



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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September 25, 2015

Secretary Matthew A. Beaton
Executive Office of Environmental Affairs
100 Cambridge Street, 9th Floor
Boston, MA 02114

Attention: MEPA Unit – Page Czepiga

Re: Draft Environmental Impact Report (DEIR)
Southbridge Recycling and Disposal Park
Southbridge
EEA # 15356

Dear Secretary Beaton,

The Massachusetts Department of Environmental Protection (“MassDEP”) has reviewed the DEIR for the proposed expansion of the Southbridge Landfill (the “Project”) by Southbridge Recycling and Disposal Park, Inc. (the “Proponent”). The Proponent intends to expand the Town-owned landfill by approximately 40 acres in order to extend the life of the landfill from 2017 to 2027. The Project will be conducted in four phases and includes expanded waste disposal areas, a new maintenance/office building, extension of a public way, stormwater management modifications, and relocation of certain equipment and systems (e.g., gas-to-energy equipment and flares, as well as leachate storage tanks). The Proponent proposes construction of two miles of mechanically stabilized earthen berms (“MSE berms”) up to 60 feet high around the perimeter of existing and new waste disposal areas to create additional space for disposal. As described in the DEIR, the Project will create approximately 46 acres of impervious area and will result in more than six acres of impacts to Buffer Zone associated with Bordering Vegetated Wetlands (“BVW”). The Project will also increase emissions of air contaminants that will require controls in an Air Quality Plan Approval from MassDEP, and increase emissions of greenhouse gases.

The Project requires MEPA review because it meets or exceeds the following review thresholds:

- 11.03(1)(a)(1) – Direct alteration of 50 or more acres of land;
- 11.03(1)(a)(2) – Creation of 10 or more acres of impervious area;
- 11.03(6)(b)(1)(a) – Construction of a new roadway one quarter or more miles in length.

The Project will require multiple permits from MassDEP: Landfill Major Modification, Site Suitability Reports, Authorizations to Construct, Authorizations to Operate, Closure and Post-Closure Approvals, as well as a Major Comprehensive Air Quality Plan Approval. The Project may also require one or more Superseding Orders of Conditions under the Wetlands Protection Act.

According to the Certificate of the Secretary of Energy and Environmental Affairs on the Expanded Environmental Notification Form issued on May 29, 2015 (the “Certificate”), because the subject matter of the solid waste regulations is sufficiently broad to confer the equivalent of broad scope jurisdiction over the potential environmental impacts of the Project, MEPA jurisdiction extends beyond these permits to all aspects of the Project that are likely, indirectly or directly, to cause Damage to the Environment as defined in the MEPA regulations.

In accordance with the Certificate, MassDEP met with the Proponent to discuss ways to avoid, minimize, or mitigate impacts of the Project that could directly or indirectly cause Damage to the Environment. As set forth in MassDEP’s comments on the EENF, both the construction phases and the operational phases of the expanded landfill raise issues of possible impairment of natural resources. The proposed construction of MSE berms in particular presents the likelihood of direct or indirect alterations to extensive wetlands systems surrounding the landfill. Whether these wetlands impacts are probable, and therefore would constitute Damage to the Environment, has been a significant area of discussion. The parties have also discussed appropriate controls for the proposed landfill gas engine.

As a result of these discussions, the Proponent has made several changes to the Project since issuance of the Certificate, described in Section 1.4 of the DEIR. Specific changes designed to reduce the impacts of the MSE berms include: eliminating 3,760 linear feet of berms; changing the proposed exterior slope of the MSE berms from 1H: 3V to 1H: 2.7V, with final grading revised based on this new exterior slope; and reducing the size of Phase 4.14 to increase the setback from wetlands. Other changes related to drainage and stormwater controls are intended to mitigate the effects of the vast amounts of soil disturbance associated with both construction of the berms and construction and operation of the landfill as a whole. Since filing the DEIR, the Proponent has also eliminated a third landfill gas engine from the Project.

In addition to the wetland resource area impacts related to the MSE berms, the Project includes potential environmental impacts to groundwater and air quality related to construction and operation of the landfill and its appurtenances. The elements of the Project are described in detail in Section 2.2 of the DEIR. MassDEP offers the following comments on the environmental impacts of the Project that could be addressed in a Final Environmental Impact Report (“FEIR”).

Alternatives Analysis

The Certificate directed the Proponent to consider a no-build alternative as part of the DEIR, and to justify the presumption in the EENF that the Project must provide an additional 11 years of capacity, to 2027. The Proponent has explained the rationale for the Project and has expanded its analysis of alternatives in the DEIR. The DEIR now includes analysis of a no-build alternative as well as a reduced tonnage alternative, but concludes that the current proposal is the preferred alternative. If the Project does not go forward, the Proponent has calculated that the landfill will exhaust its capacity for waste disposal by October 2017.

According to the DEIR, the Proponent has entered into a contract with the Town of Southbridge to operate the landfill until 2027. Under the contract, signed in 2007, the Proponent must pay the Town a royalty of a minimum of \$83,333 per month. Section 1.3 of the DEIR states that in fiscal year 2015, the Town budget included \$1.675 million in revenue from the landfill contract.¹ In evaluating the no-build alternative, however, the Proponent states that the Town would lose approximately \$2.6 million in annual revenue; similarly, the reduced tonnage alternative would result in a \$1.5 million annual loss (DEIR §3.1). It is not clear how the projections in the Alternatives Analysis relate to the actual figure in the Town's FY15 annual budget.

The Proponent concludes that neither the no-build alternative nor the reduced tonnage alternative will achieve the goals of the Project, which include the substantial financial benefits to the Town of Southbridge under the current contract. The Proponent does not explain, however, whether the Project is feasible if either Southbridge or Charlton (or both) fails to issue local approvals or a site assignment for Phases 2, 3, and/or 4. Assuming the Project would be able to go forward, the Proponent should describe how the local permitting and site assignment schedules might delay the construction of Phase 1, and whether the configuration of the Phase 1 berms will change if Phases 2 or 3 are not constructed, in whole or in part.

For the preferred alternative (the Project), the Proponent re-evaluated the configuration of the expansion areas at the request of MassDEP and was able to eliminate 3,760 linear feet of MSE berms. MassDEP appreciates that to a large degree, the ability to increase the setbacks from wetlands along most of the Phase 1 areas (Phases 1.8, 1.9, and 1.11) is limited by the footprint of the existing waste disposal areas. For example, in Phase 1.8, the entirety of the MSE berm (1,833 linear feet) will be within the buffer zone because of the waste area constraints. The current design appears to maximize the setbacks of the MSE berms from the wetland areas in Phase 1 to the extent practicable. However, the statement that “[t]he average distance from the BVW to the toe of the MSE berms is approximately 30 feet” (DEIR §3.3) has no regulatory significance because the Proponent must file a Notice of Intent under the Wetlands Protection Act for work within 100 feet of the BVW.

At some places in the DEIR the setback from wetlands is described as from the toe of the berm; at others, such as the description of Phase 4.14, the setback is measured from the limit of disturbance. This inconsistency may represent a significant difference in whether work will actually occur in a wetland resource area. MassDEP therefore requests that the analysis of the preferred alternative be amended to describe how much of the limit of disturbance related to the Project will be within the 100-foot buffer zone to the BVW. If any disturbance will occur within the BVW, the Proponent must estimate the amount of the disturbance and propose measures to avoid or minimize any alteration of the resource area.

Finally, MassDEP requests that in the areas that are not confined by existing waste (Phases 3.12 and 4.14), the Proponent reconsider whether it is feasible to limit the areas of disturbance to greater than 100 feet from the BVW.

¹ The Proponent also provides collection of household waste, recyclable materials, and leaf and yard waste for residents of the Town at no charge, discontinuation of which would have an additional economic impact to the Town under the no-build alternative.

Solid Waste

Site Assignment

The Certificate notes questions concerning the extent of the current site assignment for the existing landfill as well as the phases of the Project in Southbridge. In 2008, MassDEP determined that the collective area of the 1979 and 1999 site assignments by the Southbridge Board of Health is coextensive with the land described in the deed to the Town of Southbridge from George Corriveau in 1980, recorded at the Worcester District Registry of Deeds in book 7008, page 91. In its ruling on a challenge to the 2008 site assignment modification process, the Supreme Judicial Court affirmed MassDEP's determination of the site-assigned area. Town of Sturbridge, et al. v. Town of Southbridge, et al., 461 Mass. 548, 563 (2012). On April 26, 2012, the Southbridge Board of Health unanimously voted to "support the language used directly in the decision by the SJC." Based on the decision of the Supreme Judicial Court, MassDEP does not agree with the comments that the parts of the existing landfill are on non-site assigned land.

The Certificate also notes MassDEP's comments on the EENF concerning construction of two stormwater detention basins on non-site assigned land: Basin Z3 in Charlton and Basin C2 in Southbridge. The additional information in the DEIR on property lines and municipal boundaries, as well as the construction history of Basin Z3 was very helpful to MassDEP's review of this site assignment issue. As the Proponent notes in its response to comments, Basin Z3 was constructed as part of the settlement of an enforcement action brought in 2004 for violations of the Wetlands Protection Act by the Proponent's predecessor in interest. MassDEP considers stormwater swales and detention basins to be appurtenant to the landfill operations, and therefore subject to site assignment, unless site-specific conditions warrant the location of these appurtenances outside of a site-assigned area. Although the plans for construction of Basin Z3 showed the location of the basin in the Town of Southbridge, its current location is necessary to control stormwater as part of the existing facility. Basin Z3 also serves as part of the stormwater management plan required under a different enforcement action for wetlands violations associated with soil stockpiles in Charlton in 2014. Therefore, MassDEP has determined that construction of Basin Z3 to address wetlands violations warrants its location outside of the site-assigned area. The Proponent's response to comments did not directly address construction of Basin C2 in Southbridge, but MassDEP understands that the basin will not be part of the stormwater management system for the existing facility until the parcel of land is site-assigned.

MassDEP has noted an area of Phase 1.11 as shown on Figure 1-5 of the DEIR that shows a portion of the berm extending over the town line into Charlton. The Proponent should clarify that no Phase 1 work will occur in Charlton.

Site Suitability

Solid waste permitting for the Project will occur in three parallel processes. First, the Proponent expects to file an application for a Major Landfill Expansion in September 2015 (DEIR Table 1-1 states August) to allow the work described as Phases 1.8, 1.9, and 1.11 to go forward. The Phase 1 work will occur on land in Southbridge that has already been site-assigned by the Board of Health. Next, in November 2015, the Proponent expects to file an application for a Site Suitability Report For New Site Assignment with MassDEP. Expansion of the landfill onto non-site-assigned land in Charlton (Phase 3.12) and Southbridge (Phases 2.10, 3.12, and 4.14) will require a new site assignment from the Charlton

Board of Health and a new site assignment or major modification of the existing site assignment in Southbridge. MassDEP will require separate applications for site suitability for each town and will review all 16 site suitability criteria for each application. The Proponent has stated that because the 2008 site assignment modification was comprehensive in scope, an abbreviated review would be within MassDEP's discretion, but the 2008 site assignment process, as extensive as it was, did not evaluate the criteria as applicable to the parcels of land on which Phases 2.10, 3.12, and 4.14 will be located. (MassDEP notes that the Proponent does not yet own two of those parcels.) Therefore, at the same time MassDEP is reviewing the application for a Major Landfill Expansion, and the various applications to construct and operate Phases 1.8, 1.9, and 1.11, the Proponent will be undertaking the site assignment process in both Charlton and Southbridge, beginning with the applications to MassDEP for site suitability reports.

During discussions with MassDEP, the Proponent has indicated that it will not seek a waiver of any of the site suitability criteria. MassDEP requests that the Proponent evaluate each of the criteria for both site suitability applications to confirm that the Project satisfies all criteria. An FEIR should include specific plans that show the distance of the waste disposal areas from residences and private wells in Southbridge, Charlton, and if applicable, the Town of Sturbridge.

Major Landfill Modification, Authorizations to Construct, Authorizations to Operate in Phase 1²

As described in the DEIR, the Project will include construction of MSE berms around the perimeter of most of the existing landfill. MSE berms will be constructed using structural soils interlaced with a plastic wire grid that is installed every 1.5 to 3 feet of berm height, perpendicular to the berm face. The face of the MSE berms will be finished with either stone or grass vegetation. The Proponent prepared materials that provide more detail about the construction of the MSE berms, and specific measures to prevent infiltration of stormwater into the berms. The materials, included in the DEIR as Attachment B, also describe how remedial actions could be taken in the event of berm instability, given the proximity of the MSE berms to wetlands on the site, in some places as close as 15 feet.

MassDEP understands that a SmartDitch will be installed along the top of the MSE berms to prevent stormwater infiltration that could affect the structural integrity of the berms. The SmartDitch is a trench on the top of the berm lined with high density polyethylene (HDPE) that is designed to direct the flow of stormwater to a stormwater collection system. Along the outside perimeter of the berms the Proponent will install a chain-link fence and guardrail as well as a high litter fence. At the base of the berms will be a 10-foot-wide "vegetated access way"; it is unclear whether this access way will accommodate vehicles, or the types of equipment that will fit within the width of the access way.

The Proponent intends to construct the MSE berms by starting at the point furthest from the edge of the existing waste, but closest to the wetlands, and working back into the existing disturbed areas and further from the wetlands. During filling of the newly created disposal areas behind the MSE berms, loaded trucks will drive across the top of the berms, crossing the SmartDitch, to dump waste. The empty trucks will not need to cross the SmartDitch to leave the operating area.

² The Proponent has not provided a schedule for permitting for Phases 2, 3, and 4 because that permitting is contingent upon site assignment proceedings in Charlton and Southbridge. MassDEP's comments on solid waste permitting are therefore specific to Phase 1 only, although most of the same issues will arise with the later phases of the Project. MassDEP cannot issue permits for Phase 1 until completion of the MEPA process.

In order to evaluate the potential environmental impacts from construction of the Project, MassDEP requests that the Proponent provide additional detailed information in a FEIR:

- Will soils from the site be used in construction of the MSE berms? What would the physical properties of the soils need to be in order to be used in berm construction? Will the berm and the landfill be designed to account for potential seismic concerns?
- MassDEP requests more specific information concerning MSE berm construction methods that will avoid work in wetland resource areas or impacts to the wetlands from work in the buffer zone. For example, the Proponent should identify where tree pruning is anticipated and the estimated area of this impact. The Proponent should also consider driving sheeting between the limit of work and the wetlands to prevent erosion during construction of the berms.
- The Proponent should describe how construction and location of the berms will affect the current environmental monitoring network system, including both groundwater and gas sampling wells, and whether any existing survey reference points will be impacted. If the Proponent proposes changes to the existing environmental monitoring network, MassDEP will require a comprehensive assessment to ensure that data collected to date is acceptable for use in future long-term trend analyses.
- Also, as the Certificate notes, several comment letters raised questions about groundwater and surface water contamination. The environmental monitoring network to be constructed as part of the Project should be designed to evaluate current hydrology as well as conditions that will result from construction and operation of the Project.
- MassDEP also requests more specific information concerning the vegetated access way to be constructed at the base of the berms. It is not clear whether the access way will go around the entire landfill. Access to the complete perimeter will be necessary to inspect and maintain erosion controls, and to perform long-term maintenance and inspection of the MSE berms. Will any part of the berms be inaccessible from the base? What construction methods will avoid work in wetland resource areas or impacts from construction of the access way in the buffer zone? How will the vegetated access way be maintained?

Similarly, MassDEP requests more detailed information about operation of the landfill once the MSE berms have been constructed:

- How many linear feet of SmartDitch will be installed for each phase of the Project, what are the maintenance requirements, and what are the estimated annual costs of maintenance? How are the costs of maintenance calculated?
- The Proponent should provide examples of other landfills that were designed to have continuous truck traffic delivering waste along the top of an MSE berm. What effect will the truck traffic (e.g., weight, vibration) have on the integrity of the SmartDitch and of the MSE berm itself? Has the Proponent considered alternatives to driving trucks over the SmartDitch, or alternatives to driving on the berms altogether?
- Promotional literature for SmartDitch products projects a minimum lifespan of 20 years, based on accelerated laboratory testing. Given the proposed configuration and use of the SmartDitch in the Project, when does the Proponent expect that the SmartDitch would have to be replaced?
- If remediation of any part of an MSE berm becomes necessary, the Proponent should identify which methods would be feasible to implement given site-specific conditions, especially the proximity of the wetlands and the limited width of the vegetated access way. In Attachment B to the DEIR, the Proponent describes remediation methods that require access only from the top of

the berms. Is it possible to limit remediation activities to the top of the berm, avoiding work in wetland resource areas, at every point in the landfill perimeter, even considering the height of the litter fence and the presence of trees around the landfill?

Closure and Post-Closure Permitting

Under the 2007 contract between the Proponent and the Town of Southbridge, the Proponent remains responsible for closure and post-closure requirements of the solid waste regulations even after landfill operations (and royalty payments) have ceased. Can the Proponent confirm that it, not the Town of Southbridge, will be responsible for all closure and post-closure requirements, given that the post-closure period extends for 30 years from the landfill closure, at a minimum? If at any point the Town will become responsible for post-closure maintenance and monitoring, the Proponent should describe the equipment necessary for the Town to conduct maintenance and monitoring, as well as any specialized equipment that would be required to implement remedial measures and make repairs from the top of the MSE berms.

Similarly, as noted above, the Proponent should evaluate at what point the SmartDitch will begin to deteriorate, and what the cost of replacement will be. The Proponent should also describe the methods for replacing the entire length of the SmartDitch as well as any associated work on the MSE berms themselves.

Although the Proponent proposes specific MSE berm monitoring in section 2.2.2 of the DEIR, MassDEP will require more frequent monitoring than proposed during construction, operation, and throughout the post-closure period. MassDEP will also require a financial assurance mechanism (“FAM”) separate from the standard closure and post-closure FAMs specifically for maintenance and repair of the MSE berms. The berm FAM will need to include the estimated annual cost of maintenance as well as costs of specialized equipment needed to maintain and repair the berms throughout the post-closure period. Although the post-closure period may be the minimum of 30 years, MassDEP may require the FAM to include the cost of monitoring the berm for 100 years.

Wetlands

As outlined below, MassDEP has extensive comments concerning potential impacts to wetlands adjacent to the landfill during construction and operation of the Project. The Proponent will be required to file Notices of Intent with both the Southbridge and Charlton Conservation Commissions and obtain Orders of Conditions before undertaking work in the buffer zones to BVW.

On May 6, 2015, the Proponent filed a Notice of Intent with the Southbridge Conservation Commission seeking approval to construct a new stormwater basin, Basin I2, to accommodate flow from existing Basin I that is not functioning as designed. The Order of Conditions issued by the Conservation Commission on August 12, 2015 lacks information related to the Project as a whole, but the permit nevertheless authorizes construction of the basin including expected impacts from the Project. MassDEP has therefore appealed the Order of Conditions to assure that conditions related to the Project, not just stormwater being redirected from existing Basin I, will be reviewed and conditions imposed in a permit. The DEIR identifies Basin I2 as part of the Project; therefore, MassDEP’s detailed questions about design, construction and operation of that basin should be addressed in an FEIR. If the Proponent wishes to amend the Order of Conditions to limit the work to that necessary to address current stormwater that

should be controlled by existing Basin I, with a new Notice of Intent to address the potential impacts from Basin I2 when the Project begins, MassDEP suggests that a Notice of Project may be required as well.

Construction phases

As noted above, significant portions (perhaps the majority) of the MSE berms will be constructed within the buffer zone to BVW. Although the Proponent proposes no direct wetland alterations as a result of the Project, MassDEP requires additional information to determine whether alterations to BVW are “probable” as a result of activities in the buffer zone and therefore constitute Damage to the Environment. Furthermore, MassDEP is requesting additional information to confirm that no work will take place within wetlands resource areas. MassDEP will use the details about construction, operation, and maintenance of the expanded landfill to fully consider whether the Project incorporates all feasible means to avoid Damage to the Environment, or to the extent Damage to the Environment cannot be avoided, to minimize and mitigate Damage to the Environment to the maximum extent practicable.

In an FEIR, the Proponent should clarify whether wetland boundaries throughout the Project area are estimated or definitive. If the boundaries have been delineated, the Proponent should note how and when the delineation occurred, and whether the boundaries were approved under a non-expired Order of Conditions. A FEIR should also include figures showing any locations where wetland replication areas have been required or permitted and whether or not they were constructed. All parcels associated with the expansion phases should be reviewed and wetlands resource areas identified, delineated, and boundaries set through an Order of Conditions, Order of Resource Area Delineation, or Determination of Applicability. All replicated wetland resource areas that are established BVWs should be included in the delineation with the BZ also depicted.

MassDEP expects the Proponent to perform an extensive pre-construction geotechnical investigation to characterize the substrate beneath the proposed MSE berm locations. The Proponent should describe how the testing equipment will access sampling locations given the reported instability of the soils on some of the existing landfill faces (in particular, the slope within the vicinity of Basin I), and whether adjacent wetlands will need to be cleared or graded to provide access for testing vehicles or equipment.

The DEIR does not describe setbacks between the limit of work (downgradient limit of buffer zone clearing and/or grading) and the BVW surrounding the landfill. MSE berm setbacks identified in the DEIR are not equivalent to the proposed limits of work, which may in fact encroach upon the BVW where grading is required to provide a transition between the base of the MSE berm, the vegetated access way, and the wetland borders. Similarly, construction and maintenance of the proposed vegetated access way between the MSE berms and the BVW may require work in the resource area. The Proponent should quantify both a minimum limit of work setback and an average limit of work setback for each phase of the Project.

In addition, the Proponent should evaluate potential impacts of subsurface construction to adjacent wetlands. The DEIR lacks information pertaining to the depth of groundwater in relation to the subgrade portion of the MSE berms, specifically, whether groundwater will be in contact with the subsurface support structure for the berms. Given the berms’ proximity to wetlands, the Proponent should evaluate whether an underdrain system will be required to prevent berm instability due to groundwater fluctuations or frozen conditions. If the Proponent determines that a permanent drainage system will be part of the

MSE berm design, an FEIR should include details concerning the proposed construction, monitoring, and maintenance of that system. The Proponent should also determine whether subsurface portions of the berm will alter the groundwater flow patterns beneath the site to an extent that will adversely impact wetlands and/or water quality.

As discussed in the solid waste permitting section above, MassDEP understands that the Proponent may import soil from off-site for the MSE berms. An FEIR should estimate how much imported soil the Project requires and the expected source of the soils. The Proponent should also identify the locations for stockpiling soil for each phase of the Project, regardless of whether the soils originate on the site or are imported. MassDEP recommends that the major earth moving phases of the Project begin in the spring rather than late fall to increase the chances that exposed areas can be stabilized before the winter months.

Post-construction

One of the interests protected under the Wetlands Protection Act is wildlife habitat. The MSE berms will act as nearly vertical walls along miles of wetland borders. Passage by wildlife between the wetlands to the east and west of the landfill will be severely curtailed by these walls in perpetuity. The Proponent should consider whether it is possible to minimize or mitigate the disruption to wildlife created by the berms, as well as any required slopes between the vegetated access way and the wetland borders.³

The DEIR describes the face of the MSE berms as vegetated in Section 7.4.1, and “vegetated or stone” in Section 6.1.3. The Proponent should provide additional information describing the proposed composition of the berm facing and detailing how the planned design will contribute to the long-term stability of the berm. In particular, the Proponent should address whether the stability of the MSE surface material depends on adequate shading of the berms by vegetation, and should describe measures to assure the successful establishment of non-invasive species on the proposed berms. The Proponent should also evaluate whether shading from the berms will affect the composition of the vegetation within adjacent wetlands.

The Proponent should provide an estimate of the anticipated wetland impacts in the event that remedial actions to protect the stability of the MSE berms need to be implemented. Specifically, the Proponent should discuss whether remedial actions involving installation of H-piles would occur within BVW, if such actions become necessary; the Proponent should also identify potential impacts if an alternative repair method, such as shoring, is required. The analysis of impacts should include whether vegetation clearing in the BVW would be necessary, as well as means for providing access for equipment without encroaching in the BVW.

Finally, the Proponent should determine whether clearing of adjacent wetlands will be necessary to prevent shading of the solar panels proposed to be installed on a portion of the MSE berm, and if so that information should be included in the Notice of Intent for the Project.

³ The DEIR contains a letter from the United States Department of Interior that states, “The Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat.” The Proponent should discuss whether it has conducted a Biological Assessment of potential Northern long-eared Bat habitat within the area of the Project.

Stormwater Management

MassDEP believes the Project presents an opportunity to improve current stormwater management practices at the landfill while designing controls for the expansion areas that will avoid or mitigate effects to the extensive wetlands around the site. The Project presents the possibility of significant wetland impacts from the stormwater management systems associated with the proposed landfill expansion during the construction, operation, closure, and post-closure phases.

Ongoing turbidity monitoring at the landfill indicates that levels of Total Suspended Solids exceed acceptable thresholds at multiple sampling points during most significant rainfall events. Past siltation events have impacted wetlands to the east and west of the landfill, while the ongoing exceedances are primarily associated with the wetland between Commercial Drive and H. Foote Road. In order to achieve compliance with Stormwater Standard 8, the Proponent must propose construction period controls that control erosion and sedimentation to protect all surrounding wetlands from construction period impacts.

The size, location and/or configuration of one or more stormwater basins may have changed since the DEIR was prepared. The Proponent should update all stormwater and hydrology narratives and figures to reflect any recent design revisions. The proposed design diverts virtually all groundwater and surface away from a 1000+ foot stretch of wetlands between proposed Basin I2 and the landfill, and significantly decreases the volume of surface water reaching the wetlands to the west (straddling Barefoot Road) of the landfill. The Proponent should include potential impacts to wetland hydrology when quantifying the potential wetland impacts of the Project. A FEIR should include a detailed assessment of existing and proposed surface and groundwater flows into the wetlands surrounding the landfill.

MassDEP believes that the Project may not meet the Massachusetts Stormwater Standards in full as currently designed. The Proponent correctly states that the project design must meet Standard 3 (groundwater recharge mitigation) “to the maximum extent practicable”; however, the Proponent did not provide a comprehensive review of recharge options in the DEIR. The Proponent should evaluate whether recharge would become available if the Proponent moves the limit of work for the Project back from the west or north sides of the landfill. Does shallow recharge within the vicinity of Basin I2 break out into the wetland to the east of the landfill, or flow as groundwater beneath this wetland? Were any of the existing stormwater basins designed to infiltrate, and can the Proponent retrofit these basins to restore their recharge capacities?

The Proponent suggests that one reason for recent increases in arsenic levels in groundwater monitoring wells is that “reactions between naturally occurring bedrock minerals and groundwater influenced by the landfill likely are occurring in a reducing (e.g. low/no oxygen) environment, in part, because the landfill reduces the rate at which oxygen-rich precipitation recharges groundwater.” Because the Project will further reduce recharge, the Proponent should evaluate potential additional groundwater impacts that might result from the expansion, including whether these impacts could affect the water quality in the wetlands associated with downgradient McKinstry Brook (a Coldwater Fish Resource), or contribute to any future increase in groundwater contaminants.

The proposed design appears to lack an appropriate number of interceptor trenches along the final landfill slope and may not provide vehicular access to stormwater basins for maintenance. Section 7.4.2

of the DEIR provides that the total disturbed area of the construction activities shall not exceed five acres at any one time, “as a Non-Structural Control that will be taken to minimize and prevent erosion.” MassDEP will therefore include this control measure as a condition in each Authorization to Construct permit issued for the Project. The DEIR does not contain a detailed sequence for fill stockpiling (space available on Tower Road vs. soil/rock moved from the northern stockpile, Basin I2 and elsewhere), nor an estimate of stockpile volumes at various phases of the project. MassDEP expects the Proponent to make a commitment to more robust erosion control and slope protection measures such as erosion control blankets. The Storm Water Pollution Prevention Plan included in the DEIR contains details that may be inconsistent with current practices on the property (specification for use of treatment chemicals), compliance with Stormwater Standards (allowing wet pools to function as sediment basins), and stated mitigation measures.

Air Quality

Landfill Gas Control

The Proponent currently controls landfill gas emissions at the site with an enclosed flare and an engine-generator. Both the flare and the engine combust the landfill gas, but the engine also produces 1.6 MW of electricity. Emissions of landfill gas from existing conditions at the landfill are sufficient to support installation and operation of a second engine⁴, for which the Proponent has filed a Non-major Comprehensive Plan Application. In the application, the Proponent has included only the gas generation for the existing landfill, without considering the potential emissions from the Project. The existing engine at the landfill produces carbon monoxide (CO) emissions of 88 tons per year (TPY). The proposed second engine will generate 92 TPY of CO, considering only the volume of landfill gas produced by the existing landfill. The Proponent has submitted a Non-Major Comprehensive Plan Application for the second engine based on the current landfill gas volume.

Emissions of greater than 100 TPY of CO require an application for a Major Comprehensive Plan Application. MassDEP estimates that Phase 1 of the Project alone will add 20 TPY of CO that is not accounted for in the 92 TPY requested in the current application, so that emissions of CO will exceed 100 TPY. The DEIR acknowledges that the landfill gas from the Project will exceed the combustion capacity stated in the current permit application. MassDEP requests that the Proponent submit a Major Comprehensive Plan Application that considers the increase in emissions from the Project as a whole.

Also, according to MassDEP’s calculations, each of the engine-generators has the potential to emit 9.2 TPY of formaldehyde, a hazardous air pollutant for which the major source threshold is 10 TPY. For purposes of MassDEP and the Proponent are having ongoing discussions about the possible air pollution control equipment that could be required to reduce emissions of formaldehyde. MassDEP has requested site-specific air dispersion modeling information using the AERMOD model from the Proponent concerning the formaldehyde emissions. The Proponent should meet with MassDEP to confirm the input values and modeling protocols needed for this analysis. Furthermore, if the engines will be moved to a different location as part of the Project, the proposed new location must be modeled as well.

⁴ MassDEP understands that the Proponent has eliminated a proposed third engine from the Project. If the Proponent at a later date determines that the third engine will be included, MassDEP suggests that a Notice of Project Change should be required.

Greenhouse Gas Analysis

The landfill gas engine-generators discussed above control emissions of methane and carbon dioxide while producing electricity that replaces energy produced by other sources. For its analysis of the GHG reduction effect of the engines, the Proponent used the EPA LandGem model to predict landfill gas flow rates. These rates differ from the information the Proponent submitted as part of the permit application described above. MassDEP requests that the Proponent should provide the input factors used in the GHG modeling.

MassDEP recommends the Proponent analyze the potential for reducing CO₂ emissions by combusting landfill gas by considering two basic scenarios:

- Landfill gas is flared and the landfill gets its electricity from power plants; and
- Landfill gas is combusted to generate electricity and the electricity is used on-site and/or sold to the grid.

Construction Impacts

MassDEP notes that the construction hours proposed are from 7:00 a.m. to 10:00 p.m. Monday through Saturday and 9:00 a.m. to 6:00 p.m. on Sundays with the approval of the Town of Southbridge. MassDEP notes that noise and dust from construction activities has the potential to cause a condition of air pollution by interfering with the use of enjoyment of property. MassDEP encourages the Proponent to consider more limited hours for construction to minimize construction-related impacts to the nearby residences.

The Proponent already has in place a process for logging and tracking odor complaints from the landfill. MassDEP suggests that the process be expanded to included noise and dust complaints from the construction.

MassDEP appreciates the opportunity to comment on the proposed project. If you have any questions regarding these comments, please do not hesitate to contact Stella Tamul, Central Regional Office MEPA Coordinator, at (508) 767-2763.

Very truly yours,



Mary Jude Pigsley
Regional Director

cc: Commissioner's Office, MassDEP