

TO: Cambridge Township Planning Commission C/O Tom Kissel <kisseltk@yahoo.com>
FROM: Spencer Kellum <spencer.kellum@gmail.com>
DATE: December 21st, 2022

Dear Cambridge Township Planning Commission Members,

This letter is submitted in opposition of the proposed mining project by SSP Leasing/Cambridge Lake LLC in Cambridge Twp, south of US-12 between Allen, Meadow, and Kelly Lakes. Community members have organized in opposition and have published additional online at www.citizensprotectirishhills.com. This letter documents the unmitigated environmental risk and likely Very Serious Consequences¹ that the proposed gravel and sand pit mining operation introduces to Cambridge Township and the communities in the Wolf Creek sub-watershed of the River Raisin of southeast Michigan.

The proposed gravel and sand pit mining operation does little to consider the Very Serious Consequences and negative impacts to the watershed and surrounding uplands - from a science-based position, this region is well-studied and serves an irreplaceable environmental function to citizens locally and state-wide. It is a critically important groundwater recharge zone, providing irreplaceable drinking water and ecosystem services to downstream citizens (e.g., Adrian, MI). It is an ecologically valuable (priceless) landscape, with numerous rare and endangered species and ecosystems distributed across our community of lakes, wetlands, and forests. This region is high-priority area for protection and restoration as documented by numerous regional, state-wide, and international natural resource organizations. This letter provides scientific rationale for the Very Serious Consequences (VSC) that would likely result, should Cambridge Township permit this gravel and sand pit mining operation to proceed.

Introduction

The proposed gravel and sand pit mining operation is sited at an upland site surrounded by numerous lakes. There are 11 lakes within a 1.5-mile radius of the site (Stony, Iron, Wampler's, Timber, Marrs, Sand, Wolf, Allen, Meadow, Kelly, and Killarney) and the site is positioned immediately adjacent to Meadow and Kelly Lakes within the Wolf Creek sub-watershed of the River Raisin.

The proposed gravel and sand pit mining operation would have numerous Very Serious Consequences and negative impacts, which would detract from quality of life, put downward pressure on property values, and threaten the community values that draw people to Cambridge Township and the Irish Hills. Residents and businesses have numerous concerns regarding health and public safety, including human health hazards, waterfowl, and wildlife safety as well as surrounding wetlands, watersheds and water tables that affect wells and aquifers within the area.

The degree of resultant damage and degradation is yet unknown, but the precautionary principle of "do no harm" indicates detailed social and environmental impact assessments must be completed prior to permitting a high-risk operation in a sensitive location within Cambridge Township. The proposed gravel and sand pit mine is poorly sited where numerous geologic, hydrologic, and ecologic processes intersect to provide numerous irreplaceable public benefits. If allowed to proceed, this operation would threaten the drinking water for thousands, significantly degrade the Wolf Creek sub-watershed (and contribute to

¹ The People of the State of Michigan. (2006). "Michigan Zoning Enabling Act, Act 110 of 2006". Online at: <https://www.fractracker.org/a5ej20sjfwe/wp-content/uploads/2022/03/mcl-Act-110-of-2006.pdf>

ongoing degradation of the River Raisin and western Lake Erie), destroy local habitats and ecosystems, and damage the community values that draw people to Cambridge Township and the Irish Hills.

Community Background

The Irish Hills region is the remaining interlobate headwater priority landscape of natural cover type in southeast Michigan – forests of oak-hickory, oak-pine, and white-red-jack pine. Importantly, the *2020 Michigan Forest Action Plan*² identifies this region as a high-priority area for protection and restoration of floodplain forests, oak barrens, prairies, and savannas – this region is also notable for Frequency of Species that are of High Concern to Forest Health. Furthermore, Michigan State University and Michigan Natural Features Inventory maintain the state-wide *Biological Rarity Index* which assigns a biological rarity value to landscapes based on “known sightings of threatened, endangered, or special concern species and high-quality natural communities”³. The proposed site is located within a region of ‘High’ biological rarity value – indicating a high likelihood that protected species and ecosystems exist on-site. The Nature Conservancy, an international conservation organization, has prioritized this region for protection and restoration⁴. From a statewide perspective, this indicates that Cambridge Township and the Irish Hills are home to unique, high-quality, and ecologically irreplaceable habitats and species.

Additionally, Cambridge Township and the Irish Hills are well-known for the many lakes, streams, and wetlands situated here. While this is common knowledge, the *2020 Michigan Forest Action Plan* clearly supports this community understanding – Water Quality, Quantity, and Native Vegetation are all identified as high-priority for protection and restoration⁵. Importantly, Lenawee County is estimated to have lost 84% of vegetated wetlands to development and agricultural from pre-European time to 2005 (199,432 pre-European vegetated wetland acres versus 31,278 vegetated wetland acres in 2005).⁶ This proposed gravel and sand pit mine threatens the on-site wetlands situated along the southern edge of the site, along the channel connecting Meadow to Kelly Lake. Additionally, Lenawee County has numerous documented threatened and endangered species: 23 state endangered, 36 state threatened, 72 state special concern, of which 8 of these species are federally listed endangered or threatened⁷. A proper site survey and environmental assessment to determine immediate impact to rare species and habitats is essential. Furthermore, the regional impacts of a gravel and sand pit mining operation impose unjustified risk onto residents and downstream communities.

Water quality in a river or lake is largely driven by the immediate surroundings – this is the watershed or catchment basin. When a watershed is converted from wetlands, forests and farms into gravel pits, housing developments and concrete, surface water quality degrades as the catchment basin loses the filtering effect of wetlands, vegetated landcover, and upland gravel and sand hills. The distribution and density of plant vegetation strongly influences the ability of rainwater to infiltrate the soil and recharge

² Michigan Department of Natural Resources (DNR), Forest Resources Division. (2020). “Forest Action Plan 2020”. Online at: https://www.michigan.gov/dnr/-/media/Project/Websites/dnr/Documents/FRD/Mgt/ForestActionPlan_Forestry_2020.pdf?rev=7753bf4ccceb4b6da4adf2badaa8e5b0&hash=C1C3EC3F7275544D64E8501DE2D4EC62

³ Michigan Natural Features Inventory (MNFI). (2022). “Biological Rarity Index”. Online at: <https://mnfi.anr.msu.edu/resources/biological-rarity-index>

⁴ Nature Conservancy, The (TNC). (2003). “The North Central Tillplain Ecoregion: A Conservation Plan”.

⁵ Michigan Department of Natural Resources (DNR), Forest Resources Division. (2020). “Forest Action Plan 2020”. Online at: https://www.michigan.gov/dnr/-/media/Project/Websites/dnr/Documents/FRD/Mgt/ForestActionPlan_Forestry_2020.pdf?rev=7753bf4ccceb4b6da4adf2badaa8e5b0&hash=C1C3EC3F7275544D64E8501DE2D4EC62

⁶ Michigan Department of Environmental Quality (2015). “Status and Trends of Michigan’s Wetlands Pre-European Settlement to 2005”. Online at: <https://www.michigan.gov/-/media/Project/Websites/egle/Documents/Programs/WRD/Wetlands/Status-Trends-of-Michigans-Wetlands-Pre-European-Settlement-to-2005.pdf?rev=30194c230acd42d98c2d92624ab19a6c>

⁷ Michigan Natural Features Inventory (current). “County Element Data”. Online at: <https://mnfi.anr.msu.edu/resources/county-element-data>

lakes, streams, and groundwater aquifers. Importantly, Cambridge Township in its entirety is within the Forest Legacy Area – Southern Michigan Recharge Area⁸ - meaning the Irish Hills region serves a critical function to allow water to enter Michigan’s groundwater aquifers via ecologically significant habitats and, ultimately, to provide clean potable water to numerous communities in southeast Michigan. As noted in the *2017 Landscape Forest Stewardship Plan: Lenawee, Jackson, and Hillsdale Counties, Michigan*, the need “to encourage and inspire people to actively manage their forests to realize benefits”⁹ is particularly applicable in this groundwater recharge landscape.

Local Context

Cambridge Township’s Master Plan provides residents, businesses, and outside actors with guidance and zoning rules to protect property and shape development across the community. Cambridge Township’s published plan outlines several important protections for natural resources and the environment. These goals include:

- “Encourage the protection and preservation of the Township's natural resources for the purpose of maintaining the quality of the local environment.” (Page 22)
- “Encourage the preservation of wetlands.” (Page 22)
- “High quality groundwater resources.” (Page 23)
- “Preserve and protect the natural features of the Township. “ (Page 34)

If permitted to proceed, the standards for determining Very Serious Consequences set forth in *Silva v Ada Township, 416 Mich 153 (1982)*¹⁰ shall be applied and considered, including the following (directly quoted from Wilcynski 2022¹¹):

- The relationship of extraction and associated activities with existing land uses.
- The impact on existing land uses in the vicinity of the property.
- The impact on property values in the vicinity of the property and along the proposed hauling route serving the property, based on credible evidence.
- The impact on pedestrian and traffic safety in the vicinity of the property and along the proposed hauling route serving the property.
- The impact on other identifiable health, safety, and welfare interests in the local unit of government.
- The overall public interest in the extraction of the specific natural resources on the property.

Cambridge Township has a right and duty to protect citizens and the environment from the Very Serious Consequences that would result from SSP Leasing/Cambridge Lake LLC’s proposal. Local township planning exists to guide development in a well-considered and responsible manner – the proposed sand and gravel pit mining operation repeatedly violates both local use planning and the standards set forth in *Silva v Ada Township, 416 Mich 153 (1982)*.

The current Cambridge Township Master Plan map¹² clearly identifies the proposed gravel and sand pit mine site as AG-1 Agricultural District and is immediately surrounded with a zoned RL-1 Lake

⁸ Michigan Department of Natural Resources (DNR). (2020). “Forest Legacy: Program helps keep environmentally important forests as forests – forever”. Online at: <https://storymaps.arcgis.com/stories/36ba6b7a31c445ab90a8f6a8721f25c0>

⁹ Stewardship Network, The. (2017). “Landscape Stewardship Plan: Jackson, Hillsdale & Lenawee Counties, Michigan. Online at: https://www2.dnr.state.mi.us/publications/pdfs/ForestsLandWater/LandscapeStewardshipPlans/GR_TSN_Final.pdf

¹⁰ Michigan Supreme Court. (1982). *Silva v. Ada Twp.* Online at: <https://law.justia.com/cases/michigan/supreme-court/1982/65815-4.html>

¹¹ Wilcynski, Mike. (2022). “Permitting Aggregate Mines in Michigan Poses Very Serious Consequences”. Online at: <https://www.fractracker.org/2022/03/permitting-aggregate-mines-in-michigan-poses-very-serious-consequences/>

¹² Cambridge Township, Lenawee County, Michigan. (2013). “Zoning Map”. Online at: <https://webgen1files.revize.com/cambridgetwpmi/Document%20Center/Zoning/zoning%20map%20cambridge%20twp.pdf>

Residential District. The site is also immediately adjacent to Killarney Highway, a state-designated Natural Beauty Road. Under *Part 357, Natural Beauty Roads, of the Natural Resources and Environmental Protection Act, 1994, PA 451, as amended*, Cambridge Township shall “provide for a public hearing before an act that would result in substantial damage to native vegetation in the right-of-way of a natural beauty road or natural beauty street, respectively, is permitted” (Page 2)¹³. Under *Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended*, a person cannot without a permit “dredge, remove, or permit the removal of soils or minerals”¹⁴. Furthermore, the construction of an inland lake requires permit under the authority of *Part 301, Inland Lakes and Streams, Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended* and *Federal Clean Water Act, Section 404*. The proposed gravel and sand pit mining operation is clearly inconsistent with current zoning, designations, and existing use – while also disregarding the Township’s own current master plan and introducing Very Serious Consequences and unnecessary risks to the local community and environment.

To adequately understand and assess risk related to resultant Very Serious Consequences, several follow-up studies need to be completed at the applicant’s expense. These include: 1) a detailed hydrogeologic study to understand consequences to water quality and watershed health; 2) a long-term safety assessment of US-12 traffic and details of the proposed truck hauling route; 3) an economic analysis to estimate losses in real property value and calculate decrease in local tax revenue (immediately adjacent to site, within watershed, and along trucking routes); 4) an assessment to demonstrate need for sand and gravel pit mine material in the local economy; 5) a detailed onsite geologic study documenting existence and value of aggregate material; 6) a detailed onsite threatened and endangered species survey; 7) a detailed onsite assessment delineating wetlands, assessing function, and mitigation plan; 8) an assessment of the health, safety and welfare consequences to local residents, visitors, and participants in the tourist economy. This list is certainly not exhaustive and are, at a minimum, what is essential to adequately understand and assess the resultant Very Serious Consequences related to the proposed sand and gravel pit mine operation.

Thank you for considering this information and for efforts to protect the environment and community. Additional information and detail can be provided as requested.

Regards,

Spencer Kellum

Spencer Kellum is an environmental scientist and sustainability consultant working with non-profit, community, and corporate clients on solutions to stabilize the unfolding climate and biodiversity crisis. He currently practices professionally with a conservation consultancy based in the UK, where he focuses on corporate biodiversity strategy and local nature recovery initiatives. He grew up in the Irish Hills, is a private forest landowner in Cambridge Township, and returns regularly to support active management of several nature reserves in the Great Lakes. His work contributes to several environmental and sustainability initiatives across Europe, North America, and Africa.

Spencer holds a B.S. in environmental science (Saint Louis University) and M.S. in geography (Eastern Michigan University) and currently serves on the board of directors of the Raisin Valley Land Trust. He is also a specialist advisor to Lenawee Intermediate School District’s Center for Sustainability, The Stewardship Network, Big Basswood Lake Association, and several landowner families. More information available at www.spencerkellum.net

¹³ Natural Resources and Environmental Protection Act (excerpt) Act 451 of 1994. (1994) “Part 357 Natural Beauty Roads”.

Online at:

<http://www.michigandnr.com/FTP/forestry/Forest%20Certification%20Audit%20Documents%202015/Forest%20Certification%20Auditor%20Master%20CD%20File/MI%20Law%20Related%20to%20Forest%20Management/Part%20357%20Natural%20Beauty%20Roads.pdf>

¹⁴ Department of Environment, Great Lakes, and Energy. (2022). “Wetland Permits”. Online at:

<https://www.michigan.gov/egle/about/organization/water-resources/wetlands/permits>