

**Fishway Refurbishment  
Lower Terra Nova River, NL  
Environmental Registration Document**

**Submitted to the Government of Newfoundland and Labrador  
Department of Municipal Affairs and Environment  
Environmental Assessment Division**

**Prepared For: Fisheries and Oceans Canada  
Real Property, Safety and Security Area**

**Prepared By: Public Services and Procurement Canada**

**Date: May 2022**

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## **1.0 NAME OF UNDERTAKING:**

Fishway Refurbishment, Lower Terra Nova, NL

## **2.0 PROPONENT:**

- (i) Department of Fisheries and Oceans Canada  
Real Property, Safety and Security Branch (DFO-RPSS)
- (ii) Northeast Atlantic Fisheries Center, 80 East White Hills Road  
St. John's, NL  
A1C 5X1
- (iii) Robert Sullivan  
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## **3.0 THE UNDERTAKING:**

### **3.1 Nature of the Undertaking:**

The proposed undertaking represents the refurbishment of a fishway on the Lower Terra Nova River, Terra Nova, Newfoundland and Labrador.

### **3.2 Purpose/Rationale/Need for the Undertaking:**

The existing fishway located in Terra Nova, NL requires refurbishment to ensure continued long term dependable operation for the yearly salmon migration upstream to spawning grounds.

## **4.0 DESCRIPTION OF THE UNDERTAKING:**

### **4.1 Geographical Location:**

The proposed project site is located at the RPSS site in Terra Nova, NL. The Lower Terra Nova fishway is located within the boundaries of the Terra Nova

National Park. The project site can be accessed via helicopter, and then through small timber boardwalk walking trails. The approximate coordinates of the project site are 48.600029" N and -54.078665" W.

#### 4.2 Physical Features:

The proposed project site is located within the Terra Nova National Park in Terra Nova, NL. Access to the fishway is via helicopter and then along a small timber boardwalk walking trail with a section of concrete stairs and railing. Substrate in the project area consists primarily of exposed bedrock and large boulder.

The water control structures, and the diversion wall are believed to have been originally constructed in the 1950s. Despite ongoing repairs to the exiting fishway, the water control structures, and diversion wall are believed to have remained unchanged since they were constructed.

The site consists of two (2) main concrete water control structures which are located adjacent to the upstream fishway exit and run perpendicular to the river, along the top of the falls. This site serves as a salmon monitoring and counting station, with a fish trap installed during the salmon migration period. Equipment used to carry out the required project activities for this remote work site will likely include: generators, and typical hand tools such as drills, hammers, cement mixers, etc. Waste material generated as a result of the project will be transported to an approved disposal location.

The general scope of work and schedule is as follows:

##### Phase 1: YEAR: 2022 (TBC) DURATION: 2M (August to September)

- Mobilize to site.
- Prepare an approved fish transfer plan for backup purposes.
- Initiate the rock stabilization work. Complete work on the upper portion of the rock slope in areas that do not interfere with fishway operation. Stabilization work will include: 1) Removal and onsite disposal of loose rock along the fishway uplands embankment, 2) Stabilization and/or removal of large rock masses/outcrops.

##### Phase 2: YEAR: 2022 DURATION: 3M (October to December)

- Install temporary berm at upstream water entrance pool and downstream exit pool to dewater fishway.
- Complete the remaining rock stabilization work with the ability to operate within and along the perimeter of the fishway.
- Remove all other rock along the perimeter of the fishway as required for the purposes of constructing new concrete fishway side walls. Prepare rock surfaces for new walls.
- Remove debris and sediment in all fishway pools. Dispose approved materials on site.
- Begin reconstruction of new side walls along pools that were compromised as a result of the rock stabilization/removal work. This may include both side walls along existing pools 3 and 4 and the uplands side wall along existing pools 7,8,13,14, & 15. This will

ensure that the fishway can contain the flow and operate next season in case there is a disruption/delay in construction.

- Install any other temporary measures required for fishway operation.
- Close the site for winter shutdown and remove temporary berm.

Phase 3: YEAR: 2023 DURATION: 2M (April to May)

- Mobilize back to site.
- Install temporary berm at upstream water entrance pool and downstream exit pool to dewater fishway.
- Complete any remaining work from last season on both side walls along pools 4 and 5 and the uplands side wall along pools 7,8,13,14 & 15.
- Repair any damages to temporary measure that were put in place for operation of the fishway.
- Remove temporary berm for fishway operation.
- Have manual fish transfer program ready for emergency implementation.
- Install temporary berms for construction of new Control Structure No. 2.
- Excavate rock and prepare base for new water control structure to be installed parallel to existing Control Structure No. 2, along the existing downstream face.
- Demolish and remove damaged sections of existing Control Structure No. 2. Remainder of structure to remain in-place. Dispose approved materials on site.

Phase 4: YEAR: 2023 DURATION: 4M (June to September)

- Construct new reinforced concrete Control Structure No. 2 parallel to existing Control Structure No. 2.
- Remove temporary berm.
- Install temporary berms for construction of new Control Structure No. 1.
- Excavate rock and prepare base for new Control Structure No.1, located slightly upstream of existing Control Structure No. 1.
- Existing Control Structure No. 1. To remain in-place.
- Remove temporary berm (This phase assumes that in-water work on the control structures can occur during migration with the fishway in full operation).

Phase 5: YEAR: 2023 DURATION: 3M (October to December)

- Install temporary berm at upstream water entrance pool and downstream exit pool to dewater fishway.
- Remove any temporary construction used for operation of fishway.

- Begin systematic demolition and reconstruction of new fishway weirs and side walls. This may include the following items in the following sequence order:
  - Weir walls 2,3,4,5,6,11,12 & 13
  - Weir walls and side walls for pools 9, 10, 11, 12.
  - Side walls (river side) pools 13 & 15
- Install any other temporary measures required for fishway operation.
- Close the site for winter shut down and remove temporary berm.

Phase 6: YEAR: 2024 DURATION: 2M (April to May)

- Mobilize back to site.
- Install temporary berm at upstream water entrance pool and downstream exit pool to dewater fishway.
- Complete any remaining work from last season on side walls and weir walls.
- Repair any damages to temporary measure that were put in place for operation of the fishway.
- Remove temporary berm for fishway operation.

Phase 7: YEAR: 2024 DURATION: 3M (October to December)

- Install temporary berm in front of upstream water entrance pool.
- Demolish existing upstream water entrance pool structure, including pool 1, 2 & 3 and weir wall 1.
- Excavate rock and prepare base for new pool.
- Construct new the reinforced concrete water entrance pools with concrete floor, trash rack, stop logs, partial concrete roof slab, metal grating, and pipe handrail
- Construct new fish trap.
- Remove temporary berms and dewatering devices.
- Clean up site.
- Demobilize.

The proposed project is a refurbishment of an already existing structure; therefore alternative locations were not considered.

#### 4.3 Construction:

Commencement of this project is subject to DFO-RPSS operational priorities and funding. Refurbishment of the fishway is expected to require 19 months to complete. Site preparation and construction work will

commence in August 2022, and the project should conclude in December 2024. No construction activity is assumed for the months of January, February, or March of each year, and there are no assumed planned interruptions to salmon migration. The fishway will remain in operation during the migration seasons of 2022, 2023 & 2024.

Construction activities will include:

- Installation of new water control structures, refurbishment of existing uplands, replacement of the damaged fishway weir wall and replacement of the existing concrete stop log sill. This will be accomplished using heavy equipment. Concrete for the new diversion wall will be poured on-site.
- Currently, construction is scheduled to be completed outside of the fish migration window (May 1<sup>st</sup> – September 30<sup>th</sup>). If construction is required to be maintained throughout the salmon migration period a fish relocation plan will be developed and implemented, in consultation with DFO Fisheries Protection Program.
- Equipment and tools will be transported to the project site via local roads.
- Waste material will be transported off site and disposed of at an approved waste disposal location.

The most probable sources of potential pollutants are related to the use of heavy equipment. Accidental spills of heavy equipment fuel/oil and sedimentation from disturbances to riparian area are also a possibility. The project will be assessed pursuant to the IAA 2019 and all mitigations prescribed as part of that process will be implemented during project description. The following mitigation measures will be utilized to minimize potential interactions with the environment:

#### Fish / Fish Habitat and Water

- Fisheries and Oceans Canada provided a letter of Advice for the project outlining mitigation measures for the protection of fish and fish habitat.
- All instream work should take place during the appropriate timing window (October 1 – April 30). If this is not possible, a fish relocation plan must be developed and implemented in consultation with DFO Fisheries Protection Program.
- If at any time Atlantic salmon or sea-run trout are observed migrating upstream or downstream, all works must cease until the migration has ended to ensure there are no impacts to fish movement.
- Minimize duration of in-water work.
- Schedule work to avoid wet, windy and rainy periods that may increase erosion and sedimentation.
- Plan activities near water such that materials such as rust solvents, degreasers, grout, or other chemicals do not enter the watercourse.
- Develop a response plan that is to be implemented immediately in the event of a sediment release or spill of a deleterious substance and keep an emergency spill kit on site.
- Ensure that building material used in the watercourse has been handled and treated in a manner to prevent the release of leaching of substances into the water that may be deleterious to fish.

- Develop and implement an Erosion and Sediment Control Plan for the site that minimizes risk of sedimentation of the waterbody during all phases of the project.
- If there is any run-off of concrete or associated water, it should be directed to a drainage control device such as a settling pond and appropriately managed. No concrete run-off is allowed to enter the water.
- Retain a qualified environmental professional to ensure applicable permits for relocating fish are obtained and to capture any fish trapped within an isolated/enclosed area at the work site and safely relocate them to an appropriate location in the same waters. Fish may need to be relocated again, should flooding occur on the site.
- As this is a scheduled salmon river, if at any time Atlantic salmon or Sea Run trout are observed migration upstream or downstream, all works must cease until the migration has ended to ensure that there are no impacts fish movements.
- Time works such that it does not interfere with the sensitive life stages of the fish species present. Ideally, the work should be carried out during low-flow periods.
- Clearly identify in the field sensitive habitats near the work site that are to be protected.
- Detonation of small scaring charges set off one minute prior to the main charge to scare fish away from the site.
- Use of noise generators to move fish out of the area.

#### Birds and Bird Habitat

- Should migratory bird nests be encountered during project activities, work should be minimized to avoid any potential disturbance to any nest site and surrounding environment and EC should be contacted.
- All work to be conducted in accordance with the Migratory Birds Convention Act (MBCA), which outlines that no migratory bird nests or eggs will be moved or obstructed during the construction or operation phase of the project. It is recommended that vegetation clearing not take place during the breeding season until fledglings have left parental territories.
- Migratory birds, their eggs, nests and young are protected under the MBCA.
- The contractor is responsible to ensure a spill kit is on site. Equipment within the spill kit should be adequate for the proposed project. In case of a spill, the contractor should contact Environment Canada at 1-800-563-9089.
- All construction equipment must be fitted with standard and well maintained noise suppression devices. Appropriate dust suppression methods are to be employed when required. Air filters should be used to minimize exhaust emissions.
- Vegetation removal should be kept to a minimum.

#### Soil (surface and subsurface)

- Work should be scheduled to avoid periods of heavy precipitation. Erosion control structures (temporary matting, geotextile filter fabric) are to be



used, as appropriate, to prevent erosion runoff or sediment laden water during the construction phase.

- Any exposed soil must be minimized by limiting the area exposed at any one time and by limiting the time that any one area is exposed. All stockpiled soil must be covered and/or dyked to prevent erosion or runoff of sediment-laden water from leaving the site. Whenever possible, exposed soil should be replanted or sodded to ensure soil stabilization.
- All wastes must be recycled where possible or otherwise disposed of appropriately.
- Machinery must be checked for leakage of lubricants or fuel and must be in good working order. Refueling must be done at least 100 m from any waterbody. Basic petroleum spill cleanup equipment should be on site. All spills or leaks should be promptly contained, cleaned up and reported to the 24 hour environmental emergencies reporting system (1-800-563-9089).
- Containers of petroleum products or chemicals that may be required on site will be tightly sealed against corrosion and rust, and surrounded by an impermeable barrier in a dry, water-tight building or shed with an impermeable floor.
- Waste oils and used lubricating oil will be retained in a tank or closed container and disposed of by a company licensed for handling and disposing of used oil products.
- Mechanical inspections will be conducted routinely on equipment to search for leaks. Leaks will be repaired immediately.

#### Vegetation

- Areas that may require extensive grubbing will be stabilized as soon as possible to reduce potential for erosion.

#### Air Quality and Noise

- All construction equipment must be fitted with standard and well maintained noise suppression devices. Appropriate dust suppression methods are to be employed when required. Air filters should be used to minimize exhaust emissions.

#### 4.4 Operation:

Routine maintenance and repair projects will be carried out on an as-required basis over the estimated thirty (30) year life of the structure.

Reasonably foreseeable pollutants occurring during the operational phase of the proposed project are limited to accidental discharges of fuel. The operation and maintenance of the site will be under the control of Fisheries and Oceans Canada, Real Property Safety and Security Branch. Potential resource conflicts are not anticipated as a result of the operation of the proposed project.

#### 4.5 Occupations:

Reconstruction of the diversion wall is expected to require 7 months to complete. Commencement of the proposed project is scheduled for October 2019.

The following list outlines occupations which may be employed during the design and construction period. Please note that this list represents only an approximation of the number and type of occupations that may be produced as a result of the proposed project. Actual occupations created as a result of the proposed project will ultimately be determined by the successful contractor. Occupations are expected to be comparable to those created for similar construction projects throughout the Province.

- 1 - Project Manager – 0711 - Contractor/Construction
- 1 - Office Administrator – 1211 – Contractor/Construction
- 1 - Project Supervisor/Foreman - 7217– Contractor/Construction
- 1 - OHS Representative - 2263 – Contractor/Construction
- 2 - Carpenters – 7271 – Contractor/Construction
- 4 - Laborers – 7217 - Contractor/Construction
- 1 – Surveyor - 2113 – Contractor/Construction
- 2 - Truck Drivers - 7217 – Contractor/Construction
- 1 - Site Inspector - 2264 - Construction
- 1 - Professional Engineer – 0211 – Entire Project
- 1 - Engineering Technologist – 2231 - Construction Design (Engineering)
- 1 - Office Administrator – 1211 – Entire Project (Engineering)
- 1 – Heavy Equipment Operator – 7521 – Contractor/Construction

**5.0 APPROVAL OF THE UNDERTAKING:**

The following is a list of the likely permits, licenses and approvals required for this project.

| Approvals/Certificates/Permits  | Regulatory Authority  |
|---|---|
| NL Environmental Assessment Registration <sup>(1)</sup>                                     | NL Department of Municipal Affairs and Environment, Environmental Assessment Division |
| DFO–Request For Review (Serious Harm Determination; Aquatic Species At Risk) <sup>(2)</sup> | Fisheries and Oceans Canada, Fisheries Protection Program                             |
| Permit to Alter a Body of Water <sup>(3)</sup>  | NL Department of Municipal Affairs and Environment, Water Resources Division          |

Notes: (1) This document; provincial permits are expected to be issued following release from further environmental assessment.

(2) An application was made to DFO – Fisheries Protection Program to determine if the Project as described herein would avoid Serious Harm to fish by following standard mitigations (File No; 22-HNFL-00194).

(3) Application in progress, submission anticipated to occur following submission of the EA Registration.

**6.0 ABORIGINAL CONSULTATION:**

Aboriginal persons are not known to utilize the RPSS Lower Terra Nova Fishway site, nor are there any known aboriginal groups in the surrounding area. As such, aboriginal consultation was not deemed necessary as part of this determination.


**7.0 SCHEDULE:**

Construction is expected to begin during the summer of 2022, and conclude in December 2024, for a total of 19 months. No construction activity is assumed for the months of January, February, or March of each year, and there are no assumed planned interruptions to salmon migration. The fishway will remain in operation during the migration seasons of 2022, 2023 & 2024.

**8.0 FUNDING:**

The total cost estimate for all phases of the proposed project, as provided by the proponent, is approximately \$1,970,000.00 plus HST. Funds will be provided by Real Property, Safety and Security Branch, Fisheries and Oceans Canada.

May 25, 2022  
Date

  
Cathy Martin  
Environmental Assessment Representative

**APPENDIX A**

**TOPO MAP**

**SITE PLAN**

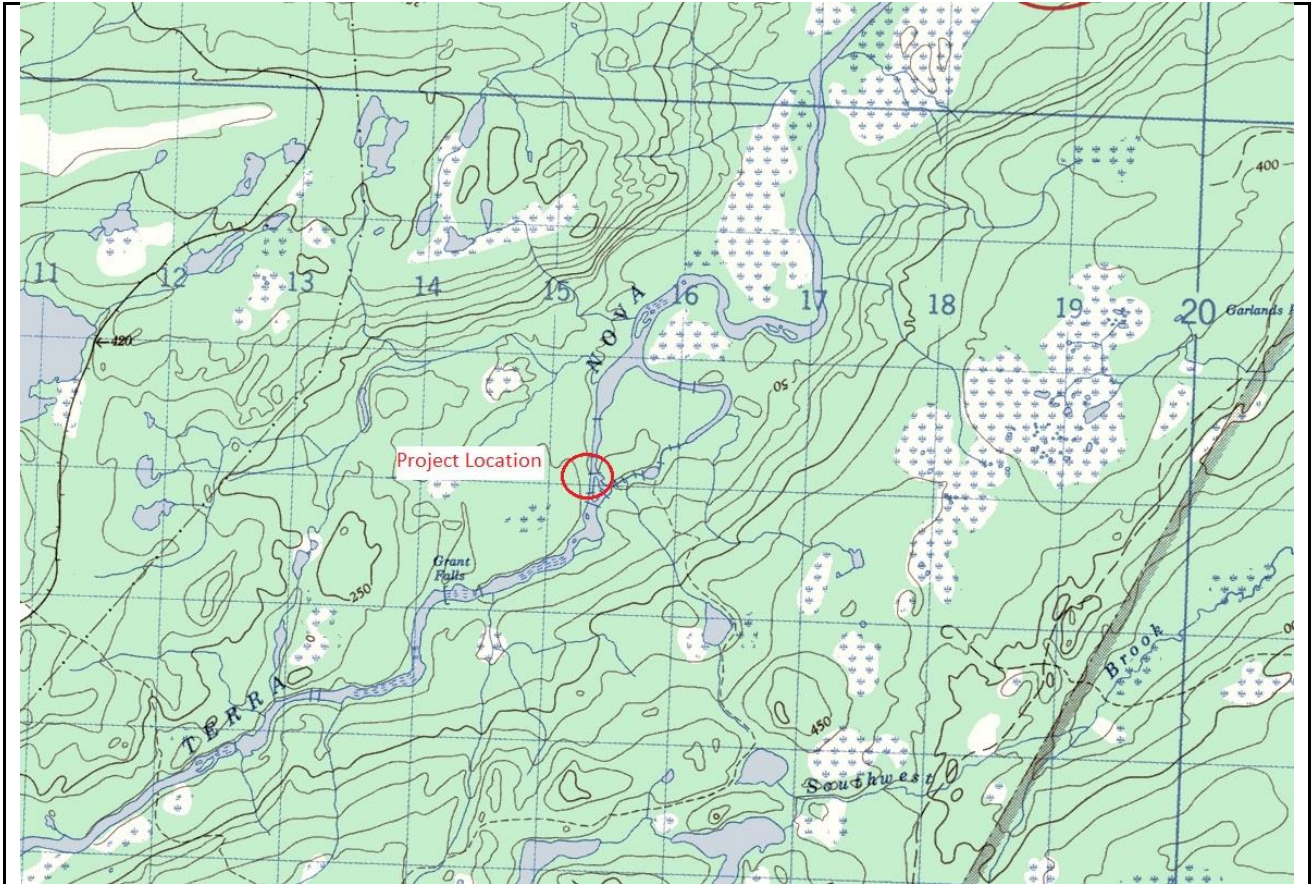


Figure 1: Topographic Map of Proposed Site

Location: Lower Terra Nova, NL

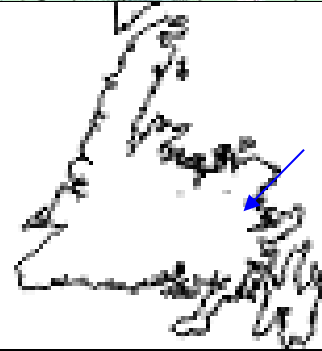




Figure 2: Google Earth Photo

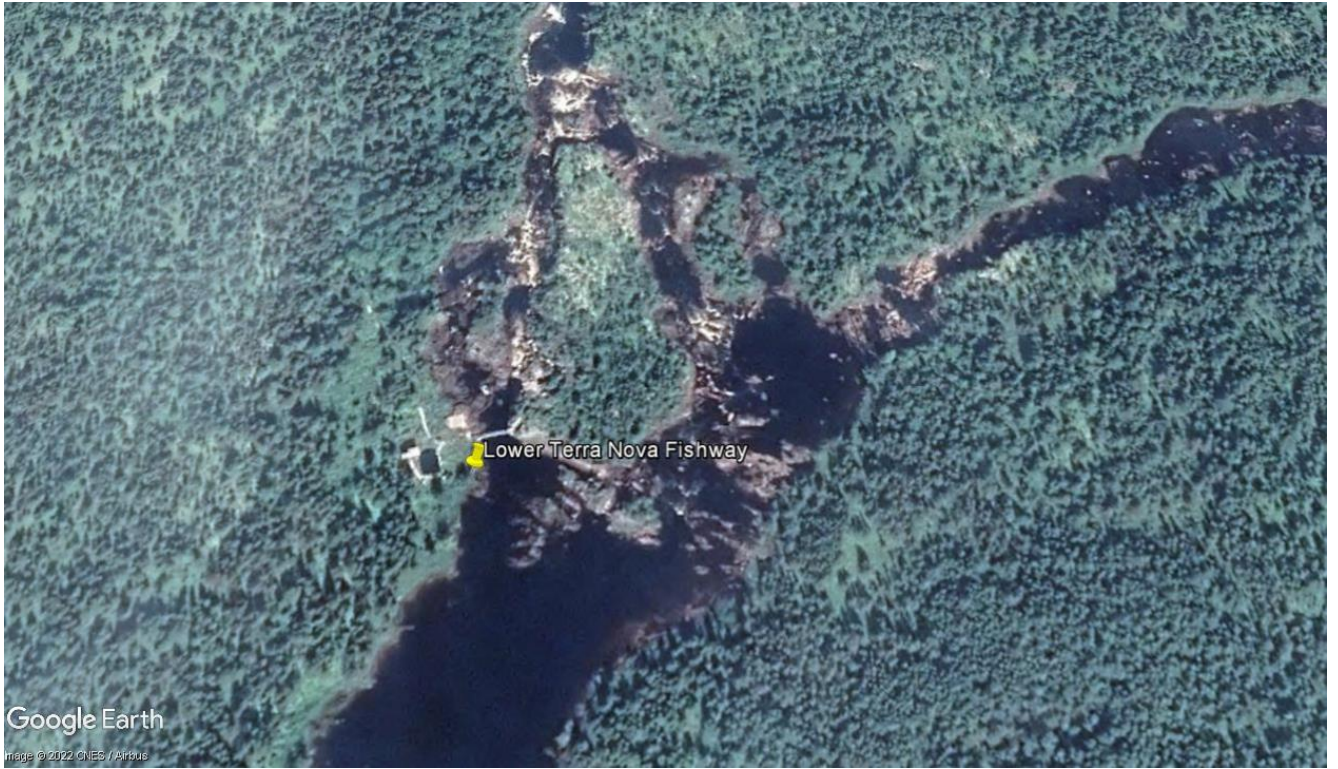
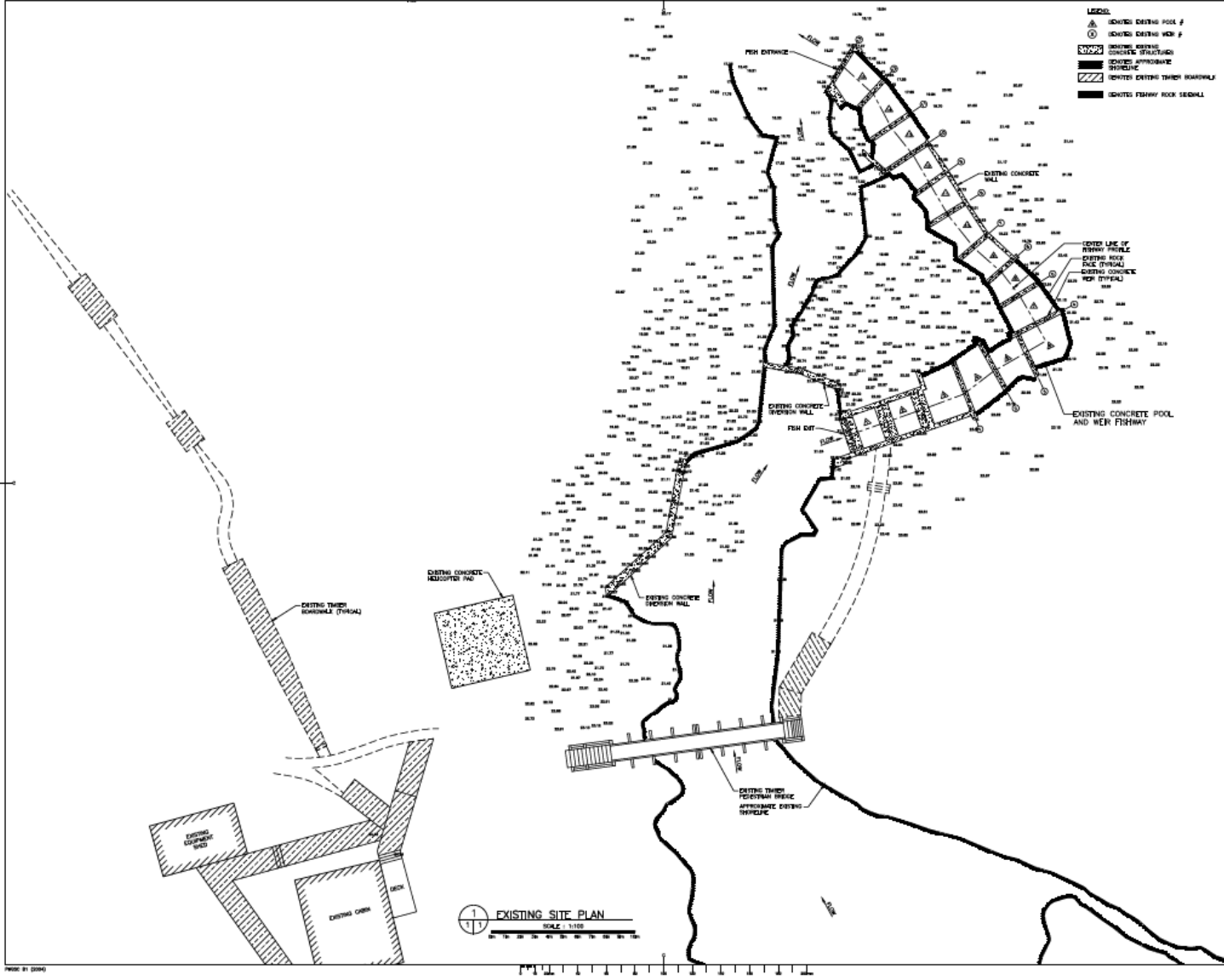


Figure 3: Google Earth Photo



**LEGEND**

- △ EXISTING EXISTING POLE #
- EXISTING EXISTING WALL #
- ▭ EXISTING EXISTING CONCRETE STRUCTURE
- ▨ EXISTING APPROACH CONCRETE
- ▩ EXISTING EXISTING TIMBER BOARDWALK
- ▧ EXISTING EXISTING ROCK SECTION

Public Works and  Drive Public of   
 Department of

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| sheet | no. | DATE |
| 1     | 1   | 2022 |

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| 1     | 1   | 2022 |

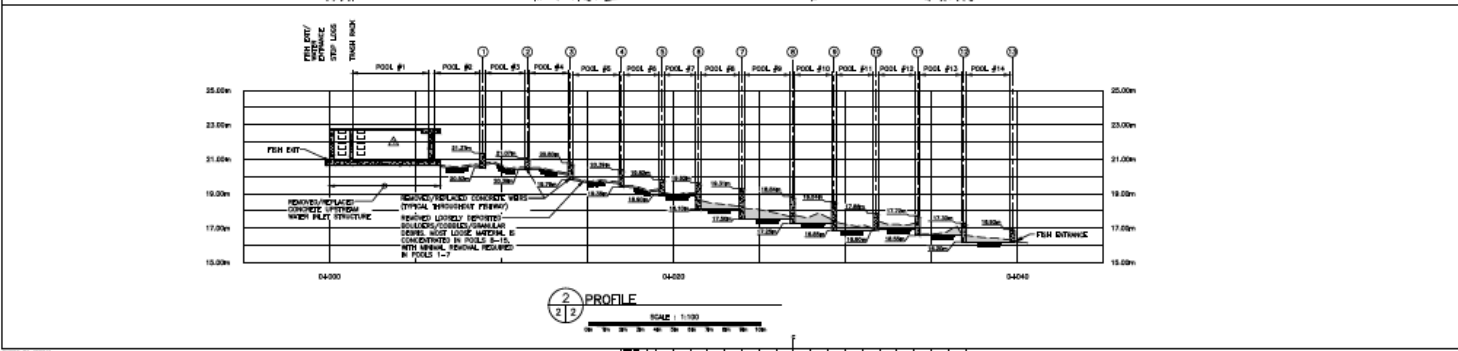
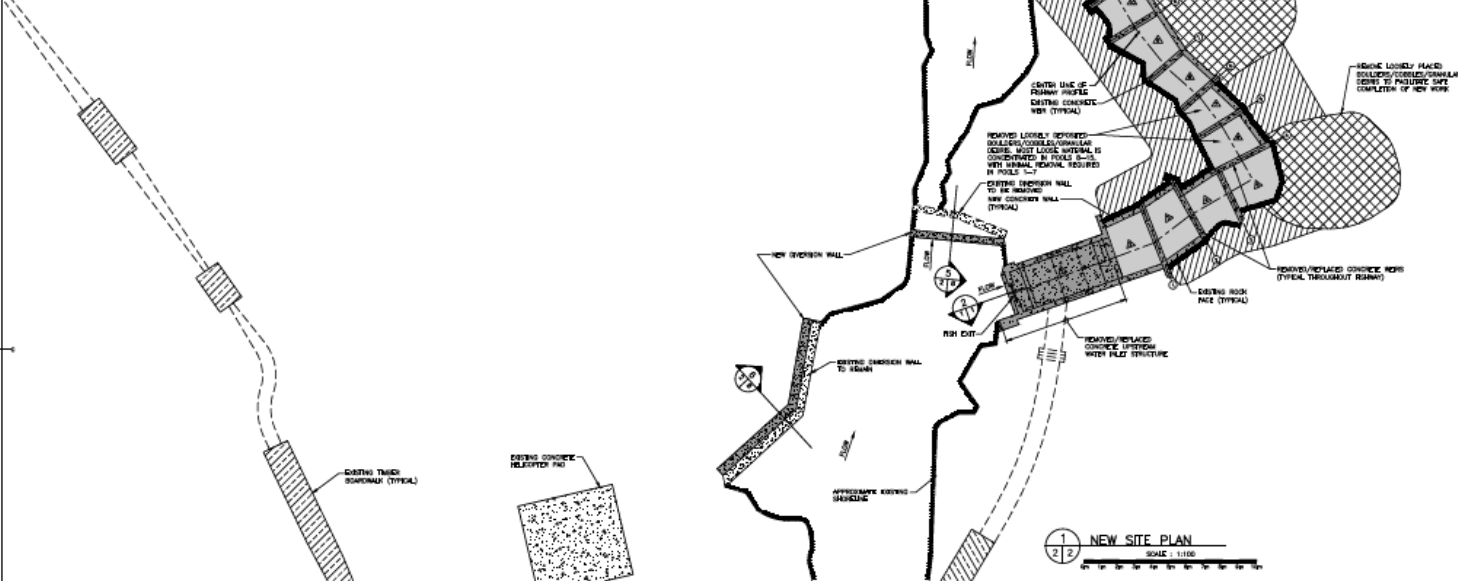
**LOWER TERRA NOVA FISHWAY REFURBISHMENT**

**EXISTING SITE PLAN**

Author: E. FERRERAZI  
 Date: JANUARY 2022  
 Author: M. LEONE  
 Date: JANUARY 2022  
 Project Number: R.114129.003  
 Drawing No. C1 OF 9



- LEGEND:**
- ⊙ INDICATES NEW POOL # AND ELEVATION INDICATOR
  - ⊙ INDICATES NEW WEIR # AND ELEVATION INDICATOR
  - ▨ INDICATES NEW/REPLACED CONCRETE STRUCTURE
  - ▨ INDICATES AREA OF REQUIRED ROCK SEALING
  - ▨ INDICATES AREA OF REQUIRED LOOSELY PLACED BOLLERS/CORRUGATED/STANDARD SERIES REMOVAL WITH RAINWAY FOOTPRINT
  - ▨ INDICATES AREA OF REQUIRED LOOSELY PLACED BOLLERS/CORRUGATED/STANDARD SERIES REMOVAL WITH RAINWAY FOOTPRINT
  - ▨ INDICATES REMOVED/REPLACED CONCRETE STRUCTURE
  - ▨ INDICATES EXISTING CONCRETE STRUCTURE TO REMAIN
  - ▨ INDICATES EXISTING SANDY SUBSTRATE
  - ▨ INDICATES RAINWAY ROCK SEALS



|   |                           |
|---|---------------------------|
|   |                           |
| <p>LOWER TERRA NOVA FISHWAY REFRUBISHMENT</p> |                           |
| <p>NEW SITE PLAN &amp; PROFILE</p>            |                           |
| <p>PROJECT NO. R.114129.003</p>               | <p>DATE: JANUARY 2023</p> |
| <p>DESIGNED BY: [Name]</p>                    | <p>CHECKED BY: [Name]</p> |
| <p>C2 OF 9</p>                                |                           |