EVERGREEN ISLANDS

DATE: October 13, 2020

To: Skagit County Hearing Examiner
   Skagit County Planning and Development Department
cc: Evergreen Islands Board of Directors

Re: Lake Erie Pit 1, Gravel Mine Expansion PL 16-0556

Evergreen Islands respectfully submits the following comments to recommend that Skagit County ("County") suspend its decision on the Lake Erie Pit 1 Gravel Mine Expansion until the applicant submits information consistent with the criteria for a mining special use permit. (SCC 14.16.440)(8). Upon reviewing the permit application and record for PL 16-0556, we have concluded that the applicant has not met its burden of providing sufficient evidence to approve the application. (SCC 14.16.900(1)(b)(V). Specifically, the applicant has not provided required information for assessing community impacts associated with on-site and adjacent Geologic Hazards, Hydrogeology relating to Wetlands, the increased public safety risk from truck Traffic at major intersections, and the Rural Character and Parks.

The Skagit County Code ("Code") requires an applicant to prove that an application for a mining operation special use permit should be approved under both the mineral resource operation rules and special use permit criteria. SCC 14.16.440(9). The following sections describe areas where the application fails to meet those criteria.

Application Materials Did Not Evaluate Geologic Hazards.

As explained in detail in the attached report from Stratum Group (Attachment A), the project poses a significant risk of geological instability that could impact infrastructure, people, and property. Yet the Application does not supply geological information required for a mining special use permit to address those concerns. The Code states that an applicant for a mining operations special use permit must identify and describe critical areas and conduct any necessary studies required by the County's Critical Areas Ordinance ("CAO"). SCC 14.16.440(8)(g). And the CAO directs applicants for projects within 200 feet of a geologically hazardous area to provide a site assessment by a qualified geological professional where that geologic conditions poses a risk to life and property. SCC 14.24.420(1). Notwithstanding the proposed mine's location directly adjacent to a geologically hazardous Unstable area, the application does not include a site assessment by a qualified geological professional. SCC 14.24.410, .420. This omission prevents approval of the mining
application to allow for a study of its potential impacts on the shoreline slopes to the northwest. Such a study is also necessary for the applicant to meet its burden under the Special Use Permit criteria to prove that the project will not harm the general public's health, safety, and welfare, and is particularly essential to ensure the safety of the residents living along and near those slopes. SCC 14.16.900(1)(b)(v)(E), (G).

In addition, as summarized by the Stratum Group report, neither the Application nor the County staff report recognized the groundwater flow toward these unstable bluffs. The Application instead relies on an inadequate groundwater review to assert that groundwater flows to the north from the site. In order to protect the people, properties, infrastructure, shoreline processes and habitats to the west, the groundwater flow at the site must be adequately investigated and characterized, as must any changes to that flow likely to result from the removal of a substantial amount of trees, brush, soils, and rock.

The Application Failed to Address Hydrologic Flow and Wetland Impacts. Our discussions with hydrogeologists revealed their professional views that the application does not include sufficient information to confirm the direction of the groundwater flow at the site, either before or after project development.

From what we understand:
1. There are a number of steep embankments on the west side of Rosario Road that have historically failed.
2. There are **federally recognized wetlands** which are fed by springs and seeps along those embankments.
3. The data collected on behalf of the application for expansion is NOT sufficient to project the current direction of ground water flow. First, the application does not explore whether any groundwater from the site migrates to the west. Second, the Lake Erie Well Reconnaissance document that suggests that some groundwater from the site moves north is incomplete. It omits, among other missing information, whether the observation wells had recovered to pre-watering conditions at the time of the study and well boring logs necessary to understand the geology. Furthermore, there is no existing model that considers changes in direction and volume of ground water flow that would be caused by the changes in the topography that will naturally occur as part of the expansion of the pit (both laterally and vertically).

Without a rigorous investigation into the current direction of ground water flow in addition to a well-constrained model of any potential changes to groundwater flow caused by future pit expansion, it is not possible to assess the risk to the structural integrity of real properties in the immediate area and to a section of Rosario Road (a major N-S artery to Whidbey Island). In addition, any investigation should consider the impact of the proposed expansion to the direction and volume of ground water that supplies the recognized wetlands.
The permit application package should answer the following questions: Does the pit expansion direct more groundwater water to the embankment, thereby exacerbating existing slope stability problems; and 2) does this expansion direct groundwater away from the embankment, thereby impacting the viability of the wetlands by drying them out?

Finally, it is our recommendation that Skagit County contract this work and not rely on the applicant’s consultants. In this way, the results of any study/modeling will be independent and remove any argument of a potential conflict of interest.

As a reference, the image below identifies the federally recognized wetlands at risk:

The Traffic Impact Analysis is inadequate because it fails to analyze the traffic volume, level of service and safety of intersections at Rosario Road and State Route 20 and Campbell Lake Road at State Route 20.

**Background:** The expansion of the Lake Erie Gravel Pit would increase gravel truck traffic with up to 26 truck trips per day using Rosario Road, Campbell Lake Road, Marine Drive and SR 20. The permit application included a cursory *Traffic Impact Analysis (TIA)* by Gibson Traffic Consultants, Inc (Sept 2016). (The SEPA Environmental Review Staff Report referenced a review of the TIA conducted by the Skagit County Public Works Department but the County failed to attach this review to the Staff Report for public viewing.)

**Discussion:** Because the burden of proof shall be on the applicant to provide evidence in support of the application, the application package is insufficient, and the permit should not be considered at this time.
Most significantly, there is a glaring omission in the TIA of analysis of the two major intersections with SR20: Campbell Lake Road at SR20 and Rosario Road at SR20. The Washington State Department of Transportation included the Campbell Lake Road and SR20 area in their Collision Report, which was attached and referenced in the Gibson TIA. This should have been a clue to the consultant and applicant that the gravel trucks proceeding onto SR20 (estimated 60% of the truck trips) necessitate an analysis of the SR20 intersections at Campbell Lake Road and Rosario Rd. (see attached appendices for average annual traffic volume and flow). The traffic flow and a risk assessment for these intersections needs to be addressed in a Traffic Impact Analysis before a permit is issued.

There is a direct threat to public safety (ref SCC 14.16.900(1)(b)(v)(A), (E), (G), pedestrians, bicyclists and vehicles on Rosario Road at entrances to Deception Pass State Park and Sharpe Park. The 90-degree tight turning movements on Rosario into parks, slows traffic, but increases danger from trucks. There are 6 park entrances along the proposed truck routes: Pass Lake, Bowman’s Bay, Rosario Beach (2 entrances to Cougar Gap), Sharpe Park (2 entrances).

Because there are public safety concerns, questions of road integrity (risk of road failure), increased traffic and congestion, and obvious use conflict between recreational traffic, residential traffic, pedestrians, horse riders, bicycles and gravel trucks that have not been disclosed and addressed, the permit should be denied (ref SCC 14.16.900(1)(b)(v)(G), (I)).

Because this operation would add more truck traffic to a summer season of existing traffic congestion (ref SCC 14.16.900(1)(b)(v)(E), (G), (I) permit conditions are necessary to reduce conflict.

The permit should be denied because the applicant has not proved that the gravel truck traffic will meet the Level of Service standards (ref SCC 14.16.440(8)(i) for the roads used beyond the Rosario Road and Marine Drive intersection, including a vulnerable section of Marine Drive. The TIA only references the immediately-nearby road segments at the Rosario Road and Marine Drive intersection and fails to address the significant travel routes along Campbell Road to SR20, Marine Drive to the North, and Rosario Road to the South, especially near Cougar Gap and SR20 at Pass Lake. Are the existing roads and road segments built to meet this level of use? Or would the heavy traffic accelerate the need for road repairs, adding additional costs to the county and state?

Increased gravel truck traffic is not compatible with existing landuse in South Fidalgo (ref SCC 14.16.900(1)(b)(v)(A), (I), with use being largely rural residential and parks. The County comprehensive plan requires that road use needs to be “landuse compatible” with the neighborhood.

These are just a few of the inadequacies noted in the traffic impact analysis submitted for this permit. We have read Traffic Impact Analyses for other gravel permit applications and they are much more comprehensive, providing the level of detail a decision maker needs for evaluating risk and conditioning a permit.

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1 Marble Mount Quarry Mine, Skagit County, TIA, Transportation Solutions, Inc. Redmond WA, Jan 2019.
In Summary:

- No assessment of safety impacts to road travelers was done. This is very important and should be done through a proper analysis (e.g., EIS).
- The analysis only assumes 26 trips per day maximum so the operator should be capped at that volume or less since analysis for the volume beyond that has not been completed. Again, need appropriate traffic modeling / EIS Traffic Discipline Report.
- Has there been an assessment of the loading impacts on roads and bridges that the trucks will be traveling on? There needs to be, particularly for Marine View Dr, given the landslide implications if the road subbase is not structurally sufficient for truck Equivalent Single Axle Loads (ESALs).
The Gravel Pit Expansion Proposal application and SEPA Checklist fail to demonstrate that the project meets County criteria for such factors as maintaining the character, landscape, and lifestyle of the rural area, found at (SCC 14.16.900(1)(b):

(I) The proposed use will maintain the character, landscape and lifestyle of the rural area. For new uses, proximity to existing businesses operating via special use permit shall be reviewed and considered for cumulative impacts.

Background: South Fidalgo Island with its scenic, rural qualities adds significantly to the quality of life for Skagit County residents. The setting also draws tourists from around the region and world as the gateway to one of Washington State Park system’s crown jewels, Deception Pass State Park and a National Scenic Trail, the Pacific Northwest National Scenic Trail.

Discussion: The applicant has failed to provide sufficient evidence to meet these criteria; a special use permit should not be issued until impacts are disclosed and effectively mitigated through permit conditions, such as limiting the amount of truck traffic, limiting truck hauls during peak seasons, days and hours of recreational use and limiting the term of the permit to 10 years.

Skagit County SEPA Review staff report for this proposal (page 8) says “there are no known recreational opportunities on or in the vicinity of the mine and proposed mine expansion area.” In fact, the property is surrounded by parks including: Deception Pass State Park (4,134 Acres), Mount Erie Park (40 Acres) with spectacular views looking down on rural properties below, Sharpe Park - Montgomery-Duban Headlands (110 Acres), a Skagit County Park and the nearby Anacortes Community Forest Lands (2,950 Acres)
South Fidalgo Island also hosts a segment of a National Scenic Trail, designated by Congress; The Pacific Northwest National Scenic Trail (PNT). A 1,200-mile-long footpath through some of the most spectacular and scenic terrain in the United States. It stretches between the shores of the Pacific Ocean in the Olympic National Park and the Rocky Mountains in Montana, connecting the varied landscapes and communities of the Pacific Northwest.

Because Deception Pass State Park is Washington’s most visited State Park with over 2 million visits annually, the rural character of South Fidalgo should be maintained and industrial traffic minimized. Increased heavy truck traffic can negatively impact tourism, an important part of the County’s diversified economy. The 2015 report, *Economic Analysis of Outdoor Recreation at Washington State Parks*, completed by Earth Economics of Tacoma, notes that the state park system creates jobs, contributes to tourism and especially benefits rural communities. According to this report, within Skagit County the economic contribution of State Parks is $7.5 million annually. In addition, State Parks in Skagit County generate 86 jobs directly related to expenditures made in support of recreation at these parks.

The gravel pit expansion will alter the character of the recreational setting. There are social, economic and physical benefits of parks and there are significant investments made over the years to acquire these properties, provide amenities and manage. The cumulative effects of additional gravel trucks on the road will detract from the scenic and recreational qualities of the area.

Because gravel truck traffic, dust, noise and tree clearing will detract significantly from the park experience residents and tourists seek on South Fidalgo, the project needs to be scaled back significantly and there needs to be additional permit conditions.

The roads accessing these parks are the same as those proposed to be travelled by gravel trucks: Rosario Road, Campbell Lake Road, Marine Drive and State Route 20. The cumulative impacts of as many as 26 gravel truck trips per day need to be disclosed before permitting this activity and the activities need to be conditioned so as to minimize negative impacts.

Because the gravel pit expansion will NOT maintain the character, landscape and lifestyle of the rural area, this project needs to be denied or significantly scaled back and conditioned to mitigate impacts to these significant values.

CONCLUSION

The application for Lake Erie Pit I’s gravel mine expansion does not provide information necessary for its approval. It omits required information for evaluating impacts to geological stability, groundwater, wetlands, traffic, and its rural setting amidst large tracts of highly popular natural parks. Absent this information, the application cannot satisfy the legal requirements established by SCC 14.16.440 for mineral projects and SCC 14.16.900 for special use permits. Consequently, Evergreen Islands respectfully requests that the Hearing Examiner deny the requested permit and direct the applicant to obtain sufficient information to characterize and
properly review project impacts. This is especially critical in light of the 60-year duration of the requested permit and the significant project risks to people, property, and the environment.

Sincerely,

/s/ Marlene Finley

Evergreen Islands

Attached:
Lake Erie Pit Comments, Stratum Group October 2020
ATTACHMENT A
October 13, 2020

Skagit County Hearing Examiner  
cc: Skagit County Planning and Development

Re: Lake Erie Pit 1, Gravel Mine Expansion, Application PL 16-0056

I am submitting these comments on behalf of Evergreen Islands. Evergreen Islands asked if I could provide geology information regarding the bluffs to the west of the mine and if groundwater changes could impact the stability of the bluffs.

I have conducted several geology hazard assessments on the bluffs west of the Lake Erie Pit that have included detailed assessment of the geology units and a detailed assessment of the bluff failure processes. The geology hazard assessments included field inspection of the bluff slopes and shoreline at the base of the bluff. The evaluations included observations of exposed geologic units, hand dug test pits to determine the underlying soils and geology units, review of available geologic mapping, lidar (light detecting and ranging) imagery, historical aerial photographs and maps, and my own notes and observations I have made in the vicinity of the site and at locations with similar geologic conditions.

Based on my geology hazard assessments of the bluff slopes to the west, perched groundwater issuing as springs and seeps has a significant impact on slope stability on the bluff slopes to the west of the mine. As such groundwater changes have the potential to significantly impact the stability of the off site slopes.

An increase in bluff failure frequency and an increase and in the scale of failures will have a significant impact on homes located near the bluff, on roads and infrastructure located near the bluff and on shoreline processes along the beach area.

The bluff stability issue was never evaluated or discussed in the SEPA Environmental Review Staff Report and was not evaluated in the Hydrologic Site Assessment Report (dated September 28, 2016), the Observation Well Report (dated September 28, 2017) or the Lake Erie Pit Well Reconnaissance (dated March 11, 2019).

Before providing some specific comments, the following figures are provided give some perspective on the geology conditions on the bluff slopes immediately to the west of the proposed mine expansion.
Figure 1. Washington State Department of Ecology Coastal Atlas slope stability map. Note that the slope immediately adjacent to the gravel pit (modified land in purple) is mapped as Unstable and within that unstable area is an area mapped as Unstable (recent slide). This map alone indicates that a mine site is adjacent to a landslide hazard area per the Skagit County critical areas regulations and the hazard should be evaluated.

Figure 2. Lidar bare earth image from Skagit iMap. The slope failures are associated with deep groundwater within a dense sand formation perched on an impermeable silt/clay formation. These deep divots are all associated with groundwater. When groundwater levels rise the increase pore pressures in the sand formation cause the bluff slopes to collapse. Controlling water inputs to groundwater is a critical factor for bluff stability.
Figure 3. Dense in-situ sand underlying the bluff slopes with the amphitheater-like landform. These sands can collapse when saturated and subject to high pore water pressure. Somewhat like a sandcastle becoming saturated.
Geologic Hazards

Figure 4. Silt and clay underlying the base of the amphitheater-shaped feature to the west of the mine.

Figure 5. Hard massive silt/clay on lower shoreline bluff. The hard silt clay is resistant to wave erosion and will hold very steep slopes for long periods of time.

Stratum Group
Geologic Hazards

Figure 6. View of smaller amphitheater landform with hard silt/clay on lower bluff and steep sand and gravel bluff above.

Figure 7. Site of recent sand blowout from perched groundwater just above the silt clay layer.
Figure 8. Another site where the sand unit collapse and flowed down over the hard silt/clay to the beach area below.

**SEPA Checklist**

Page 4, Section B 1 Earth, Question c. Are there surface indications or history of unstable slopes in the immediate vicinity? If so, describe.

The checklist answer was “no”. This is clearly in correct as there are mapped unstable slopes and recent landslides in the immediate vicinity.

Note that Skagit County Code 14.24.410 2) designates landslide hazard areas. The slopes immediately to the west of the proposal meet criteria (a), (b)(i), (c), (d) and (e).

Further section 14.24.420 Geologically hazardous areas site assessment requirements. (1) If the Administrative Official determines that the proposed development activity is located within 200 feet of an area of known or suspected risk as indicated in SCC 14.24.410, or within a distance from the base of a landslide hazard area equal to the vertical relief, and that the geologic condition may pose a risk to life and property, or other critical areas on and off the project area, a geologic hazard site assessment as indicated in this Section shall be required. This site assessment shall be prepared by a qualified professional.
Page 6, Question 3. Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site?

The checklist answer was “no”. The potential that the mine expansion could affect drainage patterns was not evaluated. The assumption is that all the water would soak into the ground is likely correct; however, the consequences of that on drainage was not considered. Removal of vegetation and soil, including removal of low permeable glacial till underlying much of the yet to be mined area will increase groundwater recharge, that increase has the potential to impact the deep-seated landslide areas to the west as it is likely within the groundwater recharge area of those slide areas.

The removal of the low permeability till soils could also alter surface flow and shallow perched water flow that would otherwise be directed towards Lake Erie; a water body designated as a low flow water body in the Skagit County critical areas regulations.

**SEPA Environmental Review Staff Report**

Page 2, Earth Element:

There is no discussion or mention of the adjacent landslide hazard area. The increased groundwater recharge by increasing the mine area by 3 times its current size is not considered. Only slopes within the mine site are discussed.

Page 4, Hydrogeologic Impacts:

The staff report simply references the 2016 Hydrogeologic Site Assessment Report conclusions regarding mine impacts to groundwater quality and quantity or result in draining surface water resources adjacent to the mine site. However, referenced report did not evaluate the potential impacts of groundwater changes from the mine expansion to slope stability to the west and northwest of the mine. Further, the report does not mention or discuss the springs that drain groundwater on the bluffs to the northwest. The presence of these springs suggests the inferred groundwater flow direction to the northeast in the report is not correct.

**Hydrogeologic Report(s)**

A fundamental problem with the hydrogeologic assessment in regard to the bluff slope stability is illustrated in the groundwater contour map of the report:
There is a lack of any elevation control on the west side of the groundwater contour map. The one elevation on the west at the Dodson Canyon Spring is assigned an elevation that appears lower than the actual spring elevation, but regardless groundwater is flowing towards the spring area not lateral to the springs as indicated.

Elevations I have obtained from field work on the slopes west and northwest of the mine are between 165 and 175 feet. Again groundwater will be flowing towards these springs and hence the contours and corresponding groundwater flow paths will be towards the bluff in that area.

The expansion of the mine will increase groundwater and groundwater flow from the mine area will increase. At least some of that increase will be towards the unstable bluffs where the sand formations are located very low permeability silt/clay. An increase in groundwater flow will increase the frequency and magnitude of landslides.

**Conclusion**

The increase groundwater flow towards the unstable bluffs has not been recognized by the applicant or by the county staff report. This potential groundwater flow increase could have significant impacts to the stability of the bluff slopes to the west and northwest of the mine posing a significant threat to homes and infrastructure as well as shoreline processes and habitats.

Given the potential risk this mine expansion project poses, the potential groundwater flow increase towards the unstable bluffs should be fully quantified.
October 12, 2020
Comments Lake Erie Pit Expansion

Geologic Hazards

I appreciate your taking review of these comments. Should you have any questions regarding this please contact feel free to contact me at 360-510-5406 or mcshanedan@gmail.com.

Sincerely yours,

Stratum Group

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