

**PROFESSIONAL SERVICES AGREEMENT BETWEEN  
HDR MICHIGAN, Inc.**  
\_\_\_\_\_  
**AND THE CITY OF ANN ARBOR**  
**FOR WWTP Area Odor Study, RFP # 18-26**

The City of Ann Arbor, a Michigan municipal corporation, having its offices at 301 E. Huron St. Ann Arbor, Michigan 48104 ("City"), and HDR Michigan, Inc. ("Contractor"), a(n) \_\_\_\_\_  
\_\_\_\_\_ Michi an \_\_\_\_\_ Corporation  
(State where organized) (Partnership, Sole Proprietorship, or Corporation)  
with its address at 5405 Data Court, Ann Arbor, Michigan, agree as follows:

The Contractor agrees to provide services to the City under the following terms and conditions:

**I. DEFINITIONS**

Administering Service Area/Unit means Public Services Area.

Contract Administrator means Christopher Englert, acting personally or through any assistants authorized by the Administrator/Manager of the Administering Service Area/Unit.

Deliverables means all Plans, Specifications, Reports, Recommendations, and other materials developed for and delivered to City by Contractor under this Agreement.

Project means WWTP Area Odor Study.  
Project Name

**II. DURATION**

Contractor shall commence performance on \_\_\_\_\_, 20\_\_\_\_ ("Commencement Date"). This Agreement shall remain in effect until satisfactory completion of the Services specified below unless terminated as provided for in Article XI. The terms and conditions of this Agreement shall apply to the earlier of the Effective Date or Commencement Date.

**III. SERVICES**

- A. The Contractor agrees to provide Professional Engineerin\_ Services  
type of service  
("Services") in connection with the Project as described in Exhibit A. The City retains the right to make changes to the quantities of service within the general scope of the Agreement at any time by a written order. If the changes add to or deduct from the extent of the services, the contract sum shall be adjusted accordingly. All such changes shall be executed under the conditions of the original Agreement.

- B. Quality of Services under this Agreement shall be of the level of quality performed by persons regularly rendering this type of service. Determination of acceptable quality shall be made solely by the Contract Administrator.
- C. The Contractor shall perform its Services for the Project in compliance with all statutory, regulatory, and contractual requirements now or hereafter in effect as may be applicable to the rights and obligations set forth in the Agreement.
- D. The Contractor may rely upon the accuracy of reports and surveys provided to it by the City (if any) except when defects should have been apparent to a reasonably competent professional or when it has actual notice of any defects in the reports and surveys.

#### **IV. INDEPENDENT CONTRACTOR**

The Parties agree that at all times and for all purposes under the terms of this Agreement each Party's relationship to any other Party shall be that of an independent contractor. Each Party will be solely responsible for the acts of its own employees, agents, and servants. No liability, right, or benefit arising out of any employer/employee relationship, either express or implied, shall arise or accrue to any Party as a result of this Agreement.

#### **V. COMPENSATION OF CONTRACTOR**

- A. The Contractor shall be paid in the manner set forth in Exhibit B. Payment shall be made monthly, unless another payment term is specified in Exhibit B, following receipt of invoices submitted by the Contractor, and approved by the Contract Administrator.
- B. The Contractor will be compensated for Services performed in addition to the Services described in Article III, only when the scope of and compensation for those additional Services have received prior written approval of the Contract Administrator.
- C. The Contractor shall keep complete records of work performed (e.g. tasks performed, hours allocated, etc.) so that the City may verify invoices submitted by the Contractor. Such records shall be made available to the City upon request and submitted in summary form with each invoice.

#### **VI. INSURANCE/INDEMNIFICATION**

- A. The Contractor shall procure and maintain during the life of this contract such insurance policies, including those set forth in Exhibit C, as will protect itself and the City from all claims for bodily injuries, death or property damage that may arise under this contract; whether the act(s) or omission(s) giving rise to the claim were made by the Contractor, any subcontractor or anyone employed by them directly or indirectly. Prior to commencement of work under this Agreement, Contractor shall provide to the City documentation satisfactory to the City, through City-approved means (currently myCOI), demonstrating it has obtained the policies and endorsements required by Exhibit C. Contractor shall add registration@mycoitracking.com to its safe sender's list so that it will receive necessary communication from myCOI. When requested, Contractor shall provide the same documentation for its subcontractor(s) (if any).
- B. Any insurance provider of Contractor shall be authorized to do business in the State of Michigan and shall carry and maintain a minimum rating assigned by A.M. Best & Company's Key Rating Guide of "A-" Overall and a minimum Financial Size Category of "V". Insurance policies and certificates issued by non-authorized insurance companies are not acceptable unless approved in writing by the City.
- C. To the fullest extent permitted by law, Contractor shall indemnify, defend, and hold the City, its officers, employees and agents harmless from all suits, claims, judgments and expenses, including attorney's fees, resulting or alleged to result, from any acts or omissions by Contractor or its employees and agents occurring in the performance of or breach in this Agreement, except to the extent that any suit, claim, judgment or expense are finally judicially determined to have resulted from the City's negligence or willful misconduct or its failure to comply with any of its material obligations set forth in this Agreement.

## VII. COMPLIANCE REQUIREMENTS

- A. Nondiscrimination. The Contractor agrees to comply, and to require its subcontractor(s) to comply, with the nondiscrimination provisions of MCL 37.2209. The Contractor further agrees to comply with the provisions of Section 9:158 of Chapter 112 of the Ann Arbor City Code and to assure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity.

- B. Living Wage. If the Contractor is a “covered employer” as defined in Chapter 23 of the Ann Arbor City Code, the Contractor agrees to comply with the living wage provisions of Chapter 23 of the Ann Arbor City Code. The Contractor agrees to pay those employees providing Services to the City under this Agreement a “living wage,” as defined in Section 1:815 of the Ann Arbor City Code, as adjusted in accordance with Section 1:815(3); to post a notice approved by the City of the applicability of Chapter 23 in every location in which regular or contract employees providing services under this Agreement are working; to maintain records of compliance; if requested by the City, to provide documentation to verify compliance; to take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee or person contracted for employment in order to pay the living wage required by Section 1:815; and otherwise to comply with the requirements of Chapter 23.

### **VIII. WARRANTIES BY THE CONTRACTOR**

- A. The Contractor warrants that the quality of its Services under this Agreement shall conform to the level of quality performed by persons regularly rendering this type of service.
- B. The Contractor warrants that it has all the skills, experience, and professional licenses necessary to perform the Services specified in this Agreement.
- C. The Contractor warrants that it has available, or will engage, at its own expense, sufficient trained employees to provide the Services specified in this Agreement.
- D. The Contractor warrants that it is not, and shall not become overdue or in default to the City for any contract, debt, or any other obligation to the City including real and personal property taxes.
- E. The Contractor warrants that its proposal for services was made in good faith, it arrived at the costs of its proposal independently, without consultation, communication or agreement, for the purpose of restricting completion as to any matter relating to such fees with any competitor for these Services; and no attempt has been made or shall be made by the Contractor to induce any other person or firm to submit or not to submit a proposal for the purpose of restricting competition.

### **IX. OBLIGATIONS OF THE CITY**

- A. The City agrees to give the Contractor access to the Project area and other City-owned properties as required to perform the necessary Services under this Agreement.
- B. The City shall notify the Contractor of any defects in the Services of which the Contract Administrator has actual notice.

## **X. ASSIGNMENT**

- A. The Contractor shall not subcontract or assign any portion of any right or obligation under this Agreement without prior written consent from the City. Notwithstanding any consent by the City to any assignment, Contractor shall at all times remain bound to all warranties, certifications, indemnifications, promises and performances, however described, as are required of it under the Agreement unless specifically released from the requirement, in writing, by the City.
- B. The Contractor shall retain the right to pledge payment(s) due and payable under this Agreement to third parties.

## **XI. TERMINATION OF AGREEMENT**

- A. If either party is in breach of this Agreement for a period of fifteen (15) days following receipt of notice from the non-breaching party with respect to a breach, the non-breaching party may pursue any remedies available to it against the breaching party under applicable law, including but not limited to, the right to terminate this Agreement without further notice. The waiver of any breach by any party to this Agreement shall not waive any subsequent breach by any party.
- B. The City may terminate this Agreement, on at least thirty (30) days advance notice, for any reason, including convenience, without incurring any penalty, expense or liability to Contractor, except the obligation to pay for Services actually performed under the Agreement before the termination date.
- C. Contractor acknowledges that, if this Agreement extends for several fiscal years, continuation of this Agreement is subject to appropriation of funds for this Project. If funds to enable the City to effect continued payment under this Agreement are not appropriated or otherwise made available, the City shall have the right to terminate this Agreement without penalty at the end of the last period for which funds have been appropriated or otherwise made available by giving written notice of termination to Contractor. The Contract Administrator shall give Contractor written notice of such non-appropriation within thirty (30) days after it receives notice of such non-appropriation.
- D. The provisions of Articles VI and VIII shall survive the expiration or earlier termination of this Agreement for any reason. The expiration or termination of this Agreement, for any reason, shall not release either party from any obligation or liability to the other party, including any payment obligation that has already accrued and Contractor's obligation to deliver all Deliverables due as of the date of termination of the Agreement.

## **XII. REMEDIES**

- A. This Agreement does not, and is not intended to, impair, divest, delegate or contravene any constitutional, statutory and/or other legal right, privilege, power, obligation, duty or immunity of the Parties.

- B. All rights and remedies provided in this Agreement are cumulative and not exclusive, and the exercise by either party of any right or remedy does not preclude the exercise of any other rights or remedies that may now or subsequently be available at law, in equity, by statute, in any agreement between the parties or otherwise.
- C. Absent a written waiver, no act, failure, or delay by a Party to pursue or enforce any rights or remedies under this Agreement shall constitute a waiver of those rights with regard to any existing or subsequent breach of this Agreement. No waiver of any term, condition, or provision of this Agreement, whether by conduct or otherwise, in one or more instances, shall be deemed or construed as a continuing waiver of any term, condition, or provision of this Agreement. No waiver by either Party shall subsequently effect its right to require strict performance of this Agreement.

### **XIII. NOTICE**

All notices and submissions required under this Agreement shall be delivered to the respective party in the manner described herein to the address stated in this Agreement or such other address as either party may designate by prior written notice to the other. Notices given under this Agreement shall be in writing and shall be personally delivered, sent by next day express delivery service, certified mail, or first class U.S. mail postage prepaid, and addressed to the person listed below. Notice will be deemed given on the date when one of the following first occur: (1) the date of actual receipt; (2) the next business day when notice is sent next day express delivery service or personal delivery; or (3) three days after mailing first class or certified U.S. mail.

If Notice is sent to the CONTRACTOR, it shall be addressed and sent to:

If Notice is sent to the CITY, it shall be addressed and sent to:

City of Ann Arbor  
Craig Hupy, Public Services Administrator  
301 E. Huron St.  
Ann Arbor, Michigan 48104

With a copy to: The City of Ann Arbor  
ATTN: Office of the City Attorney  
301 East Huron Street, 3<sup>rd</sup> Floor  
Ann Arbor, Michigan 48104

### **XIV. CHOICE OF LAW AND FORUM**

This Agreement will be governed and controlled in all respects by the laws of the State of Michigan, including interpretation, enforceability, validity and construction, excepting the principles of conflicts of law. The parties submit to the jurisdiction and venue of the Circuit Court for Washtenaw County, State of Michigan, or, if original jurisdiction can be established, the United States District Court for the Eastern District of Michigan, Southern Division, with respect to any action arising, directly or indirectly, out of this Agreement or the performance or breach of this Agreement. The parties stipulate that the venues referenced in this Agreement are convenient and waive any claim of non-convenience.

## **XV. OWNERSHIP OF DOCUMENTS**

Upon completion or termination of this Agreement, all documents (i.e., Deliverables) prepared by or obtained by the Contractor as provided under the terms of this Agreement shall be delivered to and become the property of the City. Original basic survey notes, sketches, charts, drawings, partially completed drawings, computations, quantities and other data shall remain in the possession of the Contractor as instruments of service unless specifically incorporated in a deliverable, but shall be made available, upon request, to the City without restriction or limitation on their use. The City acknowledges that the documents are prepared only for the Project. Prior to completion of the contracted Services the City shall have a recognized proprietary interest in the work product of the Contractor.

Unless otherwise stated in this Agreement, any intellectual property owned by Contractor prior to the effective date of this Agreement (i.e., Preexisting Information) shall remain the exclusive property of Contractor even if such Preexisting Information is embedded or otherwise incorporated in materials or products first produced as a result of this Agreement or used to develop Deliverables. The City's right under this provision shall not apply to any Preexisting Information or any component thereof regardless of form or media.

## **XVI. CONFLICTS OF INTEREST OR REPRESENTATION**

Contractor certifies it has no financial interest in the Services to be provided under this Agreement other than the compensation specified herein. Contractor further certifies that it presently has no personal or financial interest, and shall not acquire any such interest, direct or indirect, which would conflict in any manner with its performance of the Services under this Agreement.

Contractor agrees to advise the City if Contractor has been or is retained to handle any matter in which its representation is adverse to the City. The City's prospective consent to the Contractor's representation of a client in matters adverse to the City, as identified above, will not apply in any instance where, as the result of Contractor's representation, the Contractor has obtained sensitive, proprietary or otherwise confidential information of a non-public nature that, if known to another client of the Contractor, could be used in any such other matter by the other client to the material disadvantage of the City. Each matter will be reviewed on a case by case basis.

## **XVII. SEVERABILITY OF PROVISIONS**

Whenever possible, each provision of this Agreement will be interpreted in a manner as to be effective and valid under applicable law. However, if any provision of this Agreement or the application of any provision to any party or circumstance will be prohibited by or invalid under applicable law, that provision will be ineffective to the extent of the prohibition or invalidity without invalidating the remainder of the provisions of this Agreement or the application of the provision to other parties and circumstances.

## **XVIII. EXTENT OF AGREEMENT**

This Agreement, together with any affixed exhibits, schedules or other documentation, constitutes the entire understanding between the City and the Contractor with respect to the subject matter of the Agreement and it supersedes, unless otherwise incorporated by reference herein, all prior representations, negotiations, agreements or understandings whether written or oral. Neither party has relied on any prior representations, of any kind or nature, in entering into this Agreement. No terms or conditions of either party's invoice, purchase order or other administrative document shall modify the terms and conditions of this Agreement, regardless of the other party's failure to object to such form. This Agreement shall be binding on and shall inure to the benefit of the parties to this Agreement and their permitted successors and permitted assigns and nothing in this Agreement, express or implied, is intended to or shall confer on any other person or entity any legal or equitable right, benefit, or remedy of any nature whatsoever under or by reason of this Agreement. This Agreement may only be altered, amended or modified by written amendment signed by the Contractor and the City. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall be deemed to be one and the same agreement.

## **XIX. ELECTRONIC TRANSACTION**

The parties agree that signatures on this Agreement may be delivered electronically in lieu of an original signature and agree to treat electronic signatures as original signatures that bind them to this Agreement.

## **XX. EFFECTIVE DATE**

This Agreement will become effective when all parties have signed it. The Effective Date of this Agreement will be the date this Agreement is signed by the last party to sign it.



**FOR CONTRACTOR**

By \_\_\_\_\_  
Type Name

Its

Date: \_\_\_\_\_

**FOR THE CITY OF ANN ARBOR**

By \_\_\_\_\_  
Christopher Taylor, Mayor

By \_\_\_\_\_  
Jacqueline Beaudry, City Clerk

**Approved as to substance**

\_\_\_\_\_  
Craig Hupy, Public Services Administrator

\_\_\_\_\_  
Howard S. Lazarus, City Administrator

**Approved as to form and content**

\_\_\_\_\_  
Stephen K. Postema, City Attorney

**EXHIBIT A  
SCOPE OF SERVICES**

## HDR Scope of Services Ann Arbor WWTP Area Odor Study

### Introduction

The purpose of this document is to provide a work plan scope of services for Professional Services between HDR Michigan, Inc. (HDR) and the City of Ann Arbor (City), for odor evaluations related to the Ann Arbor Wastewater Treatment Plant (WWTP) located at 49 Old Dixboro Road, Ann Arbor, Michigan 48105 and offsite locations for the project services generally described as the Ann Arbor Wastewater Treatment Plant Area Odor Study.

### Management of Work Plan

HDR will serve as the prime contractor and be responsible for managing all aspects of the work defined herein. HDR's Ann Arbor, Michigan office will lead this effort. HDR will sub-contract the odor sample testing as well as sub-contract an industry odor expert to help oversee the evaluation and analysis portions of the work. HDR will be the main point of contact for all work associated with this project. We have broken out our Work Plan into separate tasks as follows.

#### Task 1.0 – Project Chartering and Kickoff Meeting and Field Survey

##### o Task 1.1 - Project Chartering and Kickoff Meeting

Upon notice of award, HDR will schedule a kick-off meeting to be held with City of Ann Arbor WWTP staff and begin project initiation tasks. Prior to the project kickoff meeting, all available information will be reviewed by HDR regarding operations of the WWTP and offsite odor complaints that might contribute to odors or help define the potential odor impacts. Per Section A in the RFP, information to be reviewed will include, but not be limited to: past odor complaints, odor measurements collected, modifications to equipment, operation or practices selected to address the potential release of nuisance odors inside and outside the plant, seasonal operations, review of maps, meteorological data, past studies and system drawings.

The objectives of the meeting are to:

- Discuss project success criteria.
- Discuss development of odor impact criteria goals and objectives.
- Agree on housekeeping issues such as communication protocols, invoicing and billing procedures, regular meeting schedules, project key personnel and reference documentation needed for interface to existing systems.
- Review of HDR's initial review of past odor control efforts and odor complaint events to foster a common background understanding and starting point for this effort.
- Discuss seasonal detailed sample testing.
- Discuss odor baseline sampling, analysis methods and the approach to dispersion modeling that can be employed during the odor control master planning effort.
- Review and refine the project schedule, deliverables, and work plan.

**Deliverable:** Minutes from the project kickoff/chartering meeting, documenting all major decisions and action items.

o *Task 1.2 – Conduct Two Field Surveys (Kickoff Meeting and Spring 2019)*

Immediately following the kickoff meeting, a plant wide and offsite subjective odor survey will be performed. HDR will work with WWTP staff to perform a plant tour and coordinate/gain access to walkdown of key locations in the collection system for information gathering. Information gained from this effort will be used to organize and focus follow-on efforts involving odor sampling and laboratory analysis. Information gathered will also be used to identify higher priority odor sources that warrant follow-on detailed emissions sampling and analysis. This effort will include subjective ranking of each odor source on a 0 to 5 scale ranging from “no detectable odors” (0) to “very strong, not fit to breathe” (5). Each source will also be ranked as low, medium, or high potential for creating negative odor impacts. This initial subjective survey will include odor descriptors, and taking initial field measurements for hydrogen sulfide using HDR’s Jerome H<sub>2</sub>S meter and colorimetric odor tubes where needed.

The survey will also include a tour of the neighborhood areas identified as concerns with a focus on collection system location at the University of Michigan Nichols Arboretum as well as up to two other locations where the WWTP has received the most odor complaints. HDR would like to work with the WWTP staff and community to identify these two other locations by understanding which additional areas offsite are creating the largest impacts.

A second plant subjective odor survey will be performed in the spring of 2019. HDR will work with WWTP staff to perform a plant tour of the areas affected by dewatering activities. This effort will include subjective ranking of each odor source on a 0 to 5 scale ranging from “no detectable odors” (0) to “very strong, not fit to breathe” (5). Each source will also be ranked as low, medium, or high potential for creating negative odor impacts. This subjective survey will include odor descriptors, and taking initial field measurements for hydrogen sulfide using HDR’s Jerome H<sub>2</sub>S meter and colorimetric odor tubes where needed.

**Deliverable:** Two field surveys will occur, one during the kickoff meeting (anticipated in November or December 2018) and one during spring 2019. A summary discussing each subjective survey, locations, observations, and results based on the subjective odor survey will be provided.

**Task 2.0 – Establishing Understanding of the Baseline Odor Impacts**

Once Task 1 is complete, the next task consists of a series of steps intended to characterize the existing odor sources and to define offsite odor impacts of each odor source as it exists and thereby define the baseline odor impact.

o *Task 2.1 – Odor Source Characterization and Assessment*

The purpose of this subtask is to develop an Odor Source Inventory that identifies the odor intensity and character from all existing potential odor sources at the plant and in key collection system locations. This begins to prioritize and rank the higher priority sources that have the greatest potential for offsite impact. Air sampling test results will be evaluated throughout the duration of the sampling period. An abbreviated detailed sampling will be completed during spring 2019 (see Table 1 below) to capture the dewatering processes and a detailed sampling will be completed during the 2019 summer months (see Table 2 below). These tests will be complimented by Odalog and collection system pressure monitoring during the other seasons to establish the magnitude for changes in odor production on a seasonal basis (see Table



3 below). This approach will help control costs for the detailed sampling program, but give a complete view of how intensities tend to change over the course of a year.

**Table 1 – Spring 2019 Sample Testing**

Sample Location	Sample Duration	Sample Method	Sample Type	Number of Samples	Analytical Test Method
Dewatering Truck Bay	One Hour	Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas)
Dewatering Building HVAC	One Hour	Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas)
Odor Control Inlet	One Hour	Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas)
Odor Control Outlet	One Hour	Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas)
Upwind	One Hour	Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas)
Downwind	One Hour	Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas)

**Table 2 - Summer 2019 Sample Testing**

Sample Location	Sample Duration	Sample Method	Sample Type	Number of Samples	Analytical Test Method
Headworks Building Exhaust	One Hour	Grab Sample Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas)
Headworks Channels	One Hour	Grab Sample Tedlar Bags  Liquid phase grab samples	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas) WW Diss. sulfide and pH (liquid)
Dewatering Truck Bay	One Hour	Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas)
Odor Control Inlet	One hour	Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas) WW Diss. sulfide and pH (liquid)
Odor Control Outlet	One hour	Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas) WW Diss. sulfide and pH (liquid)

WWTP Area Odor Study Scope of Work  
City of Ann Arbor



<b>Primary Clarifier Quiescent Settling</b>	One hour	Vacuum Flux Chamber and Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas) WW Diss. sulfide and pH (liquid)
<b>Primary Clarifier Weirs</b>	One hour	Vacuum Flux Chamber and Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas) WW Diss. sulfide and pH (liquid)
<b>Aeration Basin Inlet</b>	One hour	Vacuum Flux Chamber and Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas) WW Diss. sulfide and pH (liquid)
<b>Aeration Basin Mid-Section</b>	One hour	Vacuum Flux Chamber and Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas) WW Diss. sulfide and pH (liquid)
<b>Aeration Basin End Section</b>	One hour	Vacuum Flux Chamber and Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas) WW Diss. sulfide and pH (liquid)
<b>Secondary Clarifiers</b>	One hour	Vacuum Flux Chamber and Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas) WW Diss. sulfide and pH (liquid)
<b>Gravity Thickeners</b>	One hour	Vacuum Flux Chamber and Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas)
<b>Sludge Holding Tank</b>	One hour	Tedlar Bags	Composite	1	ASTM E-679 (gas) GC/SCD (gas) WW Diss. sulfide and pH (liquid)
<b>Dewatering and Truck Bay</b>	One hour	Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas)
<b>Dewatering Scrubber System Inlet</b>	One hour	Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas)
<b>Dewatering Scrubber System Outlet</b>	One hour	Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas)
<b>Upwind Perimeter</b>	One hour	Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas)
<b>Downwind Perimeter</b>	One hour	Tedlar Bags	Composite Grab Sample	1	ASTM E-679 (gas) GC/SCD (gas)
<b>Nichols Arboretum</b>	Odalogs and pressure monitors for 1 week, plus grab	Tedlar Bags	Grab samples and diurnal measurements with Odalogs and pressure monitors	1	ASTM E-679 (gas) GC/SCD (gas) WW Diss. sulfide and pH (liquid)

	samples for lab workups				
<b>Two Offsite Locations (TBD)</b>	Odalogs and pressure monitors for 1 week, plus grab samples for lab workups	Tedlar Bags	Grab samples and diurnal measurements with Odalogs and pressure monitors	2	ASTM E-679 (gas) GC/SCD (gas) WW Diss. sulfide and pH (liquid)

**Table 3 – Seasonal Sample Testing**

Sample Location	Sample Duration	Sample Method	Sample Type	Number of Samples	Analytical Test Method
<b>Headworks</b>	One week in spring, summer, fall and winter.	Odalog Deployment	Field	4	H2S Testing
<b>Upwind perimeter</b>	One week in spring, summer, fall and winter.	Odalog	Field	4	H2S Testing
<b>Downwind perimeter</b>	One week in spring, summer, fall and winter.	Odalog	Field	4	H2S Testing
<b>Location TBD perimeter</b>	One week in spring, summer, fall and winter.	Odalog	Field	4	H2S Testing
<b>Arboretum</b>	One week in spring, summer, fall and winter.	Pressure Monitoring and Odalog Testing	Field	4	Pressure transmitter and Odalog H2S monitoring
<b>Collection System #1</b>	One week in spring, summer, fall and winter.	Pressure Monitoring and Odalog	Field	4	Pressure transmitter and Odalog H2S monitoring
<b>Collection System #2</b>	One week in spring, summer, fall and winter.	Pressure Monitoring and Odalog	Field	4	Pressure transmitter and Odalog H2S monitoring

**DEVELOPMENT OF DRAFT AIR SAMPLING INVESTIGATION WORK PLAN**

Information gathered by HDR and the City during the subjective surveys will be used to identify higher priority odor sources that warrant follow-on detailed emissions sampling and analysis. A Draft Air Sampling Investigation Work Plan (Plan) will be developed by HDR in collaboration with the City to include all priority sources identified in the surveys. The Plan will include sampling and pressure monitoring locations, description of tests to be conducted, and frequency/duration of testing. This plan will provide the necessary information to address the City’s and stakeholders concerns about seasonal odor impact changes. An overview of testing to be included in the Plan is as follows:

- HDR suggests that a detailed odor sample testing be completed in the spring when dewatering activities are different compared to the rest of the year and during the warm part of summer when odor emissions are highest and have the most potential to impact the community. HDR’s

team of internal and industry subject matter experts believes that only detailed tests during the spring and summer are necessary.

- As an option, the City may want to consider performing detailed testing during additional seasons (fall or winter), but each season would come at an additional cost. The proposal cost assumes detailed testing for the spring and the summer. HDR suggests that the additional seasonal testing option be discussed in greater detail during the project kickoff meeting. Our cost includes sampling during the other seasons, but not as detailed as the spring and summer.
- The detailed sample analysis in the spring and summer will include evaluation of Odor Intensity as measured by Odor Panel Analysis to determine the Dilution to Threshold (D/T) values following ASTM Standard of Practice No. E-679 using an Odor Panel Presentation rate of 20 liters per minute. Individual odor causing compounds will also be evaluated by Gas Chromatograph with Sulfur Chemiluminescence Detection (GC/SCD). This analysis scans for 20 reduced sulfur odor causing compounds including a full range of organic based odor compounds such as mercaptan, dimethyl sulfide, dimethyl disulfide, carbonyl sulfide and many others. Liquid phase sampling will also include measurement of wastewater dissolved sulfide and pH.
- Based on initial review of site drawings and offsite locations, HDR costs assume up to 6 samples are required for the spring season and 21 samples are required for the summer season for detailed testing and will include the U of M Nichols Arboretum location. However, the number of samples may change once the site survey and review of additional information can be performed.
- Field Odalog H<sub>2</sub>S testing will be performed in the spring, fall and winter and will backup information obtained from the spring and summer detailed testing. Odalog testing will be done once in each of the four seasons (spring, summer, fall, winter) for a one week period. Odalogs will be placed on the plant perimeter in 4 key locations (including upwind and downwind) and near the plant headworks. This data will help define how the odor intensities change seasonally as well as defining the diurnal changes each day.
- Pressure monitors will also be placed at the Arboretum location as well as up to two other offsite locations to monitor the collection system. The pressure monitors will be installed for one week during the spring, summer, fall and winter seasons. Pressure readings will provide information on when potential odors are emitted.

**Deliverable:** A draft air sampling investigation work plan will be provided.

#### **FINALIZE INVESTIGATION WORK PLAN THROUGH STAKEHOLDER ENGAGEMENT**

Once a draft air sampling investigation work plan is complete, HDR will work with the City and key stakeholders to ensure that the draft sampling work plan approach is agreed upon by all parties. A PowerPoint presentation summarizing the plan and the plan in general will be reviewed during a meeting with the City and stakeholders to finalize the work plan.

**Deliverable:** A PowerPoint presentation summarizing sampling work plan will be given during the stakeholder meeting. A final investigation work plan will be provided to the City which includes updates based on feedback from the stakeholder meeting.

#### **CONDUCT SAMPLING INVESTIGATION**

HDR will collaborate with the City WWTP staff, appropriate stakeholders and an industry sample testing expert to conduct the sampling work plan as outlined in the final air sampling investigation work plan.



HDR's team will conduct field testing with HDR provided equipment to perform the sample testing over the course of four consecutive seasons. HDR will work with the City to gain access to selected onsite and offsite locations and coordinate testing equipment delivery and shipping.

#### **INITIAL ODOR SOURCE RANKING BY ESTIMATED ODOR EMISSION RATES**

Using information gathered during documentation reviews and sample testing, HDR will work with our team of internal and industry subject matter experts to develop an Odor Emission Rate (OER) Summary table following guidance provided in the WEF Manual of Practice No. 25. This table will provide an initial screening tool for review of priority odor sources showing the projected mass contribution of each source and the perimeter impacts on a seasonal basis in terms of H<sub>2</sub>S.

**Deliverable:** An odor emission rate table summary will be provided in the final report (deliverable for Task 5) summarizing the odor source rankings and odor emission rate contributions to the total plant odor release. The OER can also be used as an input to dispersion modeling described in Task 3.

#### **PRESENT RESULTS OF INVESTIGATION TO STAKEHOLDERS**

HDR will present the initial results and analysis of the odor sample testing to the City and stakeholders in a meeting to be held at the WWTP. The results will be discussed to determine if adequate information/data has been investigated to identify potential sources of offsite nuisance odors. Next steps for the project team would be identified at this meeting.

**Deliverable:** A summary power point presentation will be given during the stakeholder meeting.

### **Task 3.0 – Establishing Baseline Odor Conditions Using Dispersion Modeling**

Dispersion modeling will use odor source characterization information gathered from Task 2.1. This task consists of developing a dispersion model that considers dispersion effects (or how the odors get from the source(s) to the receptors). The modeling will be done using the EPA AERMOD dispersion model. Weather data from the closest available airport to the WWTP that logs the required meteorological data will be used. Five years of data will be evaluated. At this time, it is assumed that the Ann Arbor Airport can provide the required data. Odor impacts predicted by dispersion modeling will be presented as odor D/T iso-contour or isopleths, graphically showing the projected off-site impact of each individual priority odor source. The composite or combined odor impact of all sources acting together will also be modeled.

#### *o Task 3.1 – Baseline Condition Dispersion Modeling*

A baseline condition will be evaluated and presented in the isopleth graphical format depicting the risk of odors migrating from the WWTP and offsite locations, based on existing conditions and processes. This is essentially the odor footprint showing the impact of individual sources onsite, sources offsite and of the plant as a whole.

**Deliverable:** Odor impact Isopleths will be provided for the existing odor baseline condition. If available, odor complaint locations from the previous year will be plotted on the same map as the Isopleth lines and reviewed with plant staff. In combination with the spring and summer 2019 odor emission rate (OER) evaluation, the dispersion modeling will be used to identify priority odor sources that may warrant consideration for implementation of odor control. This will be included in the final report in Task 5. In our

experience, we find that this task answers many of the stakeholders' questions when it comes to predicting off-site impacts and showing it graphically.

#### **Task 4.0 – Developing and Screening Odor Control Alternatives**

As requested in the RFP Section F, this task consists of identifying and examining odor mitigation alternatives and potential control technologies.

##### *o Task 4.1 – Initial Screening Workshop*

Potential control technology approaches for addressing the priority odor sources will be reviewed with the WWTP staff during a face-to-face meeting after the stakeholder engagement meeting discussing initial testing results and analysis in Task 2.1. This will include:

- Evaluation of process control options
- Optimization steps for existing odor control systems
- Screening of liquid phase odor control options
- Containment and ventilation approaches
- Screening of potential gas phase treatment options such as chemical scrubbers, carbon adsorption, biotowers, biofilters, ionization systems, stack dispersion and other technologies that the City might want to consider.
- Similarly, if high risk odor sources are identified for the collection system then odor mitigation options will be considered including both liquid phase chemical treatment and capture and treat options for the odorous emissions.

**Deliverable:** Meeting minutes for the workshop, highlighting all major decisions and action items with a short list of screened treatment options that will be further evaluated in the future. Up to 3 potential technology/modification options will be identified for the priority odor sources.

##### *o Task 4.2 - Develop Screened Alternatives Evaluation*

HDR will develop an evaluation for potential corrective measures that pass the screening process in Task 4.1. The evaluation will include ranking each alternative with regards to capital and annual O&M impacts. The ranking will also include non-economic factors: effectiveness, ease of use, reliability, compatibility with existing plant and other metrics as determined by the City, HDR, and stakeholders. Once the evaluation is developed, a final review meeting (conference call) will be held to discuss the recommended actions. Anticipated odor reduction for recommended actions can be presented graphically in terms of odor isopleths and net reduction in odors as a follow on part of Task 3. Net odor reduction would be presented in a plot that shows the reduction in odor intensity and frequency. An Odor Control Master Plan (OCMP) approach will result in stepwise recommendations with high benefit actions as initial steps. Recommended actions will be included in the final report.

**Deliverable:** A section in the final report (deliverable in Task 5) summarizing the cost and performance benefits analyses for all screened alternatives will be provided.

#### **Task 5.0 – Developing Area Odor Study Report**

This task consists of the development of the OCMP identified earlier in this proposal. The OCMP is considered the final report for this Area Odor Study as requested in Section F of the RFP.

o *Task 5.1 – Draft Report of Findings and Recommended Next Steps*

HDR will provide a draft OCMP report that summarizes the development of the sampling plan, test data evaluation and analysis processes completed in Tasks 1 to 4. The report will also include potential odor mitigation alternatives to control odors onsite and/or offsite and provide HDR's recommendations for next steps.

o *Task 5.2 – Final Report through Stakeholder Engagement*

HDR will present a summary of the draft report at a meeting to be held with the City of Ann Arbor staff and interested stakeholders. The meeting will discuss the results and recommended next steps in order to collect feedback to finalize the report.

**Deliverable:** A PowerPoint presentation and six (6) copies of the completed report will be provided to the City of Ann Arbor. The report will incorporate all previous work and/or deliverables to date.

**Assumptions**

The following key assumptions were made in the development of this scope of work and the estimation of the level of effort:

1. The duration of the work will be as outlined in the schedule with seasonal field sampling.
2. All stakeholder meetings will be organized and led by the City. HDR will participate as the technical consultant. The City will gather comments during the meeting and will be discussed with HDR at a separate meeting to discuss comment resolution and how it impacts the overall project direction and scope.
3. A maximum of two odor sample laboratories will be used for the detailed testing, and each sample collected will undergo two tests: one odor panel analysis test and one GC/SCD analysis to identify the presence and concentrations of 20 reduced sulfur compounds. The locations of the samples and tests to be conducted are subject to agreement and/or modification by the WWTP Staff. Sampling in excess of this estimated quantify and/or additional compound-specific sampling is not included in the cost.
4. Any drawings and/or sketches produced by HDR for the technology alternatives evaluation will not be suitable for construction purposes.
5. The evaluation does not include detailed evaluation of the collection sewer system or pump stations outside the plant boundary other than the 1 key location identified (Arboretum) in the RFP and up to two other locations that the City, HDR and stakeholders identify during the initial engagement meeting.
6. There will be three stakeholder meetings: one to finalize the investigation sampling work plan, one to present the results of the investigation, and one to finalize the report. There will be up to two additional onsite meetings (~4 hours each) with stakeholders and three conference calls (~1 hour each) with Ann Arbor WWTP staff.

Tentative Project Schedule

HDR will manage the project schedule identified on the following page for the City of Ann Arbor in RFP #18-26 Engineering Services for WWTP Area Odor Study. Planned deliverable issue dates are contingent upon receipt of City of Ann Arbor comments within 7 calendar days of receipt for review.

WWTP Area Odor Study Scope of Work  
City of Ann Arbor



City of Ann Arbor - Area Odor Study Preliminary Schedule																					
ID	Task Name	Start	Finish	2019												2020					
				Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb		
1	<b>City of Ann Arbor - Area Odor Study</b>	<b>12/3/18</b>	<b>12/13/19</b>																		
2	Notice to Proceed	12/3/18	12/3/18																		
3	Request Available Documentation	12/3/18	12/6/18																		
4	Available Documentation Received	12/7/18	12/7/18																		
5	Project Kickoff/Chartering Meeting and Survey	12/7/18	12/7/18																		
6	Draft Air Sampling Investigation Work Plan	12/7/18	1/3/19																		
7	Stakeholder Meeting for Draft Work Plan	1/2/19	1/8/19																		
8	Finalize Air Sampling Work Plan	1/9/19	1/15/19																		
9	Submit Air Sampling Work Plan	1/21/19	1/25/19																		
10	<b>Conduct Odor Source Characterization</b>	<b>1/2/19</b>	<b>11/29/19</b>																		
11	Oialog H2S Monitors on Plant Perimeter and Key Collection System Location	1/2/19	11/29/19																		
12	Pressure Sensor Monitors on 2 Collection System Locations	1/2/19	11/29/19																		
13	Spring Site Survey	3/1/19	3/1/19																		
14	Detailed Spring Sampling	4/1/19	4/9/19																		
15	Detailed Summer Sampling	7/1/19	7/9/19																		
16	Dispersion Modeling	1/2/19	11/29/19																		
17	Present Initial Results to Stakeholders	9/2/19	9/2/19																		
18	Technology Screening Workshop	9/16/19	9/16/19																		
19	Draft Report Including All Seasonal Data	11/5/19	11/5/19																		
20	Stakeholder Meeting for Draft Area Odor Study	11/25/19	11/25/19																		
21	Finalize Area Odor Study Report	12/13/19	12/13/19																		

Project: AnnArbor Area Odor Study  
Date: 10/9/18

Task Split Milestone Summary



The meetings that occur throughout the project are highlighted in the table below and outlines the project conference calls, face-to-face, site visits and stakeholder engagement meetings as well as who will be present at each.

Meeting Description	Type of Meeting	HDR Project Team Present	City staff present?	Stakeholder present?
<b>Project Kickoff Meeting and Site Survey</b>	Face-to-Face/ Site/Offsite Visit	Josh Prusakiewicz, Chris Easter, and Robert Bowker	Yes	No
<b>Project Update Meeting</b>	Conference Call	Josh Prusakiewicz, Chris Easter	Yes	No
<b>Draft Work Plan Meeting</b>	Face-to-Face/ Deliverable	Josh Prusakiewicz and Chris Easter	Yes	Yes
<b>Winter 2018/2019 Odalog Installation</b>	Site/Offsite Visit	Josh Prusakiewicz and Chris Easter	Yes	No
<b>Winter 2018/2019 Odalog Retrieval</b>	Site/Offsite Visit	Josh Prusakiewicz	No	No
<b>Winter 2018/2019 Pressure Monitor Installation</b>	Site/Offsite Visit (would occur at same time as Odalog install)	Josh Prusakiewicz and Chris Easter	Yes	No
<b>Winter 2018/2019 Pressure Monitor Retrieval</b>	Site/Offsite Visit	Josh Prusakiewicz	No	No
<b>Project Update Meeting</b>	Conference Call	Josh Prusakiewicz and Chris Easter	Yes	No
<b>Spring Site Survey</b>	Face-to-Face/ Site/Offsite Visit	Josh Prusakiewicz, Chris Easter, and Robert Bowker	Yes	No
<b>Detailed Spring 2019 Sampling</b>	Deliverable, Site/Offsite Visit	Josh Prusakiewicz (1 day), Chris Easter (2 days), Charles Schmidt (2-3 days)	Yes	No



<b>Spring 2019 Odalog Installation</b>	Site/Offsite visit	Josh Prusakiewicz	No	No
<b>Spring 2019 Odalog Retrieval</b>	Site/Offsite visit	Josh Prusakiewicz	No	No
<b>Spring 2019 Pressure Monitor Installation</b>	Site/Offsite Visit (would occur at same time as Odalog install)	Josh Prusakiewicz	No	No
<b>Spring 2019 Pressure Monitor Retrieval</b>	Site/Offsite Visit	Josh Prusakiewicz	No	No
<b>Detailed Summer 2019 Sampling</b>	Deliverable, Site/Offsite Visit	Josh Prusakiewicz (1 day), Chris Easter (2 days), Charles Schmidt (1 week)	Yes	No
<b>Summer 2019 Odalog Installation</b>	Site/Offsite visit	Josh Prusakiewicz	No	No
<b>Summer 2019 Odalog Retrieval</b>	Site/Offsite visit	Josh Prusakiewicz	No	No
<b>Summer 2019 Pressure Monitor Installation</b>	Site/Offsite Visit (would occur at same time as Odalog install)	Josh Prusakiewicz	No	No
<b>Summer 2019 Pressure Monitor Retrieval</b>	Site/Offsite Visit	Josh Prusakiewicz	No	No
<b>Project Update Meeting</b>	Conference Call	Josh Prusakiewicz and Chris Easter	Yes	No
<b>Present Initial Results to Stakeholders</b>	Face-to-face, Deliverable	Josh Prusakiewicz and Chris Easter	Yes	Yes
<b>Fall 2019 Odalog Installation</b>	Site/Offsite visit	Josh Prusakiewicz	No	No
<b>Fall 2019 Odalog Retrieval</b>	Site/Offsite visit	Josh Prusakiewicz	No	No
<b>Fall 2019 Pressure Monitor Installation</b>	Site/Offsite visit (would occur at same time as Odalog install)	Josh Prusakiewicz	No	No



<b>Fall 2019 Pressure Monitor Retrieval</b>	Site/Offsite visit	Josh Prusakiewicz	No	No
<b>Technology Screening Workshop</b>	Face-to-Face	Josh Prusakiewicz, Chris Easter and Robert Bowker	Yes	No
<b>Draft Area Odor Study Meeting</b>	Face-to-Face/ Deliverable	Josh Prusakiewicz and Chris Easter	Yes	<b>Yes</b>

### Data Delivery

HDR will provide electronic file transfer of all deliverables, unless otherwise noted in the Work Plan, to the City for their review. Documents will be sent via email or uploaded to a file sharing site and a link sent via email. Deliverables will be sent for review on or before the dates shown in the schedule on the following page. At project conclusion, HDR will provide the project files, including a copy of final deliverables, to the City of Ann Arbor on a portable flash drive.

### Communication and Coordination

HDR will coordinate quarterly progress meetings with the City to provide an update on project status. HDR will provide updates on progress to date and discuss upcoming work plans. New issues will be discussed in these meetings as well as information needs and resolution of open items. These discussions can happen via conference call.

HDR will plan to attend three public meetings to coordinate the development of the Area Odor Study with City stakeholders, including City WWTP Staff, City Departments, City Council, or other committees. HDR will plan to attend up to two additional onsite meetings with stakeholders and three conference calls with Ann Arbor WWTP staff. All meetings will be documented with meeting minutes recorded by HDR. All design decisions will be documented via email correspondence.

**EXHIBIT B  
COMPENSATION**

General

Contractor shall be paid for those Services performed pursuant to this Agreement inclusive of all reimbursable expenses (if applicable), in accordance with the terms and conditions herein. The Compensation Schedule below/attached states nature and amount of compensation the Contractor may charge the City:



**Section D – Fee Proposal**

HDR's proposed fee is based on a Time and Material Not-to-Exceed cost for the proposed scope of work. Our fee proposal is broken down as itemized below for evaluation purposes.

Staff	Josh Prusakiewicz	Chris Easter	Ed Liebsch	TBD	Larry Hentz	Charles Schmidt	Robert Bowker	TBD	Estimated Totals
<b>Title</b>	PM/Engineer	Odor Lead	Dispersion Modeling Lead	Dispersion Modeler	QC	Sample Testing	Technical Advisor	Admin/Clerical Staff	
<b>Billable Rate/hour</b>	\$166.95	\$283.28	\$283.28	\$119.70	\$354.47	-	\$192.42	\$129.15	
<b>Task 1.0 – Project Chartering and Kickoff Meeting and Field Survey</b>	10	40	0	8	4	0	20	0	82
	\$1,670	\$11,331	\$0	\$958	\$1,418	\$0	\$3,848	\$0	\$19,225
<b>Task 2.0 – Establishing Understanding of the Baseline Odor Impacts (Spring and Summer Sampling)</b>	62	97	0	0	11	56	27	0	253
	\$10,351	\$27,478	\$0	\$0	\$3,899	\$40,810	\$5,195	\$0	\$87,734
<b>Task 3.0 – Dispersion Modeling</b>	4	18	24	140	4	0	4	0	188
	\$668	\$5,099	\$6,799	\$16,758	\$1,418	\$0	\$770	\$0	\$31,511
<b>Task 4.0 – Developing and Screening Odor Control Alternatives</b>	14	52	0	0	4	0	16	0	86
	\$2,337	\$14,731	\$0	\$0	\$1,418	\$0	\$3,079	\$0	\$21,565
<b>Task 5.0 – Developing Area Odor Study Report</b>	4	38	0	0	4	0	8	0	54
	\$668	\$10,765	\$0	\$0	\$1,418	\$0	\$1,539	\$0	\$14,390
<b>Misc. Onsite Meetings and Conference Calls as requested in RFP</b>	12	20	0	0	0	0	0	0	32
	\$2,003	\$5,666	\$0	\$0	\$0	\$0	\$0	\$0	\$7,669
<b>Project Management and Administration</b>	54	0	0	0	0	0	0	80	134
	\$9,015	\$0	\$0	\$0	\$0	\$0	\$0	\$10,332	\$19,347
<b>Total Hours</b>	160	265	24	148	27	56	75	80	835
<b>Total Costs</b>	\$26,712	\$75,070	\$6,799	\$17,716	\$9,571	\$40,810	\$14,438	\$10,332	\$201,447
Expenses									\$21,333
<b>Grand Total</b>									\$222,779

Note 1 - The table above reflects the hours and costs after removing the Arborview location from the scope and adding in Spring 2019 detailed testing.

Note 2 – Billable rates shown include an estimated 3.5% escalation for the year 2019. HDR reserves the right to alter invoiced actual billable rates once they are set at the beginning of 2019.

**HDR**  
**Schedule of Reimbursable Expenses**

**2018**

**Per Unit Expenses:**

Automobile Travel, rate per mile                      Standard IRS Business Mileage Rate

**Items invoiced at actual cost include:**

Postage, Express Delivery, Copies

Travel and Living Expenses

Conference Calls

**Items invoiced at actual cost plus 10%, due to additional contract administration:**

Consultants and Subcontracted Services

Expendable Supplies and Services (purchased directly in support of the project)

Rented or Leased Equipment

**Analysis Programs**    \$100/run

\* Rates in US dollars and in effect through December 2018

**EXHIBIT C  
INSURANCE REQUIREMENTS**

From the earlier of the Effective Date or the Commencement Date of this Agreement, and continuing without interruption during the term of this Agreement, Contractor shall have, at a minimum, the following insurance, including all endorsements necessary for Contractor to have or provide the required coverage.

A. The Contractor shall have insurance that meets the following minimum requirements:

1. Professional Liability Insurance or Errors and Omissions Insurance protecting the Contractor and its employees in an amount not less than \$1,000,000.

2. Worker's Compensation Insurance in accordance with all applicable state and federal statutes. Further, Employers Liability Coverage shall be obtained in the following minimum amounts:

Bodily Injury by Accident - \$500,000 each accident  
Bodily Injury by Disease - \$500,000 each employee  
Bodily Injury by Disease - \$500,000 each policy limit

3. Commercial General Liability Insurance equivalent to, as a minimum, Insurance Services Office form CG 00 01 04 13 or current equivalent. The City of Ann Arbor shall be an additional insured. There shall be no added exclusions or limiting endorsements that diminish the City's protections as an additional insured under the policy. Further, the following minimum limits of liability are required:

\$1,000,000	Each occurrence as respect Bodily Injury Liability or Property Damage Liability, or both combined
\$2,000,000	Per Project General Aggregate
\$1,000,000	Personal and Advertising Injury

4. Motor Vehicle Liability Insurance equivalent to, as a minimum, Insurance Services Office form CA 00 01 10 13 or current equivalent. Coverage shall include all owned vehicles, all non-owned vehicles and all hired vehicles. The City of Ann Arbor shall be an additional insured. There shall be no added exclusions or limiting endorsements that diminish the City's protections as an additional insured under the policy. Further, the limits of liability shall be \$1,000,000 for each occurrence as respects Bodily Injury Liability or Property Damage Liability, or both combined.

5. Umbrella/Excess Liability Insurance shall be provided to apply in excess of the Commercial General Liability, Employers Liability and the Motor Vehicle coverage enumerated above, for each occurrence and for aggregate in the amount of \$1,000,000.

- B. Insurance required under A.3 and A.4 above shall be considered primary as respects any other valid or collectible insurance that the City may possess, including any self-insured retentions the City may have; and any other insurance the City does possess shall be considered excess insurance only and shall not be required to contribute with this insurance. Further, the Contractor agrees to waive any right of recovery by its insurer against the City for any insurance listed herein.
- C. Insurance companies and policy forms are subject to approval of the City Attorney, which approval shall not be unreasonably withheld. Documentation must provide and demonstrate an unconditional and unqualified 30-day written notice of cancellation in favor of the City of Ann Arbor. Further, the documentation must explicitly state the following: (a) the policy number(s); name of insurance company; name(s), email address(es), and address(es) of the agent or authorized representative; name and address of insured; project name; policy expiration date; and specific coverage amounts; (b) any deductibles or self-insured retentions, which may be approved by the City in its sole discretion; (c) that the policy conforms to the requirements specified. Contractor shall furnish the City with satisfactory certificates of insurance and endorsements prior to commencement of any work. Upon request, the Contractor shall provide within 30 days, a copy of the policy(ies) and all required endorsements to the City. If any of the above coverages expire by their terms during the term of this contract, the Contractor shall deliver proof of renewal and/or new policies and endorsements to the Administering Service Area/Unit at least ten days prior to the expiration date.