



PURCHASING DEPARTMENT

COUNTY OF STEUBEN

3 EAST PULTENEY SQUARE
BATH, NEW YORK 14810-1510
(607) 664-2484

LEGAL NOTICE

Notice is hereby given that the Public Works Committee of the Steuben County Legislature and the Commissioner of Public Works will receive sealed competitive proposals per specifications for Landfill Gas Utilization Project; document#GC-20-017-P.

Requests for proposal forms, scope of services and general provisions are available at the Steuben County Purchasing Department, 3 E. Pulteney Square, Bath, N.Y. 14810. These documents are also available on the Steuben County website, www.steubencony.org.

Interested parties assume all responsibility to acquire information and forms.

Interested respondents are invited to attend a virtual pre-proposal site visit of the Bath landfill site at 10:00am on Thursday, August 20, 2020 in order to gain a familiarity with the site and to ask questions with regard to this RFP.

To be considered, proposals must be submitted on Steuben County forms and delivered in a sealed opaque envelope. Proposals will be received at the Purchasing Department until 1:30 P.M. local time on September 18, 2020; at which time proposals will be opened and acknowledged as received.

Steuben County retains the right to reject any or all proposals and to withdraw this solicitation at any time.

Dated: July 24, 2020

Andrew G. Morse
Director of Purchasing

Request for Competitive Sealed Proposals:
Landfill Gas Utilization Project; document #GC-20-017-P

1. General Provisions:

It is the intent of this request for proposals to obtain proposals for the Landfill Gas Utilization Project.

2. Project Manager:

Steve Orcutt, Assistant Commissioner of Public Works, Landfill Division, 3 East Pulteney Square, Bath, N.Y. 14810. Telephone number: 607-664-2476.

3. Qualifications:

Steuben County will be free to make any inquiry(ies) deemed necessary to ascertain the qualification(s) of the contractor and/or the accuracy of statements made by the contractor as to its qualification(s).

4. Contact Information and Requirements:

Along with its response, the submitter of the RFP shall include the following information: name, address, telephone number and FAX number.

5. Proposal Cost; Budget Narrative and Justification:

The price shall be a *comprehensive* price per the proposed scope of services/deliverables.

6. Selection of a Contractor:

Selection shall only be made from proposals submitted by qualified, responsive and responsible entities who sufficiently meet the terms, conditions and specifications stated herein.

However, under all circumstances and all statements to the contrary notwithstanding, that Steuben County reserves as its right, the right to determine the contractor in accordance with the best interest of Steuben County.

Determination is not made at the opening. All submitted proposals are subject to final review and acceptance by the appropriate personnel or committee(s) of the Steuben County Legislature before a determination is made.

Receipt of proposals by the County shall not be construed as authority to bind the County.

7. References:

Any response to this request for proposal shall contain as a minimum at least three (3) references with contact names and phone numbers where the contractor has completed and/or participated projects similar in nature.

8. Submission of Proposals:

Those submitting proposals do so entirely at their expense. There is no express or implied obligation by Steuben County to reimburse any firm or individual for any costs incurred in preparing or submitting proposals, preparing or submitting additional information requested by the County, or for participating in any selection interviews.

9. Contract Award:

Award of contract will be made following a review of the proposal by the Assistant Commissioner of Public Works, Landfill Division and any additional County staff as deemed appropriate, and approval will be made by a designated committee and/or full legislature.

10. Method of Award:

The award may be made to the most responsible contractor whose proposal is determined to be in the best interest of Steuben County and who is deemed the best fit to serve the County's requirements based upon criteria stated under the Scope of this RFP, the evaluation of references, corporate qualifications and, if deemed necessary, an interview with the contractor and the designated committee.

Price will not necessarily be the determining factor in the award of the contract. All proposals will be evaluated to determine if they meet the required format and are in compliance with all requirements of the Request for Proposals.

Incomplete or non-responsive proposals may be rejected at the discretion of Steuben County.

11. Contract Term:

The contract to a successful bidder, if an award is made, will be effective on the date the contract is signed by all required parties.

Steuben County contemplates that the contract term will be for a fixed term of up to twenty-five years. Pursuant to Steuben County Local Law of 2008.

12. Assignability:

The contractor shall not assign, transfer, convey, sub-contract, sublet or otherwise dispose of all or portions of the contract; and/or work to be performed as a result of the contract; or its right, title or interest therein, or its power to execute

such contract, or its responsibility therein to any other person, company or corporation, without the prior written consent of the Commissioner of Finance and the Administration Committee.

13. Insurance:

- a) This document includes an information sheet entitled: STEUBEN COUNTY STANDARD INSURANCE REQUIREMENTS. These requirements establish the minimum insurance(s) which the contractor(s) shall have in effect prior to entering into a contract to do business with Steuben County. Said insurance(s) are required to remain in effect throughout the term of the contract(s).

In the event that the contractor's insurance lapses during the term of the contract, the County reserves, as its right, the right to cancel the contractor's contract(s) and to purchase the contracted product(s)/service(s) on the open market; with any increase in cost(s) to Steuben County being charged to the contractor. Credit shall not be issued to the contractor where open market cost(s) to the County are less than the cost(s) contracted with the contractor.

- b) Steuben County shall be named as an additional insured in the contractor's policy for all intents and purposes of contract(s) issued as a result of an award. The document number and title shall be referenced in the description/additional comments section of the certificate of insurance form.

PLEASE NOTE: Additional insured and certificate holder must only read: Steuben County, 3 E. Pulteney Square, Bath, N.Y. 14810.

- c) Each contractor shall submit an original of its Certificate of Insurance (which indicates the contractor's compliance with the above sections a) and b) to Steuben County Purchasing Department, 3 E. Pulteney Square, Bath, New York 14810.
- d) The Certificate of Insurance must be approved by the County Risk Manager prior to the contractor's acting on and/or performing any of the obligations it incurred as a result of the award and/or contract.
- e) Self-employed persons must carry Worker's Compensation coverage as directed by the Steuben County Risk Manager. Contractor shall submit an original Certificate of NYS Worker's Compensation Insurance Coverage form WC 88 31 21 C, which indicates the contractor's compliance, to be approved by the County Risk Manager prior to the contractor's acting on

and/or performing any of the obligations it incurred as a result of the award and/or contract.

- f) Worker's Compensation Insurance Exemption: Contractors claiming to be exempt from the requirement to carry/provide Workers' Compensation Insurance shall submit a fully executed CE-200 form; the form to be complete, notarized, and stamped as received by the New York State Workers' Compensation Board.

14. Non-Collusive Bidding Clause and Certificate:

- a) Clause –

"By submission of this bid, each contractor and each person signing on behalf of any contractor certifies, and in the case of a joint bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

- 1) The prices in this bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other contractor or with any competitor;
- 2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the contractor and will not knowingly be disclosed by the contractor prior to opening, directly or indirectly, to any other bidder or to any competitor; and
- 3) No attempt has been made or will be made by the contractor to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition."

- b. The contractor shall submit a signed and dated Non-Collusive Bidding Certificate with its bid. Said certificate is mandated by Chapter 956 of the Laws of New York State, pursuant to Section 103-D of the General Municipal Law. Reference the "NON-COLLUSIVE BIDDING CERTIFICATE" form included in this bid document.

15. Hold Harmless Clause and Form:

- a) Clause –

"The contractor agrees that it shall at all times save harmless the County of Steuben from all claims, damages or judgements or for the defense or payment thereof, based on any claim, action or cause of action whatsoever, including any action for libel, slander, or personal injury, or any affiliated claims, by reason of any act or failure to properly act on the part of the contractor and in particular as may arise from the performance under this contract. In the event of an injury by the subcontractor or its

employees, they shall cause notice to be served upon the County within twenty-four (24) hours of any such injury.”

- b) The contractor shall submit a signed and dated Hold Harmless Clause form with its bid. Reference the “HOLD HARMLESS CLAUSE” form included in this bid document.

16. Prevention of Sexual Harassment:

Contractor hereby represents that said contractor is in compliance with New York State Labor Law Section 201-g entitled “Prevention of Sexual Harassment”.

Contractor offering to provide services pursuant to this contract, as a Consultant, joint venture consultant, subcontractor, attests that its performance of the services outlined in this contract has a written policy addressing sexual harassment prevention in the workplace and provides training, which meets the New York State Department of Labor’s model policy and training standards, to all employees on an annual basis.

Furthermore, by submission of this Expression of Interest procurement document, each contractor and each person signing on behalf of any contractor certifies, and in the case of a joint submission each party thereto certifies its own organization, under penalty of perjury, that the submitter has and has implemented a written policy addressing sexual harassment prevention training to all of its employees. Such policy shall at minimum meet the requirements of Section Two Hundred One – g of the New York State Labor Law (NYS Labor Law §201-g).

17. Addendum/Addenda:

- a) If an addendum has been issued prior to the County’s receipt of proposals Steuben County shall attempt to notify potential contractors known to have received the proposal documents and whose contact information is on file with the County.

Steuben County does not ensure the potential contractor receipt of addendum. It shall be the responsibility of each contractor, prior to submitting its proposal to contact the Director of Purchasing, 607-664-2484 to determine if an addendum has been issued.

- b) Addendum shall be available for review and/or copy at the Steuben County Purchasing Department, Room #217, Steuben County Office Building, 3 E. Pulteney Square, Bath, N.Y. It will also be available on the county web site.

- c) It is a requirement that the contractor sign, date and include the addendum with its submission.

18. Submission of Proposals:

- a) The contractor shall submit three (3) sets of its RFP response; including all required documents (e.g. signed clauses, statements, forms, bonds, insurance, manufacturer's specifications, etc.)
 - 1) One (1) set shall be stamped (or otherwise indicated) as being the "ORIGINAL."
 - 2) Other sets shall be stamped (or otherwise indicated) as being the "DUPLICATE" or "COPY."
 - 3) Information presented in the "ORIGINAL" set of the RFP submission shall prevail.
- b) The RFP shall be submitted in a sealed opaque envelope marked on the outside with: the contractor's name and address and the designation: "Sealed Proposal: Landfill Gas Utilization Project GC-20-017-P".
- c) The envelope shall be addressed to Andrew G. Morse, Director of Purchasing, Steuben County Office Building, 3 E. Pulteney Square, Bath, N.Y. 14810. Proposals shall be received at the Purchasing Department and will be acknowledged as received, at such time.
- d) Facsimile or other electronically transmitted proposals are not acceptable and shall be rejected.
- e) Security procedures are in effect at the Steuben County Office Building. Interested parties, especially respondents who intend to hand deliver bids and/or conduct business with the Steuben County Purchasing Department should allow sufficient time for any delay which may arise as a result of security procedures. To be considered "delivered on time," a submission must be received at the Purchasing Department by the appointed hour.
- f) A proposer may submit more than one potential beneficial use solution but each solution must be presented as a separate project description and stand-alone financial proforma.
- g) All proposals will become property of the County once the advertised date and time of the proposal opening has arrived. The County will have the right to disclose all or any part of a proposal to public inspection based on its determination of what disclosure will serve the public interest.

Prospective offerors are further advised that, except for trade secrets and certain personnel information (both of which the County has reserved the right to disclose), all parts of proposals must be disclosed to those members of the general public making inquiry under the New York State Freedom of Information Law (NYS Public Officers Law, Article 6).

Should an offeror wish to request exemption from public access to information contained in its proposal, the offeror must at the time of submission of its offer, specifically, identify in their submission the information and explain in detail why public access to the information would be harmful to the offeror.

19. Late Proposals:

Contractor shall bear sole responsibility for the delivery of their proposal in a timely manner. Reliance upon the U.S. Postal Service or other carriers is at the contractor's risk. Late proposals shall not be considered and shall be returned unopened.

20. Right of County to Seek Clarification, Accept or Reject Proposal(s), etc:

- a) Steuben County reserves as its right, the right to require clarification from contractors for the purpose of assuring a full understanding of the contractor's responsiveness to the solicitation requirements.
- b) Steuben County reserves as its right; the right to accept or reject any and all proposals (or separable portions thereof), the right to waive irregularities and technicalities, and the right to request resubmission.

21. Civil Rights:

The County of Steuben, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 and New York State Labor Law; Article 8 - Public Work, Section 220e hereby notifies all contractors that it will affirmatively ensure that any contract awarded as a result of this proposal solicitation will be awarded without discrimination on the grounds of race, color, sex or natural origin.

22. Pre-Proposal:

Interested respondents are invited to attend a pre-proposal virtual site visit of the Bath landfill site at 10:00am on Thursday, August 20, 2020 in order to gain a familiarity with the site and to ask questions with regard to this RFP. Please pre-register with Andrew G. Morse, Director of Purchasing at AMorse@SteubenCountyNY.gov.

23. Required Contents and Organization of Proposals:

Each proposal must contain the information set forth below and be organized by sections, also delineated below, to facilitate review by the County.

- a) **Section 1- Project Description:** A narrative description of the project must be provided that describes the technology utilizing the Landfill Gas and any end products or output of the project. The project description should include:
- 1) A site layout showing the location of any proposed physical facilities.
 - 2) A description of how the project will utilize the existing LFG system and what if any existing facilities will be abandoned or available for other uses.
 - 3) A description of any necessary LFG system improvements over and above those onsite. The proposed responsibility for undertaking and paying for any such improvements must be stated, and any costs to be borne by the County must be clearly stated. Include also a description of any operations procedures that must be instituted by the County or the Respondent to allow the proposed project to operate according to plan.
 - 4) Discuss requested operational procedure changes and adjustments that may be desired in current landfill operations in order to optimize or increase the quantity of landfill gas. These procedures will only be considered if they do not jeopardize the current or future environmental condition and/or regulatory compliance of the facility including, but not limited to, gas migration, odor containment, and meeting all air emission regulations. The proposal should also detail the incentive to the County for considering these procedural changes.
 - 5) If deviating from the current site plan & facility detail provided; then documentation of any site acreage requirements, a layout drawing and site location is required.
 - 6) If deviating from the current site plan & facility details; then a statement of requirements for water supply and wastewater disposal and a description of how they will be satisfied shall be provided.
 - 7) A statement of energy requirements including the amount of LFG needed, commercial electricity, propane or other forms of energy needed.
 - 8) If the LFG derived energy is to be delivered off-site, describe by drawings and/or narrative how the energy will be delivered to the specific end users. This would include identification of the end user/class of end user and their location, interconnection with existing energy delivery systems, high pressure gas pipelines or other product delivery mechanisms. Any costs associated with the product delivery mode should be documented in the respondent's proposal.

- 9) A narrative description of the business terms of an agreement that respondent would be willing to enter into with the County. This portion of the proposal should include a description of the rights and responsibilities of the parties, term of the agreement, financial obligations, indemnification provisions, and ownership of the project. A sample or illustrative contract may also be provided for consideration by the County.
- 10) The respondent should describe the limits and value of guarantees that will be provided for the project including any performance guarantees to be provided during construction and operation of the project.
- 11) Permits, licenses and approvals required for the project must be identified, along with a statement clearly indicating who will be responsible for obtaining each permit and approval.

b) **Section 2 – Identification and Experience of Respondent’s Project Team Members:**

- 1) Provide documentation describing the qualifications and project experience of executive, managerial and technical staff who will be involved in the project proposed by the respondent. If outside/contract personnel will be used, identify them as such and include the same information for them.
- 2) Describe in narrative form, photos, and/or drawings, any previous experience of the respondent's team in development of landfill gas projects including projects in which the team members have previously worked together.
- 3) Include pertinent information on the financial aspects of each project (e.g., general breakout of costs, how costs were met and a description of any revenue agreements with the landfill owner).
- 4) Also, provide as a list, the names, phone numbers and addresses for landfill owner and energy customer points of contact involved in each of the projects.

If the respondent has no previous landfill gas experience, the respondent may substitute other projects intended to demonstrate the capability to undertake the project proposed in its response. In identifying project team members, the respondent should clearly designate an individual person that will be the point of contact (email, phone number, fax number and mailing address) who will be authorized to act for the respondent in responding to questions about the proposal and possible negotiation of a development agreement with the County.

c) Section 3-Financial Information:

The ability of the respondent to financially accomplish and support the project and the value of project benefits to the County will be a key factor in evaluating proposals. Financial information in several areas is required.

1) Financial Proforma: The proforma should assume up to a twenty-five (25) year contract period and should contain the following information to demonstrate annual projected payments to Steuben County.

- i) The total estimated capital costs of the project, debt service, fees, insurance, operations and maintenance costs, revenues and their distribution must be provided. Details and assumptions with regard to project capital costs, operating costs, equipment up-time, parasitic load, power production, and all project revenues must be provided to support and fully explain the information presented in the proforma. The proforma should be in sufficient detail to demonstrate and identify clearly the financial terms and conditions of the proposal,
- ii) To facilitate comparison of proposals, the proforma should be based on the landfill gas generation estimates included within this request.
- iii) The method of determining the County's share of project revenues and any other payments to be made to the County for the use of its landfill gas must be clearly described. Proposals to share potential future revenues that may subsequently be identified that are not quantified in this proforma must be delineated for consideration by the County.

2) Project Financing Statement: Describe how the project will be financed and sources of financial resources.

- i) Respondents Financial Information: Provide a certified copy of the Respondent firm's most recent year-end financial statement showing income, expenses and outstanding debt. List any pending or recently completed litigation and parties in which the respondent is the defendant and provide the amount of damages being contested. Also list any litigation in which the respondent is a litigant and financial recovery being sought.

- d) **Section 4-Project Schedule:** A project management Gantt chart (or similar display) must be included in the proposal to show development tasks, duration in calendar days or calendar weeks, how the tasks are phased in time after project authorization/ execution of a contract with the County, and significant milestones. Milestones and tasks should include any permitting required, design and engineering tasks, material lead times, mobilization, construction tasks, testing, start-up and the start of routine operations. A realistic project schedule will be a component of the County's evaluation.

24. Modification or Withdrawal of Proposals:

- a) A proposal may be modified or withdrawn by an appropriate document duly executed in the manner that a bid must be executed and delivered to the place where proposals are to be submitted at any time prior to the scheduled time for opening of proposals.
- b) No proposal may be modified, withdrawn or canceled for a period of one hundred twenty (120) days after the date of the proposal opening and all proposals shall be subject to acceptance by the County during this period.

25. Responsibilities for Work:

The contractor assumes full responsibility for the acts and omissions of all his employees and all sub-contractors, their agents and employees and all other persons performing work under the contract.

26. Consideration of Proposal; Acceptance of Proposal (Award):

- a) The award of contract will be made by written notice of award signed by a duly authorized representative of the County and no other act of the County shall constitute the acceptance of a bid.
- b) The acceptance of the proposal shall bind the successful contractor to execute a contract.

27. Execution of Contract/Certificate of Insurance:

The contractor to whom the award is made shall assist and cooperate with a lease and contract with the County.

28. Commencement of Work:

Notwithstanding any delay in the preparation and execution of the agreement, the successful contractor shall be prepared, upon receipt of the notice of award, to commence work within a time period mutually acceptable to contractor and the County.

29. Supportive Specifications:

The contractor shall be responsible for obtaining all permits required to fulfill this contract and shall comply with all laws, ordinances, rules and regulations of the jurisdictions in which the work is performed.

30. Sales Tax Exemption:

The County is exempt from payment of sales and compensating use taxes of the State of New York and of cities and counties within the State of New York.

31. Protection from Claim Against "Or Equal":

In the event of any claim by an unsuccessful contractor concerning or relating to the issue of "equal or better" or "or equal" the successful contractor agrees to hold the County of Steuben free and harmless for any and all claims for loss or damage arising out of this transaction for any reason whatsoever. The County is to be free and harmless for any and all legal fees and court costs.

32. Evaluation Process:

a) After determining that a proposal satisfies the mandatory requirements stated in the request for proposal, (see section-eligibility criteria) the comparative assessment of the relative benefits and deficiencies of the proposal in relationship to the published evaluation criteria shall be made by using subjective judgment. The award of a contract resulting from this RFP shall be based on the best proposal received in accordance with the evaluation criteria stated below.

- 1) Demonstration of successful similar projects, preferably in public sector environments.
- 2) Qualifications of individuals assigned to the project.
- 3) Demonstration of clear understanding of the requirements of the project.
- 4) Ability to deliver a high quality service at a reasonable cost.
- 5) Proposal review criteria/application review process and scoring.

b) After an initial screening process, a technical question and answer conference or interview may be conducted, if deemed necessary by the County, to clarify or verify the contractor's proposal and to develop a comprehensive assessment of the proposal.

c) Steuben County reserves the right to consider historic information and fact, whether gained from the contractor's proposal, question and answer

conference, references or any other source, in the evaluation process.

- d) It is the contractor's responsibility to submit information related to the evaluation categories and that Steuben County is under no obligation to solicit such information if it is not included with the contractor's proposal.

33. As a result of this RFP, Steuben County intends to enter into contract with the selected contractor to provide the services described in the scope of services section. However, this intent does not commit the county to award a contract to any responding contractor. Steuben County and the Commissioner of Public Works reserve the right, with agreement by the applicant, to accept or reject in part or in its entirety any proposal received as a result of this RFP if it is in the best interest of the County to do so.

34. Questions:

Contractor's questions will be accepted until Thursday August 27, 2020 and shall be submitted in writing to Andrew G. Morse, Director of Purchasing, Steuben County Purchasing Department, 3 E. Pulteney Square, Bath, NY 14810.

Amorse@Steubencountyny.gov. No questions will be accepted after this date.

GENERAL TERMS AND CONDITIONS

1. Background and Purpose:

Steuben County has owned and operated solid waste and recycling facilities at the Turnpike Road site in the Town of Bath since 1978. Currently the County owns and operates facilities there to include three separate landfills, a residential solid waste disposal and recycling facility, and associated maintenance and environmental control-facilities. An additional lateral expansion of the active New Bath Landfill is currently being pursued for additional lined landfill area and waste disposal capacity. These facilities are under the control of the Department of Public Works, Division of Solid Waste.

The County accepts and landfills approximately 150,000 tons of waste on an annual basis; the site's permitted daily intake is 850 tons/day. The majority of the waste accepted is mixed municipal solid waste which includes residential, institutional and commercial waste. Lesser amounts of industrial, sludges, C&D wastes and BUD materials are also accepted at the facility.

In 2009 the County entered into an agreement with Steuben Rural Electric Cooperative (SREC) to develop a LFG-E Facility at the landfill site. The County purchased the LFG-E Facility, along with the rights to the LFG, from SREC in 2019. The County also currently holds the Title V permit for the LFG-E Facility.

This request for proposals seeks proposals from experienced, successful landfill gas developers to purchase landfill gas (LFG) from the Steuben County (the County) landfill facilities noted above. Mature, innovative and emerging technologies will be considered provided the proposal thoroughly demonstrates the feasibility and proven success of the proposed technology and ability of the respondent to satisfactorily manage the project as proposed. Projects using the heat value of the gas, generating electricity, production of renewable natural gas (RNG), low carbon liquid fuels or combined heat and power and other projects will be considered.

A team of County officials, staff and a paid consultant will evaluate proposals received in response to this request. Criteria such as net revenue to Steuben County, environmental benefits, demonstrated experience, financial capability, technical ability, job creation and other factors as well as the economic, environmental and operational benefit of the project for Steuben County will be considered during the evaluation of proposals.

2. **Facility Description:**

The Bath landfill site consists of three separate landfills including a recyclables handling facility. The landfills include Old Bath Landfill (closed), C&D landfill (closed) and the active New Bath Landfill. The location of all infrastructure identified above is shown on enclosure entitled "2020 LFG AS-BUILT, April 2020".

- a) Old Bath Landfill: The Old Bath Landfill is a 28 acre unlined facility that was operational from 1978 to November 1988. The Old Bath Landfill accepted municipal and industrial waste. The Old Bath Landfill was determined to be an inactive hazardous waste site by the NYSDEC and consequently listed in the Registry of Inactive Hazardous Waste Disposal sites in New York as Site No. 851014 as a Class "2" site. Following a Remedial Investigation and Feasibility Study, a Record of Decision (ROD) was issued by the NYSDEC and the County completed the necessary remedial actions.

As part of remedial measures, Steuben County completed the design and construction of a leachate treatment plant (LTP) on the north side of Turnpike Road. The facility became operational in 1997 and treats leachate from the Old Bath Landfill, C & D landfill, New Bath Landfill, and the Lindley landfills. In addition, leachate from private landfill facilities is also treated at the LTP. Leachate is conveyed by gravity to the plant from the Old Bath Landfill, C & D landfill, and the New Bath Landfill. Leachate from the Lindley landfills and private landfills is hauled directly to the LTP. The pretreated leachate receives final treatment at the Bath Electric Gas & Water System's (BEGWS) wastewater treatment facility via direct pipeline. With successful completion of the remedial measures, the inactive Old Bath Landfill has been reclassified as a Class "4" Inactive Hazardous Waste Disposal site.

- b) C & D Landfill: A C & D landfill was constructed and operated in the late 1980's on the west side of the existing site access road southwest of the old Bath landfill. The C&D Landfill only accepted C&D debris until spring 1989 when it was closed in accordance with the regulations at the time. A leachate collection system was installed along the northern and eastern sides of the C&D Landfill as part of the Old Bath Landfill remedial activities. The leachate collection system conveys the leachate via gravity to the leachate collection system of the adjacent Old Bath Landfill for pre-treatment at the LTP.
- c) New Bath Landfill (active landfill): Prior to closure of the Old Bath Landfill in November, 1988, construction of a new lined disposal facility to the south of the Old Bath Landfill began in July, 1988. The new disposal area is known as the New Bath Landfill. The New Bath Landfill was constructed separate from the Old Bath Landfill and C&D Landfill, and is not contiguous. Construction of the initial New Bath Landfill took place in three phases, with the final phase being completed in December 1989. The total footprint area of the initial development

was approximately 23 acres. During construction of Phases II and III, waste placement commenced in Phase I (approximately 6.2 acres) located in the northwest corner of the landfill in November, 1988. The New Bath Landfill was constructed with a double liner system on the landfill floor and landfill containment berms.

The permitting of a 31-acre lateral expansion of the New Bath Landfill was completed in 2003. The 31-acre expansion consisted of four cells south of the initial New Bath Landfill development and has a planned useful life of approximately 26 years. Construction of the 7.7 acre Cell No. 1 and upgrades to the leachate collection system was completed in 2005. Cell No. 1 was constructed with a double composite liner system which was connected directly into the double liner system of the initial development to form a contiguous landfill. Development then progressed south with waste placement in Cell Nos. 2, 3, and 4 beginning in 2010, 2015, and 2019, respectively.

Final closure of the New Bath Landfill is an on-going operation by the County. Sections of eastern, western and northern side slopes were capped during the 2000 through 2004 construction seasons totaling approximately 12.4 acres.

- d) The landfills, including the landfill gas collection system, have been operated under a NYCRR Part 360 permit and Title V Air permit.
- e) In 2009 the County and SREC entered into an agreement for the construction and operation of a Landfill Gas to Energy Facility. In 2019, the County purchased the LFG-E Facility from SREC and holds the rights to all facilities, equipment and appurtenances except for the electrical interconnection to the grid which is owned and maintained by SREC. A complete list of the LFG-E Facility assets is detailed below in Section 4, Existing Landfill Gas Collection System.

3. **Planned Landfill Expansion:**

Future landfill developments beyond the current permitted footprint are planned on the existing County property which will provide the County with future capacity and useful life of the facility. The County is in the preliminary design and environmental review stages of an additional 71 acres of lined area, which will add to the facilities long term disposal capacity and LFG generation potential. The first phase to be permitted includes approximately 47 acres of double composite liner system and would add approximately 20 years of site life at the maximum permitted waste acceptance rate of 850 tons per day. The second stage would include approximately 24 acres of double composite liner system and add nine additional years of site life at the maximum permitted waste acceptance rate.

4. Existing Landfill Gas Collection System:

The active landfill gas (LFG) collection system in the Old Bath Landfill and New Bath Landfill was installed as part of the New Bath Landfill Cell No. 1 project in 2004 and 2005. The collection system consists of vertical landfill gas extraction wells, landfill gas conveyance piping, condensate collection and disposal piping, pneumatic dewatering system and the landfill gas flare station. Final system connections and system start up were completed in February 2005.

The LFG collection system of the inactive Old Bath Landfill consists of 12 deep vertical extraction wells installed in 2004. In addition to the deep wells, the existing 10 shallow gas trenches were fitted with wellheads and connected into the LFG collection system. The 23 remaining shallow gas vents installed with the initial landfill closure were capped off.

A total of 10 deep passive venting wells were installed in New Bath Landfill prior to 2004. In 2004, an additional 4 deep vertical wells were constructed to bring the total quantity of vertical extraction wells in the active New Bath Landfill to 14. As part of the active collection system construction, the 14 wells were fitted with wellheads and connected to the active system. Since then an additional 39 vertical wells have been installed, two of which are equipped with pneumatic dewatering systems, for a total of 53 wells. Additionally, there are 21 horizontal wells installed in the Cells 1 – 4 area of the active landfill as well as four primary leachate conveyance wells.

Each extraction well and trench is connected to a SDR 17 High Density Polyethylene (HDPE) landfill gas conveyance header through the use of PVC flexible hose. The conveyance headers convey the LFG to the flare station located west of the Old Bath Landfill where the gas is currently flared.

Five condensate traps/knockouts were installed in the landfill gas system to collect and dispose of condensate generated within the conveyance pipes. The first trap is located at the northeast corner of the Old Bath Landfill at the system low point. This trap discharges condensate into the existing leachate collection cleanout of the Old Bath Landfill. The second trap is located immediately east of flare building and drains to the condensate knockout at the southwest corner of Old Bath Landfill. A third collection knockout is located on the blower skid and drains the collected condensate back to the first trap. The fourth is located on the west slope of Cell 2 and drains into the leachate header via pneumatic pump. The fifth is located on the east slope of Cell 3 and drains the condensate via pneumatic pump into the Cell 3 primary collection pipe. All collected condensate is conveyed to the LTP for pre-treatment.

The landfill gas flare station includes a blower skid set on a concrete slab and an open candlestick utility flare. The blowers transfer the LFG to the flare where the gas is burned. Currently the blower skid accommodates two blowers (1,100 scfm each) for landfill gas extraction with space for a future third blower. Initial operation only requires

one blower to be active while the second blower is on standby. The third blower will be added to the system once landfill gas generation at the facility increases and two blower operation is necessary. The third blower will maintain redundancy for the system and allow routine maintenance to be performed without system shutdown. The open candlestick utility flare is designed to handle flows up to 2,200 scfm.

An enclosure is constructed around the LFG blower skid to protect the skid from the elements. The enclosure is a standard pole barn constructed with a roof and two sides. A security fence is installed around the perimeter of the blower skid and flare.

In 2009 the LFG-E Facility was constructed on the north-west corner of the landfill site. The facility is a 3.2MW generating plant fueled by landfill gas from the Steuben County Landfill until 2019. The currently inactive plant is a 4,500 sq. ft. building which is comprised of a gas skid room, engine room and engine control area. The generating plant includes two Caterpillar G3520C engine generator sets. Both engines have recently undergone an in-frame overhaul. Each engine has approximately 60,000 hours of run time, most of which have been at a reduced load. The generating plant engine room has been constructed to accommodate a third engine, should conditions permit the use of three engines.

6. LFG System Assessment and Planned Upgrades:

The LFG collection system currently provides all available LFG to the flare and the LFG-E facility is idle. LFG is collected primarily from the active New Bath Landfill. Gas quality and quantity from the Old Bath Landfill has been inconsistent while quality and quantity are more stable from the New Bath Landfill. The present condition is 47-50% methane, 0.5-0.8% oxygen and ~750-900 scfm. The enclosure titled "STEUBEN COUNTY BATH LANDFILL, LFG GENERATION & COLLECTION RATE MODELING RESULTS, 2020" illustrates the current gas trends to date.

7. Availability of Landfill Gas:

Respondents should consider estimates of gas quality and quantity as estimates only; they are not a guarantee. Additional detailed information on the existing LFG collection system are available for review at the pre-proposal conference.

8. Operation of the LFG Collection System:

The County maintains and operates the LFG collection system in order to retain control over safety, environmental control, permit compliance and operations. The County Division of Solid Waste desires to maintain control this area of operation but will consider and cooperate with safe, reasonable measures and best management practices to provide optimum gas flows. Any necessary modifications to site LFG management and operational procedures should be clearly stated in proposals.

9. Leachate and Condensate Disposal:

All leachate and condensate currently generated on-site is collected and conveyed to the LTP for pre-treatment. The County will continue to provide this service for leachate/condensate collected by the LFG utilization project at the point of delivery unless it is determined to negatively affect the LTP operations.

10. Real Estate Resources:

The County has adequate real estate on-site to provide ample space for contractor storage, re-locatable, temporary or permanent project related buildings, The Division of Solid Waste will provide reasonable access to the site for operations and maintenance of any installed equipment.

11. Utilities:

There is a natural gas supply line to the LTP but not the landfill property. The pipeline is a 2-1/2" pipeline operated at 70 to 75 psi and is owned by Bath Electric Gas & Water System. A natural gas transmission pipeline is located within 5 miles of the facility. The landfill support facilities are served by ground water wells with low yield and marginal potability.

12. Opportunity for Waste Heat Utilization:

Opportunities for use of waste heat may present themselves, especially if LFG-E power generation is the proposed project technology. The County would entertain proposals that provide for use of project waste heat and a detailed description shall be incorporated in the proposal.

13. Electricity Supply and Interconnection:

The site's domestic power is served by three phase electric power delivered by NYSEG. The SREC owns, maintains & operates a 34.5kv transmission line that distributes generated power to the Selleck Road sub-station where it interconnects to the NYSEG's transmission line. The full capacity of the NYSEG interconnect is 5.2MW.

14. Permits:

The landfill site has an NYCRR Part 360 permit and a Title V Air Permit. The County also holds a separate Title V Air Permit for the inactive LFG-E Facility which is anticipated to be transferred to the developer. The developer will be responsible for obtaining, transferring, etc. the Title V Air Permit for the proposed LFG utilization technology. The County will make any information necessary for these permit applications available to the developer, however the developer must bear the cost of preparing the applications and providing the required design and engineering plans to be submitted by the County.

15. Professional Standards and Insurance:

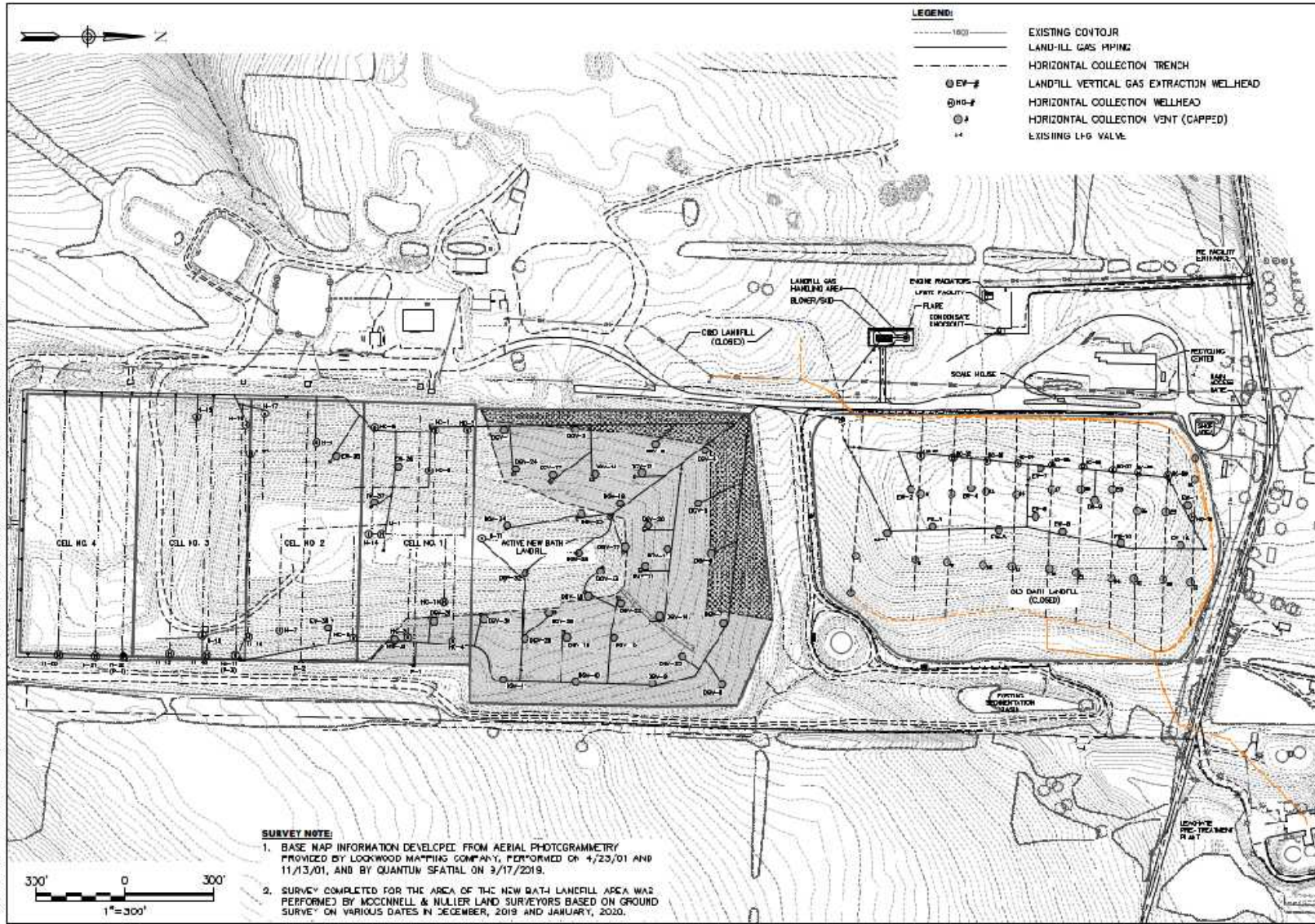
At a later date successful respondents will be required to meet all applicable local, state and federal requirements regarding procurement, employment and professional

standards including the provision of equal employment or subcontracting opportunities for small, minority and women owned businesses. Design, engineering, inspections and other work must be performed by individuals properly licensed in the State of New York.

16. Environmental Attributes:

The County maintains title to all the Project's current environmental attributes, including but not limited to, the carbon offset credits. The County is currently under contract through the end of 2022 for the sale of their carbon offset credits.

1: 268.025.020 - Project Plan 1 - Survey by Project Number [26] Item [2] Folder\300\268.025.020\01\268.025.020_3000_LFG_AE-Built.dwg
 2: 268.025.020 - Project Plan 1 - Survey by Project Number [26] Item [2] Folder\300\268.025.020\01\268.025.020_3000_LFG_AE-Built.dwg



SURVEY NOTE:

1. BASE MAP INFORMATION DEVELOPED FROM AERIAL PHOTOGAMMETRY PROVIDED BY LOCKWOOD MAPPING COMPANY, PERFORMED ON 4/23/01 AND 11/13/01, AND BY QUANTUM SPATIAL ON 3/17/2019.
2. SURVEY COMPLETED FOR THE AREA OF THE NEW BATH LANDFILL AREA WAS PERFORMED BY MCCONNELL & NOLLER LAND SURVEYORS BASED ON GROUND SURVEY ON VARIOUS DATES IN DECEMBER, 2019 AND JANUARY, 2020.

Barton & Loguidice	
STEUBEN COUNTY DEPARTMENT OF PUBLIC WORKS STEUBEN COUNTY LANDFILL	2020 LFG AS-BUILT
TOWN OF BATH	STEUBEN COUNTY, NEW YORK
Date	APRIL, 2020
Scale	1" = 300'
Figure Number	1
Project Number	268.025.020

Request for Proposal
Landfill Gas Utilization Project
Document #GC-20-017-P

FILE DAY, DATE & TIME: Friday, September 18, 2020; 1:30 P.M. local
time Submission may be mailed or hand
delivered.

SUBMIT TO: Andrew G. Morse, Director of Purchasing
Steuben County Purchasing Department
3 East Pulteney Square
Bath, New York 14810

The undersigned, having an integral understanding of the objective, terms and
conditions, specifications and contractor’s responsibility as stated in these documents,
does hereby submit a quote for the provision of services as stated below and pursuant
to the Request for Proposal.

PLEASE PRINT OR TYPE:	
Company Name:	Federal Employer ID:
Company Address:	
Name:	Title:
Signature:	Date:
Telephone Number:	Fax Number:
E-mail Address:	

NON-COLLUSIVE CERTIFICATE

By submission of this proposal, each contractor and each person signing on behalf of any contractor certifies, and in the case of a joint proposal, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

- 1. The prices in this proposal have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other contractor or with any competitor;
- 2. Unless otherwise required by law, the prices which have been proposed in this proposal have not been knowingly disclosed by the contractor and will not knowingly be disclosed by the contractor prior to opening, directly or in-directly, to any other contractor or to any competitor; and
- 3. No attempt has been made or will be made by the contractor to induce any other person, partnership or corporation to submit or not to submit a proposal for the purpose or restricting competition.

NAME: _____

ADDRESS: _____

SIGNED BY: _____ TITLE: _____

NAME PRINTED/TYPED: _____

TELEPHONE NUMBER: _____ DATE: _____

PROPOSAL TITLE: _____

HOLD HARMLESS CLAUSE

As a successful contractor, I shall hold harmless the County of Steuben and representatives thereof from all suits, actions or claims of any kind brought on account of any injuries or damages sustained by any person or property in consequence of any neglect in safe-guarding contract work or on account of any act or omission by the contractor or his employees, or from any claims or amounts arising or recovered under any law, ordinance, regulation or decree.

NAME OF COMPANY: _____

SIGNED: _____

NAME (printed or typed): _____

TITLE: _____ DATE: _____

PROPOSAL TITLE: _____

CERTIFICATE OF NYS WORKER'S COMPENSATION INSURANCE COVERAGE

<p>1a. Legal Name and Address of Insured (Use street address only)</p> <p>Work Location of Insured (Only required if coverage is specifically limited to certain locations in New York State, i.e. a Wrap-Up Policy)</p>	<p>1 b . Business Telephone Number of Insured</p> <p>1 c . NYS Unemployment Insurance Employer Registration Number of Insured</p> <p>1 d . Federal Employer Identification Number of Insured or Social Security Number</p>
<p>2. Name and Address of the Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder)</p>	<p>3 a . Name of Insurance Carrier</p> <p>3 b . Policy Number of entity listed in box "1a":</p> <p>3 c . Policy effective period: to</p> <p>3 d . The Proprietor, Partners or Executive Officers are: included. (Only check box if all partners/officers included) all excluded or certain partners/officers excluded.</p>

This certifies that the insurance carrier indicated above in box "3" insures the business referenced above in box "1a" for workers' compensation under the New York State Workers' Compensation Law. (To use this form, New York (NY) must be listed under Item 3A on the INFORMATION PAGE of the workers' compensation insurance policy.) The Insurance Carrier or its licensed agent will send this Certificate of Insurance to the entity listed above as the certificate holder in box "2".

*The Insurance Carrier will also notify the above certificate holder within 10 days IF a policy is canceled due to nonpayment of premiums or within 30 days IF there are reasons other than nonpayment of premiums that cancel the policy or eliminate the insured from the coverage indicated on this Certificate. (These notices may be sent by regular mail.) **Otherwise, this Certificate is valid for one year after this form is approved by the insurance carrier or its licensed agent or until the policy expiration date listed in box "3c", whichever is earlier.***

Please Note: Upon the cancellation of the workers' compensation policy indicated on this form, if the business continues to be named on a permit, license or contract issued by a certificate holder, the business must provide that certificate holder with a new Certificate of Workers' Compensation Coverage or other authorized proof that the business is complying with the mandatory coverage requirements of the New York State Workers' Compensation Law.

Under penalty of perjury, I certify that I am an authorized representative or licensed agent of the insurance carrier referenced above and that the named insured has the coverage as depicted on this form.

Approved by: _____
(Print name of authorized representative or licensed agent of insurance carrier)

Approved by: _____
(Signature) (Date)

Title: _____

Telephone Number of authorized representative or licensed agent of insurance carrier: _____

Please note: Only insurance carriers and their licensed agents are authorized to issue the C-105.2 form. Insurance brokers are NOT authorized to issue it.

Appendix A

STEUBEN COUNTY STANDARD INSURANCE REQUIREMENTS

Prior to commencement of work, delivery of services, acquisition of merchandise or equipment a Certificate of Insurance and a policy endorsement covering items A, B & C must be delivered to the County Department responsible for the agreement, and to the County Risk Manager. A Certificate of insurance may be used to show coverage only.

ITEMS:

- A. Steuben County, 3 East Pulteney Square, Bath, N.Y., 14810 shall be named as an additional insured (for the purposes of coverage but not the payment of premium).
- B. **ACKNOWLEDGEMENT:** The insurance companies providing coverage acknowledge that the named insured is entering into a contract with Steuben County in which the named insured agrees to defend, hold harmless, and indemnify the County, its officials, employees and agents against all claims resulting from work performed, material handled and services rendered. The contractual liability coverage evidenced will cover the liability assumed under the County-Contractor agreement.
- C. Prior to non-renewal, cancellation or a change of coverage on this policy, at least thirty (30) days advance written notice shall be given to Steuben County Risk Manager at Steuben County Offices, 3 Pulteney Square East, Bath, N.Y. 14810

Workers' Compensation Coverage will be required for anyone doing any kind of work for Steuben County. This includes self-employed individuals.
The Steuben County Risk Manager may waive this requirement. Proof of Workers' Compensation Coverage must be submitted on NYS Workers' Compensation Board Approved Forms.

MINIMUM COVERAGES AND LIMITS ARE

TYPE OF CONTRACT	COVERAGES REQUIRED	LIMITS REQUIRED
PROFESSIONAL SERVICES	PROFESSIONAL LIABILITY	MINIMUM \$1,000,000
	AUTO LIABILITY TO INCLUDE: OWNED, HIRED & NON OWNED	MINIMUM \$1,000,000
	WORKERS COMPENSATION	STATUTORY
	EMPLOYERS LIABILITY	STATUTORY
	DISABILITY BENEFITS	STATUTORY
CONSTRUCTION & MAINTENANCE	COMPREHENSIVE GENERAL LIABILITY TO INCLUDE: PREMISES & OPERATIONS, PRODUCTS & COMPLETED OPERATIONS, INDEPENDENT CONTRACTOR, CONTRACTUAL, BROAD FORM PROPERTY DAMAGE, (XCU HAZARDS)	MINIMUM \$1,000,000
	AUTO LIABILITY TO INCLUDE: OWNED, HIRED, & NON OWNED	MINIMUM \$1,000,000
	WORKERS' COMPENSATION	STATUTORY
	EMPLOYERS LIABILITY	STATUTORY
	DISABILITY BENEFITS	STATUTORY
ACQUISITION OF SUPPLIES OR EQUIPMENT	COMPREHENSIVE GENERAL LIABILITY TO INCLUDE: PRODUCTS & COMPLETED OPERATIONS, CONTRACTUAL, BROAD FORM PROPERTY	MINIMUM \$1,000,000
	WORKERS' COMPENSATION	STATUTORY
	EMPLOYERS LIABILITY	STATUTORY
	DISABILITY BENEFITS	STATUTORY
COUNTY PROPERTY USED BY OTHERS	COMPREHENSIVE GENERAL LIABILITY TO INCLUDE: PREMISES & OPERATIONS, PRODUCTS & COMPLETED OPERATIONS, INDEPENDENT CONTRACTOR, CONTRACTUAL, PERSONAL INJURY, LIQUOR LEGAL LIABILITY	MINIMUM \$1,000,000
	AUTO LIABILITY TO INCLUDE: OWNED, HIRED, & NON OWNED	MINIMUM \$1,000,000
	WORKERS' COMPENSATION	STATUTORY
	EMPLOYERS LIABILITY	STATUTORY
	DISABILITY BENEFITS	STATUTORY
	UMBRELLA LIABILITY	MINIMUM \$5,000,000
CONCESSIONAIRE SERVICES LIVERY SERVICES MUNICIPAL AGREEMENTS	COMPREHENSIVE GENERAL LIABILITY TO INCLUDE: PREMISES & OPERATIONS, PRODUCTS & COMPLETED OPERATIONS, INDEPENDENT CONTRACTOR, CONTRACTUAL, PERSONAL INJURY, LIQUOR	MINIMUM \$1,000,000
	AUTO LIABILITY TO INCLUDE: OWNED, HIRED, & NON OWNED	MINIMUM \$1,000,000
	WORKERS' COMPENSATION	STATUTORY
	EMPLOYERS LIABILITY	STATUTORY
	DISABILITY BENEFITS	STATUTORY

Bid specifications, particular contracts, leases or agreements may require increased limits and/or additional coverage. If there are questions please contact the Steuben County Risk Manager 607-664-2104

Steuben County Bath Landfill
LFG Generation Estimates - April 2020

Table 1
Waste Placement Rates

Year	Total Waste (tons)	Putrescible Waste Categories (tons)
1978	75,000	30,750
1979	75,000	30,750
1980	75,000	30,750
1981	75,000	30,750
1982	75,000	30,750
1983	75,000	30,750
1984	75,000	30,750
1985	75,000	30,750
1986	75,000	30,750
1987	75,000	30,750
1988	75,000	43,383
1989	63,000	43,383
1990	62,000	43,383
1991	63,000	43,383
1992	69,000	43,372
1993	70,000	43,394
1994	56,000	42,494
1995	53,000	42,772
1996	69,000	43,757
1997	66,500	44,599
1998	64,000	48,194
1999	64,000	46,006
2000	81,000	63,939
2001	77,439	59,947
2002	80,835	61,244
2003	93,141	63,631
2004	100,636	63,463
2005	102,734	67,547
2006	107,078	70,543
2007	119,828	71,800
2008	104,179	65,932
2009	93,875	61,685
2010	100,076	59,144
2011	106,227	62,151
2012	97,064	53,235
2013	104,435	68,821
2014	109,061	74,116
2015	100,124	65,901

2016	102,757	78,610
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Steuben County Bath Landfill
LFG Generation Estimates - April 2020

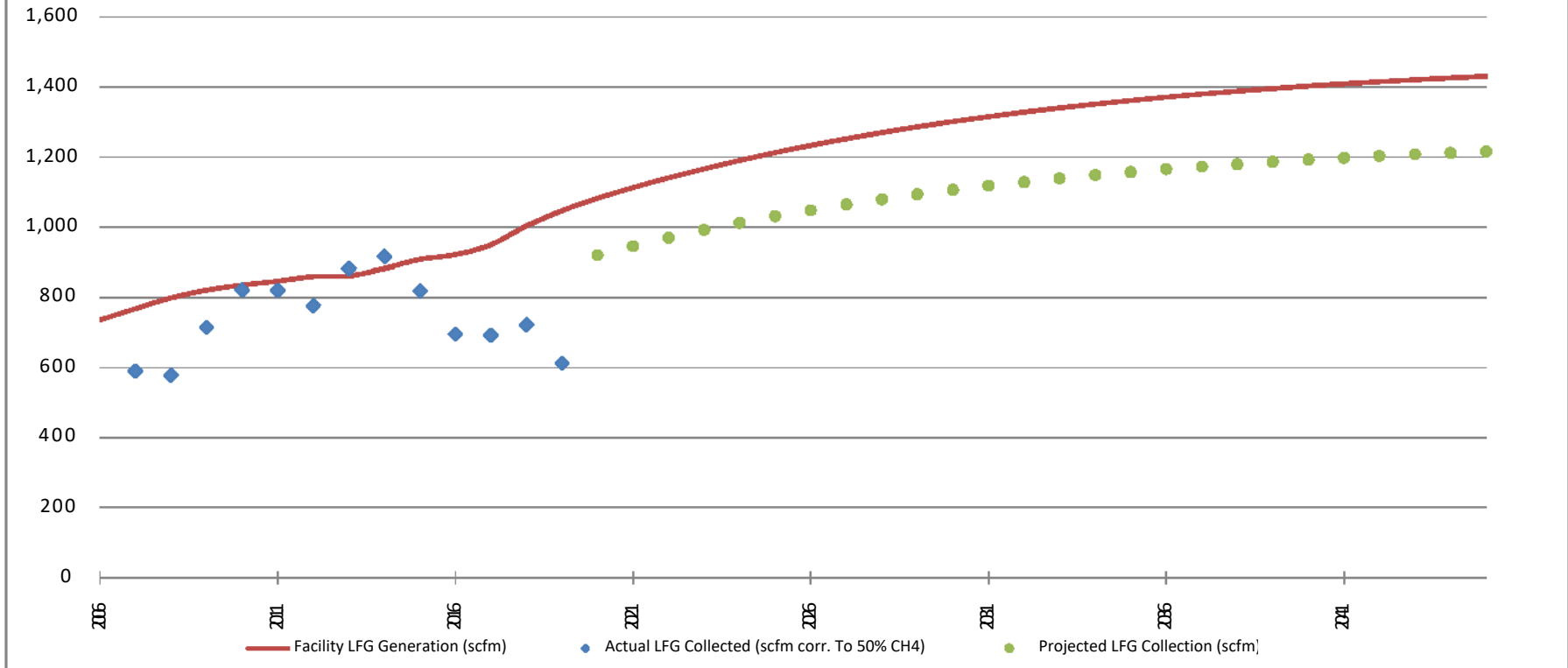
Table 1
Waste Placement Rates

2017	144,868	101,039
2018	149,049	96,124
2019	158,705	92,104
2020	150,000	90,000
2021	150,000	90,000
2022	150,000	90,000
2023	150,000	90,000
2024	150,000	90,000
2025	150,000	90,000
2026	150,000	90,000
2027	150,000	90,000
2028	150,000	90,000
2029	150,000	90,000
2030	150,000	90,000
2031	150,000	90,000
2032	150,000	90,000
2033	150,000	90,000
2034	150,000	90,000
2035	150,000	90,000
2036	150,000	90,000
2037	150,000	90,000
2038	150,000	90,000
2039	150,000	90,000
2040	150,000	90,000
2041	150,000	90,000
2042	150,000	90,000
2043	150,000	90,000
2044	150,000	90,000
2045	150,000	90,000

Notes:

1. Tonnages provided by Steuben County
2. Putrescible waste categories include MSW waste, sewage sludge, and 25% of total construction and demolition (C&D) debris. 2. 1978 - 1987 waste landfilled in Old Bath Landfill (Closed)
3. Waste landfilled in New Bath Landfill (active) starting in 1988
4. 2020 to 2045 total waste projections estimated to be 150,000 TPY
5. 2020 to 2045 putrescible waste projected to account for 60% of total waste

Steuben County Bath Landfill
LFG Generation & Collection Rate Modeling Results
 April 2020
 85% Projected Collection Efficiency



Notes:

1. LFG generation rates estimated using USEPA's landfill gas generation model LandGEM, Ver. 3.02. All LFG flow rates are at 50% methane (CH4).
2. Actual putrescible waste placement estimates utilized in the models through 2019. Annual waste projection from 2020-2045 based on projected putrescible waste estimates, see Table 1.
3. Modeled LFG generation includes site specific methane generation potential ($Lo = 135 \text{ m}^3/\text{Mg}$) and methane generation rate ($k = 0.077 \text{ yr}^{-1}$). Site specific model based on actual metered LFG collection (provided by Steuben County and LFGTE operator) and similar landfill gas generation models at other NY landfills.
4. Projected LFG Collection estimates are based on an 85% collection efficiency. LFG collection efficiencies assume that an active gas collection and control system is maintained in closed sections of the landfill and is continuously expanded for active sections of the landfill. Collection efficiencies of 95% can be obtained upon final capping.
5. LFG modeling is dependent upon numerous variables including variations in the waste stream, precipitation and landfill operations including leachate recirculation, and should be reassessed as changes occur.

Steuben County Bath Landfill
LFG Generation Estimates - April 2020

Table 2
2020-2045 LFG Collection Projection Summary

Year	Projected LFG Generation (cfm)	LFG Collected - assuming 85% CE (cfm)	LFG Collected (MMscf)
2020	1,082	920	483.4
2021	1,112	945	496.9
2022	1,140	969	509.4
2023	1,166	991	521.0
2024	1,190	1,012	531.7
2025	1,212	1,031	541.6
2026	1,233	1,048	550.8
2027	1,252	1,064	559.4
2028	1,270	1,079	567.2
2029	1,286	1,093	574.5
2030	1,301	1,106	581.3
2031	1,315	1,118	587.5
2032	1,328	1,129	593.3
2033	1,340	1,139	598.7
2034	1,351	1,149	603.7
2035	1,361	1,157	608.2
2036	1,371	1,165	612.5
2037	1,380	1,173	616.4
2038	1,388	1,180	620.1
2039	1,396	1,186	623.5
2040	1,403	1,192	626.6
2041	1,409	1,198	629.5
2042	1,415	1,203	632.2
2043	1,421	1,207	634.7
2044	1,426	1,212	637.0
2045	1,430	1,216	639.1

Average: 1,111

Total: 15,180.3

Notes:

1. See LFG Generation & Collection Rate Modeling Results Graph and Table 1 for further details on LFG modeling.
2. Collected LFG = Projected x 85%
3. Volume Collected in million standard cubic feet = Collected (cfm) x 60 min/hr x 8760 hr/yr / 1,000,000 scf/MMscf

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Barton & Loguidice, PC
Client Sample ID: LFG-002
Client Project ID: Steuben County LFG Sampling / 268.025.019

ALS Project ID: P1902552
 ALS Sample ID: P1902552-002

Test Code: EPA TO-3 Modified
 Instrument ID: HP5890 II/GC8/FID
 Analyst: Gilbert Gutierrez
 Sampling Media: 6.0 L Silonite Canister
 Test Notes:
 Container ID: SSC00407

Date Collected: 5/2/19
 Date Received: 5/3/19
 Date Analyzed: 5/9/19
 Volume(s) Analyzed: 0.10 ml(s)

Container Dilution Factor: 5.42

Compound	Result ppmV	MRL ppmV	Data Qualifier
C ₂ as Ethane	ND	27	
C ₃ as Propane	32	27	
C ₄ as n-Butane	ND	27	
C ₅ as n-Pentane	ND	27	
C ₆ as n-Hexane	ND	27	
C ₆₊ as n-Hexane	150	54	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Barton & Loguidice, PC
Client Sample ID: LFG-002
Client Project ID: Steuben County LFG Sampling / 268.025.019

ALS Project ID: P1902552
 ALS Sample ID: P1902552-002

Test Code: EPA Method 3C Modified
 Instrument ID: HP5890 II/GC1/TCD
 Analyst: Gilbert Gutierrez
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: SSC00407

Date Collected: 5/2/19
 Date Received: 5/3/19
 Date Analyzed: 5/9/19
 Volume(s) Analyzed: 0.10 ml(s)

Container Dilution Factor: 5.42

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
7782-44-7	Oxygen*	0.797	0.54	
7727-37-9	Nitrogen	18.8	0.54	
630-08-0	Carbon Monoxide	ND	0.54	
74-82-8	Methane	47.2	0.54	
124-38-9	Carbon Dioxide	33.3	0.54	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method. * = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Barton & Loguidice, PC
Client Sample ID: LFG-002
Client Project ID: Steuben County LFG Sampling / 268.025.019

ALS Project ID: P1902552
 ALS Sample ID: P1902552-004

Test Code: GC/MS
Instrument ID: Tekmar AUTOCAN/HP5972/HP5890 II+/MS2
Analyst: Ralph Torres
Sample Type: Siloxane Tube
Test Notes: BC, DE

Date Collected: 5/2/19
Date Received: 5/3/19
Date Analyzed: 5/8/19
Desorption Volume: 3.0 ml
Volume Sampled: 6 Liter(s)

CAS #	Compound	Result µg/Tube	Result µg/m ³	MRL µg/m ³	Result as Silicon µg/m ³	MRL µg/m ³	Data Qualifier
1066-40-6	Trimethylsilanol	37	6,200	53	1,900	16	
107-46-0	Hexamethyldisiloxane (L ₂)	22	3,700	45	1,300	16	
541-05-9	Hexamethylcyclotrisiloxane (D ₃)	0.69	110	46	43	18	
107-51-7	Octamethyltrisiloxane (L ₃)	0.78	130	45	46	16	
556-67-2	Octamethylcyclotetrasiloxane (D ₄)	1.6	270	46	100	17	
141-62-8	Decamethyltetrasiloxane (L ₄)	< 0.27	ND	45	ND	16	
541-02-6	Decamethylcyclopentasiloxane (D ₅)	0.38	63	46	24	17	
141-63-9	Dodecamethylpentasiloxane (L ₅)	< 0.27	ND	45	ND	16	
540-97-6	Dodecamethylcyclohexasiloxane (D ₆)	< 0.27	ND	45	ND	17	
Total Silicon					3,400		

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

BC = Results reported are not blank corrected.

DE = Results reported are corrected for desorption efficiency.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Barton & Loguidice, PC
Client Sample ID: LFG-002
Client Project ID: Steuben County LFG Sampling / 268.025.019

ALS Project ID: P1902552
 ALS Sample ID: P1902552-002

Test Code: ASTM D 5504-12
 Instrument ID: Agilent 6890A/GC13/SCD
 Analyst: Wade Henton
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: SSC00407

Date Collected: 5/2/19
 Time Collected: 12:55
 Date Received: 5/3/19
 Date Analyzed: 5/9/19
 Time Analyzed: 11:43
 Volume(s) Analyzed: 0.050 ml(s)

Container Dilution Factor: 5.42

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Res ppbV	MRL ppbV	Da Quir
7783-06-4	Hydrogen Sulfide	1,800,000	760	1,300,000	540	
463-58-1	Carbonyl Sulfide	1,800	1,300	730	540	
74-93-1	Methyl Mercaptan	3,300	1,100	1,700	540	
75-08-1	Ethyl Mercaptan	ND	1,400	ND	540	
75-18-3	Dimethyl Sulfide	1,700	1,400	670	540	
75-15-0	Carbon Disulfide	ND	840	ND	270	
75-33-2	Isopropyl Mercaptan	27,000	1,700	8,700	540	
75-66-1	tert-Butyl Mercaptan	ND	2,000	ND	540	
107-03-9	n-Propyl Mercaptan	ND	1,700	ND	540	
624-89-5	Ethyl Methyl Sulfide	ND	1,700	ND	540	
110-02-1	Thiophene	23,000	1,900	6,700	540	
513-44-0	Isobutyl Mercaptan	2,100	2,000	580	540	
352-93-2	Diethyl Sulfide	ND	2,000	ND	540	
109-79-5	n-Butyl Mercaptan	ND	2,000	ND	540	
624-92-0	Dimethyl Disulfide	ND	1,000	ND	270	
616-44-4	3-Methylthiophene	ND	2,200	ND	540	
110-01-0	Tetrahydrothiophene	ND	2,000	ND	540	
638-02-8	2,5-Dimethylthiophene	ND	2,500	ND	540	
872-55-9	2-Ethylthiophene	ND	2,500	ND	540	
110-81-6	Diethyl Disulfide	ND	1,400	ND	270	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: Barton & Loguidice, PC

Client Sample ID: LFG-002

Client Project ID: Steuben County LFG Sampling / 268.025.019

ALS Project ID: P1902552

ALS Sample ID: P1902552-002

Test Code: EPA TO-15 Modified
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Wida Ang
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: SSC00407

Date Collected: 5/2/19
 Date Received: 5/3/19
 Date Analyzed: 5/21/19
 Volume(s) Analyzed: 0.0276 Liter(s)

Container Dilution Factor: 5.42

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	10,000	100	5,900	59	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	100	ND	21	
74-87-3	Chloromethane	ND	98	ND	48	
76-14-2	tetrafluoroethane (CFC 114)	230	100	32	14	
75-01-4	Vinyl Chloride	1,200	100	470	41	
106-99-0	1,3-Butadiene	ND	100	ND	46	
74-83-9	Bromomethane	ND	98	ND	25	
75-00-3	Chloroethane	360	100	140	38	
64-17-5	Ethanol	2,800	1,000	1,500	530	
75-05-8	Acetonitrile	120	100	74	61	
107-02-8	Acrolein	ND	200	ND	86	
67-64-1	Acetone	6,900	1,100	2,900	450	
75-69-4	Trichlorofluoromethane (CFC 11)	250	100	44	19	
67-63-0	2-Propanol (Isopropyl Alcohol)	2,200	410	890	170	
107-13-1	Acrylonitrile	140	100	64	47	
75-35-4	1,1-Dichloroethene	ND	110	ND	27	
75-09-2	Methylene Chloride	1,500	110	420	31	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	100	ND	33	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	100	ND	14	
75-15-0	Carbon Disulfide	580	220	190	69	
156-60-5	trans-1,2-Dichloroethene	ND	100	ND	26	
75-34-3	1,1-Dichloroethane	320	100	78	25	
1634-04-4	Methyl tert-Butyl Ether	ND	110	ND	29	
108-05-4	Vinyl Acetate	ND	1,000	ND	300	
78-93-3	2-Butanone (MEK)	8,800	200	3,000	67	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Barton & Loguidice, PC
Client Sample ID: LFG-002
Client Project ID: Steuben County LFG Sampling / 268.025.019

ALS Project ID: P1902552
 ALS Sample ID: P1902552-002

Test Code: EPA TO-15 Modified
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Wida Ang
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: SSC00407

Date Collected: 5/2/19
 Date Received: 5/3/19
 Date Analyzed: 5/21/19
 Volume(s) Analyzed: 0.0276 Liter(s)

Container Dilution Factor: 5.42

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	1,300	100	330	26	
141-78-6	Ethyl Acetate	730	220	200	60	
110-54-3	n-Hexane	3,200	110	910	30	
67-66-3	Chloroform	ND	110	ND	22	
109-99-9	Tetrahydrofuran (THF)	3,300	100	1,100	35	
107-06-2	1,2-Dichloroethane	420	100	100	26	
71-55-6	1,1,1-Trichloroethane	ND	110	ND	19	
71-43-2	Benzene	2,400	100	740	32	
56-23-5	Carbon Tetrachloride	ND	100	ND	16	
110-82-7	Cyclohexane	2,000	200	590	57	
78-87-5	1,2-Dichloropropane	ND	110	ND	23	
75-27-4	Bromodichloromethane	ND	100	ND	16	
79-01-6	Trichloroethene	1,100	100	210	19	
123-91-1	1,4-Dioxane	ND	100	ND	29	
80-62-6	Methyl Methacrylate	ND	220	ND	53	
142-82-5	n-Heptane	5,000	110	1,200	26	
10061-01-5	cis-1,3-Dichloropropene	ND	110	ND	24	
108-10-1	4-Methyl-2-pentanone	970	100	240	25	
10061-02-6	trans-1,3-Dichloropropene	ND	100	ND	23	
79-00-5	1,1,2-Trichloroethane	ND	110	ND	19	
108-88-3	Toluene	17,000	100	4,500	28	
591-78-6	2-Hexanone	ND	110	ND	26	
124-48-1	Dibromochloromethane	ND	110	ND	12	
106-93-4	1,2-Dibromoethane	ND	110	ND	14	
123-86-4	n-Butyl Acetate	ND	110	ND	22	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: Barton & Loguidice, PC
Client Sample ID: LFG-002
Client Project ID: Steuben County LFG Sampling / 268.025.019

ALS Project ID: P1902552
 ALS Sample ID: P1902552-002

Test Code: EPA TO-15 Modified
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
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 Sample Type: 6.0 L Silonite Canister
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 Volume(s) Analyzed: 0.0276 Liter(s)

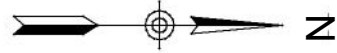
Container Dilution Factor: 5.42

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	2,900	110	610	23	
127-18-4	Tetrachloroethene	820	100	120	15	
108-90-7	Chlorobenzene	ND	100	ND	23	
100-41-4	Ethylbenzene	5,800	100	1,300	24	
179601-23-1	m,p-Xylenes	8,700	220	2,000	50	
75-25-2	Bromoform	ND	100	ND	10	
100-42-5	Styrene	360	100	85	24	
95-47-6	o-Xylene	2,600	100	590	24	
111-84-2	n-Nonane	3,500	110	670	20	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	ND	15	
98-82-8	Cumene	360	100	73	21	
80-56-8	alpha-Pinene	1,100	100	190	18	
103-65-1	n-Propylbenzene	270	110	55	22	
622-96-8	4-Ethyltoluene	360	100	72	21	
108-67-8	1,3,5-Trimethylbenzene	360	100	74	21	
95-63-6	1,2,4-Trimethylbenzene	690	100	140	21	
100-44-7	Benzyl Chloride	ND	220	ND	42	
541-73-1	1,3-Dichlorobenzene	ND	110	ND	18	
106-46-7	1,4-Dichlorobenzene	110	110	19	18	
95-50-1	1,2-Dichlorobenzene	ND	110	ND	18	
5989-27-5	d-Limonene	2,600	100	460	18	
96-12-8	1,2-Dibromo-3-chloropropane	ND	100	ND	11	
120-82-1	1,2,4-Trichlorobenzene	ND	100	ND	14	
91-20-3	Naphthalene	130	100	25	19	
87-68-3	Hexachlorobutadiene	ND	100	ND	9.8	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

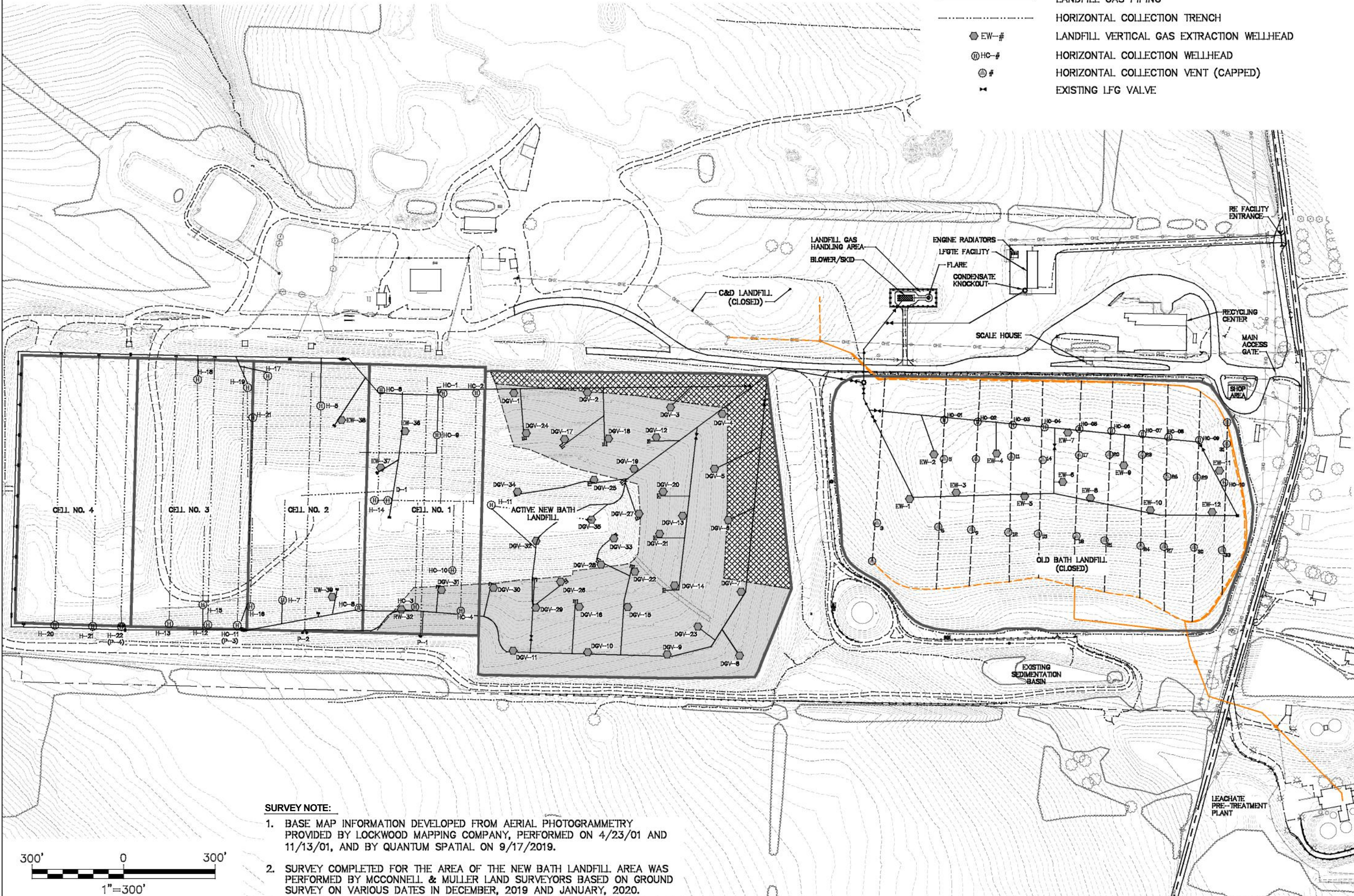
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Plotted: Apr 24, 2020 - 10:50AM SYR By: bkp
 Z:\BL-Vault\1 - Project Files\1 - Sorted by Project Number\200\268.025.020\CAD\268.025.020_2020 LFG As-Built.dwg



LEGEND:

- 1600----- EXISTING CONTOUR
- LANDFILL GAS PIPING
- HORIZONTAL COLLECTION TRENCH
- ⊕EW-# LANDFILL VERTICAL GAS EXTRACTION WELLHEAD
- ⊕HC-# HORIZONTAL COLLECTION WELLHEAD
- ⊙# HORIZONTAL COLLECTION VENT (CAPPED)
- ⋈ EXISTING LFG VALVE



SURVEY NOTE:

1. BASE MAP INFORMATION DEVELOPED FROM AERIAL PHOTOGRAMMETRY PROVIDED BY LOCKWOOD MAPPING COMPANY, PERFORMED ON 4/23/01 AND 11/13/01, AND BY QUANTUM SPATIAL ON 9/17/2019.
2. SURVEY COMPLETED FOR THE AREA OF THE NEW BATH LANDFILL AREA WAS PERFORMED BY MCCONNELL & MULLER LAND SURVEYORS BASED ON GROUND SURVEY ON VARIOUS DATES IN DECEMBER, 2019 AND JANUARY, 2020.

STEUBEN COUNTY DEPARTMENT OF PUBLIC WORKS
 STEUBEN COUNTY LANDFILL

2020 LFG AS-BUILT

TOWN OF BATH

STEUBEN COUNTY, NEW YORK

Barton & Loguidice

Date
 APRIL, 2020

Scale
 1" = 300'

Figure Number
 1

Project Number
 268.025.020