



Protect Lake Simcoe

A discussion paper outlining alternatives to the 'Georgina Island Fixed Link Project' and why a bridge and two causeways would be environmentally damaging to Lake Simcoe

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Introduction

The Proposed Project

The Chippewas of Georgina Island First Nation are proposing to construct and operate what they have named the “Georgina Island Fixed Link Project”. This project consists of a 3.6 km two lane 40-foot-wide roadway, including two permanent causeways, a new 1200 metre-long 65 foot high bridge and a 1 km roadway through the Greenbelt connecting the southern end of Georgina Island to the mainland in the Town of Georgina across Lake Simcoe.

About the Lake Simcoe South Shore Residents Association

The Lake Simcoe South Shore Residents Association (“LSSSRA”) represents several hundred residents that will be directly affected by the Georgina Island bridge and causeway project.

The LSSSRA’s priority is the wellbeing of everyone who lives by the lake, including the Chippewas of Georgina Island First Nation, the thousands of campers who visit the almost adjacent Sibbald Point Provincial Park, non-member residents, boaters and Lake Simcoe itself.

Summary of Concerns

The Chippewas of Georgina Island First Nation have voiced concerns about the reliability of the existing diesel ferry used to access Georgina Island and want to improve the convenience of travel and address the need for better connectivity and safety. The LSSSRA strongly agrees there must be a reliable, safe and sustainable method of transportation to and from Georgina Island. That said, we also hold that the method of transportation need not jeopardize the sensitive natural ecosystem unique to this part of the lake.

The project will require filling Lake Simcoe with 4.5 million cubic metres of gravel, stones, dirt and rock to build two, 1.4 km causeways; massive, 65 foot high concrete and steel piers to support the 1.2 km span of the bridge; and cutting down



thousands of trees and extensive foliage to build the road, which cuts through the Greenbelt, from Black River Road to the shoreline and causeway.

It is also important to note that the bridge and causeway project will not be open to the public. If built, it will only be accessible to the cars, trucks and emergency vehicles of the approximate 200 First Nation residents of Georgina Island and their registered guests.

The question is, is building two causeways and a 65-foot-high bridge, dumping enough dirt and rock to fill the Rogers Centre in Toronto three times over, and building colossal concrete and steel piers to support the bridge the best option? When you consider the potential impact and viable alternatives, the answer is an emphatic no.

Summary of Recommendations

1. The Government of Canada and the Canada Infrastructure Bank (“CIB”) must give serious **consideration to alternatives to the proposal**, such as an electric ice capable ferry, which is immensely more environmentally friendly, reliable, safe and less costly.
2. Given the significant environmental, safety and financial impacts of the 1.2 km bridge, the 1.4 km causeways and the 1 km road, the LSSSRA strongly urges the Impact Assessment Agency of Canada (“IAAC”) to **conduct a full, complete and comprehensive Impact Assessment** of the project.



Concerns

Concern 1: The project would have a detrimental environmental impact on Lake Simcoe and the surrounding area

The environmental impact of the bridge and causeways would be immense. The two causeway sections would require 4.5 million cubic metres of fill to be poured into a highly environmentally sensitive area of Lake Simcoe, posing a significant risk to the health of Lake Simcoe's drinking water as well as the fish and marine wildlife, including crayfish, frogs, birds, turtles, snails, insects, crustaceans, fish, and others—all of whom depend on the lake for survival. The fill will also provide an ideal place for zebra mussels to live, a particularly damaging invasive species, which filters out algae that native marine wildlife needs to live, and disturb and re-distribute thousands of years of accumulated sediment with potentially toxic contaminants, endangering all living things.

This area of the lake has a unique microclimate. It has sandy beaches and shorelines, a depth of only 10 feet in most places and thick underwater foliage. These features make it a natural spawning location and habitat for many fish species, including at-risk species. As well, it means the fish that are born by the south shore end up constituting a large percentage of the fish living in Lake Simcoe. The south shore is also a natural habitat for thousands of birds, mammals and amphibians.

The bridge and causeways would be disastrous for all these animals. The massive concrete and steel piers required to support the 1.2 km bridge would be buried in the lakebed, firmly attached to the bedrock. The introduction of these foreign objects would have a seismic effect on the fish and their habitat.

As well, keeping the bridge and causeways free of ice, sleet and snow drifts throughout the winter will require large amounts of sand, salt and other ice melting chemicals. As the snow and ice melt, these substances will end up in the lake, killing fish eggs and young fish in their natural spawning area. The chemicals will also certainly poison the countless other marine animals and birds that call the south shore of Lake Simcoe their home.

The bridge and causeways impact expands beyond the shoreline, as it is estimated the construction of the project would require clear cutting thousands of mature trees



on the mainland and carving a road through a Greenbelt protected area. This would further the environmental damage of an already disastrous proposal.

Concern 2: The project would pose significant safety concerns

The bridge and causeways pose significant safety concerns for those travelling between Georgina Island and the mainland. During the winter, the causeways and bridge will be covered by drifting snow, sleet and ice, increasing the risk of serious collisions and accidents. Given the bridge is 65 feet tall at its highest point, many of these accidents could be deadly. At times, the bridge and causeway will be impassable to any vehicle, including an ambulance, firetruck or other emergency vehicles. In a winter storm, clearing the full 2.4 km length would be impossible. The bridge and causeway cannot be relied upon for travel for emergency vehicles.

The project also poses a risk to night boaters. Every year there are incidents where night boaters collide with islands, peninsulas and other boats. The bridge and causeways, which are set to span several kilometers across Lake Simcoe, would inevitably cause collisions and potentially claim lives.

The trend of young people recreationally jumping off bridges also poses a threat. This past summer a young man died jumping off a bridge only a few kilometres from the proposed project. No amount of “No Jumping” signs will prevent another teenager from dying.

Concern 3: The project would cost an exorbitant amount of taxpayer dollars

The bridge and causeways are projected to cost, at minimum, a staggering \$400 million to construct. A significant portion of which is expected to be funded by the Canada Infrastructure Bank and the Government of Canada. This figure does not include future maintenance and operational costs, which would likely be significant. It is important to put this figure into context. Currently, there are approximately 200 First Nations people living on Georgina Island. This means the cost of the project per capita is approximately \$2 million. This small number of users also means that the project will never meaningfully be revenue generating and will only be a financial burden to taxpayers.

It is also important to note that no one else in the region will benefit from the project because the Chippewas of Georgina Island First Nation have made clear that it will only be accessible to residents of the island and registered guests. There would be no public use at all.

Additionally, the \$400 million price tag is only an initial estimate by the Chippewas of Georgina Island. A leading Canadian engineering firm reviewed the project and concluded that it's highly unlikely that, given the sheer scale of bridge and causeways, it can be completed for \$400 million. They found that it could easily end up costing between \$700-\$750 million given current market rates for labour,



materials and transportation, and that is before accounting for ongoing maintenance and operational costs.

Particularly when compared with the viable alternatives, which are detailed in this document, the price tag for this project is exorbitantly high.

Concern 4: The project's size is unreasonably large for the area

At 2.4 km in total length, not including the roadway connecting it to Black River Road, the Georgina Island Fixed Link Project would be one of largest structures in Canada. The bridge alone will be 1.2 km long and 65 feet high. For context, the Gordie Howe International Bridge connecting Windsor and Detroit, which is slated to be finished in 2024, is approximately the same size as the bridge and causeway. The project would also be significantly longer than the Niagara Falls Peace Bridge, which only measures 1.77 km.

This begs the question, why? Why construct something only 300 meters shorter than the Golden Gate Bridge for less people than the capacity of four city buses? In no way is the scale of the project commensurate with its intended purpose, nor does it at all reflect the modest nature of the south shore of Lake Simcoe.



Recommendations

Recommendation 1: Consider alternatives that are more environmentally friendly, reliable and less costly

We strongly agree with the Chippewas of Georgina Island that there should be a safe and efficient way of travelling to Georgina Island year-round, particularly for emergency vehicles such as ambulances.

There are several reasonable alternatives to the bridge and causeways that would connect people from the mainland to Georgina Island safely and reliably without risking the health of Lake Simcoe and the wildlife that lives within it, as well as hundreds of millions of dollars of taxpayer money.

Unlike the proposed project, the alternatives outlined below would not require an Impact Assessment as they produce no negative environmental impacts and present a significant improvement to the existing ferry.

Option 1: Purchase a Large Electric Ice Capable Ferry

To accommodate the need for travel to Georgina Island, the government should purchase a new electric ice capable ferry, 50 per cent larger than the current ferry. This new ferry would have capacity to transport 70 people and 24 cars. It would also enable year-round, 24/7, rapid, safe and reliable access to the mainland.

Hike Metal Products, the largest Ontario ship building company, stated they could build this ferry and have it ready and in the water in Lake Simcoe for roughly \$30 million. These ferries have an estimated life of 50 – 60 years. At current rates, electricity for this ferry would cost about one third of the current diesel costs. As well, there is no warm-up or idling time, another significant savings.

In addition to being safe for marine and terrestrial wildlife, an electric ice capable ferry would be safer for people. It's built to be reliable and operate in any weather conditions year-round, avoiding the danger of having to drive an ambulance, truck or car on a snowy winter night across a bridge covered in ice and sleet.



Leading Canadian marine engineering firm 3GA Marine has previously designed a similar type of ferry for Lake Simcoe. Lake Simcoe's south shore requires a ferry to have a draught of 10 feet or less. The 3GA's electric, ice capable ferry only has a draught of seven feet, providing a significant buffer zone. This means that the ferry's draught would not be a concern, even at full capacity.

Option 2: Purchase the Same Size Electric Ice Capable Ferry

If it is determined that a larger ferry is not required, the government should purchase an electric ice capable ferry that is the same size as the existing one. Hike Metal Products can deliver this ferry for under \$30 million. It would allow for year-round access to Georgina Island and has the same benefits as the larger option, just with slightly reduced capacity.

Option 3: Electrify and Retrofit the Existing Ferry

The current ferry was built in 1999 by Hike Metal Products and runs on diesel. It was built to have a life expectancy in fresh water at least two decades past 2023. Not surprisingly, it does have some wear on it. To address these issues, the existing ferry could be electrified and retrofitted to improve its reliability, efficiency and ice capability.

The ferry's current diesel engine emits significant pollutants into a fragile ecosystem, undermining the government's goal to reach net-zero emissions by 2050. Electrifying the ferry would ensure that it no longer produces harmful emissions. It would also significantly reduce ongoing costs, as the cost of electricity is lower and does not vary nearly as much as diesel costs.

Moreover, retrofitting the existing ferry would address concerns about the ferry's continued ability to operate in the winter. Reinforcing the hull with steel would ensure the vessel can quickly and safely break even the thickest ice Lake Simcoe has to offer.

Importantly, this option would be relatively inexpensive. According to Hike Metal Products, it could be electrified and retrofitted for \$5-6 million – far less expensive than the projected \$400 million it would cost to construct the bridge and causeway.

Option 4: Operate Two Ferries

The volume of travel to and from Georgina Island is inconsistent. During the summer months, there are far more residents and registered guests using the ferry than the winter months.

To account for the increased volume in the summer and decrease the wait times of residents, the existing ferry could be electrified and retrofitted in addition to purchasing a new electric ice capable ferry. This would double the capacity and halve the wait time during the busy season. In winter months, only the new electric



ice capable ferry would be used. This would solve all the stated objectives of the Chippewas of Georgina Island First Nation while utilizing existing infrastructure.

Option 5: Air-Cushion Vehicle

Air-cushion vehicles are amphibious crafts capable of travelling over land, water, mud, ice and other surfaces. They use blowers to produce a large volume of air below the hull, or air cushion, that is slightly above atmospheric pressure. The pressure difference between the higher-pressure air below the hull and lower pressure ambient air above it produces lift, which causes the hull to float above the running surface.

In addition to one of the other ferry alternatives, this would enable passage across Lake Simcoe in all weather, regardless of whether Lake Simcoe is frozen or not. There are a wide range of firms that produce these vehicles, however options which could transport ambulances and other emergency vehicles are available for as low as \$2 million, or one two hundredth the price of the bridge and causeways.

Option 6: Continue Using Existing Ferry

Hike Metal Products, the manufacturer of the existing ferry, told the LSSSRA the existing ferry is not close to its “end of life,” particularly because it has only ever been used in fresh water.

The current ferry is 24 years old, and Hike Metal states that it should last at least 50 years, which gives it 26 more years of active service.

The existing ferry could continue to be used while an IA is conducted to determine the impact of the bridge and causeway, or one of the above alternatives could be built and ready to go in Lake Simcoe.

Recommendation 2: The Impact Assessment Agency of Canada must require that a comprehensive Impact Assessment be completed

The Chippewas of Georgina Island First Nation intend to submit a Detailed Project Description (DPD) requesting an exemption from the Impact Assessment process – citing the aging ferry as an urgent needs case. The burden of proof required for an IA exemption is typically very high, and exemptions are rare.

The IAAC would only determine that an IA is not needed under two circumstances:

1. *If the development would not cause material adverse environmental effects and does not impact the rights of Indigenous Peoples.*
2. *If those adverse effects could be adequately accommodated through existing legislative or regulatory processes.*



It's clear that the bridge and causeways is not eligible for an exemption from a full Impact Assessment in either circumstance.

For #1, as outlined previously, the construction and operation of the project would result in material adverse environmental effects. The two causeway sections would require 4.5 million cubic metres of fill to be poured into Lake Simcoe, posing a significant risk to the drinking water and the health of the lake's fish and marine wildlife, including crayfish, frogs, birds, turtles, snails, insects, crustaceans, fish, birds and others. It is also estimated that the construction of the 1 km roadway connecting the project to Black River Road would require clear cutting thousands of mature trees on both the mainland in the area designated as Greenbelt and the island.

For #2, once these adverse environmental impacts have occurred, there would be no way to remedy them through "existing legislative or regulatory processes." The environmental damage would in many cases be permanent.

Further, the claim that the age of the existing ferry makes the exemption from the Impact Assessment process necessary lacks substance. According to the manufacturer of the existing ferry, Hike Metal Products, the existing ferry likely has at least 26 years of active service left before it is unusable. This means that the Impact Assessment process, which could take between one to four years to complete, could proceed without the risk of the Chippewas of Georgina Island First Nation lacking a safe way to travel to and from the mainland.

Impact Assessments are routinely required for new public roads – the proposed project has a much larger scope and would have an immensely greater environmental impact than a single road. As such, it's clear that the project must be subject to a full Impact Assessment to protect one of Ontario's most sensitive ecosystems. Failure to do so could lead to a significant loss in biodiversity, the regional extinction of several at-risk species and thousands of trees being unnecessarily cut down.



Conclusion

In conclusion, the Lake Simcoe South Shore Residents Association believes that:

- A project of this size, in an environmentally sensitive area, is highly unusual;
- The detrimental impacts on the environment would be extensive and irreversible;
- Existing safety concerns about the bridge and causeway undermine the goal of providing a safe and efficient mode of transport between Georgina Island and the mainland; and
- The costs to the taxpayer would be immense and unnecessary given the number of strong alternatives that are far less expensive.

We are calling on decision-makers to act on two recommendations:

1. Consider alternatives to the bridge and causeways, including:
 - *Purchasing a large electric ice capable ferry;*
 - *Purchasing a same size electric ice capable ferry;*
 - *Electrifying and retrofitting the existing ferry;*
 - *Operating two ferries;*
 - *Purchasing an air-cushion vehicle; or*
 - *Continuing to use the existing ferry.*
2. Require a full Impact Assessment to ensure that the inevitable environmental damage to Lake Simcoe is minimized.

Particularly in a time when Ontario is rapidly losing biodiversity and protecting our environment has never been more critical, approving a project like this without meaningfully considering alternatives or subjecting it to a full Impact Assessment would be irresponsible.

We appreciate you taking the time to review our discussion paper and if you have any further questions, Lee Simpson, President of the Lake Simcoe South Shore Residents Association, can be reached using the below contact information:

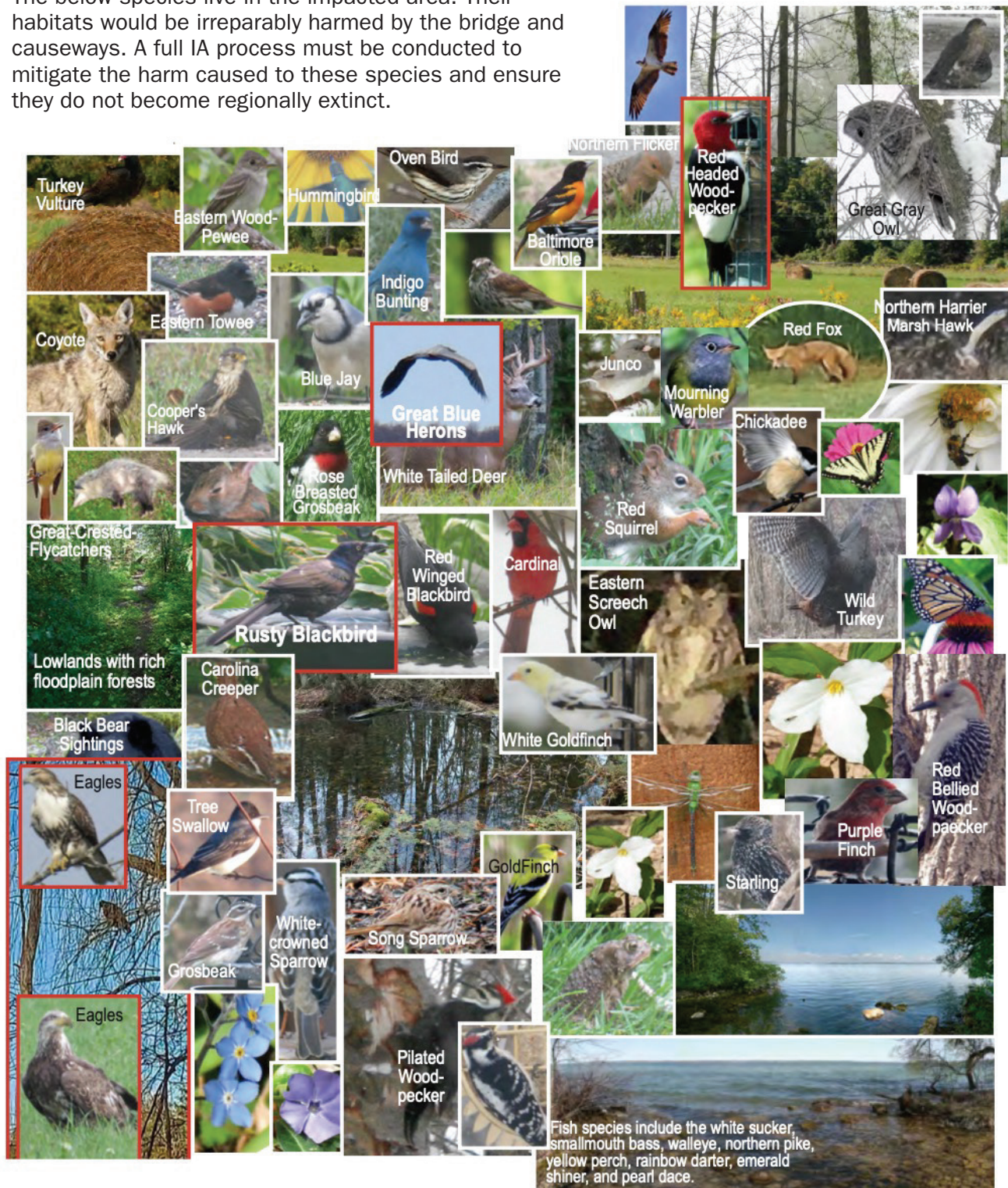
Lee Simpson
lakesimcoessra@gmail.com



Appendices

Appendix A

The below species live in the impacted area. Their habitats would be irreparably harmed by the bridge and causeways. A full IA process must be conducted to mitigate the harm caused to these species and ensure they do not become regionally extinct.



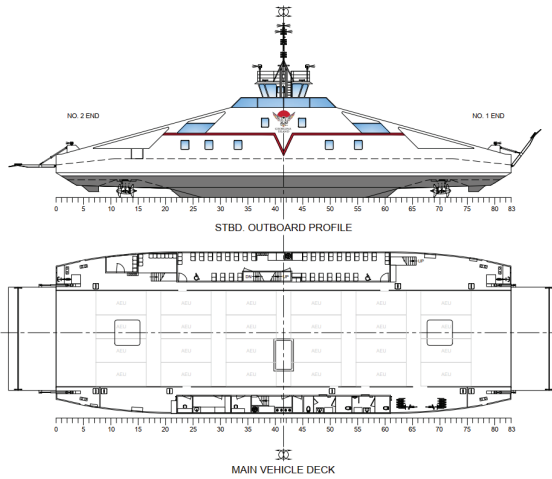
Appendix B

Below is an image of Lake Simcoe's south shore. These are some of the thousands of trees which would need to be cut down to provide access to the bridge and causeway.



Appendix C

The below diagrams show the dimensions of the proposed larger electric ice capable ferry.



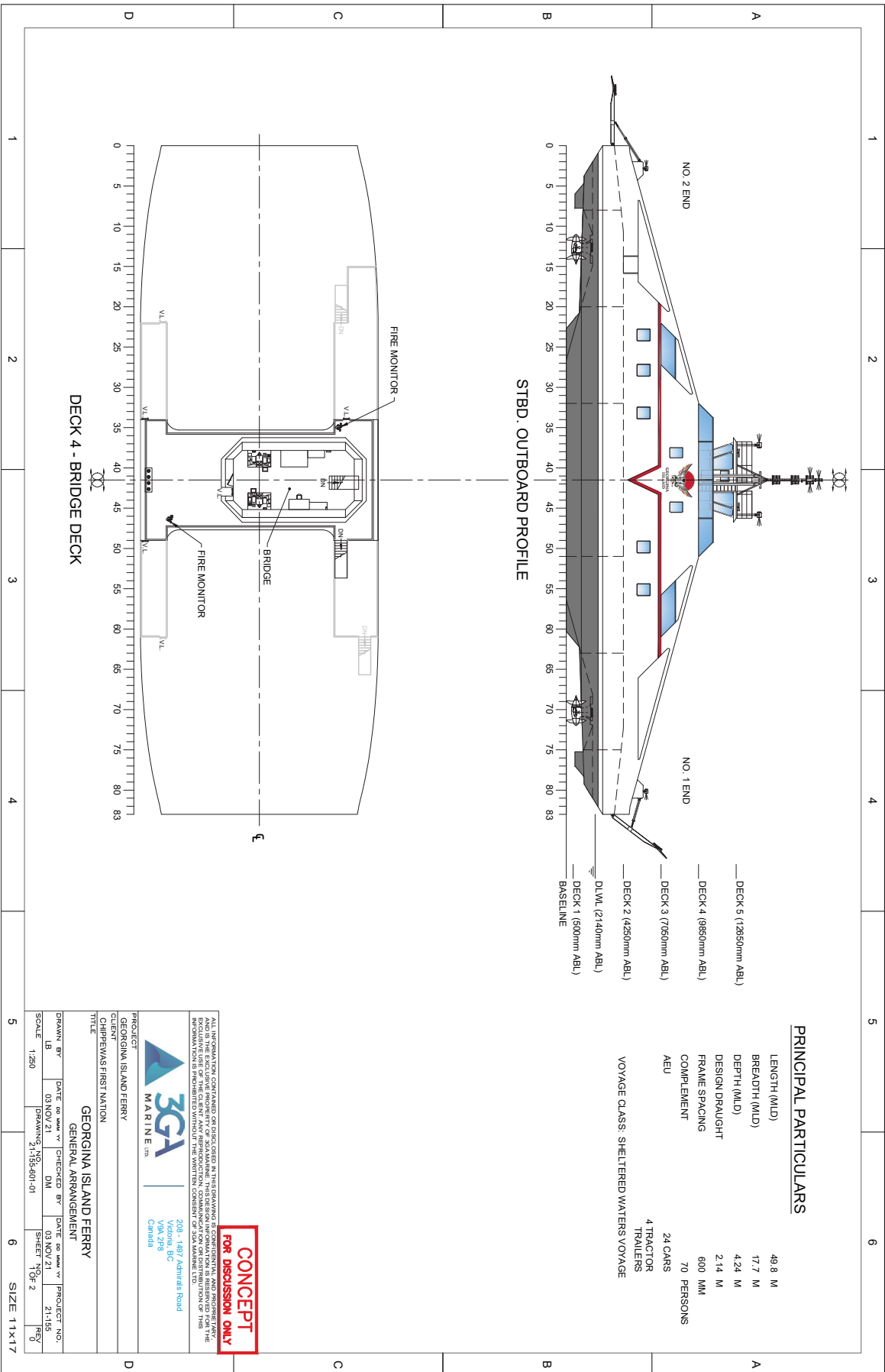
PRINCIPAL PARTICULARS

LENGTH (MLD)	49.8 M	COMPLEMENT	70 PERSONS
BREADTH (MLD)	17.7 M	AEU	24 CARS
DEPTH (MLD)	4.24 M		4 TRACTOR TRAILERS
DESIGN DRAUGHT	2.14 M		

KEY FEATURES

- SHORE CHARGED
- ELECTRIC PROPULSION SYSTEM
- ZERO EMISSIONS
- ICE CAPABLE
- YEAR-ROUND OPERATION





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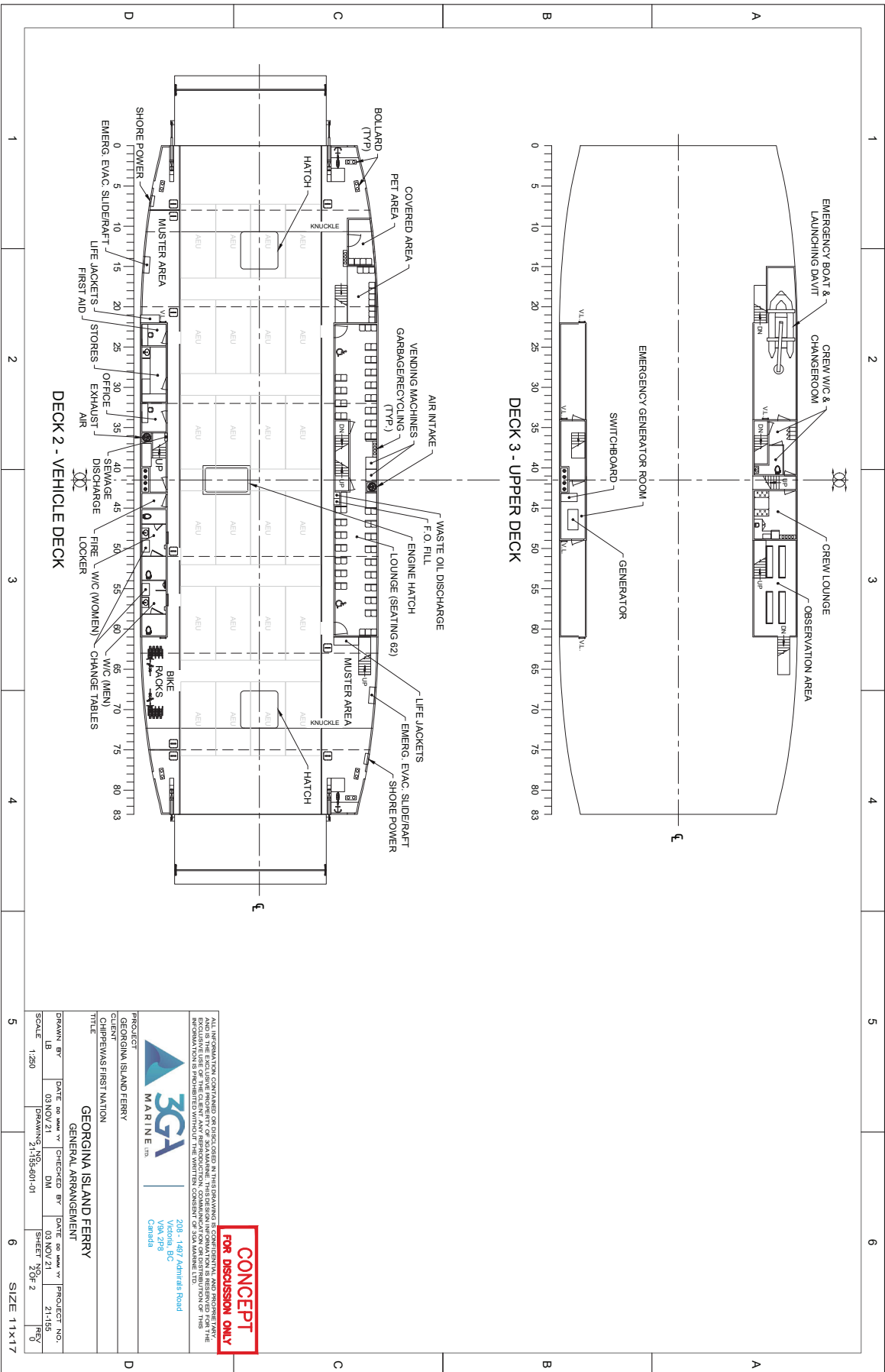


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V8A 2P8
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PROJECT	GEORGINA ISLAND FERRY	
CLIENT	CHIPPENWAS FIRST NATION	
TITLE	GEORGINA ISLAND FERRY GENERAL ARRANGEMENT	
DRAWN BY	DATE	PROJECT NO.
LB	03 NOV 21	21-155
CHECKED BY	DATE	
DM	03 NOV 21	
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21-155-001-01	15 OF 2	0

**CONCEPT
FOR DISCUSSION ONLY**





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SCALE	1:250	DRAWN'S 21-145-001-01	SHEET 2 OF 2

