

**UNITED STATES DISTRICT COURT
MIDDLE DISTRICT OF TENNESSEE
NASHVILLE DIVISION**

CITY OF MURFREESBORO, TENNESSEE,	)	
	)	
Plaintiff,	)	Case No. 3:22-cv-00605
	)	Judge Richardson
v.	)	Magistrate Judge Newbern
	)	
BFI WASTE SYSTEMS OF TENNESSEE,	)	
LLC, REPUBLIC SERVICES OF TENNESSEE,	)	
LLC, and REPUBLIC SERVICES, INC.	)	
	)	
Defendants.		

SETTLEMENT AGREEMENT AND RELEASE

This Settlement Agreement and Release (the “Agreement”) is entered into as of _____, 2025, by and between Plaintiff City of Murfreesboro, Tennessee (“Plaintiff” or “City”) and Defendants BFI Waste Systems of Tennessee, LLC (“BFI”), Republic Services of Tennessee, LLC, and Republic Services, Inc. (collectively, “Defendants”). Plaintiff and Defendants shall sometimes herein collectively be referred to as the “Parties” or individually as a “Party.”

WHEREAS, Plaintiff initiated the Action by filing a complaint against Defendants on August 10, 2022, seeking declaratory and injunctive relief pursuant to the Clean Water Act, Clean Air Act, state law, and breach of contract regarding alleged release of perfluoroalkyl and polyfluoroalkyl substances (“PFAS”) and odor and air emissions from the Middle Point Landfill in Murfreesboro, Tennessee, allegedly resulting in contamination of groundwater, sediments, surface waters, the Stones River and its tributaries, and public drinking water supplies that utilize water from the Stones River.

WHEREAS, there have been odor complaints from neighbors near the Middle Point Landfill, which the Plaintiff’s consultants attribute to inadequate gas controls at the landfill;

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Plaintiff's consultants have attributed PFAS in discharges into the East Fork Stone's River upstream of the drinking water intakes for the City's residents to Middle Point Landfill; and landfill leachate sent to the City's Water Resource Recovery Facility ("WRRF") contains PFAS.

WHEREAS, Defendants' consultants have attributed the release of hazardous substances, including PFAS, into the environment to Plaintiff, including releases resulting in contamination of groundwater, sediments, surface waters, the Stones River and its tributaries, and public drinking water supplies that utilize water from the Stones River.

WHEREAS, Defendants deny any wrongdoing or liability, and specifically deny and dispute the scientific, factual, legal, and other bases asserted in support of Plaintiff's claim, including that any PFAS released or detected in and around Murfreesboro, Tennessee violate federal or state law or constitute a breach of contract.

WHEREAS, Plaintiff denies any wrongdoing or liability, and specifically denies and disputes the scientific, factual, legal, and other bases asserted in support of Defendants' proposed counterclaim, including that any PFAS released or detected in and around Murfreesboro, Tennessee, was caused by the City.

WHEREAS, the Parties desire to resolve this and related matters constructively and without the time and expense that would be required by additional litigation.

WHEREAS, after mediation, the Parties have agreed to a settlement and the making of this Agreement, without any admission of fact, law, liability, or fault as to any allegation or matter arising out of any allegation in this Action or the Landfill Road Action.

WHEREAS, BFI will expend millions of dollars to implement the settlement.

NOW, THEREFORE, in consideration of the mutual promises and agreements contained herein and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, it is hereby covenanted and agreed by and among the Parties hereto as follows:

I. Definitions.

A. “Action” means the matter captioned *City of Murfreesboro v. BFI Waste Systems of Tennessee, LLC, et al.*, Case No. 3:22-cv-00605, pending before the U.S. District Court for the Middle District of Tennessee, Nashville Division, and all related Notices of Intent, including the Notice of Intent to File Citizen Suit Pursuant to the Federal Clean Air Act dated August 22, 2022, Supplemental Notice of Intent to File Citizen Suit Pursuant to the Federal Clean Air Act dated January 15, 2024, the Notice of Intent to File Citizen Suit Pursuant to the Federal Clean Water Act dated August 10, 2022, the First Addendum to August 10, 2022, Notice of Intent to File Citizen Suit Pursuant to the Federal Clean Water Act dated November 21, 2022, and the Second Addendum to August 10, 2022, Notice of Intent to File Citizen Suit Pursuant to the Federal Clean Water Act the dated January 15, 202[4] (sic).

B. “Landfill Road Action” means the matter captioned *City of Murfreesboro, Tennessee v. BFI Waste Systems of Tennessee, LLC and Republic Services, Inc.*, Case No. 23-cv-1203, *Rutherford County Chancery Court*.

C. “Effective Date” means the day the court enters the order dismissing the Action and Landfill Road Action as described in Paragraph XIII.

D. “EPA” means the United States Environmental Protection Agency.

E. “Middle Point Landfill” or “MPL” means the solid waste management facility that is located at 750 East Jefferson Pike, Murfreesboro, Tennessee and is owned and operated by BFI Waste Systems of Tennessee, LLC, a wholly owned subsidiary of Republic Services, Inc.

F. “MCL Rule” means any applicable Maximum Contaminant Level Rule for perfluorooctanoic acid (“PFOA”), perfluorooctane sulfonic acid (“PFOS”), perfluorohexane sulfonic acid (“PFHxS”), perfluorononanoic acid (“PFNA”), hexafluoropropylene oxide dimer acid (“HFPO-DA”), and perfluorobutane sulfonic acid (“PFBS”) promulgated and effective pursuant to the Safe Drinking Water Act, 42 U.S.C. § 300f *et seq.* and its implementing regulations, as may be amended, as of the time of the event referenced in this Agreement.

G. “PFAS” means, for purposes of this Agreement, fluorinated organic substances that contain one or more carbon atoms and on which at least two of the hydrogen atoms have been replaced by fluorine atoms. “PFAS” includes without limitation PFOA, PFOS, perfluoroalkyl acids (including HFPO-DA), perfluoroalkane sulfonyl fluorides, perfluoroalkyl iodides, per- and polyfluoroalkyl ether-based substances, fluoropolymers, side-chain fluorinated polymers, and chemical precursors and degradants of all such substances. “PFAS” for purposes of this Agreement includes all per- and polyfluoroalkyl substances and their chemical precursors and degradants, as well as all products manufactured with or containing such substances, precursors, or degradants.

H. “SRWTP” means the Stones River Water Treatment Plant owned and operated by the City of Murfreesboro and located at 5528 Sam Jared Drive, Murfreesboro, Tennessee 37130.

I. “TDEC” means the Tennessee Department of Environment and Conservation.

J. “WRRF” means the water resource recovery facility (also known as a publicly owned treatment works) owned and operated by the City of Murfreesboro located at 2032 Blanton Drive, Murfreesboro, Tennessee 37129.

K. “POTW” means “publicly owned treatment works”.

II. Commitments of Middle Point Landfill.

A. Leachate Sampling.

Commencing no later than forty-five (45) days after the Effective Date, BFI will sample leachate from the Middle Point Landfill discharged to the WRRF for the PFAS measurable under an appropriate testing method selected by BFI at its outfall designated as 021-B. BFI will continue to sample leachate for measurable PFAS on an approximately monthly basis and provide the results to the City following validation of the data within a reasonably timely manner.

B. Publicly Owned Treatment Works Influent Study.

BFI shall fund a study of effluent discharged to the City's WRRF in order to identify other significant dischargers of PFAS ("Influent Study"). The Influent Study shall be conducted in manner to satisfy the requirements of the EPA's Information Collection Request for the POTW Influent PFAS Study Data Collection for which comments were requested in 89 Fed. Reg. 20962-64 (March 26, 2024) ("EPA Information Collection Request"), whether or not the City is required to provide the information to EPA. The Influent Study shall be conducted by a third-party consultant mutually agreed upon by BFI and the City, consent for which shall not be unreasonably withheld by either party. The Influent Study may include any additional analysis that BFI, the City, and the third-party consultant mutually agree are relevant and appropriate. BFI may expand the scope of the Influent Study beyond the minimum requirements of the EPA Information Collection Request to include other potential significant dischargers of PFAS to the WRRF. The City agrees to fully cooperate with efforts by the consultant and BFI in performing the Influent Study, including (i) providing access to sampling manholes representative of an individual user's discharge, (ii) providing access to another sampling location that is representative of an individual user's discharges when a manhole is not, (iii) using the City's authority in its Sewer Code to require

access to any such sampling locations that are blocked or otherwise inaccessible, (iv) providing records or information regarding volume and/or characteristics of discharges from sewer users, and (v) providing other assistance appropriate under the circumstances. Prior to conducting any sampling activities under the Influent Study, the third-party consultant shall provide the City with notice of planned locations for sampling, and the City shall have the right to accompany and observe the consultant during the sampling.

C. Leachate Pretreatment Study

Commencing no later than sixty (60) days after the Effective Date, BFI shall initiate an evaluation of the feasibility of a pretreatment system to remove PFAS from the leachate discharged to the City's WRRF. BFI shall present the City with a report detailing the results of the evaluation within twelve (12) months after the Effective Date.

In the event EPA or TDEC promulgates a final pretreatment standard for PFAS discharges to POTWs from municipal solid waste landfills applicable to Middle Point Landfill, an effluent discharge limit for PFAS from POTWs applicable to the WRRF, or a PFAS water quality criterion that applies to the West Fork of the Stones River, whichever occurs first, BFI shall, within sixty (60) days, enter into a contract for the design and construction of a pretreatment system for PFAS. The contract shall specify that the pretreatment system shall be constructed and fully operating prior to the possibility of BFI's or the City's non-compliance with the limits or criterion. BFI shall have sole control over selection and design of the pretreatment system, which system shall be designed to prevent Middle Point Landfill's leachate from causing an exceedance of the limit or criterion. The City may review the selection and design and, if appropriate, may dispute that the system is designed to prevent Middle Point Landfill's leachate from causing an exceedance of the limit or criterion.

D. Stormwater Treatment

i. Outfall 1

BFI shall construct a new Outfall 1 as part of the planned renewable gas facility construction and include Outfall 1 in the stormwater sampling and monitoring program, including PFAS monitoring as described below.

ii. Outfall 2

Commencing with the first routine monitoring event that takes place no sooner than forty-five (45) days after the Effective Date, BFI shall include PFOA and PFOS as parameters as part of its routine stormwater sampling at Outfall 2. No later than three (3) months after the Effective Date, BFI shall initiate design of a passive PFAS treatment system to remove or reduce PFOA and PFOS in stormwater from Outfall 2 to meet agreed upon benchmark standards described in the subsequent paragraph (“Outfall 2 Treatment System”). BFI shall submit its plans for the Outfall 2 Treatment System to the City when seeking approval from TDEC. The City shall have the right to comment or make recommendations on Outfall 2 Treatment System plan to BFI, and BFI will submit those comments to TDEC with any comments from BFI in response within twenty (20) business days of receipt of Plaintiff’s comments. BFI will finance and conduct such Outfall 2 stormwater treatment.

As part of its design of the Outfall 2 Treatment System, BFI shall perform a study to develop numeric benchmark objectives for comparing levels of PFOA and PFOS at Outfall 2, which study shall include flow and mass. The benchmarks shall be established at a level to ensure the MCL Rule is not exceeded at the drinking water intakes for the City of Murfreesboro. The City and BFI will mutually agree upon the appropriate sampling location for this benchmark analysis and on the method for establishing the benchmark, which agreement shall not be unreasonably

withheld by either party. BFI shall then submit the appropriate materials to TDEC to incorporate the benchmarks into its Stormwater Pollution Prevention Plan (“SWPPP”). It is the express intent of both Parties and this Agreement that an exceedance of the benchmark does not constitute a violation of the Tennessee General Stormwater Permit for Industrial Activities, the SWPPP, or a violation of the Clean Water Act. If BFI is finally required by TDEC to implement limitations or take other regulatory action for PFAS in stormwater applicable to the Middle Point Landfill based on statutory and regulatory obligations, those limitations or actions shall supersede any benchmark agreed upon pursuant to this Agreement.

1. Action Plan for Benchmark Exceedances

Once benchmarks are established and incorporated into the SWPPP, if monitoring reveals an exceedance of a benchmark, BFI shall conduct confirmation sampling during the next qualifying storm event to confirm there is an exceedance. If the exceedance is confirmed in the second sampling event, BFI will select and retain a qualified stormwater professional, mutually agreed upon by BFI and the City, which approval shall not be unreasonably withheld by either party, to review the SWPPP for MPL to recommend modifications or additions to the SWPPP which would assist in reducing effluent concentrations below the PFAS benchmark. A summary of the proposed SWPPP modifications and an estimated timetable for implementation will be provided to the City within forty-five (45) business days of any confirmed exceedance unless BFI requests and the City agrees to an extension, which agreement shall not be unreasonably withheld by the City. The City shall have the right to comment or make such recommendations on any modifications or additions to BFI, and BFI will submit the summary, any comments from the City, and any comments from BFI in response to TDEC within twenty (20) business days of receipt of the City’s comments. If no comments are received from the City within thirty (30) days, BFI shall

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submit the summary of proposed SWPPP modifications to TDEC. BFI shall implement the modified SWPPP in accordance with the estimated implementation timetable upon approval of the SWPPP modifications by TDEC. Nothing in this Agreement shall prohibit BFI's ability to amend or modify its SWPPP independent of an exceedance of a benchmark.

In the event of a confirmed exceedance of a benchmark, the qualified stormwater professional shall also develop a written report with recommendations for additional best management practices and estimated timeline for implementation that may result in meeting the applicable benchmark ("Action Plan"). The proposed Action Plan will be provided to the City within forty-five (45) business days of any confirmed exceedance unless BFI requests and the City agrees to an extension, which agreement shall not be unreasonably withheld by the City. The City shall have the right to comment on the proposed Action Plan to BFI. BFI shall begin implementing the Action Plan in accordance with the estimated implementation timetable within thirty (30) days of submitting the Action Plan to the City regardless of whether the City provides comments. In the event that implementing the SWPPP modifications and Action Plan does not result in meeting the benchmark, BFI shall perform a subsequent evaluation of additional best management practices within forty-five (45) business days of the next confirmed exceedance and implement those further recommendations until the benchmarks are attained or BFI is finally required to take a certain action by TDEC or EPA.

Subject to the timely and repeated implementation of the Action Plan, in the event of a repeated benchmark exceedance, the City and BFI will confer to make a determination whether no further pollutant reduction is technologically available, economically practicable and achievable in light of best industry practices ("Impracticability Determination"). No Impracticability Determination shall be made if the PFAS levels in the City's finished drinking water at either the

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City's drinking water treatment plant or at the Consolidated Utility District drinking water treatment plant violate the MCL Rule for those PFAS established by EPA or TDEC, unless BFI can demonstrate that its discharges are not responsible for the exceedances. The Parties shall also not make an Impracticability Determination until the City completes its initial testing by collecting four quarters of qualifying data as required by the MCL Rule, which shall be collected as soon as reasonably possible. BFI must document the rationale for concluding that no further pollutant reductions are achievable, and retain all records related to this documentation with the SWPPP, including the City's concurrence. The City shall not unreasonably withhold its approval regarding the Impracticability Determination. In the event the parties are unable to reach an agreement on the Impracticability Determination, the dispute resolution provisions of this Agreement shall apply.

iii. Outfall 3

No later than ninety (90) days after the Effective Date, BFI shall initiate design of a study to determine the need for a permanent stormwater collection ditch along the east side of Middle Point Landfill to collect runoff from potential leachate outbreaks and seeps, and direct the runoff flows to a single stormwater detention pond ("Outfall 3 Study"). BFI shall finance and implement the Outfall 3 Study. If the results of the Outfall 3 Study indicate a need to control potential PFAS impacts from Middle Point Landfill, BFI will conceive, design, and implement a passive treatment system for Outfall 3 ("Outfall 3 Treatment System"). BFI shall submit its plans for the Outfall 3 Treatment System to the City when seeking concurrence from TDEC. Plaintiff shall have the right to comment on Outfall 3 Treatment System design to BFI, and BFI will submit those comments to TDEC with any comments from BFI in response within twenty (20) business days of receipt of Plaintiff's comments. BFI will then finance and conduct such Outfall 3 stormwater treatment. BFI

and the City will develop include numeric benchmarks for PFOA and PFOS for Outfall 3 in the same manner as Outfall 2 and seek TDEC concurrence to include the benchmarks in the SWPPP for Middle Point Landfill and follow the procedure set forth above for Outfall 2 in the event of an exceedance. BFI will include sampling for PFAS in its routine stormwater sampling and timely report the results to the City and TDEC.

If BFI fails to implement the forementioned process for benchmark evaluation, including review and amendment of the SWPPP or implementation of the Action Plan within the timeline defined above, BFI will make a payment of \$5,000 per day as the sole remedy for each day of a missed deadline, unless excused by force majeure or agreement with the City. Payments for a missed deadline shall be used to fund environmental projects that benefit the City of Murfreesboro.

E. Groundwater

Commencing after the Effective Date, BFI shall use its now-existing perimeter groundwater monitoring wells to sample for PFAS that can be measured by an appropriate analytical method selected by BFI on a twice-a-year and approximately six-months-apart basis over two (2) years (each, a “Sampling Event,” and, together, the “Groundwater Sampling Events”), or until such time as: (i) BFI agrees to design and implement a groundwater treatment system to remove or reduce PFOA and PFOS in the groundwater to meet remedial objectives acceptable to TDEC (“PFAS Groundwater Treatment System”); or (ii) BFI is finally required by TDEC to implement a PFAS Groundwater Treatment System based on statutory and regulatory obligations. BFI reserves the right to contest any such requirement to implement a PFAS Groundwater Treatment System by TDEC or other regulatory authority claiming or having jurisdiction. BFI will submit the results of each Sampling Event simultaneously to Plaintiff and TDEC for review.

Based on the results of the Sampling Events, the City may submit comments to BFI regarding the treatment of groundwater for PFOA or PFOS and whether, in the City's opinion, BFI should be required to implement a PFAS Groundwater Treatment System, and BFI shall submit those comments to TDEC, along with any comments from BFI in response, within ten (10) business days of receipt of the City's comments.

If BFI agrees to design and implement a groundwater treatment system, or, based on the groundwater sampling results, TDEC finally requires that BFI design and implement a PFAS groundwater treatment system, BFI will design and implement a PFAS groundwater treatment system. BFI shall submit its plans for any PFAS groundwater treatment system to the City when seeking approval from TDEC. The City shall have the right to comment or make such recommendations on any PFAS groundwater treatment system plan to BFI, and BFI will submit those comments to TDEC with comments from BFI in response within ten (10) business days of receipt of the City's comments. If agreed or required, BFI will finance and conduct such PFAS groundwater treatment. BFI will continue to sample groundwater for PFAS that can be measured by an appropriate analytical method selected by BFI on a twice-a-year and approximately six-months-apart basis over two (2) years following initiation of PFAS groundwater treatment.

F. Springwater

No later than ninety (90) days after the Effective Date, BFI shall fund and initiate design of a study to evaluate the potential presence of PFAS in the Matthews Lake Spring (f/k/a the Southeast Groundwater Seep) ("Spring Study"). The City and BFI will mutually agree upon the scope and procedures for the Spring Study, which agreement shall not be unreasonably withheld by either party. BFI shall share the results of the Spring Study with the City. If, in the reasonable opinion of BFI or the City, the results of the Spring Study indicate that BFI should be required to

implement response action or a PFAS treatment system for the Matthews Lake Spring (“Spring Treatment System”) based on statutory and regulatory obligations, the Parties shall attempt to agree on the scope and procedures for such response actions or the design of a Spring Treatment System. If the Parties cannot agree on the Spring Study, the need for a response action, and/or the design of a Spring Treatment System, then the City and BFI will invoke the dispute resolution provisions of this Settlement.

If, BFI agrees to design and implement a Spring Treatment System, or, based on the Spring Study, TDEC finally requires that BFI design and implement a Spring Treatment System, BFI will design and implement a Spring Treatment System. BFI shall submit its plans for any Spring Treatment System to the City when seeking approval from TDEC. The City shall have the right to comment or make recommendations on any Spring Treatment System plan to BFI, and BFI will submit those comments to TDEC with comments from BFI in response within ten (10) business days of receipt of the City’s comments. BFI will finance and conduct such springwater treatment. BFI will continue to sample the Matthews Lake Spring for PFAS that can be measured by an appropriate analytical method selected by BFI on a twice-a-year and approximately six-months-apart basis over two (2) years following completion of any Spring Treatment System.

Except as specifically stated herein, or as may be finally required by TDEC, EPA or pursuant to BFI’s permits, as to Plaintiff BFI shall have no other obligations or be liable or responsible for any PFAS-related groundwater or surface water monitoring, testing or treatment relating to or at or around the Middle Point Landfill.

III. Ongoing Sampling Expenses.

BFI shall fund the sampling for PFAS in surface waters and groundwater in the area immediately offsite of Middle Point Landfill for a period of two years following the Effective

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Date, not to exceed \$20,000. Any state or federal funding received by the City for the purpose of addressing PFAS shall offset BFI's payment to the City. Any sampling data collected by the City shall be timely provided to BFI. Payment shall be made within thirty (30) days of the Effective Date payable pursuant to instructions provided by the City.

BFI shall fund the sampling for PFAS in the City's drinking water for a period of two years following the Effective Date, not to exceed \$20,000. Any state or federal funding received by the City for the purpose of addressing PFAS shall offset BFI's payment to the City. Any sampling data collected by the City shall be timely provided to BFI. Payment shall be made within thirty (30) days of the Effective Date payable pursuant to instructions provided by the City.

IV. Leachate Acceptance by the City

The Middle Point Landfill discharges its leachate to the WRRF pursuant to an Industrial User Discharge ("IUD") Permit No. IUDP 021-A. Provided that Middle Point Landfill complies with the obligations in Paragraphs II. A, B, and C of this Agreement, the City shall continue to accept leachate at WRRF in accordance with the Agreement between City of Murfreesboro and Jefferson Pike Landfill, Inc. (now known as BFI Waste Systems of Tennessee, LLC), dated June 9, 1995 ("1995 Leachate Agreement"), and applicable federal, state, and local law. Except as expressly modified by this Agreement, the provisions of the 1995 Leachate Agreement shall continue in full force and effect, including any rights the City has to adopt applicable PFAS limits under the City's sewer code, or BFI's rights to challenge any such limits. Should the City establish local limits for PFAS applicable to BFI, the City will attempt to fairly allocate necessary reductions in PFAS discharges among BFI and other industrial users based on their relative contributions to the total PFAS loading to the WRRF to ensure compliance with any applicable water quality standards and preserve BFI's ability to discharge appropriately pretreated leachate. Should the

data collected as part of the Influent Study identify any commercial sources with an available sampling point that are contributing a significant mass of PFAS to the WRRF, the City agrees to include those users in the local limits allocation and to require them to obtain an industrial user discharge permit, if they do not already have one, and to comply with PFAS local limits adopted by the City. A commercial source shall not be excluded from this requirement on the basis that its sampling includes commingled commercial and sanitary discharges. The Parties agree that under EPA Guidance, the City's sanitary and some qualifying commercial wastewater, as well as infiltration and inflow, are considered uncontrolled sources, and any PFAS reductions necessary to meet effluent limits or water quality criteria shall be made by existing or newly identified industrial users.

V. Gas and Odor Management Plan.

A. Commencing within thirty (30) days of the Effective Date, BFI shall implement the Gas and Odor Management Plan, attached herein as Exhibit A. This Agreement shall not be submitted to the Court or to the Agencies until Exhibit A is complete and accepted by the Parties.

B. BFI shall reimburse the City for the costs of the independent consultant retained to review information shared pursuant to the Gas and Odor Management Plan and semi-annual site visits to monitor the implementation of the Plan following the Effective Date, not to exceed \$50,000 per year. The terms of this Subsection V.B. shall terminate after two years following the Effective Date. Amounts under this Subsection V.B. will be reimbursable only if the City provides BFI with copies of invoices received from the independent consultant that contain reasonably detailed descriptions of the work performed.

VI. Other Actions

Within thirty (30) days of the Effective Date, the City agrees to remove all signage near the Walter Hill Reservoir signs regarding alleged releases of PFAS from the Middle Point Landfill.

Within thirty (30) days of the Effective Date, BFI shall rescind its public records request related to City's attorney's fees.

VII. Attorneys' Fees, Costs, and Expenses.

A. The Parties agree that each party shall bear its own attorney's fees, expert fees, costs, and expenses, provided, however, that BFI will reimburse the City \$500,000 incurred in PFAS sampling and development of the Gas and Odor Plan that is part of this Settlement Agreement.

B. Plaintiff and its counsel agree that they shall not seek from any Defendant any additional attorneys' fees, expert fees, costs, or expenses arising out of this Action, the Landfill Road Action, or this Agreement other than as specifically provided in Paragraph XV (Disputes), and Paragraph II.D.iii (stipulated penalties).

VIII. Releases. The Parties, on behalf of themselves and their respective parents, members, affiliates, subsidiaries, predecessors, partners, employees, officers, directors, principals, agents, attorneys, successors, and assigns, hereby release one another and discharge each and every claim, demand, right, cause of action of any kind for any type of relief (including but not limited to compensatory damages, consequential damages, incidental damages, statutory relief, punitive or exemplary damages, disgorgement, restitution, penalties, injunctive relief, declaratory relief, attorneys' fees, court costs, and expenses) that were raised or could have been raised in the Action, and/or the Dispute resolution process in Paragraph XV up through the implementation this Agreement, except for fees and costs that may be awarded in connection with the dispute resolution

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process pursuant to Paragraph XV.B, or matters addressed in this Agreement (the “Released Claims”), and except as stated below:

A. Defendants and the City reserve and retain all claims, rights, and remedies against one another in the event (1) exceedances of the MCL Rule requires additional treatment of the City’s finished drinking water for PFAS; and (2) any claims are asserted against Plaintiff or Defendants associated with Middle Point Landfill or the City pertaining to PFAS in drinking water. Defendants and the City shall negotiate and enter a separate agreement tolling any claims they may have against one another regarding the claims reserved in this subparagraph A.

B. Defendants and City reserve and retain all rights against non-parties not included within the scope of Paragraph VIII, Releases. BFI’s agreement to conduct the activities in this Agreement shall not be deemed to be a waiver by BFI of its rights and remedies against other non-parties, including but not limited to Rutherford County.

IX. Exclusive Remedy. The relief provided for in this Agreement shall be the sole and exclusive remedy for Plaintiff with respect to any Released Claims, and Defendants shall not be subject to liability or expense of any kind with respect to any Released Claims other than as set forth in this Agreement.

X. Covenant Not To Sue. Plaintiff, on behalf of itself and its parents, members, affiliates, subsidiaries, predecessors, partners, employees, officers, directors, principals, agents, attorneys, successors, and assigns, shall forever refrain from instituting, maintaining, prosecuting, or continuing any suit, action, or proceeding against any Defendant with respect to the Released Claims.

XI. Effectiveness and Voidability. Unless provided otherwise, this Agreement shall become effective upon the Effective Date.

XII. Agency Review. Plaintiff shall submit this Agreement to the United States Department of Justice and the EPA (collectively “Federal Agencies”) within three (3) days of the final signature of the Parties for agency review consistent with 40 C.F.R. § 135.5. The agency review period expires forty-five (45) days after receipt by both agencies, as evidenced by written acknowledgement of receipt by the agencies or the certified return receipts, copies of which shall be provided to Defendants upon receipt. In the event that the Federal Agencies object to entry of this Agreement, the Parties agree to meet and confer to attempt to resolve the issue(s) raised by the Federal Agencies within a reasonable amount of time. If the Parties are able to modify this Agreement to their satisfaction to attempt to resolve the issue(s) raised by the Federal Agencies, but the modification fails to resolve the objection(s) of the Federal Agencies, the Parties will work together to request the Court to approve the Agreement notwithstanding the objections of the Federal Agencies.

XIII. Dismissal of the Action and the Landfill Road Action.

A. Action. Within three (3) days of receiving a no-objection letter from the U.S. Department of Justice or the forty-five-day review period expiring without objections, Plaintiff and Defendants shall jointly file a motion in the Action requesting the U.S. District Court dismiss that matter, including the following:

1. A request that the court enter an order dismissing all claims in the Action with prejudice;
2. A copy of this Agreement and a request that the court refer to the Agreement in its order of dismissal;

3. A recital and stipulation that the Parties have entered into this Agreement and the Parties agree that the activities called for in the Agreement are sufficient to resolve any and all alleged liability and to protect human health and the environment;
4. A stipulation that the Attorney General has reviewed the Agreement and does not oppose; and
5. A statement of cooperation and intent for good faith relationship between City and BFI for implementation of this Settlement.

B. Landfill Road Action. Within three (3) days of receiving a no objection letter from the U.S. Department of Justice or the forty-five-day review period expiring without objections, Plaintiff and Defendants shall jointly file a motion in the Landfill Road Action requesting that the court enter an order dismissing all claims without prejudice.

XIV. Termination.

This Settlement Agreement shall terminate as to the Defendants upon the following circumstances:

A. If any permit or operation described in this Agreement is discontinued or otherwise becomes inapplicable to Middle Point Landfill, then BFI shall timely notify the City of its request to terminate the provisions of this Agreement related specifically to the permit or operation. The City agrees that it will not unreasonably withhold its approval of BFI's request.

B. As to leachate, this Agreement becomes inapplicable if and when BFI ceases all discharge of leachate to the City's WRRF pursuant to the 1995 Leachate Agreement.

C. As to stormwater, this Agreement becomes inapplicable when and if PFAS discharges to stormwater become subject to a permit or regulation applicable to Middle Point Landfill.

D. As to groundwater, this Agreement becomes inapplicable when and if PFAS discharges to groundwater become subject to a permit or regulation applicable to Middle Point Landfill.

XV. Dispute Resolution Process.

A. The Parties agree that, before initiating any legal proceeding with respect to this Agreement before the Court, they shall make every effort to informally resolve such dispute with one another. Either party to the agreement can invoke dispute resolution procedures by notifying the other party in writing of the matter in dispute. The Parties shall then meet and confer in good faith (either telephonically or in person) in an attempt to resolve the dispute informally over a period of ten (10) business days from the date of receipt of the notices. Parties may elect to extend this time in an effort to resolve the dispute without court intervention. The Parties also agree that, with mutual consent, they can select a neutral third-party to hear disputes, which disputes will otherwise be governed by the terms of this Paragraph. If the Parties are unable to resolve the dispute, the party invoking dispute resolution may compel specific performance of the Agreement before the United States District Court for the Middle District of Tennessee. The dispute resolution process shall be the sole and exclusive remedy for judicially resolving and enforcing any and all disputes between the parties regarding the subject matter of this agreement.

B. The Parties shall be entitled to seek fees and costs incurred in filing or opposing any action made to the Court for the purpose of resolving a dispute, as provided in Paragraph XV, according to the costs and fees provisions set forth in Section 505(d) of the Clean Water Act, 33 USC § 1365(d), and applicable case law interpreting such provisions.

XVI. Representations and Warranties. The Parties represent and warrant as follows:

A. Each Party is fully authorized to enter into this Agreement.

B. Each Party that is a corporate entity is duly organized and validly existing in good standing under the laws of one of the states of the United States.

C. The making and performance of this Agreement will not violate any provision of law or of any Party's articles of incorporation, charter, or bylaws.

D. Each corporate Party has taken all necessary corporate and internal legal actions to duly approve the making and performance of this Agreement and that no further corporate or other internal approval of this Agreement is necessary.

E. Each Party has read this Agreement in its entirety and knows the contents of this Agreement, understands that the terms of this Agreement are contractual and not merely recitals, and agrees that they have signed this Agreement having obtained the advice of legal counsel.

XVII. No Admission of Liability. Neither this Agreement, the implementation of additional actions, nor any payment pursuant to the Agreement shall constitute or be construed as a finding, adjudication, admission, or acknowledgment of any fact, law, or liability, nor shall it be construed as an admission of violation of any law, rule, or regulation. Defendants maintain and reserve all defenses they may have to any alleged violations that may be raised in the future.

XVIII. Notice. Any notice, demand, or other communication under this Agreement shall be in writing and shall be deemed duly given upon receipt if it is addressed to the intended recipient as set forth below and personally delivered, sent by registered or certified mail (postage prepaid) or delivered by reputable express overnight courier, and also sent by confirmed electronic mail:

To Plaintiff:

Murfreesboro City Attorney
Adam F. Tucker
City of Murfreesboro Legal Department
111 W. Vine St.,
Murfreesboro, TN 37130
atucker@murfreesborotn.gov

jtag@murfreesborotn.gov

With a copy to:

Gary A. Davis
Keith A. Johnston
Davis Attorneys, P.C.
21 Battery Park Ave., Suite 206
Asheville, NC 28801
gdavis@enviroattorney.com
kjohnston@enviroattorney.com

To Defendants:

Chief Legal Officer
Republic Services
18500 North Allied Way
Phoenix, AZ 85054

With a copy to:

William Beck
Allyson E. Cunningham
Lathrop GPM LLP
2345 Grand Blvd., Suite 2200
Kansas City, MO 64108-2618
william.beck@lathropgpm.com
allyson.cunningham@lathropgpm.com

Wells Trompeter
Edward M. Callaway
Holland & Knight LLP
511 Union Street, Suite 2700
Nashville, TN 37219
Wells.Trompeter@hklaw.com
Ed.Callaway@hklaw.com

XIX. Force Majeure. The failure of any Party to perform any of its obligations hereunder shall not subject any Party to any liability or remedy for damages, or otherwise, where such failure is occasioned in whole or in part by Acts of God, fires, accidents, other natural disasters, interruptions or delays in communications or transportation, labor disputes or shortages, shortages of material or supplies, governmental laws, rules, or regulations of other governmental bodies or tribunals, acts or failures to act of any third parties, or any other similar or different circumstances or causes beyond

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the reasonable control of such Party. The term Force Majeure may include delays to the extent that any such delay or failure to meet a timeframe is caused by any public health crisis, provided that the definition of Force Majeure is otherwise met under this Agreement.

XX. Nature of Payments. All amounts paid and actions taken by Defendants pursuant to this Agreement (other than the amounts described in Paragraphs III, VII.A, and V.B of this Agreement) are for restitution, remediation, or to further compliance with the law within the meaning of those terms under 26 U.S.C. Section 162(f). No portion of any amount paid under this Agreement constitutes a fine, penalty, punitive damages, disgorgement of profits, or an amount paid in settlement of any claim for any of the foregoing. No payments made or otherwise incurred by Defendants constitute a payment to Plaintiff for attorneys' fees, expert fees, costs or expenses incurred by Plaintiff in the prosecution of the Action or otherwise incurred by Plaintiff in connection with the activities set forth in Paragraph II of this Agreement.

XXI. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Tennessee (including applicable federal law).

XXII. Binding Agreement. This Agreement is binding on the affiliates, successors and assigns of the Parties hereto, and constitutes the entire agreement among such Parties.

XXIII. Amendment. This Agreement may not be amended except in writing by the Parties to the Agreement.

XXIV. Enforceability. If any part of this Agreement is found to be unenforceable, the remainder of this Agreement shall remain in full force and effect. Except as provided herein with respect to the Release, there is no third-party beneficiary of this Agreement.

XXV. Incorporation of Recitals. The recitals contained in this Agreement, including those contained in the “whereas” Paragraphs, are expressly incorporated into the terms of this Agreement and are material to the agreements and undertakings set forth in this Agreement.

XXVI. Execution. Transmission of a signed copy of this Agreement electronically or by facsimile shall be considered sufficient execution by the signatory Party. This Agreement may be executed in multiple counterparts, which together shall constitute a single instrument.

SIGNATURES FOLLOW

**GAS COLLECTION AND CONTROL
SYSTEM MANAGEMENT PLAN
MIDDLE POINT LANDFILL
MURFREESBORO, TENNESSEE**

**PREPARED FOR
MIDDLE POINT LANDFILL
750 E. JEFFERSON PIKE
MURFREESBORO, TN 37130**

**PREPARED BY
BEL ENVIRONMENTAL ENGINEERING, LLC
8500 STATION STREET, SUITE 100
MENTOR, OHIO 44060**

**GAS COLLECTION AND CONTROL SYSTEM MANAGEMENT PLAN
MIDDLE POINT LANDFILL
Murfreesboro, Tennessee**

Table of Contents

1	INTRODUCTION	1
2	ENGAGEMENT AND INFORMATION SHARING	2
3	PROPOSED INFRASTRUCTURE EXPANSIONS PLAN.....	4
3.1	5-Year Gas Plan.....	4
3.1.1	Design Approach	4
3.2	2024 and 2025 LFG Construction Drawings	6
3.2.1	2024 LFG Construction Drawings.....	7
3.2.2	2024 Pre-Cell Development LFG Construction Drawings	7
3.2.3	2025 Cell Slope Collector Drawings, Middle Point Landfill.....	7
3.2.4	2025 Perimeter Header and Cell Development LFG Construction Drawings, Middle Point Landfill	7
3.2.5	2025 Flare/Blower Facility Upgrades and Transmission Line, Middle Point Landfill	7
4	ODOR MONITORING AND MANAGEMENT PROGRAM.....	9
4.1	Surface Exceedance Monitoring.....	9
4.1.1	Monitoring Requirements in Addition to the Regulatory Requirements	10
4.2	Monthly Methane Drone Scans	11
4.3	Odor Prevention and Control.....	12
4.4	Odor Patrol Monitoring	12
4.5	Odor Complaint Verification	13
4.5.1	Air Quality Monitoring.....	13
5	OPERATIONS AND MANAGEMENT PROGRAM.....	15
5.1	Initial Information and Baseline Inspection	15
5.2	Gas Well Data Collection and Analysis	15
5.3	Gas Well Data Analysis.....	16
5.3.1	Gas Well Data Reporting	18
5.4	LFG Well and Collector Integrity Inspection	18
5.4.1	Flexible Hose	18

5.4.2	<i>Wellhead Valve</i>	19
5.4.3	<i>Sample and Temperature Ports</i>	19
5.4.4	<i>Flow Measurement Components</i>	19
5.4.5	<i>Mechanical Joints</i>	20
5.4.6	<i>Geomembrane Boots around Pipes and other Penetrations</i>	21
5.4.7	<i>Well Casing</i>	21
5.4.8	<i>Well ID Label</i>	21
5.5	<i>Liquid Extraction</i>	21
5.5.1	<i>Liquid Level Data Collection</i>	22
5.5.2	<i>Liquid Data Analysis</i>	22
5.5.3	<i>Pump Installations</i>	22
5.5.4	<i>Pump Maintenance</i>	23
5.5.5	<i>Liquid Data Reporting</i>	24
5.5.6	<i>Enhanced Liquid Level Monitoring</i>	24
5.6	<i>Preventative Infrastructure Inspection</i>	25
5.7	<i>Monthly Cover Integrity Inspection</i>	27
5.8	<i>Intermediate/Daily Cover and Leachate Seep Inspection</i>	27
5.9	<i>AWR Management</i>	28
5.10	<i>Periodic Inspections</i>	28
6	DISPUTES	29
7	HEALTH AND SAFETY	34
8	MODIFICATIONS	35
9	OTHER APPLICABLE LAWS	36
10	TERMINATION	37

Appendices

Appendix A	2024 and 2025 LFG Construction Drawings
A.1	2024 LFG Construction Drawings, Middle Point Landfill
A.2	2024 Pre-Cell Development LFG Construction Drawings
A.3	2025 Cell Slope Collector Drawings, Middle Point Landfill
A.4	2025 Perimeter Header and Cell Development LFG Construction Drawings, Middle Point Landfill
A.5	2025 Flare/Blower Facility Upgrades and Transmission Line, Middle Point Landfill
Appendix B	Gazoscan Product Information
Appendix C	Community Odor Patrol Route
Appendix D	Envirosuite Sensors Details and Locations

1 INTRODUCTION

This Gas Collection and Control System (GCCS) Management Plan (Plan) has been prepared regarding several facets of landfill management at Middle Point Landfill (MPLF) as requested by the City of Murfreesboro (City). This Plan incorporates by reference individual plans and programs specific to the MPLF's Proposed Infrastructure Expansion Plan, Odor Monitoring and Management Program (OMMP), and Operations and Maintenance Program (OMP). These plans and programs describe how MPLF in partnership with the City will work together to monitor, detect, and if required, prevent and mitigate fugitive emissions and offsite odors as MPLF expands and progresses towards closing its existing permitted footprint. Although plans, programs and drawings contained herein address GCCS infrastructure development, monitoring, maintenance, and corrective actions necessary to prevent fugitive emissions from MPLF, these plans are not inclusive of any other efforts MPLF may take to maximize LFG collection for use in the proposed renewable natural gas facility currently being constructed. This Plan does not give the City any air pollution regulatory authority over MPLF or preempt the authority of the Tennessee Department of Environment and Conservation (TDEC), or any ability to interfere with landfill operations.

As partners to this Plan, MPLF relies on third-party support, oversight, and guidance from outside service providers and TDEC. MPLF does not perform "self-monitoring" of wellfield compliance components, or GCCS Design without the support of third-party oversight. MPLF's third party support will contribute to the execution of this plan, but BFI holds sole responsibility for this plan and the facility. Currently the relevant parties involved in the operation of the facility include:

- Wellfield Tuning and Maintenance – SCS Engineers
- GCCS Engineering and Design – BEL Environmental Engineering
- GCCS Construction – Continuum Environmental Services

Pursuant to Section 10 of this Plan, the conditions set forth herein will expire when MPLF completes installation of the permitted final cover system on the existing permitted footprint at the facility, or prior to that date, should the City and MPLF mutually agree that the stipulations of this Plan may no longer be warranted or should be amended. Prior to the termination of this plan, MPLF and the City will meet to discuss whether development of a new plan is necessary and appropriate and, if so, to discuss development of the new plan with appropriate monitoring and maintenance requirements.

2 ENGAGEMENT AND INFORMATION SHARING

Practicing regularly scheduled meetings and sharing information between MPLF and the City will be integral to the success of this plan. The subsequent sections describe what types of information and scheduled meetings will be necessary for the City and MPLF to maintain a productive partnership. Open lines of communication outside these formal arrangements will help the parties stay on task for the duration of this plan. Meetings to review current operating conditions or planned improvements during the course of the year may be necessary, and it is the responsibility of either party to request meetings as needed. MPLF and the City will designate a point of contact so that continuous lines of communication stay open and are effective.

Engagement and communication are integral to this plan and details on information sharing are provided below. Central to this tenant of communication is the annual meeting. During the annual meeting representatives of the City and MPLF will meet in person to discuss operating conditions and the OMP management. While the performance data and improvement plans will be continuously shared throughout the year per the schedule below, it will be important to meet annually to summarize and discuss the operating conditions and plans for future improvements. At a minimum, the topics to be discussed will include:

- Review of the odor complaint data
- Review of the SEM results and corrective actions
- Review of the Liquid Level Data and Pump Operations
- Review of completed capital improvements and their performance
- Review of the wellhead data trending
- Review of the air quality monitoring data
- Review of the collected gas flow trends and anticipated flows
- Review of the infrastructure improvement plans
- Review of the 5-year plan
- Review of future operations and maintenance tasks

During the annual meeting, MPLF and the City will review conceptual infrastructure improvement plans in detail for the next two calendar years and discuss anticipated completion timelines for components of the plan with the City representatives.

As conditions change at MPLF, annually revisiting the obligations in this plan and discussing amendments that will enhance the effectiveness of the proposed partnership will be important. Amendments to this Plan

will be made through mutual agreement and effective on the date of signature by all parties. Tables 1 and 2 summarize the proposed engagement and data sharing schedule that will be described in the subsequent sections of this plan.

Table 1: Engagement Schedule

MEETINGS		
<i>Type</i>	<i>Frequency</i>	<i>Summary</i>
<i>Initial Meeting</i>	<i>One time in first 60 days after initial information sharing and baseline inspection</i>	<i>Discussion of status of MPLF, O&M review, repairs and remediation since City's February 2024 inspection, and City's baseline inspection</i>
<i>Design Review</i>	<i>Before LFG Expansion drawings are Issued for Construction</i>	<i>MPLF will review LFG expansion plans with the city before construction begins and receive comments.</i>
<i>O&M Review</i>	<i>Quarterly</i>	<i>MPLF will review wellfield data and O&M activities with the City.</i>
<i>Annual Meeting</i>	<i>Annually in the month of June</i>	<i>MPLF and the City will meet to review operational conditions, future improvement plans, and potential amendments to the plan.</i>

Table 2: Information Sharing Schedule

INFORMATION SHARING			
<i>Type</i>	<i>Frequency</i>	<i>Relevant Section</i>	<i>Summary</i>
<i>Issued for Constructions Drawings</i>	<i>Prior to start of an LFG Construction Project</i>	<i>3</i>	<i>Construction Level Drawing of a proposed LFG expansion project.</i>
<i>As-built Construction Drawings</i>	<i>As they become available</i>	<i>3</i>	<i>As-built drawings and details depicting constructions activities.</i>
<i>Conceptual 5-Year Gas Plans</i>	<i>Annually</i>	<i>3</i>	<i>Conceptual Drawings depicting proposed GCCS construction over a 5-year period.</i>
<i>Odor Complaints</i>	<i>Continuously</i>	<i>4</i>	<i>Through an Envirosuite web portal MPLF will share all odor complaints and relevant weather data.</i>
<i>Landfill Gas Data</i>	<i>Quarterly</i>	<i>5</i>	<i>Summary of the routine LFG wellhead monitoring data.</i>
<i>Liquid Level Data</i>	<i>Quarterly</i>	<i>5</i>	<i>Summary of the routine liquid level measurements.</i>
<i>Pump Installation and Maintenance</i>	<i>Quarterly</i>	<i>5</i>	<i>Summary of which collectors have pumps and the associated pump maintenance logs.</i>

3 PROPOSED INFRASTRUCTURE EXPANSIONS PLAN

MPLF has developed a conceptual 5-Year Proposed LFG Infrastructure Expansion Plan (5-Year Plan) that describes future LFG construction projects on an annual basis from the current time until closure of the existing footprint. The 5-Year Plan is utilized for guidance when considering the scope and goals of future LFG construction projects. The 5-Year Plan is updated annually.

In addition to the 5-Year Plan, MPLF has developed construction bid-level drawings for multiple projects in 2024 and 2025. As conditions at the facility change continuously, these plans and drawings are adjusted prior to and/or during construction as needed. These construction level detail drawings are “Issued for Construction” prior to a Pre-Construction Meeting. MPLF will share the 5-Year Plan and the construction drawings with the City, and then will host a meeting with the City to discuss the plans.

3.1 5-Year Gas Plan

As a component of the Proposed Infrastructure Expansion Plans, the conceptual 5-Year Gas Plan included in Appendix A was developed to identify how the GCCS expansion could be expanded in consideration of the interim waste filling plan. The plans are intended to identify major components of future infrastructure construction including:

- Number and type of collectors
- Lateral and header piping sizing and location
- Major dewatering infrastructure such as Electric Lift Stations and dedicated force mains

The proposed density of LFG collectors and sizing of proposed header/lateral pipe exceed those required by the KY Pipe Modeling developed with the peak flow from the LandGEM modeling. The appended plans were developed with currently available projected tonnage/density, fill sequencing, and capping sequencing. These projections are revised annually, and the 5-Year Plan will be adjusted accordingly.

3.1.1 Design Approach

The proposed LFG infrastructure included in the current 5-Year Plan was developed to control fugitive emissions from the facility. Any future infrastructure improvements developed to maximize gas collection for the gas to energy plant are separate from the appended drawings. As detailed in the 5-Year Plan the primary collection for future waste placement will be achieved with horizontal collection piping that drains to the electric lift stations or into cell leachate collection infrastructure. Vertical extraction wells will be installed at a density sufficient to collect the predicted LFG generation from the LandGEM analysis without consideration

to the additional capacity provided by the horizontal collectors. In order to provide a conservative LandGEM analysis, the model input will include all historic waste tonnages and no adjustment for the acceptance of aluminum waste from 2009 to 2014. It is understood that because no consideration was given for the acceptance of aluminum waste, recorded landfill gas generation will always be less than the flow predicted in the LandGEM model. The LandGEM analysis will still be valuable for ensuring that infrastructure is sized conservatively and for a qualitative evaluation of landfill gas generation. Consistent with the goal of using the LandGEM analysis for guidance and comparative purposes, MPLF will run three separate LandGEM analyses using the following parameters: (i) Potential Methane Generation Capacity, L_0 (m^3/Mg) = 100; (ii) Methane Generation Rate, k (year^{-1}) = 0.04, 0.06, and 0.08; and (iii) Collection Efficiency = 75%. Using a range of rate coefficients (k) will illustrate how gas flow predictions can vary depending on the assumed rate of waste decomposition and methane generation. MPLF will consider the results of the LandGEM analyses from all three calculations in its decision-making regarding gas collection, but MPLF is not required to rely on any one LandGEM calculation over another.

MPLF will generally install collection infrastructure ahead of fill operations well in advance of timelines required by current regulations. These concepts will be detailed in the 5-year plan and discussed with the City during the engagement meetings detailed in Section 2 of this plan.

As the temporary cap is removed and waste is placed to bring the facility to permitted elevations, temporary gas extraction infrastructure will be abandoned, and permanent infrastructure will be installed.

The header/lateral piping will be phased into the development of the facility to accommodate maximum flows predicted by the LandGEM and KY Pipe modeling.

The facility will redrill vertical landfill gas extraction wells when performance and integrity criteria indicate a redrill is necessary to reduce fugitive emissions. MPLF will take into consideration the following when considering vertical well redrill candidates:

1. If surface emissions monitoring indicates reduced performance in the area influenced by the extraction well and all maintenance options for improving performance of the well have been exhausted.
2. Liquid levels in the well have diminished the performance of the collector to a degree that it indicates it could contribute to offsite gas migration and the integrity of the well infrastructure prevents the installation of a liquid extraction pump.

At a minimum MPLF will replace a vertical gas extraction well with a vertical or horizontal collector if the following conditions are reported:

- A pinch in the solid casing of the well that prevents the installation of a pump, and
- Liquids are blocking 100 percent of the available perforations, and
- The subject well is not located in areas of final cover or Exposed Geomembrane Cap (EGC), and
- The subject well is not located within the active filling operations.

If all these conditions are met, MPLF will replace this well within 180 days of the liquid level measurement. Available perforations are defined as any perforations that are located above any pinch or blockage that are available for dewatering with a pump.

3.2 2024 and 2025 LFG Construction Drawings

Multiple LFG Construction Drawings were developed in 2024 for future construction projects and are included in Appendix A. The following descriptions of the drawing sets included in Appendix A include estimated completion dates. All reasonable efforts will be made to complete these projects by the estimated dates provided but considerations will be made for unforeseen site conditions and variables over which MPLF has no control, including but not limited to circumstances that would make construction activities unsafe and the availability of materials, equipment, and qualified installation crews. MPLF will notify the City of any delays, including the causes of the delays.

1. 2024 LFG Construction Drawings, Middle Point Landfill. Issued for Construction May 8, 2024, Construction commenced on May 13, 2024, with an estimated Completion Date of December 31, 2024. Completed with minor modifications, which will be shared with the City.
2. 2024 Pre-Cell Development LFG Construction Drawings. Issued for Bidding February 28, 2024. Construction is estimated to commence November 2024, with an estimated completion date of December 31, 2024. Completed with minor modifications, which will be shared with the City.
3. 2025 Cell Slope Collector Drawings, Middle Point Landfill. Issued for Bidding March 11, 2024. Construction is estimated to commence in December 2024, with an estimated completion date of February 28, 2025. Drawing 1A was completed. Drawing 1B, which is labeled "Scope of Work with Proposed Waste Fill" was just for reference to show the future development of these collectors as waste placed in that new cell. The collectors detailed in Drawing 1B were not meant to be completed.

4. 2025 Perimeter Header and Cell Development LFG Construction Drawings, Middle Point Landfill. Issued for Bidding May 15, 2024. Construction is estimated to commence January 2025, with an estimated completion date July 31, 2025.
5. 2025 Flare/Blower Facility Upgrades and Transmission Line, Middle Point Landfill. Issued for Bidding June 4, 2024. Construction is estimated to commence February 2025, with an estimated completion date September 30, 2025.

3.2.1 2024 LFG Construction Drawings

The 2024 LFG Construction Drawings detail the expansion of the horizontal collection network that will allow LFG extraction as waste is placed in the active areas of the landfill. Additionally, vertical extraction wells are being redrilled in areas where recent filling activities have taken place or so that they can intercept the existing horizontal collection network where applicable.

3.2.2 2024 Pre-Cell Development LFG Construction Drawings

The 2024 Pre-Cell Development LFG Construction Drawings detail how the perimeter header will be relocated during cell construction to allow the LFG system to operate while the cell is being constructed.

3.2.3 2025 Cell Slope Collector Drawings, Middle Point Landfill

The 2025 Cell Slope Collector Drawings detail the LFG collection infrastructure that will be installed prior to waste placement in Disposal Cell 9B. This work will be performed in phases as waste is placed in the new disposal cell.

3.2.4 2025 Perimeter Header and Cell Development LFG Construction Drawings, Middle Point Landfill

The 2025 Perimeter Header and Cell Development LFG Drawings detail the construction of the permanent perimeter header and vacuum laterals needed to maintain vacuum during the placement of waste in the new cell. This LFG infrastructure cannot be installed until the construction of Cell 9B is completed and will be phased in with waste placement.

3.2.5 2025 Flare/Blower Facility Upgrades and Transmission Line, Middle Point Landfill

The 2025 Flare Facility Upgrades and Transmission Line drawings detail how the flare facility will be upgraded to create redundant extraction capacity of the LFG extraction system in conjunction with the Gas to Energy Facility.

As conditions at the landfill are continuously changing, construction plans are routinely modified leading up to and during construction. As part of the ongoing partnership between the City and MPLF, MPLF will share

construction drawings as they are issued for construction and schedule a design review meeting with the City to discuss the drawings and receive comments. Modifications to the drawings will be shared as they are made. Upon Completion of the construction project, MPLF will share as-built drawings of each construction event as they become available.

4 ODOR MONITORING AND MANAGEMENT PROGRAM

In an effort to mitigate potential offsite odors MPLF has developed a comprehensive monitoring and management program to identify potential odor sources and monitor for offsite migration of odorous LFG constituents. The OMMP will be utilized to inform remedial actions taken during operations and maintenance of the LFG extraction system and implementation of the gas infrastructure expansion plans. In addition to the Surface Exceedance Monitoring (SEM) required by the facility's existing permit, components of the OMMP that are in excess of current regulatory requirements include Monthly Methane Drone Scans, Odor Patrol Monitoring, Odor Complaint Verification, and Air Quality Monitoring.

MPLF and the City will share monitoring data and odor complaint information. The sharing of information will allow all parties to provide input in regard to data analysis, odor complaint verification, and remedial actions.

4.1 Surface Exceedance Monitoring

MPLF performs the required quarterly SEM event in accordance with the relevant regulatory requirements. Prior to the scheduled SEM, MPLF will make all reasonable efforts to ensure the subject areas are mowed unless safety concerns preclude them from doing so.

The key components of the regulations stipulate the following:

- An exceedance is any recorded methane concentration ≥ 500 ppm above background by use of an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications.
- The meter must meet specifications in EPA Method 21
- Surface concentrations of methane are monitored along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30-meter intervals as well as surface testing at all cover penetrations.
- Any exceedance recorded at ≥ 500 ppm methane concentration above background must have corrective action initiated in a 10 day-10 day-1-month re-monitoring schedule.
- For any location where a monitored methane concentration equals or exceeds 500 ppm above background three times within a quarterly period, a new well or other collection device must be installed within 120 days of the initial exceedance. An alternative remedy to the exceedance along with a corresponding timeline may be submitted to the Administrator for approval. Possible alternative remedies include but are not limited to:

- a dewatering pump installation.
- a change in blower operation
- installation of new header, airline, or force main
- fortification of cover material
- replacement of a control device

MPLF utilizes these quarterly surface scans to identify and correct fugitive LFG emissions, and to assess the GCCS performance. MPLF and its third-party contractors/consultants review the results and evaluate areas of the collection system that may require modifications to further minimize surface emissions.

4.1.1 Monitoring Requirements in Addition to the Regulatory Requirements

MPLF will continue to perform quarterly surface scans and the corrective measures dictated by the relevant regulations, but as part of this plan MPLF will take additional corrective measures as outlined in this section. If during the regular surface scan events MPLF reports a single exceedance of 50,000ppm or any one location has 3 measurements of 3,000 ppm in three quarters out of four, a root cause and corrective action plan will be emailed to the City's representative within 7 days of the exceedance measurement.

MPLF will perform a comprehensive review of the historical wellhead data, and pump performance for the collectors in the affected areas. The following monitoring and maintenance actions will begin within 7 days of the measured exceedance:

- Wellhead tuning within 150 ft of the exceedance will be increased to a minimum of once per week for a duration of 3 months.
- Where applicable, improvements will be made to the cover soils and/or EGC.
- Liquid level monitoring within 150 ft of the exceedance will be increased to a minimum of once per month for a duration of 3 months.
 - A dewatering pump will be installed in any vertical extraction wells within 150 ft of the exceedance with more than 50% of the available perforations blocked by liquids. Available perforations are defined as any perforations that are located above any pinch or blockage that are available for dewatering with a pump.
 - Non-functional pumps will be replaced.

A surface emissions scan at the exceedance location will be performed at 15 and 30 days from the date of the exceedance. If MPLF reports a measurement of greater than 500ppm the following corrective actions will be performed:

- Horizontal or vertical gas collection infrastructure will be installed within 120 days of the original measured exceedance.
- Applicable repairs of the geosynthetics will be made within 60 days of the original exceedance.

4.2 Monthly Methane Drone Scans

MPLF has and will continue to utilize an aerial drone to locate fugitive emissions within the waste footprint monthly. The nature of how the drone measures methane content cumulatively in the vertical column precludes it from being used for surface exceedance monitoring required by the facility's permit, but drone monitoring is useful for finding source point emissions such as those from a tear in the EGC.

After the MPLF's operating team reviews the data from the aerial scan, they investigate any elevated readings. Locations that demonstrate elevated concentrations (2,000 ppm) of methane are reviewed and logged in a tracking document. Each location is then categorized and investigated further to determine the best course of corrective action. These investigations may include, but are not limited to:

- Weather conditions and time of detections.
- Data review and analysis of surrounding GCCS infrastructure.
- Review of landfill operations and any recent construction or maintenance activities that were being conducted during the drone monitoring event that may have impacted areas of elevated concentrations.

Suspected emissions from the drone scan are physically inspected by site personnel and, within 10 days of receiving the drone scan data, verification of emissions will be conducted using the Gazoscan handheld laser based long-range methane detector, or successor or equivalent, for identification of potential sources of the emissions. The Gazoscan product information is included in Appendix B. Any observations or corrective action items noted by the site personnel will be logged on a drone scan tracking form and provided to MPLF management. If immediate repairs to GCCS infrastructure can be made, site personnel will make the necessary repairs accordingly and document these actions on the form. Findings will be reported to MPLF management and additional corrective actions will be implemented, as necessary. Potential corrective actions include:

- Repairs to the EGC
- Placement of soil to repair erosion
- Adjustments to wellhead tuning
- Repair or replace gas extraction wellhead
- Install or repair a liquid extraction pump

If corrective action is necessary, MPLF will perform the corrective action within 45 days of performing the Gazoscan verification, as long as the corrective action does not require the construction or installation of new infrastructure. Once corrective actions have been developed and implemented, site personnel will rescan each location with the Gazoscan, or successor or equivalent, within 10 days of implementation of the corrective action to confirm emissions levels have been addressed and complete the associated log confirming the completion of the corrective action.

4.3 Odor Prevention and Control

As stated in the Republic Services Absolutes and Standards: Odor Management (2017), MPLF personnel shall comply with the site-specific approved Odor Management Plan (OMP), and it is the objective or goal that MPLF will be operated so that odors do not leave:

- Waste acceptance areas and the working face
- Environmental control systems
- Interim and final cover areas
- Ancillary facilities
- Other site-specific sources as outlined in the OMP

This plan is intended to support compliance with the Odor Management Plan and the objective or goal stated above.

4.4 Odor Patrol Monitoring

MPLF has, and will continue to, perform daily odor inspections as part of this plan. The inspection will consist of site personnel touring along the facility perimeter and through the surrounding communities along a consistent, pre-planned route as shown in Appendix C. The pre-planned route may be revised from time to time to ensure that the areas with the greatest number of complaints are covered. Results of the daily odor inspections will be documented in an electronic database where meteorological data and other pertinent information can be utilized to analyze results. Results will be shared with the City.

4.5 Odor Complaint Verification

MPLF and the City will develop a shared community portal where odor complaints from the public can be reported and the associated meteorological information can be recorded. The City and MPLF will publicize and promote this shared community portal as the primary method of registering odor complaints with MPLF and the City. When public complaints are logged, the location, time, and conditions are stored in the electronic database. All odor complaints associated with observed odor events which are not already known and under investigation by the MPLF management team must be immediately investigated, documented, and addressed. All real-time odor complaints, including those forwarded or otherwise shared by the City in real-time, will be investigated as soon as practical within the confines of proper safety protocols, working hours, and site logistics. A real-time odor complaint is defined as a complaint filed within one hour of the observation time and prior to any significant change in meteorological conditions. The goal of the investigation will be to determine if an odor originates from the landfill site and, if so, to determine the specific source and cause of the odor, and then to commence corrective actions.

4.5.1 Air Quality Monitoring

MPLF has installed 10 Kunak 5S continuous air quality monitors along the perimeter of the property and within the waste footprint of the facility. Specifications and a location map of the air quality monitors are included in Appendix D. The monitors continuously monitor for hydrogen sulfide (H_2S), ammonia (NH_3), and volatile organic compounds (VOCs) and report the data to the Envirosuite web portal.

MPLF monitors the results of the air quality monitoring for changing site conditions that may indicate offsite LFG migration. If changes in monitored concentrations indicate the possibility of offsite migration, MPLF investigates the potential causes and works with site personnel to improve site conditions. Time stamped monitoring and meteorological data are recorded and used to determine if MPLF is the source of elevated readings and to verify odor complaints.

MPLF will work with the City to create a shared web portal so that the City can review the air quality data in real time. MPLF will continuously monitor the air quality data for actionable reported concentrations of NH_3 and H_2S in the perimeter monitors only. Actionable monitored concentrations are defined as follows:

- 24-hour rolling average readings of NH_3 > 20ppm
- 24-hour rolling average readings of H_2S > 48ppb

If the recorded meteorological data confirms the readings are actionable, MPLF will immediately begin performing site inspections to determine the source of the elevated readings and analysis of the wellfield and operations data and will attempt to correct the cause of the elevated reading within two business days. If the 24-hour rolling average reaches an actionable concentration during hours in which MPLF is not in operation, MPLF will attempt to correct the cause of the elevated reading within two business days after the first day that MPLF is operating after the elevated reading. If it cannot correct the elevated readings within two business days, MPLF will email a root cause and corrective action plan to the city within 7 days of the trigger reading. The corrective action plan will include at a minimum the operational changes and infrastructure improvements needed to address the elevated readings with anticipated completion dates for each task.

It is recognized that the reported air quality data are measured with indicative instrumentation that receives regular maintenance and software updates requiring verification of reported concentrations. The actionable levels determined in this plan are open to review in the future. Levels may be increased or decreased based on field verification of odors and agreement by the City and MPLF. In addition, MPLF will provide an evaluation of whether the location and elevation of the monitors are adequate for detection of the air contaminants of concern.

5 OPERATIONS AND MANAGEMENT PROGRAM

The operation and maintenance of the individual LFG extraction components will influence the effectiveness of the LFG extraction system to mitigate offsite odors. The operations and maintenance program will consider procedures for collecting relevant data, performing inspections and required maintenance, and where applicable, appropriate corrective actions and/or preventative maintenance. As summarized in the following subsections, aspects of these activities include components of the following:

- Gas Well Data Collection
- Gas Well Data Analysis
- LFG Well and Collector Integrity Inspection
- Liquid Level Data Collection
- Preventative Infrastructure Inspection
- Monthly Cover Integrity Inspection
- Intermediate/daily cover and leachate seep Inspection
- AWR Management

Communication of the information outlined in the Operation and Maintenance Program will allow all parties to participate in analyzing relevant data and providing input for future operations at MPLF.

5.1 Initial Information and Baseline Inspection

MPLF will provide initial information to the City within thirty (30) days of the effective date of the settlement concerning the current landfill operations and LFG expansions as well as wellfield data and O&M activities. MPLF will then make the landfill available for a baseline visual inspection by the City's consultants within 45 days after the effective date of the settlement agreement, or on such other date to which the parties agree based on availability of consultants, weather, and landfill operations. Prior to the inspection, MPLF will also provide the City with documentation of any repairs or remediation of specific problems found in the City's February 2024 inspection. The City's inspection will not involve surface emissions monitoring or LFG well monitoring but may involve 4 gas meter monitoring for safety purposes and for detecting methane levels from obvious emission sources, such as broken LFG well hoses or liner perforations.

5.2 Gas Well Data Collection and Analysis

Composition and quality observed at individual gas extraction locations outside of the former Aluminum Waste Reaction (AWR) Area and areas of final closure are currently monitored two (2) times per month (in

excess of the one (1) time per month monitoring requirement stipulated by NSPS regulations). Additional monitoring is routinely performed on collectors of interest such as new collectors throughout the year to improve performance.

Measurements are made in the field at the wellhead sampling ports using an Elkin's Earthworks Envision Gas Analyzer equivalent. The monitoring device is calibrated according to the manufacturer's recommendations and applicable regulations. The instrument utilized provides measurements regarding the collected gas stream's composition in terms of methane, oxygen, and carbon dioxide content, as well as gas stream characteristics regarding temperature, applied pressure/vacuum, and flow rate. Based upon the characteristics observed during the monitoring event, technicians have the ability to make infield adjustments at the time of the monitoring event. The Envision has the following accuracies within the referenced ranges:

- Methane (CH₄) – 0-100% range with a $\pm$ <2.0% absolute accuracy by NDIR Sensors
- Carbon Dioxide (CO₂) - 0-100% range with a $\pm$ <2.0% absolute accuracy by NDIR Sensors
- Oxygen (O₂) – 0-2% range with $\pm$ <0.1% absolute accuracy and 2-25% range with $\pm$ <5% relative accuracy using an electrochemical cell.
- Pressure is measured from -130" H₂O to +130" H₂O at $\pm$ 2.0% accuracy.
- Temperature Readings via Bluetooth probe in the range of -30 to 400°F
- Unit Operating Temperature -4 to 122°F.

5.3 Gas Well Data Analysis

Valid and consistent well-field data is critical to maintaining compliance and is essential to making accurate tuning decisions. Without accurate data, improper tuning adjustments can lead to performance issues, migration issues and potentially long-term damage to the gas producing bacteria population. At the end of each monitoring day, the Envision is downloaded and uploaded via secure encrypted software to an online database utilized by MPLF. The technician(s) that collected the data will review to look for triggers, unusual trends, or anomalous readings that may not have been detected in the field. Additionally, the data approver will review all data within 48 hours of collection to look for triggers, unusual trends, and anomalous readings. Any erroneous data flagged during review may be edited through a communications and documentations protocol for edits required through the online database. Once data is uploaded to the online database, MPLF and its contractors/consultants have access to the wellfield monitoring data and can review for compliance, operational review, data analysis, and report generation.

When compliance parameters are encountered, MPLF tracks and performs the required rechecks and maintenance items to attempt to correct the exceedance in accordance with the regulations.

MPLF has developed and continues to develop, as applicable, geographic “sections/groupings” of wells within the GCCS to assist with the analysis of well performance with specific attention paid to LFG well flow. Wells may be in one or more groupings for analysis based on their individual attributes. Examples of these groupings include but are not limited to:

- Geographic areas (ex. South Hill, Wind Defender, Ridge Line)
- Wells installed during select construction events (ex. 2023 Phase 1 Expansion, 2023 Slope Collectors, 2024 Phase 1 redrilled wells)
- Wells that exhibit similar characteristics (ex. Bubble Suckers, Horizontal Collectors, Leachate Cleanouts, Wells that flow in select ranges)
- Top Tier Performers – Wells may be added/subtracted from these types of groups over time. Top tier performers are determined by historical performance and relative performance to surrounding collectors.
- Bottom Tier Performers – Wells may be added/subtracted from these types of groups over time. Bottom tier performers are determined by historical performance and relative performance to surrounding collectors.
- Wells with pumps.

MPLF will at a minimum determine 5 geographic regions for analysis and will discuss this determination with the City during the Annual Meeting. The analysis determining the groupings and qualifying performers will be reviewed with the City during the engagement meetings.

MPLF routinely reviews these groupings’ performance data for considerations of odor management, wellfield compliance, GCCS design considerations, and general health of the wellfield. By utilizing these groupings, MPLF can also correlate other data associated with the wells in the groups such as liquid levels, pump performance data, surface emissions monitoring results, and methane drone scans. Correlating these various data streams allows for in-depth analysis that allows MPLF to develop action plans for specific groupings or individual wells within the group. Examples include:

- Additional well-field monitoring.
- Potential pump installation candidates.
- Pump maintenance/replacement candidates.

- Cover Soil Maintenance
- Design considerations, such as redrill candidates.
- General maintenance items needed.

5.3.1 Gas Well Data Reporting

MPLF will complete a field inspection for all monitoring points documenting the inspections conducted during the routine monitoring events. Any issues or deficiencies noted will be tabulated into a Wellfield Maintenance Log. Items noted during inspection and corrected while the technician was performing the inspection will also be included in the maintenance log. Upon completion of the monthly inspections, the tabulated log will be provided to MPLF. Timelines will then be established for each action item and if materials or replacement parts are needed for repairs, cost estimates will be provided, and materials will be procured accordingly. The completion of all tasks associated with the maintenance log will be documented and reported.

Wellfield data analysis, historical trending, statistics and operational data are memorialized in the monthly OM&M report. The on-going analysis of data and documentation of field observations are reviewed during the weekly and monthly GCCS meetings.

5.4 LFG Well and Collector Integrity Inspection

Regular inspection and maintenance of GCCS components is necessary to operate the system consistently and reliably. Maintenance procedures are intended to be preventive in nature and to identify problems before they impact the performance of the GCCS or its components.

All wells are inspected at least monthly during the standard well-field monitoring events. Visible inspections are performed for all above grade well components during these monitoring events. Before leaving each well, the technician will check the well casing, wellhead, and lateral to ensure all components are tight, not leaking, and functioning properly. Items to inspect are listed below. Issues observed during monthly inspections will be documented and included in the monthly report or communicated to the Environmental Manager (EM). Repairs will be made as expeditiously as possible, and in some cases, as listed below, will be performed during the routine monitoring event.

5.4.1 Flexible Hose

MPLF will verify that flexible hoses are of adequate length, are not bound, kinked, or constricted and provide proper drainage of condensate. Weathering of the hose will be noted (breaks, cracks, brittle condition, etc.) and the hose will be replaced if necessary.

5.4.2 *Wellhead Valve*

Wellhead valves are utilized to control the amount of vacuum applied to an individual collector. During monitoring events, technicians ensure all wellhead valves are functioning properly by occasionally exercising the valve along its entire operating range to confirm proper function. Deficient valve components are documented and replaced before the next tuning event.

5.4.3 *Sample and Temperature Ports*

The sample and temperature ports installed on the LFG Collector are used to connect the LFG monitoring device for data collection. The following features are considered during inspection:

- All ports on the well and wellhead are checked to ensure that they are installed tightly, functioning properly, and are not leaking. Leaking ports are replaced before the next tuning event.
- All ports are checked to ensure they are free of debris and are cleaned, as necessary.
- Sample port caps are inspected for damage or deterioration and replaced if necessary.

5.4.4 *Flow Measurement Components*

Flow measurement is mandatory for wellhead readings, and MPLF will take steps to ensure accurate readings are obtained. This includes ensuring that flow measurement components (pitot tubes, orifice plates, etc.) are properly installed and that the monitoring device is set up properly to record flow rates. As part of this process, the technician performing the monitoring event will take the following into consideration:

- If using pitot tubes, MPLF will confirm that the pitot tube is in place. MPLF will routinely clear pitot tubes (even if there is no immediate evidence of obstruction) by either blowing a short burst of compressed air through the tube or removing and cleaning the pitot tube no less than quarterly. Documentation of cleaning will be provided in the monthly report.
- If orifice plates are used, MPLF will ensure the orifice plate is properly sized so that excessive pressure loss is not occurring across the plate, and that the differential pressure is in the desired range specified by the wellhead manufacturer (generally between 0.5 and 6.0 in-w.c.) to ensure accurate readings.
- If using venturi-style wellheads, MPLF will be aware of differential pressures at various flow conditions and ensure that the equivalent orifice plate size is programmed into the monitoring instrument or that the instrument is otherwise set up to properly record flow rate from the wellhead. If an excessive pressure drop is occurring, MPLF will make the necessary adjustments.

5.4.5 *Mechanical Joints*

Faulty or damaged mechanical joints may present an opportunity for either introduction of atmospheric air into the collection system, or the expulsion of gases into the atmosphere. As part of routine monitoring events, MPLF will inspect physical joints using the following guidelines:

- Ensure all mechanical joints (Fernco couplers, PVC unions, electrofusion couplings, etc.) are tight, functioning properly, and are not leaking.
- Gaskets are checked whenever mechanical joints are checked and whenever flanges are disconnected. Gaskets should only be reused if it is confirmed that the gasket integrity is intact. Old, worn, or cracked gaskets should never be reused.
- Elastomeric couplings (i.e., Fernco fittings) can lose structural integrity over time and result in leaks. These couplings should be checked regularly and be replaced, as necessary.
- Ensure all clamps and mechanical fasteners are tight and operating properly.
- Clamps must be installed on all flexible hoses, regardless of how tight they fit. If any wellhead flex hoses do not have clamps, install clamps per the design drawings. “Worm-gear” clamps are not to be used to secure wellhead flexible hoses.
- Document indications of vacuum leaks and repair. Signs of potential leaks include but are not limited to:
 - Hissing sound coming from a joint.
 - Staining or accumulation of liquid on a well casing or wellhead.
 - If vacuum leaks are suspected, perform a wellhead integrity test.
 - Take a reading at the first available sample port on the wellhead closest to the landfill surface (first port from the borehole)
 - Take a second reading at the farthest downstream sample port on the wellhead (i.e., closest to the vacuum source).
 - If the two readings are close to matching, the wellhead integrity is considered acceptable. If the downstream sample has a 4:1 ratio of balance to oxygen, an air leak may be present in the wellhead and the wellhead needs to be investigated to identify and seal up any leaks.

5.4.6 *Geomembrane Boots around Pipes and other Penetrations*

In areas where final or temporary cover has been installed, GCCS components will penetrate the synthetic membrane for the purposes of monitoring, maintenance, and adjustment. As part of the monitoring process, technicians utilize the following criteria to assess the integrity of these penetrations:

- In areas capped with geomembrane, inspect the above grade well boots, clamps, or sliding boot components.
- Clamped boots are inspected to ensure the clamp is tight and there are no leaks around the casing.
- For sliding boots, if the flexible coupling (Fernco) is stretched due to settlement, the top clamp should be loosened, the Fernco coupling adjusted, and the clamp retightened to ensure an airtight seal.

5.4.7 *Well Casing*

The integrity of the well casing serves to prevent the intrusion of air or water into the extraction collector. As such, during monitoring events, MPLF will verify that the well casing integrity and general ground conditions surrounding the extraction well do not exhibit signs of distress. Voids and settlement near any well (if observed) are noted and communicated to MPLF management.

5.4.8 *Well ID Label*

Monitoring locations are individually numbered to aid in identification during monitoring events. As a second step verification, the monitoring instrumentation utilized by technicians is also equipped with GPS location detection to confirm that the monitoring point corresponds with the numbered collector. If a well is not labeled, or the label has become illegible due to weather exposure, the technician will install appropriately sized labels with the ID number.

5.5 Liquid Extraction

The presence of liquids within a collection well can limit the extraction rate of an LFG Collector. Liquid can inhibit the collection efficiency of an LFG well by limiting the availability of gas to be pulled through the gravel pack and well casing perforations. In some cases, installing a liquid extraction pump in a collector can lower liquid levels in the well and increase the flow of LFG to the well. Determining if lowering the liquid level is feasible in a well location and if there will be a resultant increase in flow or decrease in fugitive emissions requires continuous field experimentation and data trending. In many cases it is impossible to remove all liquids from a well due to the nature of the liquids/solids or the recharge rate of the liquids. Determining a

liquid level's impact on fugitive emissions can only be verified through the surface and aerial monitoring programs described in the previous sections.

MPLF currently has installed liquid extraction pumps in select wells to improve the collection of LFG. Liquid extracted from pneumatic or electric pumps in the wellfield is pumped through a network of force mains and lift stations to the storage tanks where it is treated at the onsite Wastewater Treatment Plant (WWTP).

5.5.1 Liquid Level Data Collection

Liquid level and depth to bottom of well casing measurements will be obtained on all accessible vertical gas extraction wells at MPLF on a quarterly basis. Wells that are equipped with remote access laterals, horizontals, cap integrity collectors, etc. and/or vertical wells that display conditions which preclude safe access cannot be measured. Select wells may receive more frequent liquid level measurements throughout any given quarter based on operational considerations and or during troubleshooting scenarios.

5.5.2 Liquid Data Analysis

Liquid level and depth to bottom measurements are utilized routinely by MPLF for various operational and design considerations. These include, but are not limited to:

- Determining well integrity based on measured bottom compared to installation design depth. This is referred to as the “available perforations” vs. “design perforations.”
- Determining the amount of liquid in the water column
- Determining amount of open and available feet /percentage of perforations for extraction.
- Consideration in determining whether a well is a redrill candidate.
- Consideration in determining whether a pump is warranted for installation.
- Consideration in determining enhanced pump maintenance.
- Determining historical correlation of gas well flow and water levels for individual wells and groupings.

5.5.3 Pump Installations

MPLF considers liquid level data, gas well data, field observations, and emissions monitoring to determine if a pump installation is necessary. Further observation and data collection ultimately determines what type of pump is installed and at what depth the installation should take place. Variables that MPLF considers are:

- Emissions monitoring results in individual collectors or areas of the facility that have elevated liquid levels.

- Historical flow readings correlating the increase in flow, if any, the collector experienced when water levels in the collector were reduced.
- Age of and condition of the waste in the area of the collector.
- Viability of pumping operations in the area due to the presence of sludge or other liquid characteristics that inhibit pumping operations.
- Consideration of what collectors are in areas of certified final cover or EGC.

MPLF will install a pump in any vertical extraction well that has greater than 50% of the available perforations blocked by liquids within 30 days of the measurement.

Available perforations are defined as any perforations that are located above any pinch or blockage that are available for dewatering with a pump.

5.5.4 Pump Maintenance

Once MPLF has determined a well warrants the installation of a pneumatic pump, the pump and all its ancillary equipment are procured and installed. MPLF will routinely inspect and perform the required maintenance to ensure that pumps are operating efficiently. These inspections are performed at least twice (2x) per month. The inspection consists of recording the cycle counter numbers and a visual observation of the pump to note any kinked liquid discharge hoses, leaking liquid discharge hoses and fittings, leaking air supply components (regulators, fittings, valves), etc.

MPLF will service pumps noted during the inspections to be inoperative after these inspections and thorough data trending analysis. MPLF maintains an inventory of spare pumps and parts as well as a cleaning/repair station. Maintenance activities vary depending on field observations and data collection, these activities may include, but are not limited to:

- Replacement of failed parts.
- Cleaning of the pump.
- Adjustments/tuning of the pneumatic control mechanisms of the pump.
- Replacement of discharge and air supply tubing.
- Re-setting of the pump depth in the well casing to avoid liquids that inhibit pumping operations.
- Removal of a pump from a well that no longer has enough liquid in the well column.
- Removal of ancillary parts to the pump if the pump becomes stuck and unretrievable in the well casing.

- Preventative replacement of a pump before it fails.

MPLF will service all pumps at least twice per year. The frequency of pump maintenance at individual wells may vary based on individual conditions that exist at any given well. MPLF will utilize their field experience and data analysis of select wells to determine if certain wells will benefit from more frequent than twice per year maintenance.

Field observations from the pump maintenance activities and review of the gas well and water level data are utilized to determine if an alternative pump is warranted in an individual collector.

5.5.5 *Liquid Data Reporting*

At the completion of each quarter, MPLF will create a quarterly report detailing the results of the quarterly liquid level measurements. This report will consist of the following information:

- Tabulated results for measured liquid and bottom of well casings depths for each vertical collector.
- Wells equipped with a pump at the end of the quarter as well as percentage of wells equipped with pumps.
- Estimated volume of liquid removed from the pumping network including cycle counts for installed pumps.
- Calculations of open feet of perforations and percentages of open feet of perforations.
- Calculations of available feet perforations and percentages vs. design installation feet of perforations.
- Pump maintenance logs (list of which pumps were serviced during the quarter) as well as a rolling list of pumps serviced throughout the year.

MPLF will share this report with the City and meet to discuss the results as part of the ongoing partnership to reduce fugitive emissions from the facility.

5.5.6 *Enhanced Liquid Level Monitoring*

As part of this plan MPLF will increase the frequency of the liquid level monitoring to a minimum of once per month for a duration of 6 months in response to any one of the following conditions:

- Two consecutive quarterly SEM exceedances above 500ppm at any one location will result in monthly liquid level monitoring for 6 months for all vertical extraction wells within 150 ft of the exceedance from the date of the last exceedance.

- Any area of increased odor potential identified and documented in the routine odor patrols will result in monthly liquid level monitoring for 6 months for all vertical extraction wells within 150 ft of the documented area.
- A month to month decrease in total flow of 50% or greater in any one of the predetermined geographic regions discussed in Section 5.3 of this plan will result in monthly liquid level monitoring for 6 months for all vertical extraction wells in the geographic region.

The enhanced liquid level monitoring data will be reviewed monthly by MPLF to determine the efficacy of the liquid extraction efforts.

5.6 Preventative Infrastructure Inspection

As part of the preventative inspection and corrective action measures the facility employs, MPLF routinely inspects and services crucial components of the GCCS on a scheduled basis. Components include the Blower/Flare Station, Condensate Sumps, and force mains and gravity lines that service the GCCS. Features of the inspections include:

- Blower/Flare Station Monitoring – The blower/flare station(s) are monitored at the beginning and end of each day that the wellfield is monitored and on other occasions as may be necessary to confirm proper system operations. Readings are collected at the inlet for gas concentrations, system pressure, flow rate, and blower system discharge pressure. Additional items to be inspected are:
 - Condensate Knockout Pot (KOP) – check for differential pressure across the demister pad to determine baseline conditions. If differential pressures increase over time, pull, inspect and clean as necessary. The demister pad should also be inspected and cleaned once per year. Check KOP liquid levels to verify proper drainage.
 - Blower Amps: Check and record blower amps. If amperage is out of the normal operating range, begin troubleshooting blower operations.
 - Blower Hours: Record the hours of blower operations (totalized) displayed at blower station control panel.
 - Blower Vibration/Noise: Note any excessive vibrations/noise that may indicate bearing conditions are affecting blower operations.
 - Blower Bearing Temperature: Record blower bearing temperatures and compare to acceptable temperature range. Note any increasing trend in temperatures that may indicate potential failure or excessive wear.

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- Flow Meter: Confirm that the flow meter is properly aligned. OM&M provider will coordinate with MPLF to have the flow meters calibrated by the manufacturer annually and provide certification.
 - Flame Arrestor: Measure differential pressure across flame arrestor. Periodically open drain valve at base of flame arrestor to remove any built-up condensate. If differential pressure increases over time, it may need to be pulled, inspected, and cleaned. OM&M provider will pull and inspect annually at a minimum.
 - Enclosed Flare Burner Tips: Record the pressure between the outlet of the flame arrestor and the inlet of the enclosed flare stack. If pressures are trending up, the burner tips may need inspected and cleaned.
 - Enclosed Flare Shell Temperature: At least once per month and while the flare is running, measure the temperature of the outside shell of the enclosed flare at a minimum of 4 locations around the stack using an infrared gun with an appropriate range to determine if there are any “hot spots” or areas of potential burn-through. Temperatures will vary depending on a few factors, including operating temperature, wind conditions, ambient temperature, and cloudiness. Unless specified otherwise by the flare manufacturer, shell temperatures should typically be between 200° and 400° F, but should not exceed 500° F. If any hot spots are detected with the infrared gun or based on visual observations, OM&M provider will notify MPLF that the flare insulation may need inspected and repaired.
 - Electronic Chart Recorder: Check that the chart recorder is properly recording flow rate to each flare, control device combustion temperature, and inlet vacuum to the KOP. Download and upload the data to the approved database.
 - Condensate Sumps – Condensate Sumps are monitored weekly and periodically for troubleshooting purposes. MPLF will record liquid levels, cycle counters, pump operations, force main pressures and or flow meter totalizers. If any parameters are outside normal operating conditions, MPLF will begin troubleshooting.
 - GCCS-Related Force Mains & Gravity Drain Lines: MPLF collects force main pressure readings at various points throughout the GCCS to assess the functionality of the system monthly. If elevated pressures are encountered, MPLF develops corrective action plans.

Inspections of the mentioned infrastructure are documented on their respective maintenance log forms and are included in the monthly OM&M report. MPLF also has a monthly OM&M Meeting where these items are presented, reviewed, and discussed.

5.7 Monthly Cover Integrity Inspection

MPLF performs monthly Cover Integrity Inspections of the exposed geomembrane cover, final cover, and intermediate cover. If issues such as rips, tears, or holes in the EGC are noted during the inspection, or erosion rills and ponding water in the intermediate cover are observed, MPLF documents these locations. MPLF and its third-party contractors meet weekly to develop a corrective action plan and begin to implement any repairs, as necessary. As repairs are completed, MPLF logs the repairs on the initial inspection form. These reports are included in the monthly OM&M report and reviewed at the monthly OM&M meeting with MPLF and its contractor/consultants.

As part of this plan MPLF will repair the following deficiencies as soon as practicable and not later than the next monthly inspection:

- Damage to the geosynthetic boots
- Damage to the EGC
- Erosion and ponding water in the intermediate cover

5.8 Intermediate/Daily Cover and Leachate Seep Inspection

MPLF site personnel perform daily site inspections for leachate seeps and cover integrity. The locations of cover deficiencies and leachate seeps are recorded on a drawing in the MPLF conference room. The completion of the corrective action is documented on the drawing and made available for review by TDEC during inspections.

Corrective actions may include but are not limited to:

- Inspecting infrastructure in the vicinity of the leachate seep for any damaged or compromised components. If any are noted, corrective action repairs are implemented.
- Addition of cover soils.
- Installation of a leachate dewatering sump.

5.9 AWR Management

As part of previous negotiations with TDEC, MPLF has developed a comprehensive OM&M plan to manage the AWR area. The OM&M plan is voluminous and requires enhanced monitoring and reporting to TDEC for the collectors in the historical AWR area. Laboratory analysis of samples collected with a bag or Suma canister are required for each well in the AWR area annually. Outside of the requirements of the OM&M plan MPLF will generally perform a laboratory analysis on the gas quality of a collector if the well exceeds a temperature of 151 degrees and or has elevated balance gas concentrations reported during the monthly wellfield tuning regardless of whether it is located in the AWR area. MPLF will continue to abide by the requirements of the OM&M plan, as incorporated in their permit, as well as any other applicable state and federal regulations.

MPLF will provide to the City on a quarterly basis the temperature, pressure, and gas quality data for gas wells and probes in the AWR area and will show long-term trends for the data for the wells that continue to have measurements.

5.10 Periodic Inspections

The City's consultants will be permitted to make semiannual visual inspections of the MPLF on such dates to which the parties agree based on availability of consultants, weather, and landfill operations. These inspections will not involve surface emissions monitoring or LFG well monitoring but may involve 4 gas meter monitoring for safety purposes and for detecting methane levels from obvious emission sources, such as broken LFG well hoses or liner perforations.

6 DISPUTES

6.1 Failure to Implement Key Elements of the Plan

For the first two years after the effective date of the settlement, if MPLF fails to implement Key Elements of the Plan, as defined below in Sections 6.1.1 to 6.1.10, BFI will make a payment to the City as the sole stipulated remedy for missed deadlines, unless cured as provided in Sections 6.1.1 to 6.1.10, or excused by force majeure or agreement with the City. The total amount of any such payments in any one year shall not exceed \$50,000 and shall be used for the sole purpose of reimbursing the City under Section V.B. of the Settlement Agreement for the costs of the independent consultant retained by the City to review information shared pursuant to the Gas and Odor Management Plan and to perform semiannual visual inspections of the MPLF, pursuant to Section 5.10 of the Plan. Any such payments under this Section 6 of the Plan shall reduce the amount to be reimbursed by MPLF to the City under Section V.B. of the Settlement Agreement. MPLF and the City each agree to reasonably cooperate with the other party in all attempts by MPLF to perform a Key Element of the Plan, including cooperating to schedule a required meeting. The Key Elements of the Plan, the cure process, and the payments for failure to implement these elements are:

6.1.1. First Steps of Plan, Table 1 and Section 5.1.

Failure to provide initial information sharing, permit baseline inspection and conduct initial meeting within first 60 days, subject to a cure period of 30 days after the City provides notice of the failure. (*One-time payment of \$5,000*).

6.1.2. Quarterly and Annual Meetings and Data and Information Sharing, Table 1, Section 4 and 5

Failure to participate in quarterly or annual meetings, subject to a cure period of 30 days after the City provides notice of the failure. (*One-time payment of \$5,000 for each missed meeting or each failure to provide required data and information.*)

Failure to provide the data and information on O&M activities to be shared with the City in Sections 4 and 5 either prior to or during meetings, subject to a cure period of 30 days after the City provides notice of the failure. (*One-time payment of \$2,500 for each failure to provide required data and information.*)

6.1.3 Commencement of Monitoring and Maintenance after SEM Exceedances, Section 4.1.1

Failure to commence the monitoring and maintenance actions listed in Section 4.1.1 within 7 days of a single exceedance of 50,000 ppm methane or 3 measurements of 3,000 ppm methane in three quarters out of four.

Failure to conduct the corrective actions listed if MPLF reports a measurement greater than 500 ppm in subsequent 15- day and 30-day scans after the monitoring and maintenance actions are complete at the locations where 50,000 ppm methane or 3 measures of 3,000 ppm methane in three quarters out of four occurred.

If MPLF provides the City with notice of the failure to commence the required monitoring and maintenance actions within 7 days, it may have an additional 7 days to cure the failure without making a payment to the City. After that, MPLF shall pay \$500 per day for each day that it fails to commence the required monitoring and maintenance actions for Days 1 through 5, \$1,000 per day for each day for Days 6 through 10, and \$1,500 for each day for Days 11 and beyond. If MPLF does not provide notice, the payments shall be calculated from the date of the failure to conduct the required monitoring and maintenance actions.

6.1.4 Failure to Make Repairs to Flexible Hose, Sample and Temperature Ports, Mechanical Joints, and Geomembrane Boots, Section 5.4

Failure to replace flexible hoses or repair connections identified as leaking landfill gas prior to the next monthly inspection after the finding of the deficiency.

Failure to replace or repair sample and temperature ports identified as leaking prior to the next tuning event.

Failure to repair or replace mechanical joints identified as leaking landfill gas prior to the next monthly inspection after the finding of the deficiency.

If MPLF provides the City with notice of the failure to make the required repairs within 7 days, it may have an additional 30 days to cure the failure without making a payment to the City. *(After that, MPLF shall pay \$1,000 per day for each day that it fails to make the repairs for Days 1 through 5, \$2,000 per day for each day for Days 6 through 10, and \$2,500 for each day for Days 11 and beyond. If MPLF does not provide notice, the payments shall be calculated from the date of the failure to make the repairs.)*

6.1.5 Odor Complaint Investigation, Under Section 4.5

Failure to conduct an investigation of a real-time odor complaint, as defined in Section 4.5. No cure period is available for failure to conduct an investigation of a real-time odor complaint within a reasonable time, nor are the days following the time for the investigation compounded for payments. *(One-time payment of \$2,500 for each failure to conduct an investigation of a real-time odor complaint.)*

6.1.6 Failure to Investigate and Attempt to Correct Exceedance of Actionable Monitored Air Quality Concentrations, Section 4.5.1

Failure to begin site inspections to determine the source of actionable monitored concentrations.

Failure to attempt to correct the cause of elevated readings within the time required under Section 4.5.1.

Failure to submit a required root cause and corrective action plan to the City within 7 days of the trigger reading.

If MPLF provides the City with notice of failure to begin site inspections, to attempt to correct the cause of elevated readings or to submit a required root cause and corrective action plan within 7 days after these actions are due, it may have an additional 7 days to cure the failure without making a payment to the City. *(After that, MPLF shall pay \$1,000 per day for each day that it fails to take these actions for Days 1 through 5, \$2,000 per day for each day for Days 6 through 10, and \$2,500 for each day for Days 11 and beyond. If MPLF does not provide notice, the payments shall be calculated from the date of the failure to take the actions.)*

6.1.7 Failure to Install Pump, Section 5.5.3

Failure to install a pump in any vertical extraction well that has greater than 50% of the available perforations blocked by liquids within 30 days of the measurement, if feasible.

If MPLF provides the City with notice within 7 days of failure to install a pump in accordance with Section 5.5.3, it may have an additional 30 days to cure the failure or provide the City with proof the installation of the pump was infeasible without making a payment to the City. *(After that, MPLF shall pay \$1,000 per day for each day that it fails to install the pump for Days 1 through 5, \$2,000 per day for each day for Days 6 through 10, and \$2,500 for each day for Days 11 and beyond. If MPLF does not provide notice, the payments shall be calculated from the date of the failure to install the pump.)*

6.1.8 Failure to Repair or Replace Failed Pump, Section 5.5.4

Failure to repair or replace a failed pump in an active vertical extraction well where liquids are blocking 100 percent of the available perforations, if feasible.

If MPLF provides the City with notice within 7 days of failure to repair or replace a pump in accordance with Section 5.5.4, it may have an additional 30 days to cure the failure or provide the City with proof the installation of the pump was infeasible without making a payment to the City. *(After that, MPLF shall pay \$1,000 per day for each day that it fails to repair or replace the pump for Days 1 through 5, \$2,000 per day for each day for Days 6 through 10, and \$2,500 for each day for Days 11 and beyond. If MPLF does not provide notice, the payments shall be calculated from the date of the failure to repair or replace the pump.)*

6.1.9 Failure to Share Liquid Data Report with the City, Section 5.5.5

Failure to share the liquid data reporting, as defined in Section 5.5.5, on a quarterly basis with the City, which remedy shall commence at the end of the quarter following the previous liquid data report shared with the City, subject to a cure period of 30 days after the City provides notice of the failure. *One-time payment of \$2,500.*

6.1.10 Failure to Repair Deficiencies in the Exposed Geomembrane Cover, Final Cover, and Intermediate Cover, Section 5.7

Failure to repair (1) damage to geosynthetic boots; (2) damage to the EGC, or (3) erosion and ponding of water in the intermediate cover on or before the next monthly inspection after the initial finding. If MPLF provides the City with notice of the failure to make the required repairs within 7 days, it may have an additional 30 days to cure the failure without making a payment to the City. *(After that, MPLF shall pay \$1,000 per day for each day that it fails to make the repairs for Days 1 through 5, \$2,000 per day for each day for Days 6 through 10, and \$2,500 for each day for Days 11 and beyond. If MPLF does not provide notice, the payments shall be calculated from the date of the failure to make the required repairs.)*

6.2 Notice and Right to Cure

Upon receiving notice, MPLF and the City each agree to reasonably cooperate with the other party in all attempts by MPLF to cure a failure to implement a Key Element of the Plan, including cooperating to schedule a required meeting within the cure period or agreeing to extend the cure period to schedule any such meetings.

6.3 Dispute Resolution Process.

If a dispute arises between MPLF and the City concerning the implementation of this Plan, the Dispute Resolution Process in Section XV of the Settlement Agreement may be invoked by either party.

7 HEALTH AND SAFETY

The health and safety of MPLF staff, its consultants and vendors will take precedence over any commitment or timeline established in this plan. All parties agree to cooperate in good faith to extend the timelines for completion or temporarily suspend monitoring or construction activities if site conditions do not allow them to be completed safely as stated in this plan.

8 MODIFICATIONS

This Plan may be modified by agreement of the parties hereto. Modifications will be in writing and effective on the date of signature by all parties.

9 OTHER APPLICABLE LAWS

All actions required to be taken pursuant to this plan will be undertaken in accordance with the requirements of all applicable local, state, and federal laws and regulations. This plan does not waive or compromise the applicability and enforcement of any other statutes or regulations applicable to the parties.

10 TERMINATION

The parties' obligations under this plan will terminate upon mutual signed agreement or when MPLF has completed certification of the permitted Final Capping System of the existing permitted footprint, whichever occurs first.

APPENDIX A
2024 AND 2025 LFG CONSTRUCTION DRAWINGS

APPENDIX A1
2024 LFG CONSTRUCTION DRAWINGS
MIDDLE POINT LANDFILL

APPENDIX A2
2024 PRE-CELL DEVELOPMENT LFG CONSTRUCTION
DRAWINGS

APPENDIX A3
2025 CELL SLOPE COLLECTOR DRAWINGS
MIDDLE POINT LANDFILL

APPENDIX A4
2025 PERIMETER HEADER AND CELL DEVELOPMENT
LFG CONSTRUCTION DRAWINGS
MIDDLE POINT LANDFILL

APPENDIX A5
2025 FLARE/BLOWER FACILITY UPGRADES AND
TRANSMISSION LINE
MIDDLE POINT LANDFILL

APPENDIX B

GAZOSCAN PRODUCT INFORMATION

APPENDIX C

COMMUNITY ODOR PATROL ROUTE

APPENDIX D

ENVIROSUITE SENSORS DETAILS AND LOCATIONS

AIR QUALITY MONITORING LOCATIONS

