MEMORANDUM

TO: Mr. Paul D'Amato
Regional Director, Region 8
New York State Department of
Environmental Conservation

FROM: Waste Management of New York, LLC

DATE: September 20, 2018

RE: Response and Opposition to Third Parties' Request to Modify the High Acres Landfill Part 360 Permit

I. EXECUTIVE SUMMARY

A. The High Acres Operating Record

Waste Management of New York, LLC ("WMNY") has operated the High Acres Landfill and Recycling Center (referred to as the "Landfill" or "High Acres") since 1972 on 1,100-acres of property situated at 425 Perinton Parkway in both the Towns of Perinton and Macedon,[1] New York (the "Property"). Among other Federal, State, and Local approvals, WMNY operates the Landfill pursuant to a Part 360 Solid Waste Management Facility Permit (the "Permit") issued by the New York State Department of Environmental Conservation ("NYSDEC"), which authorizes active waste placement on 366 acres of the Property.

WMNY is proud of the Landfill's 50-year record of operating a facility that fulfills critical regional and State-wide waste handling, recycling, and disposal needs. Indeed, the waste disposal capacity at High Acres is an important consideration in New York State's solid waste management plan. See "Beyond Waste: A Sustainable Materials Management Strategy for New York State," adopted Dec. 27, 2010. Furthermore, WMNY holds itself to a high standard to minimize adverse operational impacts on the surrounding community by implementing creative

[1] The municipalities will be referred to collectively as the "Towns" and individually as "Perinton" and "Macedon."

measures that foster sustainability, environmental awareness and stewardship. In furtherance of these goals, WMNY has developed two landfill gas-to-energy power plants at the Landfill and a nature conservation area with trails open to the public. WMNY also operates a yard waste and composting facility serving the area municipalities, an organics program for food waste serving area colleges, and an on-site training center for emergency responders and law enforcement. WMNY's operating record for High Acres has been historically excellent.

B. The Uncharacteristic 2017 Odors and WMNY's Extensive Response

The Landfill has operated for decades without significant adverse impacts, but in the later part of 2017, a variety of factors converged to increase odors emanating from the Landfill to a level that WMNY, NYSDEC, and the surrounding community found unacceptable. Because of these odor concerns, and in keeping with WMNY's commitment to minimize impacts from its operations, WMNY retained outside experts to conduct an expedited investigation to identify the causes of the anomalous odors.

This investigation concluded the unusual odors resulted from several factors, including operational changes, design issues related to gas collection infrastructure, and atypical weather patterns. The experts WMNY retained worked: (i) to identify measures that would reduce the odors, and (ii) to develop a plan to implement those measures as quickly as possible, which included obtaining the necessary approvals and authorizations on an expedited basis. WMNY engaged with NYSDEC officials throughout this process to receive the approvals required and similarly cooperated with the requests from the Towns regarding odor reduction efforts.

In sum, WMNY constructed extensive infrastructure enhancements, instituted operational modifications, and implemented unprecedented monitoring on and off the Property to address

community concerns and reduce odors.[2] These enhancements were completed at a cost of approximately $4 million, and they were completed in approximately five months even though the nature and scope of the enhanced infrastructure and engineering controls installed at the Landfill would normally take more than a year to complete. WMNY also instituted several operational modifications along with an unprecedented monitoring program not seen at any other landfill facility to confirm the efficacy of the measures implemented. WMNY ensured that the community's concerns were addressed quickly by (among other things) extending work beyond normal hours and by working weekends and holidays. Since these corrective measures were completed, odors have markedly improved, odor complaints to NYSDEC have significantly declined, and odors are no longer presenting significant concerns.

Despite claims by Fresh Air for the Eastside, Inc. ("FAFE") and various individuals (collectively, the "Petitioners") that the extensive measures WMNY undertook were already required under the Landfill's existing Permit, a review of applicable permit and regulatory requirements show that is not the case. Instead, the infrastructure changes and other improvements WMNY completed at the Landfill go well beyond any such requirements. Furthermore, while the DEC issued a Notice of Violation dated February 2, 2018 ("NOV"), WMNY had already proposed many measures identified in the NOV, and in fact, it had already begun substantial construction of those measures (with some actually completed). In any event, WMNY followed the NOV's instructions and implemented measures that exceeded those NYSDEC directed WMNY to implement.

[2] As discussed herein, WMNY maintains that it has at all times complied with the Landfill's permits and the applicable laws and regulations. None of the statements contained in this response, or the activities WMNY undertook to address the odors that arose in 2017, should be construed as an admission of any kind.

C. The FAFE Petition

On July 25, 2018, the Petitioners filed a request with NYSDEC, captioned as a Petition, seeking that NYSDEC modify the Landfill's Permit in ten (10) specific ways on the grounds that WMNY allegedly failed to comply with the conditions of the Permit and that the Landfill's receipt of municipal solid waste ("MSW") by railcar from New York City ("NYC") amounts to "newly discovered material information and/or a material change in environmental conditions" that has occurred since the Permit was last modified in 2013. Petition ("Pet."), ¶ 1. While WMNY understands the community's frustrations regarding the Landfill's 2017 odors and committed to doing everything necessary to reduce them, WMNY maintains that it has not violated the Permit and that it has complied with applicable regulatory requirements.

As detailed more fully below, the claims raised in the Petition are unsupported, speculative, conclusive, and/or simply misunderstand the events that have transpired and the Landfill's operations. WMNY respectfully submits that the grounds asserted by Petitioners provide no basis to modify the Landfill's Permit and that Petitioners' requests contained in the Petition should be denied.

II. THE LANDFILL'S PERMITTING HISTORY

WMNY has operated the Landfill at the Property since 1972, initially pursuant to permits issued by Perinton and by the Monroe County Health Department, and later pursuant several different Federal, State, and local approvals. For development purposes, the Landfill is divided into operating "cells," each of which becomes permitted by the appropriate authorities before it is constructed. The Part 360 Permit, for instance, has been modified several times as the Landfill's operations progressed.

NYSDEC issued the Landfill's first Part 360 Permit in 1983 to authorize waste disposal in the "High Acres Landfill" section on the Property, which has since been closed. The Permit was later modified in 1993 to authorize waste disposal in the Western Expansion portion of the Property ("WEX") which contains Cells 1-9. The Part 360 Permit was modified again in 2001 to authorize the Phase I Expansion encompassing Cells 6V-OL, 7V-OL, 8V-OL, and 9V-OL. The Landfill continued to develop and in 2003, NYSDEC issued another Permit modification authorizing the Phase II Expansion ("Phase II"), which involved development of Cells 10, 10-OL, 11, and 11-OL. The Landfill expanded onto the Macedon side of the Property[3] in 2008 with a Part 360 Permit modification authorizing the Phase III Expansion ("Phase III") comprising Cells 12-17 and a 100-foot vertical expansion on the Cells on the Perinton side of the Property. However, after litigation ensued over the authorized 100-foot vertical expansion, the Permit was modified again in 2011 to eliminate that component in Perinton.

The most recent modification of the Permit occurred in 2013 when NYSDEC authorized the construction and operation of an intermodal rail facility at the Property, which allows the Landfill to receive waste via railcars rather than only by truck deliveries (the "Rail Project"). This approval was issued after the Macedon Town Board conducted a review of the Rail Project's potential environmental impacts pursuant to the State Environmental Quality Review Act ("SEQRA"). The Macedon Town Board acted as lead agency for the SEQRA review after WMNY applied for a modification of its local Special Use Permit to authorize the Rail Project. See Exhibit 1, Resolution No. 154 of the Macedon Town Board dated June 27, 2013 Issuing SEQRA Negative Declaration on the Rail Project and Supporting Environmental Assessment Forms ("Macedon SEQRA Determination"). As detailed in WMNY's application materials, the

[3] The Property straddles the municipal boundary line between Perinton and Macedon, and up to this point in the Landfill's history, its active landfilling operations had occurred only on the Perinton side of the Property.

Rail Project did not involve any increase in the maximum daily tonnage allowed by the current Permit,[4] nor did it seek to change the types of waste that would be received at the Landfill. Exhibit 2, High Acres Landfill and Recycling Center Intermodal Rail Unloading Facility Part 360 Permit Modification Narrative, dated April 2013, Revised June 2013, prepared by Civil & Environmental Engineers, Landscape Architects and Land Surveyors PLLC (the "Rail Project Application") § 1.0. Instead, the Rail Project only involved construction of a rail spur at the southern border of the Property where a rail line owned and operated by CSX Transportation ("CSX") already existed. Id. The rail spur would allow WMNY to receive and unload waste at the Landfill by railcars, a method of waste delivery that is widely considered to be more environmentally friendly than transport by trucks. In fact, the use of rail to deliver waste—as opposed to delivery via trucks—furthered Macedon's goals of eliminating wear and tear on local roadways and addressing safety concerns associated with truck operations. The Macedon Town Board reasonably determined, based on all the information before it, that the Rail Project would not result in any significant adverse environmental impacts, issued a Negative Declaration, and approved the Special Use Permit modification on June 27, 2013. See Exhibit 1, Macedon SEQRA Determination. NYSDEC also conducted a thorough review process before approving the Permit modification for the Rail Project.

Due to the potential for air emissions associated with the Landfill's operations, the Landfill also has a Title V air permit issued by NYSDEC (the "Title V Permit"), which requires WMNY to maintain certain emission controls and complete air monitoring and sampling at the Property, among other provisions. The Title V Permit was first issued in 1998 and subsequently modified to authorize the new landfill cells as needed after each Part 360 Permit modification

[4] The approved design capacity for the Landfill under the Permit remained 3,500 tons/day based on an annual average.

that added or changed the emissions sources. The Title V Permit was last modified in 2016 to include the Phase III Expansion.

Part of the Landfill's development also included the design and installation of a Landfill Gas Collection and Control System ("GCCS"). Landfill gas is a naturally occurring byproduct of the anaerobic decomposition of degradable material in landfills. Approximately 50-55% of landfill gas consists of methane while the remainder is primarily carbon dioxide with traces of nitrogen and oxygen. Methane and carbon dioxide are odorless. However, landfill gas also contains trace elements of certain compounds, such as hydrogen sulfide, that contribute to odors and can be detected by human olfactory senses even at very low levels (in the parts per billion range). An active landfill gas collection system is an effective way to control landfill gas emissions and related odors. The system operates to collect and convey the gas to a combustion source, which effectively destroys the constituents in landfill gas that contribute to odors.

Specifically, the GCCS at the Landfill contains large vacuum blowers that extract the gas from the Landfill cells using negative pressure applied to piping, horizontal collectors, and vertical wells; the pressure directs the collected gas into two enclosed flares and a 9.6 MW gas-to-energy plant. See Exhibit 3, Transcript of the January 16, 2018 Meeting of the Perinton Conservation Board ("January 16 PCB Meeting Transcript") at 12-13. The gas is either combusted by the plant to generate electricity (enough to power 10,000 homes) or is combusted by the enclosed flares.

This collection and conveyance system has a perimeter header pipe originating at the vacuum blower/flare station and connecting to the complex series of lateral pipes to convey the gas from gas wells and horizontal collectors. See Exhibit 4, WMNY Presentation at the January 16, 2018 Meeting of the Perinton Conservation Board ("January 16 Presentation to PCB") at

Slides 11-12. These horizontal collectors consist of perforated pipes laid into gravel trenches in areas of active waste placement. Exhibit 4, January 16 Presentation to PCB at Slide 16. They help to manage early gas generation in the waste mass, but they typically have a limited lifespan due to the future waste placement and settlement on top and impairment that occurs when the gravel trenches collect water and block gas flow. It is expected that only a limited portion of horizontal collectors installed will even remain usable once a landfill reaches its final grade. Accordingly, the horizontal collectors are designed to complement and supplement as needed the network of vertical gas wells in the Landfill cells, which provide the most effective long-term gas collection and control. See Exhibit 3, January 16 PCB Meeting Transcript at 13-14. The horizontal trenches were installed as waste was placed into each Landfill cell, including Cells 10 and 11 as depicted on Slides 14-15 of Exhibit 4. See also Exhibit 5, Golder Drawings (Figures 01 – 11) Cells 10 and 11 Gas Collection Features 2009 Through 2018, dated Aug. 6, 2018 (the "Golder Drawings").

WMNY has operated and continues to operate the Landfill in compliance with its Permit and all applicable regulatory requirements. As detailed below, the Landfill's operations have even exceeded those legal requirements by implementing measures that provide additional controls and protections for the community.

III. PETITIONERS' REQUEST TO MODIFY THE LANDFILL'S PART 360 PERMIT

NYSDEC's Uniform Procedures provide that NYSDEC "may consider requests from any interested party" to modify a permit based on the following grounds:

> (1) materially false or inaccurate statements in the permit application or supporting papers;
> (2) failure by the permittee to comply with any terms or conditions of the permit;
> (3) exceeding the scope of the project as described in the permit application;

> (4) newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
> (5) noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the department related to the permitted activity; or
> (6) for [State Pollutant Discharge Elimination System] permits, in addition to paragraphs (1) through (5) of this subdivision, any of the reasons listed in section 750-1.18(b)(1) through (7) of this Title.

6 NYCRR § 621.13(a)-(b). These requests "must be in writing, contain facts or reasons supporting the request and be sent to the regional permit administrator . . . ." 6 NYCRR § 621.13(b). NYSDEC "must decide whether the request is justified and the action to be taken in response to the request." Id. The regulations do not include a set timeframe for NYSDEC to respond to such a request. See Matter of Paskar v. N.Y. State Dept. of Envtl. Conserv., 33 Misc. 3d 1226(A), 2011 N.Y. Misc. LEXIS 5593, at *14 (Sup. Ct. Queens County Nov. 28, 2011); see also Matter of Peconic Baykeeper, Inc. v. N.Y. State Dept. of Evntl. Conserv., 2014 N.Y. Misc. LEXIS 4181, at *6 (Sup. Ct. Suffolk County Sept. 17, 2014).

The Petition alleges that WMNY "negligently removed" horizontal landfill gas collectors from the GCCS design and that WMNY ineffectively managed the GCCS, resulting in an ongoing nuisance from Landfill gas odors. See Pet., ¶¶ 1, 50-77, 115-123. Petitioners also make a number of allegations concerning the MSW the Landfill receives by railcar from NYC, contending that WMNY's alleged failure to effectively manage this MSW resulted in ongoing noxious garbage odors, and contending that receipt of this waste qualifies as a material change in information or environmental conditions because it is allegedly "substantially more odorous than previously handled MSW at the Landfill" and the odors impacts were, allegedly, inadequately assessed before the activity was approved. See Pet., ¶¶ 1, 78-94, 124-132. For these reasons,

Petitioners allege that WMNY has violated its Permit and, therefore, request NYSDEC to modify the Permit pursuant to 6 NYCRR § 621.13(a)(2), (4), and (5) in the following specific ways:

1. To require permanent capping and closure of all Landfill cells within the Perinton side of the Landfill, including a prohibition on Cells 10 and 11 reopening for future disposal and elimination of Phase III Cell 13 from the Permit;
2. To reduce the final permitted elevation on the Macedon side of the Landfill from 788.9 to 688 feet above mean sea level ("amsl") and to determine whether technologies exist that could more effectively address off-site odor impacts and reevaluate whether the 100-foot height increase on the Macedon side is feasible without causing off-site public nuisance odors;
3. To require Community Air Monitoring during all mitigation measure events, including monitoring of all sulfides and volatile organic compounds ("VOCs") detected in Landfill gas;
4. To reduce the authorized volume of MSW received by rail from an annual average of 1,555 tons per day ("tpd") to 778 tpd (representing a 50% reduction in the amount of this waste that the Landfill receives);
5. To impose mandatory timeframes on the amount of time MSW transported by rail can remain on the railcars from the point of generation to receipt at the Landfill (after completing an analysis of the maximum residence time that this material can be managed for without causing a nuisance);
6. To require additional immediate and daily cover requirements on rail-received MSW and to authorize placement of this material only until 2:30 PM;

7. To reopen of the Environmental Impact Statement for the Landfill to analyze impacts from the railed waste and to address the odors associated with it;
8. To direct that, if the rail-received MSW continues to cause nuisance odors even after the above requested controls are implemented, the acceptance of rail-received MSW is discontinued in accordance with Section 5.3 of the permit's Odor Control Plan;
9. To require new Contingency Plan provisions for tremors or explosion incidents to include, at a minimum, a vibration analysis and foundation evaluation of nearby homes to determine if any property damage has occurred; and
10. To require that permit modifications or approved work plan amendments undergo a public permit modification process.

Pet., ¶¶ 1, 9, 182-203. However, Petitioners' allegations do not contain the necessary "facts or reasons" required by 6 NYCRR § 621.13 to support any Permit modification, let alone to support these specific drastic requests. Instead, it has become clear that the goal of FAFE and its supporters is simply to shut down the Landfill's operations regardless of the effectiveness of WMNY's measures to eliminate the 2017 odors. See Exhibit 6, Email from FAFE Leader G. McNeil to Macedon Supervisor Pagano, Feb. 8, 2018 ("I highly suggest you start researching other forms of revenue for your town. I'm well aware that you and [Deputy Supervisor] Mr. Kenyon don't think the landfill will ever be shut down, but we will do our best to make that happen.").

The reality is that some odors will be generated as part of any MSW landfilling operations, and operating local landfills that receive MSW is a fundamental need for our communities. WMNY provides this crucial service and acts persistently to control odors from the Landfill. Many members of the community recognize this need, appreciate WMNY's efforts

to correct the unusual odors that arose in 2017, and support WMNY's Landfill operations. See Exhibit 7, Community Letters of Support. Local residents and WMNY were equally dissatisfied with the occurrence of the 2017 odors and WMNY expended significant resources to address the odor sources expeditiously. WMNY maintains that it has complied with its Permit and the applicable regulatory requirements,[5] remains in compliance at present, and that the Petitioners have established no grounds to warrant Permit modification.

IV. WMNY'S EXTENSIVE ODOR MANAGEMENT ENHANCEMENTS AND THE CURRENT STATUS OF OPERATIONS AND ODORS

A. Overview of Odor Investigations and Implementation of Mitigation Measures

WMNY has completed numerous improvements to Landfill infrastructure and processes to address the odors that arose in the second half of 2017. WMNY determined the cause of the odors as quickly as possible, then diligently designed and engineered a plan to correct them. See Exhibit 8, Letter from WMNY to NYSDEC dated December 20, 2017 (the "December 20 Letter"); Exhibit 9, Summary Report Towpath Investigative Services ("Towpath") Offsite Odor Monitoring February 2018, prepared by Barton & Loguidice, Inc. ("B&L"), dated March 2018 (the "Towpath Investigation Report"). Through these investigations, WMNY concluded that several factors had contributed to the odor problems, rather than any single cause or source. The primary odor contributors were:

1. Removal of an on-site access road in Cell 10 as traffic flow was transitioned to Cell 11, which required the excavation and on-site transport of odorous materials;
2. A restriction in the 24" perimeter landfill gas header that resulted in the temporary reduction of gas collection efficiency;

[5] Even though odors increased in 2017, NYSDEC staff agreed that WMNY was in compliance with its Permit and the applicable regulations, and also recognized WMNY's timely efforts to investigate and implement odor control measures in consultation with NYSDEC staff. See Pet., Exhibit K (Email from NYSDEC Staff dated Nov. 1, 2017).

3. Excess rainwater and leachate generation in 2017 that caused the temporary reduction in collection efficiencies in some gas collection wells and sections of the collection header in Cells 10 and 11;
4. The increased reliance on vertical gas wells and certain slipform well technology in Cell 11 for operational landfill gas collection resulting in reduced collection given 2017's usually wet weather conditions;
5. A header pipe that restricted gas collection system flexibility and ability to induce additional vacuum on odor sources; and
6. Excess rainwater (in 2017, there was 35% more rainfall) and wet conditions that compromised the ability to place and compact cover soils in working areas.

See Exhibit 8, WMNY December 20 Letter; Exhibit 10, Letter from the Perinton Conservation Board ("PCB") to the Perinton Town Board dated January 24, 2018 ("PCB January 24 Letter").[6] These findings were shared with NYSDEC and the community.

Once the odor sources were identified, WMNY developed a mitigation plan and acted to execute it upon receiving the necessary approvals. Completing the corrective actions required a detailed and coordinated evaluation of the Landfill's infrastructure, surveying, preparation of engineering design drawings and plans, NYSDEC approval of those plans, procurement of supplies and contractors, and finally implementation. At present, all of these required mitigation actions have been completed.

B. Enhancements Completed at the Landfill

The enhancements WMNY implemented at the Property to improve odors were extensive, including primary mitigation measures intended to address more immediate gas-

[6] The PCB January 24 Letter was also attached to the Petition as Exhibit N.

related odor concerns as well as long-term odor management improvements. The long-term initiatives focused on installing the next generation of free-draining slipform vertical wells in all future cells and complementing them with horizontal collectors spaced according to the recently updated requirements under 6 NYCRR § 363-7.1(e)(1),[7] as well as hiring additional employees to maintain the enhancements going forward. To date, a variety of work was completed on the Landfill's GCCS to improve its capabilities to collect, convey, and control landfill gas, including:

1. Removing the restriction within the 24" perimeter gas collection header;
2. Installing 26 additional vertical gas wells since June 2017;
3. Installing approximately 20,000 additional lineal feet of horizontal collection piping in Cells 10 and 11;[8]
4. Installing approximately 2,600 lineal feet of horizontal gas collection piping in Cell 12A;
5. Revising the Gas Collection Phasing Plans to incorporate the new regulatory provisions for horizontal well spacing (pursuant to 6 NYCRR § 363-7.1(e)(1), even though that regulatory requirement would not apply to the Landfill for several years, (see fn. 7, infra));
6. Installing approximately 800 feet of a sub-header pipe in Cell 5;
7. Replacing the 8" and 12" diameter sub-header pipes in Cell 10;
8. Replacing approximately 1,100 lineal feet of sub-header pipe in Cell 11;

[7] WMNY has abided by the horizontal collector spacing provision under Section 363-7.1(e)(1) in accordance with NYSDEC's instruction even though the regulatory requirement would not apply to the Landfill's operations until its Part 360 Permit is renewed in 2023. See 6 NYCRR § 360.4(b)(3). Under the pre-2018 version of the Part 360 regulations applicable to the Landfill, installation of horizontal collectors was not required.

[8] See Exhibit 5, Golder Drawings, for depictions of the improvements at Cells 10 and 11.

9. Installing approximately 2,600 lineal feet of 18” and 24” diameter gas collection header pipes from the enclosed flare and the gas-to-electric power plant to Cell 11;
10. Installing a 60-mil HDPE liner in the roadside drainage swale on Cell 11;
11. Installing approximately 4,000 lineal feet of lateral piping to expand new collection;
12. Installing 3,000 standard cubic feet per minute (scfm) utility flares to increase available vacuum in Cells 10-12;
13. Expanding the gas well dewatering system to include over 100 wells, focusing on the area for Cells 10 and 11; and
14. Committing to install a backup power generator for the GCCS.

Enhancements were also completed with respect to the cover used at the Landfill and operational practices for applying cover, such as:

1. Installing approximately 18 acres of geo-synthetic cover membrane along the northern and eastern slopes of Cells 10 and 11;
2. Requiring two-foot thick interim soil cover to be placed on top of the 20-acre plateau on Cells 10 and 11;
3. Revising the Operations and Maintenance Manual to reaffirm the commitment to evaluate cover conditions and install additional geomembrane cover if conditions warrant it; and
4. Placing enhanced daily and intermediate cover.

WMNY implemented several other techniques, systems, and monitoring analyses to better manage and reduce odors at the Landfill, including:

1. Using granular odor control neutralizer at the working face;
2. Reducing odorous waste streams that have been identified;

3. Installing additional perimeter misting systems and implementing portable misting units at the working face;
4. Reconfiguring site development to proceed north-south (rather than west-east) so that the next area of cell construction is moved further away from Perinton Parkway;
5. Relocating active waste operations from Cells 10 and 11 to Cell 12;
6. Reconfiguring site development to delay filling on the plateau of Cells 10 and 11 and utilizing larger cells to provide more operational flexibility;
7. Conducting additional waste stream evaluations to identify and limit the receipt of potentially odorous special waste materials;
8. Hiring two additional full-time employees to monitor and maintain the Landfill's gas infrastructure with 24/7 availability;
9. Conducting weekly well balancing in Cells 10 and 11, and bi-weekly well balancing for the remainder of the site, to maximize gas collection and odor reduction;
10. Conducting quarterly surface scans for methane at a 200 ppm action level (rather than the 500 ppm action level contained in the Permit);
11. Conducting continuous hydrogen sulfide ("H_2S") monitoring in the area surrounding the Landfill and at a nearby elementary school;
12. Installing monitor units to enhance header monitoring and control of the GCCS in various portions of the Landfill;
13. Installing an Automated Flare Reverberation Control to monitor and control the landfill gas blowers to prevent vibrations and to document the operations;
14. Conducting certified odor training to in-house and third-party personnel;
15. Conducting routine off-site odor monitoring twice per day by third-party personnel;

16. Providing real time investigations of odor complaints in response to calls to the odor hotline and relaying the information to site operations personnel and the Towns; and

17. Daily monitoring and documentation of odor control measures and cover integrity.

These enhancements met or exceeded the mitigation measures that NYSDEC required WMNY to complete. For example, though NYSDEC issued the NOV calling for ten follow-up actions,[9] WMNY had already proposed and undertaken preliminary implementation of several of those measures. By February 16, 2018, WMNY had developed plans with NYSDEC and hired consultants for expedited engineering, monitoring, and construction (during sometimes severe winter conditions), tasks which allowed the Landfill to have completed all of the primary mitigation measures[10] that were approved by NYSDEC in December 2017.[11] See Exhibit 12, WMNY Letter to NYSDEC Responding to NOV, dated Feb. 16, 2018, with Attachments A-D ("WMNY February 16 Letter").[12]

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[9] The February 2, 2018 NOV issued by NYSDEC ("NYSDEC NOV") is attached here as Exhibit 11.

[10] Those primary mitigation measures, completed by February 16, 2018, were: (1) identifying and removing the restriction in the 24" perimeter gas collection header; (2) installing more than 10,000 lineal feet of horizontal collectors in Cells 10 and 11; (3) installing an additional 18" and 24" vacuum header from the flare/power plant to Cell 11; (4) replacing approximately 1,300 lineal feet of sub-header in Cell 11; (5) installing 9 acres of exposed temporary geomembrane cover along the northern and eastern slopes of Cell 11; and (6) beginning waste placement efforts in the newly constructed Cell 12A which incorporated the improved gas collection measures. Exhibit 12, WMNY February 16 Letter.

[11] Petitioners mischaracterize the NOV and WMNY's response to it when they criticize WMNY's February 16 response to the NOV as lacking any "follow up to the operational improvements promised in the WMNY December 20 Letter for the placement and compaction of additional daily and intermediate cover soils, evaluation of the characteristics of soil types used for cover, and limiting the acceptance of odorous materials." Pet., ¶ 152. WMNY's December 20 Letter listed these activities as modifications to its operating practices that had already been implemented; they were not "promised" in the future like the Petition contends. See Exhibit 8, WMNY December 20 Letter at 3. Furthermore, the NOV contained no reference to these items nor requested follow up about them. See Exhibit 11, NYSDEC NOV. Petitioners have unfortunately misrepresented the facts in this transparent attempt to bolster their baseless requests in the Petition.

[12] Petitioners criticize the WMNY February 16 Letter describing the extensive mitigation efforts underway for not mentioning a limitation on the acceptance of MSW from NYC or "improving the practices for handling and covering" NYC MSW to minimize odors from the material. Pet., ¶ 152. However, the MSW received from NYC was never identified as an odor source by WMNY, third party consultants, the PCB, or NYSDEC and there was no

WMNY also complied with the supplemental requirements contained in the NOV that went beyond the primary mitigation measures identified in the WMNY December 20 Letter. All of the intrusive work to install the additional required horizontal collectors and vertical wells in Cells 10 and 11 was completed by March 31, 2018, as projected. See Exhibit 13, Community Update dated March 28, 2018. Furthermore, WMNY and its consultants developed an air monitoring protocol and conducted additional emissions sampling using the more stringent action level of 200 ppm. See Exhibit 12, WMNY February 16 Letter, Attachment B; Exhibit 14, Revised Surface Emission Monitoring and Ambient Monitoring Work Plan – High Acres Landfill, prepared by GHD, dated March 2018; Exhibit 15, Weekly Reports of Surface Emission Monitoring and Ambient Monitoring for Weeks 1-11 (conducted March 6, 2018-May 22, 2018), prepared by GHD (each individually, a "Weekly Emission Report").

These extensive enhancements at the Landfill overtly demonstrate WMNY's determination to continue its status as a good neighbor in the community. These are not just words. WMNY has spent millions of dollars to address NYSDEC's and the community's concerns with meaningful, tangible actions. WMNY's ongoing cooperation with NYSDEC and the community remains steadfast, including specific commitments made to Perinton to implement even further measures focused on controlling off-site migration of odors. See Exhibit 16, Letter from WMNY to Perinton dated September 14, 2018. As further demonstrated below, the Petitioners have not established any basis to modify the Landfill's Permit under the authority of 6 NYCRR§ 621.13, and moreover, WMNY's work to date and going forward shows there is no need to modify the Permit in the first place, revealing instead the Petitioners' ulterior motive is simply to stop the Landfill's operations altogether.

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indication that WMNY's handling of the MSW from NYC was deficient in any way. Petitioners have not offered any facts that establish otherwise.

C. Successful Air Monitoring Results and Odor Evaluations

NYSDEC and Perinton specifically sought additional hydrogen sulfide monitoring of the area surrounding the Landfill to evaluate potential airborne hydrogen sulfide concentrations and the potential associated health impacts.[13] Accordingly, WMNY's consultant, GHD, installed four air monitors at agreed upon locations around the Landfill and at the Dudley Elementary School rooftop to collect data about hydrogen sulfide levels in the area for eleven weeks beginning on March 6, 2018. Each device collected a sample and produced a reading every ten minutes.

Upon the PCB's recommendation, the Town of Perinton retained MEH Consulting, LLC ("MEH") to review the first five weeks of monitoring data and to render a health-risk assessment. MEH concluded in its May 8, 2018 report that any detected levels of hydrogen sulfide were below the NYSDEC 10 ppb one-hour threshold for nuisances and further concluded that the air sampling data for the first five weeks showed "that the hydrogen sulfide readings are not at a level of concern." Exhibit 17, High Acres Landfill – Air Monitoring Summary, Waste Management Monitoring Stations – Hydrogen Sulfide Data Evaluation, prepared by MEH, dated May 8, 2018 ("May 8 MEH Report") at 3-4. MEH also found that the monitoring results showed the hydrogen sulfide levels were below the Minimal Risk Levels provided by the Agency for Toxic Substances & Disease Registry. Id. at 5. Furthermore, regarding the Lyndon Road Baseball Fields, which were a primary community concern, MEH concluded that the "West Air Monitoring Station has shown no detectable levels of hydrogen sulfide since the installation on March 6, 2018. The Lyndon Road Baseball Fields are beyond this monitoring station which identifies the hydrogen sulfide is not at a level of concern." Id. MEH found that, "[a]t this time,

[13] This type of monitoring was selected because if hydrogen sulfide was found at significant levels, other VOCs might be present in the air as well; correspondingly, if the hydrogen sulfide levels were normal or below normal, other VOCs would not be expected.

odors have become sporadic and transient." Id. "The identified hydrogen sulfide levels and therefore, the associated individual VOCs show the concentrations below the potential for health risks." Id.

Petitioners' obtained an earlier Odor Assessment from MEH dated April 13, 2018, attached to the Petition as Exhibit R, which likewise found the sampling results for hydrogen sulfide were below the 10 ppb one-hour threshold. Pet., Exhibit R at 2. That report also found no VOCs were detected above the New York State Department of Health-identified background levels representing outdoor air in a residential community. Pet., Exhibit R at 12. These findings are consistent with GHD's estimate of potential concentrations of other landfill gas compounds and VOCs in ambient air, which concluded that they were well below their respective NYSDEC Short Term Guideline Concentrations and Annual Guideline Concentrations. See Exhibit 18, High Acres Landfill Screening Assessment of Potential Off-Site Concentrations of Landfill Gas Compounds, prepared by GHD, at 2.

CPF Associates, Inc. ("CPF"), a consultant for WMNY, similarly provided an evaluation of the first seven weeks of hydrogen sulfide monitoring data collected around the Landfill. Exhibit 19, Evaluation of Ambient Air Monitoring Data Collected in Vicinity of High Acres Landfill, prepared by CPF, dated May 29, 2018 ("CPF Report"). CPF observed that over the course of seven weeks, out of a total 35,401 analyzed air samples, detectable concentrations of hydrogen sulfide were found in only twelve samples at two of the sampling locations (those north and south of the Property); the concentrations ranged from 3 ppb to 6 ppb (below the NYSDEC 10 ppb one-hour threshold). Id. at 3. No hydrogen sulfide was ever detected at three of the sampling locations (those east and west of the Property and the location at the Elementary School). Id. CPF found that the results with hydrogen sulfide detections showed "no consistent

pattern" of the substance's concentrations relative to wind direction[14] "and thus no clear association with the landfill." Id. at 5. CPF concluded that all the reported hydrogen sulfide concentrations were "below available health-protective air concentrations," including NYSDEC's ambient air quality standard, and "there is no evidence of a health threat" from hydrogen sulfide, though CPF acknowledged that the hydrogen sulfide "rotten egg" smell could conceivably be detected by someone even in concentrations below 10 ppb. Id. at 1, 6.

The Weekly Emission Reports for weeks 8-11 likewise showed few detections of hydrogen sulfide, and if it was detected, there was no exceedance of the NYSDEC one-hour 10 ppb threshold. See Exhibit 15, Weekly Emission Reports for Weeks 8-11. Furthermore, it should again be noted that the detection of hydrogen sulfide does not confirm the Landfill as the source. The Weekly Emission Reports point out that other sources in the vicinity of the Landfill commonly produce hydrogen sulfide, such as wetlands and sanitary sewers.

These findings were further corroborated by the subsequent odor evaluation conducted by Odor Science & Engineering, Inc. ("OS&E"), which found a "striking reduction of [the] landfill's odor footprints from March to June of 2018." Exhibit 20, Odor Evaluation in the Area Surrounding the High Acres Landfill May-June 2018, prepared by OS&E, dated July 10, 2018 ("OS&E Report") at 3-2. OS&E concluded this reduction "is directly attributable to the remediation efforts made by [the Landfill], chiefly the installation of additional gas collection wells, the placement of geomembrane cover on the south and east slopes of Cell 11 and installation of the temporary utility flare," which is capable of burning landfill gas with higher oxygen content which "in turn facilitates more aggressive extraction of landfill gas from the

[14] CPF pointed out that hydrogen sulfide "can be present in ambient air due to both natural and man-made sources," thus consideration of the wind direction was important to determine whether the Landfill was influencing the levels measured in the air. Exhibit 19, CPF Report at 3, 5. Of the twelve samples in which hydrogen sulfide was detected, four were downwind of the Landfill, two were possibly downwind, and six were upwind. Id. at 5. In fact, the sample with the highest concentration at 6 ppb was measured upwind from the Landfill. Id.

areas of the more recently placed waste."[15] Id. In fact, the OS&E Report shows only 25 off-site odor detections from the sampling period, 20 of which were classified at or below intensity level 0.5-1, meaning "odor is detectable and recognizable but would generally be noticed only if specifically targeted, such as during an odor survey." See id. at 2-3 and Figures 3-1 to 3-17. Only three off-site odor detections found higher odor intensities.[16] Id. The sampling data collected to date clearly shows that off-site levels of hydrogen sulfide, which contributes to off-site odors, have been minimized by the enhancements WMNY has instituted at the Landfill.

On June 12, 2018, in an e-mail communication from NYSDEC staff to the Towns, NYSDEC recognized that odors associated with the Landfill had been significantly reduced since the mitigation measures were completed, with NYSDEC's odor reporting hotline decreasing to just a few calls in the previous weeks, noting that the "geographic extent of any remaining issue has clearly been reduced to areas in very close proximity to the facility." Exhibit 21, NYSDEC (P. D'Amato) Email to Town Supervisors, June 12, 2018. Accordingly, NYSDEC reduced the extended staff coverage in the neighborhoods, though of course it continues to monitor the Landfill's operations and be responsive to the community. WMNY has continued to do the same. Since June, odors have only further reduced.[17]

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[15] The utility flare/blower also provides an additional source of vacuum in the collection system in the area.

[16] Two detected odor readings had an odor intensity of 1-2.5; two detections had an odor intensity of 1-2; and one detection had an odor intensity of 1-3, though the precise location of where that detection occurred is unclear. See Exhibit 20, OS&E Report at Figure 3-15. Odor intensity level 2 means "odor is clearly recognizable but is likely not to be considered objectionable except in sensitized communities." Id. at 2-3. Odor intensity level 3 and higher means "odor is sufficiently intense to cause a distraction of a person fully occupied by some activity, such as conversation. Odor would typically be considered objectionable and would be expected to cause odor complaints." Id. at 2-3 and Figures 3-1 to 3-17.

[17] Petitioners' acknowledge this fact, but claim that odors will simply return to the 2017 levels because the geomembrane and intermediate cover on Cells 10 and 11 will be removed to add waste. Pet., ¶¶ 164-165. These claims ignore the myriad of odor control measures described above that have been implemented since 2017.

WMNY continues to maintain the NYSDEC-endorsed hotline system to receive and investigate odor complaints. In connection with this system, Landfill staff and Towpath employees who respond to and investigate odor complaints received olfactory screening and odor training on June 5-6, 2018. The training included screening for olfactory acuity to ensure that they were acceptable candidates to participate in odor monitoring and odor complaint investigations. Odors are reported based on the n-butanol scale and training addressed the use of the n-butanol system below.

N-butanol scale	**Concentration of Butanol (ppm)**	**Approximate Headspace Concentration (ppm)**	**Description – standardized among responders**
1	150	15	Very Faint Trace
2	300	30	Faint
3	600	60	Distinct/Easily Noticeable
4	1200	120	Strong
5	2400	240	Very Strong

The odor investigators report intensity of odors at the time of investigation based on this n-butanol scale and record the duration of odors. The results from the odor investigations during June and July demonstrate that the Landfill is not contributing odors at a nuisance level. During June, 94% of the odor intensity reported were at a level of 2 or below, indicating odors were generally faint to very faint. July results demonstrate that implementation of continued best management practices at the Landfill are effectively controlling odors, with 100% of the investigations resulting in an intensity of 1.5 or less, and over 50% of the investigations indicated an intensity of 0.5 or zero, indicating a very faint to trace level or odors are found in the areas surrounding the site. Durations were generally described as puffy or fleeting, indicating that these faint odors were only noticeable for a short time period and not at a nuisance level. These odors are consistent with normal MSW landfilling operations and while WMNY continues to

make every effort to control and reduce odors, the reality is that all MSW odors cannot be eliminated.

The Landfill's 24-hour hotline is the only reliable tool to document and investigate odor notifications received at the facility.[18] Odor complaints received on the hotline and the associated details are collected to allow the documentation and investigation of the complaint. Calls received on the hotline are logged and investigated by third party investigators trained in odor investigation techniques. A copy of this log is kept on site. Reliable odor reporting and investigation data at present shows that odors from the Landfill have been minimized.[19]

D. Flare Vibration Controls

Petitioners request that NYSDEC modify the Landfill's Permit to require new Contingency Plan provisions for "[t]remors or explosion incidents" to include, at a minimum, "a vibration analysis and foundation evaluation of nearby homes to determine if any property damage has occurred." Pet., ¶ 181. Petitioners contend this analysis is necessary to address WMNY's alleged failure to control the flares when Landfill gas has high oxygen levels. Pet., ¶¶ 141-142. However, conducting this analysis would be a futile exercise because WMNY has already installed control technology to protect against future vibrations and has implemented specific corresponding operating procedures. That these vibrations complained of were limited

[18] On April 17, 2018, the NYSDEC adopted a 24-hotline number to replace the previous hotline number in place at the Landfill. NYSDEC and WMNY advertised this hotline through widespread direct communication with residents as well as through posting on the WMNY and the Towns' websites. Additionally, FAFE posted the number on its website for its member's information. Section 5.1 of the Odor Management Plan for High Acres Landfill was revised to include this number as the recognized odor reporting mechanism for the site. WMNY is in compliance with the terms of this condition of the Odor Management Plan and its permits.

[19] It should be noted that proper odor notification systems rely on the ability to verify the duration, intensity, and character of the odor using the n-butanol scale, such that the source may be identified and corrected. The FAFE app data that Petitioners cite is materially flawed because it does not capture all the necessary information to conduct a meaningful evaluation and response to an odor compliant. Furthermore, data from the FAFE app cannot be verified, generates significant data gaps and inaccurate locations, and can be subject to unmonitored scrubbing by app administrators. The FAFE app data should not be relied upon to document odors associated with the Landfill.

to two discrete events nearly eight months ago, before these controls were operational, confirms their effectiveness and no additional study is needed or appropriate.

The cause of the vibration events Petitioners refer to is well understood. As NYSDEC is aware, a vibration event occurred on January 2, 2018 between approximately 8:20 PM and 9:15 PM because of a temporary shutdown of the Landfill's power plant. Upon the plant's shutdown, gas was automatically redirected from the power plant to the enclosed flares to allow the Landfill to maintain the GCCS operations. Rerouting the gas to the flares in these circumstances typically occurs without issue and on January 2, the systems functioned as designed to maintain the GCCS vacuum, but certain weather conditions combined with the sudden increase in Landfill gas being directed to the flares to cause those flares to temporarily reverberate while adjusting to the new gas flow. While not a regular occurrence, all enclosed flares can experience these conditions which cause vibration. There is no indication that any Permit conditions were violated, but WMNY still found the event unacceptable and immediately commenced corrective measures to address it and avoid future reverberations. WMNY hired a contractor to install vibration sensors and controls on the flares so that, if the flares are triggered by a power plant shutdown, the gas will flow to the flares in a way that avoids excess vibration. Unfortunately, in the process of installing and programming the new control sensors on January 9, 2018, the shakedown process resulted in the flares vibrating again, causing a second discrete vibration event.

NYSDEC's NOV required WMNY to maintain and continuously employ the vibration prevention measures installed since January 2, 2018 and to submit a copy of the Standard Operating Procedures ("SOP") developed for that system. Exhibit 11, NYSDEC NOV. To eliminate reverberations caused by the Landfill gas flares, an automated control system was

installed to monitor and control the Landfill gas blowers in the event of low levels of vibrations begin on either flare. Exhibit 12, WMNY February 16 Letter, Attachment C. This system consists of an industrial vibration transmitter installed on each flare near one of the combustion air dampers. Id. Each transmitter is connected to a Programmable Logic Controller ("PLC") that measures flare vibrations in Inches Per Second. Id. The PLC will send a command to each flare control panel if the flare vibration exceeds the alarm setpoint value for longer than three seconds. Id. Upon receiving this command, the landfill vacuum setpoint will automatically adjust to a new predetermined vacuum control setpoint. Id. The landfill gas collection blowers' variable frequency drives will also slow down the blowers to the "Secondary Wellfield Control Setpoint," which will lower the flow of landfill gas to the flare. Id. This reduction in landfill gas flow immediately stops flare reverberations. Id.

The control system latches the Secondary Wellfield Control Setpoint and then sends an alarm call to the Landfill's employees notifying them of the past vibration alarm and that the Landfill blowers are now using the secondary setpoint. Id. Landfill personnel then take corrective action in accordance with the SOP WMNY prepared and submitted to NYSDEC. Id. In the event that reverberations occur at the Secondary Wellfield Control Setpoint for more than 120 seconds (or another pre-set time delay), the control system will completely shut down the flare until corrections are completed. Id. The Operation and Maintenance Plan was also updated to incorporate these flare vibration controls and the SOP, and it was approved by NYSDEC on July 31, 2018. There have been no further vibration events since this control system was installed in January 2018 and WMNY continues to maintain the system. In light of these extensive controls already in place at the Landfill, there is no reason to modify the Landfill Permit to require vibration analysis as Petitioners request.

E. Geomembrane Installation

Another obligation in the NOV was that WMNY provide NYSDEC a design for the addition of a geomembrane to cover Cells 10 and 11. Exhibit 11, NYSDEC NOV; Exhibit 12, WMNY February 16 Letter. Petitioners take issue with the geomembrane installation because a 30-mil geomembrane was initially installed, rather than the 40-mil geomembrane. Pet., ¶ 156-160. As an initial matter, these allegations do not show that WMNY violated the terms of its Permit or any applicable regulations, nor do they demonstrate a change in conditions to warrant modification of the Permit. Furthermore, WMNY acted reasonably and diligently regarding the geomembrane installation.

WMNY previously explained to NYSDEC that it was unable to immediately obtain a 40-mil geomembrane to cover the area because of the lead time the supplier required to manufacture it. Furthermore, installation alone of a geomembrane can take several months to complete, particularly when weather conditions make work on landfill slopes untenable.

WMNY understood that the central goal for the community and NYSDEC was to reduce off-site odors from the Landfill as quickly as possible. Therefore, instead of delaying the construction schedule and potentially extending the time for odors to occur, WMNY installed a 30-mil temporary geomembrane cover on 9 acres of Cell 11 by February 23, 2018.[20] Exhibit 22, WMNY Letter to NYSDEC dated Feb. 23, 2018 ("WMNY February 23 Letter"). Under the circumstances, NYSDEC personnel approved use of this 30-mil geomembrane, which is commonly used in the industry. WMNY continued working with material suppliers and specialty contractors to complete the installation of additional geomembrane cover by the end of March 2018. Exhibit 23, WMNY Letter to NYSDEC dated Mar. 23, 2018 ("WMNY March 23

[20] Petitioners have provided no facts to support their implication that 40-mil material would have provided better initial results.

Letter"). The Landfill experienced gale-force winds (72 MPH gusts) on April 4, 2018 which damaged approximately one acre of the then 18-acre geomembrane system. However, the GCCS remained fully functional below the entire 18-acre area and a liner installation contractor was at the Property soon after the wind event occurred. Exhibit 24, Community Update dated April 13, 2018. WMNY promptly ordered and obtained replacement materials, and additionally elected to install reinforced geotextile windscreen ballast system (called Wind Defender) to increase the liner's durability and resistivity to high winds. Id. The 40-mil geomembrane cover and Wind Defender installation was completed by May 17, 2018. Exhibit 25, Community Update dated May 17, 2018. WMNY did not violate the terms of the Permit or the regulations during this process.

V. WMNY'S PROPER MANAGEMENT OF THE GCCS

A. Comprehensive Landfill Gas Management

Management and control of landfill gas and odors is not accomplished by any single activity, engineering device, or piece of equipment. Instead, they are managed and controlled through a complex series of interrelated engineering controls installed at a landfill and a variety of operational practices, all of which are designed to complement each other to minimize odors to the greatest extent practicable. For example, odors are managed during operations by evaluating potential odors from incoming materials and minimizing the active area of the Landfill being used. Exhibit 3, January 16 PCB Meeting Transcript at 11; Exhibit 4, January 16 Presentation to PCB at Slide 7. The Landfill also has numerous odor neutralizer systems in place, both water-based and oil-based.

Landfill gas management in particular has four key components: control, conveyance, collection, and cover. Exhibit 3, January 16 PCB Meeting Transcript at 32-33. Here, the first

three components are accomplished through the GCCS. Specifically, the Landfill controls gas with the vacuum source at the power plants and flares onsite, which have a control capacity rate that is double the rate at which landfill gas is generated. Id. at 33. The controlled landfill gas flows through an extensive conveyance system consisting of a header piping on the perimeter utility corridor around the Landfill. The landfill gas is collected from the vertical and horizontal gas collectors positioned throughout the Landfill cells into the lateral and header pipes before being directed to the flares or gas plant. Id. The last piece of Landfill gas management is cover, which can be either soils or geosynthetics applied over the top of waste that is deposited into the Cells. Id. The 2017 odors resulted, in part, from a convergence of factors that impeded the control, collection, and conveyance aspects of the GCCS.

Petitioners' characterization that WMNY concluded horizontal gas collectors "are the primary means of controlling odors, and thus *the* mitigation measure to address the odor impacts at this Landfill" (Pet., ¶ 58, emphasis original) is wrong. In the discussions that occurred during the January 16, 2018 PCB meeting and afterward, WMNY has repeatedly explained how landfill gas management is a multifaceted process in which complex engineering and operational controls must function in harmony. In fact, WMNY has also explained that horizontal gas collectors are primarily used to manage short-term odors and are not relied on for long-term odor management; rather vertical collection wells are the operative mitigation measure for long-term odor control. Thus, while horizontal gas collectors are part of the overall odor management controls and will be used going forward, the initial redesign for Cells 10 and 11 to minimize use of horizontal collectors was only one of several issues that WMNY, NYSDEC, and the PCB all agreed contributed to the 2017 odors. Petitioners' effort to focus solely on the changes that occurred regarding horizontal collection wells at the Landfill is misplaced and unsupported.

B. The GCCS Operations and 2017 Precipitation Impact

For years WMNY has properly used the GCCS to control the gases generated at the Landfill and Petitioners' claims to the contrary are baseless. It is WMNY's practice to operate the Landfill in a manner that both meets and exceeds the base requirements of the applicable State and Federal regulations and the terms of its Permit. For example, WMNY has routinely installed GCCS components at the Landfill before they are actually required by the applicable regulations (i.e. Title V and New Source Performance Standards ("NSPS"), which only require gas collection components to be installed once waste has been in place for five years or within two years of reaching the final grade, whichever is first).[21] In particular, gas collection is occurring in Cell 11, even though this area is not actually required by the Title V or NSPS rules to have gas collection installed or operating until December 2018. The table below, excerpted from Exhibit 26 (the GCCS Installation Record Drawing, prepared by B&L, dated July 2018), lists when waste was placed into each Landfill cell and when gas collection components were installed and operational.

[21] WMNY's practices concerning emissions monitoring demonstrate this operational perspective as well. WMNY continuously monitors the quality and flow of gas combusted on-site even though continuous monitoring is not required; wellhead monitoring is completed on a daily basis though the regulations only require monthly monitoring; and the entire surface of the Landfill is scanned quarterly by consultants for methane emissions and WMNY has operated with 200 ppm as the action level triggering corrective action since 2017 though the regulations set the action level as 500 ppm. See Exhibit 3, January 16 PCB Meeting Transcript at 17; Exhibit 4, January 16 Presentation to PCB at Slide 19.

CELL DEVELOPMENT & GCCS INSTALLATION RECORD			
CELL/PHASE ID	HAS GCCS BEEN INSTALLED?	DATE OF INITIAL WASTE PLACEMENT	INITIAL GAS COLLECTION
CLOSED AREA	YES	1/1972	1991
CELL 1	YES	1/1994	1997
CELL 2	YES	1/1995	1998
CELL 3	YES	1/1996	1998
CELL 4	YES	1/1997	1998
CELL 5	YES	1/1999	2003
CELL 6	YES	1/1998	1999
CELL 7	YES	1/2001	2001
CELL 8/9	YES	1/2006	2009
CELL 8/9 OVERLINER	YES	1/2007	2009
CELL 10	YES	1/2008	2012
CELL 11	YES	12/2013	2016
CELL 12	YES	1/2018	2018

It is especially relevant to note that waste was first placed into Cell 10 in January 2008 and initial gas collection in the Cell commenced in 2012. Cell 11 opened later, with initial waste placement in December 2013 and initial gas collection occurring in 2016. Thus, when the 2017 odors emanated from these Cells, they had already been operating with GCCS controls in place for several years without issue.

Petitioners dismiss WMNY's findings regarding the causes of the 2017 odors with the catchphrase "WMNY Blames the Rain," (see Pet., ¶¶ 108-112), but there is no dispute that the significant amount of precipitation the Landfill experienced in 2017 contributed to the odors. In fact, WMNY's conclusions on this point were mirrored by those of the PCB, whose findings and recommendations on the odors the Petitioners often cite. Compare Exhibit 8, WMNY December 20 Letter, with Exhibit 10, PCB January 24 Letter. While Petitioners scorn these findings, the reality is that circumstances converged in 2017 to cause and exacerbate the odors Petitioners complain of and a clear contributor was the high amounts of precipitation that the Landfill received.

Historic data on the average annual precipitation in the area demonstrates that 2017 was a significantly wetter year than normal. According to data provided by the National Oceanic and Atmospheric Administration ("NOAA"), the average annual precipitation in Rochester, New York for the period of 1940 through 2017 was approximately 33.22 inches. See Exhibit 27. The 2017 annual precipitation total of 45.37 inches was the highest annual total for any year since 1940 and was more than a foot higher than the average annual value for Rochester.

Petitioners' assertion that 2016 was an unusually dry year—particularly in comparison with 2017—actually supports WMNY's conclusions. See Pet. ¶ 113. Gas collection in Cell 11 began in 2016 and the dryness that year meant that the drainage for the new collection wells was not strained to the same extent that it would be by the significant increase of precipitation in 2017. Indeed, during 2016 there were only intermittent odor complaints and two of Petitioners' exhibits acknowledge that odors were not a problem that year. See, e.g., Pet., Exhibit J (Notes dated July 2016 state: "Things have been pretty good recently" and specific dates identified when odors were noticeable from March to June; a NYSDEC memo from November 2016 stated that odor complaints increased that month but that "odor went away during the summer."); Pet., Exhibit K ("Between 2012 and 2015 we would smell the odor maybe 4-5 times per year. . . . From 2015-2016 we again smelled the odor about 4-5 times per year, which is acceptable for living in the vicinity of a landfill.").

Even when using Petitioners' own Exhibit L, which purports to show "Annual Rochester Rainfall,"[22] it shows that 2016 was approximately 3.5" below average while 2017 was approximately 11.5" above average. Thus, according to Petitioners' own Exhibit, total precipitation increased from 2016 to 2017 by approximately 15". The impact this significant

[22] There is no information about the sources or the methods for calculations and data contained in Petitioners' Exhibits L, so there is no way to verify the accuracy or completeness of the information contained in this Exhibit.

increase had on the Landfill, installation of cover soils, the amount of leachate generated,[23] and the effects on the collection wells and the rest of the GCCS cannot be ignored and it does not show any mismanagement of the GCCS by WMNY.

Petitioners' generic reference (Pet., ¶ 113-114) that "seven of the ten wettest years" in the Landfill's history have occurred since 1996 is also completely irrelevant and misses the mark. Whether or not it is true,[24] it does not inform the issue at hand, nor does it account for the differences in the Landfill's operations that occurred during those years or how rainfall amounts did or did not affect odors from the Landfill. Petitioners' criticisms about 2017 rainfall figures are misleading, do not establish WMNY violated its Permit or the regulations, and they provide no basis to modify the Landfill's Permit.

C. Horizontal Collectors Under the Permit

Petitioners' claims that the Permit required horizontal gas collection trenches in Cells 10 and 11 installed every 40 feet in the vertical plane and every 130 feet in the horizontal plane (see Pet., ¶¶ 50, 52, 53, 55, 61-63, 74) misrepresents the terms of the Permit and the relevant design depicted in the engineering drawings. Petitioners cite Phase II Drawing 29 for their designation of a "Horizontal Gas Collectors Permit Requirement," a detail sheet that is actually titled "Typical Horizontal Gas Collection System." See Exhibit 29, Drawings for High Acres Parkway Expansion Phase II, prepared by McMahon & Mann (Aug. 2002), Sheet 29 of 33. This detail sheet depicts construction of a typical horizontal collection system and does not contain specific requirements. This is clear on the face of the drawing. Indeed, Note 2 on Drawing 29 expressly states the "horizontal and vertical location of the gas extraction and collection system may vary

[23] The Landfill's primary leachate collection systems generated 10,637,678 more gallons in 2017 than in 2016. See Exhibit 28, WMNY High Acres Landfill and Recycling Center Leachate Collection Summaries for 2016 and 2017.

[24] Again, no support was offered for this conclusion.

depending upon field conditions." Id. Furthermore, in the detail of a typical horizontal layout, the horizontal distance measurement reads "130.0' (TYP)," while the cross section detail lists the distance between horizontal trenches vertically as "40.0' (VARIES)."[25] Id. Thus, clearly in the drawing, the distances which horizontal collectors would be spaced vertically and horizontally could vary. Petitioners labelling this a "Horizontal Gas Collectors Permit Requirement" is a complete misnomer.

This understanding is further corroborated by the Supplemental Final Environmental Impact Statement ("SFEIS") for Phase II states that WMNY "also plans to install a horizontal gas collection system during the filling of Cells 10 and 11. This system is intended to mitigate odor problems during filling. Sheet 29 of the Engineering Report provides a conceptual plan and details of the horizontal gas collection system." Exhibit 31, Excerpt from SFEIS for High Acres Landfill & Recycling Center Proposed Parkway Expansion Phase II, Jan. 2003, § 2.2.8.1 (emphasis added). It was understood that the horizontal collectors would be installed on an "as needed" basis. Drawing Sheet 29 contains only conceptual details of typical for horizontal collectors and trenches. Where necessary to control landfill gas, these horizontal collectors have been installed in general conformity with these details. In fact, the Golder Drawings in Exhibit 5 show the progression of vertical wells and layers of horizontal collectors installed on Cells 10 and 11 throughout their life at the Landfill. In particular, the original design for Cell 11 included horizontal gas collectors at the bottom of the cell and relied primarily on a new generation of vertical collection wells referred to as slip-form wells.

Petitioners' claims that the GCCS capacity for landfill gas collection in Cells 10 and 11 was compromised are flatly wrong. It is understood that many horizontal collectors fail or are

[25] Similar notations that the distances and measurements vary are contained in the Phase III drawings as well. Exhibit 30.

impaired over time by the waste placed over top of them; that is why vertical wells are installed at final grade and by design are sized to control all of the landfill gas predicted to be generated by the Landfill. Indeed, though horizontal collectors are discussed in various documents, they are not expected to be fully functional or even necessary when a landfill is at final grade.

Despite their emphasis on horizontal collectors, Petitioners provide no support for their conclusory assertion that the additional horizontal collectors WMNY installed since 2017 are insufficient to control future odors because they allegedly have less gas collection capacity given their location at top of the waste pile rather than throughout it. Pet., ¶ 75-77. There is simply no basis for Petitioners' claims that it is "not technical [sic] possible" that the mitigation installation could be as effective as the horizontal collectors Petitioners allege should have been installed from the outset.

WMNY has properly managed the GCCS and acted decisively to redress the 2017 odors. Petitioners have shown no cause under 6 NYCRR § 621.13 to warrant Permit modification on these grounds.

VI. THE REDESIGN OF CELLS 10 AND 11 TO UTILIZE VERTICAL SLIPFORM WELLS AND FEWER HORIZONTAL LANDFILL GAS COLLECTORS

WMNY redesigned and upgraded the types and placement of gas collection wells to be used in Cells 10 and 11 in an effort to improve the GCCS capabilities, but WMNY did not completely eliminate the use of horizontal collectors in Cells 10 and 11. The design called for using a new generation of vertical wells referred to as "slipform" or "build as you go" wells along with fewer horizontal gas collectors. WMNY expected that the new slipform vertical wells would eliminate the need for horizontal collectors and reasonably believed that landfill gas and odors would be managed better with this system. WMNY appropriately incorporated this

new design in the Landfill after careful development and engineering analyses by its consultants, and with approval from NYSDEC.[26]

As WMNY explained at the PCB's meeting on January 16, 2018, landfill gas management has evolved over the years and WMNY has consistently worked to adapt its operations to utilize the most effective technologies. See Exhibit 3, January 16 PCB Meeting Transcript at 14; Exhibit 4, January 16 Presentation to PCB at Slide 17. Both landfill gases and leachate generated when water comes into contact with deposited waste must be properly managed. To accomplish this goal, historically the design of the GCCS involved drill wells in the WEX and Phase I areas of the Landfill, which are the most common type of collection device used in landfilling. Exhibit 3, January 16 PCB Meeting Transcript at 14. Drill wells are the least expensive type of vertical well and are drilled into the waste mass once it reaches its final grade. Id. These wells consist of a vertical perforated pipe typically ending several feet above the bottom of the liner system and connect to the lateral pipes and landfill gas header. See Exhibit 4, January 16 Presentation to PCB at Slide 17. Drill wells cannot be extended and they do not provide for operational gas or odor control as waste is placed into a cell. When excess liquid builds up in these drill wells, pumps must be installed to actively remove the liquids while collecting the gas. Exhibit 3, January 16 PCB Meeting Transcript at 15.

The GCCS Design Plan and Monitoring Plan (CRA, Amended 2006, attached as Exhibit 32) required for the Landfill under the federal NSPS for Municipal Solid Waste Landfills (40 CFR Part 60, Subparts WWW and XXX) addresses how to:

> achieve landfill gas control for areas at which waste has been in place for greater than 2 years (for areas that are closed or at final grade) and greater than 5 years for active areas. Such control measures may be active or passive, and may consist

[26] In its letter to the Perinton Town Board, dated January 24, 2018, which Petitioners cite, the PCB acknowledged that "these design changes were approved by NYSDEC." Pet., Exhibit N at 1.

> of temporary vertical wells, horizontal collectors, or other means sufficient to achieve appropriate landfill gas control. For cells that have been active for 5 years or more and are not yet to final grade, temporary gas extraction wells, horizontal collection trenches and/or the leachate collection system will be used for gas extraction and the permanent wells are installed after final grades have been reached.

The gas control system includes horizontal and vertical wells to influence all areas of the landfill. Per the NSPS GCCS Design Plan, the vertical wells alone have been sized to handle all of the gas predicted to be generated/collected over the life of the Landfill. Horizontal collectors were considered an interim measure utilized until vertical wells could be installed. As previously explained, many horizontal collectors will become ineffective over time; vertical wells are the long-term measure for landfill gas management. The effectiveness of the gas collection system by regulation is evaluated by monthly well monitoring and quarterly surface scans. WMNY has complied with these requirements.

WMNY worked to improve the GCCS for Phase II of the Landfill, and Cells 10 and 11 were designed to utilize the more advanced vertical slipform wells and horizontal wells at the base of the waste pile.[27] These wells are more costly to install and they are constructed after the initial 10 feet of waste is placed in a Cell (rather than being drilled into a settled waste mass after it reaches higher elevations or final grade). Exhibit 3, January 16 PCB Meeting Transcript at 15; Exhibit 4, January 16 Presentation to PCB at Slide 17. The slipform wells consist of a large diameter (36") stone column constructed as waste placement progresses. Exhibit 3, January 16 PCB Meeting Transcript at 15. A perforated pipe inside the stone column collects landfill gas

[27] There is no basis whatsoever for Petitioners' completely speculative claims that it is "also likely that Cell 10 did not comply with the Horizontal Gas Collectors Permit Requirement . . . ." Pet., ¶ 69. The statement by WMNY personnel at the January 16, 2018 PCB meeting provides no support for this allegation as Petitioners imply. See Pet., ¶ 71. First, there was no "Horizontal Gas Collectors Permit Requirement," as explained above. Second, Cell 10 was designed to incorporate some horizontal collectors and they were installed appropriately during operations. Additional horizontal collectors were installed also in 2017 in Cell 10 to mitigate odor. See Exhibit 5, Golder Drawings.

through the waste pile into the GCCS. See Exhibit 4, January 16 Presentation to PCB at Slide 17. WMNY believed that these slipform wells would provide better drainage capabilities than the drill wells, which have no drainage components, and they were intended to combine the immediate gas collection associated with horizontal collectors with the long-term effectiveness of vertical wells. Exhibit 3, January 16 PCB Meeting Transcript at 15. However, the slipform wells did not reach to the bottom of the waste pile, instead leaving at least 10 feet of select waste between the bottom of the well and the liner. See Exhibit 4, January 16 Presentation to PCB at Slide 17. This space caused the wells to fill with water/leachate from the bottom up rather than draining to the liner system as WMNY expected, which was exacerbated by the higher amounts of precipitation received in 2017. Other landfills successfully used these types of slipform wells without issue before WMNY installed them (Exhibit 3, January 16 PCB Meeting Transcript at 45-46), so WMNY had no reason to expect the problems that arose with them at the Landfill.

Petitioners' speculative and fictitious claims that the design change in the wells for Cells 10 and 11 resulted from corporate cost cutting "at the expense of the community" are simply untrue, and, moreover, are belied by the fact that WMNY has spent millions on addressing gas collection and controls both before and after the odor events of mid-late 2017. See Pet., ¶ 118-119. Petitioners offer no support for this allegation and instead rely on the similarly conclusive and speculative statements by the PCB to make their argument. Pet., ¶ 119-120. All of these claims are objectively contradicted by the facts at hand because the vertical slip wells installed in Cells 10 and 11 were more expensive than the traditional types of wells WMNY had been using in the Landfill. Moreover, this design change was intended to enhance the landfill's odor management system—which WMNY obviously has a vested interest in doing—and careful engineering analyses were performed by WMNY personnel, WMNY's consultants, and

NYSDEC staff to evaluate it. Indeed, many members of the solid waste industry and consultants were integrating this slipform well design into their sites. Unfortunately, WMNY's effort to improve its system did not have the intended results and WMNY acted decisively and expeditiously to correct the issue, as thoroughly detailed above, adding new vertical wells and thousands of linear feet of horizontal collectors throughout Cells 10 and 11, and incorporating additional horizontal collectors and the next generation of slipform vertical wells into the design for the Cells opened under Phase III.

Petitioners offer no facts or evidence of how WMNY's measured decision on the design for Cells 10 and 11 was "negligent," but rather conclusively criticize the design now with the benefit of hindsight. Pet., ¶ 58, 117. These unsupported allegations provide no basis to modify the Landfill's Permit under 6 NYCRR § 621.13(a)-(b).

Petitioners also ignore the reality that simply closing Cells 10 and 11 will not eliminate landfill gas production or odors. Landfill gas will continue to be produced whether or not the cells are closed. Based on EPA's LandGEM model that is used to estimate landfill gas generation rates, even if the Landfill stopped accepting waste today, the landfill would still continue to generate landfill gas for years into the future. See Exhibit 33, EPA LandGEM Model Calculation. After site closure, that gas would be collected and combusted, or used for power generation, and the amount of gas generated would decrease over time. There is no reason to modify the Permit to close Cells 10 and 11 as Petitioners request. See Pet., ¶ 123.

VII. WMNY HAS PROPERLY MANAGED MSW RECEIVED VIA RAILCARS

An interested party requesting that NYSDEC modify another entity's permit must provide "facts or reasons supporting the request" and Petitioners have failed to do that here. See 6 NYCRR § 621.13(b). The Petition contains speculative allegations but no facts demonstrating

that the MSW received by railcars was the source of the 2017 odors nor that the activity violated any Permit condition or regulation or otherwise qualifies as a material change in conditions. There is no justification to modify the Landfill's Permit to impose any of the conditions Petitioners requested relating to management of MSW by rail.

The Rail Project, first proposed and approved in 2013, changed nothing about the Landfill's operations except the methods by which it could receive and unload waste. Historically trucks and trailers transported all waste to the Landfill, but the Rail Project allowed a rail spur to be constructed onto WMNY's Property from the existing CSX railroad track. Exhibit 2, Rail Project Application § 2.2.2. Intermodal rail transport has become increasingly popular because it is more efficient than truck transport and provides inherent environmental benefits by taking trucks off the road and reducing the overall carbon footprint and Greenhouse Gas Emissions generated from waste operations, among other benefits. The Rail Project was also consistent with the strategy identified by the New York State Department of Transportation ("NYSDOT") to reduce large truck traffic in small communities like Macedon and thereby reduce impacts on local roadways. See Exhibit 34, "Strategies for Reducing Large Truck Traffic In Local Communities," NYSDOT, Sept. 24, 2008.

The relevant permitting authorities substantively reviewed the Rail Project before approvals were issued. The Macedon Town Board duly acted as lead agency to complete a coordinated SEQRA review of the Rail Project. Exhibit 1, Macedon SEQRA Determination. The Macedon Town Board referred WMNY's Special Use Permit modification application for the rail facility to the Macedon Planning Board and the Wayne County Planning Board, both of which issued positive recommendations for the Rail Project. Exhibit 35, Minutes of the Macedon Planning Board Meeting, Mar. 11, 2013, and Minutes of the Wayne County Planning Board

Meeting, Mar. 27, 2013. NYSDEC was engaged in the SEQRA review as an "involved agency" and Perinton was engaged as an "interested agency." Exhibit 1, Macedon SEQRA Determination. The Macedon Town Board even held a public hearing on the rail application. Exhibit 36, Resolution No. 155 of the Macedon Town Board dated June 27, 2013 Approving Special Use Permit Modification for Rail Project. After considering all the information before it, the Macedon Town Board reasonably concluded that the Rail Project would not result in any significant adverse environmental impacts and issued the Negative Declaration. Exhibit 1, Macedon SEQRA Determination.[28] NYSDEC similarly gave careful consideration to the Rail Project before approving the Part 360 Permit modification. Construction and operation of the rail facility later commenced and waste was first received at the Landfill by railcars in 2015.

The transport and delivery of waste by railcars is a "multi-step process which incorporates several inspections of the waste loads and containers to verify that unacceptable waste is not included and that the transport containers are in the proper condition to minimize the potential for nuisances." Exhibit 2, Rail Project Application § 2.2.3. The waste is first trucked to an off-site transfer station where it is screened for unacceptable waste as it is unloaded from the truck. Id. This MSW to be received by rail does not exhibit any characteristics that would distinguish it from other MSW received at the Landfill via trucks.

Once it arrives at a transfer station, the MSW is placed into CSX rail containers that are specifically designed to transport waste and have seals on the base and joints of the doors, along with sealed and fixed covers, to minimize the potential for odors or liquids to be released during transport. Id. The MSW may be sprayed with odor neutralizer before it is sealed into the containers. This fully sealed containerized system also limits the potential for precipitation to

[28] The Macedon SEQRA Determination was not challenged by the Towns, the PCB, or any neighbors.

enter a container or the waste inside. Id. The waste remains in these completely sealed containers until it is deposited on the working face of the Landfill.[29]

When railcars arrive at the Landfill, they are staged parallel to the existing CSX tracks and onsite track mobiles move the railcars to the rail unloading track. Id. In this unloading area, forklifts place the railcars on off-road trucks to be transported to the working face. Id. Again, the containers are not opened until they reach the working face and are ready to be tipped and spread in the Landfill Cell. See id., Appendix E at Slide 8; Exhibit 37, High Acres Landfill and Recycling Center Operations and Maintenance Manual ("OMM") Rail Unloading Facility Addendum, April 2013, § 6.2. The off-road trucks unload the containers through the tail gate so the sealed cover can remain on throughout the entire transport from the unloading area to the working face. Exhibit 2, Rail Project Application § 2.2.3.

Once the waste is tipped at the working face, WMNY personnel again spread and inspect it to verify there is no unacceptable waste. The waste is then commingled and compacted with other MSW at the working face and covered with soil progressively throughout the day to control odors.[30] Another inspection occurs to confirm that no debris is present in or on the emptied containers, then the emptied and re-closed containers are transported back to the rail yard for staging and loading onto railcars to be transported back to the transfer station.

Extensive safety and operating procedures are in place to ensure that these containers and the waste are handled safely and appropriately. WMNY has complied with all of the

[29] The containers of MSW delivered by rail are not covered with "tarps" as Petitioners allege. Pet., ¶ 128. In contrast, the transfer trailers delivering waste via long-haul trucking are not sealed.

[30] Contrary to Petitioners' assertions (Pet., ¶¶ 105, 128), WMNY has fully complied with the daily cover requirements. The on-site NYSDEC monitor and WMNY staff check the site daily and additional cover is laid wherever needed before the end of each day.

requirements in the OMM[31] and its Odor Control Plan. Employees are fully trained on the processes and equipment, including the requirements under the OMM and the Odor Control Plan, intended to minimize odors associated with waste placement.

The Landfill began receiving waste through this rail facility in 2015, well before the subject odors arose in 2017.[32] Petitioners provide no facts, evidence or scientific justification to support their conclusory claims (Pet., ¶¶ 124-132) that waste received by railcars is different than any other waste received at the facility via trucks, other than the notion that additional time and decomposition contributes to additional odors. But WMNY has never rejected the notion that garbage sometimes has an odor. Nor was the rail-delivered waste identified in any of the assessments by WMNY, its consultants, the PCB, or NYSDEC as a source of the 2017 odors that were Petitioners' primary concern. Instead, Petitioners appear to have decided on their own accord that the rail facility is now a problem requiring correction. This is flatly wrong. WMNY has worked proactively from the outset to manage odors from MSW received by rail.

Petitioners allege that in 2013 when the rail facility was approved, no analysis occurred about the odors caused by the length of time MSW was present in closed railcars before being disposed at the landfill and no time constraints impose on NYC or WMNY "before such waste would be too odorous . . . ." Pet., ¶ 28. Petitioners' claims concerning the length of time waste is inside rail containers is irrelevant because these containers are fully enclosed with seals that ensure waste odors are not detectable outside of the containers. The containers remain sealed

[31] The OMM was last updated in July 2018 and includes the Rail Project Addendum in Exhibit 37.

[32] As noted above, Petitioners' exhibits acknowledge that odors in prior years were intermittent, as can occur with any MSW landfill operation. See, e.g., Pet., Exhibit J (Notes dated July 2016 state: "Things have been pretty good recently" and specific dates identified when odors were noticeable from March to June; a NYSDEC memo from November 2016 stated that odor complaints increased that month but that "odor went away during the summer."); Pet., Exhibit K ("Between 2012 and 2015 we would smell the odor maybe 4-5 times per year. . . . From 2015-2016 we again smelled the odor about 4-5 times per year, which is acceptable for living in the vicinity of a landfill.").

until they are at the working face and operational practices occur to reduce the odors that may be present from the waste. Even if this were relevant, the MSW is in transit for only about four days, not weeks or months as Petitioners imply, and it is typically placed on the working face the next day after it is received. Waste received via long-haul trucking typically is contained on trucks for similar timeframes.

There is no demonstrated connection between receipt of MSW via railcars and the increased odors at issue here. Accordingly, there is no basis to contend that the odors constitute a material change in environmental conditions since the rail system was approved in 2013. Petitioners' allegations provide no basis to warrant Permit modification.

VIII. TITLE V AIR PERMIT ALLEGATIONS

Petitioners allege that WMNY violated its Title V Permit, citing 6 NYCRR § 211.1, by causing odors to unreasonably interfere with the enjoyment of life or property and claim WMNY "needs to close the defectively designed Landfill in Perinton and implement additional gas collection and operational changes, including reduced waste volumes from trash filled railcars." Pet., ¶ 41-42. However, as a threshold matter, Petitioners do not request that the Title V Permit be modified and the allegations about purported violations of the Title V Permit form no basis to modify the Part 360 Permit.

Furthermore, NSPS includes provisions to routinely monitor the proper operation of the gas collection system. Quarterly surface scans are conducted to confirm the adequacy of the landfill gas collection system to ensure gas control. To ensure that the LFG is being extracted at a sufficient rate, pressure (vacuum), oxygen, temperature, and methane are measured at the individual wellhead on a monthly basis. WMNY has been and continues to be in compliance with these requirements.

WMNY has not violated its Title V Permit. Petitioners' allegations confuse information in the application materials with evidence of unauthorized air emissions. See Pet., ¶ 37. For example, the 85% collection efficiency and 15% fugitive emissions figures were conservative estimates for purposes of permitting the emissions sources at the Landfill. EPA recognizes that modern landfills can have collection efficiencies well above 85%.[33] This was acknowledged in the October 2006 Draft Supplemental Environmental Impact Statement for Phase III (Exhibit 39), which stated:

> some landfill gas is potentially emitted from the surface of the landfill even with a properly designed and operated landfill gas collection system, as it is with all municipal solid waste landfills. Typically, properly designed and operated landfill gas collection systems can expect to collect 60-85% of the landfill gas (per AP-42) generated within the landfill, with 75-85% most commonly assumed. Some of the remaining landfill gas will be emitted from the landfill surface as fugitive emissions. However, not all gas that is uncontrolled will be emitted. Some [landfill gas] will remain in the landfill, and still more will degrade naturally. Fugitive emissions include NMOCs [non-methane organic compounds] and volatile organic compounds, which are a portion of the NMOCs. The NSPS includes monthly monitoring of well conditions to demonstrate proper operation of the gas collection system, and quarterly monitoring across the surface of the landfill to monitor fugitive emissions and identify areas requiring additional cover or other corrective measures.

The collection efficiencies referenced in EPA guidance AP-42 (November 1998) were pre-NSPS; post-NSPS collection efficiencies like those at the Landfill are higher as described below.

Other relevant studies have identified collection efficiencies of 90-95% and greater for modern gas collection systems at NSPS sites. A report entitled "Current MSW Industry Position and State of the Practice on LFG Collection Efficiency, Methane Oxidation, and Carbon

[33] Indeed, in the Greenhouse Gas Reporting Rule (40 CFR 98 Subpart HH, specifically table HH 3), EPA states that for areas with a final cover of 3 feet or thicker of clay or final cover (as approved by the relevant agency) and/or geomembranes cover system and active gas collection, an efficiency of 95% may be used. Exhibit 38, Excerpt from "Available and Emerging Technologies For Reducing Greenhouse Gas Emissions from Municipal Solid Waste Landfills," EPA Office of Air and Radiation, June 2011. Many of the areas at the Landfill are either covered with 3 feet of cover or are covered in geosynthetic material.

Sequestration in Landfills" (prepared by SCS Engineers, 2007)[34] recognizes that historical landfill gas collection efficiencies reported were based on little detailed data and the data that did exist was from landfills operated prior to promulgation of the NSPS. This report recommends collection efficiencies of 85-99% for a landfill or portions of a landfill that contain intermediate or an engineered final soil cover, and 95-99% for landfills that have Resource Conservation and Recovery Act Subtitle D equivalent liner with an active LFG collection system. Further, the high end of these ranges are proposed for sites with NSPS or similar quality landfill gas collection systems which are designed for and achieve compliance with air quality regulations. The GCCS at the Landfill is designed to meet these requirements.

Gas that is not collected in the GCCS is not automatically emitted as fugitive. EPA recognizes in their Greenhouse Gas Reporting Rule (Subpart HH) that cover oxidation (biological chemical degradation) occurs as landfill gas migrates through soil and daily and intermediate cover. EPA recognizes cover oxidation factors of up to 35%. A report from Florida State University entitled "Methane Oxidation in Landfill Cover Soils, is a 10% Default Value Reasonable" (Chanton, JP, Powelson, DK, Green, RB, 2009)[35] reviewed literature results from 42 determinations of the fraction of methane oxidized and 30 determinations of methane oxidation rate in a variety of soil types and landfill covers. The overall mean fraction oxidized was 36% with a standard error rate of 6%. This means that the study found 30-42% of methane not captured by the gas collection system was oxidized and not emitted from these landfills.

Recent research from the Environmental Research and Education Foundation indicates even higher oxidation percentages. In the report "Methane Oxidation: Field Scale Test Sections

[34] This report is attached as Exhibit 40.
[35] This report is attached as Exhibit 41.

Experiment" (T. Abichou and J. Chanton, Florida State University, 2017)[36] total methane oxidation from two test pads ranged from 89-92% methane oxidation. While 15% fugitive emissions were conservatively used for air permitting purposes, it is incorrect to assume, as Petitioners have, that those emissions will actually occur.

Petitioners have established no facts or reasons to modify the Landfill's Part 360 Permit based on their allegations regarding the Title V Permit.

IX. CONCLUSION

WMNY has operated the Landfill as a productive contributor to the community since the 1970s and when odors arose in 2017 that needed to be redressed, WMNY took action. WMNY has complied with its Part 360 Permit and the applicable regulations and acted responsibly to address odor concerns, spending over $4 million to enhance the Landfill's infrastructure and operating processes in ways that exceed the legal requirements of its Permit and applicable regulations. WMNY has completed all of the tasks that NYSDEC, the Towns, and the PCB requested and continues to fully cooperate and communicate with NYSDEC and the Towns regarding the Landfill's operations and ongoing efforts to address concerns that may arise. WMNY has also properly managed the Landfill's GCCS and the MSW received by rail, neither of which are new operations at the Landfill or for the Towns.

Petitioners' have not established any facts or reasons that justify modification of the Landfill's Part 360 Permit, let alone to shut down or significantly curtail its operations in accordance with Petitioners' draconian requests. WMNY respectfully submits to NYSDEC that the requests contained in the Petition should be denied.

[36] This report is attached as Exhibit 42.