



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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February 15, 2017
Toni King, P.E.
Southbridge Recycling & Disposal Park, Inc.
165 Barefoot Road
Southbridge, Massachusetts 01550

Town of Southbridge Board of Health
41 Elm Street
Southbridge, Massachusetts 01550

Re: CERO – SWM –Southbridge Sanitary Landfill, Southbridge, Massachusetts
Transmittal Number: X269337/ Report Number: 278-007-A,
BWP SW 01 – Site Suitability Report for a New Site Assignment
NEGATIVE REPORT ON SUITABILITY FOR SITE ASSIGNMENT

At: Southbridge Sanitary Landfill
165 Barefoot Road
Southbridge, Massachusetts 01550

Facility No.: 39743

Dear Ms. King and Board of Health Members:

On January 22, 2016, the Massachusetts Department of Environmental Protection, Solid Waste Management Section (“MassDEP”) received the “BWP SW01 Permit Application, Site Suitability Report, Southbridge Sanitary Landfill, Southbridge, Massachusetts January 2016,” which was submitted on behalf of Southbridge Recycling & Disposal Park, Inc. (“SRDP” or “Applicant”) by Sanborn, Head & Associates, Inc. (the “Application”). The Application proposed an expansion of the existing Southbridge Landfill (the “Landfill”) onto several parcels of land in Southbridge that have not been site-assigned by the Southbridge Board of Health as locations for solid waste facilities.

On May 13, 2016, the Secretary of Energy and Environmental Affairs issued a Certificate under the Massachusetts Environmental Policy Act (“MEPA”) finding that the Landfill expansion project as presented in the Application adequately and properly complies with the MEPA requirements. Under MassDEP’s regulations for site assignment for new or expanded solid waste facilities,

MassDEP then instituted a public comment period and solicited written comments on the completeness of the Application from interested persons, including the Southbridge Board of Health, with a submission deadline of June 1, 2016. MassDEP received seven comment letters submitted by the Charlton Board of Health, the Sturbridge Board of Health, Tighe & Bond on behalf of the Town of Southbridge, and four concerned citizens. MassDEP considered these comment letters in the administrative completeness review of the Application.

On June 3, 2016, MassDEP issued an Administrative Deficiency Notice regarding the Application which found that the Application was missing certain supporting documents. In response, the Applicant submitted its "Administrative Deficiency Response Letter to BWP SW 01 Permit Application Site Suitability Report, DEP Transmittal No. X269337/ Report No. 278-007-A, Southbridge Sanitary Landfill, Southbridge, Massachusetts, July 2016," to MassDEP on July 29, 2016. The Applicant supplemented the July 29, 2016 Administrative Deficiency Response Letter with additional correspondence on October 24, 2016. MassDEP considers both the July 29, 2016 and October 24, 2016 submittals as supplements to and part of the Application.

In the Application, SRDP proposes an expansion to the Landfill through site assignment of portions of five parcels of land contiguous to the existing site-assigned land: Parcel 1 (Phase 2.10 or the "Triangle Parcel"); Parcel 2 (the "Rectangle Parcel"); and three "slivers" of land carved out from Parcel 4, Parcel 5, and Parcel 6. These Parcels are depicted in Exhibit A, Figure 1 of the Application. The approximate acreage of the Parcels 1 through 6 in their entirety is 19.17 acres; however, site assignment is being requested only for approximately 7.25 acres of land within the Parcels. In the July 29, 2016 Administrative Deficiency Response Letter, the Applicant withdrew its request for a site suitability determination for Parcel 3 (Phase 4.14 or the "McKinstry Parcel"); consequently, MassDEP did not consider Parcel 3 when it reviewed the Application.

On November 14, 2016, MassDEP issued a letter determining the application was Administratively Complete. That letter was subsequently revised and reissued on November 16, 2016. Pursuant to the provisions of M.G.L. c.111, §§150A & 150A1/2 and 310 CMR 16.00, Public Notice was required to be given concerning the proposed solid waste site assignment, in order to initiate and provide a twenty-one (21) day public comment period for any concerned or interested persons regarding the proposed site assignment. According to the provisions of 310 CMR 16.00, the public comment period was to commence on the date by which proof of public notice was submitted to MassDEP. On November 30, 2016, MassDEP received documentation that public notice of the Application was published in English and Spanish in the Worcester Telegram on November 19, 2016, in the Southbridge News on November 24, 2016, and on the MEPA Environmental Monitor website on November 23, 2016. MassDEP also received documentation that abutters to the proposed Landfill expansion site were notified via U.S. Mail. Accordingly, the public comment period commenced on November 30, 2016 and ended on December 21, 2016.

On December 22, 2016, MassDEP issued a letter to the Applicant requesting a formal response to the 184 public comments it had received on the Application. On December 30, 2016, MassDEP issued a Request For Additional Information to the Applicant. On January 9, 2017, the Applicant submitted "BWP SW 01 – Site Suitability Report Response to Public Comments, Report Number 278-007A/Transmittal Number X269337, Southbridge Sanitary Landfill,

Southbridge, Massachusetts to MassDEP," in response to both the public comments on the Application and MassDEP's Request For Additional Information.

With respect to Environmental Justice, MassDEP determined that the location proposed to be site assigned is located within an area of Environmental Justice ("EJ") Population. Pursuant to the "Environmental Justice Policy of the Executive Office of Environmental Affairs", dated October 9, 2002, enhanced public participation is required for any project as it undergoes review in accordance with the Massachusetts Environmental Policy Act ("MEPA"), if the project is within one mile of an EJ Population and the project exceeds an Environmental Notification Form ("ENF") threshold (in this case, for solid waste disposal). In response, the Applicant provided copies of the Application for public review at the Southbridge Jacob Edwards Public Library, the Charlton Public Library and the Sturbridge Joshua Hyde Public Library. In addition, the public notice was published in English in the Worcester Telegram and the Southbridge News and in Spanish at www.vocerohispano.com.

Pursuant to the provisions of 310 CMR 4.10(4)(a)2.b., MassDEP was provided a total of sixty (60) days following receipt of proof of publication of the Public Notice to complete its review of the Application and issue a Report on Suitability of the parcels proposed for site assignment.

Pursuant to 310 CMR 16.00, "Site Assignment Regulations for Solid Waste Facilities," and as detailed in its Negative Report on Suitability, the Department has determined that insufficient information exists to allow the Department to make a determination that the parcels proposed for site assignment meet all applicable criteria for site suitability for the proposed use. A copy of the Negative Report on Suitability is enclosed.

The Department hereby issues a Negative Report on Suitability for the Southbridge Landfill under the authority of M.G.L. c. 111, ss. 150A and 150A½ and 310 CMR 16.00. Pursuant to 310 CMR 16.15(1), the site assignment process has been determined to be complete, and because this is a Negative Report on Suitability the Southbridge Board of Health shall not hold a public hearing. The Applicant has a right to request reconsideration, which is described in more detail in the Department's Negative Report on Suitability. Appeal rights are also noted in the Negative Report on Suitability.

If you have any questions regarding this determination, please contact me at 508-767-2757 or at the letterhead address. In any correspondence regarding this application, please refer to Report Number 278-007-A.

Very truly yours,



John F. Kronopolus
Deputy Regional Director
Bureau of Air and Waste

Enclosure

cc: Thomas Cue, Southbridge Recycling & Disposal Park, Inc., 165 Barefoot Road,
Southbridge, MA 01550
Ron San Angelo, Town Manager, Town of Southbridge, 41 Elm Street, Southbridge, MA
01550
Andrew Pelletier, Southbridge Board of Health, 41 Elm Street, Southbridge, MA 01550
Margaret Morrissey, Director, Jacob Edwards Library, 236 Main Street, Southbridge,
MA 01550
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Cheryl Hansen, Director, Charlton Public Library, 40 Main Street, Charlton, MA 01507
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Sturbridge Board of Health, 308 Main Street, Sturbridge, MA 01566
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Ronald St. Michel, P.E., Sanborn, Head & Associates, Inc., 1 Technology Park Drive,
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Square, Worcester, MA 01604-4016

Ecc: Honorable Senator Anne Gobi
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REPORT ON SUITABILITY REPORT #278-007-A

Prepared by:

**Department of Environmental Protection
Central Regional Office
Worcester, Massachusetts**

February 15, 2017

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751.

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NEGATIVE REPORT ON SUITABILITY

APPLICANT

Southbridge Recycling & Disposal Park, Inc.
165 Barefoot Road
Southbridge, Massachusetts 01550-1405

Application Prepared by:
Sanborn, Head & Associates, Inc.
1 Technology Park Drive
Westford, Massachusetts 01886

LOCATION OF PROPOSED FACILITY

165 Barefoot Road
Southbridge, Massachusetts

TYPE OF PROPOSED FACILITY

Expansion of Solid Waste Landfill Facility

The Massachusetts Department of Environmental Protection ("Department" or "MassDEP"), has prepared this report on the above referenced application pursuant to the authority granted by M.G.L. c. 111, §§ 150A & 150A½ and 310 CMR 16.00, *Site Assignment Regulations for Solid Waste Facilities*.

STATEMENT

MassDEP has determined that the Application, as submitted, supplemented and amended by information referenced in this report, contains sufficient information for some criteria to allow the MassDEP to determine whether the Site meets the criteria set forth in 310 CMR 16.00, but the Application does not contain sufficient information on three criteria to allow MassDEP to make a positive determination on those criteria (310 CMR 16.40). A proposed site must meet all criteria in order for MassDEP to issue a Positive Report of Suitability.

I. INTRODUCTION

The Town of Southbridge owns and Southbridge Recycling & Disposal Park, Inc. ("SRDP" or the "Applicant") operates the existing Southbridge Landfill located at 165 Barefoot Road in Southbridge, Massachusetts (the "Landfill"). The Landfill was initially site-assigned by the Southbridge Board of Health in 1979, with modifications in 1999 and 2008. The Landfill is

permitted by MassDEP to accept 405,600 tons per year of municipal solid waste and residuals from the processing of construction and demolition debris.

The Town and SRDP have proposed expanding the Landfill onto non-site-assigned land in Southbridge and Charlton. On January 22, 2016, SRDP submitted an application to MassDEP for a determination of site suitability, “BWP SW 01 Permit Application - Site Suitability Report,” Transmittal Number X269337 (the “Site Suitability Report Application” or “SSR”), for the specific parcels of land onto which SRDP proposes to expand the Landfill in Southbridge only. The Site Suitability Report Application includes reports prepared by Sanborn, Head & Associates, Inc., 1 Technology Park Drive, Westford, Massachusetts, 01886, and other supplemental information.

In the Site Suitability Report Application (Administrative Record #1), SRDP requests site assignment for disposal of municipal solid waste on three parcels and three additional slivers of land in Southbridge totaling approximately 90 acres for expansion of the Landfill. The “Phase 2.10 Parcel” is adjacent to the southwest corner of the Landfill and occupies 4.92 acres of land owned by the Town of Southbridge Airport Commission. It is shown as Parcel 1 on the Property/Compliance Boundary Setback Plan (AR #1, Exhibit L). The “Rectangle Parcel,” which occupies 2.18 acres of land owned by SRDP, was excepted from the original conveyance of the Landfill parcel to the Town of Southbridge and was therefore not included in the 1979 site assignment. It is shown as Parcel 2 on the Property/Compliance Boundary Setback Plan. (AR #1, Ex. L). The “Phase 4.14 Parcel” occupies 82.22 acres of land formerly owned by the Jim H. McKinstry Trust but now owned by SRDP. It is shown as Parcel 3 on the Property/Compliance Boundary Setback Plan. (AR #1, Ex. L). Parcels 4, 5, and 6 occupy 12.07 acres of land owned by SRDP, of which SRDP has proposed that 0.15 acres along the Charlton/Southbridge town line (the “Phase 3.12 Slivers”) be site assigned. The Phase 3.12 Slivers are shown within Parcels 4, 5, and 6 on the Property/Compliance Boundary Setback Plan. (AR #1, Ex. L).

MassDEP issued an Administrative Deficiency Notice to SRDP on June 3, 2016 stating that MassDEP had found the Application to be incomplete and requesting additional information. In an “Administrative Deficiency Response Letter to BWP SW 01 Permit Application” dated July 29, 2016 (“Administrative Deficiency Response Letter” or “Deficiency Response,” AR #6), SRDP narrowed the scope of the Site Suitability Report Application by withdrawing its request for determination of site suitability for the Phase 4.14 Parcel, thereby limiting its request for site suitability to the Phase 2.10 Parcel, the Rectangle Parcel, and the Phase 3.12 Slivers (AR #6). These two parcels and three slivers total approximately 7.25 acres and collectively constitute the Site for purposes of this Site Suitability Report. (AR #6). The Administrative Deficiency Response Letter also clarifies that the Phase 3.12 Slivers and the Rectangle Parcel will not add landfill capacity, i.e., they will not be waste deposition areas. (AR #6 at p. 2). Therefore, in reviewing the Site Suitability Report Application, MassDEP’s consideration of the suitability criteria included waste deposition on only the Phase 2.10 Parcel. MassDEP reviewed the suitability of the Phase 3.12 Slivers and the Rectangle Parcel for solid waste management activities excluding waste deposition.

On October 24, 2016, SRDP submitted to MassDEP a “Supplement to the Response to the BWP SW 01 Administrative Deficiency Letter dated July 29, 2016 – Proposed Interceptor Trench and

Related Mitigation Measures, Southbridge Sanitary Landfill, Southbridge, Massachusetts” (the “Supplement,” AR #7). The Supplement provides an expanded description of the measures designed to mitigate the existing groundwater contamination within the Phase 2.10 Parcel. (AR #7). The Site Suitability Report Application, the Administrative Deficiency Response Letter, and the Supplement collectively constitute SRDP’s application for a determination of site suitability for the Site (the “Application”). MassDEP evaluated the site suitability for solid waste management activities of the Site only and has not evaluated the suitability for site assignment of the Phase 4.14 Parcel which was withdrawn from the Application.

Pursuant to the provisions of M.G.L. c. 30, §§ 61-62I and 310 CMR 11.00, an Expanded Environmental Notification Form (EENF) for the Landfill Expansion Project was submitted to the MEPA Office of the Executive Office of Energy and Environmental Affairs (“MEPA”) in March 2015. During the MEPA process, SRDP was required to file a Draft Environmental Impact Report (“DEIR”), a Final Environmental Impact Report (“FEIR”), and a Supplemental FEIR. On May 13, 2016, the Secretary issued a Certificate determining that the Supplemental FEIR adequately and properly complies with MEPA and its implementing regulations.

II. STATEMENT OF FACTS AND FINDINGS

In accordance with 310 CMR 16.13(3), MassDEP has based this Report on the Administrative Record as set forth in Section V below. MassDEP reviewed the Application, the comments filed on the Application, and the Applicant’s response to those comments, as well as the other correspondence included in the Administrative Record. MassDEP also considered submittals for an ongoing Immediate Response Action for RTN 2-19678, which are publicly available on MassDEP’s website. Finally, MassDEP received and relied on facts and information otherwise available to MassDEP such as MassGIS; the expertise of MassDEP; and the expertise of other local, state or federal agencies consulted by MassDEP. MassDEP’s Findings and Determinations for each criterion are set forth separately below.

A. FACILITY-SPECIFIC SITE SUITABILITY CRITERIA **CRITERIA FOR LANDFILL FACILITIES (Restricted Areas)** **(310 CMR 16.40(3)(a))**

1. **Criterion at 310 CMR 16.40(3)(a)(1) - Zone II of Existing Public Water Supply:** *No site shall be determined to be suitable or be site assigned as a landfill facility where any area of waste deposition would be within a Zone II area of a public water supply well.*

The Application includes a Water Resources Site Plan based on MassGIS data (AR #1, Ex. H, Fig. 5) that shows no delineated Zone II areas for public water supply wells within approximately one-half mile of the proposed waste deposition area of the Phase 2.10 Parcel. (AR #1, Ex. H, Fig. 5). MassDEP has confirmed the MassGIS data on a plan captioned

“Southbridge Landfill and Surrounding Water Resources, January 2017” (AR #15).

The Water Resources Site Plan demonstrates that the proposed waste deposition area is not within the Zone II area of a public water supply well.

MassDEP’s Finding:

The Application does not propose waste deposition in the Phase 3.12 Slivers nor in the Rectangle Parcel. MassDEP has determined that the waste deposition area proposed in the Application will not be located within the Zone II of an existing public water supply well, and that the Phase 2.10 Parcel therefore **meets** this criterion, 310 CMR 16.40(3)(a)(1).

2. **Criterion at 310 CMR 16.40(3)(a)(2) - Interim Wellhead Protection Area of Existing Public Water Supply:** *No site shall be determined to be suitable or be site assigned as a landfill facility where any area of waste deposition would be within the Interim Wellhead Protection Area (IWPA) of an existing public water supply.*

The Application includes a Water Resources Site Plan based on MassGIS data (AR #1, Ex. H, Fig. 5) that shows no Interim Wellhead Protection Area (IWPA) of an Existing Public Water Supply (PWS) within one-half mile of the proposed waste deposition area of the Phase 2.10 Parcel (AR #1, Ex. H, Fig. 5). The Water Resources Site Plan shows that the proposed waste deposition area is not within the IWPA of any existing PWS.

MassDEP has confirmed, using MassGIS data, that the proposed Site is more than one-half mile away from the outer limit of the IWPA around existing public water supply wells. (AR #15).

MassDEP’s Finding:

The Application does not propose waste deposition in the Phase 3.12 Slivers nor in the Rectangle Parcel. MassDEP has determined that the waste deposition area proposed in the Application for the Site will not be located within the IWPA of an existing public water supply, and that the Phase 2.10 Parcel therefore **meets** this criterion, 310 CMR 16.40(3)(a)(2).

3. **Criterion at 310 CMR 16.40(3)(a)(3) - Zone II or Interim Wellhead Protection Area of a Proposed Drinking Water Source Area:** *No site shall be determined to be suitable or be site assigned as a landfill facility where any area of waste deposition would be within a Zone II or the Interim Wellhead Protection Area (IWPA) of a proposed drinking water source area.*

The Application includes a Water Resources Site Plan based on MassGIS data that shows no Proposed Drinking Water Sources or Zone II areas or IWPA of Proposed Drinking

Water Sources within one-half mile of the proposed waste deposition area of the Phase 2.10 Parcel (AR #1, Ex. H, Fig. 5).

MassDEP's regulations at 310 CMR 16.02 define 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. MassDEP reviewed its files and confirmed that no applications are pending for Proposed Drinking Water Sources within a three-mile radius of the proposed waste deposition area of the Phase 2.10 Parcel. Because there are no Proposed Drinking Water Sources in the vicinity of the proposed waste deposition area, the proposed waste deposition area is not located within any Zone II areas or IWPAs for Proposed Drinking Water Sources.

MassDEP's Finding:

The Application does not propose waste deposition in the Phase 3.12 Slivers nor in the Rectangle Parcel. MassDEP has determined that the waste deposition area proposed in the Application for the Phase 2.10 Parcel will not be located within a Zone II or IWPA of a proposed drinking water source area, and that the Site **meets** this criterion, 310 CMR 16.40(3)(a)(3).

4. **Criterion at 310 CMR 16.40(3)(a)(4) - Within 15,000 Feet Upgradient of Existing Public Water Source Well or Proposed Drinking Water Source Area for Which a Zone II Has Not Been Calculated:** *No site shall be determined to be suitable or be assigned as a landfill facility where 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 Application includes a Water Resources Site Plan based on MassGIS data (AR #1, Ex. H, Fig. 5) that illustrates the location of ten existing public water source wells and associated GIS-mapped IWPAs within approximately 9,000 feet of the proposed waste deposition area of the Phase 2.10 Parcel. (AR #1, Ex. H, Fig. 5). The Water Resources Site Plan indicates that Zone II areas have not been identified for these wells.

MassDEP has confirmed that no applications are pending for Proposed Drinking Water Sources within a three-mile radius of the proposed waste deposition areas. *See also* § II.A.3 above. MassDEP has further determined that 23 existing public water source wells are located within a 15,000 foot radius of the Phase 2.10 waste deposition area. Because groundwater flow direction may vary at and around the Landfill in the overburden, shallow bedrock, and deep bedrock, MassDEP reviewed the location of the public water source wells in all directions around the waste deposition area of the Phase 2.10 Parcel. MassDEP

has confirmed, using MassGIS data, that no Zone II area has been calculated for any of the 23 existing public water source wells. (AR #15).

MassDEP's Interim Wellhead Protection Area Policy #88-03 (the "1988 IWPA Policy") provides that where a Zone II area has not been delineated for a public water supply well, MassDEP adopts as an IWPA a maximum radius of one-half mile (2640 feet) around the wellhead unless or until a hydrogeological study shows the boundaries of the Zone II to be otherwise. In light of the 1988 IWPA Policy, MassDEP finds this site suitability criterion to be satisfied if a proposed area of waste deposition is located outside of a one-half mile radius around public wells for which Zone II areas have not been delineated. Through MassGIS mapping, MassDEP has determined that the proposed waste deposition area is located outside of the one-half mile radius around any of the 23 public water source wells. The MassGIS mapping includes a one-half mile IWPA around each of the existing wells (AR# 15). See also §§ II.A.1 and II.A.2 above. Because there are no Proposed Drinking Water sources within a 15,000 foot radius of the proposed waste deposition area on the Phase 2.10 Parcel, MassDEP has also determined that the proposed waste deposition area is not located inside of the 15,000 foot radius around a Proposed Drinking Water source.

MassDEP's Finding:

The Application does not propose waste deposition in the Phase 3.12 Slivers nor in the Rectangle Parcel. MassDEP has confirmed that no applications are pending for Proposed Drinking Water Sources within a 15,000 foot radius (upgradient or downgradient) of the proposed waste deposition area in the Phase 2.10 parcel. MassDEP has determined that the waste deposition area in Phase 2.10 will be located within 15,000 feet of 23 existing public water source wells, but that pursuant to the 1988 IWPA Policy, MassDEP would adopt a maximum IWPA area of one-half mile around wells for which no Zone II has been delineated. The waste deposition area of Phase 2.10 is not within one-half mile (upgradient or downgradient) of any of the 23 public water source wells. Therefore, MassDEP has determined that the waste deposition area proposed in the Application for the Phase 2.10 Parcel is not within 15,000 feet of an existing public water source well or proposed drinking water source area for which a Zone II has not been calculated and that the Site **meets** this criterion, 310 CMR 16.40(3)(a)(4).

5. **Criterion at 310 CMR 16.40(3)(a)(5) - Danger To An Existing Or Proposed Drinking Water Source Area:** *No site shall be determined to be suitable or be assigned as a landfill facility where a discharge from any area of waste deposition would pose a danger to an existing or proposed drinking water source area.*

The Applicant states that the waste deposition on the Site will not result in a threat of an adverse impact to the groundwater through the discharge of leachate. (AR #1, Ex. D,

Section 3.0). The Application states that both Phase 2.10 and Phase 3.12 will be connected to the existing Landfill that currently has a groundwater protection system in place which will be expanded into these two areas. (AR #1 – Ex. D, §3.0). With the exception of the Phase 3.12 Slivers, the Application is not seeking site assignment for Phase 3.12 of the proposed Landfill expansion, and therefore MassDEP is not considering the non-Slivers portion of Phase 3.12 as part of this site suitability determination.¹

The Applicant states that the groundwater protection system for the proposed Phase 2.10 Parcel and Phase 3.12 Parcel will be in compliance with federal and state regulations and will consist of a double composite landfill liner (with leak detection) and leachate collection and removal system. (AR #1 – Ex. D, §3.0). Other engineered controls that will be part of the groundwater protection system will consist of additional perimeter groundwater monitoring wells, stormwater controls and an updated environmental monitoring program to include additional replacement groundwater monitoring wells and sampling locations (AR #1 - Ex D, §3.0).

MassDEP has confirmed that no applications are pending for Proposed Drinking Water Sources within a 15,000 foot radius of the proposed waste deposition areas. In addition, there are no existing public water supply wells within at least a one-half mile radius of the Site. Zone I, Zone II, and IWPA areas are presumed to be protective of the water source, and MassDEP has determined that there will be no discharge in the form of groundwater discharges or surface water runoff from the waste disposal area of the Phase 2.10 parcel that would pose a danger to an existing or proposed drinking water source area.

Based on the information provided in the Application and MassDEP's expertise and knowledge, MassDEP has concluded that the groundwater protection system proposed in the Application for the Phase 2.10 Parcel complies with current regulatory requirements for such systems and will contain features and elements designed to prevent the discharge of leachate into groundwater. MassDEP also notes that the proposed groundwater protection system extension into the Phase 2.10 Parcel must be approved through the MassDEP solid waste permitting process, which will involve an in-depth evaluation by MassDEP to ensure compliance with MassDEP regulations and guidance documents.

MassDEP's Finding:

The Application does not propose waste deposition in the Phase 3.12 Slivers nor in the Rectangle Parcel. MassDEP has determined that the waste deposition area in Phase 2.10 will be more than one mile away from any existing public water supply wells, and that no public water supply wells are proposed within 15,000 feet of the waste deposition area. Based on the design of the proposed groundwater protection system and the distance between the waste deposition area and existing or proposed

¹ The Application does not propose waste deposition on the 3.12 Sliver Parcels. It appears that reference to Phase 3.12 in Section 3 of the Application may relate to the future planned expansion on Parcels 4, 5, and 6 that is not part of this request for a Site Suitability Report.

drinking water source areas, MassDEP has determined that the area of waste deposition proposed in the Application for the Phase 2.10 Parcel would not pose a danger to an existing or proposed drinking water source area and therefore the Site **meets** this criterion, 310 CMR 16.40(3)(a)(5).

6. **Criterion at 310 CMR 16.40(3)(a)(6) - Sole Source Aquifer:** *No site shall be determined to be suitable or be assigned as a landfill facility where any area of waste deposition would be over the recharge area of a Sole Source Aquifer (with certain exceptions).*

The Application included a Water Resources Site Plan that shows no Sole Source Aquifers within a minimum of one-half mile from the proposed Site. (AR #1 - Ex. H, Fig. 5 Notes).

MassDEP has confirmed using MassGIS data that there are no Sole Source Aquifers in Worcester County; therefore no area of waste deposition will be located over the recharge area of a designated Sole Source Aquifer.

MassDEP's Finding:

The Application does not propose waste deposition in the Phase 3.12 Slivers nor in the Rectangle Parcel. MassDEP has determined that the waste deposition area proposed in the Application for the Phase 2.10 Parcel will not be located over the recharge area of a designated sole source aquifer and the Site **meets** this criterion, 310 CMR 16.40(3)(a)(6).

7. **Criterion at 310 CMR 16.40(3)(a)(7) - Zone of Contribution or Recharge Area:** *No site shall be determined to be suitable or be assigned as a landfill facility where any area of waste deposition would be 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.*

The Applicant submitted a Water Resources Site Plan illustrating the location of existing public water supplies with IWPA's within one-half mile of the proposed waste deposition area. (AR #1 - Ex H, Fig 5). According to the Water Resources Site Plan, the proposed Site is not located within any of the following areas: a Zone II of an existing or proposed drinking water supply, a proposed drinking water source area, or a Zone A or Zone B Protection Zone of a surface drinking water supply. The Application did not contain any information documenting whether the proposed waste deposition area would be within the recharge area (Zone C Protection Zone) of a surface drinking water supply.

The zone of contribution of an existing public water supply well or proposed drinking water supply well is the established Zone II as shown on MassGIS or, if there is no established Zone II, the IWPA. The recharge area of a surface drinking water supply is the mapped Zone C Protection Zone as shown on MassGIS.

MassDEP reviewed MassGIS data and confirmed that the nearest mapped Zone II (for Sturbridge Water Department Well #3) is approximately 13,000 feet west of the proposed waste deposition area on the Phase 2.10 Parcel, and the nearest mapped Zone C Surface Drinking Water Supply Protection Zone (for Southbridge Water Department Hatchet Brook Reservoir #3) is approximately 17,000 feet southwest of the proposed waste deposition area on the Phase 2.10 Parcel. (AR #15).

MassDEP's Finding:

The Application does not propose waste deposition in the Phase 3.12 Slivers nor in the Rectangle Parcel. MassDEP has determined that the waste deposition area proposed in the Application for the Phase 2.10 Parcel will not be located within a 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, and therefore, the Site **meets** this criterion, 310 CMR 16.40(3)(a)(7).

8. **Criterion at 310 CMR 16.40(3)(a)(8) - Zone A or Zone B of a Surface Drinking Water Supply:** *No site shall be determined to be suitable or be assigned as a landfill facility where any area of waste deposition would be within the Zone A or Zone B of a surface drinking water supply.*

The Applicant submitted a Water Resources Site Plan stating that no Zone A or Zone B Protection Zones of a surface drinking water supply were identified within a minimum of one mile from the proposed Site. (AR #1 - Ex H, Fig 5 Notes).

MassDEP has determined using MassGIS data that the nearest mapped Zone A or Zone B Surface Drinking Water Supply Protection Zones (for the Southbridge Water Department Hatchet Brook Reservoir #3) are located approximately 18,000 feet southwest of the proposed waste deposition area (AR #15). Therefore, the proposed Site will not be located within the Zone A or Zone B of a surface drinking water supply.

MassDEP's Finding:

The Application does not propose waste deposition in the Phase 3.12 Slivers nor in the Rectangle Parcel. MassDEP has determined that the proposed waste deposition area for the Phase 2.10 Parcel will not be located within the Zone A or Zone B of a surface drinking water supply, and therefore, the Site **meets** this criterion, 310 CMR 16.40(3)(a)(8).

9. **Criterion at 310 CMR 16.40(3)(a)(9) - Perennial Stream Draining to Surface Drinking Water Supply:** *No site shall be determined to be suitable or be site assigned as a landfill where 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.*

The Applicant submitted a Water Resources Site Plan showing no Zone A or Zone B Protection Zones of a surface drinking water supply within one mile of the proposed waste deposition area of the Phase 2.10 parcel (AR #1 - Ex H, Fig 5 Notes).

MassDEP confirmed by review of MassGIS mapping that the nearest surface drinking water supply (the Southbridge Water Department Hatchet Brook Reservoir No. 3) is over 17,000 feet southwest of the proposed waste deposition area of the Phase 2.10 Parcel. (AR #15).

MassDEP's Finding:

The Application does not propose waste deposition in the Phase 3.12 Slivers nor in the Rectangle Parcel. The proposed waste deposition area of the Phase 2.10 Parcel is more than one mile away from a surface drinking water supply. Therefore, MassDEP has determined that the Site **meets** this criterion, 310 CMR 16.40(3)(a)(9).

10. **Criterion at 310 CMR 16.40(3)(a)(10) - Potentially Productive Aquifer:** *No site shall be determined to be suitable or be site assigned as a landfill where any area of waste deposition would be within a Potentially Productive Aquifer.*

The Application included a Water Resources Site Plan that shows no Potentially Productive Aquifers within a minimum of one-half mile from the property lines of the proposed Site. (AR #1 - Ex H, Fig 5 Notes).

MassDEP confirmed from a review of MassGIS data that the nearest Potentially Productive Aquifer is located more than 15,000 feet away from the proposed waste deposition area of the Phase 2.10 Parcel (AR #15).

MassDEP's Finding:

The Application does not propose waste deposition in the Phase 3.12 Slivers nor in the Rectangle Parcel. MassDEP has determined that the waste deposition area proposed in the Application for the Phase 2.10 Parcel will not be located within a Potentially Productive Aquifer, and therefore, the Site **meets** this criterion, 310 CMR 16.40(3)(a)(10).

11. **Criterion at 310 CMR 16.40(3)(a)(11) - Within 1000 feet Upgradient or Otherwise within 500 feet of an Existing or Potential Private Water Supply Well:** *No site shall be determined to be suitable or be site assigned as a landfill where any area of waste deposition would be within 1000 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.*

The Application (AR #6 - Attachment A, § 4.0) states that for the Phase 2.10 Parcel, the proposed waste deposition area is not within 1,000 feet upgradient or within 500 feet downgradient of any private water supply well.

MassDEP confirmed by review of MassGIS mapping that the Phase 2.10 Parcel waste deposition area is not within 1000 feet in any direction of a private water supply well. (AR #15).

MassDEP's Finding:

The Application does not propose waste deposition in the Phase 3.12 Slivers nor in the Rectangle Parcel. MassDEP has determined that the waste deposition area proposed in the Application for the Phase 2.10 Parcel will not be within 1000 feet in any direction of a private water supply well, and the Site **meets** this criterion, 310 CMR 16.40(3)(a)(11).

12. **Criterion at 310 CMR 16.40(3)(a)(12) - Four Feet Depth to Ground Water:** *No site shall be determined to be suitable or be site assigned as a landfill where 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.*

The Application initially proposed construction of a groundwater underdrain as an engineering control to lower the groundwater elevation to create four feet of separation between the bottom of the lower-most liner and the groundwater surface under the waste deposition area of the Phase 2.10 Parcel. (AR #6, pp. 4-5 and Attachment A, §5.0, Attachment G and Attachment H). However, the groundwater underdrain has been deleted from the Application, and the Deficiency Response proposes instead to raise the bottom-most liner grades in Phase 2.10 to achieve the four-foot separation of the base of the liner above the maximum calculated groundwater surface, with a corresponding minor decrease in the area available for waste disposal. (AR #6, p. 6 and Attachment A, §5.0).

The January 2016 Hydrogeology Investigation includes a groundwater contour map of estimated maximum groundwater elevations for the Landfill area, based on historical maximum groundwater elevations in groundwater monitoring wells located around the perimeter of the Landfill, including the Phase 2.10 expansion area. (AR #18, Fig. 5-C). For the Phase 2.10 expansion area, the Application shows these estimated maximum groundwater contours as well as the proposed contours of the top of the sand drainage layer immediately above the bottom-most liner. Although contours for the bottom of the liner are not shown, the Application states that the bottom of the liner will be approximately 2.5 feet below the top of the sand drainage layer. The Application shows the estimated separation distance of the bottom of the liner above the estimated maximum groundwater elevation as a minimum of five feet. (AR #6 - Attachment G and Attachment H, Figure H-8).

MassDEP's Finding:

The Application does not propose waste deposition in the Phase 3.12 Slivers nor in the Rectangle Parcel. The Application establishes that there will be a four-foot separation from maximum high groundwater to the base of the liner in the Phase 2.10 Parcel and therefore MassDEP has determined that the Site **meets** this criterion, 310 CMR 16.40(3)(a)(12).

13. **Criterion at 310 CMR 16.40(3)(a)(13) - Wetlands:** *No site shall be determined to be suitable or be site assigned as a landfill where the outermost limits of waste deposition or leachate containment structures would be within a resource area protected by the Wetlands Protection Act including the 100 year floodplain.*

The Application shows that the proposed waste deposition area of Phase 2.10 will not be within any resource area, including the 100 year floodplain, protected by the Wetlands Protection Act. (AR#6 – Attachment F, Figures 5 and 5C). The Application does show that a portion of the Phase 2.10 Parcel outside of the waste deposition area will be within a mapped wetland resource area, but no leachate containment structures will be located in this area. (AR#6 – Attachment B, Figure 2A, and Attachment F, Figures 5 and 5C). Similarly, the Application shows that portions of the Phase 3.12 Slivers Parcel and the Rectangle Parcel are within mapped wetland resource areas, but no leachate containment structures are proposed on these parcels. (AR#6 – Attachment B, Figure 2A, and Attachment F, Figures 5, 5C and 5D).

MassDEP's Finding:

The Application does not propose waste deposition in the Phase 3.12 Slivers nor in the Rectangle Parcel. The Application does not propose leachate containment structures on the Site. MassDEP has determined that the proposed waste deposition area of the Phase 2.10 Parcel will not be within any resource area protected by the Wetlands Protection Act, including the 100 year floodplain. Therefore, MassDEP has determined that the Site **meets** this criterion, 310 CMR 16.40(3)(a)(13).

14. **Criterion at 310 CMR 16.40(3)(a)(14) - 400 Feet to a Lake or 200 Feet to a Riverfront Area:** *No site shall be determined to be suitable or be site assigned as a landfill where 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.*

The Application shows that the proposed waste deposition area of Phase 2.10 will not be located within 400 feet of a lake, or within 200 feet of a Riverfront Area, according to MassGIS mapping (AR#6 – Attachment F, Figures 5 and 5C).

MassDEP's Finding:

The Application does not propose waste deposition in the Phase 3.12 Slivers nor in

the Rectangle Parcel. The Application does not propose leachate containment structures on the Site. MassDEP has determined that the proposed waste deposition area of the Phase 2.10 Parcel will not be located within 400 feet of a lake, or 200 feet of a Riverfront Area, and therefore the Site **meets** this criterion, 310 CMR 16.40(3)(a)(14).

15. **Criterion at 310 CMR 16.40(3)(a)(15) - 1000 Feet to Various Occupied Facilities:** *No site shall be determined to be suitable or be site assigned as a landfill where any area of waste deposition would be within 1000 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.*

The Application shows that the proposed waste deposition area of the Phase 2.10 Parcel will not be within 1000 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 (AR #1- Exhibit I, Figures 6, 6A, 6B, 6C and 6D).

MassDEP's Finding:

The Application does not propose waste deposition in the Phase 3.12 Slivers nor in the Rectangle Parcel. MassDEP has determined that the proposed waste deposition area of the Phase 2.10 Parcel will not be within 1000 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, and that the Site **meets** this criterion, 310 CMR 16.40(3)(a)(15).

16. **Criterion at 310 CMR 16.40(3)(a)(16) - Groundwater Protection System:** *No site shall be determined to be suitable or be site assigned as a landfill where 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 states that a groundwater protection system (double composite liner system with leak detection) in compliance with current MassDEP regulations will be employed for the Phase 2.10 Parcel. (AR #1 – Exhibit D, §3).

MassDEP's Finding:

The Application does not propose waste deposition in the Phase 3.12 Slivers nor in the Rectangle Parcel. MassDEP has determined that a groundwater protection system for the Phase 2.10 Parcel (double composite liner system with leak detection) designed, constructed, and maintained in compliance with current MassDEP

regulations at 310 CMR 19.00 and MassDEP's Landfill Technical Guidance Manual will not result in a threat of an adverse impact to groundwater through the discharge of leachate. Therefore, MassDEP has determined that the waste deposition area proposed in the Application for the Phase 2.10 Parcel will not result in a threat of an adverse impact to groundwater through the discharge of leachate and that the Site **meets** this criterion, 310 CMR 16.40(3)(a)(16).

B. GENERAL SITE SUITABILITY CRITERIA
CRITERIA FOR ALL TYPES OF SOLID WASTE MANAGEMENT FACILITIES
(310 CMR 16.40(4))

1. **Criterion at 310 CMR 16.40(4)(a) - Agricultural Lands:** *No site shall be determined to be suitable or be assigned as a solid waste management facility where:*
 1. *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*
 2. *the land is deemed Land Actively Devoted to Agricultural or Horticultural Uses, except where the facility is an agricultural composting facility; and*
 3. *a 100 foot buffer would not be present between the facility and those lands as classified at 310 CMR 16.40(4)(a)1. or 2.*

The Applicant states that according to the MassGIS online mapping tool, the Phase 2.10 Parcel contains land classified by the United States Department of Agriculture, Natural Resources Conservation Service ("NRCS") as "Farmland of Unique Importance." (AR #1, Ex. D, Section 6.0; AR #6, Attachment A, Section 6.0). The Application includes a Land Use Site Plan illustrating the portion of the Phase 2.10 Parcel classified by NRCS as "Farmland of Unique Importance." (AR #1, Ex. I, Figure 6). The Applicant also states that according to the MassGIS online mapping tool, the Phase 3.12 Slivers contain land classified by NRCS as "Prime" farmland. (AR #1, Ex. D, Section 6.0; AR #6, Ex. D, Section 6.0). The Land Use Site Plan shows the portion of the Phase 3.12 Slivers containing land classified by NRCS as "Prime." (AR #1, Ex. I, Figure 6). The Application further states that the limit of waste deposition² in both the Phase 2.10 Parcel and the Phase 3.12 Slivers will be less than 100 feet from land classified by NRCS as Prime, Unique, or of State and Local Importance. (AR #1, Ex. D, Section 6.0; AR #6, Attachment A, Section 6.0).

The Applicant questions the accuracy of the NRCS classifications. (AR #1, Ex. D, Section 6.0; AR #6, Attachment A, Section 6.0). With respect to the portion of the Phase 3.12 Slivers classified by NRCS as "Prime" farmland, which the Applicant characterizes as "de minimis," the Applicant asserts that the accuracy of the classification is questionable because the Prime land is zoned for Heavy Industry by the Town and because portions of

² This suitability criterion applies to site assignment as a solid waste management facility overall, not just the waste deposition areas.

the existing site-assigned area and the airport property have also been classified as Prime. (AR #1, Ex. D, Section 6.0; AR #6, Att. A, §6.0). The Applicant also states that the presence of solid waste facilities in the Phase 2.10 Parcel and the Phase 3.12 Slivers within 100 feet from land classified by NRCS as Prime would have an insignificant agricultural impact. (AR #1, Ex. D, Section 6.0; AR #6, Att. A, § 6.0).

MassDEP notes that the federal definition of Prime Farmland is “land that has the best combination of physical and chemical characteristics for producing [various crops], and is also available for these uses. . . .” 7 CFR §657.5(a)(1). (emphasis added).

With respect to the portion of the Phase 2.10 Parcel classified by NRCS as “Farmland of Unique Importance,” the Applicant contends that the accuracy of the classification is questionable because the Phase 2.10 parcel is part of a larger developed airport parcel, is zoned for Heavy Industry by the Town of Southbridge (the Town), and is bisected by Ayers Road. (AR #1, Ex. D, Section 6.0; AR #6, Att. A, § 6.0).

In determining whether land meets the federal definition of Prime or Unique Farmland in other projects, for the purposes of interpreting MassDEP’s regulation, MassDEP has accepted evidence from a soil scientist about the characteristics of the land and other information that would exclude it from the definitions.

The Applicant states that the Rectangle Parcel is not classified as Prime, Unique, or of State and Local Importance by NRCS and that the Landfill operations will be greater than 100 feet from land thus classified.

The Applicant also states that the Site does not contain and is not within 100 feet of Land Actively Devoted to Agricultural or Horticultural Uses. (AR #1, Ex. D, § 6.0; AR #6, Ex. D, § 6.0).

MassDEP’s Finding:

Based on information submitted with the application and the MassGIS mapping tool, MassDEP has determined as follows:

- Phase 3.12 Slivers: A portion of the Phase 3.12 Slivers would be located on land classified as “Prime” by NRCS and there would be no 100-foot buffer between the facility and the land classified as “Prime” farmland. (AR#16, AR#25). Based on these findings, MassDEP has determined that the Phase 3.12 Slivers **do not meet** this criterion because the Application does not provide sufficient information from which MassDEP could conclude that the land is not available for use as provided in the federal definition.
- Phase 2.10 Parcel: A portion of the Phase 2.10 parcel will be located on land classified as “Farmland of Unique Importance” by NRCS and that there will be no 100-foot buffer between the Landfill operations and the land classified as “Farmland of Unique Importance.” (AR#16). Based on these findings,

MassDEP has determined that the Phase 2.10 Parcel **does not meet** this criterion because the Application does not provide sufficient information from which MassDEP could conclude that the land does not qualify as Unique Farmland for purposes of MassDEP's regulation.

- The Rectangle Parcel: The Rectangle Parcel is not classified as Prime, Unique, or of State and Local Importance by NRCS and that the Landfill operations will be greater than 100 feet from land thus classified. MassDEP therefore determines that the Rectangle Parcel **meets** this criterion.

2. **Criterion at 310 CMR 16.40(4)(b) - 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:*

1. *traffic congestion;*
2. *pedestrian and vehicular safety;*
3. *road configurations;*
4. *alternate routes; and*
5. *vehicle emissions.*

1. Traffic Congestion: The Application notes that as part of the Draft Environmental Impact Report for the 1999 Site Assignment modification for the Landfill, the Applicant provided an estimate of 104 round-trip truck trips needed to bring 2,000 tons of waste per day to the combined Landfill and processing facility. (AR#6, Attachment A, §7). Truck scale data from the Landfill in September, October and November 2015 show an average of 97 daily round-trip truck trips to the Landfill and construction and demolition processing facility combined. (AR#6, Attachment A, §7). The Applicant states that because it is not requesting an increase in the tonnage acceptance limit, the truck traffic will not change from current levels. (AR#1, Ex. J).

The Application includes a traffic study memorandum completed by Vanasse, Hangen & Brustlin (VHB) dated December 11, 2015 (the "VHB memorandum"), which estimates that there will be 58 additional round-trip truck trips during the construction of Phase 2.10. (AR#1, Ex. J, Table 7-2). This increase in estimated round-trip truck trips during the construction of Phase 2.10 is projected to take place over a period of 190 days in 2018. (AR#1, Ex. J, Table 7-2). The VHB memorandum concludes that if specific measures are implemented, construction will be able to proceed with minimal temporary impacts to the surrounding roadways. (AR #1, Ex. J).

2. Pedestrian and Vehicular Safety: The Application states that pedestrian use of Commercial Drive is negligible. (AR #6, Attachment A, §7). The VHB memorandum also states that the crash rate at the Commercial Drive/Worcester Street intersection is below the MassDOT District 3 average crash rate value, and the traffic operation is not expected to significantly change for the landfill expansion even for the construction period.

3. Road Configuration: The Application states that traffic on the area roadways will follow existing travel patterns and travel routes to the Landfill (AR # 6, Attachment A, §7.0 of the SSR and the VHB memorandum).

4. Alternate Routes: The Deficiency Response (AR#6, Attachment A, § 7.0) states that alternative traffic routes are not proposed.

5. Vehicular Emissions: The Application states that the Applicant will encourage the site contractor to evaluate implementation of the MassDEP Diesel Retrofit Program. As on-site equipment is retired from service, the Applicant is replacing the equipment with new equipment that meets EPA emission standards. A portion of the Landfill equipment fleet runs on compressed natural gas and biodiesel, to reduce emissions. Idling of equipment is not allowed for greater than five minutes, as required by 310 CMR 7.11. (AR #6, Attachment A, §7.0).

MassDEP's Finding:

The Site consists of the 2.10 Parcel, the Phase 3.12 Slivers Parcel, and the Rectangle Parcel. The Facility is the entire Landfill, i.e. the existing Landfill and the proposed Site and the Facility operation is the operation of the entire Landfill (the existing landfill and the proposed Site).

The previous MEPA findings, including the 1999 MEPA Draft Environmental Impact Report (DEIR), had determined that the operation of the Landfill would not constitute a danger to the public health, safety, or the environment taking into consideration traffic and access to the Site. The proposed Landfill expansion does not increase the tonnage limit for the Landfill, therefore, the traffic impacts will not be increased by the Landfill expansion except for a temporary increase in truck traffic during construction of Phase 2.10.

Based on the information contained within the Application and the previous MEPA approvals, MassDEP has determined that the Site **meets** this criterion, 310 CMR 16.40(4)(b).

3. **Criterion at 310 CMR 16.40(4)(c) - 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:*

1. *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;*
2. *have an adverse impact on an Ecologically Significant Natural Community as*

documented by the Natural Heritage and Endangered Species Program in its database; or

3. have an adverse impact on the wildlife habitat of any state Wildlife Management Area.

The Fish and Wildlife Service of the United States Department of the Interior has identified the Northern long-eared bat as a species that may occur within and/or be affected by the proposed landfill expansion. (AR #1, Ex. K). However, in several letters dated January 13, 2016, the Natural Heritage and Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife ("NHESP"), determined that, at that time, the Site was not mapped as a Priority or Estimated Habitat and that the NHESP database did not contain any state-listed species records in the immediate vicinity of the Site (AR #1, Ex. K).

The Application shows that a Priority Habitat of Rare Species is located approximately 2,200 feet northeast of the Phase 2.10 Parcel. (AR#1, Figure 6). The Application states that review of MassGIS mapping shows that the nearest Ecologically Significant Natural Community is located over 14,000 feet from the Site. The nearest State Wildlife Management Area, the McKinstry Wildlife Management Area, is approximately 1,400 feet west of the Site (AR #1, Figure 6).

MassDEP's Finding:

Based on the information provided by the Massachusetts NHESP, MassDEP has determined that the Site is not mapped a Priority or Estimated Habitat and therefore that expansion of the Landfill onto the Site will not have an adverse impact on wildlife and wildlife habitat. In addition, the Site will not have an adverse impact on the nearest Ecologically Significant Community, which is over 2½ miles from the Site, or the nearest wildlife management area (the McKinstry Wildlife Management Area), which is approximately ¼ mile west of the Phase 2.10 Parcel.

Based on the information contained within the Application and the above findings, MassDEP has determined that the Site **meets** this criterion, 310 CMR 16.40(4)(c).

4. Criterion at 310 CMR 16.40(4)(d) - Areas of Critical Environmental Concern ("ACEC"):

No site shall be determined to be suitable or be assigned as a solid waste management facility where such siting:

- 1. would be located within an Area of Critical Environmental Concern (ACEC), as designated by the Secretary of the Executive Office of Environmental Affairs;*
or
- 2. 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.

The Application shows that the Site is not located in or adjacent to an Area of Critical Environmental Concern ("ACEC"). (AR#1, Figure 6). The nearest ACEC, the Miscoe, Warren & Whitehall Watersheds ACEC, is located approximately 20 miles from the Site. (AR #1, Ex. D, §9 and AR #1, Ex. K).

MassDEP's Finding:

MassDEP has confirmed by review of MassGIS data that the Site is not within or adjacent to an Area of Critical Environmental Concern. Therefore, MassDEP has determined that the Site **meets** this criterion, 310 CMR 16.40(4)(d).

5. **Criterion at 310 CMR 16.40(4)(e) 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:*

- 1. state forests;*
- 2. 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;*
- 3. MDC reservations;*
- 4. lands with conservation, preservation, agricultural, or watershed protection restrictions approved by the Secretary of the Executive Office of Environmental Affairs; or,*
- 5. conservation land owned by private non-profit land conservation organizations and open to the public.*

The Application states that there are no state forests, parklands reservations or other conservation areas in the vicinity of the Site (AR #6, Attachment A, §10.0). Figure 6 of the SSR shows that there are no MDC reservations or State or Municipal Parklands within a one-half mile radius of the Site. (AR#1, Figure 6). Open Space protected by the Massachusetts Department of Fish & Game is located approximately 1,600 feet west of the Phase 2.10 landfill expansion, and private conservation land is located approximately 1,800 feet northwest of the Phase 2.10 Parcel. (AR#1, Fig. 6). Based on its review of MassGIS data, MassDEP notes that there is no land protected by an agricultural or preservation restriction in the vicinity of the Landfill. The Application states that the Landfill expansion will have no adverse impact on the physical environment or the use and enjoyment of any of these resources. (AR#1, Ex. D, §10.0).

MassDEP's Finding:

The Site consists of the 2.10 Parcel, the Phase 3.12 Parcel, and the Rectangle Parcel.

Based on the fact that the closest protected Open Space (land protected by the Massachusetts Department of Fish & Game) is located at least 1,600 feet from the Site, MassDEP 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. Therefore, MassDEP has determined that the Site **meets** this criterion, 310 CMR 16.40(4)(e).

6. **Criterion at 310 CMR 16.40(4)(f) - 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:*
1. *the concentration and dispersion of emissions;*
 2. *the number and proximity of sensitive receptors; and*
 3. *the attainment status of the area.*

The Landfill currently operates under a Non-Major Comprehensive Plan Approval (“air permit”) issued by MassDEP, which governs the operation of the existing landfill gas (LFG) collection and treatment system. (AR#1, Ex. D, §11). The existing treatment system consists of a LFG-to-energy internal combustion engine and generator, one enclosed LFG flare, and one open LFG flare. (AR#1, Ex. D, §11). The engine and flares burn LFG that would otherwise contribute to the Landfill’s greenhouse gas emissions.

Expansion of the Landfill will result in increased LFG generation, collection and treatment, and air emissions will increase relative to the current landfill operation. (AR#1, Ex. D, §11). To address the increase in gas generation, the Applicant must apply for a new Comprehensive Plan Approval (CPA) from MassDEP for additional combustion equipment and expanded landfill gas collection. The Applicant will be required by the new CPA to implement Best Available Control Technologies (BACT) to limit air emissions from all new equipment. (AR#1, Ex. D, §11). The CPA will require air emissions from the Landfill to be in compliance with all applicable federal and state air quality standards. (AR#1, Ex. D, §11).

The Applicant will be required by the CPA to complete air dispersion modeling as part of the application process to demonstrate that the Landfill will comply with federal and state ambient air standards beyond the applicable compliance boundary and at proximate sensitive receptors. As part of pre-permitting coordination with MassDEP, the Applicant has developed an air dispersion modeling protocol to estimate ambient air concentrations of the following pollutants after the proposed expansion of the Landfill: nitrogen dioxide, carbon monoxide, sulfur dioxide, particulate matter, and formaldehyde. (AR#21, pp. 1-3). MassDEP approved the air dispersion modeling protocol on February 2, 2017. (AR#22) Pollutant concentrations will be modeled at the Landfill property line and on a grid of receptors, including at a minimum 38 residential locations, five child care facilities, 10 schools, 57 parks/recreational areas,

one senior center, and one hospital. (AR#21, pp. 6-7).

The Application states that the existing Landfill is not subject to the New Source Performance Standards for Municipal Solid Waste Landfills contained in 40 CFR Part 60, Subpart WWW (Subpart WWW). (AR#6, Attachment A, §11.0). However, in a June 3, 2016 report submitted to MassDEP regarding air contaminant sampling and emission rates for the Landfill, the Applicant stated that the Landfill is subject to Subpart WWW. (AR#23, p. 1). The expanded Landfill will continue to be subject to Subpart WWW. The Applicant has also indicated that the expanded Landfill will be subject to the requirements of the New Source Performance Standards for Municipal Solid Waste Landfills contained in 40 CFR 60, Subpart XXX, when construction of the Site commences. (AR#24, p. 2).

Southbridge is in an attainment area under the National Ambient Air Quality Standards for carbon monoxide, lead, nitrogen dioxide, sulfur dioxide, and particulate matter. Southbridge is in an attainment area based on the 2008 8-hour ozone standard. (AR#1, Ex. D, §11).

MassDEP's Finding:

Because of the increased generation of landfill gas from the Phase 2.10 expansion area, the Applicant will be required to obtain a new Comprehensive Plan Approval for additional combustion equipment and expanded landfill gas collection system. Dispersion modeling and subsequent operation of the Landfill in compliance with a new CPA, including BACT requirements, will ensure that the anticipated emissions will meet state and federal air quality standards/criteria.

MassDEP has determined that the Site will not constitute a danger to public health, safety and the environment when operated in compliance with a new CPA from MassDEP. Therefore, MassDEP has determined that the Site **meets** this criterion, 310 CMR 16.40(4)(f).

7. **Criterion at 310 CMR 16.40(4)(g) 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:*

1. *noise;*
 2. *litter;*
 3. *vermin such as rodents and insects;*
 4. *odors;*
 5. *bird hazards to air traffic; and*
 6. *other nuisance problems.*
1. **Noise:** The Application states that the Applicant employs best management practices to

mitigate noise impacts, including limiting hours of operation, turning off equipment when not in use, and replacing older equipment with newer, quieter equipment. The Applicant actively discourages trucks from arriving early at the Landfill by requiring trucks that arrive early to wait a minimum of one hour before being allowed to off-load, and will continue this practice. (AR#6, Attachment A, Section 12.1).

The proposed expansion is not expected to increase noise generation from existing levels, which the Application describes as intermittent and not concentrated. MassDEP notes, however, that truck traffic will increase temporarily during construction of Phase 2.10. See §II.B.2 above.

2. Litter: The Application states that litter fencing is deployed along the eastern access road, and that the Applicant regularly monitors and picks up litter on the landfill property and surrounding roadways. The Applicant will stop accepting waste when wind conditions prohibit effective litter control, as is the current practice. (AR#6, Attachment A, Section 12.2).
3. Vermin: The Application states that vermin and vectors will be controlled by minimizing the active face area and promptly applying cover material over solid wastes. (AR#6, Attachment A, Section 12.3).
4. Odors: The Applicant employs the following odor mitigation measures, which will be continued with the Landfill expansion: minimizing the active face area and promptly applying cover material over solid wastes; routinely closing the Landfill on summer days to municipal solid waste (MSW) deliveries at noon to allow the application of mid-day cover; and operating a misting system at the Landfill. The Applicant has established a 24-hour odor hotline and third-party odor monitoring system for odor complaints. (AR#6, Attachment A, Section 12.4).

The Application also refers to operation of the landfill gas collection and treatment system as a way to mitigate odors. (AR#6, Attachment A, Section 12.4). MassDEP notes, however, that in its December 20, 2016 comment letter on the Application, the Charlton Board of Health summarized ongoing odor complaints and noted that it was receiving odor complaints almost weekly. (AR #11). MassDEP has observed strong landfill gas odors along the eastern face of the Landfill that are not effectively mitigated by current measures.

5. Bird Hazards to Air Traffic:
The nearest airport to the Landfill is the Southbridge Municipal Airport, located within 1,000 feet to the southwest of the Landfill. The Phase 2.10 Parcel is on land owned by the Southbridge Airport Commission and is closer to the airport than the existing Landfill cells. The Applicant holds a United States Department of Agriculture (USDA) Depredation permit for bird control, and has contracted directly with the USDA for bird management at the Landfill, including weekly USDA

inspections of the Landfill and the Southbridge Airport (AR #6, p. 14, and Attachment A, §12.5). The Applicant reports bird population data to the Federal Aviation Administration (FAA) annually. (AR #6, p. 14, and Attachment A, §12.5).

The Application describes the Federal Aviation Administration (FAA) notice requirements and states that the Applicant submitted the appropriate forms to the FAA and received a Determination of No Hazard to Air Navigation. (AR #6, p. 14). The Application includes a copy of the Determination of No Hazard to Air Navigation from the FAA, and a copy of the Bird Control Program for the Landfill. (AR #6, Attachment I). In addition, the Applicant has complied with the notice provisions requiring copies of the Application to be provided to the airport operator and the FAA. (AR #6, Attachment I).

Based on the control measures outlined in the Bird Control Plan, the Applicant states the expanded Landfill will not constitute a danger to public health, safety, or the environment taking into consideration bird hazards to air traffic.

6. Other Nuisance Problems: Other than discouraging truck idling, as described above, the Application does not identify any other nuisance problems.

MassDEP's Finding:

MassDEP has determined that continuation of the current nuisance mitigation measures, with the exception of odor control, and proper operation of the Landfill in compliance with MassDEP permits and regulations and FAA conditions will prevent nuisance conditions that would constitute a danger to the public health, safety, or the environment. Expansion of the Landfill onto the Phase 2.10 Parcel may generate odors that the current mitigation measures will be ineffective in addressing. Expanding the current gas collection network to include the Phase 2.10 area should prevent nuisance odors, except that the existing landfill gas collection system has not been able to do so. MassDEP will require the Applicant to address ongoing nuisance odors before the landfill gas collection and treatment system can be expanded to the Phase 2.10 parcel. Especially where the landfill gas is not being captured on the eastern side of the Landfill, corrective actions will be necessary.

Based on the above findings, MassDEP has determined that if the Applicant operates the Landfill in compliance with MassDEP permits and regulations and FAA conditions, the Site **meets** this criterion, 310 CMR 16.40(4)(g).

8. **Criterion at 310 CMR 16.40(4)(h) - 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*

for the facility 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 Application states the size of the Site is sufficient to properly operate and maintain the Landfill expansion, and that the Phase 2.10 waste deposition area will not be within 100 feet of the property boundary. (AR #1 - Section 13.0), However, the Application shows that a portion of the perimeter of the waste deposition area of the Phase 2.10 Parcel appears to be coincident with the 100-foot setback from the property line along Commercial Drive. (AR #1, Figure 7-D of the SSR).

MassDEP's Finding:

The Application does not propose waste deposition in the Phase 3.12 Slivers nor in the Rectangle Parcel. The Application indicates that the waste deposition area of the Phase 2.10 Parcel will not be within 100 feet of the property boundary except that a portion of the waste deposition area appears to be exactly 100 feet from the boundary. The Authorization-to Construct (ATC) application for Phase 2.10 will need to definitively show, at a larger scale, that the waste deposition area perimeter of the Phase 2.10 Parcel is a minimum of 100 feet from the property boundary. With the condition that the ATC application clearly delineates the minimum required 100-foot separation from the property line, MassDEP has determined that the Phase 2.10 parcel **meets** this criterion, 310 CMR 16.40(4)(h).

9. **310 CMR 16.40(4)(i) - 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:*

- 1. 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;*
- 2. the nature and extent to which the proposed site may impact the site previously used for solid waste disposal; and*
- 3. 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:*
 - a. whether the proposed site is an expansion of or constitutes beneficial integration of the solid waste activities with the adjacent site;*
 - b. whether the proposed facility is related to the closure and/or remedial activities at the adjacent site; and*
 - c. the extent to which the design and operation of the proposed facility will mitigate existing or potential impacts from the adjacent site.*

The Phase 2.10, Rectangle Parcel, and Phase 3.12 proposed expansion areas are all adjacent to the existing Landfill, which has been used for legal solid waste disposal for over 30 years. As the Application notes, sampling of the groundwater monitoring network as required under MassDEP solid waste permits has shown contaminants common to landfills in monitoring wells on the Phase 2.10 Parcel since at least the mid-1990s (AR #6, p. 13). The Phase 2.10 Parcel abuts the oldest cells of the Landfill. MassDEP did not require composite liners as part of landfill construction until approximately 1993, therefore, Phase I and Phase II of the Landfill were constructed without liners or leachate collection systems.

The Landfill area previously used for solid waste disposal currently adversely impacts the abutting Phase 2.10 Parcel as described in the Application. (AR #1, Ex. D §16; AR #6, pp. 12-13). As the Application notes, 12 of the 50 acres of the Landfill are unlined (AR #1, Ex. D §16). According to information in the Application, water quality downgradient of and adjacent to the existing Landfill suggests conditions that favor increased mobility of certain metals. (AR #1, Ex. D §16). Furthermore, volatile organic compounds (VOCs) consistent with landfill leachate have been identified in monitoring wells and a former irrigation well adjacent to the existing Landfill on the Phase 2.10 Parcel. (AR #6, p.6). The Application mischaracterizes the “low levels” of some of the contaminants: the level of 1,4 dioxane in the irrigation well is over 100 times higher than the drinking water guideline. (AR#6, p. 13).

The Applicant proposes to install a groundwater interceptor trench along approximately 1,600 linear feet of the western perimeter of the Landfill including the Phase 2.10 Parcel and an adjoining expansion phase on already site-assigned land (Phase 1.11) (AR #6 pp. 11-13). The interceptor trench will be designed to collect the contaminated shallow groundwater, which flows to the west-northwest from the unlined portion of the landfill towards Wetland A. The Application states that the installation and operation of the interceptor trench will mitigate migration of this existing groundwater contamination to Wetland A, but does not describe how the interceptor trench will mitigate groundwater contamination on the Phase 2.10 Parcel.

The Application states that the proposed areas to be site assigned will not impact the adjacent areas previously used for solid waste disposal, i.e, the existing Landfill. The Phase 2.10 expansion will be constructed with a dual-composite (with leak detection) bottom-most liner in accordance with current MassDEP regulations, with a portion of the bottom-most liner constructed as an overlay on the existing landfill geomembrane cap of the Phase I and Phase II of the Landfill. The Application includes an engineering analysis concluding that construction of the Landfill expansion (including a portion of the Phase 2.10 Parcel) as an overlay on the former unlined Landfill would not generate additional leachate discharge to groundwater from consolidation of the MSW of the unlined landfill (AR #1 – Exhibit M).

The Application does not contain sufficient information for MassDEP to determine the nature and extent to which the combined impacts of the proposed site and the previously used adjacent site adversely impact public health, safety and the environment. Although

the proposed Phase 2.10 parcel is an expansion of the solid waste activities with the adjacent Landfill, the proposed expansion is not related to closure and/or remedial activities. The Application does not contain sufficient information to determine whether waste disposal and construction of an MSE berm in the Phase 2.10 Parcel could prevent or impede remedial activities necessary to address existing contamination at the Landfill.

In addition, the Applicant has not collected sufficient data to document the direction of groundwater flow in the deep bedrock under and around the Landfill, or the distance that contaminants from the existing Landfill have migrated. As described below, the Application does not provide the necessary documentation to establish the extent to which impacts from the existing Landfill adversely impact the public health, safety or the environment.

The Application contains groundwater contour maps showing groundwater flow from the landfill to the west/northwest, discharging to Wetland A. (AR #1 – Exhibit F). Groundwater monitoring wells along the western Landfill perimeter including monitoring wells in the same area as the Phase 3.12 Slivers Parcel, in the mapped downgradient direction from the unlined Landfill, contain elevated levels of metals, indicator parameters, and VOCs attributable to the unlined cells of the Landfill (AR #18). Numerous groundwater monitoring wells located around the eastern, southern, and northern Landfill perimeter also show impact to groundwater from metals and indicator parameters and VOCs, showing that there is some amount of radial groundwater flow from the Landfill to the east, north, and possibly southwest, in contradiction to the groundwater flow direction contained in the Application.

Groundwater monitoring wells located north/northwest of the Landfill have historically contained elevated levels of iron, manganese, heavy metals, and detectable levels of the VOC 1,4-dioxane. There are insufficient groundwater monitoring wells to document the groundwater flow direction, and extent of groundwater contamination from the Landfill, to the north of monitoring wells MW-7 and MW-8SR/BR.

Similarly, a monitoring well located west of Wetland A, which is adjacent to the Phase 2.10 Parcel, has shown apparent impact from the Landfill for iron, manganese, and heavy metals. There are insufficient groundwater monitoring wells to document the extent and scope of groundwater contamination from the Landfill to the west of Wetland A. Furthermore, there are insufficient groundwater monitoring wells to document the groundwater flow direction, and the extent of groundwater contamination from the Landfill in the downgradient direction from the Phase 2.10 Parcel and Wetland A.

MassDEP's Finding:

As set forth above, the Landfill adjacent to the Site is currently adversely impacting the Phase 2.10 Parcel. The proposed expansion on the Site may prevent or impede assessment or other remedial activities necessary to address

existing contamination. The Application contains insufficient information from which MassDEP can determine the nature and extent to which the combined impacts of the existing Landfill and the Site adversely impact public health, safety, or the environment. Therefore, MassDEP has determined that the Application **does not provide sufficient information** for MassDEP to make a determination as to this criterion, 310 CMR 16.40(4)(i).

10. **310 CMR 16.40(4)(j) - 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:*
- 1. the extent to which the municipality's or region's solid waste needs will be met by the proposed facility; and*
 - 2. the extent to which the proposed facility incorporates recycling, composting or waste diversion activities.*

The Application states that there are no other active landfills or solid waste combustion facilities in Southbridge. The expanded Landfill will accept up to 405,600 tons of solid waste per year, the same as the existing Landfill, and will continue to be a regional facility, accepting solid waste from Southbridge and areas outside Southbridge. The expanded Landfill will also continue to provide recycling collection, leaf and yard waste collection and composting, and household hazardous waste collection (four times per year) to the Towns of Southbridge and Charlton. (AR#6, Attachment A, §15.0).

MassDEP's Finding:

MassDEP has determined that the proposed expanded Landfill will not be for the exclusive use of the Town of Southbridge and will accept waste from throughout the region. The Landfill incorporates recycling, composting, and waste diversion activities and therefore, the Site **should** be given preferential consideration in accordance with 310 CMR 16.40(4)(j).

11. **Criterion at 310 CMR 16.40(4)(k) - Consideration of Other Sources of Contamination or Pollution:** *Pursuant to 310 CMR 16.40(4)(k), MassDEP 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.*

As discussed in section II.B.9 above, contaminants from the Landfill have been measured in monitoring wells on and around the Phase 2.10 Parcel and Wetland A, and in the former irrigation well on the Phase 2.10 Parcel. The Application attributes the contamination to the unlined cells of the Landfill. However, contaminants are present in monitoring wells and surface water samples around the entire perimeter of the Landfill, not just the areas adjacent to the Site.

Landfill contaminants are present in 15 private drinking water wells to the northeast of the Landfill in the Town of Charlton. These private wells have shown detectable levels of VOCs, including chlorinated VOCs and 1,4-dioxane, and in some cases, these VOC levels exceed Massachusetts Drinking Water Standards & Guidelines. The Applicant and the Town of Southbridge have presented a hydrogeological study to show that the contamination cannot have originated at the Landfill (AR#18). However, based on its evaluation of the data, MassDEP has determined that the study does not conclusively support this conclusion. (AR#26).

The affected private wells are as much as 600 feet deep in the bedrock formation. Only three of the monitoring wells around the entire Landfill perimeter are more than 70 feet deep. The former irrigation well on the Phase 2.10 Parcel is 900 feet deep, and has provided the only deep bedrock data point to date in the area of the existing contamination. Data from the irrigation well show 1,4 dioxane exceeding the drinking water guideline by a factor of 100. MassDEP also notes that there are only four groundwater monitoring wells along the Landfill perimeter in the direction of the impacted private wells.

The elevation of the bottom of the majority of the impacted private wells is below the elevation of the unlined portion of the Landfill. MassDEP's extensive review of the data leads to the conclusion that surface topography in the vicinity of the Landfill, fracture trace analysis, bedrock geologic mapping and mapping of bedrock fractures clearly indicate that the some bedrock fracture orientation in the area is north/northeast; the impacted private wells are located north/northeast of the Landfill.

The Application states that the Site will mitigate the existing groundwater impacts through two primary mechanisms: installation of an interceptor trench near the western perimeter of the Phase 2.10 expansion area, and construction of a double composite liner and related decommissioning of the former irrigation well (AR #7).

The Application states that the interceptor trench will mitigate existing impacts to downgradient groundwater without exacerbating existing contamination. The depth of the interceptor trench will vary between five and 16.5 feet below the ground. The trench will collect groundwater only at the estimated seasonal low groundwater elevation so as to prevent potential dewatering impacts to Wetland A (AR #7). Construction of the liner system in accordance with current MassDEP standards will prevent precipitation from

recharging groundwater, and decommissioning the irrigation well may eliminate a potential pathway for groundwater infiltration (AR #7).

Because the interceptor trench will be at most 16.5 feet below the ground surface, it will provide mitigation for only the migration of contaminants to Wetland A, and only during part of the year. The interceptor trench is not designed to mitigate any of the migration of contaminants in the deep bedrock from the existing Landfill and the Phase 2.10 Parcel.

Construction of the liner system will prevent precipitation from recharging groundwater. However, it is unclear if decommissioning the irrigation well will provide any mitigation. MassDEP questions whether sealing the irrigation well may simply direct flow of contaminated groundwater around the well or in a different direction. Furthermore, the irrigation well is the only source of deep bedrock data at the entire Landfill. There are no monitoring wells or other data points to compare the existing contamination at the Landfill to the contamination in the private wells in Charlton. Elimination of the irrigation well at this point in time may impede efforts to determine the nature and extent of the existing contamination.

The Application does not propose any monitoring wells to develop information about the extent and impacts of the existing source of contamination. The Application also does not include a proposed replacement data point to duplicate the data already obtained from the irrigation well. Absent additional data about groundwater flow and the levels and transport of contaminants for the existing Landfill and the Phase 2.10 Parcel, MassDEP believes it is infeasible to evaluate the extent of contamination from the existing source.

MassDEP's Finding:

MassDEP has determined that the Application **does not** contain sufficient information for MassDEP to determine whether the projected impacts of the proposed expansion 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. The Application contains insufficient information for MassDEP to determine whether the expansion will mitigate or reduce the existing sources of contamination at the Landfill.

Based on the insufficient information finding outlined above, MassDEP has determined that the Site **does not** meet this criterion, 310 CMR 16.40(4)(k).

12. **310 CMR 16.40(4)(l) - Regional Participation:** *Pursuant to 310 CMR 16.40(4)(l), 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 Application states that because the Town of Southbridge currently relies on the Landfill for the disposal of its municipal solid waste, this criterion does not apply.

(AR#6, Attachment A, §17.0). It also states that the proposed landfill expansion will maintain solid waste disposal capacity and additional services provided by SRDP in the central region of the Commonwealth. (AR#6, Attachment A, §17.0). The Application notes that approximately 1.5% of the waste accepted at the expanded Landfill would come from Southbridge. (AR#6, Attachment A, §17.0).

MassDEP's Finding:

MassDEP has determined that the Landfill is a regional disposal facility. The proposed expansion onto the Site will provide for handling of municipal solid waste from a regional perspective and will incorporate recycling efforts, composting, waste diversion activities, and monitoring of waste materials to promote compliance with MassDEP's waste disposal ban regulations. Therefore, MassDEP has determined that the Site **should** be given preferential consideration on this basis, in accordance with 310 CMR 16.40(4)(1).

C. GENERAL SITE SUITABILITY CRITERIA **CRITERIA FOR A COMBUSTION FACILITY OR LANDFILL** **(310 CMR 16.40(5))**

1. **Criterion at 310 CMR 16.40(5) – Promotion of Integrated Solid Waste Management:**

In determining whether a site is suitable for a combustion facility or a landfill, MassDEP shall consider the potential yearly and lifetime capacity created by the proposed site use in relation to the reasonably anticipated disposal capacity requirements and reduction/diversion goals of the Commonwealth and the geographic area which the site will serve. MassDEP shall also consider the extent to which the proposed use of the site: will provide or afford feasible means to maximize diversion or processing of the anticipated waste stream; will contribute to a statewide integrated solid waste management system; and will directly incorporate recycling and composting techniques or will otherwise be integrated into recycling and composting activities for the geographic area that the site will serve. MassDEP shall also review the proposed site to determine if it is also suitable for a recycling or composting facility either in conjunction with or instead of the proposed facility. Site assignment applications which incorporate significant recycling or composting uses shall receive preferred consideration.

The Application states that the proposed expansion of the Landfill onto the Phase 2.10 Parcel will provide approximately 2.0 years (826,910 tons) of additional disposal capacity at the Landfill and will allow for uninterrupted operations at the Landfill at a time when landfill capacity in the region is in high demand. (AR#6, p. 2, and Attachment A, Section 15.0). The Application further states that according to the Massachusetts 2010-2020 Solid Waste Master Plan, in-state landfill capacity was expected to decline from just under two million tons in 2010 to approximately 600,000 tons in 2020 as landfills closed and were not replaced. (AR#6, Attachment A, Section 15.0).

The Application states that the Landfill is an integrated solid waste management system that achieves many of the MassDEP objectives by integrating recycling and composting opportunities into holistic solid waste facility design. (AR#6, Attachment A, Section 15.0). The Application states that the landfill will continue to be a regional landfill, accepting solid waste from Southbridge and also from areas outside Southbridge.

MassDEP's Finding:

MassDEP has determined that the proposed expanded landfill will be a regional landfill, not for the exclusive use of the Town of Southbridge, and will address disposal capacity requirements and reduction/diversion goals in the region and in the Commonwealth. The expanded Landfill will continue to provide recycling collection, leaf and yard waste collection and composting, and household hazardous waste collection (four times per year) to the Towns of Southbridge and Charlton. (AR#6, Attachment A, Section 15.0). In 2014, the Applicant diverted approximately 3,604,000 pounds of recyclable materials and leaf and yard waste from the Town of Southbridge waste stream. (AR#6, Attachment A, Section 15.0).

MassDEP has determined that the Facility already includes recycling and composting activities. MassDEP has determined that the proposed project will provide for handling of municipal solid waste from a regional perspective and will incorporate recycling efforts, composting, waste diversion activities, and monitoring of waste materials to promote compliance with MassDEP's waste disposal ban regulations, thereby maximizing diversion of components of the waste stream and contributing to the establishment and maintenance of a statewide integrated solid waste management system. Therefore, MassDEP has determined that the Site **should** be given preferential consideration on this basis.

III. DETERMINATION

Pursuant to the authority granted by M.G.L. c. 111, §§ 150A and 150A½, and 310 CMR 16.00, "Site Assignment Regulations for Solid Waste Facilities," MassDEP has determined that the Application contains insufficient information to allow the Department to make a determination that the Site meets all of the site suitability criteria established in 310 CMR 16.40(3): *Facility Specific Site Suitability Criteria* and 310 CMR 16.40(4): *General Site Suitability Criteria*, for the purpose of establishing a municipal solid waste disposal facility.

Pursuant to 310 CMR 16.13(2)(b), which states that a determination that an application does not contain sufficient information to allow a determination on each criteria shall be sufficient grounds for a negative determination of suitability, the Department hereby issues this **Negative Report on Suitability** for the proposed Site under the authority of M.G.L. c. 111, §§ 150A and 150A½, and 310 CMR 16.00. Pursuant to 310 CMR 16.15(1), the site assignment process has been determined to be complete, and the Southbridge Board of Health shall not hold a public hearing.

IV. NOTICE OF RIGHTS FOR RECONSIDERATION AND APPEAL

Motion for Reconsideration. Pursuant to 310 CMR 16.14, the Applicant may file a written motion for reconsideration within fourteen (14) days of the date of issuance of this Report. The motion for reconsideration shall state the fact(s) which it is contended the Department overlooked or misapprehended and shall contain such argument in support of the motion as desired. Action on any such motion is at the discretion of the Department. Any motion for reconsideration shall be sent to:

Mary Jude Pigsley, Regional Director
MassDEP
Central Regional Office
8 New Bond Street
Worcester, MA 01606

Opportunity for Comment. The Department may allow comment from the boards of health, the Department of Public Health and the general public for a specific time period if it decides to reconsider its findings.

In the event that the Applicant does not timely file a motion for reconsideration, the Department's Negative Report of Suitability will constitute final agency action as of the date of issuance of the Report.

The Department's Negative Report on Suitability may be appealed pursuant to the provisions of M.G.L. c. 111, §150A.

V. RECORD

**MassDEP's Administrative Record
BWP SW 01 Permit Application
Tr. No. X269337/Report No. 278-007-A
Southbridge Landfill**

The following is a list of the documents comprising the Administrative Record upon which MassDEP based its Negative Determination of Site Suitability issued on February 15, 2017:

- 1. BWP SW 01 PERMIT APPLICATION, Site Suitability Report, Sanborn Head & Associates, Inc. on behalf of Southbridge Recycling & Disposal Park, Inc. (SRDP), January 22, 2016**
- 2. CORRESPONDENCE FROM MASSDEP TO TONI M. KING P.E., SRDP – Review Time Period, February 17, 2016**
- 3. MASSDEP SOLICITATION OF PUBLIC COMMENTS, Completeness of the Site Assignment Application, May 18, 2016**
- 4. PUBLIC COMMENTS REGARDING COMPLETENESS OF SW01 APPLICATION FOR SITE SUITABILITY, June 2016**
- 5. ADMINISTRATIVE DEFICIENCY NOTICE, MassDEP, June 3, 2016**
- 6. ADMINISTRATIVE DEFICIENCY RESPONSE LETTER TO BWP SW 01 PERMIT APPLICATION, Site Suitability Report, Sanborn Head & Associates, Inc. on behalf of SRDP, July 29, 2016**
- 7. SUPPLEMENT TO THE RESPONSE TO THE BWP SW 01 AD LETTER DATED JULY 2016 – PROPOSED INTERCEPTOR TRENCH AND RELATED MITIGATION MEASURES, Sanborn Head & Associates, Inc. on behalf of SRDP, October 24, 2016**
- 8. EMAIL MESSAGES BETWEEN JAMES MCQUADE, MASSDEP, AND SAMUEL NICOLAI, SRDP, RE: SUPPLEMENT TO THE RESPONSE TO ADMINISTRATIVE DEFICIENCY LETTER, October 25, 2016**
- 9. MASSDEP ADMINISTRATIVE COMPLETENESS DETERMINATION LETTER, November 14, 2016**
- 10. REVISED MASSDEP ADMINISTRATIVE COMPLETENESS DETERMINATION LETTER, November 16, 2016**
- 11. COMMENTS RECEIVED BY MASSDEP FROM PUBLIC ON BWP SW 01 PERMIT APPLICATION, November 2016 to December 2016**
- 12. MASSDEP REQUEST FOR ADDITIONAL INFORMATION, December 30, 2016**

- 13. RESPONSE TO PUBLIC COMMENT, Sanborn Head & Associates, Inc. on behalf of SRDP, January 9, 2017**
- 14. EMAIL MESSAGE FROM REBEKAH LACEY, ESQ., ON BEHALF OF STURBRIDGE BOARD OF HEALTH, TO JAMES MCQUADE, MASSDEP, WITH ATTACHED LETTER FROM STURBRIDGE BOARD OF HEALTH, January 10, 2017**
- 15. MASSGIS MAP SHOWING SOUTHBRIDGE LANDFILL AND SURROUNDING WATER RESOURCES, January 2017**
- 16. MASSGIS MAP SHOWING LANDUSE AND PRIME FARMLAND IN THE AREA OF PHASE 3.12 AND 2.10, February 2017**
- 17. TABLE 1: ESTIMATED AND OBSERVED MAXIMUM GROUNDWATER ELEVATIONS, SOUTHBRIDGE DISPOSAL AND RECYCLING PARK, from SUPPLEMENTAL HYDROGEOLOGICAL INVESTIGATION REPORT – PHASE 7.3/7.4, SOUTHBRIDGE SANITARY LANDFILL, SOUTHBRIDGE, MASSACHUSETTS, prepared by Geosyntec consultants for SRDP in support of BWP SW 08 Landfill Phase Approval, Phase 7.3/7.4, Transmittal No. X251846, June 24, 2012**
- 18. HYDROGEOLOGY INVESTIGATION, SOUTHBRIDGE SANITARY LANDFILL, Sanborn Head & Associates, Inc. on behalf of SRDP, January 2016**
- 19. IMMEDIATE RESPONSE ACTION STATUS REPORT, RTN 2-19678, Tighe & Bond on behalf of SRDP and the Town of Southbridge, Massachusetts, August 2016**
- 20. IMMEDIATE RESPONSE ACTION STATUS REPORT, RTN 2-19678, Tighe & Bond on behalf of SRDP and the Town of Southbridge, Massachusetts, November 2016**
- 21. REVISED AIR DISPERSION MODELING PROTOCOL, PROPOSED LANDFILL GAS-TO-ENERGY FACILITY EXPANSION, SOUTHBRIDGE RECYCLING AND DISPOSAL PARK, INC., Sanborn Head & Associates, Inc. on behalf of SRDP, January 13, 2017**
- 22. EMAIL MESSAGES BETWEEN GLENN PACHECO, MASSDEP, AND JEFFREY DORIS, SANBORN HEAD & ASSOCIATES, INC., RE: MODELING PROTOCOL APPROVAL, February 2, 2017**
- 23. NMOC TIER 2 SAMPLING AND ANNUAL EMISSION RATE REPORT, SOUTHBRIDGE RECYCLING AND DISPOSAL PARK, Sanborn Head & Associates, Inc. on behalf of SRDP, June 3, 2016**
- 24. LETTER TO ROSEANNA STANLEY, MASSDEP, FROM JEFFREY DORIS AND DAVID ADAMS, SANBORN HEAD & ASSOCIATES, INC., RE: APPLICABILITY OF 40 CFR SUBPARTS CF AND XXX, SOUTHBRIDGE RECYCLING AND DISPOSAL PARK, INC., SOUTHBRIDGE, MASSACHUSETTS (with enclosure), November 22, 2016**

25. MASSGIS MAP SHOWING LANDUSE AND PRIME FARMLAND WITHIN THE AREA OF PHASE 3.12, February 2017

26. MEMORANDUM FROM STEPHANIE KELLY, ET AL, MASSDEP, TO MARK BALDI, DEPUTY REGIONAL DIRECTOR, MASSDEP, RE: HYDROGEOLOGY REVIEW OF THE SOUTHBRIDGE RECYCLING & DISPOSAL PARK, October 14, 2016