

Organics Recycling Facility Environmental Information Document

Shakopee Mdewakanton Sioux Community

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Completed by:

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CHAPTER 1: PROPOSED PROJECT AND FUNDING

I. Project Description

The Shakopee Mdewakanton Sioux Community (SMSC) is proposing to develop a new Organics Recycling Facility (ORF) at 12386 Chestnut Boulevard, Shakopee, Minnesota. The facility will process Source Separated Organic Material (SSOM) from residential and commercial yard and food waste into compost. The compost is either sold on its own or is blended with inert materials for resale as gardening and landscape products.

The Environmental Protection Agency (EPA) funded portion of the overall ORF includes collecting, treating and reusing precipitant runoff and excess water from the composting process. Since this aspect is one component of the overall project, this Environmental Information Document (EID) will review the entire site facility to incorporate all adjacent and connected activities associated with the project.

The ORF plans to utilize state-of-the-art equipment to enhance the compost process, including a Covered Aerated Static Pile (CASP) system using composting bunkers with biolayers and biofilters for primary composting followed by turned windrow curing. The mature compost will be blended with inert materials of black dirt, sand and peat to become soil amendments for use as natural compost fertilizer for gardening and landscaping.

The composting operation at the ORF is as follows:

The SSOM will be delivered into the tipping building, a semi-enclosed facility, inspected to remove contaminants, ground and mixed into a compost recipe, then moved into the aerated composting bunkers. Grinding and screening will include the operation of up to two grinders and one screener for mixed and unmixed yard waste, woody material and pre- and post-consumer food waste at various stages of the process. Liquids from the tipping building are collected via floor drains and transferred to the composting bunkers.

While the SSOM is in the composting bunkers, heat is generated, and pathogens are killed. The compost can be moved from the composting bunker when it is determined to be mature and has completed the Process to Further Reduce Pathogens (PFRP) via approved state requirements, which takes approximately 18 days. Currently, Minn. R. 7035.2836, subp. 9(B)(9) cites the Solvita Maturity index as an approved method to determine if material is mature, has completed the PFRP, and can be moved from the composting bunkers into the curing windrows. After material has completed the PFRP and is in the curing stage, the material can be handled without significant risks from pathogens.

Any excess precipitation that occurs while the SSOM is in the composting bunkers is collected via drains and directed to the contact water reclamation system building and then reused in the composting process.

Following the processing in the composting bunkers the SSOM is moved to the curing windrows. The SSOM is stored in the windrows and turned every 1-2 weeks until it is ready for use in 40-70 days. The SSOM is then screened and moved to the finished product pickup area for sale to consumers. Stormwater runoff from the curing windrows and finished product storage areas is directed to a solids separator and then to the stormwater ponds where it is reused in the composting process, infiltrated or discharged during periods of very high precipitation. Material collected within the solids separator is reused in the composting process.

Precipitation runoff at the ORF will be managed separately from the contact water and discharged under the Minnesota Pollution Control Agency (MPCA) Industrial Stormwater General Permit. Overall operations of the ORF will be conducted under the approval of local, state and federal rules and regulations. Prior to commencement of construction activities, demolition of multiple existing buildings will be required. The Project area currently includes approximately 20 structures including former residences, barns, sheds, and various structures and outbuildings. Figure 4 provides a map, description, and plans for the existing buildings. In general, the existing structures are to be removed with the exception of the blue pole barn (horse stable), blue barn (shop) and the scale house. The scale house (Building #17) will be relocated onsite to the location shown on Figure 5A.

A. Project summary

1.Planning area description (including a map with facilities)

The SMSC is proposing to develop a new ORF at 12386 Chestnut Boulevard, Shakopee, Minnesota (Project). The proposed Project is in Louisville Township, Scott County (Figure 1 and Figure 2) and once completed will serve as a relocation for the SMSC's current ORF. The ORF will process SSOM from both residential and commercial sources of yard and food waste into compost. The compost is either sold on its own or is blended with inert materials for resale as gardening and landscape products.

Currently, the Project area is developed with several vacant structures estimated to have been constructed between the late 1800's and the 1980's. The majority of the Project area is currently vacant. The southern portion of the Project area is used for growing grass/hay and seasonally used as overflow parking for the Minnesota Renaissance Festival. The Project area is bound to the north by a riding arena and track with Trunk Highway (TH) 41 beyond; to the east by Union Pacific Railway with undeveloped land and a MNDOT Truck Station beyond to the northeast and Dem Con Landfill beyond to the southeast; to the south by agricultural and wooded land; and to the west by Gifford Lake which is part of the Minnesota Valley State Recreation Area (Figure 3).

2.Planning period (time period) and description of project construction phases

The construction activities are anticipated to commence in 2023 and the first phase (CASP bunkers 1 through 18) will be primarily completed by the end of 2024. The initial buildout (Phase 1) will process 115,000 tons of SSOM per year. The second phase (CASP bunkers 19 through 27) will be initiated at some later date, depending on business conditions. The ORF will potentially process 172,500 tons of SSOM per year at full buildout, assuming Phase 2 is completed. Construction or operation of the ORF is not anticipated to produce wastes beyond common construction and demolition debris, site grading and operating waste streams (municipal waste, etc.).

The ORF was initially planned for development on 69 acres but was expanded in approximately March of 2021 to the 125 acres described herein. The original 69 acres are fully contained within the currently proposed 125 acres. This footprint expansion is referenced in subsequent sections of this EID. The currently proposed 125 acres (92.7 useable) includes the initial buildout footprint of approximately 90 acres (59 useable) and future potential additional buildout footprint of approximately 35 acres.

Future stages of this development are included in this analysis. The initial stage includes operations up to 115,000 tons per year throughput. The future stage includes operations up to 172,500 tons per year throughput. The future stage also includes CASP bunkers 19 to 27, and features including Future Product Storage, Future Residential Sales & Building, Future Mulch Operations and Future Topsoil Storage. The future stage is anticipated to follow the initial stage by approximately 2 to 5 years and may be implemented in stages.

B. Project-related infrastructure (proposed)

The proposed Project details and new construction includes the following elements.

- Demolition of 17 buildings, structures, sheds, and outbuildings
- Regrading of the Project area to facilitate construction and properly manage run-off
- Construction of 5 new buildings and relocation of 1 existing building
- Construction of up to 27 CASP bunkers
- Paving of roadways, material processing areas and material storage yards
- Construction of stormwater retention and infiltration basins
- Construction of contact water reclamation system
- Installation of security fencing
- Installation of a septic system
- Installation of a new water supply well and abandonment of existing wells
- Installation of one 150,000 gallon above ground fire water storage tank
- Placement of a 2,000-gallon diesel and a 500-gallon gasoline Aboveground Storage Tank (AST) to fuel vehicles

Additional information related to the magnitude of the proposed infrastructure is listed in the table below.

Table 1: Project Magnitude

Project Component	Magnitude
Total Project Acreage	125.35 (Usable acres approx. 92.74)
Linear Project Length	N/A
Commercial building area (in square feet)	Approx. 35,000 (Pole Barn – Future Residential Sales)
Industrial building area (in square feet)	62,720
Other uses-specify (in square feet) <i>Values are approximate</i>	Short Term Raw Material Storage = 161,172 Yard Waste Storage = 217,800 CASP Compositing = 207,781 Windrow Curing = 358,063 Final Product Screen/Store/Loadout = 201,683 Maintenance = 54,014 Future Additional Product Storage = 132,858 Future Residential Sales = 74,052 Future Mulch Ops = 320,166 Future Topsoil Storage = 139,392

Project Component	Magnitude
Structure height(s)	8 Primary Buildings, 5 new, 3 existing, 1 TBD, including: Shop Building = 18' Office Building = 10' Tipping/Hoop/Product Storage Bldg. = 44'-7" Garage = 16' Water Reclamation Bldg. = 14' Scale Building (Existing Scale House) = 13'-10" Cold Storage Building (Existing Shop) = 22' Est. Residential Sales Storage (Existing Horse Stable) = 18' Est. Future Residential Sales (Pole Barn) = TBD (future construction)

Please see Figures 5A & 5B, Post-Construction Site Plans for a proposed Project layout. More detail on the size, area, purpose, use and impact of these features is provided in the applicable following sections of this EID.

1. Owner and operator of the facilities

Table 2: Project Owner

Project Proposer	Shakopee Mdewakanton Sioux Community
Agency Contact Person	Stephen Albrecht
Title	Operations Administrator, Land
Address	2330 Sioux Trail South, Prior Lake, MN 55372
Phone	(952) 233.4236
Email	Stephen.Albrecht@ShakopeeDakota.org

2. Location of the facilities

The location of the proposed Project is depicted on Figure 1 – County Site Location and Figure 2 – USGS Topographic maps, respectively.

Table 3: Project Location

Project Location	12386 Chestnut Boulevard
County	Scott
City/Township	Shakopee, Louisville Township
PLS Location (¼, ½, Section, Township, Range)	Portions of all ¼'s of Section 16, Township 115N, Range 23W and a portion of NW¼ of Section 21, Township 115N, Range 23W
Watershed (81 major watershed scale)	Minnesota River - Shakopee
GPS Coordinates	44.76 N, 93.60 W (approximate center of property)
Tax Parcel Number	079160020, 079160042, 079160043 & 079210010

3. Capacity information

The initial buildout (Phase 1) will process 115,000 tons of SSOM per year. The second phase (CASP bunkers 19 through 27) will be initiated at some later date, depending on business conditions. The ORF will potentially process 172,500 tons of SSOM per year at full buildout, assuming Phase 2 is completed.

II. Relevant Design Parameters

The proposed open-air organic recycling facility will process organic materials like wood, food and yard waste and convert it to a nutrient-rich compost material. The facility will also process vegetation material such as large brush and trees into mulch material though it should be noted they do not plan to accept dimensional lumber products. Ultimately the site and composting operation will create approximately 38 acres of new impervious.

The runoff generated onsite by open air composting facilities has high concentrations of nutrients and Biological Oxygen Demand (BOD). The nutrient concentration and BOD decrease as the compost matures through the different stages of the organic recycling processes. Runoff generated from the first step in the recycling process is herein referred to as contact water. Per Minnesota Statute 7035.2836, contact water is defined as water that is in contact with waste, immature compost, and residuals and must be diverted to a leachate collection and treatment system. Contact water is subject to MPCA industrial wastewater permitting standards and will be contained on site with no planned discharge to a public receiving water.

It is expected that all runoff generated within the primary composting operations area will be considered contact water. The proposed site design has gone to great lengths to ensure that offsite runoff is diverted away from the primary compost pads to reduce the overall volume of contact water generated. Approximately 1.8 acres of the site will generate contact water which will be routed directly to an isolated two-cell concrete basin which is dedicated to contact water management. The contact

water pond is not anticipated to have an outfall because all contact water collected will be managed onsite through re-use during the initial mixing stages of the compost to the extent practicable.

Pilot testing performed by SMSC has revealed that the material stored in the windrow curing area will have a Solvita maturity index of at least 5 and therefore runoff water is not considered contact water. Ultimately as composting operations come online, additional onsite testing will be performed using the Solvita maturity index to confirm this assumption. Stormwater runoff from the windrow curing area and finished storage areas is considered stormwater and subject to the MPCA Industrial Stormwater Sector C2 permitting requirements prior to discharge to receiving waters.

To manage onsite stormwater and meet Sector C2 of the MPCA's Industrial Stormwater Permit, multiple stormwater best management practices (BMP) are proposed. All stormwater runoff generated on site west of the access road will be captured and conveyed via vegetated swales to either the proposed Cell #3 Reuse Basin or the Infiltration/Filtration Basin. These two basins will share a single piped outfall to reduce the number of monitoring locations required per the permit. The composting operations will require a substantial water volume throughout the year to ensure the compost material maintains nominal moisture content. To reduce well water demand, runoff from over two thirds of the site will be collected and stored for reuse either in the contact basin (contact water) or the Cell #3 Reuse basin (stormwater). Stormwater runoff from the remaining third of the site will be treated in the filtration basin before discharging. Offsite runoff will be managed separately and conveyed around the site or under the site via storm sewer so it will not come in contact with active compost.

The proposed project will dramatically alter this landscape with most of the land being converted to bituminous pavement. The proposed stormwater BMPs and contact water basin have been designed to mitigate these changes to the hydrology through water quality and volume control measures. Figure 12: Proposed Drainage Conditions provides an overview of the proposed stormwater management for the site while Table 4 below summarizes the hydrology and hydraulic assumptions.

III. Funding Information

A. Proposed total project cost

The total cost of the proposed Project is \$3,125,000.

B. Portion of total project cost funded by EPA

The EPA-funded portion of the proposed Project is \$2,500,000.

C. List of amount, sources, and status of all funding sources

The Stormwater Reclamation Project is part of a larger organized recycling expansion project funded by SMSC. The \$3,125,000 stormwater reclamation project supports the overall project. SMSC is requesting \$2,500,000 in CDS funds for this project and has the required 20% nonfederal cost share in hand.

CHAPTER 2: PURPOSE AND NEED FOR PROPOSED PROJECT

I. Project Purpose and Need (Select at Least One)

A. Inadequate system or system components

The purpose of the Project is to provide a resource for the processing of SSOM, including acceptable yard and food waste, into usable soil amendment products in support of Minn. Stat. ch. 115A.02 (Legislative Declaration of Policy; Purposes), specifically Chapter 115A.02(b)(3) as also detailed in the MPCA's Solid Waste Policy Report dated December 2019. The SMSC has been operating an ORF in Shakopee (on trust land) since 2011 and has identified a need for additional capacity to be able to meet the large and increasing demand for composting of source-separated compostable materials (yard waste and food waste).

As the ORF will result in the diversion of a large amount of material from landfilling to composting every single year, the Project will further the goals of the Minnesota Waste Management Act. This will be done through moving the materials up the waste management hierarchy, from the least preferred and most environmentally unfriendly option of landfilling to the more preferred options of composting and reuse. In addition, this will help to provide relief to the landfill capacity crisis that is currently ongoing in the Twin Cities metro area. The beneficiaries will include a wide range of residents and business in the metro area and beyond through reduced landfill use, reduced landfill expansions, and increased composting and reuse. Per the Minnesota Waste Management Act, moving materials up through the waste management hierarchy will protect the state's land, air, water, and other natural resources and also the public health.

II. Expanded Description of Need

A. Description of the following (as applicable):

1. Future environment without the project

The proposed Project will provide additional, needed capacity to meet the large and increasing demand for composting of source-separated compostable materials, and will further the goals of the Minnesota Waste Management Act and support Minn. Stat. Ch. 115A.02 (Legislative Declaration of Policy; Purposes).

CHAPTER 3: EXISTING INFRASTRUCTURE

I. General Description of Wastewater Collection and Treatment and Stormwater

The existing Project site is not connected to a municipal wastewater system. For more information regarding the existing wastewater system, please refer to Chapter 3.II.

A municipal water supply is not currently available at the Project site. For more information, please refer to Chapter 3.III.

Figure 11 shows the existing drainage conditions including contours, watersheds, surface flow patterns and surface cover, which is primarily pervious vegetative cover.

II. Existing Wastewater System (Wastewater Only)

Composting “contact water” will be generated throughout the operation of the Project. EPA funding for the Project would support the proposed contact water system. Contact water will not be discharged to a publicly-owned treatment facility. In the event excess contact water needs to be removed from the Project site, which is unexpected, the contact water will be transferred to SMSC’s Wastewater Treatment Plant.

Additionally, the Project will discharge domestic wastewater (restroom, bathrooms, and breakroom) to a SSTS to be newly installed at the Project site. The new SSTS is to include a septic holding tank and associated drain field currently sized at 50 feet by 100 feet. The preliminary flow rate has been estimated at 625 gallons per day to accommodate 25 employees and four bathrooms, one shower, laundry and a break room.

The site soils have been assessed in 2011 and 2019 by the advancement of nine soil borings under the direction of a licensed septic system designer, inspector and installer. Representatives of the Scott County Environmental Department also oversaw the assessment. The assessment identified two viable Type I system locations within the investigated area as documented in the March 9, 2020, report completed by Bohn Well Drilling of Jordan, Minnesota. The selected viable location is depicted on Figure 5A in green.

The availability of septage disposal options within the region to manage the ongoing amounts generated as a result of the Project are not anticipated to be required beyond the on-site SSTS. In the event of the need to dispose of domestic wastewater through means other than the on-site SSTS (due to increased water table levels, etc.) multiple options are available. These options primarily include the SMSC’s Water Reclamation Facility located on tribal lands in Prior Lake, Minnesota. A secondary potential option includes Metropolitan Council Environmental Services Blue Lake Wastewater Treatment Plant located in Shakopee, Minnesota. The potential for this need appears low as while individual rainfall event frequency and intensity may be increasing, it appears that water table levels have generally been drawn down across the upper Midwest region.

As indicated in the prior paragraph, while individual rainfall event frequency and intensity may be increasing, it appears that water table levels have generally been drawn down across the upper Midwest region. Due to this generalized reduction in water table levels, the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity and amount do not initially appear to

affect the disposal of domestic wastewater through the on-site SSTS (due to increased water table levels, etc.).

III. Existing Drinking Water System (Drinking Water Only)

A municipal water supply is not currently available at the Project site. Therefore, SMSC has initiated the process to obtain a Water Appropriation Permit for groundwater usage, which is required for withdrawal of 10,000 gallons or more of groundwater per day, or 1 million gallons (MG) or more of groundwater per year. The permit will be for the appropriation of water through one new on-site water well. For a detailed discussion of the drinking water system proposed as part of the Project, please refer to Chapter 5.I.C.

IV. Existing Storm Water System (Storm Water Only)

The changes in surface hydrology resulting from change of land cover are depicted in Figures 11 and 12. Figure 11 shows the existing drainage conditions including contours, watersheds, surface flow patterns and surface cover, which is primarily pervious vegetative cover. Figure 12 shows proposed drainage conditions including contours, watersheds, surface flow patterns, contact water basins, stormwater treatment structures, stormwater ponds, outfalls and surface cover, which includes an increase in impervious surface. Please note that a select portion of the 100-year floodplain (area at Primary CASP Composting Phase 2) is to be filled. This is to be completed through a “No Rise Certification” process under a pending watershed permit administered by the Lower Minnesota River Watershed District. Also, as previously indicated, the amount of impervious cover is proposed to be increased by approximately 38 acres.

Regarding the “No Rise Certification” process, the Lower Minnesota River Watershed District regulates alterations within the floodplain and drainageways within the watershed. To place fill below the 100-year flood elevation the district requires a no rise certification to the 0.00-foot by a professional engineer to be provided. The attached No-Rise memo (Attachment N) describes that 15,300 cubic yards of fill is proposed below the 100-year flood elevation and shows that 100-year flood elevation will not be raised more than 0.00 feet. This no rise memo will be provided to the Lower Minnesota River Watershed District so that they may keep it for their records.

The Project area is not currently required to operate under an industrial stormwater permit or other discharge permit and therefore stormwater quality data has not been collected. However, it is assumed to be of good quality and low volume due to the lack of on-site activities and impervious surface allowing infiltration and the amount of vegetation between the occupied areas and the downgradient extent of the property (shoreline of Gifford Lake). As previously indicated, the Project area generally slopes northeast to southwest, or east to west, with a ridge on the southeast side and a slope dropping to Gifford Lake on the northwest side, with southernly flow to a depression on the southern-most portion of the Project area. Please see Figure 11 for current drainage areas and contours.

During construction, common Best Management Practices (BMPs) including silt fencing, straw wattles and hay bales will be utilized to control construction stormwater runoff until final stabilization is achieved. The construction will operate under the MPCA’s Construction Stormwater Permit and a Scott County Erosion Control Plan per Scott County building permit requirements. A Stormwater Pollution Prevention Plan (SWPPP) and associated inspections will be in place during the construction phase. It is estimated that approximately up to 90 acres may be disturbed at any one time.

Gifford Lake is not listed as an ORVW, is not listed as a 303d impaired water, and is not listed on the MPCA's Construction Stormwater Special and Impaired Waters Search tool. The MPCA's Construction Stormwater Special and Impaired Waters Search tool does list the Minnesota River, which is listed as a 303d impaired water for mercury in fish tissue, mercury in the water column, polychlorinated biphenyls (PCBs) in fish tissue, nutrients, and turbidity. Therefore, for areas of the Project that drain to a discharge point on the project that is within one mile (aerial radius measurement) of the Minnesota River and flows to the Minnesota River, additional best management practices will be required as part of the SWPPP.

Once operational, a majority of the Project area will operate under the MPCA's Industrial Stormwater General Permit. The SWPPP and associated inspection, sampling and reporting requirements will be followed. The ORF falls under sector C2 of the MPCA Industrial Stormwater Permit. Per each sector, the permit defines benchmark effluent values for parameters such as Total Iron (Fe), Total Lead (Pb), Total Phosphorous (TP), Total Suspended Solids (TSS), and Zinc (Zn) at the point of discharge for all outfall locations on the site. The permit also outlines sampling requirements based on rainfall events and responsive actions in the event sampling shows contamination or thresholds have been exceeded. The proposed site will be operated and managed to meet all requirements defined in the Industrial Stormwater Permit, including fulfilling the proper sampling and associated required documentation.

Currently, an on-site stormwater treatment system consisting of vegetated swales feeding to a stormwater sedimentation/reuse basin and an infiltration/filtration basin is to be installed to manage stormwater quality and quantity from Outfall 001. Outfall 002 will receive runoff from a smaller area primarily from a non-process area (yard waste). In addition, runoff water from the active primary composting area will flow to contact water basins that will contain water for reuse on-site. Outfall 001 and 002 discharge to Gifford Lake. The proposed on-site stormwater treatment system layout is depicted in Figures 12, 13 and 14. It is expected that testing required by the permit will document compliance with permit benchmark values as the on-site stormwater treatment system is aggressively designed to remove sediment and other contaminants. The standard design rainfall events are the 2-Year, 10-Year and 100-Year rainfall events, which have a probability to occur any given year of 50%, 10% and 1%, respectively. Table 4 reports the peak discharge rate and volume of runoff for each design rainfall event (assuming no reuse on-site).

Table 4: Discharge Rate and Volume Leaving Site

Outfall	Discharge Rate (CFS)		
	2-Year (2.86")	10-Year (4.24")	100-Year (7.30")
Outfall #1	4.8	30.8	38.3
Outfall #2	6.5	19.2	54.1
VOLUME LEAVING SITE			
Outfall	Volume (ACRE-FT)		
	2-Year (2.86")	10-Year (4.24")	100-Year (7.30")
Outfall #1	2.2	7.2	18.8
Outfall #2	1.1	2.7	7.6

Stormwater retention has been oversized to retain a 100-year flood event as the required design criteria per Minn. Stat. § 7035.2855, subd. 7(b)(2) is the 25-year, 24-hour rainfall event. Estimates

indicate that the Project operations may be water balance negative, requiring use of stormwater for operational irrigation (windrows, etc.). To have an efficient and effective composting operation a substantial amount of water is required to maintain the optimum moisture content in the piles (40 to 60%). The amount of water required exceeds what can be expected from precipitation. To minimize well-water usage, the site has been designed to collect and retain stormwater in the contact water basins and the stormwater retention basin (cell 3) so it can be re-applied to the compost piles in the aerated static piles and the compost windrows. The stormwater quality will be determined per testing required by the MPCA's Industrial Stormwater General Permit, if discharged. In the event discharge is required, it is expected that testing will document compliance with permit benchmark values as the on-site stormwater treatment system has been aggressively designed to meet permit limits.

Runoff from windrow curing is considered stormwater and will be managed according to the Best Management Practices and discharged according to the Industrial Stormwater General Permit. Contact water will be held in a lined pond and reused in composting process. The Minnesota Department of Natural Resources (MNDNR) has indicated they have no concerns with the siting of the Project within the shoreland area with respect to stormwater management (Attachment L) based on these control measures. Contact water (water that comes into contact with active CASP composting, and not windrow curing piles) will not be discharged from the Project site as it is anticipated to be entirely retained on site and reused in the process. The contact water will be reused to maintain required moisture content in the active compost piles. Assessment of site wide water balance has indicated that the overall process may likely need to be supplemented with additional water and that contact water disposal will not be required. Regardless, the collected contact water will not be discharged and will not comeingle with stormwater managed under the MPCA's Industrial Stormwater General Permit.

SMSC understands that chloride released into surface waters does not break down, but instead accumulates to levels that can be toxic to aquatic plants and wildlife and could also potentially affect the ability of stormwater to be reused in organics recycling. As such, the Project does not intend to apply salt to roadways for vehicle traffic and relies solely on plowing for snow and ice removal. The on-site vehicle traffic will be maintained at a slow speed (estimated at 5 to 10 miles per hour) for safety reasons, thereby removing the need for salt application. Limited sand or salt may be applied to pedestrian walkways around the office building. This amount of limited walkway sanding or salting in the winter season is not expected to present a concern relative to chloride accumulation in retained stormwater.

As stormwater treatment is aggressively designed to meet permit limits and estimates indicate that the potential for discharge events is low, environmental effects from stormwater discharges on receiving waters post construction are not expected. Overall, the Project is not anticipated to increase runoff volumes or discharge rates due to on-site water usage needs. If discharges were to occur, the potential change in pollutants would likely include an increase in Total Suspended Solids, depending on storm intensity, duration, and outfall location. As the climate change review indicates more rain and higher intensities, this potential for increased runoff volumes and discharge rates may increase over time. However, as the water balance is anticipated to be negative (water including stormwater will be used in the process and will need to be supplemented by well water), an increase in rain and higher intensities will initially drive the balance more towards a sustainable neutral state. An increased need for management of high intensity events through proactive stormwater storage capacity drawdown may also become required.

V. Existing System Performance

A. National Pollutant Discharge Elimination System (NPDES) violations

There are no known NPDES violations.

B. Safe Drinking Water Act violations

There are no known NPDES violations.

C. Other system problems

There are no known system problems.

CHAPTER 4: ANALYSIS OF ALTERNATIVES

I. Development of Alternatives

A. No-Action Alternative

Under the No-Action Alternative, the existing ORF would continue operating without any modifications or improvements.

The project goals and objectives were established with a focus on waste management, environmental sustainability, resource efficiency, and community benefits. The ORF's capacity may not be adequate to manage the projected increase in organic waste generated in the region. The existing facility's processing capabilities are limited, resulting in inefficiencies, longer processing times, and potential bottlenecks in waste management operations. This poses a challenge in meeting the efficient waste management objective.

The existing ORF does not incorporate renewable energy generation and fails to identify reuse programs that facilitate the recovery and utilization of valuable resources, such as water runoff or biogas. The absence of green infrastructure features, such as vegetative buffers, permeable surfaces, or stormwater management systems, limits the ORF's potential to minimize its ecological footprint.

B. Optimum utilization of existing facility

To achieve optimal utilization of the existing Organics Recycling Facility (ORF), the following strategies could be implemented, through retrofit updates and improvements.

Renewable Energy: Exploring opportunities for renewable energy production within the existing ORF may include installing solar, wind or using other renewable energy sources. Consideration of anaerobic digestion technology could convert organic waste into biogas, which can be utilized for heat or electricity generation.

Reuse Program Implementation: This would involve increasing the efficiency of and ability to facilitate water runoff collection, treatment, storing and reusing for other facility operations.

Water and Energy Efficiency Measures: Incorporating water and energy efficiency measures can include implementing technologies such as energy-efficient equipment, optimized lighting systems, and advanced water management techniques like rainwater harvesting or wastewater treatment and reuse.

Green Infrastructure: Integrating green infrastructure elements, such as green roofs or living walls, can improve insulation, reduce stormwater runoff, and provide additional habitat for wildlife. Establishing vegetative buffers around the facility can help mitigate noise, air, and visual impacts while promoting biodiversity and creating a more visually appealing environment.

C. New Construction Alternatives

The new construction alternative would involve designing and building a state-of-the-art facility at the proposed project site, providing a more robust solution for waste management, environmental sustainability, and community benefits.

The new construction alternative offers several features:

- **Increased Capacity:** The new ORF can be designed with a larger capacity to accommodate the projected increase in organic waste generated in the region. This ensures that the waste management needs of the community can be met effectively and efficiently.
- **Advanced Technologies:** The new ORF can incorporate advanced technologies for waste processing, such as anaerobic digestion or other innovative methods, to optimize the conversion of organic waste into valuable resources. These technologies can improve efficiency, reduce processing times, and enhance overall waste management operations.
- **Renewable Energy:** By integrating renewable energy systems into the design of the new facility, the ORF can use and/or generate clean and sustainable energy to power its operations. This reduces reliance on external energy sources and contributes to the overall environmental sustainability of the facility.
- **Comprehensive Reuse Programs:** The new ORF can implement comprehensive reuse programs to maximize the recovery and utilization of valuable resources from organic waste. This may include the production and distribution of high-quality compost, utilization of biogas for energy generation, or other innovative reuse initiatives. These programs create a closed-loop system and contribute to a circular economy approach.
- **Enhanced Water and Energy Efficiency:** The new facility can incorporate advanced water and energy efficiency measures, including optimized equipment, efficient lighting systems, water conservation techniques, and sustainable water management practices. By reducing water and energy consumption, the facility minimizes its environmental impact and operational costs.
- **Green Infrastructure Integration:** The design of the new ORF can include the integration of green infrastructure elements, such as vegetative buffers, permeable surfaces, or stormwater management systems. These features help minimize the ecological footprint of the facility, improve stormwater management, enhance biodiversity, and create a more visually appealing environment.

D. Source reduction

Source reduction measures focus on minimizing the generation of organic waste at its source. The ORF could collaborate with businesses, households, and local communities to promote waste reduction practices, such as composting at home, reducing food waste, and encouraging sustainable consumption habits. A robust public information campaign would facilitate these efforts.

E. Non-structural and structural storm water system components

The proposed ORF could implement non-structural and structural stormwater management components to effectively manage and treat stormwater runoff. This may include green infrastructure features, such as the installation of sediment basins, bioretention systems, or constructed wetlands to capture and treat stormwater before it enters natural water bodies.

II. Alternative Screening (Include discussion for each Alternative)

A. Criteria for evaluating alternatives

The evaluation criteria for assessing the alternatives includes factors such as environmental impact, cost-effectiveness, feasibility, operational efficiency, scalability, community acceptance, and regulatory compliance.

B. Assigning weights for criteria

1. Present worth or equivalent annual cost

No-Action Alternative: Immediate costs are lower due to no modifications or improvements. Long-term costs may increase due to inefficiencies and limited capacity.

Preferred Alternative: Increased capital costs involved with new construction or retrofitting. Long-term cost savings through improved operational efficiency and energy generation.

2. Reliability

No-Action Alternative: Potential reliability concerns with limited processing capabilities and potential bottlenecks.

Preferred Alternative: Expected to offer improved reliability and performance with new or upgraded facility.

3. Complexity

No-Action Alternative: Relatively less complex as no significant changes or upgrades are involved.

Preferred Alternative: May have a higher level of complexity but can be achieved with careful planning and design.

4. Environmental factors

No-Action Alternative: Potential negative environmental impacts due to outdated technology and limited capacity.

Preferred Alternative: Emphasizes environmental sustainability and resource conservation.

5. Feasibility (constraints)

No-Action Alternative: Constrained by limited capacity and outdated infrastructure, hindering effective waste management.

Preferred Alternative: Feasibility dependent on factors such as land availability, infrastructure requirements, and regulatory compliance.

6. Flexibility

No-Action Alternative: Lacks flexibility in accommodating future needs and changes in waste management practices due to constrained footprint.

Preferred Alternative: Offers greater adaptability and flexibility to accommodate future needs and changing waste management practices.

7. Water/energy use comparison

No-Action Alternative: Lacks many of the innovative systems available for improved water and energy conservation.

Preferred Alternative: Potential for improved water and energy use efficiency through advanced technologies and sustainable practices.

III. Identification of Preferred Alternative

The preferred alternative for achieving the project goals and objectives is the New Construction Alternative, which involves the development of a state-of-the-art Organics Recycling Facility (ORF) at proposed project site. This alternative offers numerous advantages over the No Action Alternative including increased capacity to manage projected waste generation, integration of advanced technologies for efficient waste processing, renewable energy opportunities, implementation of comprehensive reuse programs to maximize resource recovery, incorporation of water and energy efficiency measures, and integration of green infrastructure elements for improved sustainability and ecological performance. The New Construction Alternative represents a comprehensive and forward-thinking solution that aligns with the project's objectives, providing a robust and environmentally friendly waste management facility for the community.

CHAPTER 5: EXISTING ENVIRONMENT (AS PERTAINS TO PROJECT)

I. Water Resources

A. Surface water hydrology and quality

The Site is directly adjacent to Gifford Lake, located to the west of the Project area. The Minnesota River is approximately 550 feet northwest of Gifford Lake, at its closest point. The center of the Project area is approximately 1,900 feet from the Minnesota River. The 100-year floodway/floodplain is depicted as the blue line on Figure 5A. Per the Minnesota MNDNR's Basin Shoreland Classifications - Updated 9/24/19, Gifford Lake (Lake ID 70011800) has a MNDNR and County Classification of "Natural Environment."

The Minnesota River is listed as infested by zebra mussels, an aquatic invasive species. The next closest infested water body is Courthouse Lake, located on the eastern side of downtown Chaska and about 1.3 miles north of the site. Courthouse Lake is infested with Eurasian watermilfoil.

Gifford Lake and the Minnesota River are not listed as Outstanding Resource Value Waters (ORVWs). Gifford Lake (AUID 70-0118-00) is not listed as a 303d impaired water. The Minnesota River (AUID 07020012-506) is listed as a 303d impaired water for mercury in fish tissue, mercury in the water column, polychlorinated biphenyls (PCBs) in fish tissue, nutrients and turbidity. A Total Maximum Daily Limit (TMDL) has been approved for mercury in fish tissue, mercury in the water column and turbidity.

Chaska Lake and Chaska Creek, located within 1 mile to the northwest, are not listed as ORVWs. Chaska Lake (AUID 10-0004-00) is not listed as a 303d impaired water. Chaska Creek (AUID 07020012-804) is listed as a 303d impaired water for fecal coliform. A TMDL has been approved for Chaska Creek for fecal coliform.

B. Ground water hydrology and quality

The Geotechnical Evaluation Report for the Project area indicates that the soil profile is conducive to creating perched conditions and zones of perched water could be encountered at variable depths across the site (Attachment M). It was reported that static groundwater was likely present below an elevation of 713 feet MSL (below approximately 12.5 feet below grade).

The Phase II ESA included the installation of two groundwater monitoring wells onsite (ORF-1 and ORF-2, both 23 feet deep). Groundwater was measured at approximately 14 feet below the top of the casing, or approximately 11 to 12 feet below grade. In addition, a groundwater monitoring well associated with the Louisville Landfill designed MW-116 (137 feet deep) was sampled and groundwater was measured at approximately 40 feet below grade.

According to the Minnesota Department of Health (MDH) Source Water Protection Web Map Viewer and the MPCA Petroleum Remediation Program Maps Online, the Project area is not located within a MDH wellhead protection area. The nearest wellhead protection area is the Shakopee Wellhead Protection Area (DWS ID 482) located to the east.

A summary of water wells at and adjacent to the Project area (domestic, public and monitoring, both verified and unverified) along with maps depicting the locations are included in

Attachment B. The wells are generally grouped as on-site, off-site and public water supply wells. There are fifteen wells listed as being located on the Project area (unverified).

The online log for the active Malkerson Sales well (Unique #206810) that is located just north of the Project area indicates that the well is cased to 188 feet below grade, that coarse gravel and stone extends to 150 feet followed by sand to 187 feet where shale is encountered and extends to 325 feet. Sandstone underlays the shale to the termination of the boring at 345 feet below grade. The online log for a sealed well (Unique #404661) located close to Gifford Lake along the south side of the property shows 9 feet of sand and gravel that is underlain by clay to 21 feet, fine sand to 23 feet, clay to 63 feet, then fine sand and sand to the termination of the log at 68 feet with a static water elevation of 8 feet. Logs for the ORF-1 and ORF-2 monitoring wells are included in Attachment B. Online well logs, in varying degrees of quality, for the numerous additional wells listed in Attachment B are available online.

C. Drinking water sources and supply

A municipal water supply is not currently available at the Project site. Therefore, SMSC has initiated the process to obtain a Water Appropriation Permit for groundwater usage, which is required for withdrawal of 10,000 gallons or more of groundwater per day, or 1 million gallons (MG) or more of groundwater per year. The permit will be for the appropriation of water through one new on-site water well. The MNDNR water appropriation permit ensures the well user manages water resources so adequate supply is available for long-range seasonal requirements for domestic, agriculture, fish and wildlife, recreation, power, navigation and water quality. State law establishes domestic use as the highest priority when water supplies are limited, and, when well interference occurs, the MNDNR follows a standardized procedure of investigation. The water appropriation volume needed for typical ongoing daily operations is 10 to 200 gpm; however, this amount will be reduced by the use of the stormwater collection and reuse system. Conservatively assuming zero gallons of stormwater collection and reuse, the estimated appropriation volume would then be approximately 4.3 to 86.7 MG annually for a total consumption of 216.7 to 4,334 MG over 50 years (based on 301 operational days per year).

In addition to domestic uses for the office and associated facilities as well as fire suppression purposes, the water will be used to maintain the proper moisture content in the compost material during the composting process. The volume of water needed for the composting process varies widely based on precipitation, temperature, and other factors. SMSCs estimated water use for the Project is:

- Approximately 150,000 gallons per year to fill the AST for fire suppression needs.
- Approximately 400 gpm, or full pumping capacity as allowed by the WAP and designed aquifer capacity, for fire suppression needs.
- Approximately 11.4 MG per year to supplement and maintain minimum water levels in the stormwater ponds during dry conditions.
- Approximately 20,000 gallons of water per day for windrow watering when stormwater is not available.
- Approximately 150 gallons of water per day for office building use.

Assessment of the size of a new water supply well is currently ongoing. One existing water supply well currently provides water to the Project site (believed to be unverified well #206810).

However, the condition of the existing well, pump and lines are unknown and generally sized for residential use and considered inadequate for the needs of the proposed Project. This well is off-site just to the north of the northern boundary.

As previously discussed, numerous other wells are located on and adjacent to the Project area. These wells include domestic water supply wells, industrial/commercial water supply wells and monitoring or test wells, both verified and unverified. A summary of these wells and their construction is included in Attachment B. Existing wells (#206810, #573107, #1000012090, scale house wells 1 & 2, and monitoring wells ORF-1 & ORF-2) that are not to be utilized will be properly abandoned, thereby reducing the current water appropriation potential. Additional on-site Louisville Landfill monitoring wells may be abandoned pending discussions with the MPCA's Closed Landfill Program.

D. Floodplains

The current 100-year flood plain is shown as the blue line on Figure 5A and as the area designed AE on the FEMA FIRM Map Set included as Figures 6A, 6B & 6C.

Because flooding of the Project area could have a significant impact on Gifford Lake water quality, and because Gifford Lake is part of the Minnesota River system and floodplain, the Project will avoid the 500-year floodplain. The 500-year floodplain is generally shown on Flood Insurance Study (FIS) at 728.0 feet NAVD88.

The Project regrading will result in all paved and operational areas at an elevation of 731.0 feet NAVD88 or greater (3 feet above the 500-year floodplain). In addition, the stormwater overflow will be at 728.5 feet NAVD88.

E. Wetlands

Wetlands near the Project site are shown on Figure 15. A Wetlands Delineation Report was completed for the Project site by Bolton & Menk, Inc., dated February 19, 2020. The Wetlands Delineation Report did not identify any direct or indirect impacts to aquatic resources (wetlands, lakes, tributary, etc.). Therefore, it is not anticipated that the Project will physically affect or alter wetlands or have environmental effects on existing wetlands.

II. Physiography, Topography, Geology, and Soils

Geology

According to the Geologic Atlas for Scott County (Atlas C-1, 1982), the unconsolidated deposits are Lower Terrace deposits that are approximately 200 feet thick and consist of an undulating erosional and depositional surface covered by at least 1.5 feet of fine, wind-deposited sand and silt and locally by stream-deposited sandy, silty clay. The surface is 30 to 50 feet above present flood plain. The terrace is cut into outwash deposits, ice-contact stratified drift, till, and bedrock. Deposits of clean sand occur locally.

The first encountered bedrock is the St. Lawrence Formation which consists of silty dolomite interbedded with siltstone, soft shale, and very fine grained quartzose sandstone. This bedrock unit is 45 to 60 feet thick.

Numerous wells are located on and adjacent to the Project area that can help provide a description of the geology. These wells include domestic water supply wells, public water supply wells and monitoring or test wells, both verified and unverified. A summary of these wells and their construction is included in Attachment B. The online log for a sealed well (Unique # 404661) located close to Gifford Lake along the south side of the Project area shows 9 feet of sand and gravel that is underlain by clay to 21 feet, fine sand to 23 feet, clay to 63 feet, then fine sand and sand to the termination of the log at 68 feet with a static water elevation of 8 feet. The online log for the active Malkerson Sales well (Unique # 206810) that is located just north of the property indicates that coarse gravel and stone extends to 150 feet followed by sand to 187 feet where shale is encountered and extends to 325 feet. Sandstone underlays the shale to the termination of the boring at 345 feet below grade.

The Limited Phase II Environmental Site Assessment Report (Phase II ESA) completed by Nova Group GBC dated February 13, 2020, indicated that the soil lithology encountered at the site consisted primarily of silty sand with varying amounts of gravel to 23 feet. Competent bedrock was not encountered in any of the borings advanced at the site to 23 feet. The Phase II ESA is included as Attachment C.

Braun Intertec completed a Geotechnical Evaluation Report for the Project area dated January 2, 2020 (Attachment M). The soil descriptions provided in that report indicated that there was between 0 to 4 feet of topsoil fill composed of silty sand, clayey sand, and lean clay. The topsoil fill is underlain by variable thicknesses of fill that contains poorly graded silty sand, silty sand, clayey sand, lean clay and peat. The fill is underlain by alluvium that consisted of poorly graded sand, poorly graded silty sand, silty sand and silt over clay. Glacial deposits are below the alluvium and consist of lean clay and clayey sand. The deepest boring in the report is ST-2 completed to 56 feet. The log for ST-2 lists sandy lean clay to 53 feet sandy silt to 56 feet.

Based on a review of the Minnesota Karst Lands map (E. Calvin Alexander Jr., Yongli Gao and Jeff Green), karst conditions do not exist on the Project site (Figure 9).

A majority of the Project area has undergone historical mining and restoration in the past from approximately 1966 to 1984, with restoration likely completed in 1991 or 2003. These activities have altered the surface soils and site grades. Based on discussions with prior landowners, the Project area was mined for sand and gravel. The restoration of the Project area did not include the use of fill from off site, the area was graded even at the existing elevation with a slight slope towards Gifford Lake, resulting in the current ridge along the southwest. Therefore, the vertical extent of the mining is essentially the current grade elevation, potentially raised during the restoration grading. Attachment A provides a series of aerial photos depicting the property before mining in 1951, the potential land disturbance or site conditions in 1966, 1972, 1975, 1984, and the restored property in 1991 or 2003. These photos provide the best available documentation of the duration and horizontal extent of the mining operations.

Susceptible geologic features such as those listed above were not identified in the Project area.

Soils and Topography

According to the US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey of Scott County, the soils at the usable portion of the Project area are classified as Estherville sandy loam (EaB), Salida gravelly sandy loam (EbB), Dickman sandy loam (DdB), Sparta loamy fine sand (HeC) and Estherville loam and sandy loam (EaA). A soils map from the USDA NRCS depicting the soil types at the site is included as Figure 10.

The United States Geological Survey (USGS), Shakopee, Minnesota, Quadrangle 7.5-minute series topographic map, published in 1981 was reviewed for this EID. According to the topographic map, the majority of the Project site is located approximately 752 feet above mean sea level (MSL).

Site topographical survey work conducted at the Project area indicates the usable portion of the Project area is at approximately 720 to 760 feet AMSL, generally sloping down from the east to the west. In the southern portion of the Project area, topography slopes to the south to a depression area. The majority of the usable portion of the Project area is generally level with a ridge rising up to a railroad track grade along the southeast side of the Project area and a wooded area sloping down to Gifford Lake along the northwest side of the Project area. A section of the ridge along the southeast side of the Project area that juts out to the northwest, centered on the old scale house, may be partially removed to increase useable acreage. Other impacts to soil or topography, beyond common grading activities and building footing/foundation construction activities, have not been identified.

The Phase II ESA indicated that the soil lithology encountered at the Project area consisted primarily of silty sand with varying amounts of gravel. Groundwater was not encountered in soil borings GP-1 or GP-2 but measured at approximately 14 feet below the top of the casing, or approximately 11 to 12 feet below grade, at the two groundwater monitoring wells (ORF-1 and ORF-2) onsite. Competent bedrock was not encountered in any of the borings advanced at the site to 23 feet below grade.

The soil descriptions provided in the Geotechnical Report (Attachment M) indicated that there was between 0 to 4 feet of topsoil fill composed of silty sand, clayey sand, and lean clay. The topsoil fill is underlain by variable thicknesses of fill that contains poorly graded silty sand, silty sand, clayey sand, lean clay and peat. The fill is underlain by alluvium that consisted of poorly graded sand, poorly graded silty sand, silty sand and silt over clay. Glacial deposits are below the alluvium and consist of lean clay and clayey sand. The deepest boring in the report is ST-2 completed to 56 feet. The log for ST-2 lists sandy lean clay to 53 feet sandy silt to 56 feet. The sandy silt was wet at 55 feet. Groundwater was encountered in 4 of the 10 borings based on observations of wet soil which ranged in depth from 2.5 to 55 feet below grade (2.5, 7, 15 & 55 feet). The report indicated that the soil profile is conducive to creating perched conditions and zones of perched water could be encountered at variable depths across the Project area. It was reported that static groundwater was likely present below an elevation of 713 feet MSL (below approximately 12.5 feet below grade).

The most extensive soil excavation activities, beyond the grading and potential partial ridge removal, will be associated with construction of the contact water and stormwater ponds along the northwest boundary of the useable portion of the Project area. The estimated volume of soil excavation is currently unknown. The acreage of grading may include up to the entire 92.74 usable acres. Construction excavation and grading will be conducted using proper erosion and sediment control measures and the Project area will be stabilized upon completion of construction to manage impacts from project activities.

III. Federally Endangered and Threatened Species

A federal regulatory review was conducted using the USFWS online Information of Planning and Consultation (IPaC) tool. This IPaC tool includes a project area search and a determination key for applicable species. The IPaC tool identified the Northern Long-eared Bat and the Rusty Patched Bumble Bee as Federally threatened and endangered species, respectively. The IPaC tool also identified the Monarch Butterfly which is listed as a Candidate species. A Candidate species is any species whose status is currently being reviewed to determine whether it warrants listing under the Endangered Species Act.

IV. Air Quality

For a detailed discussion of air quality impacts and associated mitigation measures related to the proposed Project, please refer to Chapter 6.I.A.3. and Chapter 6.II.B.

V. Environmental Justice Information

According to the EPA's Environmental Justice Screening and Mapping Tool (EJScreen), approximately 51 percent of the population located within a 1.0-mile radius of the Project is considered Low Income, and approximately 54 percent of the population located within a 1.0-mile radius of the Project is considered Minority or People of Color (EJScreen Data Source: U.S. Census Bureau, American Community Survey 2017-2021). For more information, please refer to the EJScreen Community Report, which can be found in Attachment O.

VI. Land Use and Development, Percent Impervious Cover, Pollutant Sources

Land Use

Currently, the Project area is developed with several vacant structures estimated to have been constructed between the late 1800's and the 1980's. The majority of the Project area is currently vacant. The southern portion of the Project area is used for growing grass/hay and seasonally used as overflow parking for the Minnesota Renaissance Festival. The Project area is bound to the north by a riding arena and track with Trunk Highway (TH) 41 beyond; to the east by Union Pacific Railway with undeveloped land and a MNDOT Truck Station beyond to the northeast and Dem Con Landfill beyond to the southeast; to the south by agricultural and wooded land; and to the west by Gifford Lake which is part of the Minnesota Valley State Recreation Area (Figure 3 and Figure 16).

The Scott County 2040 Comprehensive Plan, adopted by the Scott County Board of Commissioners on June 18, 2019, included a recommendation to undertake a study to determine if bringing back a Heavy Industrial (I-2) zoning district is warranted. Based on this recommendation, the Project location (previously zoned Commercial/Industrial, I-1 Rural Industrial) was recommended to be re-zoned as Heavy Industrial (I-2). The Planned Land Use diagram from the Scott County 2040 Comprehensive Plan is included as Figure 7 and the Scott County Zoning Districts map is included as Figure 8. The County Board adopted the recommended re-zoning of the Project location as Heavy Industrial (I-2) on August 18, 2020.

In accordance with the Scott County Zoning Districts map (with updated adopted on August 18, 2020), the Project area is zoned as Heavy Industrial (I-2) District. The Scott County Zoning Districts map is included as Figure 8. Other overlays including the ordinary high water (OHW) mark and 100-year floodplain are provided on Figure 12.

Cover Types

Table 5 depicts the estimated acreage of land cover types within the project area before and after the implementation of the proposed Project.

Table 5: Cover Types

Cover Types	Before (est. acres)	After (est. acres)
Wetland and shallow lakes (<2 meters deep)	No Change	No Change

Cover Types	Before (est. acres)	After (est. acres)
Deep Lakes (>2) meters deep	No Change	No Change
Wooded/forest	35-40	20-25
Rivers/streams	No Change	No Change
Brush/Grassland	35-40	5-10
Cropland	0	0
Livestock rangeland/pastureland	0	0
Lawn/landscaping	2-4	4-8
Green infrastructure TOTAL (from table below)	0	0.7
Impervious Surface	9.0	46.9
Stormwater Pond	0	2.1
Other (developed)	15-20	35-40
Total	125.35	125.35

Pollutant Sources

A Phase I Environmental Site Assessment (ESA) was completed for the entire footprint of the ORF property, including the Project area, by Nova Group, GBC, dated October 14, 2019 (Attachment E).

The Phase I ESA indicates that the Project area was utilized as farmland from at least 1938, then as a gravel pit from at least 1966 to 1991, with full restoration in 2003.

The ORF property and Project area were recently used for farming, horse stables, the Minnesota Renaissance Festival offices, and the Trail of Tears exhibit. The majority of the Project area is currently vacant. The southern portion of the Project area is used for growing grass/hay and seasonally used as overflow parking for the Minnesota Renaissance Festival.

The Phase I ESA identified six underground fuel storage tanks registered to Malkerson Farms that were removed from along the northeast boundary of the Project area in December of 1993. The underground storage tanks included one 10,000-gallon diesel tank, one 10,000-gallon gasoline tank, two 500-gallon used oil tanks, one 500-gallon gasoline tank, and one 265-gallon gasoline tank. Petroleum impacted soil was identified during the tank removals and a release was reported to the MPCA (MPCA Leak #7036). Excavation and off-site treatment of the petroleum impacted soil was completed as a corrective action. The MPCA closed the release file in November of 1996.

The Phase I ESA also identified one 500-gallon diesel aboveground storage tank, one 500-gallon gasoline aboveground storage tank and one 250-gallon used oil aboveground storage tank located on the Project site. In addition, one underground septic tank that received liquid from a shop floor drain was identified.

The Phase I ESA also presents the results of a review of the MPCA *What's in My Neighborhood* (WIMN) website along with a discussion regarding the potential to impact the Project site. An updated WIMN

review conducted in January 2023 is also provided in Attachment E. The reviews identified the Louisville Landfill, a closed municipal solid waste landfill located to the south-southeast that operated from 1968 to 1990. The former Louisville Landfill has been managed within the MPCA's Closed Landfill Program since 1999 and has a landfill gas mitigation system that has operated intermittently over the past years. Groundwater contamination is known to exist at the closed landfill and groundwater monitoring is currently ongoing. The closed landfill is believed to be located in the hydraulically upgradient direction relative to groundwater flow.

The Phase II ESA included the advancement of soil borings and the installation of groundwater monitoring wells for the collection of soil and groundwater samples (Attachment C). The sampling results did not indicate the presence of the analyzed contaminants in excess of regulatory limits. The Louisville Landfill has been identified to contain PFAS contamination in groundwater. PFAS was detected in seven of twelve active landfill groundwater monitoring wells at concentrations up to 22 times the state's health-based values (limits). The closed landfill is believed to be located in the hydraulically upgradient direction relative to groundwater flow so that contaminated groundwater may flow towards and beneath the Project site.

As part of the Phase II ESA, groundwater samples were collected from three on-site groundwater monitoring wells (ORF-1, ORF-2, and MW-116) and analyzed for select PFAS and volatile organic compounds (VOCs). As indicated above, this analysis did not indicate the presence of the analyzed contaminants in excess of MDH regulatory criteria for those compounds with a health risk limit (HRL). More specifically, PFAS compounds were not detected in SMSC monitoring wells ORF-1 and ORF-2 (groundwater depth of approximately 11 to 12 feet below grade). PFAS compounds were detected, but below MDH regulatory criteria for those compounds with a HRL, in Louisville Landfill monitoring well MW-116 (groundwater depth of approximately 40 feet below grade). This indicates that PFAS compounds do appear to be present on the Project site in deeper groundwater resources at lower concentrations than generally reported at the Louisville Landfill. This may be due to the location of MW-116 being at the leading edge or side-gradient to groundwater potentially migrating from the Louisville Landfill.

In addition to groundwater monitoring well MW-116, additional monitoring wells located on SMSC ORF property associated with the Louisville Landfill include monitoring wells MW-111, 114 and 211 (151597, 433619, and 433615). Based on data provided to Nova by the MPCA, PFAS sampling has not been completed at these monitoring wells through 2019. A review of sampling completed by the MPCA at monitoring well MW-116 did reveal past PFAS sampling in 2006 and 2019. The 2006 sampling did not indicate the presence of detectable PFAS compounds in groundwater collected at MW-116. The 2019 sampling did indicate the presence of detectable concentrations of PFAS compounds in groundwater collected at MW-116, but the reported concentrations were below MDH regulatory criteria for those compounds with an HRL.

The groundwater contamination detected to date at the ORF exists in relatively shallow groundwater resources (approximately 40 feet below grade) as compared to water resources to be used for the ORF. The well to be installed at the site is to be drilled and cased into the much deeper Wonewac (Tunnel City) aquifer, located at approximately 300+ feet below grade. The Wonewac (Tunnel City) aquifer is separated from the shallow water table by a hard clay layer starting at approximately 140 feet below grade which is underlain by bedrock starting at approximately 200 feet below grade extending to approximately 311 feet below grade. The newly installed well will be cased from the ground surface through these upper soils and bedrock to a depth of approximately 320 feet below grade. Based on the on-site geology and planned well construction details, concerns regarding drawing down the relatively shallow contamination to the Wonewac (Tunnel City) aquifer is very low. Please note that the MNDNR

will make a final review and determination on this issue as well as others as part of the water appropriation permitting process.

The groundwater at a depth of approximately 40 feet below grade potentially impacted by leachate from Louisville Landfill is not anticipated to be encountered or disturbed during construction or operation. As indicated in Chapter 5.I.C. and above, installation of a water supply well will be pre-coordinated and permitted through the MNDNR and will be cased into a deeper water resource.

All construction will be completed in accordance with MPCA Permits and Scott County Conditional Use Permit. Any contamination or debris remediation and removal not covered by applicable permits will be completed in accordance with all local and state requirements.

CHAPTER 6: ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES FOR PREFERRED, NO ACTION, AND ALTERNATIVES

I. Impacts and Mitigation

A. Direct impacts and associated mitigation measures

The types of impacts that may reasonably be expected to occur from the Project include the following:

1.Surface water quality impacts related to stormwater runoff

SMSC will obtain an MPCA National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) General Construction Stormwater Permit (CSW Permit) prior to construction of the Project.

The CSW Permit will require SMSC to develop and implement a Stormwater Pollution Prevention Plan (SWPPP) to prevent erosion and control sediment using best management practices (BMPs) to mitigate stormwater impacts. The CSW Permit will require additional BMPs to protect downstream impaired waters. Additionally, an Industrial Stormwater Permit (ISW) is anticipated to manage all precipitation up to the volume from the 100-year flood design (the required design per MN Statute is a 25-year, 24-hour event).

The following impaired waters are within one mile of the Project:

Table 6: Impaired Waters Located within One Mile of the Project

Impaired Water	Impairments	Impaired Use	Location
Minnesota River Carver Creek to RM 22	Mercury in fish tissue, Mercury in Water Column, Turbidity, Nutrients, PCB in fish tissue	Aquatic Life, Aquatic Consumption	1 mile downgradient, west of Project
Chaska Creek	Fecal Coliform	Aquatic Recreation	1 mile northwest

The majority of the Project area will operate under an NPDES/SDS Industrial Stormwater permit (ISW Permit) issued by the MPCA and in accordance with the SWPPP. The Project will include construction and operation of one contact water reclamation building and two stormwater basins. The stormwater basins will serve as permanent stormwater management BMPs that provide stormwater quality and quantity control to mitigate the increased stormwater volume created by the Project.

The Project, as proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of impacts to surface water quality related to stormwater runoff, which are reasonably expected to occur. However, if they were to occur, SMSC must modify operations and management of the Project according to its ISW Permit. Therefore, the MPCA found impacts to surface water quality to be reversible.

2. Groundwater impacts related to groundwater appropriation

SMSC will install one new well estimated to use approximately 4 to 87 million gallons (MG) per year for a total consumption of 217 to 4,334 MG over 50 years.

The Project requires a Water Appropriation Permit from the MNDNR. The MNDNR is the permitting authority for appropriating waters of the state in Minnesota. The MNDNR Water Appropriation Permit allows for a reasonable use of water if the use does not negatively impact surrounding wells or other water resources. The purpose of the Water Appropriation Permit is to ensure water resources are managed so that adequate supply is available for long-range seasonal requirements for domestic, agricultural, fish and wildlife, recreational, power, navigational, and water quality.

The MNDNR conducted a preliminary well construction assessment (PWCA) for a proposed test well at the Project site in the Jordan aquifer and identified several instances of well interference in the area (see Attachment D).

On May 27, 2022, SMSC drilled a 320-foot test well on the Project site. The actual location of the test well was moved from the location originally assessed in the PWCA to that shown on Figure 5A and the test well extended to the Wonewoc (Tunnel City) aquifer. SMSC subsequently conducted a specific capacity test to determine the capacity of the aquifer to meet the groundwater pumping rate needed for the Project. This test well was subsequently sealed on May 31, 2022.

SMSC will install a new production well on the Project site with oversight from the MNDNR through the Water Appropriation Permit process.

To date, SMSC has not submitted a Water Appropriation Permit application to the MNDNR for the proposed new well. This will be applied for following well drilling and test pumping.

The MNDNR has yet to determine if an aquifer test is needed for this Project to determine aquifer sustainability.

The MNDNR Water Appropriation Permit balances competing management objectives, including both the development and protection of water resources. Minn. Stat. § 103G.261 establishes domestic water use as the highest priority of the State's water when supplies are limited. If a well interference arises, the MNDNR has a standard procedure for investigating the matter (Minn. R. 6115.0720). Where adverse well interference impacts on the domestic well are substantiated, the MNDNR will notify the permit holder of the facts and findings of the complaint evaluation. The permit holder then has 30 days from communication of the substantiation to choose from one of the following three options:

- Request restrictions to their permit to no longer adversely affect the domestic wells.
- Negotiate a reasonable agreement with the affected well owner.
- Request a public hearing.

No pumping may commence until a settlement, negotiation, or hearing is satisfied, and the permittee shall be responsible for all costs necessary to provide an adequate supply with the same quality and quantity as prior to the interference.

The MNDNR water appropriation permit will require SMSC to address and mitigate any potential groundwater impacts. All potentially significant environmental effects, if any, confirmed through an aquifer test, will be addressed, and mitigated by MNDNR's ongoing regulatory authority through its Water Appropriation Permit process.

The MNDNR will determine whether the aquifer can sustainably provide the requested appropriation of 4 to 87 MG of water per year. MNDNR will review the analysis and evaluate potential pumping impacts to nearby domestic and municipal wells, existing high-capacity users, surface water features, and aquifer safe yield that will be documented in a report for MNDNR Permitting staff. The MNDNR Water Appropriation Permit allows for a reasonable use of water if the use does not negatively impact surrounding wells or other water resources.

SMSC must receive the required MNDNR Water Appropriation Permit before using the proposed new production well at the Project site.

The MNDNR exercises ongoing regulatory authority and oversight of the permitting of water appropriation for the Project which was considered in the state-level EIS-Needs decision per Minn. Rules 4410.17400, subp. 17(C). If the MNDNR determines there is well interference based on concerns or well interference claims, they will be mitigated by MNDNR, through its water appropriation permit process.

The impacts on groundwater related to groundwater appropriation that are reasonably expected to occur from the proposed Project have been considered during the review process and methods to prevent significant adverse impacts have been developed. The Project, as it is proposed, is not anticipated to have the potential for significant environmental effects based on the type, extent, and reversibility of groundwater impacts related to water appropriation that are reasonably expected to occur from the Project. Any groundwater impacts related to groundwater appropriation that may occur from the Project are anticipated to be reversible.

3. Air quality impacts

The operation of the Project will generate air emissions from composting, material unloading/loading, grinding, screening, roadway emissions, and fuel combustion by various types of equipment.

SMSC has applied for an MPCA Air Emissions Permit (Air Permit) that will contain enforceable permit limits and requirements to ensure the Project will comply with state and federal applicable requirements.

SMSC conducted refined air dispersion modeling using American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) to estimate criteria air pollutant concentrations from the Project.

SMSC also conducted an Air Emissions Risk Analysis (AERA), which predicted the hazardous air toxic pollutant emissions from the Project.

The results of the refined air dispersion modeling and AERA concluded the Project will not adversely impact air quality, that the air emissions from the Project would meet the National Ambient Air Quality Standards (NAAQS) and would not pose any acute inhalation health hazards or any sub-chronic or chronic multi-pathway health hazards to

the public. Furthermore, the proposed Project would not pose significant excess lifetime cancer risks to the public. The results presented in the AERA show that the health risks and hazards for the Project meet the thresholds set by the Minnesota Department of Health.

With respect to the reversibility of air quality impacts that are reasonably expected to occur from the Project, air emissions will continue while the Project remains in operation and would cease only if the Project were to temporarily or permanently close. While in operation, the Project is expected to meet applicable air quality standards and criteria. If excessive air emissions or violations of the ambient air standards were to occur, air quality impacts are likely to be temporary in nature and because of ongoing regulatory oversight, corrective measures would be implemented. Such measures could include requiring the Project owner or operator to make physical or operational changes to ensure compliance with all applicable requirements.

The information presented in the environmental review record is adequate to address the concerns related to air emissions. The Project, as it is proposed, is not anticipated to have the potential for significant environmental effects based on the type, extent, and reversibility of impacts related to air emissions that are reasonably expected to occur from the Project. The impacts related to air emissions that are reasonably expected to occur from the proposed Project have been considered during the review process and methods to prevent significant adverse impacts have been developed.

4.Odor

SMSC will prohibit acceptance of materials with high odor potential.

The Covered Aerated Static Pile (CASP) composting process is designed to minimize, capture, and treat odors. SMSC will implement additional odor suppression technology including the installation of portable odor mitigation fogging units, and the contact water and stormwater pond will have an aeration system to further minimize odors. These are expected to mitigate odors from the Project.

The Project is not expected to contribute significantly to adverse cumulative potential effects on odors.

5.Traffic

The Project is estimated to generate 184 additional trips on the transportation system. The peak trips generated from the Project are estimated to occur off peak of the adjacent roadway system.

A traffic review was completed (Attachment H) to estimate future traffic levels on the private roadway generated by the Project, possible future development on two lots adjacent to the Project, the Minnesota Renaissance Festival, and possible future mining operations at the Merriam Junction Sands (MJS) facility.

SMSC proposes to make intersection improvements, including construction of turn and by-pass lanes prior to completion of the Project to provide storage capacity for vehicles accessing the Project area and mitigate delay on the regional transportation system.

The Project is not expected to contribute significantly to adverse cumulative potential effects on traffic.

B. Indirect or secondary impacts of future growth and development

1.Greenhouse gas (GHG) emissions

The Project will directly and indirectly release GHG emissions, which can widely disperse within the atmosphere, and which vary both in terms of their global warming potential and their persistence in the atmosphere.

To provide a common unit of measure, the individual global warming potential of methane and nitrous oxide is used to convert to carbon dioxide equivalency (CO₂e).

Using applicable emission factors, the Project will release 397.4 tons per year of Scope 1 and Scope 2 CO₂e, including mobile sources (Attachment K).

There are no Minnesota or National Ambient Air Quality Standards for GHGs.

Currently, there are no federal or Minnesota thresholds of GHG significance for determining impacts of GHG emissions from an individual project on global climate change.

In the absence of a threshold of GHG significance, the Minn. R. 4410.4300, subp. 15(B), establishes a mandatory category requiring preparation of an environmental review for stationary source facilities generating 100,000 tons per year (TPY) of GHGs. On the premise of GHG emissions, environmental review regulations establish 100,000 TPY as a “trigger” to aid in determining potential significant environmental effects. A reasonable conclusion is that the Project’s GHG emissions below 100,000 TPY are not considered significant.

Information presented in the environmental review record is adequate to assess potential GHG impacts that are reasonably expected to occur from the Project.

The Project, as proposed, does not have the potential for significant environmental effects based on the type, extent and reversibility of impacts related to emissions of greenhouse gasses, which are reasonably expected to occur.

2.Unavoidable adverse impacts

Direct impacts that would result from the proposed Project are detailed in Chapter 6.I.A. Throughout the implementation of the proposed Project, the MPCA and SMSC will coordinate with local, state, and federal agencies and stakeholders to ensure that all identified environmental impacts are mitigated to the fullest extent possible, and no significant adverse impacts are anticipated to result from the proposed Project.

II. Cross-Cutter Environmental Laws (Coordination and Consultation Process)

A. Archeological resources

An Archaeological Literature Review was conducted on behalf of the SMSC for approximately 330 acres that includes the ORF site. The review, presented in the “Phase IA Literature Review for Current SMSC Land, Louisville Township, Scott County, Minnesota” (Archaeological Literature Review) report dated June 2021, prepared by Bolton & Menk, includes protected information and is not included in this public environmental review document. The Archaeological Literature Review indicates that the original 69 acres as well as the expanded 125 acres has a low potential for archaeological deposits and does not have a high potential to contain intact soils due to historical mining extents and previous disturbance due to mining and residential activities. The review does not recommend an archaeological field survey for the ORF area. The SMSC will implement an Inadvertent Discovery Plan in case any unanticipated discoveries are made during construction.

Please note that this Project is not regulated under Section 106 of the National Historic Preservation Act of 1966 and 36 CFR § 800.

B. Air quality

Air emission source evaluation and inventory

Air emission sources at the ORF will primarily include composting, material unloading/loading, grinding, screening, roadway emissions, and fuel combustion by various types of equipment. Composting emissions will be comprised of both primary Covered Aerated Static Pile (CASP) composting and windrow curing phases. Unloading and loading will be comprised of raw organic material (yard waste, woody material, and pre- and post-consumer food waste) unloading/receipt and loading of bulk finished compost products for off-site transport. Grinding and screening will include the operation of up to two grinders and one screener for mixed and unmixed yard waste, woody material and pre- and post-consumer food waste at various stages of the process. Roadway emissions will include raw organic material delivery and finished product transport. Equipment fuel combustion will include the operation of diesel-fired engines associated with the grinders, screener, front end loaders, generator and other on-site equipment.

An evaluation and inventory of air pollutant emissions (PM, PM10, PM2.5, VOC, NOx, SO2, CO), hazardous air pollutants (HAPs), greenhouse gases (CO2e) and others has been completed for the ORF. The evaluation included the calculation of estimated annual facility-wide Potential to Emit (PTE) values, which represent theoretical worst-case emissions (known to be unobtainable). These values are used to determine air permit applicability and proper air

permitting category. Estimated actual controlled and limited annual emission rates were also calculated. Emission controls are provided for the primary CASP composting process and limits are imposed by the solid waste permit at 172,500 tons per year.

The emission control equipment to be utilized for the primary CASP composting process includes biolayers and biofilters. The CASP composting process utilizes fans to move air through the bunkered compost in both negative and positive modes. During negative flow, air is drawn into and down through the bunkers and is discharged through biofilter beds. During positive flow, air is driven from below out through the bunkers and then discharged through the biolayers that cover and encapsulate the bunkered compost.

The emission calculations were completed using established emission factors for the emission sources listed above with the exception of the composting process. A review of available emission factors (for VOCs) was completed and submitted to the MPCA within an Applicability Determination Request on December 11, 2020. The available emission factors are primarily from composting operations in California and are documented in California Air Resources Board (CARB) or local Air Quality Management District and Air Pollution Control District (Bay Area, San Joaquin Valley, etc.) air permits and associated stack tests. Available emission factors apply to two types of composting, turned windrow static piles (rows of composting material that are mechanically turned) and covered aerated static piles (bunkers of composting material that have air driven through the piles with fans). The covered aerated static pile (CASP) composting process, the same process to be used at the ORF, has been documented to generate VOCs at lower rates. More information is at <https://calrecycle.ca.gov/organics/air/#Compost>.

Based on a review of the December 11, 2020, Applicability Determination Request, the MPCA issued a determination on March 30, 2021, requiring that SMSC utilize an emission factor of 3.58 pounds VOC per ton of compost throughput for permit applicability. SMSC intends to propose VOC pollution controls on the composting process in an individual state air emissions permit application.

The emission factors and air modeling for the site is governed by an MPCA Air Permit process to assure compliance with all laws and regulations. The factors and modeling assumptions have been agreed upon with the permitting agency and will be subject to final approvals via the Air Permit process that the Owner will obtain as required for this site.

Air assessment

In addition to the emissions calculations to quantify air emissions and facilitate the air permitting, an Air Assessment has been completed for the ORF following the “MPCA Environmental Review Unit air assessment practices” document. The Air Assessment included the completion of criteria pollutant air dispersion modeling to assess the impact on air quality relative to the National Ambient Air Quality Standards (NAAQS) and an Air Emission Risk Analysis (AERA) to assess the impact to receptors from toxic pollutant emissions (HAPS and other air toxics). The Air Assessment provides an evaluation of effects to air quality on sensitive receptors, human health and applicable regulatory criteria. The Air Assessment is comprised of two primary parts, the criteria pollutant (NAAQS) analysis and the AERA.

Air Dispersion Modeling

SMSC submitted the latest version of the air assessment in the form of an Air Modeling Protocol was submitted to the MPCA on June 21, 2022, which was conditionally approved by the MPCA on July 28, 2022.

In addition to the proposed emission rates presented in the following section for CO, NO_x, SO₂, PM₁₀, PM_{2.5} and HAPs, emission rates for VOC, PM and CO_{2e} are presented in Table 7 below. These are not included in the following section as they were not directly modeled. In both tables, the listed emissions represent the maximum annual controlled emissions based on the ORF's control equipment and proposed permitted annual throughput of 172,500 tons per year, with some select equipment operating up to 8760 hours per year (24 hours/day, 365 days/year).

Table 7: Proposed Maximum Potential to Emit (PTE) Facility Emission Rates

Pollutant	TOTAL Proposed PTE (tons/year)
Volatile Organic Compounds (VOCs)	46.5
Particulate Matter (Total)	10.5
Carbon Dioxide Equivalent (CO _{2e})*	62,791

**Please note that these emissions are maximum direct emissions from on-site sources (diesel engines) in part assuming 8760 hours of operation per year (24 hrs/day, 365 days/year) and are not equivalent to the greenhouse gas footprint calculation methodology used in this EID document.*

Additional supporting information for the data contained in the remainder of this section is included in Attachment I and Attachment J.

The ORF air emission sources are primarily surface-based fugitive operations including loading and unloading of mulch and compost piles, material screening, fugitive dust from raw material (e.g., compostable material) delivery traffic on paved roads, unloading and processing raw material to be composted, and aerated static piles and windrowing of composting material. Additional emissions associated with fuel combustion include space heating of the maintenance building and tailpipe emissions from off-road diesel equipment like the screener, grinder, and windrow turner. Table 8 lists the project's potential to emit (PTE) emission rates for criteria and hazardous air pollutants (HAP; as identified in Section 112 of the Clean Air Act). The emission rates represent the maximum PTE rates for a controlled annual throughput of 172,500 tons/year of organic material. Attachment I, Figures 1 and 2 identify the modeled emission sources and fence line at the SMSC project. The emission calculation methodology and references by source are included in the emission inventory spreadsheet included in the Air Quality Dispersion Modeling Report submitted to the MPCA (Attachment I).

Table 8: Proposed Maximum Potential to Emit (PTE) Facility Emission Rates

Pollutant	TOTAL Proposed PTE (tons/year)
Carbon Monoxide (CO)	77.11
Nitrogen Dioxide (NO _x)	67.9
Sulfur Dioxide (SO ₂)	0.10
Particulate Matter less than 10 microns (PM ₁₀)	6.0
Particulate Matter less than 2.5 microns (PM _{2.5})	4.7
Total Hazardous Air Pollutants (HAPS)*	1.12

**Hazardous air pollutants as identified in Section 112 of the Clean Air Act.*

An air assessment is required to demonstrate that the project meets all applicable criteria pollutant standards and that the air toxics emissions (including HAPs) meet Minnesota human health guidelines for short- and long-term exposure. The following paragraphs describe the dispersion modeling analysis and results.

Both the criteria pollutant analysis and Air Emission Risk Assessment (AERA) were modeled using the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) using the MPCA processed 2016-2020 Flying Cloud Airport meteorological dataset (Attachment J). The modeling results presented in Tables 9, 10 and 11, respectively, reflect the methodologies described in this protocol. Both air assessment receptor grids follow current MPCA air dispersion modeling practices¹ for spacing and maximum extent (distance) of receptors from the Project. MPCA AERA guidance recommends a receptor grid maximum extent of 1.5 km (projects with stacks less than 50 meters). Attachment I, Figure 3 shows the modeled receptor grid focused on the immediate area surrounding the SMSC project with the sensitive population receptors identified.

The first step of the Air Assessment Practices requires the combined background air concentration (based on a representative air quality background pollutant values) plus the respective Significant Impact Level (SIL) to be less than or equal to 90% of the National Ambient Air Quality Standards (NAAQS). Table 9 confirms that the air quality background plus SIL values for all applicable pollutants and averaging periods is less than 90% of their NAAQS. The next step was to model the Project to demonstrate they are below the applicable SIL.

Table 9: Background Value Plus Significant Impact Level (SIL) Compared to 90% of the National Ambient Air Quality Standard (NAAQS)

Pollutant	Averaging Period	SIL ($\mu\text{g}/\text{m}^3$)	Background Value ($\mu\text{g}/\text{m}^3$)	SIL + Background Value [*] ($\mu\text{g}/\text{m}^3$)	NAAQS/MAAQS ($\mu\text{g}/\text{m}^3$)	SIL + Background Above 90% of NAAQS/MAAQS
CO	1 Hour	2,000	1145	3145	40072	No
CO	8 Hour	500	916	1416	10304.1	No
NO2	1 Hour	7.52	77.7	85.2	188	No
NO2	Annual	1	16.9	17.9	99.7	No
SO2	1 Hour	7.9	11.4	19.3	196.4	No
SO2	3 Hour	25	15.5	40.5	1309.3	No
SO2	24 Hour	5	10	15	366.6	No
SO2	Annual	1	2.0	3.0	78.6	No
PM10	24 Hour	5	54.0	59.0	150	No
PM2.5	24 Hour	1.2	18.3	19.5	35	No
PM2.5	Annual	0.2	7.2	7.4	12	No

* 2018-2020 Blaine (PM10) Inver Grove Height (SO2) and Lakeville (CO, NO2, PM2.5) monitor data. Source is EPA Air Data

Table 10 lists the Project's highest modeled ambient air impacts for all applicable pollutants and averaging periods on a 15 km receptor grid compared to the SIL. The criteria pollutant ambient impacts represent a typical operating annual and hourly modeling scenario: Monday through

Friday operations from 5am-9pm, Saturdays from April through November from 7am-2pm, and Saturdays from December through March and all Sundays being closed. These operational hours (6,300 hours/year) are applied to the day-to-day operations of material delivery traffic, unloading raw materials, grinding, screening, and managing composting materials, colorizing finished product, loading, finished product, and vehicle traffic transporting finished product. Space heating emissions from the buildings and emissions emanating from the compost piles due to decomposing materials assumed year-round operations (8,760 hours/year). Table 10 shows the SMSC project's air impacts are below all criteria pollutant SILs except for the 8-hour CO, 24-hour PM2.5, 24-hour PM10, and 1-hour and annual O2 SILs. Following MPCA's Air Assessment Practices document, a PM2.5, PM10, CO, and NO2 cumulative NAAQS analysis is therefore required. The CO 1-hour and SO2 1, 3, 24-hour and annual modeling values less than the applicable SILs demonstrates that the project's impacts to the local air quality are insignificant, and no further analysis is required for those pollutants.

Table 10: Project Significant Impact Level (SIL) Modeling Results

Pollutant	Averaging Period	SIL (µg/m ³)	Impacts(µg/m ³) *	Percent of SIL (%)	Radius of Impact (km)
CO	1 Hour	2,000	1,624	81	
CO	8 Hour	500	891.55	178	0.03
NO2	1 Hour	7.52	40.8	543	0.26
NO2	Annual	1	1.7	170	0.07
SO2	1 Hour	7.9	0.28	3.6	
SO2	3 Hour	25	0.25	1	
SO2	24 Hour	5	0.10	2	
SO2	Annual	1	0.01	1	
PM10	24 Hour	5	58.2	1163	0.85
PM2.5	24 Hour	1.2	13.3	1108	0.56
PM2.5	Annual	0.2	1.5	490	0.25

* Modeled results represent the maximum high 1st high (H1H) air concentration over 5 Years

The cumulative NAAQS modeling analysis requires the Project impacts to be combined with a representative background concentration and an estimated concentration from any potential nearby stationary sources that could contribute substantially to the significant impact area (SIA) surrounding the Project. The CO, NO2, PM10, and PM2.5 background concentrations listed in Table 9 were added to the Project's modeled impacts. A detailed discussion on the selection of the nearby sources for the NAAQS analysis was included with the modeling protocol and modeling report using recommended MPCA practices for identifying all nearby sources within 50 km of the Project along with available background monitoring and meteorological data and professional judgement. Following MPCA guidance, the following nearby emission sources were explicitly modeled in the cumulative NAAQS analysis:

- NO2: Anchor Glass Corporation and Koda Energy LLC

- PM2.5: Anchor Glass Corporation, Rahr Malting Co, CertainTeed
- PM10: Anchor Glass Corporation, Rahr Malting Co, CertainTeed
- CO: CertainTeed, Koda Energy LLC, Commercial Asphalt Co Plant 911 (now Martin Marietta Shakopee Asphalt Plant)

The cumulative NAAQS receptor grid for each pollutant is a subset of the 50 km SIL receptor grid determined by the Project's maximum modeled impacts being above the applicable SIL relatively close to the Project fence line. Table 10 lists the maximum extent for every pollutant and averaging period the project modeled above the SIL with none going beyond 1 km.

The cumulative NAAQS modeling results are listed in Table 11 and demonstrate that the SMSC Project (along with contributions from background and specific nearby emission sources) meets the 8-hour CO, 24-hour and annual PM2.5, 24-hour PM10, and 1 hour and annual NO2 NAAQS. Attachment I, Figures 4 through 9 show the spatial distribution of the cumulative NAAQS modeling results listed in Table 11, identifying the location of the highest model impacts for each pollutant and averaging period. The figures show that the highest modeled impacts occur on the fence line. Following the modeling approaches in the approved protocol, the cumulative NAAQS analysis demonstrates that the potential NAAQS impacts of the project are acceptable.

Table 11: Project Cumulative Modeling Results for National Ambient Air Quality Standards

Pollutant	Averaging Period	NAAQS ($\mu\text{g}/\text{m}^3$)	Model Impacts ($\mu\text{g}/\text{m}^3$) *	Background ($\mu\text{g}/\text{m}^3$)	Total Impact ($\mu\text{g}/\text{m}^3$)	Percent of NAAQS (%)
CO	8 Hour	10,000	640	916	1556	15%
NO2	1 Hour	188	35.4	77.7	113.1	60%
NO2	Annual	100	2.0	15.0	16.98	17%
PM2.5	24 Hour	35	7.5	18.3	25.8	74%
PM 2.5	Annual	12	1.9	7.2	9.1	75%
PM10	24 Hour	150	45.7	54.0	99.7	66%

* NO2 and PM2.5 24-hour model results represent the maximum high 8th high (H8H) air concentration averaged over 5 years. PM10 24-hour model results represent the maximum high 6th high (H6H) concentration over 5 years. PM2.5 annual model results represent maximum annual average over 5 years. NO2 annual model results represent maximum annual average over 5 years. CO 8-hour model results represent the maximum high 2nd high (H2H) air concentration over 5 years.

Air emission risk analysis (AERA)

An Air Emission Risk Analysis (AERA) demonstrates that a project's impacts to ambient air concentrations are within guideline values for total human acute and chronic non-cancer and cancer risks (Appendix L). Air dispersion modeling for the Project AERA included those sources having the potential to emit toxic air pollutants, primarily VOCs, emanating from the aerated static piles of compost and combustion emissions from maintenance building space heating and heavy diesel operating equipment (grinder, screener, front-end loaders, windrow turner, and stacker/conveyor) and ASTs. A total of 48 toxic air pollutants were modeled, some identified as a HAP per Section 112 of the Clean Air Act and others not identified as a HAP. The highest modeled concentration for each pollutant at each receptor was compared to their toxic value and summed together for a total estimated risk for the Project. The acute risk results represent

the highest 1-hour average concentration out of the 5-year meteorological dataset and the chronic and cancer risk results represent the highest annual average concentration out of the 5-year meteorological dataset.

Inhalation risks (acute, chronic non-cancer, cancer) represent the potential risk due to inhaling a pollutant and the impacts are evaluated across the entire receptor grid starting at the fence line. The multi-pathway chronic non-cancer and cancer results for a resident and farmer account for the additional exposure from not only inhaling a pollutant, but also by ingesting it through food such as produce grown on nearby farmers' or residents' properties. The multi-pathway risks represent the maximum modeled impacts at the receptors located at the nearest possible resident or farmer location. The estimated risks as calculated by the MPCA Risk Assessment Screening Spreadsheet are summarized in Table 12 and are all within guideline values. However, the initial AERA modeling did not include the estimated emissions from a 2,000-gallon diesel and a 500-gallon gasoline above ground storage tank to be located on the Project site.

Therefore, SMSC evaluated both the diesel and gasoline tanks to determine if they were an insignificant source. The diesel tank was determined to be an insignificant source. The gasoline tank was determined not to be insignificant, so it was included in the AERA modeling. With the gasoline tank included in the modeling, the Project estimates were below the guidance values. The revised AERA was approved by the MPCA on February 1, 2023.

Table 12: Air Emissions Risk Assessment Screening Spreadsheet Project Summary

Risk Type	Project Estimate	Guideline Value
Acute	1.43	1.49
Subchronic non-cancer	0.45	1.49
Chronic non-cancer	0.67	1.49
Cancer	1.43	1.49
Multi-pathway cancer (resident)	0.23	1.49
Multi-pathway chronic non-cancer (farmer)	0.23	1.49
Multi-pathway cancer (farmer)	0.39	1.49

In summary, the results of the modeling indicate that emissions from the Project will not adversely impact air quality. The Project will obtain and comply with an air emission permit issued and monitored by the MPCA. The Project will be constructed and operated in compliance with MPCA air quality regulations, as required.

C. Coastal barrier resources

The Project is not located within the boundaries of a Coastal Barrier Resource Area (CBRA). Therefore, no impacts to coastal barrier resources are anticipated as a result of the proposed Project.

D. Coastal zones

The Project is not located within the boundaries of a Coastal Zone Management Area (CZMA). Therefore, no impacts to coastal zones are anticipated as a result of the proposed Project.

E. Endangered species

A Natural Heritage Information System (NHIS) Data Request Form was submitted to the Minnesota MNDNR Division of Ecological and Water Resources. A response was received from the MNDNR on August 4, 2022. The NHIS response letter is summarized below, and is included in Attachment F.

1. Gifford Lake – The Minnesota Biological Survey (MBS) considered Gifford Lake for a Site of Biodiversity Significance. However, it was determined to be below the minimum biodiversity threshold for statewide significance resulting in the area not being designated as a Site of Biodiversity Significance. However, the area may have conservation value at the local level and indirect impacts from surface runoff or spread of invasive species should be considered during project design and implementation. The Project site contains several mapped polygons of rare and high-quality native plant communities, and several recommendations were provided by the MNDNR to avoid or minimize disturbance. These recommendations are being evaluated by the SMSC's Natural Resources Department for potential implementation prior to site disturbance.
2. Butternut Tree (State listed endangered plant) – The MNDNR response letter stated that Butternut has been documented in 1997 atop a riverbank terrace near the Project area. In the event tree removal will be done in potential habitat, a qualified surveyor will conduct a botanical survey in any potential habitat during the appropriate time of the year. In addition, a habitat assessment may be required if potential habitat is unknown. In response, the SMSC Land and Natural Resource Department conducted a habitat assessment and did not identify the presence of Butternut Trees. The SMSC habitat assessment is included in Attachment F.
3. Minnesota River – Several state-listed fish, mussels and amphibian species have been documented in the vicinity that are vulnerable to a deterioration in water quality, especially siltation. Effective erosion prevention and sediment control practices must be implemented and maintained throughout the duration of the Project and incorporated into any stormwater management plan. The Project design currently includes effective erosion prevention and sediment control practices for both the construction and operational phases of the Project.
4. Lark Sparrow and Purple Martin – These state-listed birds of special concern have been documented in the vicinity of the Project. If feasible, initial disturbance to undisturbed grassland areas and tree and shrub removal will be avoided from May 15 to August 15 to avoid disturbance of nesting birds. This recommendation is being evaluated by the SMSC's Natural Resources Department for potential implementation prior to site disturbance.
5. Northern Long-eared Bat and Little Brown Bat – The Northern Long-eared Bat (NLEB) is Federally listed as threatened and both bats are state-listed as special concern and have been documented in the vicinity of the Project. Recently U.S. Fish and Wildlife Service (USFWS) made the decision to up-list the northern long-eared bat from the status of

federally threatened to federally endangered. This new status went into effect on January 30, 2023. Known hibernacula (hibernation) sites do not exist within ¼ mile of the Project site and known maternity roost trees do not exist within 150 feet of the Project. These are two separation distances within which the rule becomes applicable (Northern Long-eared Bat Final 4(d) Rule) and prohibits select activities. Avoiding tree removal is recommended during the pup rearing season from June 1 through July 31. This recommendation has been evaluated by the SMSC's Natural Resources Department and efforts include beginning grading prior to roosting and all schedule efforts are aligned at this time to assure tree removals are outside of restricted timelines. The Project will align with current regulations and protections of the northern long-eared bat and SMSC will coordinate with USFWS regarding potential impacts to the NLEB, as appropriate.

6. Rusty Patched Bumble Bee – The Rusty Patched Bumble Bee is Federally listed as endangered and likely to be present in suitable habitat with a High Potential Zone. The MNDNR response letter states that the area of interest overlaps with a High Potential Zone for the Rusty Patched Bumble Bee. USFWS Rusty Patched Bumble Bee document provides guidance on avoiding impacts and a key for determining if actions are likely to affect the species. In addition, the MNDNR also provides recommended grasses and forbs for reseeding disturbed soils.

In addition to the NHIS review, and to ensure compliance with federal law, a federal regulatory review was also conducted using the USFWS online Information of Planning and Consultation (IPaC) tool. This IPaC tool includes a project area search and a determination key for applicable species. The IPaC tool similarly identified the Northern Long-eared Bat and the Rusty Patched Bumble Bee as Federally threatened and endangered species, respectively. The IPaC tool also identified the Monarch Butterfly which is listed as a Candidate species. A Candidate species is any species whose status is currently being reviewed to determine whether it warrants listing under the Endangered Species Act.

The IPaC tool further resulted in generation of an August 8, 2022, letter from the USFWS and associated determination key specific to the Northern Long-eared Bat. Similar to the MNDNR letter, the USFWS letter and determination key also indicate that any take that occurs incidental to this Project is not prohibited under the 4(d) Rule due to separation from known features. In addition, the Rusty Patched Bumble Bee determination key from the USFWS guidance document was completed. The determination key for the Rusty Patched Bumble Bee indicates that the proposed action will have no effect on the Rusty Patched Bumble Bee and that no consultation is required. The USFWS letter dated August 8, 2022, and associated determination key for the Northern Long-eared Bat along with the determination key for the Rusty Patched Bumble Bee, and a determination key summary, are included in Attachment F.

F. Environmental justice

According to the EPA's Environmental Justice Screening and Mapping Tool (EJScreen), approximately 51 percent of the population located within a 1.0-mile radius of the Project is considered Low Income, and approximately 54 percent of the population located within a 1.0-mile radius of the Project is considered Minority or People of Color (EJScreen Data Source: U.S. Census Bureau, American Community Survey 2017-2021). For more information, please refer to the EJScreen Community Report, which can be found in Appendix O.

G. Floodplains

The current 100-year flood plain is shown as the blue line on Figure 5A and as the area designed AE on the FEMA FIRM Map Set included as Figures 6A, 6B & 6C.

Because flooding of the Project area could have an impact on Gifford Lake water quality, and because Gifford Lake is part of the Minnesota River system and floodplain, the Project will avoid the 500-year floodplain. The 500-year floodplain is generally shown on Flood Insurance Study (FIS) at 728.0 feet NAVD88.

The Project regrading will result in all paved and operational areas at an elevation of 731.0 feet NAVD88 or greater (3 feet above the 500-year floodplain). In addition, the stormwater overflow will be at 728.5 feet NAVD88.

H. Wetlands

Wetlands near the Project site are shown on Figure 15. A Wetlands Delineation Report (Attachment P) was completed for the Project site by Bolton & Menk, Inc., dated February 19, 2020. The Wetlands Delineation Report did not identify any direct or indirect impacts to aquatic resources (wetlands, lakes, tributary, etc.). Therefore, it is not anticipated that the Project will physically affect or alter wetlands or have environmental effects on existing wetlands.

I. Protected farmlands

There are no anticipated impacts to farmland resources based on the proposed project as the entire project area has been documented as fundamentally disturbed from previous surface mining. NRCS correspondence was received annotating this determination on July 21, 2023, and can be found in Attachment Q.

J. Fish and wildlife

The site is bordered by Gifford Lake to the west and beyond by the Minnesota River and associated valley and flood plains. These areas contain both the Minnesota Valley State Recreation Area and the Minnesota Valley National Wildlife Refuge, as shown on Figures 16 and 17, respectively. The adjacent Minnesota River and associated areas containing the Minnesota Valley State Recreation Area and the Minnesota Valley National Wildlife Refuge are home to a full host of migratory birds, waterfowl, fish and other wildlife including, but not limited to, ducks, geese, bald eagles, golden eagles, bats, prairie skink, floodplain forests, wetlands, deer, racoons, river otter, muskrat, beaver, rabbits, turkeys, pheasants, squirrels, fox, birds, catfish, northern pike, walleye, smallmouth bass and sauger, to name only a few.

The entire Minnesota River and associated valley and flood plains in the area have also been identified as an Important Bird Area (IBA) by the National Audubon Society and designated the Lower Minnesota River Valley IBA. The National Audubon Society lists over 260 species in the area of which over 100 are reported to nest in the area. Given the proximity to these resources, Project lighting will be designed and installed considering the need to avoid impacting wildlife. Site lighting will be installed in locations to be further defined in the final design. Similar to roadway lighting, which is designed to address the issue of glare, the fixtures will be downcast to direct lighting to the ground and control the spread of the light to the area intended for lighting. Upcast lighting is not planned for the site and light levels will be consistent with the guided

industrial uses for this site. The lighting will be for site security, and around critical areas of notable equipment operations that may occur past sunset during certain months. The lighting is necessary for safety of workers in these higher activity areas. In the event wildlife are attracted to the Project area and in the event of nuisance activities, SMSC will engage with the appropriate agencies and professional resources to properly address the issues and proactively mitigate the effects in accordance with current acceptable best practices and applicable regulations. The potential area of highest concern may include drawing wildlife not from the mentioned wildlife resources, but from adjacent industrial facilities (nearby landfill operations).

Wildlife resources as well as habitats and vegetation are limited on the site and the adjacent industrial properties, with the exception of ancillary or intermittent migration of the flora and fauna found in the adjacent Minnesota River valley and flood plains.

It is not anticipated that the Project will affect the identified fish, wildlife, plant communities, rare features and ecosystems as the steps discussed above will minimize impacts. The Project construction and operation will be conducted within the ORF boundaries, and a treed vegetative buffer will remain between the operational area and Gifford Lake.

Introduction and spread of invasive species from the Project construction and operation are also not anticipated. Project construction will be fully land based and a buffer will be maintained between the construction site and adjacent water bodies. All construction will implement practices and requirements of the Minnesota Department of Agriculture to prevent the spread of invasive terrestrial and aquatic invasive species. In addition, the existing SMSC ORF composting operations have not been identified to result in introduction or spread of invasive species and this occurrence is not anticipated at this proposed ORF. However, as the introduction and spread of invasive species is a continuously evolving issue, and yard waste and woody materials will be transported to the site from local and regional locations, this concern is recognized, and proactive measures will be implemented as appropriate in the event a specific species issue emerges.

The identified known threatened and endangered species includes the Northern Long-eared Bat and the Rusty Patched Bumble Bee, respectively. The ESR Determination Key did not result in the identification of a prohibited take scenario at the Project location for the Northern Long-eared Bat. The guidance on avoiding impacts and recommended grasses and forbs for reseeding disturbed soils will be assessed and implemented to avoid impacts to the Rusty Patched Bumble Bee.

K. National historic resources

A Request for Project Review by the Minnesota Department of Administration, State Historic Preservation Office (SHPO) was submitted on February 14, 2020. A response was received from the SHPO on April 17, 2020, and is included in Attachment G. As indicated by the SHPO response letter, there are no properties listed in the National or State Registers of Historic Places and no known or suspected archaeological properties in the area that will be affected by the Project.

Due to the Project footprint expansion, a Revised Request for Project Review by the Minnesota Department of Administration, State Historic Preservation Office (SHPO) was submitted on June 23, 2021. A response was received from the SHPO on July 21, 2021, and is also included in Attachment G. As indicated by the second SHPO response letter, there are no properties listed

in the National or State Registers of Historic Places and no known or suspected archaeological properties in the area that will be affected by the Project.

Please note that this Project is not regulated under Section 106 of the National Historic Preservation Act of 1966 and 36 CFR § 800.

L. Drinking water supplies

Acquiring a Water Appropriation Permit from the MNDNR first requires completion and approval of a Well Construction Preliminary Assessment application. This two-phase process (Well Construction Preliminary Assessment, then Water Appropriation Permit application) includes an evaluation of the water resources available for appropriation by MNDNR area hydrologists, and subsequent approval or denial of the well installation and/or appropriation permit. This process will identify environmental effects from water appropriation and impose any measures required to avoid, minimize, or mitigate environmental effects from the water appropriation.

The first phase of the Water Appropriation Permitting process has been completed. A Well Construction Preliminary Assessment application was submitted to the MNDNR on October 8, 2021. The Well Construction Preliminary Assessment application included the proposed installation of one 400-foot-deep water supply well set into the Wonewac (Tunnel City) aquifer with an estimated maximum pumping rate of 800 gallons per minute. The MNDNR responded to the Well Construction Preliminary

Assessment application on October 18, 2021. Both of these documents are included in Attachment D. The response included the requirement to conduct an aquifer test in the form of a specific capacity test in accordance with MNDNR guidance. The location of the proposed well has been revised from the location shown on the Well Construction Preliminary Assessment application to the location shown on Figure 5A.

The second phase of the Water Appropriation Permit process has been initiated and has included test well installation and completion of the specific capacity test. The log of the 320-foot-deep test well is included in Attachment B. These results are currently being assessed and the Water Appropriation Permit application will be submitted to the MNDNR upon completion. The specific capacity test indicated pumping capacities in the 350 to 400 gpm range, below the 800-gpm estimated maximum pumping rate.

Regarding resiliency of the proposed water use to changes in total precipitation, large precipitation events, drought, increased temperatures, variable surface water flows and elevations, and longer growing seasons, none of these scenarios present a concern with the exception of total precipitation and drought. A reduction of total precipitation and/or prolonged drought over an extended period of time, in the extreme scenario, could have the potential to reduce aquifer recharge and result in depletion of groundwater resources and associated well capacity. However, as the appropriation volume is driven primarily by fire suppression requirements, corrective actions are available including on-site fire water storage or use of other fire suppression substances.

In the event the water use needs for the Project increase beyond infrastructure capacity or the water supply for the Project diminishes in quantity or quality, SMSC would reduce operational throughput or transport water to the Project site from other off-site SMSC resources.

The water appropriation request was for an estimated pumping rate of 800 gpm driven primarily by fire suppression requirements for the proposed Project. The appropriation volume for typical ongoing daily operations is 10 to 200 gpm. As a result of the specific capacity test results which indicate the estimated the maximum pumping rate to be 350 to 400 gpm, and to addresses the fire suppression water volume requirements, SMSC will install one 150,000-gallon AST to supply the water needed for fire suppression requirements.

The potential for the Project to diminish the quantity or quality of the groundwater in the Project area is being assessed as part of the specific capacity testing required by the Water Appropriation Permit process. The water appropriation volume needed for typical ongoing daily operations of 10 to 200 gpm will be further reduced by the use of the stormwater collection and reuse system. The Wonewac (Tunnel City) aquifer is expected to be able to sustain the volume needed for typical ongoing daily operations. Based on this lowered usage volume due to the installation of the fire water tank, the further reduction due to the reuse of stormwater, and the known characteristics of the Wonewac (Tunnel City) aquifer, the potential for the Project to diminish the quantity or quality of groundwater in the Project area is expected to be minimal. However, a final determination will be made by the MNDNR after their review and consideration as part of the Water Appropriation Permit process, resulting in issuance or denial of the permit.

Regarding potential for impact to residential or city wells, the ORF well will be permitted through the MNDNR water appropriation permit process. A required step in this permit process is to complete preliminary drawdown evaluations for the aquifer during peak pumping conditions. Nearby wells, as determined appropriate by MNDNR rules, will be monitored for impact. If drawdowns exceed acceptable levels for impact, the well will be modified to avoid impact to other wells. SMSC will complete the well assessment and all other steps necessary to confirm the well will be acceptable in this region with full consideration of aquifer impacts and other water users in this area.

M. Wild and scenic rivers

The Project is not located within the vicinity of any federally-listed Wild and Scenic Rivers. The St. Croix National Scenic Riverway is the only federally-listed Wild and Scenic River in the State of Minnesota. Therefore, no impacts to Wild and Scenic Rivers are anticipated as a result of the proposed Project.

N. Essential Fish Habitat

It is not anticipated that the Project will affect the identified fish, wildlife, plant communities, rare features and ecosystems as the steps discussed above will minimize impacts. The Project construction and operation will be conducted within the ORF boundaries, and a treed vegetative buffer will remain between the operational area and Gifford Lake.

III. Reviews, Permits, and Authorizations

A. Intergovernmental review per Executive Order 12372

Not applicable for Minnesota.

B. Necessary permits (NPDES, wetlands) issued

Table 13: Permits and Approvals

Unit of Government	Type of Application	Status
MPCA	Demolition Notification (10 Day Advance Notice)	Issued
MPCA	Notice of Intent – Construction Stormwater Permit	Issued
MPCA	Notice of Intent – Industrial Stormwater Permit	Issued June 27, 2023
MPCA	Solid Waste Permit (SSOM Compost Facility)	Submitted/Pending
MPCA	Air Permit	Submitted
MPCA	Aboveground Storage Tank Registration	Pending
Scott County	Conditional Use Permit	Pending
Scott County	Building Permit (Erosion & Sediment Control Plan)	Pending
Scott County	Preliminary & Final Plat Approval	Pending
Scott County	Solid Waste License	Pending
MNDNR	Water Appropriation Permit	Phase 1 Completed (10/18/21), Phase 2 Pending
MnDOT	Right of Way Permit	Pending
MDH	Well Notification/Registration	Pending
Lower Minnesota River Watershed District	Individual Project Permit	Preliminary Agency Review Completed/Final Application Pending

C. Necessary inter-municipal agreements executed

- Development Agreement between SMSC, Louisville Township, and Scott County – to ensure the ORF is built, operated, and maintained in accordance with the Conditional Use Permit and all other permits listed in Table 13.
- Maintenance Agreement between SMSC and Lower Minnesota Watershed District – to ensure the constructed ORF is maintained in accordance with Lower Minnesota River Watershed permit requirements.

CHAPTER 7: PUBLIC PARTICIPATION

I. Summary of Public Participation

A state-level environmental assessment worksheet (EAW) was submitted to the MPCA on February 5, 2021, and went through internal reviews before released for a 30-day public review period. An EAW is a brief document designed to provide the basic facts necessary for the Responsible Governmental Unit (RGU) to determine whether an Environmental Impact Statement (EIS) is required for a proposed project or to initiate the scoping process for an EIS in the State of Minnesota (Minn. R. 4410.0200, subp. 24). For the state-level EAW, the MPCA served as the RGU.

Pursuant to Minn. R. 4410.1000, subp. 3(C), on February 5, 2021, SMSC submitted a discretionary (voluntary) draft EAW to the MPCA. Subsequently, an EAW on the Project was prepared by MPCA staff for publication. The MPCA provided public notice of the Project as follows:

The Environmental Quality Board (EQB) published the notice of availability of the EAW for public comment in the EQB Monitor on February 21, 2023, as required by Minn. R. 4410.1500.

The EAW was available for review on the MPCA website at:
<https://mpca.commentinput.com/comment/search>.

The MPCA provided a news release to media in Scott and Carver County, Minnesota, and other state-wide interested parties, on February 21, 2023.

During the 30-day comment period on the EAW, which concluded on March 23, 2023, the MPCA received comments from Scott County, the Metropolitan Council, and the Minnesota Department of Natural Resources.

On March 28, 2023, the MPCA requested and was granted approval from the EQB for a 15-day extension of the decision-making process on the need for an EIS for the Project in accordance with Minn. R. 4410.1700, subp. 2(B).

On April 18, 2023, the MPCA approved the Findings of Fact, Conclusions of Law, and Order for a Negative Declaration (FOF) on the need for an Environmental Impact Statement for the Shakopee Mdewakanton Sioux Community Organics Recycling Facility.

II. Documentation of any Public Participation

A. EQB Monitor Notice

Shakopee Mdewakanton Sioux Community Organics Recycling Facility

Location: Prior Lake, Scott County

Process: Environmental assessment worksheet (EAW)

Step: EAW available

End of comment period: March 23, 2023



Project description: The Shakopee Mdewakanton Sioux Community is proposing to develop a new Organics Recycling Facility at 12386 Chestnut Boulevard, Shakopee, Minnesota. The facility will process Source Separated Organic Material from residential and commercial yard and food waste into compost. The compost is either sold on its own or is blended with inert materials for resale as gardening and landscape products.

Link to public documents: [Shakopee Mdewakanton Sioux Community Organics Recycling Facility EAW](#)

Location of public documents: Minnesota Pollution Control Agency, 520 Lafayette Road North, Saint Paul, MN 55155

Responsible governmental unit and contact: Minnesota Pollution Control Agency, [Karen Kromar](#), 651-757-2508

B. SMSC Project Website



**DAKOTA PRAIRIE
COMPOSTING**

Project Overview


As local composting efforts capture more and more organic material, the SMSC Organics Recycling Facility is nearing capacity.

The Shakopee Mdewakanton Sioux Community (SMSC) has begun construction on a new composting facility in Louisville Township near the intersection of highways 169 and 41, named Dakota Prairie Composting.


The SMSC broke ground on the new facility on June 27, 2023, and construction is expected to be complete in summer 2024. Dakota Prairie Composting will use the latest technology and composting processes to control odors and increase efficiency, allowing the facility to double the amount of compostable organic materials they take in and divert from local landfills.

[Environmental Assessment Worksheet - Public Comment Form](#)

Project Gallery



Future Facility with Labels



TH 41 Intersection Improvements

Project FAQ

When does construction begin?
The SMSC broke ground on the new Dakota Prairie Composting facility on June 27, 2023. Construction is underway, and the facility is expected to be fully operational by summer 2024.

Why does the SMSC want to relocate its Organics Recycling Facility?
The SMSC Organics Recycling Facility is currently operating at capacity. The new Dakota Prairie site will have state-of-the-art technology that will allow the facility to process more organics in a location better suited for industrial activity. The facility will help Minnesota reach its goal of recycling 75% of the state's waste by 2030 while protecting and enhancing the environment for future generations by taking in more organic materials and diverting them from local landfills.

What would the new facility look like? How would it be different than what is on the current site?
After several years of research and site visits across the country, the new facility would include the latest, state-of-the-art technology and processes to control odors and increase efficiency. The new facility would collect and recycle commercial organics, as well as sell industry and commercial wholesale products like the existing facility in Shakopee.

How much more food waste will the new facility be able to compost?
The new facility will have the capacity to compost up to three times as much food waste as the previous facility. This will help contribute to the Minnesota Pollution Control Agency's (MPCA) goal of recycling 75% of Minnesota's waste by 2030.

Will the project affect traffic near the site?
If we move forward with the relocation, we plan to make improvements to the Highway 41 intersection. These improvements will include the addition of turn lanes on Highway 41.

What would you use the existing facility for?
After the new facility is operational, the Shakopee site will be used to sell residential and commercial products like colored mulch and compost. There will no longer be active composting on the site and the facility will only sell finished products.

Would local residents still be able to bring yard waste to the existing facility?
The existing site in Shakopee will not accept residential yard waste drop off - with the exception of select drop off events - with our City and County partners.

Are there any benefits for Carver County residents? Can they drop off yard waste at the new facility?
Carver County residents will be welcome to use the facility to drop off yard waste (for a fee) and to purchase landscaping products, such as compost, soil blends, and mulch.

Who will regulate the facility since it's owned by the tribe?
The new facility will be regulated by the MPCA, the entity that regulates all composting facilities in Minnesota.

What if residents have questions or complaints about the new facility?
Online comment forms are available on smscorf.com.

Will people be able to purchase mulch and compost at the new site?
The new site will be open to the public for all product sales.

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Figures

Attachments