

**PROFESSIONAL SERVICES AGREEMENT BETWEEN
MOORE & BRUGGINK, INC.
AND THE CITY OF ANN ARBOR
FOR PHASE 1 BIODIGESTER FEASIBILITY STUDY**

This agreement ("Agreement") is between the City of Ann Arbor, a Michigan municipal corporation, having its offices at 301 E. Huron St. Ann Arbor, Michigan 48104 ("City"), and Moore & Bruggink ("Contractor"), a Michigan Corporation, with its address at 2020 Monroe Avenue NW, Grand Rapids, Michigan 49506. City and Contractor are referred to collectively herein as the "Parties." The Parties agree as follows:

I. DEFINITIONS

Administering Service Area/Unit means Wastewater Treatment Services Unit.

Contract Administrator means Wastewater Treatment Services Unit Manager, 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 Phase 1 Biodigester Feasibility Study (RFP 22-12).

II. DURATION

Contractor shall commence performance on date of City Administrator signature ("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 Engineering Services ("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 compensation 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. The Contractor shall also comply with and be subject to the City of Ann Arbor policies applicable to independent contractors.
- 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.

Contractor does not have any authority to execute any contract or agreement on behalf of the City, and is not granted any authority to assume or create any obligation or liability on the City's behalf, or to bind the City in any way.

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 from the Effective Date or Commencement Date of this Agreement (whichever is earlier) through the conclusion of this Agreement, 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 Agreement; 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 (if applicable) necessary to perform the Services pursuant to this Agreement.
- C. The Contractor warrants that it has available, or will engage, at its own expense, sufficient trained employees to provide the Services pursuant to this Agreement.
- D. The Contractor warrants that it has no personal or financial interest in the Project other than the fee it is to receive under this Agreement. The Contractor further certifies that it shall not acquire any such interest, direct or indirect, which would conflict in any manner with the performance of the Services it is to provide pursuant to this Agreement. Further Contractor agrees and certifies that it does not and will not employ or engage any person with a personal or financial interest in this Agreement.
- E. 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. Further Contractor agrees that the City shall have the right to set off any such debt against compensation awarded for Services under this Agreement.
- F. 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.

- G. The person signing this Agreement on behalf of Contractor represents and warrants that she/he has express authority to sign this Agreement for Contractor and agrees to hold the City harmless for any costs or consequences of the absence of actual authority to sign.

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 affect 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 below 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
Brian Steglitz, PE
Interim Public Services Area 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, 3rd 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.

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 Exhibits A, B, and C, 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. This Agreement may be executed and delivered by facsimile and upon such delivery, the facsimile signature will be deemed to have the same effect as if the original signature had been delivered to the other party.

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.

[REMAINDER OF PAGE LEFT BLANK; SIGNATURE PAGE FOLLOWS]

FOR CONTRACTOR

By Brian J. Hannon, P.E. Digitally signed by Brian J. Hannon, P.E.
DN: C=US, E=bhannon@mbce.com, O=Moore & Bruggink, Inc., CN=Brian J. Hannon, P.E.
Date: 2022.04.28 16:20:22-04'00'
Type Name
Its Brian Hannon, P.E.
Date: Vice President
04/28/2022

FOR THE CITY OF ANN ARBOR

Approved as to substance
Milton Dohoney Jr 05/31/2022

MILTON DOHONEY JR., CITY ADMINISTRATOR
Milton Dohoney Jr., Interim City Administrator
Date: _____

Brian D Steglitz 05/03/2022

BRIAN STEGLITZ, PUBLIC SERVICES AREA ADMINISTRATOR
Interim Public Services Area Administrator

Approved as to form and content

AKaur 05/31/2022

ATLEEN KAUR, CITY ATTORNEY
PROXY SIGNED BY KMCDONALD

EXHIBIT A SCOPE OF SERVICES

The City desires this to be conducted as a phased approach, with Phase 2 not being authorized until completion and acceptance of Phase 1. The revised work plan below reflects the first phase of this phased approach.

PHASE 1

TASK 1 – INFORMATION GATHERING

The study will kick off with an information-gathering task. This will also be an opportunity for City staff and the M+B Team to jointly review the proposed work plan. Stakeholders included in past studies included City staff from the WWTP, Solid Waste Division, Energy Office, and Sustainability Office. Also included were the City's compost partner, WeCare Organics, a division of Denali, and the University of Michigan Office of Waste Reduction and Recycling. Many of these stakeholders have knowledge of the previous studies and will provide valuable insight.

TASK 2 – SITE FEASIBILITY ASSESSMENT

Our Project Team will review the feasibility of siting the digestion process at the Ann Arbor WWTP. This site has limited space currently available; therefore, a detailed review of existing infrastructure, including structures, piping, support infrastructure, and so on, will be critical. In addition, review of traffic flow and logistics of transporting any solid or liquid material generated to and from the facility will be considered.

We will plan to conduct an initial site visit at the same time as the kickoff meeting, if possible.

TASK 3 – MATERIALS ASSESSMENT

Our team will build on the work conducted in 2017 and expand this to review any new or changed sources of biomass and estimate the quantity and characteristics of the feedstock material. This will include biogas production potential, which will be used in a sensitivity analysis related to biogas production. We will provide our team's opinion of the risk associated with these sources of feedstocks in terms of availability, ability to procure, quantity estimates, impact on digester operation, and gas production.

There are three main inputs that will be analyzed:

1. Biosolids from City of Ann Arbor WWTP – we will focus efforts on this input

The team will meet with Ann Arbor WWTP staff to obtain the most recent operational data to clearly understand the current daily production of digestible wastewater solids. Our team’s experience designing and operating WWTPs will benefit the analysis. Our experience will allow us to ask the right questions so that we understand current plant operation, including any constraints. This understanding of the data is critical for successful acceptance and digestion of wastewater solids and other co-digestion feedstocks. Our approach will be to estimate the amount of wastewater solids to be digested over the planning period and then estimate the amount of other organic waste that could be co-digested with those solids.

To establish the biomethane potential from the Ann Arbor WWTP and other feedstocks, the methane production from a BioWorks Energy database containing over 200 tested samples of wastewater sludge and various feedstocks will be used as a baseline. If specific testing of the Ann Arbor sludge or specific feedstocks is desired, this can be completed for an additional fee. The test results can be used in the subsequent modeling of the different alternatives and will provide a higher level of confidence in the outcomes of these models.

Ann Arbor Primary Solids 2017 Data	
Volume/Yr	21,470,588
Volume/day	58,824
Mass Tons/Yr	91,250

2. Estimate Quantity of Commercial Organics within the City of Ann Arbor

In 2017, our study concluded that there are viable sources of commercial organic waste within the city limits of Ann Arbor that could be co-digested along with wastewater treatment solids. It was concluded that the cost and logistics of collection of these organic wastes from homeowners and local businesses would be a challenge.

Overall, the quantity in relation to the wastewater treatment plant sludge was relatively limited, but could add valuable biogas gas production as a byproduct of the digestion. We will once again focus on the main suppliers of the organic waste identified in the 2017 study, and update those with current quantities and any new suppliers.

University of Michigan Food Waste

We will work with the office of Waste Reduction & Recycling (WR&R) at the University of Michigan to update the estimated food waste quantity. They have been tracking these materials for almost ten years. Our team will consider the logistics of gathering this waste, storing it, and transporting it to a new digestion facility.

Commercial Organics from Businesses within the City of Ann Arbor

Leveraging our team’s previous experience, we will focus on the largest food waste producers in the following three categories:

- *Larger restaurants, cafeterias, and hotels.* Pre-consumer waste is most desired.
- *Food processors.* The quantity must be above the threshold to justify segregation of waste.
- *Grocery stores.* Many local store managers are supportive of food waste diversion. Waste management processes must be approved by management at a regional or corporate level.

Collection of Food Waste From Businesses
Increased Diversion = 1000 - 2400 tons per year
<small>Source: Solid Waste Resource Management Plan (A2Zero Plan)</small>

The costs of transportation and processing will impact the “value” of a given co-digestion feedstock. In this case, “value” is measured in available energy or revenue and earned tipping fees. For this study, we will develop a metric to balance the energy for a given amount of feedstock with logistics and current disposal costs. Up to the top three producers for each identified source, listed above, will be surveyed to identify the following data:

- Daily or weekly food waste production. Current cost of disposal and method of transportation, including cost.
- Potential methods for segregating food waste from non-organic waste.

The quantity and characteristics of each source’s waste will be summarized, along with potential issues such as contaminants or non-digestible materials such as PLA flatware.

FOG from local grease-trap hauling companies (within the City of Ann Arbor)

FOG is an outstanding potential co-feedstock, both in energy production terms and from an environmental standpoint. FOG is typically gathered from restaurants and other locations by specialized FOG handling companies, with each firm competing vigorously for material. Our team member BioWorks has spent significant effort to acquire FOG for the Flint Biodigester and has valuable insight into the market.

For this task, our team will concentrate on updating the existing data by performing the following tasks:

- Identify quantities of FOG material available in the Ann Arbor area and major FOG handling firms.
- Identify locations where the largest quantities of FOG are produced.

Using the data obtained, our team will update the approximate amounts of FOG that are potentially available from sources in Ann Arbor.

3. Additional Feedstocks from Regional Facilities (outside the City of AA)

Our team will look at available biosolids from regional facilities outside the city of Ann Arbor (within 50 miles) as well as commercial organic outside the city of Ann Arbor (within 50 miles).

Updated Survey of Municipal WWTPs within 50 Miles of Ann Arbor

This task will update the survey of the WWTP facilities around Ann Arbor (within 50 miles). The goal is to identify potential feedstocks that could be accepted at the Ann Arbor biodigester on a fee-for-product basis. Data on each WWTP facility will include (but are not limited to): facility flow rate, percent of capacity, and potential for outsourcing organic material to the Ann Arbor digestion facility.

It was determined in 2017 that most of the Municipal WWTPs in a 50-mile radius were potential competitors for substrates. Suggest elimination of this task, but detail map of treatment facilities within 100 miles.

Updated Survey of Commercial Organics Including FOG and Compostable Packaging Materials

In addition to the analysis of the organics feedstocks as mentioned above, the team will update the previously gathered data and estimate the availability of co-feedstocks from larger food processing establishments within a 50-mile radius of the city of Ann Arbor. We will focus on validation of the three largest producers that can supply meaningful quantities of feedstocks. Estimated shipping costs will be included as well.

Using the Team's experience, a food processor database from the Michigan Department of Agricultural and Rural Development, and the EPA Excess Food Waste Opportunities Database, we will identify major organic waste suppliers and tally quantity and type of food waste to update the results from the 2017 study.

Only three major food producers and six grease trap haulers were identified from the 2017 study. We will update NAICS database of restaurants in Ann Arbor and utilize lbs/employee formula to update results of the previous study.

Identify Potential Competitive Biodigesters within 100 Miles

The 2017 study reviewed the competitive biodigesters within 100 miles, including community digesters and WWTP biodigesters. Since 2017, the agricultural digestion

market has expanded significantly, and there are some that accept food waste as a feedstock. A map of operating digesters within a 100-mile radius of Ann Arbor will be supplied..

PARTIAL TASK 4 – SYSTEM RECOMMENDATION AND DESIGN CONSIDERATIONS

Elements of Task 4 are necessary to be completed in Phase 1 to evaluate the general type, sizing, and solids inputs and outputs of the digestion system in order to determine site layouts, ancillary solids processing equipment, and estimated capital costs. This will determine the feasibility of moving into Phase 2, and determine any additional information that should be gathered and evaluated in Phase 2.

Based on the outcomes of the materials assessment and what is agreed on as the most likely level of input to consider, we will work with the City to identify, develop, and evaluate up to three anaerobic digestion system alternatives. The alternatives will include ancillary equipment for receiving and processing feedstocks and managing the digested materials.

Inputs Receiving

Our team will meet with the City and look at how to receive both the liquid and solid waste streams from the plant and outside sources, and process through a digester. The handling of the inputs to the system will be important, considering the major feedstock will be municipal biosolids. The outside feedstocks can be variable in composition and will require equalization and blending. This could include reception and equalization tanks, depackaging equipment, and other process equipment. Our experience with what materials can and cannot be co-fed to a digester and the risks with not removing inorganic material will be a part of this analysis. Our direct experience in planning, installing, and operating pre- and post-food waste processing equipment is an added value to our ability to quantify capital and operating costs for potential equipment usage. Size considerations and traffic patterns through the plant site will also be key with this review. A conceptual site plan will be produced to illustrate this as part of the final report.

Digester Size and Type

The digester tank size and configuration will be determined based on input quantities and solids content, as well as accounting for variability in external feedstocks. The digester analysis will review both Class B and Class A systems. Our team will leverage our knowledge of various digester types to determine the most effective technology to utilize for the City. Conditions of evaluation include the size of digester tanks, mixing systems, heating systems, and breakpoints between tank sizes with redundancy in mind. Class B versus Class A systems will be evaluated

based on capital and life cycle costs as well as with the ultimate use or disposal (or reuse) of the final products coming from the system.

Construction and Operational Cost Opinion

The current construction environment is very volatile due to COVID, supply chain issues, workforce issues, inflation, and other factors. Our team will work together with BV’s professional estimators to review and validate the cost opinions for the construction of the biodigester. Sensitivity factors can be placed on these estimates to help the City plan for a future project. The Team will leverage our real-world experience operating biodigester systems to estimate the operational expenses of running and maintaining the systems. In addition, cost/benefit of Class A versus Class B material, and recommendations on potential markets for any remaining solid material will be reviewed and outlined as part of Task 5.

TIMELINE

Based on splitting this project out into two phases, our prior experience with the 2017 study and the difficulty in obtaining some of the information from businesses related to potential feedstocks, and to allow enough time for a comprehensive report, we are assuming a five-month timeframe to complete Phase 1 of this study. Our outline of timing based on the tasks included above is detailed below.

Task	Month							
	1	2	3	4	5	6	7	8
Phase 1								
Task 1 – Information Gathering	■							
Task 2 – Site Feasibility Assessment		■						
Task 3 – Materials Assessment			■					
Task 4 – System Recommendations and Design Considerations				■	■	■		
Phase 2								
Task 4 – System Recommendations and Design Considerations					■	■	■	
Task 5 – Expanded Analysis of Outputs					■	■	■	
Task 6 – Finances							■	
Task 7 – Other Environmental Benefits							■	
Final – Final Report								■

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:

HOURS						
PHASE 1						
Firm/Staff/Position	Task 1	Task 2	Task 3	Task 4	Ph 1 Memo	Total
M+B/B. Hannon - VP/Proj Mgr	6	6	4	8	2	26
M+B/A. DeYoung, Proj Mgr	8	8	4	16	4	40
M+B/K. Place, Proj Eng	6	6	4	10	6	32
M+B/J. Markosky, Proj Eng	2	16	4	6	2	30
BWE/C. Antle, Owner	16	12	16	12	4	60
BV/H. Cheslek, Sr. Proj Mgr	8	2	3	5	1	19
BV/M. Lang, Biosolids Director	4	5	1	8	2	20
BV/J. Blischke, Sr. Process/Organics	2		5			7
BV/S. Carr, Biosolids Specialist	2	2		2	1	7
BV/F. McCann, Financial Specialist	2					2
BV/B. Weinand, Env. Specialist						0
TOTAL:	56	57	41	67	22	243

FEE							
PHASE 1							
Firm/Staff	Rate	Task 1	Task 2	Task 3	Task 4	Ph 1 Memo	Total
M+B/Hannon	\$190.00	\$1,140.00	\$1,140.00	\$760.00	\$1,520.00	\$371.00	\$4,931.00
M+B/DeYoung	\$128.00	\$1,024.00	\$1,024.00	\$512.00	\$2,048.00	\$508.00	\$5,116.00
M+B/Place	\$107.00	\$642.00	\$642.00	\$428.00	\$1,070.00	\$642.00	\$3,424.00
M+B/Markosky	\$92.00	\$184.00	\$1,472.00	\$368.00	\$552.00	\$178.00	\$2,754.00
BWE/Antle	\$141.75	\$2,268.00	\$1,701.00	\$2,268.00	\$1,701.00	\$567.00	\$8,505.00
BV/Cheslek	\$283.50	\$2,268.00	\$567.00	\$850.50	\$1,417.50	\$283.50	\$5,386.50
BV/Lang	\$315.00	\$1,260.00	\$1,575.00	\$315.00	\$2,520.00	\$630.00	\$6,300.00
BV/Blischke	\$315.00	\$630.00	\$0.00	\$1,575.00	\$0.00	\$0.00	\$2,205.00
BV/Carr	\$315.00	\$630.00	\$630.00	\$0.00	\$630.00	\$315.00	\$2,205.00
BV/McCann	\$414.75	\$829.50	\$0.00	\$0.00	\$0.00	\$0.00	\$829.50
BV/Weinand	\$183.75	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TOTAL:		\$10,875.50	\$8,751.00	\$7,076.50	\$11,458.50	\$3,494.50	\$41,656.00

Firm Multipliers: Moore+Bruggink = 3.05 Black&Veatch = 3.13 BioWorks Energy = 2.50

**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. 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. If any of the above coverages expire by their terms during the term of this Agreement, 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.