DATE 26 April 2019

TO Rob Conway, MCIP, RPP
   Director of Planning, Municipality of North Cowichan

FROM Andrew Rippington, BSc, RBTech

TECHNICAL MEMORANDUM
Reference No. 18114915-001-TM-Rev0

THIRD-PARTY REVIEW OF ENVIRONMENTAL IMPACT ASSESSMENT FOR VANCOUVER ISLAND MOTORSPORT CIRCUIT

1.0 INTRODUCTION

Golder Associates Ltd. (Golder) was retained by the Municipality of North Cowichan (hereinafter referred to as the Municipality) to conduct a third-party review of the Environmental Impact Assessment (EIA) completed for a proposed development project in the Municipality. The project is located within Section 4, Range 4 of the Somenos District north of Highway 18 and involves the expansion of the Vancouver Island Motor Sport Circuit (the Project). Aquaparian Environmental Consultants (Aquaparian) was retained by SupErb Construction Ltd. on behalf of 1909988 Ontario Ltd. to complete the EIA. The EIA was completed in two stages with preliminary evaluations, biophysical assessment and Bing Creek Riparian Area Regulation (RAR) Assessment completed in mid-2017 and the EIA and Menzie's Creek RAR completed in September 2018.

Golder takes in good faith and trusts that the biophysical data presented in the EIA is accurate and understands that the assessment was completed by a Registered Professional Biologist who is governed under the Code of Ethics for members of the College of Applied Biology. The objectives of the third-party review are as follows:

- Review applicable municipal, provincial and federal environmental legislation, regulations and policy to confirm that a reasonable level of information and standard of care was taken in the EIA (Evaluation Criteria).
- Identify potential gaps in the EIA based on the opinion and experience of Registered Professional Biologists with Golder (Analysis of Assessment).
- Provide recommendations to the Municipality and include suggested Development Permit conditions for the Project (Recommendations).
2.0 EVALUATION CRITERIA

The impetus for the EIA was triggered by the Project occurring in an area containing mapped Development Permit Area 3 (Natural Environment) lands. As set out in the North Cowichan Official Community Plan (Bylaw 3450) (Municipality of North Cowichan 2011) and Development Permit Guidelines for DPA-3, all proposed activities in environmentally sensitive areas must be evaluated by a Registered Professional Biologist that inventories the development site’s natural features, ecological processes and unique ecosystems. In addition to documenting the baseline conditions of the site, the assessment must include:

- An explanation of how linkages with adjacent sensitive ecosystems will be maintained to minimize fragmentation.
- An environmental impact assessment of the proposed development, with appropriate recommendations for the construction, mitigation and protection of habitat to minimize the impact of development and preserve or restore the natural ecosystem components and processes that are critical to ecosystem function and health.
- An environmental impact statement regarding possible impacts on any protection area by the proposed development; proposed mitigation, restoration and enhancement measures; and a vegetation management plan.

Golder interprets these requirements to include an assessment of not only construction impacts but also impacts associated with operation of the Project (i.e., driving automobiles on the track). Where appropriate the distinction between construction and operation related impacts and mitigations are differentiated. The third-party review also seeks to confirm that all criteria were met regarding provincial and federal environmental legislation that have the potential to be triggered by the Project. Applicable provincial and federal legislation considered in this review include:

Province of British Columbia

- Riparian Areas Protection Act (2016)
  - Riparian Area Regulation
- Water Sustainability Act (2016)
  - Water Sustainability Regulation
- Environmental Management Act (2003)
  - Spill Reporting Regulation
  - Spill Preparedness, Response and Recovery Regulation
  - Spill Contingency Planning Regulation
- Weed Control Act (1996)
  - Weed Control Regulation
Federal Statutes

- Fisheries Act (2012)
- Species at Risk Act (2002)
- Migratory Bird Convention Act (1994)

Additionally, several Best Management Practices (BMPs) were reviewed to confirm that mitigations proposed were sufficient for managing impacts from project activities and so the Project could be completed to an appropriate standard of environmental care. The list of BMPs reviewed included:

- Guidelines for Amphibian and Reptile Conservation During Urban and Rural Development in British Columbia (BCFLNRO 2014b)
- Land Development Guidelines for the Protection of Aquatic Habitat (Fisheries and Oceans Canada 1992)
- Riparian Areas Regulation Model (B.C. Ministry of Environment and Climate Change 2019)
- Measures to Avoid Causing Harm to Fish and Fish Habitat (Fisheries and Oceans Canada 2018)
- Best Practices for Managing Invasive Plants on Roadsides (B.C. Ministry of Transportation and Infrastructure and Invasive Species Council of B.C. 2015)
- Ecological Restoration Guidelines for British Columbia (British Columbia Ministry of the Environment 2001)

3.0 ANALYSIS OF IMPACTS AND MITIGATIONS

Groundwater

The EIA does not include a detailed assessment of impacts to groundwater and concludes that groundwater is not anticipated to be impacted by the Project. A groundwater assessment was not specifically required with the DPA-3 Environmental Assessment Requirements; however, groundwater can be negatively affected from accidental spills and leaks during construction and operation potentially triggering the Environmental Management Act and associated regulations. Aquaparian lists several detailed mitigations with respect to accidental spills and leaks during construction of the Project and in part proposes that an Environmental Monitor (EM) be on-site full-time for all instream work and part-time for the remainder of the Project based on Project activities, timing, weather and potential risks to the environment. Golder recommends this requirement should be specified within development permit conditions and expanded to require that the Contractors EM prepare a Construction Environmental Management Plan (CEMP) to outline how detailed site-specific and location-specific prescriptive mitigations measures identified within the EIA and this review will be implemented. The CEMP should be prepared by a
Qualified Environmental Professional (QEP) preferably in consultation with the Contractor who can provide input on available equipment, construction methods and should be approved by the Municipality prior to construction.

J.E. Anderson and Associates (2018) recommend that the Operator of the Circuit prepare a plan to maintain drainage flow and water quality throughout operation to prevent contamination of stormwater discharging from the site. This would be a separate plan from the CEMP and would focus on operation of the circuit and should also be approved by the Municipality prior to initiation of the Project. The drainage flow and water quality (including waste water) plan should adhere to all municipal and provincial water quality guidelines (B.C Approved Water Quality Guidelines: Aquatic Life, Wildlife and Agriculture 2018).

Surface Water / Hydrology
The EIA describes surface water/hydrology impacts to Menzies Creek from the installation of the four culvert crossings and the associated straightening of the creek alignment and narrowing of the stream channel. Potential impacts to surface water quality are specified for the Menzies Creek Tributary. Erosion and sedimentation from exposed soils and accidental spills and leaks from vehicles, heavy equipment and portable equipment have the potential to impact surface water quality on the site. Numerous mitigations to reduce impacts to surface water quality are presented in Section 9 and include provisions for preparation of an Erosion and Sediment Control Plan and a separate In-Stream Works Plan (included with the Water Sustainability Act Section 11 application). Construction within watercourses is planned to occur during the dry season but if there is any flow during construction Golder recommends that downstream turbidity monitoring and streamflow monitoring be conducted to confirm the Project is not impacting downstream habitats. Turbidity guidelines are provided in the B.C Approved Water Quality Guidelines: Aquatic Life, Wildlife and Agriculture (2018) and streamflow downstream of the work should be maintained equivalent to upstream flows. Golder recommends that these plans be included in the proposed CEMP (as described above) so that one stand-alone document can be referred to during construction. Having one CEMP that a Contractor/EM can refer to during construction that is applicable to the construction methods proposed and equipment available reduces uncertainties in the construction process, cost overruns and potential non-compliance.

Air Quality
Within the EIA impacts to air quality were discussed regarding temporary short-term heavy equipment exhaust; however, no mitigations were specified in this regard. There is no specific legislated requirement to mitigate air quality impacts from construction equipment exhaust; however, agencies such as BC Ministry of Transportation and Infrastructure (BCMOTI) are adopting BMPs with regards to vehicle/equipment idle reduction. The Contractor is encouraged to develop innovative and practical methods for potential idle reduction opportunities applicable to the Project. These methods can be incorporated into the proposed CEMP and could include:

- Locating vehicle staging areas to minimize impact of emissions.
- Implementing vehicle idling time restrictions.
- Use of appropriate and practical idle reduction technologies.
- Effective communication and reinforcement of idle reduction opportunities that are undertaken (BCMOTI 2016).
Land and Soil

Within the EIA impacts to land and soil were described by the amount of soil disturbance estimated to be 25 ha or 58% of the Project area. Aquaparian states that overburden will be removed, processed and re-used on-site. It is not clear what processing of overburden will entail but organic stripping and topsoil should be retained where possible and stored separate from subsoil. These stockpiled soils should be covered with polyethylene sheeting to prevent incursion from invasive plants (BCFLNRO 2014a). Considering many of the disturbed areas will be revegetated following construction (Table 5 – Total revegetation area = 15.5 ha), maintaining topsoil and overburden will be important for revegetation success.

Several mitigation measures have been proposed to reduce erosion from stored soil piles and recently stripped areas by staging work in drier periods and stabilizing bare soils. These methods should be included in the proposed CEMP and developed in collaboration the Contractor. As the amount of land disturbance is quite large it is recommended that all efforts should be made to reduce the amount of disturbance in the final design.

The impact to land and soil from accidental spills and leaks during construction and operation are not discussed; however, spill management is discussed generally in the Mitigation section.

Flora

Impacts to vegetation include the direct loss of 14.3 ha of 40-year-old forest, and 5.12 ha of 14-year-old early seral vegetation; totalling 19.42 ha. The total includes 3.84 ha of riparian forest of which 1.50 ha is the Streamside Protection and Enhancement Area (SPEA). To mitigate impacts to the loss of vegetation resources, Aquaparian proposes revegetation outside newly developed surfaces and includes 1.3 ha of 2 m grass strip, 2.0 ha of landscaping, 10.7 ha of reforestation and 1.5 ha of Bing’s Creek Riparian Augmentation. Aquaparian also notes that a reassessment of the /revegetation/restoration requirement will need to be completed following construction to determine the exact planting requirement. Successful restoration plans require setting key goals and objectives and monitoring and evaluation (BCMOE 2001). To ensure restoration is successful Golder recommends that a comprehensive restoration plan be completed by a restoration ecologist with experience in local restoration. At a minimum the plan should consider:

- Planting prescriptions with native species that are locally sourced compatible with the surrounding ecosystem.
- Description of any soil amendments that may be required.
- Invasive species management.
- Provisions for temporal monitoring and adaptive management to ensure vegetation success.

According to the Riparian Areas Regulation Model (B.C. Ministry of Environment and Climate Change 2019) a development that is proposed to impact a SPEA and in effect alter the features, functions and conditions of fish habitat could require a Fisheries and Oceans Canada (DFO) Authorization. With the DFO Authorization, the Local Government can then proceed with the Development Permit process. Based on this information it is expected that the loss of 1.5 ha of vegetation within the Menzies Creek SPEA would likely require a DFO Authorization or at minimum a DFO Request for Review and subsequent Letter of Advice. There is no mention of correspondence with DFO in either the EIA or the Menzies’s Creek RAR assessment. Aquaparian states the need for a Change Approval under Section 11 of the Provincial Water Sustainability Act with associated Harmful Alteration.
Destruction or Disturbance (HADD) assessment for instream works but no information is noted about the Fisheries Act. Golder recommends that correspondence with DFO be initiated to confirm compliance with the Fisheries Act.

Indirect impacts to vegetation associated with construction/operation of the Project include the proliferation of invasive plant species. According to Aquaparian, at least 10 non-native plant species (some considered invasive) were recorded on the site during the biophysical field assessments; however, there was no discussion in the EIA of their potential impact. Invasive plants colonize disturbed ground quickly and are difficult to control. They are also known to contaminate non-certified seed mixes. Noxious Weeds are non-native plants that have been designated under the Weed Control Act. This legislation imposes a duty on all land owners to control Noxious Weeds. To mitigate the impacts associated with Noxious Weeds and other invasive plants, mitigations should be included in the proposes CEMP including (B.C. Ministry of Transportation and Infrastructure and Invasive Species Council of B.C. 2015):

- Ensuring all vehicles and equipment entering the site are clean and free of mud and vegetation debris.
- All attempts should be made to ensure vehicles are parked in established staging areas on hard surfaces.
- Seed mixes that will be used on the site should come from a local source and be certified weed free (B.C. Ministry of Transportation and Infrastructure and Invasive Species Council of B.C. 2015).

**Fish**

Aquaparian notes direct impacts to fish and fish habitat from installation of the four culvert crossings required for the development. Approximately 300 linear metres (m) of stream will be impacted through channel realignment to facilitate the culverts. Aquaparian does not list the total area of impacted fish habitat but is assumed to be at least 600 m² (considering 300 m of stream multiplied by a minimum width of 2 m). In addition, direct impacts to fish are noted if culvert construction occurs while fish are present. Indirect impacts to fish are also possible through downstream sedimentation during construction.

To account for these impacts several mitigations were proposed within the EIA. To mitigate the loss of fish habitat from channel alteration, culverts have been designed to provide for fish passage (i.e., considering diameter, slope and substrate). While fish passage has been considered in the design, Aquaparian notes that a Change Approval for “Works in and About Stream” will be required under the Water Sustainability Act. The Change Approval process may require further sampling effort to determine fish presence/absence, habitat loss quantifications, and/or revisions to the design or approve it with conditions. The Change Approval process may also require habitat compensation to mitigate the impact to fish habitat. Aquaparian addresses interaction with the Fisheries Act; Section 35 under the Self-Assessment process to determine “Serious Harm” and concludes that “under the mitigation proposed the Project is not expected to result in Serious Harm to commercial, recreational and aboriginal Fisheries”.

In Golder’s opinion, it is possible to conclude that Serious Harm to commercial, recreational and aboriginal fisheries may be avoided but the large amount of habitat that will be permanently altered warrants further correspondence with DFO to confirm compliance with the Fisheries Act. This in combination with impacts to the surrounding SPEA boundary as discussed in the Flora section, above.
Golder recommends that a DFO “Request for Review” is submitted prior to developing the Project to ensure it is compliant with the *Fisheries Act*. This will provide regulatory assurance and reduce the potential for a work stoppage if DFO becomes aware and inspects the work.

To mitigate impacts to fish an Erosion and Sediment Control Plan is to be prepared by the project civil engineers in addition to an In-Stream works plan as part of the *Water Sustainability Act* Section 11 application. Also, an EM is proposed to be on-site for all instream works. As already discussed, these plans should be incorporated into the proposed CEMP for the Project.

Aquaparian recommends in-stream work for culvert installation to coincide with the Reduced Risk Work Window for cutthroat trout, which is 15 August to 15 September and after 15 September, if the creek is dry. This is a relatively short-period to construct four large culvert crossings requiring all approvals and approved work plans to be in place with enough time to complete the work. Contingencies plans should be in place to reduce the risk of extending the work beyond the Reduced Risk Window.

**Fauna**

Land clearing will result in the loss of 25 ha of wildlife habitat (forest, mid-seral and bare) which will be partially mitigated by the proposed revegetation of 15.5 ha. As described above (Flora section) a restoration plan is recommended which, if done successfully, will mitigate losses to wildlife habitat. This plan should be approved by the Municipality prior to implementation.

It is expected that construction of the perimeter fence will reduce impacts to Roosevelt elk (*Cervus elaphus roosevelti*) from interacting with the Project; however, the fence will also effectively remove a large portion (~43 ha) of Roosevelt elk habitat from the landscape. Golder recommends that the fence be constructed in consideration of reducing the amount of enclosed area as possible. While Roosevelt elk will likely avoid the area during construction and operation, they may travel past the location on established trails after hours. Additional assessment should identify if established corridors can be maintained by reducing the fence footprint to prevent fragmentation of patches of Roosevelt elk habitat outside the fence.

Impacts to migratory birds are expected to be mitigated by not clearing within the nesting period specified by Environment Canada and Climate Change (ECCC) for the region between 1 March to 15 August. Aquaparian states if clearing is required during this period, a nest search should be completed ahead of clearing. In most cases ECCC does not recommend the use of nest searches because in most habitats the ability to detect nests remains very low while the risk of disturbing active nests is high (ECCC 2011). In many circumstances incidental take is still likely to occur even when active nest searches are conducted. Therefore, it is Golder’s recommendation that all clearing occur outside the nesting period. The only exceptions should be areas that contain small amounts of short vegetation where the probability of detection for nesting birds is extremely high. Nest searches should only be conducted by QEPs who have experience in bird identification and bird behaviour.

Amphibian and reptile habitat were identified within the Project area, but no detailed surveys were completed to confirm species presence/absence. To mitigate impacts to amphibians Aquaparian proposes that areas with standing water that are scheduled for alteration be checked for amphibians prior to clearing. No mitigation is proposed for reptiles; however, like amphibians, pre-disturbance assessments by a QEP within riparian areas and upland areas considered as high potential for reptiles (e.g., rock outcrops, south facing slopes) should be checked.
There is high potential when culvert construction is proposed (15 August - 15 September) that young-of-the-year terrestrial emergence of amphibians could also occur. Aquaparian notes that a provincial General Wildlife Permit would be required for any salvage and relocation efforts that need to occur.

**Species at Risk**

Aquaparian notes the potential for several species at risk to occur within the Project area (Section 5.2.7). However, only amphibians including the Northern red-legged frog (Rana aurora) were identified in Table 4 as having high potential to be impacted. The mitigation identified includes checking for amphibians prior to construction and salvaging and relocating under a General Wildlife Permit. These checks should be completed by a QEP familiar in amphibian identification and biology.

There is no discussion about impacts to amphibians during operation of the Project. Yearly emergence and dispersal of amphibians including the listed northern red-legged frog and western toad (Anaxyrus boreas) could result in mass mortality from interaction with vehicles on the track. In the absence of documented amphibian presence/absence, Golder recommends that amphibian exclusion fencing be erected around identified wetland reaches of the Menzie’s Creek tributaries between the edge of the culvert and the forest edge to deflect emerging toadlets and froglets from ascending to the road grade. Sediment fence installed to the standard specification applied for erosion and sediment control can be used for effective amphibian exclusion fencing. In general fences should be a minimum of 50 cm high and be buried into the ground 6 to 10 cm (B.C. Ministry of Forests, Lands and Natural Resource Operations 2014b).

While not identified in the EIA three bat species at risk have the potential to occur in the Project area including little brown myotis (Myotis lucifugus), Keen’s myotis (Myotis keenii) and Townsend’s big-eared bat (Corynorhinus townsendii) (B.C. Conservation Data Center 2014; 2015a; 2015b). These species utilize a broad habitat spectrum but are known to forage extensively over riparian and wetland areas, predominantly at night. Impacts to these species occur when maternity roosting or overwintering habitat (hibernacula) are disturbed. This habitat often consists of hollowed out trees, caves, rock crevices and anthropogenic structures (B.C. Conservation Data Center 2014; 2015a; 2015b). The Project area is not known to contain hibernacula or have high potential for this type of habitat; however, maternity roosting occurs over the spring/summer period and this habitat may be present. Adherence to the migratory bird nesting period can mitigate impacts to bats that occupy hollowed out trees in maternity roosts. If clearing needs to occur during the spring/summer period, in addition to bird nest surveys, bat maternity roost checks should also occur by QEP to prevent impacting bats species at risk.

Several bird species at risk have the potential to be present within the Project area including olive-sided flycatcher (Contopus cooperi), western screech-owl (Megascops kennicottii saturatus) and band-tailed pigeon (Patagioenas fasciata). Impacts to these species will be mitigated by adhering to the migratory bird nesting period.

Three invertebrate species (blue-grey tail dropper [Prophysaon coerules], warty jumping slug [Hemphilla glandulosa] and Pacific sideband [Monadenia fidelis]) were identified as potentially occurring within the Project area. In the absence of surveys to document the presence/absence of these species Golder recommends that a QEP trained in the identification of these species should conduct pre-disturbance checks to ensure these species are not impacted by construction.
Noise

Aquaparian notes that temporary noise during Project construction will impact wildlife and cause temporary displacement. It should also be noted that loud noise emissions, especially when above ambient in natural areas or greater than about 50 dB has also been shown to cause birds rearing young on a nest to abandon the nest resulting in hatchling mortality (ECCC 2017). Therefore, it is important to note that not only is vegetation clearing a potential trigger of the Migratory Bird Convention Act (MBCA) but also noise disturbance which can result in bird mortality. Due diligence in preventing contravention of MBCA should include pre-disturbance nest searches when activities are occurring in vegetated areas where loud prolonged noise are set to occur (e.g., blasting, rock drilling) during the nesting season. As noted above, nest searches are only recommended for areas with high probability of detection.

All potential sources of construction and operational noise should adhere to municipal bylaws, including but not limited to the Blasting Bylaw (Municipality of North Cowichan. 2011; Bylaw No. 3255) and Noise Bylaw (Municipality of North Cowichan. 2011. Bylaw No. 2857).

Cultural Heritage

Aquaparian conducted an archeological data request to the Archaeology Branch Ministry of Forests, Lands and Natural Resource Operations (Archaeology Branch). In a letter dated 14 February 2014 from the Archaeology Branch, in response to the request, Appendix G in the EIA, they note that there were no known archaeological sites recorded on the Project area. However, it was noted that archeological potential mapping for the area indicated that portions of the Project area have potential to contain unknown archaeological sites. The Archaeology Branch recommended that an archaeologist be contracted prior to any land disturbance to determine if development will impact archaeological deposits. The Archaeology Branch did not require the proponent to conduct an archaeological study or obtain a permit prior to development but was recommending contracting the archaeologist prior to development for risk management of the Project, however, conducting an Archaeological Overview Assessment (AOA) would evaluate the archaeological risks of proceeding with the proposed development and provide recommendations on the need for further archaeological assessment, if warranted.

Aquaparian recommended enacting the Archaeological Chance Find Protocol if cultural artifacts are encountered during excavation works and retain a professional archaeologist to document and make recommendations for any finds. As described in the letter from the Archaeology Branch if an archaeological site is encountered during development and the appropriate permits are not in place, proponents will be in contravention of the Heritage Conservation Act and face possible fines and likely experience development delays while the appropriate permits are obtained. Therefore, relying on the Archaeological Chance Fine Protocol could add additional risk to the proponent. If the Archeological Chance Fine Protocol will be the only mitigation with regards to Cultural Heritage, it should be included in the proposed CEMP so the contractor and EM have immediate reference on hand should an artifact be found.
4.0 CONCLUSIONS AND RECOMMENDATIONS

In summary, the EIA satisfied the Municipality’s environmental requirements for the Development permit process. However, Golder did identify some potential gaps regarding other provincial and federal environmental legislation that may be triggered by the Project as part of its review using a precautionary approach. This considered, Golder has determined the following recommendations and where applicable, provided suggested Development Permit Conditions:

- Limited comments and recommendations for operational considerations were presented within the EIA. Additional detailed assessment of the potential operational effects on biological (flora and fauna), physical (groundwater, hydrology, noise, water quality and soils), and heritage and cultural resources is recommended. This includes potential physical effects of operations on biological and cultural receptors (e.g., noise on migratory bird nesting).

- A Construction Environmental Management Plan (CEMP) should be prepared by a QEP contracted by the Prime Contractor and this document must be approved by the Municipality prior to construction (Permit Condition).

- The CEMP should be developed to show how the mitigations described in the EIA and in this memo will be employed on-site based on the Contractor’s proposed methods, equipment and materials available and at a minimum, include the following components (adapted from BCMOTI 2016):
  - Accidental spills and leaks – spill response, spill equipment on-site, reporting
  - Idle reduction strategies
  - Erosion and sediment control plan
  - Clearing and grubbing plan (including detailed considerations and alternatives on how land clearing, especially in riparian areas, will be reduced or limited)
  - Construction waste management plan
  - In-stream works plan
  - Considerations to avoid sensitive habitats of provincially and federally listed species
  - Seasonal timing windows for construction
  - Emergency Contacts
  - Archeological Chance Find Protocol

- The Contractor should be required to retain the services of an EM (designated as QEP) to attend the site during all in-stream work and a minimum once per week, or whenever work in sensitive environments are planned to occur to ensure compliance with the approved CEMP (Permit Condition).

- The EM should have the authority to stop work in the event of potential non-compliance with the conditions of the CEMP and regulatory approvals.
A QEP should be required to potentially complete bird nest, bat maternity roost, amphibian, reptile and invertebrate pre-disturbance surveys; this person can be the EM if they are experienced in completing these surveys.

Prior to operation of the Project a drainage water quality maintenance plan should be prepared to ensure continued compliance with the Environmental Management Act (Permit Condition).

To support revegetation/restoration success following construction a Restoration Plan should be prepared by a restoration ecologist which includes provision for monitoring and adaptive management (Permit Condition).

A Request for Review to DFO should be initiated by the proponent as measure of due diligence to confirm the Project does not need an authorization under the fisheries protection provisions of the Fisheries Act regarding impacts to the SPEA and fish habitat.

Conduct an AOA. Additionally, local First Nations having Aboriginal interests should be identified and notified of the Project.

**Additional Mitigations**

- Turbidity and streamflow monitoring should occur with thresholds defined in the CEMP during instream work.
- Organic stripping and topsoil should be retained where possible and stored separate from subsoil; stockpiled soils should be covered to prevent incursion from invasive plants.
- Considering the short Least Harm Work window to construct four large culvert crossings contingencies plans should be in place to minimize risk of extending the work over the period.
- Further consideration should be given to determine if the perimeter fence can be reduced to prevent fragmentation of patches of Roosevelt elk habitat surrounding the Project area.
- All attempts should be made to minimize the amount of vegetation cleared and complete vegetation clearing outside the Migratory Bird Nesting Period (1 March to 31 August) to prevent contravening SARA and MBCA; if additional clearing is required during this period a nest search can be used provided that the area of clearing is such that detection of bird is highly probable.
- Nest searches should also be completed if activities with significant noise (e.g., blasting) are planned to occur within the nesting period.
- If clearing is required during the bird nesting period, a bat maternity roost search should also be completed by a QEP during the nest search.
- Amphibian and reptile pre-disturbance searches should be completed by a QEP when work is set to occur in their required habitats.
- Amphibian exclusion fencing should be installed and maintained around wetland reaches of Menzie's Creek to prevent young-of-the-year from accessing the circuit.
We trust that the information provided in this memo meets your needs but would be happy to discuss any of the content in person or electronically. Golder has experience completing CEMPs for a variety of Projects and would be happy to assist the Municipality with the review of this document or any other aspect concerning this Project.

Golder Associates Ltd.

Mike Stefanyk, BSc, RPBio
Terrestrial Biologist

Andrew Rippington, BSc, RBTech
Biologist

Reviewed by:

Dave Carter, MSc, RPBio
Associate, Senior Environmental Scientist

MS/AR/DC/llh/lmk

5.0 REFERENCES


5.1 Legislation


Summary of VIMC Responses to Community Values and Concerns
July 2019

Introduction

This document outlines the wide range of actions that the Vancouver Island Motorsports Circuit (VIMC) has undertaken to respond to the values and concerns of the residents of North Cowichan and the Cowichan Valley.

Environment

VIMC has taken many steps to address environmental issues in their current facilities, and in their planning for their Phase 2 expansion. The following outlines some of the work they have done and are committed to doing.

| Minimizing the footprint of the Circuit’s expansion. | After hearing from the community and the First Nation in 2017 and early 2018, VIMC redesigned the Phase 2 expansion to have a more compact footprint and remain entirely within the central parcel that is zoned for industrial land – leaving the upper parcel of agricultural/resource zoned land untouched. |
| Protecting the health of Menzies and Bing’s Creeks. | The community, the First Nation and the Somenos Marsh Society have expressed the need to preserve the integrity of the creeks in the area. |
| | VIMC has taken many measures to protect Menzies Creek, including: |
| | - Redesigning the Phase 2 circuit plan to reduce crossings from 7 to 4. |
| | - Changing from the planned culverted crossings to significantly more expensive bridge crossings – so as to have no stream-bed disturbance. |
| | - Preserving significant setbacks from the Creek. |
| | For Bing’s Creek, VIMC is going further, including designing the expansion to not interact with Bing’s Creek at all. Logging that past landowners undertook damaged some of the Creek’s riparian areas and VIMC will be repairing that damage. |
In addition, VIMC has proposed to give the entire Bing’s Creek riparian corridor that exists on its lands to the community for future protection and recreation.

In Phase 1, VIMC replaced a hanging culvert along Drinkwater Rd to allow for fish passage and there are now reports of cutthroat trout in the creeks above Drinkwater.

| Protecting the groundwater table | VIMC has designed the Phase 2 expansion to ensure that the post development rainwater runoff will be the same as it is pre-development, through strategic use of swales, retention and detention spaces, and percolation fields. |
| Protecting the forest. | In the Phase 2 redesign, VIMC protected the entire upper area of the site to maintain the forest, for trails and habitat. In contrast to most other industrial uses that completely clear a site, VIMC will minimize the areas of the existing forest that are removed for the Phase 2 expansion, including locating the expanded Circuit largely within the footprint of past logging roads in the area. In addition, VIMC expects to reforest much of the land not needed after construction to return as much of the site to forest as possible. The current plans show that a significant majority of the total land currently owned by VIMC will be forested after construction is complete. |
| Protecting elk habitat | The First Nation expressed interest in any potential impacts on elk habitat. The protection of elk involves two primary issues – maintenance of their travel corridors, especially to and along water courses, and fencing to keep them apart from the Circuit. As noted above, VIMC redesigned the Phase 2 expansion to leave the entire upper area of the land untouched. The Circuit (all phases) is and will be fully fenced to keep ungulates, including elk, away from the Circuit as interactions are dangerous for both the elk and the users of the Circuit. The riparian corridors have been protected to a distance of at least 30m from the creeks with no breaks in the continuity of that setback along the creeks. This riparian |
The VIMC supports corridor easy access to and movement along the riparian areas across the site.

**Concern about risks of wildfire.**

- VIMC has taken many measures to address the fire risk that some in the community expressed concerns over.
  - VIMC has now completed a comprehensive wildfire interface plan for its expansion area.
  - VIMC has a comprehensive fire response capacity for the Circuit. The Circuit utilizes an emergency response truck that responds to the rare events when a response is required, including health and safety, fire and any other issue that arises.
  - Every area of the Circuit is under constant video surveillance in order to ensure immediate response to any issue or emergency that may arise.
  - The next phase will include extensive forested areas and hydrants are being considered for the future design phases to enhance fire suppression capacity.

**Sound levels**

The VIMC is an industrial use that tests vehicles and trains drivers in advanced driving skills. These activities can generate sound levels that are similar to other industrial activities that are permitted in this industrial area. However, in response to concerns in the community about sound levels, VIMC has undertaken a wide range of activities and commitments to address the issues of sound levels.

**Establishing new lower allowable sound levels.**

- In response to concerns in the community, VIMC has now instituted new policies on maximum allowable sound levels for all vehicles on the Circuit. These levels will result in the sounds from the Circuit being lower in the adjacent neighbourhoods than the Cowichan Valley Highway.

**Helicopters.**

- While helicopters are allowed in this industrial park, VIMC has offered to no longer permit helicopters to land on their lands.
Reducing hours of operation

- In response to community concerns, VIMC has voluntarily changed its policy on hours of operation on days other than statutory holidays to 9am-5pm on Mondays to Saturdays and 11am-5pm on Sundays, and to not operate vehicle testing and training on statutory holidays (with rare exceptions).

Prohibiting race cars

- In response to concerns about the unique sounds that can come from race cars that used the Circuit in the past, VIMC has now instituted a policy of not allowing any vehicle on the Circuit that produces sound levels that exceed 59 dB LA20 15 min, in the neighbourhoods immediately around the Circuit – a level far less than what trucks produce on Highway 18.

Neighbourhood sound monitoring response team

- In response to complaints about sound levels from nearby neighbourhoods in the past, VIMC has instituted a rapid response team to noise complaints. This team immediately registers what vehicles are on the Circuit at the time of any complaint, and then sends a team out into the neighbourhoods with sound monitors to measure sound levels. If any vehicles are exceeding its sound policy levels, it immediately addresses the issues with the vehicle owner / driver.

Sound absorbing barriers

- In response to the community’s comments, VIMC has now embarked on a plan for the Phase 2 expansion to build sound absorbing walls and berms, designed by experts in sound mitigation, to block or reduce sound leaving the site, from both the current and future Phase 2 facilities.

Corporate citizenship

VIMC is an important corporate member of the Cowichan Valley and has adopted a range of policies and activities to be a good corporate citizen.

Support community groups.

- In response to concerns about being an exclusive club, VIMC has opened its facilities to the entire community. Local groups have used the facility on many occasions.
and the Phase 2 expansion will increase the range of facilities open to the community.
- Since its opening, over 45,000 people have attended events at the Circuit.

| Support the Vancouver Island Karting Association | In response to requests from the Island Karting Association, VIMC is now offering the Kart Association the use of the track several times per year. |
| Support local families in need. | VIMC shares the community’s values of philanthropy and VIMC has and will continue to make significant donations to local charities and groups helping those in need. |
| Source goods and services from local companies. | While VIMC brings in clients and companies from around the world, its priority is to source all goods and services that it can from local companies. VIMC spends approximately $1.5 million annually on local goods and services. |
| Provide local employment. | In the interest of supporting local families, VIMC has and will continue to employ mostly residents of the Cowichan Valley, including:  
  - **Phase 1** (The current Circuit)  
    - Construction: **124 jobs**  
    - Operation: **21 jobs**  
  - **Phase 2 expansion estimates:**  
    - Construction: **235 jobs**  
    - Operation: **28 jobs** |
| Invest in the local economy, including tourism. | VIMC has taken the CVRD’s policies of investment in industrial and tourism industries seriously. The investment that VIMC represents in the Cowichan Valley economy includes:  
  - $16.7 million in the construction of the current phase of the Circuit;  
  - $157,000/yr in taxes to North Cowichan;  
  - $36.5 million estimated for the proposed Phase 2 expansion.  
  - Estimated $4.5 million to be infused into the local economy and $400,000 / yr in municipal taxes estimated after Phase 2 is complete.  
  - In addition, VIMC has upgraded water systems in the area, and is proposed to build the municipality... |
a new reservoir for the entire area as part of its Phase 2 expansion.

- In addition, VIMC meets the region’s goals of expanding the tourism industry, in its investment in supporting hospitality and recreational businesses.

| Corporate environmental practices. | • In response to the environmental values that residents of the Cowichan Valley hold, VIMC has adopted environmentally friendly practices within its company including recycling, water conservation and others.  
• VIMC will also be installing extensive zero-emission vehicle fueling stations in its expansion.  
• It has also already been the location for the world launch of the last Porsche hybrid Panamera, and expects to pursue this growing sector of mobility further. |
What’s Different?

Last April, we held two open houses to present our proposed plan to the community for the expansion of the Vancouver Island Motorsport Circuit. Approximately 500 residents took the time to attend and provide us with their valuable feedback. Of those who expressed concern, the issues they raised, primarily, were about sound and potential impacts to the environment.

We listened.

Our professionals have completed their assessment of the feedback received and we have revised our plans to address concerns. The changes to our proposed plan include the following:

Reducing Sound levels:
- Over $1 million will be spent on new sound engineered barriers, sound absorption walls and berms on the existing circuit and our proposed expansion;
- Sound control at the source has been implemented on the Phase 1 circuit and will be implemented on the Phase 2 circuit through vehicle sound emission restrictions.
- The maximum permissible sound emissions from cars operating on the circuit have been reduced from 105 dBA at 15 m to 95 dBA at 15 m. This represents approximately a 50% reduction (or halving) of the maximum permissible loudness of the sound created.

Reducing impacts to the Environment:
- The circuit extension will now be located entirely within an area zoned for Heavy Industrial use, thereby reducing the overall clearing area.
- Only half of the land base is now required for the proposed expansion.
- The circuit has been realigned to limit encroachment in the riparian areas and reduce stream-crossing lengths. No portion of the circuit crosses through the Menzies Creek ravine.
In order to limit clearing at the property line, the circuit was moved easterly.

The vehicle storage area is now limited to an area in the southeast portion of the property near Drinkwater Road, away from the riparian area, an area that was previously cleared and filled. No further clearing would be required.

The off-road circuit is now located within the paved circuit to limit impact on adjacent area. Previously, the off road circuit was outside of the circuit, adding to the development footprint.

The number of creek crossings has been reduced from seven to four. None of the creeks cross the ravine reach of Menzies Creek.

There will be no development or impact to Bing's Creek or its riparian area.

The circuit extension will wind through existing vegetation, retaining as much forest cover as possible to reduce sound and mitigate other environmental impacts. The disturbed areas outside the constructed area will be re-vegetated following construction.

A Stormwater and Rainwater Management Plan has been engineered to:

- Reduce post-development flow rates to pre-development flow rates. This will maintain flows in watercourses to levels prior to clearing and construction of the circuit and will limit potential impacts downstream.

- Provide details on all crossings of fish bearing streams

- Half buried culverts and suitable aggregate/river rock per biologist requirements designed to allow fish passage.

- Create a detention pond in a natural low area within the circuit

- We are utilizing an existing low area inside the circuit so that we don’t need to clear and excavate an area specifically for a detention pond. Additionally the pond will be located in a natural low area so that any existing absorption can continue.

- Additional rock detention and infiltration areas along the circuit will be directed to rock ballast supporting the circuit so that we can limit the constructed areas outside of the circuit. Essentially, we are creating infiltration areas within the circuit structure. Typically, infiltration areas are in dedicated areas that require additional clearing and excavation.

Eight acres of land, which includes one of the two tributary streams of Bing's Creek, will be dedicated to the Municipality of North Cowichan for park and/or trail purposes.
VANCOUVER ISLAND MOTORSPORT CIRCUIT

The Vancouver Island Motorsport Circuit is:

➢ A year-round vehicle training and testing venue that provides:
  - A unique and high-quality motorsport experience for both the recreational and serious drivers of street legal high-performance vehicles
  - A unique indoor facility for hosting corporate, social and non-profit events

➢ A destination attraction that provides world-class visitor experiences featuring:
  - Motorsport experiences
  - Tourism packages that showcase the region's first-class wineries and cideries, farms, shops, culinary experiences and restaurants, outdoor adventure, cultural experiences and other attractions

➢ A catalyst for destination development and economic development in the Cowichan Valley:
  - It attracts visitors from North American and Overseas Markets – visitors who may not come to the area otherwise
  - It's part of a larger tourism and economic development network that includes the Villa Eyrie Resort, Cowichan River Fishing Lodge, and golf course in the Cowichan Valley
  - The Circuit brings new money and jobs to the Cowichan Valley
  - Future plans include an expanded circuit and second clubhouse facility.
  - The construction and annual operation of the circuit has created significant positive impacts for the Cowichan Valley.
  - The future expansion of the Circuit, the Villa Eyrie Resort, the Lake Cowichan Wilderness Lodge and the golf course will further enhance the benefits, bringing new money and jobs to the local economy.
  - These developments will draw more visitors to the Cowichan Valley and they will stay for a longer period of time, thereby increasing visitor spending.
<table>
<thead>
<tr>
<th>Description</th>
<th>Jobs Created</th>
<th>Direct Construction Spending</th>
<th>Municipal Tax Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONSTRUCTION OF THE MOTORSPORT CIRCUIT (2015)</strong></td>
<td>124 jobs*</td>
<td>$16.7 million</td>
<td></td>
</tr>
<tr>
<td><strong>ON-GOING OPERATION OF THE CIRCUIT</strong></td>
<td>21 jobs*</td>
<td>$1.5 million</td>
<td>$150,000</td>
</tr>
<tr>
<td><strong>FUTURE CONSTRUCTION OF THE EXPANDED CIRCUIT (2020)</strong></td>
<td>254 jobs*</td>
<td>$36.5 million</td>
<td></td>
</tr>
<tr>
<td><strong>FUTURE OPERATION OF THE EXPANDED CIRCUIT</strong></td>
<td>28 jobs&quot;</td>
<td>$4.5 million</td>
<td>$400,000</td>
</tr>
</tbody>
</table>

**SUPPORTING THE COWICHAN VALLEY SINCE 2016**

- Over $200,000 provided to local organizations to help them support the needs of our community.
- Over 30 local non-profit organizations have received financial and in-kind support.
- Over 40,000 people have attended the circuit since opening in 2016.
- Local employees, suppliers and contractors are sourced at every opportunity.
- The facility has provided a much-needed community venue to support local events.
- The circuit is a filming destination, bringing further economic spin-off benefits to the Valley.
- Vacant industrial land was cleaned up and made productive.
- Only 12% of the land purchased for the circuit will be hard surfaced, leaving the remaining 88% of the industrial property as green open space.

*This includes direct jobs at the Circuit, in addition to spin-off jobs in supplier industries and jobs resulting from Circuit and construction employees’ spending money in the local economy.

Source: Vancouver Island Motorsport Circuit Economic Impact Assessment, Grant Thornton LLP and Pacific Analytics Inc., January 2018
Proud To Support Local Businesses in the Cowichan Valley since 2016

Elmworth Construction  Price’s Lock and Safe
Krasy Joe’s  Red Arrow Brewery
McKay’s Electronics  York Street Diner
Living Stone’s Interlocking Brick  Buckerfields, Duncan
Island Tractor  PNR Western Star
HUB Insurance  Cowichan Auto Repair
Microtel, Ladysmith  Tire Exchange
Kiwi Cove Lodge  Mark’s Instant Sign Shop
Footprints Security Patrol  Print Craft
Super 8, Duncan  Imperial Welding
Travelodge, Duncan  Duncan Paving
Thunderbird Hotel  Surespan
Ramada, Duncan  Lion Rampant Scottish Pub
Farm Table Inn  Duncan Meadows
Riverside Inn  Revy Auto Group
Maple Bay Manor  Apex Landscaping
Tractor Trax  NK Photography
All Batteries  Potentially Famous
Duncan Iron Works  Chemainus Theatre
Lordco  Averill Creek Winery
Discovery Honda  OK Tire
Best Western Chemainus  Clements Centre Society
The Red Balloon Toy Shop  “Mindful Mouthful”
Roses and More  Crazy 8’s Party and Post Office
Price’s Alarm Systems  Island Savings Duncan
Maple Bay Graphics  RBC Duncan
Special Occasions Party Rentals
Cowichan Valley Inn Best Western
Proud To Support Cowichan Valley Organizations since 2016

Duncan Choral Society
Big Brothers Big Sisters
Purica Foundation
Dragon Boat Divas
Cowichan Secondary Dry Grad
100 Women Who Care Cowichan
Kerry Park Islanders Bantam
Kerry Park Islanders Novice
Cowichan Capitals
Shawnigan Lake School
RCMP North Cowichan / Duncan Detachment
Cowichan Valley Bantam AAA
Cowichan Lake Seniors Association
Malahat Volunteer Fire Department
Duncan Cowichan Chamber of Commerce
Ladysmith Chamber of Commerce
Lake Cowichan Chamber of Commerce
Chemainus Chamber of Commerce
Ladysmith Chamber of Commerce
Shine a Light on PTSD
Cowichan Women Against Violence
Cowichan Valley Ride for Suicide
Duncan Cowichan Festival Society
Lake Days
Cowichan Therapeutic Riding Association
Cowichan Valley Hospice Society
Shimmy Mob
Cowichan Valley Shrine Club
Cowichan Valley Bluegrass Festival
Cowichan Lake Community Services
Starfish Backpack Program
Mesachie Lake Fire Department
Cowichan Exhibition
Cowichan Secondary School Bursary & Dry Grad
Chemainus Secondary School Bursary & Dry Grad
Duncan Daybreak Rotary
Ladysmith Duncan Orcas Swimming Team
Cowichan Musical Society
Duncan Curling Rink
First Responders
The Jam Factory
Cowichan Musical Society
Tour De Rock
Duncan Wildcats
Averill Creek Winery
Tourism Cowichan
Chemainus Theatre
The Full Cupboard
Rotary Club of Duncan
Queen Margaret’s School
Salvation Army
Laketown Ranch Benevolent Society
Cowichan Valley Lacrosse Association
Cowichan Lake Pickleball Club
BC Forest Discovery Centre
Frances Kelsey School Junior Team
Cowichan District Hospital Foundation
School District 79 Gravity Car Event
Cowichan Valley Drifters
Ride to Live
Clements Centre Society
Vancouver Island University
Nourish Cowichan
Kiwanis Club of Duncan
Hillcrest Chinese Cemetary
Lake Cowichan’s 75th Anniversary Celebration
Tansor Elementary School
Queen of Angels School
Alzheimer's Society of Cowichan Valley
Drinkwater Elementary

*Since 2016, we have contributed over $250,000 to local community and non-profit organizations in the Cowichan Valley.