments; Spill Prevention, Control, and Countermeasure Plans; Stormwater Pollution Prevention Plans; field data collection and analysis; and report preparation.

EDUCATION

B.S., Geological Engineering,
Michigan Technological
University, 2002

CERTIFICATIONS

Professional Engineer,
Michigan, #6201059117

SKILLS/TRAINING

OSHA 40-Hour Hazardous
Waste Operations and
Emergency Response (Aug
2002)

OSHA Hazardous Waste
Operations and Emergency
Response 8-Hour Refresher
(Feb 2022)

OSHA 8-Hour Site Supervisor
(Mar 2003)

American Red Cross Adult First
Aid/CPR/AED (Nov 2021)

OSHA 10-Hour Construction
Training

**Work with Previous Employer*

PROJECT EXPERIENCE

- **Michigan Department of Military and Veterans Affairs, Multiple Sites, Michigan.** Served as technical and engineering lead for the development of new and updated Spill Prevention, Control, and Countermeasure and Pollution Incident Prevention Plans at multiple sites.
- **Energy Developments Limited, Holt, Michigan.** Served as technical and engineering lead for the development of an updated Stormwater Pollution Prevention Plan.
- **Capital Region International Airport, Lansing, Michigan.** Served as technical and engineering lead for the development updated Spill Prevention, Control, and Countermeasure and Storm Water Pollution Prevention Plans at multiple sites.
- **Spill Prevention, Control, and Countermeasure Plans; Multiple Petroleum Pipeline Terminal Sites, Michigan and Ohio.** Served as technical and engineering lead for the development of new and updated Spill Prevention, Control, and Countermeasure plans at multiple petroleum pipeline terminal sites in Michigan and Ohio. Served as primary plan author for all plans and provided Professional Engineer certification for Michigan sites. *
- **Stormwater Pollution Prevention Plans; Multiple Crude Oil Pumping Station Sites, Michigan and Ohio.** Served as technical lead for the development of new and updated Stormwater Pollution Prevention Plans at multiple crude oil pumping station site in Michigan and Ohio. Served as primary plan author and provided technical review for plans prepared by others. *

- **Former Matthews Service, Vernon, Michigan, Former Bell Oak General Store, Webberville, Michigan, Former Midwest Tire, Flint, Michigan.** Provided project and engineering support for the preparation of bid specifications for the demolition of site buildings and soil excavation and disposal. Provided field oversight of soil excavation activities, including collection of soil remediation verification samples. Reviewed and approved trade contractor payment requests. Provided on-going project and engineering project support including data review and analysis and report preparation.
- **Former Action Auto, Holt, Michigan.** Provided project and engineering support for the preparation of bid specifications, review of bids, selection of winning bidder, and coordination of system start-up and operation and maintenance (O&M) for an extended six-month duration multi-phase extraction (MPE) pilot test and. Reviewed O&M data collected by the O&M subcontractor. Completed a Pilot Test Report including a summary of the pilot test results, assessment of viable remedial technologies, and recommendations for full scale implementation of an MPE system. Served as technical and engineering lead for full scale system design, preparation of bid specifications, review of bids, and selection of winning bidder.
- **Former Superstop #9, Lansing, Michigan.** Provided engineering and field oversight of trade contractors during installation of monitoring wells and application of an in-situ chemical oxidation injection event. Provided project and engineering support of post-injection event data analysis and reporting.
- **Former Millies Market, Gregory, Michigan.** Provided project and engineering support for an on-going Michigan Part 213 Leaking Underground Storage Tank site investigation, including trade contractor oversight, sample data review and analysis, remedial feasibility analyses, and report preparation. Served as technical and engineering lead for the development and implementation of an in-situ chemical oxidation pilot test, including contractor bid procurement, contractor selection, field oversight of injection well installation and pilot test activities.
- **Michigan Department of Environment, Great Lakes, and Energy, Multiple Sites, Michigan.** Provided on-going project and engineering support for multiple Michigan Part 213 Leaking Underground Storage Tank sites, including soil boring and monitoring well installation oversight, soil sample collection, sample data review and analysis, remedial feasibility analysis, and report preparation.
- **Berrien County Sheriff's Substation and Sterling Express Ltd., Galien, Michigan.** Provided engineering and field oversight of trade contractors during installation of monitoring wells and application of an in-situ chemical oxidation injection event.
- **Former Bulldog Speed-E-Mart, Elkhart, Indiana.** Provided project and engineering support for the completion of a remedial feasibility review and development of a Corrective Action plan consisting of soil excavation and disposal and enhanced attenuation via sulphate injection.
- **In-Situ Chemical Reduction Implementation; Former Landfill Site, New Hudson, Michigan.** Served as technical and engineering lead for pilot test implementation of an in-situ chemical reduction strategy utilizing emulsified vegetable oil and zero valent iron. Coordinated with local and state agencies to obtain all necessary approvals. *
- **Retail Petroleum Cost-to-Close Portfolio; Multiple Leaking Underground Storage Tank Sites, Michigan.** Provided engineering resources for completion of a multi-year process of pilot testing, reporting, designing, permitting, trenching, piping/equipment installation, and startup of eight remediation systems utilizing vacuum enhanced groundwater extraction, multi-phase extraction, and air sparge/soil vapor extraction

technologies, air stripping, catalytic oxidation, oil-water separation, separate-phase hydrocarbon removal, sequestering agents, filtration, and liquid granular activated carbon. Coordinated with local and state agencies to obtain necessary air and water discharge permits. *

- **In-Situ Chemical Oxidation Pilot Study Design and Implementation; Multiple Leaking Underground Storage Tank Sites, Michigan.** Served as technical and engineering lead for the design, permitting, and implementation of in-situ chemical oxidation pilot studies utilizing hydrogen peroxide, ozone, and soil vapor extraction. Coordinated with local and state agencies to obtain necessary approvals. *
- **In-Situ Chemical Reduction Implementation; Former Dry Cleaner Site, Lyndhurst, Ohio.** Served as technical and engineering lead for pilot testing and subsequent full-scale implementation of an in-situ chemical reduction strategy utilizing emulsified vegetable oil and zero valent iron. *
- **Remedial Pilot Study and Air Sparge/Soil Vapor Extraction System Design; Leaking Underground Storage Tank Site; Kalamazoo, Michigan.** Provided engineering resources for the design, permitting, and implementation of pilot study utilizing soil vapor extraction, vacuum enhanced groundwater extraction, and air sparge/soil vapor extraction. Served as technical and engineering lead for the design, procurement, installation, and operation and maintenance of an air sparge/soil vapor extraction system. Coordinated with local and state agencies to obtain necessary air and water discharge permits. *
- **Groundwater Extraction System Operation and Maintenance; Former Chemical Manufacturing Facility, Lansing, Michigan.** Served as lead engineer for the operation and maintenance of a groundwater treatment and extraction system at a former chemical manufacturing facility in Lansing, Michigan. *
- **Remedial Pilot Study and Multi-Phase Extraction System Design; Leaking Underground Storage Tank Site; Dearborn, Michigan.** Provided engineering resources for the design, permitting, and implementation of a pilot study utilizing vacuum enhanced groundwater extraction, multi-phase extraction, and air sparge/soil vapor extraction. Served as technical and engineering lead for the design, implementation, and installation of a remedial strategy utilizing a combination of soil excavation and multi-phase extraction. *
- **Former Bulk Petroleum Site, Battle Creek, Michigan.** Served as technical lead for the implementation of a soil excavation at a former bulk petroleum storage facility. Provided field oversight of excavation activities, including oversight of subcontractors and verification of soil remediation sampling. *
- **Brownfield Redevelopment; Multiple Sites, Port Huron, Michigan.** Served as technical lead for the implementation of Phase I and Phase II environmental site assessments at various commercial, industrial, and railroad sites in Port Huron, Michigan as part of a Brownfield Redevelopment project. Prepared Michigan baseline environmental assessment reports and due care plans based on Phase II site assessment data. Served as technical lead for the implementation of soil excavations to remediate volatile organic compound and metals contamination within the project area. Provided field oversight of excavation activities, including oversight of subcontractors and verification of soil remediation sampling. *

EDUCATION

Bachelor of Science in Geology,
Grand Valley State University
2017

REGISTRATIONS

OSHA 40-Hour Hazardous
Waste Operations and
Emergency Response
(HAZWOPER) Training, 2017

OSHA 10-Hour Construction
Safety, 2022

OSHA 8-Hour HAZWOPER
Refresher, 2018-Current

CPR and First Aid, 2020

**Work with Previous Employer*

DANIELLE J. WILCOX

ENVIRONMENTAL GEO/SCIENTIST

Ms. Wilcox brings with her extensive experience in environmental geology/science, including overseeing remedial excavations, underground storage tank removals, disposal of contaminated material, monitoring well installations, soil and groundwater sampling, waste characterization sampling, performing site reconnaissance, indoor air quality assessment, vapor mitigation assessment, and coordination of multiple tiers of subcontractors and contractor oversight, all of which ensures safety and security for the project.

PROJECT EXPERIENCE

ENVIRONMENTAL

- **Michigan Department of Environment, Great Lakes, and Energy – Various Sites.** On Site Geologist overseeing field tasks on multiple EGLE led remedial investigations, including groundwater and soil gas sampling, vapor intrusion assessment and underground storage tank removals (2018-2022).
- **Due Diligence for City of Detroit Commercial Demolition – Various Sites.** Completed Phase I Environmental Site Assessments on commercial properties planned for demolition in Detroit (2022).
- **Phase I and Phase II Investigations, Vacant Land, Detroit, Michigan.** Completed Phase I Environmental Site Assessments that identified RECs that included adjoining LUST properties. Completed the Phase II investigations to determine if any off-site contamination was migrating onto the property. Completed a Baseline Environmental Assessment and Documentation of Due Care Compliance reporting for the Detroit Building Authority to facilitate redevelopment of the property (2022).
- **Detroit Pistons Training Facility, Detroit, Michigan.** On-Site Geologist completed various field investigations including oversight of remedial excavations, verification of soil removal sampling, orphan underground storage tank removal, fingerprint analysis sampling, and coordination with multiple contractors and subcontractors (2018-2019).*
- **Holden Street Art Block Development, Detroit, Michigan.** Field Team Lead for large industrial site planned for future mixed use redevelopment. Completed various field investigations including phase II environmental assessment, additional delineation investigations, waste characterization sampling to aid future redevelopment with landfill disposal, indoor air quality assessments, vapor mitigation assessment, oversight of remedial excavations, verification of soil removal sampling, orphan underground storage tank removal, fingerprint analysis sampling, coordination with multiple contractors, subcontractors and EGLE personnel (2018-2022).*
- **Speedgrip, Elkhart, Indiana.** On-Site Geologist completed various field investigations including vertical aquifer profiling, monitoring well installation, groundwater monitoring, indoor air assessments within

industrial and residential areas, vapor mitigation assessment, and coordination with multiple contractors and subcontractors (2018-2022) *

- **Former American Motor Corporation, Detroit, Michigan.** Field Team Lead for site that consists of approximately 51 acres for future industrial redevelopment. Field task included soil and vapor sampling, waste characterization sampling and ground penetrating radar surveys. Completed Phase II Environmental Assessment reporting (2021-2022) *
- **LaFontaine Automotive Dealership, Dearborn, Michigan.** Project manager/Field Team Lead for polychlorinated biphenyl (PCB) site investigations. Field investigations included soil sampling, waste characterization and vapor sampling for vertical and horizontal profiling of PCB impact. Completed data analysis, reporting for risk-based approach PCB clean-up to pursue regulatory closure under Toxic Substances Control ACT (TSCA), and coordination with client and EPA (2021-2022) *

BRIDGET E. SMITH

ENVIRONMENTAL SCIENTIST



Ms. Smith has more than 15 years of experience conducting due diligence projects including Phase I Environmental Site Assessments (ESAs), environmental screenings, project area contamination surveys (PACS), and baseline environmental assessments (BEAs). Ms. Smith has completed projects according to ASTM standards, as well as guidelines specified by Michigan Department of Environment, Great Lakes, and Energy (EGLE), Michigan Department of Transportation (MDOT), U.S. Army Corps of Engineers, Ohio Department of Transportation (ODOT), and Federal Transit Authority (FTA), among others.

EDUCATION

BS in Natural Resources and
Environmental Policy, Michigan
State University, 1994

ASFE Fundamentals of
Professional Practice #12
Summa cum Laude

PROJECT EXPERIENCE

- **Phase I ESAs, Northern Indiana Commuter Transportation District (NICTD) Environmental Scientist.** Completed several extensive Phase I ESAs on hundreds of parcels according to ASTM Standard E1527-13 and FTA requirements to evaluate recognized environmental conditions prior to proposed railroad development. Properties along the corridor included vacant, residential, commercial, and industrial land (2018-2021).
- **Project Area Contamination Survey, I-275 Rehabilitation, Ford Road to Five Mile Road, Wayne County, Michigan.** Environmental Scientist. Completed a PACS of a 5-mile stretch of highway in Wayne County, Michigan to evaluate potential environmental concerns prior to highway expansion (2017-2018).
- **Wellhead Protection Plan, Independence Township and Waterford Township, Oakland County, Michigan.** Environmental Scientist. Worked as part of a team to complete updated Wellhead Protection Plans according to EGLE requirements including evaluation of more than 2,000 sites of known or potential contamination (2020).
- **Phase I ESAs, Peregrine Falcon Sites, Detroit, Michigan.** Environmental Scientist. Completed several Phase I ESAs on properties in Detroit with a long history of heavy industrial use. The complex sites included former industrial plants, fill material, municipal maintenance yards, and a power plant (2018-2019).
- **Project Area Contamination Survey, MDOT Woodward Loop, Pontiac, Wayne County, Michigan.** Environmental Scientist. Completed a PACS of a densely populated commercial and industrial area with uses dating back to the 1800s to evaluate potential environmental concerns prior to extensive roadwork throughout the project corridor (2021-2022).

- **Wellhead Protection Plan, City of Rochester, Oakland County, Michigan.** Environmental Scientist. Completed a WHPP on behalf of the City of Rochester to identify potential sources of contamination within the wellhead protection area and document methods to manage the area and minimize the threat to the public water supply system (2022).
- **Wellhead Protection Plan, White Lake Township, Oakland County, Michigan.** Environmental Scientist. Completed a WHPP on behalf of White Lake Township to identify potential sources of contamination within the 10-year capture zones of the five municipal wellfields and document methods to manage the area and minimize the threat to the public water supply system (2022).
- **Phase I ESA, 510 North Lansing Street, St. Johns, Michigan.** Environmental Scientist. Completed a Phase I ESA according to ASTM Standard E1527-13 of a former gasoline station and automotive repair facility with operations dating back to the 1930s. The project included review of several prior site investigations, as well as extensive review and summary of Michigan Department of Environment, Great Lakes, and Energy records (2021).
- **Project Area Contamination Survey, Jackson and Mechanic Street Railroad Bridges, Jackson, Michigan.** Environmental Scientist. Completed a PACS of railroad bridges in downtown Jackson. The bridges are located in an area that has been used as industrial land since the 1800s (2018).
- **Phase I ESAs, U.S. Veterans Administration (VA), Michigan, Indiana, Maryland, North Carolina, South Carolina, Alabama, and Georgia.** Environmental Scientist. Completed several Phase I ESAs to assist the VA in evaluating recognized environmental conditions on their properties located in Michigan, Indiana, Maryland, North Carolina, South Carolina, Alabama, and Georgia. The properties included medical campuses and national cemeteries with development dating back to the early 1900s (2017-2018).
- **Phase I ESA, State Fair Grounds, Detroit, Michigan.** Environmental Scientist. The Phase I ESA was completed on over 150 acres of land containing numerous buildings. The site was developed in the early 1900s, therefore an extensive review of historical sources was completed as part of the project (2018).
- **Quarterly and Semi-Annual Monitoring Projects, Michigan.** Environmental Scientist. Assisted in completion of data tables, graphs, and reports for ongoing quarterly and semi-annual monitoring projects for EGLE (2017-2022).
- **Phase I ESA, 1788 East Main Street, Owosso Michigan.** Environmental Scientist. The Phase I ESA was completed on a gasoline station along a commercial corridor. The parcel had been occupied by a gasoline station in the past and was being renovated for use as a new gasoline filling station (2017).
- **Phase I ESA, Garden City Farms, Columbus, Indiana.** Environmental Scientist. Completed a Phase I ESA according to ASTM Standard E1527-13 of a 775-acre property including six parcels of land including residential and farm buildings. The project site also included lagoons, a cemetery, and was located in an area that had a large plume of groundwater contamination (2017).



DIRK D. L. ANDERSON, AAI MASTER

SENIOR FIELD INSPECTOR

Mr. Anderson has more than 28 years of experience in the construction field. His experience includes demolition oversight for LOE projects, tracking of quantities on-site and off-site, ensuring compliance with the contract, and coordination with local utilities. He has performed construction oversight for underground piping projects and building foundations, concrete and masonry building construction, and construction observation of bituminous, concrete curb and gutter, sidewalks, storm and sanitary sewers, subbase repairs, and utility relocation. He has also conducted asbestos and hazardous material surveys, performed sampling and quantification of materials and Phase I site inspections, over site and enforcement of Soil Erosion and Sedimentation Control plans and removal and disposal of Underground Storage Tanks and the manifesting of contaminated soil.

EDUCATION

A.S. Heavy Equipment, Ferris State University, 1986

CERTIFICATIONS

Lead Inspector/Risk Assessor, Michigan Department of Community Health, 2012, Refresher 2018 #P-05332

Asbestos Building Inspector, Michigan, 2003, Refresher 2021, #A11605

Asbestos Project Designer, Michigan, Refresher 2021, #A11605

Asbestos Inspector License, Indiana, 2012, Refresher 2021 #19A004928

Soil Erosion and Sedimentation Control, Michigan Department of Environmental Quality, 2022, #C-09-0298

Storm Water Management Construction Site, Michigan Department of Environmental Quality, 2024, #C-11123

Building Inspector, 2021, #2021364

Management Planner, 2022, 2021378

SPECIAL TRAINING

40-Hour OSHA- HAZWOPER Certification 1995, Refresher 2020, #1702

10-Hour OSHA Construction Industry Training, 2015

PROJECT EXPERIENCE

CONSTRUCTION OVERSIGHT

- **FCA-New Mack Engine Plant, SITE 12B, SITE 12C AND SITE 12D, Detroit, Michigan.** Oversight of two inspectors issuing manifest for the removal of 113,000 cyds of contaminated soil from a berm Detroit river, tracking manifests and coordinating with landfill and contractor. Soil and water sampling throughout the sites. (2019- 2020)
- **Michigan Department of Transportation, As Needed I&T, Kalamazoo, Michigan.** Construction Inspection for multiple jobs, oversight with concrete and density testing for accident investigation site. Inspection and quantification of detail 7 work on M-61. Inspection for tree removal on I-94 EB and WB. Lead inspector for 11.3 miles of preventive maintenance, hot mix asphalt, cold milling and resurfacing. Full depth joint repairs, aggregate shoulders, pavement marking and carpool resurfacing. STA and PWL HMA sampling and macro testing for cold milling depths. (2020)
- **FCA-New Mack Engine Plant, SITE 8, SITE 8A AND SITE 8B, Detroit, Michigan.** Oversight of five inspectors issuing manifest for the removal of 313,000 cyds of contaminated soil from a berm along St. Jean Street from MAC Avenue to Kercheval Street tracking manifests and coordinating with landfill and contractor. (2019)
- **Wayland Recycling, Wayland, Michigan.** Oversight of the removal of contaminated soil, installation of dewatering system into the carbon filtration system and discharged to sanitary system. Manifest loads of

First Aid/CPR, American Red Cross, 2017

ACI Concrete Field-Testing Technician Grade 1, 2022

MCA Concrete Field Testing Technician Level I

Soil Density, MDOT, 2017

Density Technology, MDOT, 2017

Bituminous Paving, MDOT, 1999-2018

Concrete Paving/Structures, MDOT, 1999

24-Hour Asbestos in Buildings, Project Design Course, 1997

24-Hour Lead Inspector Course, 1997

40-Hour NIOSH, 582 Sampling and Evaluating Airborne Asbestos Dust, 1990

24-Hour Asbestos Abatement Workers Class, 1990

Nuclear Gauge Safety Training, Troxler Electronic Laboratories, 2014

American Council of Engineering Companies (ACEC) Materials Acceptance Process Training (MAPS), 2015

FieldManager, 2015

contaminated soil out and tracking quantities of class II fill into the site. Locating and determination of contamination limits during excavation. Ensured the contractor compliance with specifications. (2019)

- **Gordie Howe International Bridge Crossing, Michigan Department of Transportation, Detroit, Michigan.** Demolition Inspector overseeing the de-construction activities of various Contractors tasked with the role of demolishing the properties within the footprint of the future landfall for the bridge. Duties include daily reports utilizing Fieldbook and Projectwise software. Additional duties included acting as the sites Storm water operator for overseeing Contractor's correct implantation of soil and sedimentation controls are utilized at the various sites of demolition. (2019)

- **Executive Drive Concrete Reconstruction, Macomb County, Michigan.** Provided Construction observer role with complete engineering inspection, survey, and materials testing services for an economic development project on 1.03 miles of concrete road reconstructing with drainage improvements and new sidewalk. Mr. Anderson provided Construction Engineering services including pre-construction services, progress and other required meetings, daily on-site construction observation including concrete pavement placement, storm sewer installation, water main and fire hydrant installation, material testing and assistance with construction survey services, daily quantity tracking and postings using Fieldbook, and full project documentation. (2016)

- **Davis Country Corners, Michigan Department of Environment, Great Lakes, and Energy, LOE Contract Mancelona, Michigan.** Construction Inspector. Construction and operational oversight of a soil vapor extraction/air sparging system with vapor-phase carbon units for off-gas treatment. The releases were the result of leaking underground storage tanks at the site. (2014)

- **Former Superior Cleaners, Kalamazoo, Michigan.** Performed contractor management including oversight of the demolition of the building, removal of foundations, backfill grading, and asphalt covering of the site. Oversight and sampling of contents of uncovered underground storage tank removed from the site in November 2009.

- **Foster Street Remediation Site, Michigan Department of Environment, Great Lakes, and Energy, Lansing, Michigan.** Construction observation of excavation of contaminated soil moved to a lower area on the site and covered with clean soil. Observed construction of aeration devices to ensure proper quantities were used on the site and that proper depths of soil were placed over aeration devices. Coordinated with the contractor and engineer. (2007)

ASBESTOS (ACM)/LEAD-BASED PAINT CONSULTING SERVICES

- **Gordie Howe International Bridge Crossing, Detroit, Michigan.** Conducted asbestos and hazardous material surveys and the oversight of asbestos abatement of buildings and ensured compliance with all federal, state and local regulations. (2019)
- **St Francis Hospital, Indianapolis, Indiana.** Over site of the abatement of the sprayed on asbestos insulation from the beams and columns on seven floors. Conducted visual inspections for final clearance of each floor. Over site of the gut out process on each of the seven floors so the spray on insulation could be abated. Also conducted visual clearances for floor tile removal. (2017)
- **Kalamazoo Creamery, Kalamazoo, Michigan.** Performed asbestos and Universal Waste Survey on the property located in Kalamazoo. Also performed oversight of the removal of universal waste and asbestos abatement. (2011)
- **Meadow Gold Dairy Demolition, Champaign, Illinois.** Asbestos Inspector. Project included asbestos and environmental abatement, demolition, utility abandonment and relocation, as well as site restoration including grading, seeding, landscape plans and pavement replacement. (2011)
- **Phase I and II Environmental Site Assessments, Detroit Economic Development Corporation, Detroit, Michigan.** Inspector. Comprehensive asbestos survey and asbestos abatement oversight on more than 100 building structures located within the Neighborhood Development Corporation Project No. 1 area. Phase I Environmental Inquiry Assessments were performed on city and privately owned residential parcels. (Ongoing)
- **Pre-Demolition Residential Asbestos and Universal Waste Survey, Kalamazoo, Michigan.** Inspector. Performed asbestos and universal waste surveys on 13 blighted houses. Work included inspection and documentation of conditions including pictures and a survey report of findings. (2009)
- **As-Needed Asbestos Inspection, Kalamazoo, Michigan.** Conducted universal waste and asbestos survey to include sampling, identification and quantification of asbestos-containing materials and universal waste on the properties to be demolished. (2009)
- **City of Detroit Economic Development Corporation.** Performed universal waste and asbestos survey, and oversight of asbestos abatement with perimeter asbestos air monitoring for 16 properties to be demolished from 2003 to 2008.
- **J.R. Group at the Detroit City Airport.** Performed Phase I universal waste surveys. Identified, sampled and quantified asbestos-containing material on the 45 properties to be demolished from 2006 to 2010.
- **American Residential Equities.** Phase I universal waste surveys. Identified, sampled and quantified asbestos-containing material and universal waste on 15 properties in January 2010.

- **Gull and Ransom Street Parcels, Kalamazoo, Michigan.** Performed an asbestos survey and hazardous waste inspection on four parcels on Gull and Ransom Streets in Kalamazoo, Michigan. Also performed contractor management and full-time oversight for the asbestos abatement, demolition of on-site structures, removal of miscellaneous debris, grading the parcels, and restoration of the surfaces. (2009)
- **627 East North Street, Kalamazoo, Michigan.** Performed an asbestos survey and hazardous waste inspection on the property located in Kalamazoo, Michigan. Also performed contractor management and full-time oversight for the asbestos abatement and demolition of the building. (2008)
- **Former Lakeside Refinery, Kalamazoo, Michigan.** Performed an asbestos survey and hazardous waste and radiological inspection on the property located in Kalamazoo, Michigan. Also performed contractor management and full-time oversight for the asbestos abatement and demolition of the building in May 2009.
- **Asbestos Abatement, Property Located at 689 West St. Clair, Detroit, Michigan.** Inspector for oversight, air monitoring, and record keeping of asbestos abatement for the Detroit Economic Development Corporation. (2006)
- **Five Sites, Detroit Public Works, Detroit, Michigan.** Performed a visual asbestos survey throughout ten existing unoccupied buildings. Noted any other environmental concerns. Prepared report for City of Detroit with sample results and recommendations. (2005)
- **Ten Sites, Detroit Public Works, Detroit, Michigan.** Performed a visual asbestos survey throughout ten existing unoccupied buildings. Noted any other environmental concerns. Prepared report for City of Detroit with sample results and recommendations. (2002)
- **The Detroit Athletic Club (DAC), John M. Olson, Inc., Detroit, Michigan.** Performed a visual asbestos/lead-based paint survey throughout the existing structure. The survey was conducted to assess the presence and quantity of suspect asbestos-containing materials and potential lead-based paint. (2001)
- **Detroit Arsenal, U.S. Army Tank, Automotive and Armaments Command (TACOM), Warren, Michigan, U.S. Army Corps of Engineers.** Conducted a visual asbestos survey and sampling of asbestos-containing materials in Building #212. (2001)
- **Detroit Fire House #5, 433 Alexandrine, SIGMA Associates, Inc. Detroit, Michigan.** Performed a visual asbestos/lead-based paint survey throughout the existing structure. The survey was conducted to assess the presence and quantity of suspect asbestos-containing materials and potential lead-based paint. (2001)
- **Herman Gardens Housing Project, City of Detroit Housing Commission, Detroit, Michigan.** Performed a visual asbestos/lead-based paint survey throughout the existing housing project. The survey was conducted to assess the presence and quantity of suspect asbestos-containing materials located in the crawl spaces and the walls of the individual housing units. Ninety-one buildings were surveyed. (2000)

- **University Park Housing Development Project, City of Flint, Michigan.** Performed a visual asbestos/lead-based paint survey throughout the existing housing project. The survey was conducted to assess the presence and quantity of suspect asbestos-containing materials located in each building. TCLP sampling was also performed in each unoccupied building. Coordinated access to the occupied buildings with the City of Flint representative. (1999)
- **Parkside Homes III, City of Detroit (HUD), Detroit, Michigan.** Air monitoring for airborne lead-based paint during the demolition of the interior of three buildings. Conducted TCLP sampling of demolition debris, and advised the City of Detroit on environmental issues concerning this project. (1998)
- **Revere Copper and Brass, Michigan Department of Environment, Great Lakes, and Energy Detroit, Michigan.** Conducted a visual asbestos survey and sampling of asbestos-containing materials throughout the 29-acre site. Also noted other environmental concerns. (1995)
- **Anaconda Brass, Michigan Department of Environment, Great Lakes, and Energy Detroit, Michigan.** Conducted a visual asbestos survey and sampling of asbestos-containing materials in the buildings and throughout the 11-acre site. Also noted other environmental concerns. (1995)
- **Lear Siegler Site, Michigan Department of Environment, Great Lakes, and Energy Detroit, Michigan.** Conducted a visual asbestos survey and sampling of asbestos-containing materials in the buildings and throughout the 13-acre site. Also noted other environmental concerns. (1996)
- **Permit Monitoring, Capital City Airport, Lansing, Michigan.** Performed field monitoring and sample collection from the glycol collection pond including pH, dissolved oxygen demand, chemical oxygen demand, total suspended solids, oil and grease, ethylene glycol, propylene glycol, temperature and conductivity. (2007-2014)

DEMOLITION OVERSIGHT

- **Rose Lake Wildlife Area, East Lansing, Michigan.** Conducted Hazardous Material Survey of 8 buildings at 6 different locations. Asbestos sampling and quantification of suspect materials at 3 buildings. Ensured that the asbestos abatement at 2 of the 8 buildings complied with all federal, state and local regulations. Conducted demolition oversight for all 8 buildings to include footing removal, slab removal, backfilling and compaction. Ensured 2 septic tanks were abandoned according to local regulations and the abandonment of 3 water wells by licensed well drillers. (2019)

- **St. Francis Hospital, Indianapolis, Beech Grove, Indiana.** Construction Inspector/Asbestos Inspector. Conducted demolition oversight and asbestos abatement of seven floors of sprayed on insulation, environmental remediation including the removal of three underground storage tanks and contaminated soils, utility abandonment, utility relocation, back fill, compaction, SESC enforcement and site restoration of their hospital complex, which consists of multiple buildings containing over 725,000 square feet of hospital space. As part of the project, DLZ developed measures to allow for the building to be demolished and the foundations removed while protecting the surrounding roads. DLZ included provisions in the Contract Documents to maximize the recycling and reuse of the materials. Ensured that the required survey was completed correctly. (2016 – 2018)
- **Porter County Hospital Demolition, Valparaiso, Indiana.** Construction Inspector/Asbestos Inspector. Conducted demolition oversight and asbestos abatement, environmental remediation, utility abandonment, utility relocation, back fill, compaction, and site restoration of their hospital complex, which consists of multiple buildings containing over 425,000 square feet of hospital space. As part of the project, DLZ developed measures to allow for the building to be demolished and the foundations removed while protecting the surrounding roads and an adjoining building. DLZ included provisions in the Contract Documents to maximize the recycling and reuse of the materials. (2012 – 2013)
- **Studebaker Area A Demolition – Phase IV, Bid Package B, South Bend, Indiana.** Construction Inspector/Asbestos Inspector. Conducted demolition oversight, asbestos and environmental abatement. Oversight of backfill compactions, removal of below grade basement/ foundations, underground tunnels, underground storage tanks and utilities. (2010 – 2012)
- **Former Kalamazoo Creamery Site, Kalamazoo, Michigan.** Construction Inspector/Asbestos Inspector. Conducted Phase I Environmental Site Assessment and Asbestos and Hazardous Material Surveys. (2012)
- **Flint Water Treatment Plant, Phase I, Segment 1, City of Flint, Michigan.** Demolition oversight for primary clarifier and selected interior demolition. Reviewed requests for payment, ensured contract compliance. Liaison between contractor and engineers. (2001-2002)
- **Flint Water Treatment Plant, Phase I, Segment 2, City of Flint, Michigan.** Construction inspection of two new buildings, one a 16,000 S.F. concrete two-story structure, and installation of 24-inch to 54-inch valves. Also, inspection for the building of three interior block and brick rooms, installation of 60,000+ bricks, oversight of 16,000 S.F. of new insulation and roofing, inspection and test verification of water, air and steam piping. Reviewed requests for payment, liaison between contractor and engineers. Assembled and reviewed as-built drawings. Assembled O&M manuals from shop drawings. (2002-2003)
- **Flint Water Treatment Plant, Phase I, Segment 3, City of Flint, Michigan.** Construction inspection for the demolition and installation of process piping from 8-inch to 36-inch; installation of 4-inch, 6-inch and 10-inch RPZs, trenching and installation of new 480V transformer and electrical feed from tie-in at substation. Also, inspection of paint thickness and steel preparation for piping and lime softening clarifier. Oversight of installation, inspection and test verification of process water piping and valves. Assembled and reviewed as-built drawings, and acted as liaison between contractor and engineering team. (2003-2004)

APPENDIX B - FORMS

Certifications and Addendum Acknowledgment forms are on the following pages.



DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
State Facilities Administration
Design & Construction Division

Certification of a Michigan Based Business

(Information Required Prior to Contract Award for Application
of State Preference/Reciprocity Provisions)

To qualify as a Michigan business:

Vendor must have, during the 12 months immediately preceding this bid deadline:

or

If the business is newly established, for the period the business has been in existence, it has:

(Check all that apply):

- ☐ Filed a Michigan single business tax return showing a portion, or all the income tax base allocated or apportioned to the State of Michigan pursuant to the Michigan Single Business Tax Act, 1975 PA 228, MCL • ~208.1 – 208.145: or
- ☒ Filed a Michigan income tax return showing income generated in or attributed to the State of Michigan; or
- ☐ Withheld Michigan income tax from compensation paid to the bidder's owners and remitted the tax to the Department of Treasury; or

I certify that **I have personal knowledge** of such filing or withholding, that it was more than a nominal filing for the purpose of gaining the status of a Michigan business, and that it indicates a significant business presence in the state, considering the size of the business and the nature of its activities.

I authorize the Michigan Department of Treasury to verify that the business has or has not met the criteria for a Michigan business indicated above and to disclose the verifying information to the procuring agency.

Bidder shall also indicate one of the following:

- ☒ Bidder qualifies as a Michigan business (provide zip code: 48911)
- ☐ Bidder does not qualify as a Michigan business (provide name of State: _____).
- ☐ Principal place of business is outside the State of Michigan, however service/commodity provided by a location within the State of Michigan (provide zip code: _____)

R 08/20



DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
State Facilities Administration
Design & Construction Division

Bidder: DLZ Michigan, Inc.

Manoj Sethi, PE - President

Authorized Agent Name (print or type)

A handwritten signature in blue ink, appearing to read 'Manoj Sethi', is written over a horizontal line.

1/12/23

Authorized Agent Signature & Date

Fraudulent Certification as a Michigan business is prohibited by MCL 18.1268 § 268. A BUSINESS THAT PURPOSELY OR WILLFULLY SUBMITS A FALSE CERTIFICATION THAT IT IS A MICHIGAN BUSINESS OR FALSELY INDICATES THE STATE IN WHICH IT HAS ITS PRINCIPAL PLACE OF BUSINESS IS GUILTY OF A FELONY, PUNISHABLE BY A FINE OF NOT LESS THAN \$25,000 and subject to debarment under MCL 18.264.



DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
State Facilities Administration
Design & Construction Division

Responsibility Certification

The bidder certifies to the best of its knowledge and belief that, within the past three (3) years, the bidder, an officer of the bidder, or an owner of a 25% or greater interest in the bidder:

- (a) Has not been convicted of a criminal offense incident to the application for or performance of a contract or subcontract with the State of Michigan or any of its agencies, authorities, boards, commissions, or departments.
- (b) Has not had a felony conviction in any state (including the State of Michigan).
- (c) Has not been convicted of a criminal offense which negatively reflects on the bidder's business integrity, including but not limited to, embezzlement, theft, forgery, bribery, falsification, or destruction of records, receiving stolen property, negligent misrepresentation, price-fixing, bid rigging, or a violation of state or federal anti-trust statutes.
- (d) Has not had a loss or suspension of a license or the right to do business or practice a profession, the loss or suspension of which indicates dishonesty, a lack of integrity, or a failure or refusal to perform in accordance with the ethical standards of the business or profession in question.
- (e) Has not been terminated for cause by the Owner.
- (f) Has not failed to pay any federal, state, or local taxes.
- (g) Has not failed to comply with all requirements for foreign corporations.
- (h) Has not been debarred from participation in the bid process pursuant to Section 264 of 1984 PA 431, as amended, MCL 18.1264, or debarred or suspended from consideration for award of contracts by any other State or any federal Agency.
- (i) Has not been convicted of a criminal offense or other violation of other state or federal law, as determined by a court of competent jurisdiction or an administrative proceeding, which in the opinion of DTMB indicates that the bidder is unable to perform responsibly or which reflects a lack of integrity that could negatively impact or reflect upon the State of Michigan, including but not limited to, any of the following offenses under or violations of:
 - i. The Natural Resources and Environmental Protection Act, 1994 PA 451, MCL 324.101 to 324.90106.
 - ii. A persistent and knowing violation of the Michigan Consumer Protection Act, 1976 PA 331, MCL 445.901 to 445.922.



DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
State Facilities Administration
Design & Construction Division

- iii. 1965 PA 166, MCL 408.551 to 408.558 (law relating to prevailing wages on state projects) and a finding that the bidder failed to pay the wages and/or fringe benefits due within the period required.
 - iv. Repeated or flagrant violations of 1978 PA 390 MCL 408.471 to 408.490 (law relating to payment of wages and fringe benefits).
 - v. A willful or persistent violation of the Michigan Occupational Health and Safety Act, 1974, PA 154, MCL 408.10001 to 408.1094, including: a criminal conviction, repeated willful violations that are final orders, repeated violations that are final orders, and failure to abate notices that are final orders.
 - vi. A violation of federal or state civil rights, equal rights, or non-discrimination laws, rules, or regulations.
 - vii. Been found in contempt of court by a Federal Court of Appeals for failure to correct an unfair labor practice as prohibited by Section 8 of Chapter 372 of the National Labor Relations Act, 29 U. s. C. 158 (1980 PA 278, as amended, MCL 423.321 et seq).
- (j) Is NOT an Iran linked business as defined in MCL 129.312.

I understand that a false statement, misrepresentation, or concealment of material facts on this certification may be grounds for rejection of this proposal or termination of the award and may be grounds for debarment.

Bidder: DLZ Michigan, Inc.

Manoj Sethi, PE - President
 Authorized Agent Name (print or type)

 1/12/23
 Authorized Agent Signature & Date

☐ I am unable to certify to the above statements. My explanation is attached.



DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
State Facilities Administration
Design & Construction Division

ACKNOWLEDGMENT OF ADDENDUMS

PSC acknowledges receipt of Addenda: No. 1 dated: 12/7/22,

No. 2 dated: 12/22/22 No. dated:

APPENDIX C - ACTIVITY LOGS



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

MEETING MINUTES

MEETING DATE: 12/16/2020 **DATE:** 12/16/2020
CLIENT: EGLE **WRITTEN BY:** Scott Park
PROJECT: Former Matthews Service – Vernon Twp.
PROJECT #: 1841-6830-09
LOCATION OF MEETING: Former Matthews Service, Vernon Twp, Michigan
PURPOSE OF MEETING: Weekly Progress Meeting

ATTENDED BY:

DLZ Michigan, Inc. (Professional)
Scott Park - Project Manager, Rob Butler – DLZ Site Supervisor

ET MacKenzie (Trade Contractor)
Matt Tunnell – Project Manager, Doug Lenon – Site Superintendent

EGLE
Autumn Henney – Project Manager

DISCUSSION:

Progress

- MacKenzie and DLZ staff reported No significant issues at this point, relating to bldg. demolition, excavation, dewatering, site security or health and safety. Project is progressing well and on schedule.
- 3,123 tons of soil removed
- 61,100 gallons of water removed from site and anticipate additional 9,000 gallons to be removed tomorrow (17th).
- 2,926 tons of sand have been delivered and backfilled
- No concerns regarding change orders or schedule at this point with the exception of the Provisional allowance needed for the two USTs identified and registered.

Schedule

- Anticipate completion of the main portion of the excavation today (16th), and begin excavating on the neighbors property on 17th.
- Anticipate majority of site restoration will occur after Christmas

Other

- Both MacKenzie and DLZ staff reported that no health and safety issues have occurred so far during demolition and initial excavation/dewatering. Discussed all safety issues that could occur during the source removal excavation activities. Emphasized safety and on site safety issues including utilities, and overhead lines. Emphasized Requirement and documentation of Daily safety checks and safety tailgate meetings.
- Discussed minimizing people entering excavation area for safety purposes.
- Discussed maintaining proper grade on neighbor's property after completion of excavation. Discussed need for accurate restoration to avoid issues with neighbors and potential surface water accumulation. MacKenzie indicated that they will survey for drainage and appropriate grade.
- Will decide next week if post-Christmas restoration will be needed
- Discussed need to remove one IDW drum on site with site soil to be landfilled.
- Discussed need to cut the telephone line between site and neighbors property. MacKenzie will arrange with the phone company. MacKenzie staff will request the additional cost from the phone company.

The foregoing constitutes our understanding of matters discussed and conclusions reached. Please review these items and advise the undersigned, in writing and within five (5) business days, of any errors or omissions.

CC:

Meeting Attendees

DLZ REPRESENTATIVE

Scott Park
Project Manager

DAILY FIELD REPORT

 DATE 12/14/20

 DAY

S	M	<u>T</u>	W	T	F	S
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 PROJECT Matthews Service

 JOB NO. 1341-6550-44

 CLIENT MDEQ (now EGLE)

 CONTRACTOR N/A

 PROJECT MANAGER Scott Park

WEATHER	Brite Sun	Clear	Overcast	Rain	Snow
TEMP.	To 32	32 50	50 70	70 85	85 Up
WIND	Still	Moderate	High	Report No	
HUMIDITY	Dry	Moderate	Humid		

VISITORS

Time	Representing	Representing	Remarks

EQUIPMENT AT THE SITE

Same

NUMBER OF PERSONNEL ON SITE

DLZ (R) Mackenzie (Doug & Brian)

FIELD ACTIVITIES

0715 on site Mackenzie on site
1015 / 1100 meeting

0830	Collect WSW-5 (5.5)	0.0 ppm
0845	Collect SSW-1 (5.5)	0.6 ppm
0901	Collect BS-7 (10)	2.8 ppm
0915	Collect SSW-2 (5.5)	0.2 ppm
0930	Collect BS-8 (10)	0.8 ppm
1130	Collect BS-9 (8.5)	1.0 ppm
1615	off site	

Date: 12/14/28
Location: Matthews

[illegible]

Total Loads for the sheet

Name: _____

Total Loads for the Day

JOB SAFETY ANALYSIS (JSA) FORM

 SUPERVISOR/FOREMAN: Robert Butler

WEATHER CONDITIONS: _____

 DATE: 12/14/21 TIME: 7:15 ☒ AM ☐ PM

 PROJECT: Matthews Service LOCATION: 7350 M-71

 JOB DESCRIPTION (DETAILED): Soil sampling, supervising the excavation of contaminated soil, back fill and compaction.

 Have you inspected your job site today to identify hazards? Yes ☒ No ☐

Review the following information carefully and check all the items that apply to your work activity and review with your work crews

Permits

- ☐ Confined Space
- ☐ Street Opening
- ☐ Occupancy/Lane Road Closure
- ☐ Right of Entry
- ☐ Utility Clearance

Personal Protective Equipment

- ☒ Normal PPE
 - Hard Hat
 - Safety Glasses
 - Safety Toe Shoes
 - Hearing Protection
- ☒ Gloves
- ☐ Face Shield
- ☐ Respirator (type): _____
- ☐ Fall Protection
- ☐ Seat Belts

Emergency Info/Equipment Location

- ☐ Fire Extinguisher /Inspected
- ☐ Eye Wash - Location _____
- ☐ Evacuation Route
- ☐ Safety Data Sheet Review
- ☐ Cell Phone Signal Check
- ☐ Wind Direction _____

Traffic Control

- ☐ Traffic Control Plan
- ☐ Flaggers
- ☐ Signage
- ☐ Cones/Barrels
- ☐ Arrow Board
- ☐ Radios
- ☐ Other _____

Fall Protection

- ☐ PFAS Inspection
- ☐ Proper Anchorage Point
- ☐ Life Line
- ☐ Other _____

Excavation

- ☐ Proper Barricade
- ☒ Shoring/Sloping/Benching Required
- ☐ Proper Access
- ☐ Inspected by Competent Person
- ☐ Other _____

Access

- ☐ Scaffold (Properly Inspected)
- ☐ Ladder
- ☐ Aerial Lift
- ☐ Scissor Lift
- ☐ Man Basket

Electrical

- ☐ GFCI Test
- ☐ Extension Cord Check
- ☐ Electrical Tool Inspection
- ☐ Adequate Lighting

Environmental

- ☐ Waste Generation- Proper Storage, Label, & disposal
- ☐ Spill/Releases – Spill Kits, Contain/Notify
- ☐ Water Runoff Control
- ☐ Daily Site Clean Up – Trash, Equipment, & Tools
- ☐ Exposure - Lead, Asbestos, Arsenic
- ☐ Carbon Monoxide/H2S
- ☐ Other _____

General

- ☐ Flammables – Gases/Liquids
- ☐ Noise
- ☐ Combustibles
- ☐ Chemicals
- ☐ Struck by/Pinch Points
- ☐ Poor Access / Egress
- ☐ Slip, Trip, Falls
- ☐ Ergonomics – Grip, Lift, Body Positioning
- ☐ Visibility
- ☒ Heat and Cold Stress
- ☐ Lifting Heavy or Awkward Objects (assess for team or mechanical lifting)

Human Performance

- ☐ Confusion/Mix UP Potentials (labeling, look-alike equip., etc.)
- ☐ Distractions
- ☐ Lack of Experience/Apprentice
- ☐ Work After Long Break (Vacation)
- ☐ Nearby Work Activities

Tools

- ☐ Daily Inspection
- ☐ Proper Tools for the Job
- ☐ Proper Cutting Tools for the Job

Plants and Animals

- ☐ Poison Ivy/Oak
- ☐ Snakes, Animals Insects Birds
- ☐ Other _____

Lock Out Tag Out

- If this is a LO/TO (CHE) job, has the equipment been isolated and drained?
- ☐ Yes / ☐ No
- Has a joint walk through been performed?
- ☐ Yes / ☐ No
- Are locks/tags installed? ☐ Yes / ☐ No


JOB SAFETY BRIEFING
Step 1: Job Safety Briefing Checklist (below item are to be discussed daily with work crews)

- ☒ Hazards Identified
- ☐ All possible hazards eliminated or mitigated
- ☒ Risk for remaining hazards considered
- ☐ Review JSA on back page with crew
- ☐ Technical aspects of work discussed
- ☐ Past work experience discussed
- ☒ Is a JSA already on file for this work task?

If You are not Getting the Results from Your Work You Were Expecting, if You are Unclear or If Conditions, Job Scope, or Procedures Change



Contact Supervisor About Holding Another Job Briefing

DAILY FIELD REPORT

 DATE 12/15/2018

DAY	S	M	T	W	T	F	S
-----	---	---	---	---	---	---	---

 PROJECT Matthews Service

 JOB NO. 1341-6550-44

 CLIENT MDEQ (now EGLE)

 CONTRACTOR N/A

 PROJECT MANAGER Scott Park

WEATHER	Brite Sun	Clear	Overcast	Rain	Snow
TEMP.	To 32	32 50	50 70	70 85	85 Up
WIND	Still	Moderate	High	Report No	
HUMIDITY	Dry	Moderate	Humid		

VISITORS

Time	Representing	Representing	Remarks

EQUIPMENT AT THE SITE

Samuel

NUMBER OF PERSONNEL ON SITE

Samuel

FIELD ACTIVITIES

7:15	on site, Rock Kenzie on site
	HAS / fuel/gate meeting
4:58	Collect ESW-2 (S.S) 0.6 ppm
11:27	Collect BS-16 (S.S) 0.2 ppm
11:40	Collect ESW-3 (S.S) 0.0 ppm
11:50	Collect SSW-3 (S.S) 0.0 ppm
12:17	Collected ESW-4 (S.S) 0.0 ppm
1:24	Left site



Date: 12/15/20
Location: Matthews

Total Loads for the sheet

Name: _____

Total Loads for the Day

JOB SAFETY ANALYSIS (JSA) FORM

 SUPERVISOR/FOREMAN: Robert Butler

WEATHER CONDITIONS: _____

 DATE: 12/15/21 TIME: 7:15 ☒ AM ☐ PM

 PROJECT: Matthews Service LOCATION: 7350 M-71

 JOB DESCRIPTION (DETAILED): Soil sampling, supervising the excavation of contaminated soil, back fill and compaction.

 Have you inspected your job site today to identify hazards? Yes ☒ No ☐

Review the following information carefully and check all the items that apply to your work activity and review with your work crews

Permits

- ☐ Confined Space
☐ Street Opening
☐ Occupancy/Lane Road Closure
☐ Right of Entry
☐ Utility Clearance

Personal Protective Equipment

- ☒ Normal PPE
 – Hard Hat
 – Safety Glasses
 – Safety Toe Shoes
 – Hearing Protection
☒ Gloves
☐ Face Shield
☐ Respirator (type): _____
☐ Fall Protection
☐ Seat Belts

Emergency Info/Equipment Location

- ☐ Fire Extinguisher / Inspected
☐ Eye Wash - Location _____
☐ Evacuation Route
☐ Safety Data Sheet Review
☐ Cell Phone Signal Check
☐ Wind Direction _____

Traffic Control

- ☐ Traffic Control Plan
☐ Flaggers
☐ Signage
☐ Cones/Barrels
☐ Arrow Board
☐ Radios
☐ Other _____

Fall Protection

- ☐ PFAS Inspection
☐ Proper Anchorage Point
☐ Life Line
☐ Other _____

Excavation

- ☐ Proper Barricade
☒ Shoring/Sloping/Benching Required
☐ Proper Access
☐ Inspected by Competent Person
☐ Other _____

Access

- ☐ Scaffold (Properly Inspected)
☐ Ladder
☐ Aerial Lift
☐ Scissor Lift
☐ Man Basket

Electrical

- ☐ GFCI Test
☐ Extension Cord Check
☐ Electrical Tool Inspection
☐ Adequate Lighting

Environmental

- ☐ Waste Generation- Proper Storage, Label, & disposal
☐ Spill/Releases – Spill Kits, Contain/Notify
☐ Water Runoff Control
☐ Daily Site Clean Up – Trash, Equipment, & Tools
☐ Exposure - Lead, Asbestos, Arsenic
☐ Carbon Monoxide/H2S
☐ Other _____

General

- ☐ Flammables – Gases/Liquids
☐ Noise
☐ Combustibles
☐ Chemicals
☐ Struck by/Pinch Points
☐ Poor Access / Egress
☐ Slip, Trip, Falls
☐ Ergonomics – Grip, Lift, Body Positioning
☐ Visibility
☒ Heat and Cold Stress
☐ Lifting Heavy or Awkward Objects (assess for team or mechanical lifting)

Human Performance

- ☐ Confusion/Mix UP Potentials (labeling, look-alike equip., etc.)
☐ Distractions
☐ Lack of Experience/Apprentice
☐ Work After Long Break (Vacation)
☐ Nearby Work Activities

Tools

- ☐ Daily Inspection
☐ Proper Tools for the Job
☐ Proper Cutting Tools for the Job

Plants and Animals

- ☐ Poison Ivy/Oak
☐ Snakes, Animals Insects Birds
☐ Other _____

Lock Out Tag Out

- If this is a LO/TO (CHE) job, has the equipment been isolated and drained?
☐ Yes / ☐ No
 Has a joint walk through been performed?
☐ Yes / ☐ No
 Are locks/tags installed? ☐ Yes / ☐ No


JOB SAFETY BRIEFING
Step 1: Job Safety Briefing Checklist (below items are to be discussed daily with work crews)

- | | |
|---|--|
| <input checked="" type="checkbox"/> Hazards Identified | <input type="checkbox"/> Technical aspects of work discussed |
| <input type="checkbox"/> All possible hazards eliminated or mitigated | <input type="checkbox"/> Past work experience discussed |
| <input checked="" type="checkbox"/> Risk for remaining hazards considered | <input checked="" type="checkbox"/> Is a JSA already on file for this work task? |
| <input type="checkbox"/> Review JSA on back page with crew | |

If You are not Getting the Results from Your Work You Were Expecting, if You are Unclear or If Conditions, Job Scope, or Procedures Change



Contact Supervisor About Holding Another Job Briefing

DAILY FIELD REPORT

 DATE 12/16/20

S	M	T	W	<u>T</u>	F	S
---	---	---	---	----------	---	---

DAY

 PROJECT Matthews Service

 JOB NO. 1341-6550-44

 CLIENT MDEQ (now EGLE)

 CONTRACTOR N/A

 PROJECT MANAGER Scott Park

WEATHER	Brite Sun	Clear	Overcast	Rain	Snow
TEMP.	To 32	32 50	50 70	70 85	85 Up
WIND	Still	Moderate	High	Report No	
HUMIDITY	Dry	Moderate	Humid		

VISITORS

Time	Representing	Representing	Remarks

EQUIPMENT AT THE SITE

sample

NUMBER OF PERSONNEL ON SITE

same

FIELD ACTIVITIES

0715	Arrive @ site	Mackenzie on site
	HAS / tailgate	Meeting
0745	Collect	RS-11 (9) 0.8 ppm
0756	Collect	SSW-4 (55) 0.1 ppm
0830	SME on site	for compaction testing
0900	Spark (DLZ), Autumn Henney (EGLE)	here for progress meeting.
0905	M. Tunnel (Mackenzie)	here for progress meeting

PAGE 1 OF _____

DAILY FIELD REPORT

(Continuation Sheet)

PROJECT Matthews Service

REPORT NO. _____

JOB NO. 1341-6550-44

DATE

12/16/20

FIELD ACTIVITIES (Continued)

10:46 S. Park off site
11:16 Collect SSW-5 (5.5) 0.2 ppm
11:20 A. Henney off site
12:45 Collect (SW-6 (5.5) 0.0 ppm
B.B. Collect ESW-5 (5.5) 6.8 ppm
14:30 Brian (McKenzie off site Air out of dry (appointment)
15:18 SAE off site

PAGE ____ OF ____

BY _____

TITLE _____



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

Matthews Service Manifest Tracking Sheet - Contaminate
Job#: 1841-6830-09

Date: 12/16/20
Location: Matthews

Truck No.	Trucking Company	Manifest Number	Load Size	Time Out	Tons	Weight Ticket Number	Notes
10042	MacKenzie		40yd	0817			Fill Sand In
10042	"		"	0823			C. Soil Out
	SM Fox		"	0834			Fill Sand In
	SM Fox		"	0832			C. Soil Out
10051	MacKenzie		"	0855			Fill Sand In
10051	"		"	910			C. Soil Out
37	"		"	915			Fill Sand In
37	"		"	920			C. Soil Out
10042	"		"	1004			"
	SM Fox		"	1020			"
10051	MacKenzie		"				"
37	"		"				"
10042	"		"	1200			"
	SM Fox		"	1215			"
10051	MacKenzie		"	1227			"
37	"		"	1240			"
	SM Fox		"	1355			"
10051	MacKenzie		"	1410			Fill Sand In
10053	"		"	1416			"
10042	"		"	1420			"
37	"		"	1519			"
10053	"		"	1558			"

Total Loads for the sheet

Total Leads for the Day

Name: _____

may have missed some trucks during project meetings

JOB SAFETY ANALYSIS (JSA) FORM

 SUPERVISOR/FOREMAN: Robert Butler

WEATHER CONDITIONS: _____

 DATE: 12/16/20 TIME: 7:15 ☒ AM ☐ PM PROJECT: Matthews Service LOCATION: 7350 M-71

 JOB DESCRIPTION (DETAILED): Soil sampling, supervising the excavation of contaminated soil, back fill and compaction.

 Have you inspected your job site today to identify hazards? Yes ☒ No ☐

Review the following information carefully and check all the items that apply to your work activity and review with your work crews

Permits

- ☐ Confined Space
☐ Street Opening
☐ Occupancy/Lane Road Closure
☐ Right of Entry
☐ Utility Clearance

Personal Protective Equipment

- ☒ Normal PPE
 – Hard Hat
 – Safety Glasses
 – Safety Toe Shoes
 – Hearing Protection
☒ Gloves
☐ Face Shield
☐ Respirator (type): _____
☐ Fall Protection
☐ Seat Belts

Emergency Info/Equipment Location

- ☐ Fire Extinguisher /Inspected
☐ Eye Wash - Location _____
☐ Evacuation Route
☐ Safety Data Sheet Review
☐ Cell Phone Signal Check
☐ Wind Direction _____

Traffic Control

- ☐ Traffic Control Plan
☐ Flaggers
☐ Signage
☐ Cones/Barrels
☐ Arrow Board
☐ Radios
☐ Other _____

Fall Protection

- ☐ PFAS Inspection
☐ Proper Anchorage Point
☐ Life Line
☐ Other _____

Excavation

- ☐ Proper Barricade
☒ Shoring/Sloping/Benching Required
☐ Proper Access
☐ Inspected by Competent Person
☐ Other _____

Access

- ☐ Scaffold (Properly Inspected)
☐ Ladder
☐ Aerial Lift
☐ Scissor Lift
☐ Man Basket

Electrical

- ☐ GFCI Test
☐ Extension Cord Check
☐ Electrical Tool Inspection
☐ Adequate Lighting

Environmental

- ☐ Waste Generation- Proper Storage, Label, & disposal
☐ Spill/Releases – Spill Kits, Contain/Notify
☐ Water Runoff Control
☐ Daily Site Clean Up – Trash, Equipment, & Tools
☐ Exposure - Lead, Asbestos, Arsenic
☐ Carbon Monoxide/H2S
☐ Other _____

General

- ☐ Flammables – Gases/Liquids
☐ Noise
☐ Combustibles
☐ Chemicals
☐ Struck by/Pinch Points
☐ Poor Access / Egress
☐ Slip, Trip, Falls
☐ Ergonomics – Grip, Lift, Body Positioning
☐ Visibility
☒ Heat and Cold Stress
☐ Lifting Heavy or Awkward Objects (assess for team or mechanical lifting)

Human Performance

- ☐ Confusion/Mix UP Potentials (labeling, look-alike equip., etc.)
☐ Distractions
☐ Lack of Experience/Apprentice
☐ Work After Long Break (Vacation)
☐ Nearby Work Activities

Tools

- ☐ Daily Inspection
☐ Proper Tools for the Job
☐ Proper Cutting Tools for the Job

Plants and Animals

- ☐ Poison Ivy/Oak
☐ Snakes, Animals Insects Birds
☐ Other _____

Lock Out Tag Out

If this is a LO/TO (CHE) job, has the equipment been isolated and drained?

☐ Yes / ☐ No

Has a joint walk through been performed?

☐ Yes / ☐ No

 Are locks/tags installed? ☐ Yes / ☐ No

JOB SAFETY BRIEFING
Step 1: Job Safety Briefing Checklist (below item are to be discussed daily with work crews)

- | | |
|---|--|
| <input checked="" type="checkbox"/> Hazards Identified | <input type="checkbox"/> Technical aspects of work discussed |
| <input type="checkbox"/> All possible hazards eliminated or mitigated | <input type="checkbox"/> Past work experience discussed |
| <input checked="" type="checkbox"/> Risk for remaining hazards considered | <input checked="" type="checkbox"/> Is a JSA already on file for this work task? |
| <input type="checkbox"/> Review JSA on back page with crew | |

If You are not Getting the Results from Your Work You Were Expecting, if You are Unclear or If Conditions, Job Scope, or Procedures Change



Contact Supervisor About Holding Another Job Briefing

DAILY FIELD REPORT

 DATE 12/07/20

 DAY

S	M	T	W	<u>T</u>	<u>F</u>	S
---	---	---	---	----------	----------	---

 PROJECT Matthews Service

 JOB NO. 1341-6550-44

 CLIENT MDEQ (now EGLE)

 CONTRACTOR N/A

 PROJECT MANAGER Scott Park

WEATHER	Brite Sun	Clear	Overcast	Rain	Snow
TEMP.	To 32	32 50	50 70	70 85	85 Up
WIND	Still	Moderate	High	Report No	
HUMIDITY	Dry	Moderate	Humid		

VISITORS

Time	Representing	Representing	Remarks

EQUIPMENT AT THE SITE

Scale	Cat 336 E - excavator	Cat 938 M - loader
NUMBER OF PERSONNEL ON SITE	Cat 15 5630 - roller	Cat D4G X2 - dozer
	two - behind	generator

FIELD ACTIVITIES

0715	onsite. Mackenzie on site
	125 / tailgate meeting
0730	Concrete bucket attachment delivered. 2 pallets topsoil powder removed from site
	Plan for the day is to finish back filling + stock pile sand
	Excavation of neighbor's yard beginning tomorrow
0800	Some time for compaction testing
1130	Mackenzie prepping for excavating neighbor's yard tomorrow

PAGE 1 OF _____

DAILY FIELD REPORT

(Continuation Sheet)

PROJECT Matthews Service

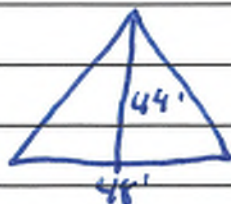
REPORT NO. _____

JOB NO. 1341-6550-44

DATE 12/17/20

FIELD ACTIVITIES (Continued)

by installing, snow fence.



$$\begin{aligned} A &= \frac{1}{2}bh \\ &= \frac{1}{2}(48)(44) \\ &= 1,056 \text{ ft}^2 \end{aligned}$$

depth assume
8.5 m
average

$$1056 \text{ ft}^2 \times 8.5 \text{ ft} = 8,976 \text{ ft}^3 / 27 \text{ ft}^3/\text{yd}^3 = 330 \text{ yd}^3$$

13:05 Existing Excavation back filled. Mackenzie stockpiling sand for tomorrow
SME off site

14:15 Valieson on site to pump out from tank water

16:00 Valieson off site
16:15 OFF SITE

PAGE ____ OF ____

TITLE _____

Date: 12/17/20
Location: *W. 1st St.*

[illegible]

Total Loads for the sheet

Name: _____

Total Loads for the Day

JOB SAFETY ANALYSIS (JSA) FORM

 SUPERVISOR/FOREMAN: Robert Butler

WEATHER CONDITIONS: _____

 DATE: 12/17/20 TIME: 7:15 ☒ AM ☐ PM

 PROJECT: Matthews Service

 LOCATION: 7350 M-71

 JOB DESCRIPTION (DETAILED): Soil sampling, supervising the excavation of contaminated soil, back fill and compaction.

 Have you inspected your job site today to identify hazards? Yes ☒ No ☐

Review the following information carefully and check all the items that apply to your work activity and review with your work crews

Permits

- ☐ Confined Space
☐ Street Opening
☐ Occupancy/Lane Road Closure
☐ Right of Entry
☐ Utility Clearance

Personal Protective Equipment

- ☒ Normal PPE
 – Hard Hat
 – Safety Glasses
 – Safety Toe Shoes
 – Hearing Protection
☒ Gloves
☐ Face Shield
☐ Respirator (type): _____
☐ Fall Protection
☐ Seat Belts

Emergency Info/Equipment Location

- ☐ Fire Extinguisher / Inspected
☐ Eye Wash - Location _____
☐ Evacuation Route
☐ Safety Data Sheet Review
☐ Cell Phone Signal Check
☐ Wind Direction _____

Traffic Control

- ☐ Traffic Control Plan
☐ Flaggers
☐ Signage
☐ Cones/Barrels
☐ Arrow Board
☐ Radios
☐ Other _____

Fall Protection

- ☐ PFAS Inspection
☐ Proper Anchorage Point
☐ Life Line
☐ Other _____

Excavation

- ☐ Proper Barricade
☒ Shoring/Sloping/Benching Required
☐ Proper Access
☐ Inspected by Competent Person
☐ Other _____

Access

- ☐ Scaffold (Properly Inspected)
☐ Ladder
☐ Aerial Lift
☐ Scissor Lift
☐ Man Basket

Electrical

- ☐ GFCI Test
☐ Extension Cord Check
☐ Electrical Tool Inspection
☐ Adequate Lighting

Environmental

- ☐ Waste Generation- Proper Storage, Label, & disposal
☐ Spill/Releases – Spill Kits, Contain/Notify
☐ Water Runoff Control
☐ Daily Site Clean Up – Trash, Equipment, & Tools
☐ Exposure - Lead, Asbestos, Arsenic
☐ Carbon Monoxide/H2S
☐ Other _____

General

- ☐ Flammables – Gases/Liquids
☐ Noise
☐ Combustibles
☐ Chemicals
☐ Struck by/Pinch Points
☐ Poor Access / Egress
☐ Slip, Trip, Falls
☐ Ergonomics – Grip, Lift, Body Positioning
☐ Visibility
☒ Heat and Cold Stress
☐ Lifting Heavy or Awkward Objects (assess for team or mechanical lifting)

Human Performance

- ☐ Confusion/Mix UP Potentials (labeling, look-alike equip., etc.)
☐ Distractions
☐ Lack of Experience/Apprentice
☐ Work After Long Break (Vacation)
☐ Nearby Work Activities

Tools

- ☐ Daily Inspection
☐ Proper Tools for the Job
☐ Proper Cutting Tools for the Job

Plants and Animals

- ☐ Poison Ivy/Oak
☐ Snakes, Animals Insects Birds
☐ Other _____

Lock Out Tag Out

- If this is a LO/TO (CHE) job, has the equipment been isolated and drained?
☐ Yes / ☐ No
 Has a joint walk through been performed?
☐ Yes / ☐ No
 Are locks/tags installed? ☐ Yes / ☐ No


JOB SAFETY BRIEFING
Step 1: Job Safety Briefing Checklist (below items are to be discussed daily with work crews)

- | | |
|---|--|
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If You are not Getting the Results from Your Work You Were Expecting, if You are Unclear or If Conditions, Job Scope, or Procedures Change



Contact Supervisor About Holding Another Job Briefing

DAILY FIELD REPORT

 DATE 12/16/20

DAY	S	M	T	W	T	F	S
						<u> </u>	

 PROJECT Matthews Service

 JOB NO. 1341-6550-44

 CLIENT MDEQ (now EGLE)

 CONTRACTOR N/A

 PROJECT MANAGER Scott Park

WEATHER	Brite Sun	Clear	Overcast	Rain	Snow
TEMP.	To 32	32 50	50 70	70 85	85 Up
WIND	Still	Moderate	High	Report No	
HUMIDITY	Dry	Moderate	Humid		

VISITORS

Time	Representing	Representing	Remarks

EQUIPMENT AT THE SITE

Same

NUMBER OF PERSONNEL ON SITE

Same

FIELD ACTIVITIES

0715	Arrive site Mark Kersia on site
	H2S / tailgate meeting
	Stop to exposing communication line on west side boundary
8:20	Significant water coming into NW corner of today's excavation. Stop digging to set recovery well/pump
	Too much water coming in. Soils too wet for backfill.
	Will dewater Sunday night & try again Monday consist of day prep for Monday

PAGE 1 OF _____

DAILY FIELD REPORT

(Continuation Sheet)

PROJECT Matthews Service REPORT NO. _____

JOB NO. 1341-6550-44 DATE _____

FIELD ACTIVITIES (Continued)

12:10 S. Park g site
14:00 O.A. Site

PAGE ____ OF ____

BY _____ TITLE _____

Date: 12/18/20
Location: Matthews

[illegible]

Total Loads for the sheet

Name: _____

Total Loads for the Day

$$\begin{array}{r} 14 \\ 40 \\ \hline 560 \end{array}$$

JOB SAFETY ANALYSIS (JSA) FORM

 SUPERVISOR/FOREMAN: Robert Butler

WEATHER CONDITIONS: _____

 DATE: 12/15/21 TIME: 7:45 ^{AM} PM PROJECT: Matthews Service LOCATION: 7350 M-71

 JOB DESCRIPTION (DETAILED): Soil sampling, supervising the excavation of contaminated soil, back fill and compaction.

 Have you inspected your job site today to identify hazards? Yes ☒ No ☐

Review the following information carefully and check all the items that apply to your work activity and review with your work crews

Permits

- ☐ Confined Space
☐ Street Opening
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- ☒ Normal PPE
 – Hard Hat
 – Safety Glasses
 – Safety Toe Shoes
 – Hearing Protection
☒ Gloves
☐ Face Shield
☐ Respirator (type): _____
☐ Fall Protection
☐ Seat Belts

Emergency Info/Equipment Location

- ☐ Fire Extinguisher /Inspected
☐ Eye Wash - Location _____
☐ Evacuation Route
☐ Safety Data Sheet Review
☐ Cell Phone Signal Check
☐ Wind Direction _____

Traffic Control

- ☐ Traffic Control Plan
☐ Flaggers
☐ Signage
☐ Cones/Barrels
☐ Arrow Board
☐ Radios
☐ Other _____

Fall Protection

- ☐ PFAS Inspection
☐ Proper Anchorage Point
☐ Life Line
☐ Other _____

Excavation

- ☐ Proper Barricade
☒ Shoring/Sloping/Benching Required
☐ Proper Access
☐ Inspected by Competent Person
☐ Other _____

Access

- ☐ Scaffold (Properly Inspected)
☐ Ladder
☐ Aerial Lift
☐ Scissor Lift
☐ Man Basket

Electrical

- ☐ GFCI Test
☐ Extension Cord Check
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☐ Adequate Lighting

Environmental

- ☐ Waste Generation- Proper Storage, Label, & disposal
☐ Spill/Releases – Spill Kits, Contain/Notify
☐ Water Runoff Control
☐ Daily Site Clean Up – Trash, Equipment, & Tools
☐ Exposure - Lead, Asbestos, Arsenic
☐ Carbon Monoxide/H2S
☐ Other _____

General

- ☐ Flammables – Gases/Liquids
☐ Noise
☐ Combustibles
☐ Chemicals
☐ Struck by/Pinch Points
☐ Poor Access / Egress
☐ Slip, Trip, Falls
☐ Ergonomics – Grip, Lift, Body Positioning
☐ Visibility
☒ Heat and Cold Stress
☐ Lifting Heavy or Awkward Objects (assess for team or mechanical lifting)

Human Performance

- ☐ Confusion/Mix UP Potentials (labeling, look-alike equip., etc.)
☐ Distractions
☐ Lack of Experience/Apprentice
☐ Work After Long Break (Vacation)
☐ Nearby Work Activities

Tools

- ☐ Daily Inspection
☐ Proper Tools for the Job
☐ Proper Cutting Tools for the Job

Plants and Animals

- ☐ Poison Ivy/Oak
☐ Snakes, Animals Insects Birds
☐ Other _____

Lock Out Tag Out

- If this is a LO/TO (CHE) job, has the equipment been isolated and drained?
☐ Yes / ☐ No
 Has a joint walk through been performed?
☐ Yes / ☐ No
 Are locks/tags installed? ☐ Yes / ☐ No


JOB SAFETY BRIEFING
Step 1: Job Safety Briefing Checklist (below item are to be discussed daily with work crews)

- ☒ Hazards Identified
☐ All possible hazards eliminated or mitigated
☒ Risk for remaining hazards considered
☐ Review JSA on back page with crew
☐ Technical aspects of work discussed
☐ Past work experience discussed
☒ Is a JSA already on file for this work task?

If You are not Getting the Results from Your Work You Were Expecting, if You are Unclear or If Conditions, Job Scope, or Procedures Change



Contact Supervisor About Holding Another Job Briefing

APPENDIX 3
PROFESSIONAL CERTIFICATION
FORMS
(See pages 276 - 279)

APPENDIX 4

OVERHEAD ITEMS ALLOWED FOR THE PROFESSIONAL SERVICES CONTRACTOR FIRM'S HOURLY BILLING RATE CALCULATION

<p align="center">DEPARTMENT OF TECHNOLOGY, MANAGEMENT & BUDGET, VEHICLE AND TRAVEL SERVICES SCHEDULE OF TRAVEL RATES FOR CLASSIFIED AND UNCLASSIFIED EMPLOYEES Effective January 1, 2023</p>
--

MICHIGAN SELECT CITIES*

	Individual	Group Meeting (pre-arranged and approved)
Lodging**	\$85.00	
Breakfast	\$11.75	\$14.75
Lunch	\$11.75	\$14.75
Dinner	\$28.00	\$31.00

MICHIGAN IN-STATE ALL OTHER

	Individual	Group Meeting (pre-arranged and approved)
Lodging**	\$85.00	
Breakfast	\$9.75	\$12.75
Lunch	\$9.75	\$12.75
Dinner	\$22.00	\$25.00
Lodging	\$51.00	
Breakfast	\$9.75	
Lunch	\$9.75	
Dinner	\$22.00	
Per Diem Total	\$92.50	

OUT-OF-STATE SELECT CITIES*

	Individual	Group Meeting (pre-arranged and approved)
Lodging**	Contact Conlin Travel	
Breakfast	\$15.00	\$18.00
Lunch	\$15.00	\$18.00
Dinner	\$29.00	\$32.00

OUT-OF-STATE ALL OTHER

	Individual	Group Meeting (pre-arranged and approved)
Lodging**	Contact Conlin Travel	
Breakfast	\$11.75	\$14.75
Lunch	\$11.75	\$14.75
Dinner	\$27.00	\$30.00
Lodging	\$51.00	
Breakfast	\$11.75	
Lunch	\$11.75	
Dinner	\$27.00	
Per Diem Total	\$101.50	

Incidental Costs Per Day (with overnight stay) \$5.00

Mileage Rates	Current
Premium Rate	\$0.655 per mile
Standard Rate	\$0.440 per mile

* See Select Cities Listing

** Lodging available at State rate, or call Conlin Travel at 877-654-2179 or www.somtravel.com

SELECT CITY LIST
SCHEDULE OF TRAVEL RATES FOR CLASSIFIED AND UNCLASSIFIED EMPLOYEES
Effective January 1, 2023

Michigan Select Cities/Counties		
	CITIES	COUNTIES
	Ann Arbor, Auburn Hills, Beaver Island, Detroit, Grand Rapids, Holland, Leland, Mackinac Island, Petoskey, Pontiac, South Haven, Traverse City	Grand Traverse, Oakland, Wayne
Out of State Select Cities/Counties		
STATE	CITIES	COUNTIES
Alaska	All locations	
Arizona	Phoenix, Scottsdale, Sedona	
California	Arcata, Edwards AFB, Eureka, Los Angeles, Mammoth Lakes, McKinleyville, Mill Valley, Monterey, Novato, Palm Springs, San Diego, San Francisco, San Rafael, Santa Barbara, Santa Monica, South Lake Tahoe, Truckee, Yosemite National Park	Los Angeles, Mendocino, Orange, Ventura
Colorado	Aspen, Breckenridge, Grand Lake, Silverthorne, Steamboat Springs, Telluride, Vail	
Connecticut	Bridgeport, Danbury	
District of Columbia	Washington DC (See also Maryland & Virginia)	
Florida	Boca Raton, Delray Beach, Fort Lauderdale, Jupiter, Key West, Miami	
Georgia	Brunswick, Jekyll Island	
Hawaii	All locations	
Idaho	Ketchum, Sun Valley	
Illinois	Chicago	Cook, Lake
Kentucky	Kenton	
Louisiana	New Orleans	
Maine	Bar Harbor, Kennebunk, Kittery, Rockport, Sandford	
Maryland	Baltimore City, Ocean City	Montgomery, Prince George
Massachusetts	Boston, Burlington, Cambridge, Martha's Vineyard, Woburn	Suffolk
Minnesota	Duluth, Minneapolis, St. Paul	Hennepin, Ramsey
Nevada	Las Vegas	
New Mexico	Santa Fe	
New York	Bronx, Brooklyn, Lake Placid, Manhattan, Melville, New Rochelle, Queens, Riverhead, Ronkonkoma, Staten Island, Tarrytown, White Plains	Suffolk
Ohio	Cincinnati	
Pennsylvania	Pittsburgh	Bucks
Puerto Rico	All locations	
Rhode Island	Bristol, Jamestown, Middletown, Newport, Providence	Newport
Texas	Austin, Dallas, Houston, L.B. Johnson Space Center	
Utah	Park City	Summit
Vermont	Manchester, Montpelier, Stowe	Lamoille
Virginia	Alexandria, Fairfax, Falls Church	Arlington, Fairfax
Washington	Port Angeles, Port Townsend, Seattle	
Wyoming	Jackson, Pinedale	

APPENDIX 5

CERTIFICATES OF INSURANCE

ACORDTM**CERTIFICATE OF LIABILITY INSURANCE**

DATE (MM/DD/YYYY)

3/02/2023

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 any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Greyling Ins. Brokerage/EPIC 3780 Mansell Road, Suite 370 Alpharetta, GA 30022	CONTACT NAME: Sabrina Wynn PHONE (A/C, No, Ext): 470.785.2254 FAX (A/C, No): E-MAIL ADDRESS: Sabrina.Wynn@greyling.com																					
INSURED DLZ Michigan, Inc. 1425 Keystone Avenue Lansing, MI 48911	<table border="1"> <thead> <tr> <th colspan="2">INSURER(S) AFFORDING COVERAGE</th><th>NAIC #</th></tr> </thead> <tbody> <tr> <td colspan="2">INSURER A : National Union Fire Ins. Co.</td><td>19445</td></tr> <tr> <td colspan="2">INSURER B : Everest National Ins Co</td><td>10120</td></tr> <tr> <td colspan="2">INSURER C : Continental Casualty Company</td><td>20443</td></tr> <tr> <td colspan="2">INSURER D :</td><td></td></tr> <tr> <td colspan="2">INSURER E :</td><td></td></tr> <tr> <td colspan="2">INSURER F :</td><td></td></tr> </tbody> </table>	INSURER(S) AFFORDING COVERAGE		NAIC #	INSURER A : National Union Fire Ins. Co.		19445	INSURER B : Everest National Ins Co		10120	INSURER C : Continental Casualty Company		20443	INSURER D :			INSURER E :			INSURER F :		
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INSURER F :																						

COVERAGES**CERTIFICATE NUMBER: 22-23****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	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input checked="" type="checkbox"/> LOC OTHER:			GL5268221	04/01/2022	04/01/2023	EACH OCCURRENCE \$1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$500,000 MED EXP (Any one person) \$25,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$2,000,000 \$
A	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS ONLY			CA4489714	04/01/2022	04/01/2023	COMBINED SINGLE LIMIT (Ea accident) \$2,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
B	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> EXCESS LIAB <input checked="" type="checkbox"/> RETENTION \$25,000			XC8CU00042221	04/01/2022	04/01/2023	EACH OCCURRENCE \$5,000,000 AGGREGATE \$5,000,000 \$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? <input checked="" type="checkbox"/> Y / N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		N/A	WC015893783	04/01/2022	04/01/2023	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000
C	Professional Liab Includ Pollution Liability			AEH591928672	04/01/2022	04/01/2023	Per Claim \$5,000,000 Aggregate \$5,000,000

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

Re: 2023 Environmental Services ISID Number 941, Contract Number 00925. MI.

Waiver of Subrogation in favor of Additional Insureds where required by written contract & allowed by law.

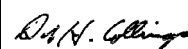
The above referenced liability policies with the exception of workers compensation and professional liability are primary & non contributory where required by written contract. Should any of the above described policies be cancelled by the issuing insurer before the expiration date thereof, we will endeavor (See Attached Descriptions)

CERTIFICATE HOLDER**CANCELLATION**

Michigan Department of Technology,
 Management, & Budget;
 3111 W. St. Joseph Street
 Lansing, MI 48917

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



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DESCRIPTIONS (Continued from Page 1)

to provide 30 days' written notice (except 10 days for nonpayment of premium) to the Certificate Holder. The State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents are listed as additional insureds for General, Pollution and Automobile Liability that includes hired and non-owned automobile coverage.