

COMMONWEALTH OF MASSACHUSETTS
TOWN OF BOURNE
BOARD OF HEALTH

_____)	
In the Matter of:)	
_____)	
Town of Bourne)	Application for Major Modification of
Integrated Solid Waste)	Site Assignment Application No. 21-
Management Facility)	SW38-001-APP
_____)	

DECISION AND STATEMENT OF FINDINGS

I. INTRODUCTION

The Town of Bourne (the "Town") acting through the Department of Integrated Solid Waste Management (the "Applicant" or "ISWM") proposes to modify the existing Site Assignment for the 99-acre solid waste management facility on two parcels of land located at 201 MacArthur Boulevard, Bourne, Massachusetts (the "Facility" or the "Site" or the "Bourne Landfill"). The Applicant is seeking a Major Modification of an Existing Site Assignment ("Major Modification") to the Facility by way of vertical and horizontal expansion of the landfill cells to extend the life of the Bourne Landfill for several years.

The Applicant submitted an expanded Notice of Project Changes to the Massachusetts Environmental Policy Act Office (the "MEPA Office") of the Massachusetts Executive Office of Energy and Environmental Affairs ("EEA") in February 2020 to provide an updated site development plan to describe the proposed Bourne Landfill expansion. (Exhibit 3). On November 13, 2020, the Applicant submitted a Single Supplemental Environmental Impact Report ("SSEIR") to the MEPA Office. (Exhibit 3). On December 30, 2020, the Secretary issued a Certificate determining that the SSEIR adequately and properly complies with the Massachusetts Environmental Policy Act ("MEPA") and its implementing regulations. (Exhibit 3).

The Applicant submitted an Application for Site Suitability for a Major Modification of an Existing Site Assignment on March 29, 2021 to the Massachusetts Department of Environmental Protection ("MassDEP"). (Exhibit 3). MassDEP issued a Report on Suitability for Site Assignment (the "Report") on January 3, 2022 and determined the location suitable for the proposed use. (Exhibit 4). In accordance with 310 Code of Massachusetts Regulations ("CMR") 16.20, the Town of Bourne Board of Health (the "Board") provided public notice and conducted public hearings in regard to the Site Assignment Major Modification in February 2022. (Exhibit 5).

Upon review of the record, the Board has determined that the site is suitable for its proposed use and will not constitute a danger to the public health, safety or environment based on the siting criteria established in 310 CMR 16.40, and outlined in detail below.

II. STATEMENT OF FACTS

The Town owns and the Applicant operates the existing Facility on two parcels of land totaling 99 acres. A 74-acre parcel of land, recorded as Parcel ID No. 280-13-0 in the Assessor database of the Town, was initially site-assigned by the Bourne Board of Health in 1972, which allowed landfilling on this parcel. In 1989, the Town developed its residential recycling center and composting area adjacent to the Bourne Landfill. (Exhibit 1). In 2001, the Town acquired a 25-acre parcel to the immediate south of the 74-acre parcel. Based on the Assessor database of the Town, the 25-acre parcel of land is recorded under a Parcel ID No. 32.0-9-0. On January 28, 2005, the Applicant submitted to MassDEP an application for Major Modification relative to the proposed 25-acre expansion to allow for solid waste handling and processing. On April 19, 2005, MassDEP issued a BWP SW 38 Approval for Site Assignment Major Modification (Transmittal No. W057110) and a Site Suitability Report No. 036-001-B. Subsequently, on June 27, 2005, the Board site assigned the 25-acre parcel for solid waste handling and processing. (Exhibit 2).

The Bourne Landfill operations within the 74-acre parcel of land conducted to date have proceeded in the following order: Phase 1, Phase 2, Phase 3, Phase 2A/3A, Phase 4, Phase 5, and Phase 6. Phase 1 is an unlined and capped landfill area located in the northwest corner of the Facility. Phase 2 is an inactive and capped landfill area with a single composite liner. Phase 3, Phase 4, and Phase 5 are inactive double composite lined landfill areas. Phase 6 is an active double composite lined landfill area. The Applicant stated that Phase 6 is the final portion of the horizontal development of the existing Bourne Landfill on the 74-acre parcel and is anticipated to reach its approved final grades in late 2023. The existing Bourne Landfill has a footprint of approximately 56.86 acres. (Exhibit 3).

The Bourne Landfill is permitted by MassDEP to accept an average of 600 tons per day of waste with a maximum of 700 tons per day, not to exceed 4,900 tons per week, with a maximum annual disposal rate of 219,000 tons of waste per year. Waste approved to be disposed at the Bourne Landfill includes municipal solid waste ("MSW"), residual Construction and Demolition ("C&D") material, ash and other non-MSW material as defined in the Application. The Bourne Landfill accepts combustion ash from the Covanta waste-to-energy facility located in Rochester, Massachusetts ("SEMASS"), which currently constitutes the majority of the waste material accepted at the Bourne Landfill. The Town's contract with SEMASS requires the Bourne Landfill to accept and dispose of combustion ash at a rate of up to 189,000 tons per year. The Town utilizes the remaining 30,000 tons per year to dispose of biodegradable waste (i.e., MSW). (Exhibit 3).

Within the existing 25-acre site-assigned parcel, the Applicant operates a C&D transfer station, a single stream recyclable material transfer station, a residential recycling center (MSW, C&D, recyclables, organic wastes), an asphalt, brick and concrete ("ABC") stockpile and a brush and

yard waste processing and composting operation. Offices and a salt shed are also on the parcel. The overall 99-acre Facility is permitted to accept up to 825 tons per day including recycling, composting, and a maximum of 700 tons per day of disposal. (Exhibit 2).

Under consideration for site assignment modifications at the Facility are the two separate parcels: 74-acre parcel and a 25-acre parcel. The first area under consideration is a proposed 17.34-acre horizontal expansion to the active and existing Bourne Landfill onto the 25-acre parcel that is currently site-assigned for solid waste handling. The modified site assignment would allow a landfill facility on approximately 17.34 acres of the 25-acre parcel. The proposed horizontal landfill expansion, designated as Phase 7 and Phase 8, consists of approximately 17.34 acres of new landfill cells. The Applicant submitted a Schematic Site Buildout Plan and a Proposed Site Assignment Modifications plan that depicts the limit of site assignment modifications for Phase 7 and Phase 8. Although the proposed area of waste deposition is not shown on the plans, all areas of waste deposition are limited to the limit of site assignment modifications for Phase 7 and Phase 8 as depicted. (Exhibit 3).

The second area under consideration for site assignment modifications is a proposed vertical expansion which would increase the maximum permitted height of the Bourne Landfill by 40 feet from elevation 185-ft mean sea level ("MSL") to elevation 225-ft MSL. The proposed vertical landfill expansion, designated as Phase 9, footprint is approximately 28.08 acres and lies entirely within the existing Bourne Landfill areas located on the 74-acre site-assigned parcel of land. The Applicant submitted a Schematic Site Buildout Plan that depicts the "Future Phase 9 Landfill Area" or the approximate area of waste deposition for Phase 9. (Exhibit 3).

Phase 7, Phase 8, and Phase 9 would provide approximately 5,175,000 cubic yards of disposal capacity and would extend the life of the Bourne Landfill for several years. The Bourne Landfill is currently permitted to receive an average of 600 tons per day, with a maximum on any given day of 700 tons, a weekly cap of 4,900 tons and a yearly cap of 219,000 tons. The overall Facility tonnage, including recycling, composting, and disposal remains at a maximum materials acceptance rate of 825 tons per day. The Applicant is not proposing any additional tonnage capacity in this Application. (Exhibit 3).

III. STATEMENT OF PROCEEDINGS

A. Other Regulatory Proceedings

Pursuant to the provisions of M.G.L. c. 30, §§ 61-621 and 310 CMR 11.00, the Applicant submitted an expanded Notice of Project Changes to the MEPA Office in February 2020 to provide an updated site development plan for the Bourne Landfill and describe the development of Phase 7, Phase 8 and Phase 9 of the Bourne Landfill expansion. The Applicant then submitted a SSEIR on November 13, 2020. (Exhibit 3). On December 30, 2020, the Secretary issued a Certificate determining that the SSEIR adequately and properly complies with MEPA and its implementing regulations. (Exhibit 3). The Application was submitted electronically to MassDEP on March 29,

2021. On May 12, 2021, MassDEP determined the Application was Administratively Complete. On May 25, 2021, MassDEP issued a letter of Request for Information ("RFI") to clarify the Application. On August 3, 2021, the Applicant submitted a Response to the RFI. (Exhibit 3).

During the MEPA review process, MassDEP provided clarification of the site assignment process as it pertains to the Phase 9 vertical expansion. The site assignment regulations at 310 CMR 16.22(2) state, in relevant part, that; "Modifications deemed to be 'Major Modifications' include" ... "vertical expansions beyond the limits of an approved plan". Therefore, MassDEP determined that the Phase 9 vertical expansion constitutes a Major Modification to the Site Assignment. 310 CMR 16.22(2) further provides that "A major modification shall require submittal of a new site assignment application that addresses all criteria affected by the modification, as determined by MassDEP in writing, and shall be reviewed in accordance with the requirements established at 310 CMR 16.08 through 16.20." Within MassDEP's comments on the Expanded Notice of Project Change, MassDEP determined, in writing, that the following criteria should be addressed for Phase 9: 16.40(4)(b) Traffic and Access to the Site; 16.40(4)(f) Potential Air Quality Impacts; 16.40(4)(g) Potential for the Creation of Nuisances; 16.40(4)(h) Size of Facility; 16.40(4)(i) Areas Previously Used for Solid Waste Disposal; 16.40(4)(k) Consideration of Other Sources of Contamination or Pollution; and 16.40(5) Promotion of Integrated Solid Waste Management. (Exhibit 3).

MassDEP previously determined that the site assignment application for the vertical expansion did not require addressing the Facility Specific criteria at 310 CMR 16.40(3)(a). Regarding Phase 7 and Phase 8, the horizontal expansion constitutes "Expand a Site" and requires a Modification to the Site Assignment pursuant to 310 CMR 16.22(2). MassDEP determined that the application for the Major Modification for Phase 7 and Phase 8 shall address all the site suitability criteria contained within 310 CMR 16.40(3)(a) Criteria for Landfill Facilities and 16.40(4) General Site Suitability Criteria. (Exhibit 3).

Accordingly, pursuant to the requirements of 310 CMR 16.00, Site Assignment Regulations for Solid Waste Facilities (hereinafter the "Regulations"), an Application for Site Suitability for a Major Modification of an Existing Site Assignment was submitted by SITEC Environmental, Inc. on behalf of the Applicant on March 29, 2021. (Exhibit 3). MassDEP assigned Report Number 036-001-C to this permit application. The Applicant submitted revised plans and figures on April 20, 2021 in accordance with the comments MassDEP provided during a verbal discussion on April 16, 2021. In response to MassDEP's Request for Additional Information issued on May 12, 2021, supplemental application information was submitted on August 4, 2021. (Exhibit 3).

At the time the project completed MEPA review in December 2020 and when the Applicant submitted a site suitability application (BWP SW 38) to MassDEP on March 29, 2021, there was no mapped Environmental Justice ("EJ") Population within one (1) mile of the proposed site assignment modifications or within the Town of Bourne. In accordance with Massachusetts Executive Office of Energy and Environmental Affairs, EJ Policy, there are additional requirements (e.g., enhanced public participation, enhanced analysis) during MEPA review for a

project that triggers a MEPA threshold and is located within one mile of an EJ Population. However, since there was no EJ Population within one (1) mile when the Bourne Landfill expansion project underwent MEPA review, enhanced public participation and/or enhanced analysis did not apply. (Exhibit 4).

However, in June 2021, EJ maps were updated using the 2019 American Community Survey data and the new EJ population definitions in the EEA EJ policy that MassDEP is required to implement. Based on the update, there is a mapped EJ population with the criteria "Income" immediately abutting the Site. The mapped area is Joint Base Cape Cod and is identified as Block Group 1, Census Tract 141, Barnstable County, Massachusetts. The EJ block group has a total area of roughly 17 square miles and a population of 949. Although MassDEP could not identify any residents of the EJ population within one (1) mile of the proposed site assignment modifications and despite that there is no regulatory/statutory requirement to do so, to meet the intent of EEA 's EJ Policy, MassDEP encouraged the Town to consider voluntarily performing the enhanced public outreach that would have been required had the EJ population definition been available at the time the project completed MEPA review. (Exhibit 4).

In accordance with EEA's EJ Policy, MassDEP has obligations as an agency to establish a public involvement plan ("PIP") that focuses agency resources on outreach activities that enhance public participation opportunities for agency activities that potentially affect EJ populations. Since the Facility directly abuts an EJ Population and there are three additional mapped EJ Populations within the Town of Bourne, MassDEP prepared a PIP and conducted outreach activities to encourage EJ community engagement. In response, the Applicant contacted potentially affected EJ populations, specifically at Joint Base Cape Cod. The Applicant provided information in accordance with MassDEP's recommendations to the United States Coast Guard and the separate commands at the base, as well as other local groups for distribution. (Exhibit 4).

B. Publication of Notice and Opportunity for Comment

In accordance with M.G.L c. 111, §§ 150A and 150A½ and the corresponding regulations under 310 CMR 16.00, on September 24, 2021, MassDEP received documentation that public notice was published in the Bourne Courier on July 14, 2021 and the Bourne Enterprise on July 9, 2021. (Exhibit 3). On October 12, 2021, MassDEP received documentation that public notice was sent via Certified Mail to the parties listed at 310 CMR 16.08(2). Accordingly, MassDEP accepted public comments for twenty-one (21) days, between October 13, 2021 and November 3, 2021. MassDEP received correspondence from interested parties including organizations and private citizens.

On November 10, 2021 MassDEP issued correspondence to the Applicant requiring a formal response to public comments. On November 22, 2021, the Applicant submitted responses to public comments. (Exhibit 3).

Pursuant to the Regulations, the MassDEP determined that the location is suitable for the proposed use, and issued Report #036-001-C on January 3, 2022. (Exhibit 4). In accordance with 310 CMR 16.20, a public hearing notice of the proposed site assignment major modification was published in the Cape Cod Times on January 10, 2022 and mailed certified notices to required parties under the Regulations. (Exhibit 5). Notice was also posted under the open meeting law and on the Town's website. On February 1, 2022, a Participant registered in accordance with the Regulations. (Exhibit 5).

C. Selection of the Hearing Officer

In accordance with 310 CMR 16.20(11), the Board selected John F. Shea, Esq. of Macke Shea Durning, PC to serve as the Hearing Officer. Attorney Shea conducted pre-hearing conferences with counsel to the Applicant, Michelle N. O'Brien, Esq., and counsel to the Board, Steven Torres, Esq., and issued a Prehearing Order and Report (Revised January 18, 2022). (Exhibit 6). Among other things, the Hearing Officer ordered the Applicant to submit its pre-filed written direct testimony by January 26, 2022. (Exhibit 6).

D. Public Hearing

The Board received two public comments prior to the commencement of the hearing. On January 17, 2022, the Board received an email message from Richard Jordan of Avon, Massachusetts and Barnstable, Massachusetts. (Exhibit 9). On January 26, 2022, the Conservation Law Foundation ("CLF") submitted a letter to the Board regarding Initial Comments to Proposed Site Assignment Major Modification with a copy of a comment letter dated November 3, 2021 previously submitted to MassDEP. (Exhibit 8). The Applicant submitted a response to the CLF comments on January 31, 2022. (Exhibit 14). On February 1, 2022, Steven MacNally of Bourne submitted to the Board a registration statement to be included as a Participant in the site assignment hearing, as defined in 310 CMR 16.20(9)(d). (Exhibit 16). Mr. MacNally stated that he lives downgradient of the Site and may be impacted by the future vertical and horizontal expansion of the facility. (Exhibit 16).

In accordance with the thirty (30) day requirement, the public hearing was opened February 2, 2022 and continued to February 16, 2022¹. During this time, the Applicant presented witness testimony from two witnesses, A. Raymond Quinn, P.E. and Daniel T. Barrett, and a Ten Citizens Group sought Party status under the regulations. (Exhibits 7; 10-11). The Ten Citizens Group (the "Group") was granted Party status, with the CLF as the Group's Authorized Representative, at the February 2, 2022 hearing, upon resubmission of its original Registration. (Exhibit 20). The Group submitted curative pleadings to the Board on February 4, 2022. (Exhibits 22-24). At the February 2, 2022 hearing, the Hearing Officer ordered the Group to file pre-filed testimony in accordance with the regulations by February 9, 2022 for review by the Board.

On February 9, 2022 the Group filed a "Prefiled Presentation Summary" for two witnesses, Lisa Cote and Laura Orlando. (Exhibits 30-31). The Board's engineer, David Murphy, P.E. from Tighe

¹ A stenographer recorded the hearings, and a local cable access channel video recorded the hearings as well.

& Bond, also filed his pre-filed testimony on February 9, 2022. (Exhibit 28). In addition, the Applicant submitted additional pre-filed testimony. (Exhibit 26). The pre-filed testimony of David Murphy, P.E. as well as the Applicant's witnesses were accepted into the record.

On February 11, 2022, the Applicant submitted a Motion to Strike the Group's "Pre-filed Presentation Summar[ies]" on the grounds that they did not comply with the Site Assignment Regulations or the Hearing Officer's procedural orders. (Exhibits 32-33). This Board's counsel submitted a memorandum in agreement of this motion on February 14, 2022. (Exhibit 34). The Hearing Officer heard arguments by the Applicant and the Group regarding the motion on February 14, 2022, and on February 15, 2022, ruled that the pre-filed testimony submitted by the Group was insufficient and granted the motion. (Exhibit 35). Due to the Hearing Officer's ruling, the pre-filed testimony submitted by the Group was not accepted into the record.

The continued public hearing was conducted February 16, 2022 at which time the Applicant testified in accordance with the submitted supplementary pre-filed testimony. The Applicant's witnesses were cross-examined by the Group. The registered Participant waived his right to testify under the regulations. The Board's Engineer, Tighe & Bond, acting through David Murphy, P.E. testified consistently with his pre-filed testimony. The Hearing Officer closed the presentation of evidence into the record, instructed the Applicant and the Group (hereinafter, the "Parties") to file Recommendations for Determination by February 23, 2022. The Hearing Officer admitted 35 exhibits into the official record. The hearing was called to a close by the Board.

In accordance with 310 CMR 16.20, the Board had forty-five (45) days from the initial date of the public hearing to issue its decision. As required by the regulations, "every final decision shall be in writing and shall be signed by a majority of those officials of the board who rendered the decision. Every final decision shall contain a statement of the reasons therefore, including a determination of fact pertaining to each of the site suitability criteria listed in 310 CMR 16.40 or law necessary to the decision." 310 CMR 16.20(10)(k)(4).

I. STANDARD OF DECISION

MassDEP issued the Report on November 3, 2021, with findings that the Site meets the site suitability criteria set forth in the Site Assignment Regulations. (Exhibit 3). In accordance with 310 CMR 16.15(2), the Board was required, after receipt of the Report, to hold a public hearing pursuant to 310 CMR 16.20 "for the purpose of deciding whether to grant or refuse to grant a site assignment for the parcel for which is the subject of the [Report]."

As codified in 310 CMR 16.20(10)(k)(2), this Board "shall determine that a site is suitable for assignment as a site for a new or expanded solid waste facility unless it makes a finding, supported by the record of the hearing, that the siting thereof would constitute a danger to the public health, safety or environment, based on the siting criteria set forth and established under 310 CMR 16.40."

II. STATEMENT OF FINDINGS AND CONFORMANCE WITH SITE SUITABILITY CRITERIA

Upon review of the Record, the Board finds that the Site is suitable for the proposed Major Modification. Pursuant to 310 CMR 16.22(2), "A major modification shall require submittal of a new site assignment application that addresses all criteria affected by the modification, as determined by MassDEP in writing, and shall be reviewed in accordance with the requirements established at 310 CMR 16.08 through 16.20."

For the vertical expansion, designated as Phase 9, MassDEP previously determined the site assignment application for the vertical expansion should **not** address the Facility Specific Criteria at 310 CMR 16.40(3)(a). For the horizontal expansion, designated as Phase 7 and Phase 8, the Applicant has addressed all the Facility Specific Criteria.

For Phase 9, MassDEP has determined that the site assignment application for the vertical expansion should address the following General Facility Criteria: 16.40(4)(b) Traffic and Access to the Site; 16.40(4)(f) Potential Air Quality Impacts; 16.40(4)(g) Potential for the Creation of Nuisances; 16.40(4)(h) Size of Facility; 16.40(4)(i) Areas Previously Used for Solid Waste Disposal; 16.40(4)(k) Consideration of Other Sources of Contamination or Pollution; and 16.40(5) Promotion of Integrated Solid Waste Management. For Phase 7 and Phase 8, the Applicant has addressed all the General Facility Criteria at 310 CMR 16.40(4).

The Board has determined the following Facility Specific Criteria have been met:

A. Facility Specific Site Suitability Criteria, 310 CMR 16.40(3)(a)

No site assignment shall be determined to be suitable or be site assigned as a landfill facility where:

1. any area of waste deposition would be within a Zone II area of an existing public water supply well;

Upon review of the Report, Tighe & Bond Engineer's Report on Site Suitability ("Engineer's Report"), and the Record, the Board confirmed that the proposed waste deposition area of Phase 7 and Phase 8 is not within the Zone II area of an existing public water supply well.

Accordingly, the Board finds that the Site **MEETS** this criterion.

2. any area of waste deposition would be within the Interim Wellhead Protection Area (IWPA) of an existing public water supply provided that the proponent may conduct a preliminary Zone II study, approved of by the Department, to determine if the facility would be beyond the Zone II of the public water supply well in question;

The Applicant stated that the Facility is not within the Interim Wellhead Protection Area (“IWPA”) of an existing public water supply. Furthermore, the Board determined that according to the Applicant’s submitted Water Resources Plan, the proposed waste deposition area is not within the IWPA of an existing public water supply and that the nearest IWPA is located approximately 2 miles to the north - northwest.

Accordingly, the Board finds that the Site **MEETS** this criterion.

3. any area of waste deposition would be within a Zone II or Interim Wellhead Protection Area (IWPA) of a proposed drinking water source area, provided that the documentation necessary to obtain a source approval has been submitted prior to the earlier of either the site assignment application, or if the MEPA process does apply, the Secretary's Certificate on the Environmental Notification Form or Notice of Project Change, or where applicable, the Secretary's Certificate on the EIR or Final EIR;

The Applicant submitted a letter from the Board acknowledging Section 5.3 of the local Health Regulations that prohibit the installation of any public or private water supply wells downgradient of the Site. 310 CMR 16.02 defines a "Proposed Drinking Water Source Area" as the preliminary Zone II or the preliminary IWPA for a proposed water supply well that has received a site exam approval by the Department and is actively pursuing source approval as a public water supply. Currently, there are no applications pending for a proposed drinking water source area within a three-mile radius of the proposed waste deposition areas for Phase 7 and Phase 8.

Upon review of the Report, Engineer’s Report, the Record, and the Town’s June 6, 2020 letter, the Board finds that the waste deposition areas proposed in the Application for Phase 7 and Phase 8 will not be located within a Zone II or IWPA of a proposed drinking water source area.

Accordingly, the Board finds that the Site **MEETS** this criterion.

4. any area of waste deposition would be within 15,000 feet upgradient of the existing public water source well or proposed drinking water source area for which a Zone II has not been calculated; the proponent may conduct a preliminary Zone II study, approved of by the Department, to determine if the facility would be beyond the Zone II of the public water supply well or proposed drinking water source area in question;

The Board has confirmed upon review of the Record and the Report, that the nearest public water source (ID #4036000-08G) is located approximately 0.5 miles south and cross-gradient (not downgradient) of the proposed waste deposition areas of Phase 7 and Phase 8. The Board has further confirmed that the proposed waste deposition areas are not located upgradient of any existing public water supply wells; and that there are no existing public water supply wells located west/northwest of the Bourne Landfill between the Bourne Landfill and Buzzards Bay.

Accordingly, the Board finds that the Site **MEETS** this criterion.

5. it is determined by the Department that a discharge from the facility would pose a danger to an existing or proposed drinking water source area;

The Applicant stated that the nearest public drinking water supply is approximately 0.83 miles south and not downgradient to the proposed waste deposition area. The Applicant submitted a letter from the Bourne Water District dated May 26, 2020 stating that the "Bourne Water District does not have a wellfield downgradient from the Bourne Sanitary Landfill." In addition, the letter stated that all areas downgradient of the Bourne Landfill are connected to the town's public water system.

The Applicant stated that the groundwater protection system for proposed Phase 7 and Phase 8 will be a double composite liner and monitoring that will meet MassDEP's requirements. The Applicant further stated that the groundwater protection system will intercept and collect leachate that passes through the waste, protecting groundwater quality within the area of the Bourne Landfill.

The Board has confirmed that Zone II is approximately 0.5 miles from the proposed waste deposition area and that there is no IWPA within the one-half mile radius from the proposed waste deposition area. The Site is not located upgradient of any existing public water supply well; there are no existing public water supply wells located west/northwest of the Bourne Landfill between the Bourne Landfill and Buzzards Bay.

Accordingly, the Board finds that the Site **MEETS** this criterion.

6. any area of waste deposition would be over the recharge area of a Sole Source Aquifer, unless all of the following criteria are met:
- a. there are no existing public water supplies or proposed drinking water source areas downgradient of the site;
 - b. there are no existing or potential private water supplies downgradient of the site; however, the applicant may have the option of providing an alternative public water supply to replace all the existing or potential downgradient private groundwater supplies; and
 - c. there exists a sufficient existing public water supply or proposed drinking water source area to meet the municipality's projected needs;

The Board has concluded that the Site is located over the Cape Cod Sole Source Aquifer, as designated by the Environmental Protection Agency ("EPA"). Accordingly, the Site must meet each criterion stated above.

The Applicant submitted a Water Resources Plan encompassing a ½ mile radius from the Site and indicated that there are no public or private water supply wells within the mapped area. The nearest public water source (ID #4036000-08G) is a Zone II area located approximately 0.5 miles south

and cross-gradient (not downgradient) from the proposed waste deposition areas of Phase 7 and Phase 8. In its Report, MassDEP determined that the Site is not located upgradient of any existing public water supply well; there are no existing public water supply wells located west/northwest of the Bourne Landfill between the Bourne Landfill and Buzzards Bay.

The land upgradient of Phase 7 and Phase 8 is vacant land owned by Joint Base Cape Cod ("JBCC") and has been determined that there are no residents located within 1,000 feet upgradient of Phase 7 and Phase 8. The land cross-gradient of Phase 7 and Phase 8 is vacant land to the south and the existing Bourne Landfill to the north and MassDEP determined that there are no residents within 1,000 feet cross-gradient of Phase 7 and Phase 8. Additionally, all areas downgradient of the Bourne Landfill are connected to the Town's public water system.

The Applicant stated that the water supply for the Town is provided by the Bourne Water District ("BWD"), which is supplied by ten different sources. In addition, the Town was connected by a metering station at Connery Avenue to the other wells of the Upper Cape Regional Water Supply Cooperative (the "Cooperative") which have a total permitted yield of three million gallons per day ("MGD"). The Applicant states that the Cooperative allows BWD to obtain water along with other cooperative members (Sandwich Water District, Falmouth, Mashpee and JBCC) to withdraw any needed supplemental water from the legislatively established Upper Cape Water Supply Reserve.

The Applicant has demonstrated there are no existing or potential private water supplies downgradient of the Site, nor are there any applications pending for proposed drinking water sources within a three-mile radius of the proposed waste deposition area of Phase 7 and Phase 8. Furthermore, the Applicant demonstrated there exists a sufficient existing public water supply or proposed drinking water source area to meet the municipality's projected needs.

Accordingly, the Board finds that the Site **MEETS** this criterion.

7. any area of waste deposition is within the zone of contribution of an existing public water supply or proposed drinking water source area, or the recharge area of a surface drinking water supply, pursuant to a municipal ordinance or by-law enacted in accordance with M.G.L. c. 40A, § 9;

Upon review of the Report, Engineer's Report, the Record, and Section 5.3 of the Board's regulations prohibiting drinking water supplies downgradient of the site, the Board confirmed that the nearest public water source (ID #4036000-08G) is a Zone II area located approximately 0.5 miles south and cross-gradient (not downgradient) from the proposed waste deposition areas of Phase 7 and Phase 8. According to the Report, MassDEP has reviewed its file and confirmed that there are no applications pending for a proposed drinking water source area within a three-mile radius of the proposed Site.

The Applicant submitted a Water Resources Districts and Zone II Map depicting that the proposed Site is not within an area designated as a Bourne Water Resource District, a Buzzards Bay Water Resource District, or a North Sagamore Water Resource District.

Accordingly, the Board finds that the Site **MEETS** this criterion.

8. any area of waste deposition would be within the Zone A or Zone B of a surface drinking water supply;

Upon review of the Report, Engineer's Report, and the Record, the Board has confirmed that the nearest mapped Zone A or Zone B Surface Drinking Water Supply Protection Zones (for the Long Pond Reservoir) is located approximately 9 miles south of the proposed waste deposition area.

Accordingly, the Board finds that the Site **MEETS** this criterion.

9. any area of waste deposition would be less than 400 feet upgradient, as defined by groundwater flow or surface water drainage, of a perennial water course that drains to a surface drinking water supply which is within one mile of the waste deposition area;

Upon review of the Report, Engineer's Report, and the Record, the Board determined that the nearest surface water drinking supply (the Long Pond Reservoir) is located approximately 9 miles south of the proposed waste deposition area. Therefore, the Board has determined that the proposed waste deposition areas will not be located less than 400 feet upgradient of a perennial water course that drains to a surface drinking water supply which is within one mile of the waste deposition area.

Accordingly, the Board finds that the Site **MEETS** this criterion.

10. any area of waste deposition would be within a Potentially Productive Aquifer unless:
 - a. the proponent demonstrates to the Department's satisfaction, based on hydrogeological studies, that the designation of the area as a potentially productive aquifer is incorrect;
 - b. the proponent demonstrates to the Department's satisfaction, based on hydrogeological studies, that the aquifer cannot now, nor in the reasonably foreseeable future, be used as a public water supply due to existing contamination of the aquifer; or
 - c. the area has been excluded as a "Non-Potential Drinking Water Source Area" pursuant to 310 CMR 40.0932, or as otherwise defined at 310 CMR 40.0006: The Massachusetts Contingency Plan.

The Applicant has identified contamination sources downgradient of the Site, in particular Phases 7 and 8, as two closed and unlined landfills in the Town of Bourne (Brookside Development Corp. Landfill and Nightingale Stump Landfill). The Brookside Development Corp. Landfill is

approximately 0.5 miles southwest of the proposed modifications and was closed in 1968 and capped in 1996. Additionally, the Nightingale Stump Landfill is approximately 0.5 miles west and was closed in 1989. The Applicant in its Application stated that portions of the aquifer beneath the highway corridor associated with MacArthur Boulevard, and some areas west of MacArthur Boulevard have been classified as "Non-Potential Drinking Water Source Areas" in accordance with the Massachusetts Contingency Plan ("MCP").

MassDEP approved the permit application for a BWP SW23 Comprehensive Site Assessment ("CSA") to the Town of Bourne - Department of Integrated Solid Waste Management on June 5, 2017. The CSA identified the primary sources of contaminants detected in groundwater samples collected from the environmental monitoring network are the unlined landfill, former septage lagoons and Department of Public Work ("DPW") facility. Leachate from the unlined landfill has degraded water quality downgradient of the Bourne Landfill. The unlined landfill has been capped and closed in accordance with solid waste regulations to reduce leachate generation. The former wastewater lagoons were located at the northeastern of the corner of the property, which dumping of septage ceased in 1991 and the lagoons have been decommissioned by removing the accumulated sludge and underlying soils. All underground storage tanks (USTs), which were part of the DPW facility, have been removed from the site and five floor drains in the DPW garage were connected to an underground tight tank with oil water separator.

The Applicant stated that the Town of Bourne has put in place institutional controls (i.e., Board of Health Regulation) to prevent future installation of private and public wells from being located downgradient of the Bourne Landfill and that drinking water from the Bourne Water District distribution system is available in all areas hydraulically downgradient of the Bourne Landfill.

Upon review of the Report, Engineer's Report, and the Record, the Board determined that the Site is located within a Potentially Productive Aquifer. The Board also reviewed the CSA, MassDEP's approval of the CSA, and Section 5.3 of the Board of Health's regulations prohibiting drinking water supplies downgradient of the Site. In its review, the Board determined that based on hydrogeological studies, the aquifer cannot now, nor in the reasonably foreseeable future, be used as a public water supply due to existing contamination of the aquifer.

Accordingly, the Board finds that the Site **MEETS** this criterion.

11. any area of waste deposition would be within 1,000 feet upgradient, and where not upgradient, within 500 feet, of a private water supply well existing or established as a potential supply at the time of submittal of the application; provided, however, the applicant may show a valid option to purchase the restricted area, including the well and a guarantee not to use the well as a drinking supply, the exercise of which shall be a condition of any site assignment;

Upon review of the Report, Engineer's Report, and the Record, the Board has determined that the proposed waste deposition area for Phase 7 and Phase 8 will not be within 1,000 feet in any

direction of an existing or potential private water supply well. During the assessment process, the Applicant conducted private well surveys to identify all private wells in the vicinity of the Bourne Landfill, including downgradient, upgradient and cross-gradient. All private wells that were identified in the landfill plume, adjacent to the plume, and/or in close proximity to the Bourne Landfill were connected to the public water supply system. The land upgradient of Phase 7 and Phase 8 is vacant land owned by Joint Base Cape Cod and it has been determined that there are no residents located within 1,000 feet upgradient of Phase 7 and Phase 8. The land cross-gradient of Phase 7 and Phase 8 is vacant land to the south and the existing Bourne Landfill to the north and it has been determined that there are no residents within 1,000 feet cross-gradient of Phase 7 and Phase 8.

Accordingly, the Board finds that the Site **MEETS** this criterion.

12. the maximum high groundwater table is within four feet of the ground surface in areas where waste deposition is to occur or, where a liner is designed to the satisfaction of the Department, within four feet of the bottom of the lower-most liner;

Pursuant to 310 CMR 16.40(1)(c), site suitability applications shall be evaluated with the presumption that the proposed facility shall be designed and constructed to meet all relevant state and federal statutory, regulatory and policy requirements. The review of an application does not consider detailed facility design or operations except where:

- a. the Department determines that specific design or operation plans or data are necessary to determine whether potential discharges or emissions from the proposed facility could render the site not suitable and requires the applicant to submit such relevant and detailed information; or
- b. the applicant intends to alter the site or design the facility to meet specific site suitability criteria and submits such plans or other information as the Department deems necessary to determine if the criteria are satisfied.

The Applicant stated that the lowest point of elevation where the Phase 7 liner joins to the Phase 6 will be at 52 feet MSL. The groundwater elevation at this area is at 46.5 feet MSL. The lowest point of elevation for Phase 8 will be in the leachate sump area at 51.5 feet MSL. The groundwater elevation at this area is 47.4 feet MSL. The Applicant submitted the Groundwater Contour Plan that shows the estimated maximum groundwater elevations for the Bourne Landfill area, based on historical maximum groundwater elevations in groundwater monitoring wells located around the perimeter of the Bourne Landfill, including the area for the proposed modifications. Based on the data presented, the Applicant has demonstrated that there will be a four-foot separation of the base of the liner above the maximum calculated groundwater surface.

The Board reviewed the application inclusive of the proposed double composite liner design, the Groundwater Contour Plan and the information provided by Geoscience on July 1, 2021. Upon review of the Report, Engineer's Report, the Record, and the Application, the Board determined

that there will be a minimum four-foot separation from maximum high groundwater to the base of the liner in Phases 7 and 8.

Accordingly, the Board finds that the Site **MEETS** this criterion.

13. the outermost limits of waste deposition or leachate containment structures would be within a resource area protected by the Wetlands Protection Act, M.G.L. c. 131, § 40, including the 100 year floodplain;

Upon review of the Report, Engineer's Report, and the Record, the Board determined that the outermost limits of waste deposition or leachate containment structures are not within a resource area protected by the Wetlands Protection Act, M.G.L. c. 131, § 40, including the 100-year floodplain.

Accordingly, the Board finds that the Site **MEETS** this criterion.

14. any area of waste deposition or the leachate containment structures would be less than 400 feet to a lake, or 200 feet to a Riverfront Area as defined in 310 CMR 10.00, that is not a drinking water supply;

Upon review of the Report, Engineer's Report, and the Record, the Board determined that the Site is not located within 400 feet of a lake or within 200 feet of a riverfront area.

Accordingly, the Board finds that the Site **MEETS** this criterion.

15. any area of waste deposition would be within 1,000 feet of an occupied residential dwelling, health care facility, prison, elementary school, middle school or high school or children's pre-school, licensed day care center, senior center or youth center, excluding equipment storage or maintenance structures; provided, however, that the applicant may show a valid option to purchase the restricted area, the exercise of which shall be a condition of any site assignment;

The Applicant stated that a Global Positioning Survey ("GPS") survey was conducted to locate the closest occupied residential dwelling, which has been identified to be within the Bay View Campground. Pursuant to the definitions under the Town's Zoning Laws, the facilities within the campgrounds are intended for temporary overnight facilities and not for human habitation or occupied residential dwelling.

Additionally, the Applicant submitted a Land Use Plan in the Application encompassing a ½ mile radius from the Site. The Land Use Plan shows the location of the closest occupied residential dwelling just outside the 1,000-foot offset line from the waste deposition area for Phase 7 and Phase 8. The Land Use Map shows a healthcare facility at 146 MacArthur Boulevard, approximately 3,500 feet north of the waste deposition area for Phase 7 and Phase 8. The Land

Use Plan does not show any prisons, elementary schools, middle schools, high schools, children's preschools, licensed day care centers, or senior or youth centers within the mapped area.

Upon review of the Report, Engineer's Report, and the Record, the Board determined that the proposed waste deposition area for Phase 7 and Phase 8 will not be within 1,000 feet of an occupied residential dwelling, health care facility, prison, elementary school, middle school or high school or children's pre-school, licensed day care center, senior center or youth center, excluding equipment storage or maintenance structure.

Accordingly, the Board finds that the Site **MEETS** this criterion.

16. waste deposition on the site would result in a threat of an adverse impact to groundwater through the discharge of leachate, unless it is demonstrated to the satisfaction of the Department that a groundwater protection system will be incorporated to prevent such threat.

The Application stated that a groundwater protection system (double composite liner system with interstitial leak detection) in compliance with current MassDEP regulations will be incorporated into the design of Phase 7 and Phase 8. There are no wells, private or public, allowed to be constructed, for human consumption, if its placement is hydraulically downgradient of the Bourne Landfill. Furthermore, the Board does not permit the construction of potable wells downgradient from the Bourne Landfill and these areas are connected to the public water system.

In the Application, the Applicant stated that the Facility has been monitoring groundwater quality in its vicinity and downgradient of the Bourne Landfill, in accordance with the MassDEP's approved quarterly groundwater monitoring program, since 1997. The Applicant stated that the monitoring record shows monitored groundwater quality has improved, which the Applicant indicated presumably because of the abandonment and removal of the former septage pits that were located in the northeast corner of the Site, the closing and capping of the unlined Phase 1-A, B, C landfills and the mining and removal of the former unlined Phase 1-D landfill. The Applicant stated that beginning with the construction of the Phase 3, Stage 1 landfill in 2000, and all other cells since then, liners have been constructed with double composite liners with interstitial leak detection. In addition, an 18-inch screened sand drainage and protection layer is constructed above the liner system.

The Board's review of the Site Assignment application notes that the Applicant has proposed a double composite liner with monitoring for Phases 7 and 8 that will meet MassDEP's liner requirements. The Applicant has further stated that the groundwater protection system will intercept and collect leachate that passes through the waste, protecting groundwater quality within the area of the Bourne Landfill. Based on the Report, Engineer's Report, and the Record, the Board determined that the proposed double composite liner design, the proposed Facility modifications will not result in a threat of an adverse impact to groundwater through the discharge of leachate.

Accordingly, the Board finds that the Site **MEETS** this criterion.

B. General Site Suitability Criteria, 310 CMR 16.40(4)

The Board has determined the following General Facility Criteria have been met:

1. Agricultural Lands. No site shall be determined to be suitable or be assigned as a solid waste management facility where:
 - a. the land is classified as Prime, Unique, or of State and Local Importance by the United States Department of Agriculture, Natural Resources Conservation Service;
or
 - b. the land is deemed Land Actively Devoted to Agricultural or Horticultural Uses, except where the facility is an agricultural composting facility; and
 - c. a 100-foot buffer would not be present between the facility and those lands classified at 310 CMR 16.40(4)(a)1. or 2.

The Applicant submitted a site-specific soil survey report for the 25-acre parcel dated August 29, 2018. A soil profile was performed for twenty (20) test pits. The soil survey report concluded that the majority of the 25-acre parcel consists of soil and non-soil material disturbed by human activity, related to the operation of the Bourne Landfill, that was redefined as Urban Land and Udipsammments which are not Prime, Important or Unique Farmland in Massachusetts.

A small strip of natural, undisturbed Barnstable sandy loam was surveyed and classified as farmland of statewide importance. In response, the Applicant submitted a Site Buildout Plan that indicated that the modifications for Phase 7 and 8 have a 100-foot buffer from the areas determined to be important farmland.

Based on the findings of the August 29, 2018 LEC Site Specific Soil Survey, the Site will not be located on land on which the existing conditions meet the requirements for classification as Prime, Unique, or of State and Local Importance by the United States Department of Agriculture, Natural Resources Conservation Service; the land is not Land Actively Devoted to Agricultural or Horticultural Uses, and a 100-foot buffer will be present between the Site and those lands.

Accordingly, the Board finds that the Site **MEETS** this criterion.

2. Traffic and Access to the Site. No site shall be determined to be suitable or be assigned as a solid waste management facility where traffic impacts from the facility operation would constitute a danger to the public health, safety, or the environment taking into consideration the following factors:
 - a. traffic congestion;
 - b. pedestrian and vehicular safety;
 - c. road configurations;
 - d. alternate routes; and

e. vehicle emissions

Traffic Congestion: Upon review of the August 3, 2021 report prepared by TEPP LLC, the SSEIR and notes that the proposed operations will remain under the existing cap of 825 tons per day, the Board agrees with the TEPP LLC report's conclusions that operations of the site will not negatively impact the traffic operations on MacArthur Boulevard. The proposed Bourne Landfill expansion does not change the site access or permitted tonnage to the Site therefore no change to the existing traffic volumes will impact the Site.

Pedestrian and Vehicular Safety: The facility is accessed via a deceleration lane to a private driveway on Route 28 northbound. The Applicant stated that pedestrians are prohibited along Route 28 therefore potential conflicts with pedestrians will not arise. The Applicant evaluated the crash rates at the study area intersections and determined that the crash rate at each intersection was below both the statewide and Massachusetts Department of Transportation ("MassDOT") District 5 average crash rates.

Road Configuration: The only access to the Site is via Route 28 northbound. These lanes are dedicated solely to access to the Site. Route 28 is the main thoroughfare in the area and is capable of handling facility traffic without impact.

Alternative Routes: There are no alternative routes.

Vehicular Emissions: The total approved tonnage will not change therefore the traffic volume will not change. The emission rates will stay the same.

Upon receipt of the Board's Site Assignment approval, MassDEP requires the Applicant to submit an Authorization to Construct application to MassDEP and traffic impacts will be evaluated again. According to the Report, MassDEP is prepared to require that the Applicant monitor and record daily traffic volumes. If the actual traffic volumes are not consistent with what was evaluated in the TIAS (e.g., 289 trucks per day), MassDEP may require a new traffic impact study.

The Board will Condition the Site Assignment on preventative queuing measures being contained in the hauler's contracts, but otherwise, does not have any concerns related to traffic. Therefore, the Applicant will not be required to monitor traffic levels and perform a post-development traffic impact study as a condition of any Site Assignment approval or require a pre-submittal of the study protocol for review and approval by the Board and MassDEP.

Accordingly, the Board finds that the Site **MEETS** this criterion.

3. Wildlife and Wildlife Habitat. No site shall be determined to be suitable or be assigned as a solid waste management facility where such siting would:

- a. have an adverse impact on Endangered, Threatened, or Special Concern species listed by the Natural Heritage and Endangered Species Program of the Division of Fisheries and Wildlife in its database;
- b. have an adverse impact on an Ecologically Significant Natural Community as documented by the Natural Heritage and Endangered Species Program in its database; or
- c. have an adverse impact on the wildlife habitat of any state Wildlife Management Area.

Portions of the 25-acre parcel proposed for Phase 7 and Phase 8 are mapped as Priority Habitat for the Eastern Box Turtle, a species state-listed as Special Concern. The Applicant stated that the Town has committed to maintaining a buffer, such as boulders, fencing, or earthen berms. Upon review of the Report, Engineer's Report, and the Record, including that correspondence to and from Natural Heritage and Endangered Species ("NHESP"), the Board finds that the Eastern Box Turtle will not be directly impacted so long as a buffer is maintained, and all work associated with Phase 7 through 9 occurs within previously disturbed areas and no areas mapped as Priority Habitat for the Eastern Box Turtle are disturbed.

Accordingly, the Board finds that the Site **MEETS** this criterion.

4. Areas of Critical Environmental Concern. No site shall be determined to be suitable or be assigned as a solid waste management facility where such siting:
 - a. would be located within an Area of Critical Environmental Concern (ACEC), as designated by the Secretary of the Executive Office of Environmental Affairs; or
 - b. would fail to protect the outstanding resources of an ACEC as identified in the Secretary's designation if the solid waste management facility is to be located outside, but adjacent to the ACEC.

Upon review of the Record, Engineer's Report, and Report, the Board has determined that the site is not located within an Area of Critical Environmental Concern (ACEC), as designated by the Secretary of the Executive Office of Environmental Affairs or located immediately adjacent to an ACEC. The Applicant submitted a Land Use encompassing a ½ mile radius from the site showing the nearest ACEC located along the western edge of Route 28, across the highway and within 500 feet of the site.

Accordingly, the Board finds that the Site **MEETS** this criterion.

5. Protection of Open Space. No site shall be determined to be suitable or be assigned as a solid waste management facility where such siting would have an adverse impact on the physical environment of, or on the use and enjoyment of:
 - a. state forests;

- b. state or municipal parklands or conservation land, or other open space held for natural resource purposes in accordance with Article 97 of the Massachusetts Constitution;
- c. MDC reservations;
- d. lands with conservation, preservation, agricultural, or watershed protection restrictions approved by the Secretary of the Executive Office of Environmental Affairs; or
- e. conservation land owned by private non-profit land conservation organizations and open to the public.

Based on the ISWM's coordinating effort with JBCC and the ISWM's implementation of best management practices, the Board has determined that operation of the Site will not have an adverse impact on the physical environment of, or on the use and enjoyment of open space.

Accordingly, the Board finds that the Site **MEETS** this criterion.

- 6. Potential Air Quality Impacts. No site shall be determined to be suitable or be assigned as a solid waste management facility where the anticipated emissions from the facility would not meet required state and federal air quality standards or criteria or would otherwise constitute a danger to the public health, safety or the environment, taking into consideration:
 - a. the concentration and dispersion of emissions;
 - b. the number and proximity of sensitive receptors; and
 - c. the attainment status of the area.

The Applicant submitted a document titled "Interim Risk Evaluation and Cumulative Impact Assessment ("CIA") of the Proposed Phased Landfill Development of the Town of Bourne Integrated Solid Waste Management Facility" dated May 2003 (Record No. 12) and presented an updated landfill gas emissions impact analysis on sensitive receptors, dated July 20, 2021. The current waste acceptance at the Facility constitutes approximately 86 percent of its annual tonnage of 219,000 in the form of municipal combustor ash ("MCA") from SEMASS waste-to-energy facility. The Applicant stated they intended to extend the contract, which is to continue accepting up to 189,000 tons per year ("TPY") of MCA and 30,000 TPY of biodegradable municipal solid waste ("MSW") from Bourne and Falmouth.

In addition to landfill gas composed of mostly methane and carbon dioxide as well as trace levels of a variety of volatile organic compounds and reduced sulfur compounds such as H₂S, the CIA includes evaluation of criteria pollutants of National Ambient Air Quality Standards ("NAAQS"). The 2003 CIA identified the key pollutant as hydrogen sulfide ("H₂S"). In 2009, Cambridge Environmental conducted an expanded evaluation of H₂S (Record No. 35), which resulted in the determination that there were no unacceptable health risks due to fugitive emissions of landfill gas from the ISWM facility.

The 2021 landfill gas collection rate, as metered at the flare, has been 660 standard cubic feet per minute (“scfm”). The Applicant states its assumptions for the analysis are based on over 90% landfill gas collection rate and approximately 98% destruction rate of H₂S by the flare, taking into consideration the operation of the horizontal collection wells in active areas of the Bourne Landfill, the installation of vertical collection wells once landfill areas reached closure grade, and the placement of ash residue cover over small quantities of potential degradable MSW. The current monitoring result showed that the Facility's emission in 2021 of 54.2 parts per million (“ppm”) is below the MassDEP's permit for the Facility's emission of landfill gas combusted at the flare of no more than 200 ppm.

The Bourne Landfill is subject to the reporting requirement for the Design Capacity Modifications and uncontrolled non-methane organic compounds (“NMOC”) emissions under Subpart XXX of 40 CFR 60. Under Subpart XXX, specifically 40 CFR 60.767(b)(1)(ii), allows the Bourne Landfill to elect submitting the NMOC emission report once every 5 years if the reported emission is less than 34 mg for five consecutive years. The Applicant has notified the United States Environmental Protection Agency (“USEPA”) and MassDEP in a letter dated April 19, 2019 regarding their intention to elect submitting the NMOC emission report once every 5 years.

The Applicant also provided an evaluation of potential emission increases for six primary pollutants under the National Ambient Air Quality Standards (“NAAQS”). The result showed that the emissions from the proposed modifications under the maximum landfill gas generation scenario are below the NAAQS standards.

The Board has reviewed the "Interim Risk Evaluation and Cumulative Impact Assessment ("CIA") of the Proposed Phased Bourne Landfill Development of the Town of Bourne Integrated Solid Waste Management Facility" dated May 2003, the updated landfill gas emissions impact analysis on sensitive receptors, dated July 20, 2021, prepared by Sanborn Head Associates, Inc., the Air Quality Plan Approval #SE-12-011 and the 2009 Cambridge Environmental expanded evaluation of H₂S gas emissions. Based on our review of the Record, including the documents noted above, the Board agrees with MassDEP's and Tighe & Bond's findings and makes its own, separate finding consistent with the DEP and its Engineer's factual conclusions.

Accordingly, the Board finds that the Site **MEETS** this criterion.

7. Potential for the Creation of Nuisances. No site shall be determined to be suitable or be assigned as a solid waste management facility where the establishment or operation of the facility would result in nuisance conditions which would constitute a danger to the public health, safety or the environment taking into consideration the following factors:
- a. noise;
 - b. litter;
 - c. vermin such as rodents and insects;
 - d. odors;
 - e. bird hazards to air traffic; and

f. other nuisance problems.

Noise: The Facility is well buffered by distance, traffic noise from Route 28 and vegetation, mitigating any potential impacts.

Litter: The Applicant will continue to use operational controls to handle any windblown litter associated with the Facility.

Vermin: The Applicant proposes to mitigate any potential vermin using the following measures:

1. Contracting with a vector control management firm;
2. Proper compaction techniques and placing cover material at the end of daily operations;
3. Mixing some waste loads with soil materials; and,
4. Limiting storage and quick removal of putrescible materials.

Odors: The Applicant stated proper compaction and covering methods (daily and intermediate cover) helps minimize odors at the operating face of the Bourne Landfill. The Applicant stated that the Bourne Landfill operators are instructed to take immediate action on any odor nuisance as it arises including the placement of daily cover and the placement of dry lime. The Applicant stated that expansion and proper maintenance of the existing, active landfill gas collection and flare system will serve as another mitigation measure.

Bird Hazards: The Applicant stated that the operation of the proposed modifications will not result in a bird hazard to aircraft.

Other Nuisance Problems: The Applicant stated that the landfilling and handling operations could potentially generate dust during dry periods of the year, and will continue with current control measures to mitigate any dust.

Accordingly, the Board finds that the Site **MEETS** this criterion.

8. *Size of Facility. No site shall be determined to be suitable or be assigned as a solid waste management facility if the size of the proposed site is insufficient to properly operate and maintain the proposed facility. The minimum distance between the waste handling area or deposition area and the property boundary shall be 100 feet, provided that a shorter distance may be suitable for that portion of the waste handling or deposition area which borders a separate solid waste management facility.*

The Board has reviewed the Application including the proposed facility designs for Phases 7, 8, and 9 and note and that the proposed Phase 7 and Phase 8 waste deposition area will not be within 100 feet of the southern, eastern, or western property line of the 25-acre parcel. MassDEP notes that since Phase 7 and Phase 8 will be an expansion of the existing Bourne Landfill, there is no requirement for a 100-foot setback from the northern property line. Additionally, Phase 9 is fully within the limits approved in the current Site Assignment. Based on our review of the Record,

including the facility design considerations for leachate control structures, the Report and the Engineer's Report, the Board agrees with MassDEP and Tighe & Bond's findings that Phase 7 and 8 as well as Phase 9 complies with the requirements under the Regulations.

Accordingly, the Board finds that the Site **MEETS** this criterion.

9. Areas Previously Used for Solid Waste Disposal. Where an area adjacent to the site of a proposed facility has been previously used for solid waste disposal the following factors shall be considered by the Department in determining whether a site is suitable and by the board of health in determining whether to assign a site:
- a. the nature and extent to which the prior solid waste activities on the adjacent site currently adversely impact or threaten to adversely impact the proposed site;
 - b. the nature and extent to which the proposed site may impact the site previously used for solid waste disposal; and
 - c. the nature and extent to which the combined impacts of the proposed site and the previously used adjacent site adversely impact on the public health, safety and the environment; taking into consideration:
 - i. whether the proposed site is an expansion of or constitutes beneficial integration of the solid waste activities with the adjacent site;
 - ii. whether the proposed facility is related to the closure and/or remedial activities at the adjacent site; and
 - iii. the extent to which the design and operation of the proposed facility will mitigate existing or potential impacts from the adjacent site.

The Board has reviewed the "Interim Risk Evaluation and Cumulative Impact Assessment ("CIA") of the Proposed Phased Bourne Landfill Development of the Town of Bourne Integrated Solid Waste Management Facility" dated May 2003, the updated landfill gas emissions impact analysis on sensitive receptors dated July 20, 2021 and prepared by Sanborn Head Associates, Inc., the 2009 Cambridge Environmental expanded evaluation of H₂S, the Comprehensive Site Assessment ("CSA"), the MassDEP's approval of the CSA dated June 15, 2017, the Single Supplemental Environmental Impact Report ("SSEIR") and the SSEIR Certificate dated December 30, 2020.

Based on the review of analysis presented in the Application, CSA, SSEIR and the CIA, the combined impacts of the existing Bourne Landfill and the proposed modifications in Phase 7 and 8 will not adversely impact on the public health, safety and the environment. However, MassDEP stated that the proposed Phase 9 vertical expansion will disturb areas previously used for waste disposal (Phase 2, Phase 2A/3A, Phase 3 and Phase 4, Stage 1). However, pursuant to 310 CMR 16.40(1)(c)l, MassDEP evaluated the Application with the assumption that the proposed facility would be designed and constructed to meet all relevant state and federal statutory, regulatory and policy requirements should the Board grant a site assignment for the proposed facility.

Based on our review of the Record, including the documents noted above, the Report and the Engineer's Report, the Board agrees with MassDEP and Tighe & Bond's findings. MassDEP will

require the Applicant to provide additional information and design analysis during the Authorization to Construct permit application for Phase 9 vertical expansion that addresses the disturbance of landfill areas cited herein.

Accordingly, the Board finds that the Site **MEETS** this criterion.

10. Existing Facilities. In evaluating proposed sites for new solid waste management facilities the Department and the board of health shall give preferential consideration to sites located in municipalities in which no existing landfill or solid waste combustion facilities are located. This preference shall be applied only to new facilities which will not be for the exclusive use of the municipality in which the site is located. The Department and the board of health shall weigh such preference against the following considerations when the proposed site is located in a community with an existing disposal facility:

- a. the extent to which the municipality's or region's solid waste needs will be met by the proposed facility; and*
- b. the extent to which the proposed facility incorporates recycling, composting or waste diversion activities.*

The Board has determined that the proposed Bourne Landfill expansion is not a new solid waste management facility and according to 310 CMR 16.40(4)(j) and the proposed Bourne Landfill expansion **should not be given preferential consideration for this criterion.**

11. Consideration of Other Sources of Contamination or Pollution. The determination of whether a site is suitable and should be assigned as a solid waste management facility shall consider whether the projected impacts of the proposed facility pose a threat to public health, safety or the environment, taking into consideration the impacts of existing sources of pollution or contamination as defined by the Department, and whether the proposed facility will mitigate or reduce those sources of pollution or contamination.

The Board has reviewed the "Interim Risk Evaluation and Cumulative Impact Assessment ("CIA") of the Proposed Phased Bourne Landfill Development of the Town of Bourne Integrated Solid Waste Management Facility" dated May 2003, the Comprehensive Site Assessment ("CSA"), the MassDEP's approval of the CSA dated June 15, 2017, the Single Supplemental Environmental Impact Report ("SSEIR"), the SSEIR Certificate dated December 30, 2020, and the proposed double composite liner design. Based on the information provided in the Application, concluded that the groundwater protection system proposed in the Application for Phase 7, Phase 8, and Phase 9 complies with current regulatory requirements for such systems and will contain features and elements designed to prevent the discharge of leachate into groundwater.

Based on our review of the Record, including the documents noted above, the Report and the Engineer's Report, the Board agrees with MassDEP and Tighe & Bond's findings.

Accordingly, the Board finds that the Site **MEETS** this criterion.

12. Regional Participation. The Department and the board of health shall give preferential consideration to sites located in municipalities not already participating in a regional disposal facility. The Department and the board of health shall weigh such preference against the following considerations when the proposed site is located in a community participating in a regional disposal facility:
 - a. the extent to which the proposed facility meets the municipality's and the region's solid waste management needs; and
 - b. the extent to which the proposed facility incorporates recycling, composting, or waste diversion activities.

The Town hosts the Bourne Integrated Solid Waste Management Facility landfill, which is a regional disposal facility and incorporates recycling efforts. In accordance with the Regional Participation Criterion, the Board **need not give preferential consideration to the proposed project for this criterion.**

C. Promotion of Integrated Solid Waste Management, 310 CMR 16.40(5)

1. In determining whether a site is suitable for a combustion facility or a landfill, the Department shall consider the following factors:
 - a. The potential yearly and lifetime capacity created by the proposed site use(s) in relation to the reasonably anticipated disposal capacity requirements and reduction/diversion goals of the Commonwealth and the geographic area(s) which the site will serve.
 - b. The extent to which the proposed site use(s), alone or in conjunction with other sites, provides or affords feasible means to maximize diversion or processing of each component of the anticipated waste stream in order to reduce potential adverse impacts from disposal and utilize reusable materials and only thereafter extract energy from the remaining solid waste prior to final disposal.
 - c. The extent to which the proposed use(s) of the site, alone or in conjunction with other sites, will contribute to the establishment and maintenance of a statewide integrated solid waste management system which will protect the public health and conserve the natural resources of the Commonwealth.
2. In determining whether a site is suitable for a combustion facility or a landfill, the Department and the board of health shall consider the extent to which the proposed use of the site directly incorporates recycling and composting techniques or is otherwise integrated into recycling and composting activities for the geographic area(s) which the site will serve.
3. A site proposed for a combustion facility or a landfill shall be reviewed to determine if the site is also suitable for a recycling or composting facility either in conjunction with or instead of the proposed facility.
4. Site assignment applications which incorporate significant recycling or composting uses, in accordance with the goals of the statewide plan, shall receive preferred consideration.

The Board acknowledges that expanded Bourne Landfill will be a regional landfill, not for the exclusive use of the Town will address disposal capacity requirements and reduction/diversion goals in the region and in the Commonwealth. The Board therefore agrees that the facility **should be given preferential consideration under this criterion.**

III. CONDITIONS IMPOSED BY THE BOARD

Under 310 CMR 16.20(12), “The board may include in any decision to grant a site assignment such limitations with respect to the extent, character and nature of the facility or expansion thereof, as may be necessary to ensure that the facility or expansion thereof will not present a threat to the public health, safety or the environment.”

The Board finds that the Site is suitable for expansion as described in the Application, provided the Applicant, its successors and assigns comply with the Conditions set forth below. Therefore, the Board approves this Major Modification of the Site Assignment for the Site, and grants the Site Assignment, subject to the following conditions:

1. The additional areas herein assigned for the Bourne Landfill expansions shall include the designated areas on the 99-acre Site on land owned by the Town of Bourne, located at 201 MacArthur Boulevard, Bourne, Massachusetts, as described in the Application, including horizontal bounds and vertical elevation of 225 feet MSL, as shown on Figure 4 (dated December 9, 2021) and Figure 15 (dated December 9, 2021).
2. ISWM shall include in all contracts with haulers a requirement that their vehicles not queue beyond the capacity of the left turn lane at any U-turn on Route 28 southbound or northbound, and vehicles should utilize the next available U-turn or rotary for reversing direction.
3. ISWM shall implement Best Management Practices to control litter, dust, stormwater and air emissions from equipment, vehicles and operations.
4. The maximum daily solid waste tonnage accepted at the combined 99-acre site assigned area shall not exceed 825 tons per day.
5. The hours of operation at the Site for landfilling, handling and transfer operations shall be limited to 7:00 a.m. to 5:00 p.m., seven days a week, with the exception of municipal combustor ash delivered to the Site beginning no earlier than 6:00 a.m. Hours may be adjusted due to emergencies upon prior notification to the Chair of the Board of Health and the Board of Health Agent. No equipment that shall constitute an audible public nuisance shall be used prior to 6:00 a.m.
6. ISWM shall construct and operate the improvements and activities on the Site in conformity with the Application and the material submitted therein. The construction details of the proposed expansion shall be determined by the MassDEP in accordance with review and approval of any Authorization to Construct and Authorization to Operate that may be issued under 310 CMR 19.000.

7. The area described in the Application shall be utilized for landfilling and continued use of the area for solid waste handling and processing, including but not limited to transfer operations, processing and handling, composting and recycling. Any solid waste activity other than landfilling, handling, or processing shall not be conducted at the Site except in accordance with a new or modified Site Assignment. No combustion of solid waste will be permitted on the Site.
8. This Site Assignment shall take effect when recorded at the Registry of Deeds and after a certified copy of the same from the Registry of Deeds is provided to the Board of Health, with all recording fees and charges paid by ISWM.
9. This Site Assignment may be modified, suspended or rescinded by the Board, for good cause, after notice to the owner and operator and a public hearing, in accordance with M.G.L. c. 111, § 150A.
10. ISWM shall have sole operational responsibility for the entire 99-acre Site. The operational responsibility for the Site shall not be assigned or transferred, in whole or in part, to another party, including an assignment or transfer for another department or board of the Town, unless approved by a vote of the majority of the Board at a public hearing. Assignment or transfer shall include, but not be limited to, a lease, license, or other agreement related to the operation of the Site.
11. Prior conditions, permissions, allowances and restrictions not modified expressly by this Site Assignment shall remain in full force and effect.
12. To ensure that all public and/or private wells in the areas described in or referred to in the Site Assignment Decision (as being connected to public water supply) are no longer used for potable water, ISWM shall maintain an annually updated list of such wells and well owners, and shall provide, for the Board of Health to transmit, an annual notice to all applicable, current property owners that the listed wells are not available for use as potable water. ISWM shall bear the cost of such notification.
13. ISWM shall report annually to the Board, at a public meeting, on the state of operations at the Facility including, without limitation, information on emissions, waste diversion efforts, including food waste, addressing Contaminants of Emerging Concern, pilot projects, and any other information pertinent to operations at the Site.
14. ISWM shall contribute an amount of \$1.00 (one dollar) per ton of all waste and cover materials whether landfilled or transferred to the Facility to the Town of Bourne's Climate Resiliency and Infrastructure Stabilization Fund (the "Fund"), which shall be deposited into the Fund no later than November 30th of the next fiscal year.
15. ISWM shall take affirmative steps to ensure that all public and/or private wells in the areas described in or referred to in the Site Assignment Decision (as being connected to public water supply), are properly labeled (via permanent plaquing) as "not available for use as potable water," and ISWM shall bear the cost of such notification and labeling. To the extent permitted by law, ISWM shall cause an annotation to be recorded at the Registry of Deed for each well included in this Condition.
16. In the event any condition herein is determined to be invalid or unenforceable by a court of appropriate jurisdiction, that condition shall be severed and the remaining conditions shall remain in full force and effect.

IV. CONCLUSION

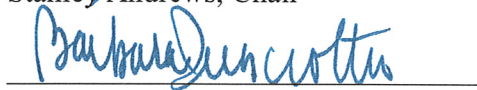
The Board has reviewed the Bourne Site Assignment Application along with associated submittals and supporting information as contained in the Record. Accordingly, the Board finds that the proposed Facility Site Major Modifications adequately satisfies and complies with the site suitability criteria established in 310 CMR 16.40(3), Facility Specific Site Suitability Criteria, and (4), General Site Suitability Criteria. Furthermore, the Board has determined that the proposed Major Modifications, including the Phase 7, 8 and 9 expansions, do not pose a threat to public health, safety or the environment in accordance with 310 CMR 16.20(10)(k)(2).

Dated this 14th day of March, 2022

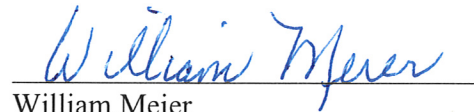
BOURNE BOARD OF HEALTH



Stanley Andrews, Chair



Barbara Princiotta



William Meier

Donald C. Uitti

**BARNSTABLE REGISTRY OF DEEDS
John F. Meade, Register**