



Conserving
Canada's
Wetlands

March 25, 2020

Minister of Municipal Affairs and Environment
PO Box 8700
St. John's NL A1B 4J6

Attention: Joanne Sweeney, Director of Environmental Assessment
File Reference No. 200.20.2917

Dear Ms. Sweeney,

On behalf of Ducks Unlimited Canada (DUC), please accept the enclosed Environmental Assessment Registration document for our proposed undertaking on the Upper Humber River, in western Newfoundland.

Regards,

Danielle Fequet
Conservation Programs Specialist
Ducks Unlimited Canada
Newfoundland and Labrador

DUC's mission is to conserve, restore and manage wetlands and associated habitats for North America's waterfowl. These habitats benefit other wildlife, people and our environment. We partner with government, industry, non-profit organizations and landowners to get our work done so we can connect people to nature and make a healthier world for future generations.



*Conserving
Canada's
Wetlands*

Birchy Basin Fish Baffle Replacement and Decking Repair

Upper Humber River, NL

Environmental Assessment Registration

Submitted to the Government of Newfoundland and Labrador

Department of Municipal Affairs and Environment,

Environmental Assessment Division

Prepared By: Ducks Unlimited Canada

Date: March 25, 2020

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1.0 NAME OF UNDERTAKING

Birchy Basin Fish Baffle Replacement and Decking Repair

2.0 PROPONENT

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3.0 THE UNDERTAKING

3.1 Name of the Undertaking

Birchy Basin Fish Baffle Replacement and Decking Repair

3.2 Purpose/Rationale/Need for the Undertaking

The Upper Humber Wetlands Complex was created when the Upper Humber River was dammed for log driving in the 1950s. Recognizing the important habitat value of the area, DUC, the Province of NL and Corner Brook Pulp and Paper Ltd. signed a 30-year habitat stewardship agreement for the area in the 1990s (The Upper Humber Stewardship Agreement). At this time the dam was refurbished, and a fish

ladder constructed to allow passage for Atlantic Salmon. The stewardship agreement encompasses approximately 25,000 hectares of wetland and upland with the intention of protecting this area for waterfowl and other wildlife. More than 25 years later, the fish ladder is still in good condition, but routine maintenance is required on the baffles to ensure passage is maintained for Atlantic Salmon. We are proposing to replace the baffle lumber and adjacent decking. DUC has extensive experience in Atlantic Canada managing over 150 fish ladders for the past 50 years.

4.0 DESCRIPTION OF THE UNDERTAKING

4.1 Geographical Location

The proposed project site is located at Birchy Basin on the Upper Humber River on the island of Newfoundland. The project site can be accessed via a 4.75km long unnamed resource road that intersects Taylor's Brook Resource Road approximately 4km from the beginning of that road off Route 420. The approximate coordinates of the project site are: 49.519734, -57.095329. Maps of the project location can be found in [Appendix A](#) of this document.

4.2 Physical Features

Existing infrastructure at the proposed project site includes a concrete weir, fish ladder, spillway, decking, steel grating, trash rack and safety railing. Photos of the site can be found in [Appendix B](#).

The proposed project is a routine repair of an already existing structure; therefore, alternative locations were not considered. The size of the physical area where the undertaking is proposed to take place is approximately 0.2ha and the proposed undertaking will not increase the existing footprint of the fish ladder. A conceptual drawing showing dimensions of the existing structure can be found in [Appendix C](#).

Equipment used to carry out the required project activities will likely include: excavator, truck, generator, and typical hand tools such as drills, hammers and welding equipment. Existing roads will be used to access the site.

Bio-physical Environment

The proposed project site is located on the Humber River, which is a scheduled class 6 salmon river. The Humber River flows from its headwaters in the Long Range Mountains through a basin surrounded by boreal forest and spills into the Bay of Islands. The portion of the river system upstream from Deer Lake is commonly referred to as the Upper Humber. The proposed project site is located at the existing weir and fish ladder located at the outlet of Birchy Basin which lies on the Upper Humber River.

Upstream from Birchy Basin, the Upper Humber flows through the Upper Humber Wetland Complex and the section of river from the outlet of Birchy Basin (the location of the existing weir and damaged fish ladder) to the base of Main Falls is an important spawning area for Atlantic Salmon.

The Upper Humber Wetlands Complex also provides important waterfowl breeding and staging habitat for American Black Duck, the area is important for ring-necked duck, American black duck, Canada goose, green-winged teal, blue-winged teal, northern pintail, and common merganser and that the area

was given a high priority for protection in the "Newfoundland and Labrador Habitat Protection Plan for Migratory Birds" (1987). The area is also utilized by the Humber Caribou Herd, moose, other mammals as well as forest and shore birds. The Humber River watershed is also utilized by local area residents including cabin owners (~1000 registered cabins) and campers. There is a cabin development area off Taylor's Brook resource road and seasonal camping at Birchy Basin adjacent to the proposed project site.

4.3 Construction

While commencement of this project is subject to DUC operational priorities and obtaining approvals from required agencies, site preparation and construction work will commence between July 1, 2020 and August 10, 2020. Based on consultation with Fisheries and Oceans Canada (DFO), all works will be concluded by August 15, 2020. We anticipate the onsite component of the project to be completed over a two-day timeframe.

In order to replace baffles in the fish ladder, temporary and partial de-watering of the fish ladder will be required. In order to ensure safety of workers and work in the dry we will need to slowly dewater up to 12". To accomplish this, we will remove two 10" wooden stoplogs in each of the two existing draw down bays (10" log per 24 hour period). It is anticipated that removing 20" of log will not lower the water levels by 20", as normal weir discharge will be directed through 20' of drawdown bay as opposed to the 300' of weir. There will be a continuous flow maintained downstream through the structure during construction although fish passage will be blocked for up to two days while the old baffles are removed, and new ones installed. There will be a 0% reduction in flow as our proposed undertaking will not restrict flow, nor does the existing structure or weir restrict flow under normal operating conditions.

While water levels are slowly lowering, the trash-rack, steel grating and wooden decking on top of the fishway will be removed to gain access to the baffles. Any loose materials will be removed by hand to ensure no debris enters the watercourse. Once exposed, existing steel channels in the upstream end of the fishway will allow us to block flow with 6"x 6" stacked timber. The lower baffle can be hoisted up and out of the way and the lower end of the fishway blocked with timbers. The ladder, which will be isolated from flow can be pumped out and a fish rescue performed on any stranded fish. The fish rescue would entail using a large dip-net to capture and transport fish to the stream below the ladder where they can be monitored and released by DUC biologist(s).

Once pumped dry, the remaining 3 baffles and supporting timbers can be hoisted out with an excavator working from the bank. Timbers can be replaced, and the bottom timbers will need to be grouted onto the concrete floor of the fish ladder. Pre-built baffles will be lowered into fish ladder and secured in place. All lumber used will be CCA pressure treated hemlock suitable for freshwater stream applications.

After the last baffle (most downstream baffle) has been replaced, the timbers blocking the upstream end of the ladder can be removed, allowing water to flow normally through the baffles and allowing fish to pass freely through the ladder. It is anticipated that several steel brackets, anchor-bolts, grates, wooden decking and the safety railing will need to be either fixed or replaced at this point. The new decking and steel grating can be lowered into place and re-secured to the structure. The timbers that

had been removed from the drawdown bays can be replaced with new ones and water levels will reinstate naturally.

The site will be cleared of any construction debris and waste materials properly disposed of and an approved disposal location off-site. The most probable source of potential pollutants is related to the use of equipment, such as accidental spills of heavy equipment fuel/oil. No resource use conflicts are anticipated, however, because the area is used by a seasonal community, we will communicate with local area users about the proposed undertaking and project timeline.

The following mitigation measures will be utilized to minimize environmental damage.

Fish / Fish Habitat and Water

- All instream work will be completed by August 15, 2020 as recommended by DFO.
- All mitigation measures recommended by DFO will be adhered to. This includes notifying DFO Conservation and Protection and the Triage Line prior to the project start date.
- An environmental monitor/ construction supervisor will be available and consulted during the construction period.
- Work will be scheduled to avoid dry, wet and rainy periods (weather advisories will be heeded) that may result in high flow volumes and/or increase erosion and sedimentation.
- In-water work will be carried out during low flow periods.
- The project will be carried out in a manner that prevents sediment and/or debris from entering the Upper Humber River.
- An Erosion and Sediment Control Plan will be implemented to avoid the introduction of sediment into any waterbody during all phases of the project.
- Heavy equipment will be operated from dry stable locations and will not enter the water.
- All vehicles and equipment will be clean and in good repair, free of mud, fuel and other harmful substances that could impair water quality or introduce invasive species.
- Activities near water will be planned so that deleterious substances do not enter the watercourse.
- A response plan will be implemented immediately in the event of a sediment release or spill of a deleterious substance. An emergency spill kit (minimum 190L marine grade spill kit) will be kept on site.
- Building material used in the watercourse will be handled and treated in a manner that prevents release of leaching of substances into the water.

Birds and Bird Habitat

- All work will be conducted in accordance with the *Migratory Birds Convention Act*. No migratory birds, their eggs, or nests will be moved or obstructed during the construction or operation phase of the project.

Soil (surface and subsurface)

- Machinery will be checked for leakage of lubricants or fuel and must be in good working order.
- The contractor will be responsible to ensure a spill kit is on site. Equipment within the spill kit should be adequate for the proposed project.
- All waste materials will be removed from the site and disposed of in an approved location.

Air Quality and Noise

- All construction equipment will be fitted with standard and well-maintained noise suppression devices.
- Appropriate dust suppression methods will be employed when required.

4.4 Operation

Once the repairs are complete, the instream structure will allow Atlantic salmon to pass through unimpeded. No operation is required, and regular inspections and maintenance will be conducted by DUC. The repaired structure is expected to last for at least 25 years. Release of pollutants is not expected to occur during the operational phase of the project. No resource use conflicts are anticipated.

4.5 Occupations

The following are occupations which may be employed during the design and construction period. The following table approximates the number and type of positions that may be required. Actual occupations required will be determined by the successful contractor. While no additional staff will be hired by DUC to complete the project, DUC is an equal opportunity employer.

Table 1. Occupations Anticipated to Complete the Project

NOC	Occupation	Number Employed	Duration	Project Phase	Occupation Type
4161	Natural and applied science policy researchers, consultants and program officers	1	3 months	Regulatory Approval/Design/Construction	Existing DUC staff
7212	Project Supervisor/Foreman	1	2 weeks	Construction	Contractor
7521	Heavy equipment operators (except crane)	1	2 weeks	Construction	Contractor
7237	Welders and related machine operators	2	2 weeks	Construction	Contractor
7611	Construction trades helpers and labourers	2	2 weeks	Construction	Contractor
1211	Office Administrator	1	2 days	Construction	Contractor

4.6 Project Related Documents

O'Rourke, John (Senior Biologist, Linear Flows and Hydro Development, DFO). "Amended Letter of Advice – Birchy Basin Fish Baffle Replacement". Message to Danielle Fequet, March 24, 2020 via Email.

5.0 APPROVAL OF THE UNDERTAKING

The following table lists the likely permits, licenses and approvals required for this project.

Table 2. Regulatory Approvals Required to Compete the Project

Approvals/Certificates/Permits	Regulatory Authority	Status
NL Environmental Assessment (EA) Registration/Review	NL Department of Municipal Affairs and Environment, Environmental Assessment Division	This document serves as our EA registration
Request for Project Review	Fisheries and Oceans Canada (DFO), Fisheries Protection Program	DFO has reviewed (20-HNFL-00041) and provided mitigation measures that are incorporated in this EA registration. Authorization under the <i>Fisheries Act</i> , <i>Species at Risk Act</i> or <i>Aquatic Invasive Species Regulations</i> not required if mitigation measures adhered to.
Permit to Alter a Body of Water	NL Department of Municipal Affairs and Environment, Water Resources Division	Application submitted 3/25/2020
License to Occupy	NL Department of Fisheries and Land Resources, Crown Lands Division	Application submitted 9/1/2019 File Number: 156011

7.0 SCHEDULE

On site work for the proposed project is expected to take place during a two-day period. As the Upper Humber is a scheduled salmon river, timing of the work to be completed will be in accordance with DFO recommendations. The earliest start date for the project is July 1, 2020 and the latest start date for the project is August 10, 2020. All work will be completed by August 15, 2020.

8.0 FUNDING

The total cost estimate for all phases of the proposed project, as provided by the proponent, is approximately \$45 000 plus HST. This project does not depend on a grant or loan of capital funds from a government agency.



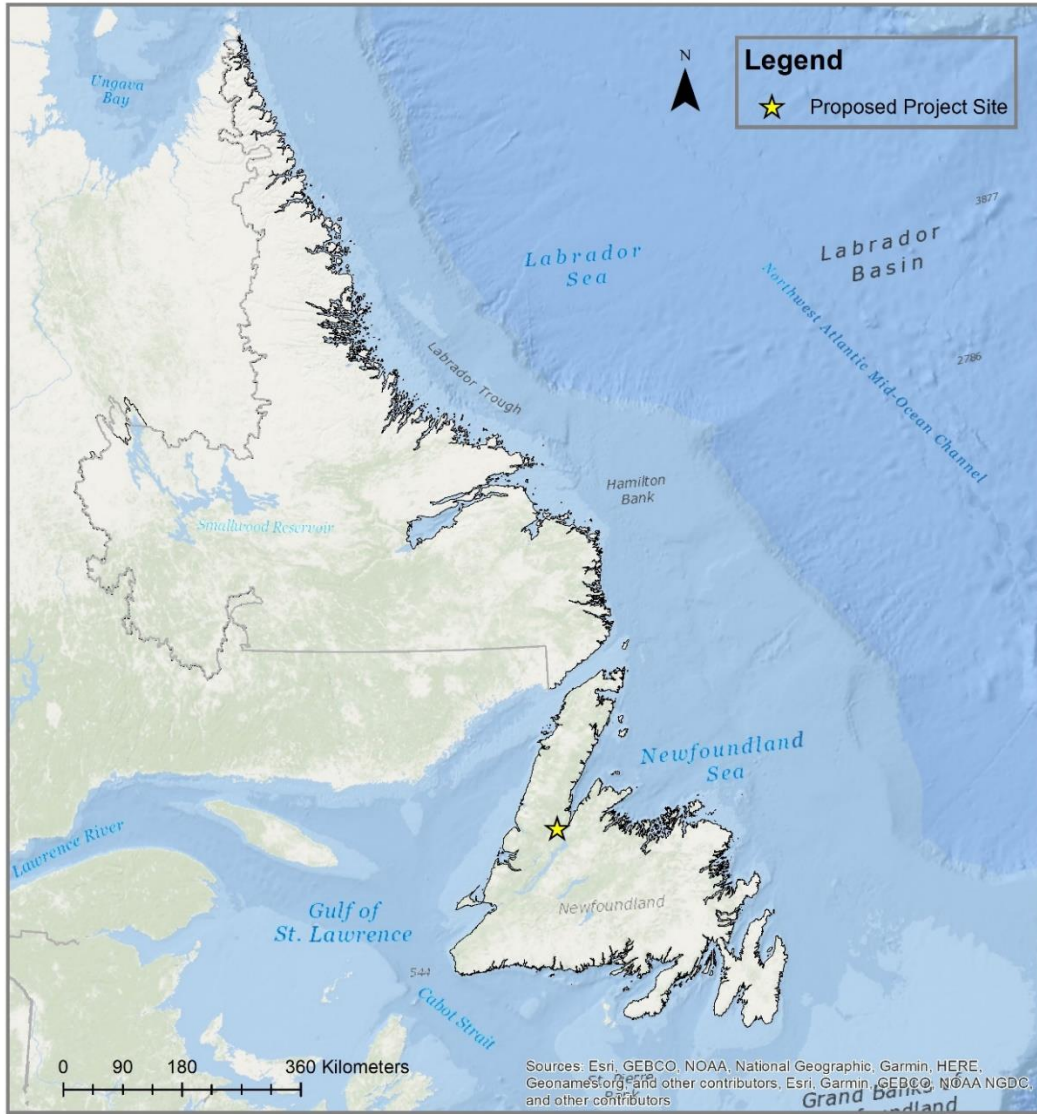
March 25, 2020

Date

Tom Duffy - DUC Manager of Provincial Operations (Atlantic)

APPENDIX A – Maps of Project Location

DUC Proposed Project Location at Birchy Basin, Upper Humber River, NL



Drawn by:
Danielle Fequet
Ducks Unlimited Canada
March 9, 2020

Figure A-1. Location of Proposed Project Site on the Upper Humber River, NL.

Birchy Basin Fish Baffle Replacement and Decking Repair Proposed Project Location - Site Access by Road

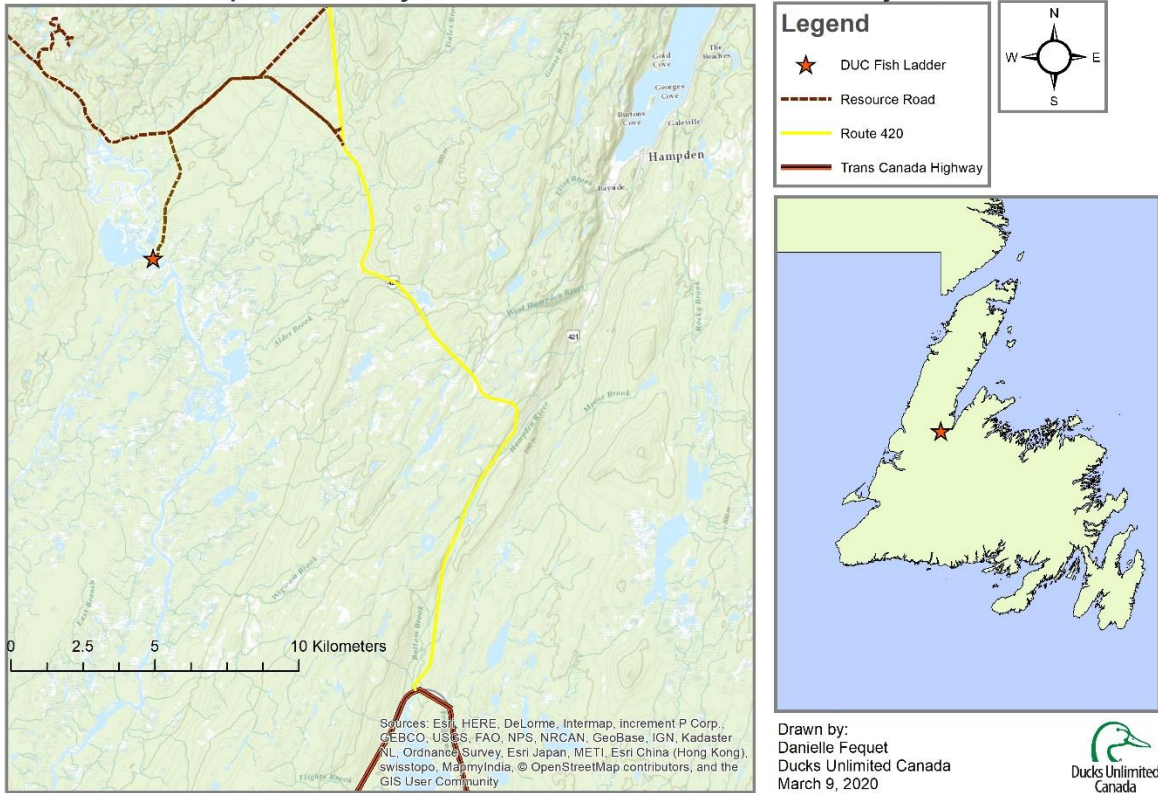


Figure A-2. Location of Proposed Project Site and Access Roads to Birchy Basin, Upper Humber River, NL.

Fish Ladder and Weir at Birchy Basin, Upper Humber River, NL

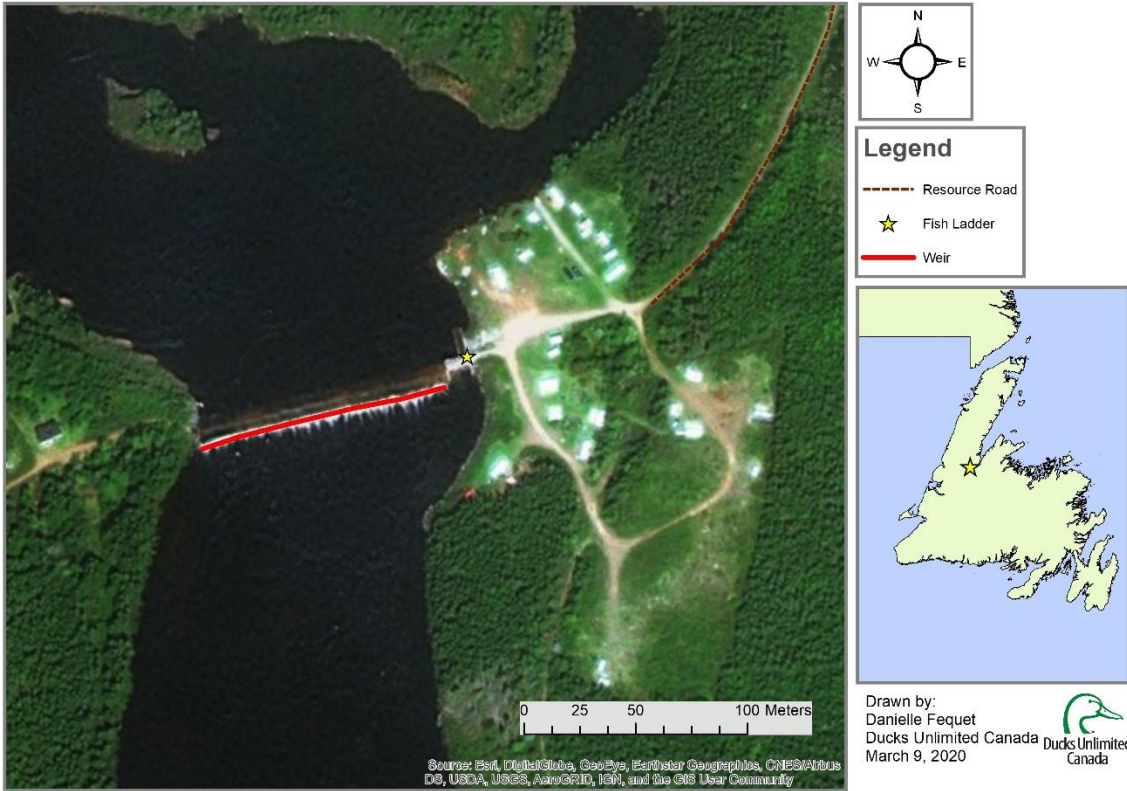


Figure A-3. Location of Fish Ladder and Weir at Birchy Basin, Upper Humber River, NL.

APPENDIX B – Photos of Project Site



Figure B-1. Downstream end of fish ladder and spillway (10/09/2019)



Figure B-2. Downstream end of spillway and fish ladder (07/14/2016)



Figure B-3. Decking above fish ladder and spillway, adjacent to weir (10/09/2019)



Figure B-4. Decking above fish ladder and spillway, adjacent to access road (07/14/2016)



Figure B-5. Steel grating over fish ladder (07/14/2016)



Figure B-6. Trash rack at upstream end of fish ladder (07/14/2016)



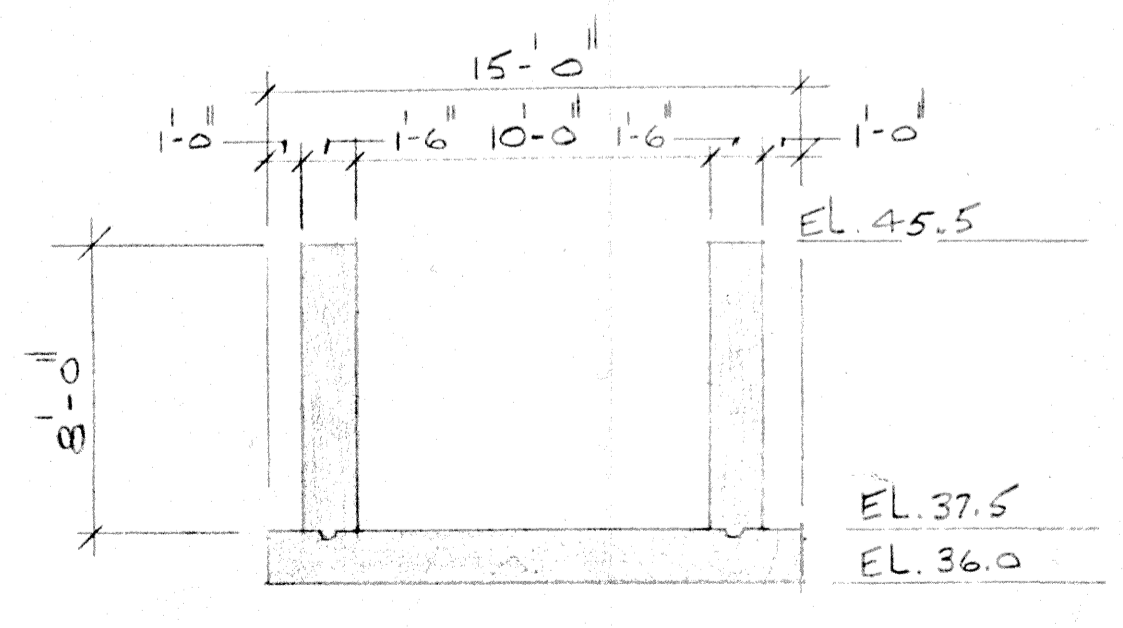
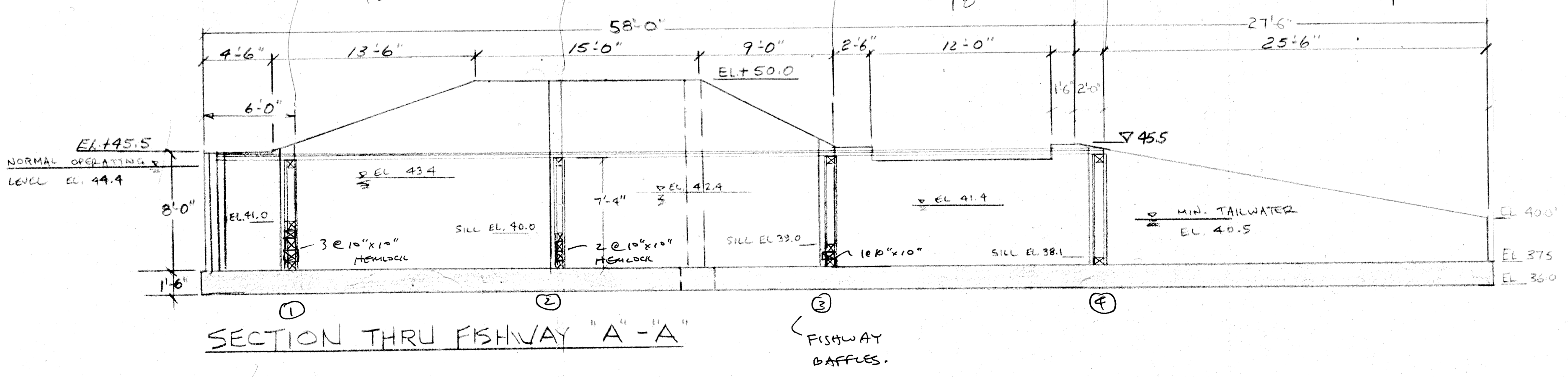
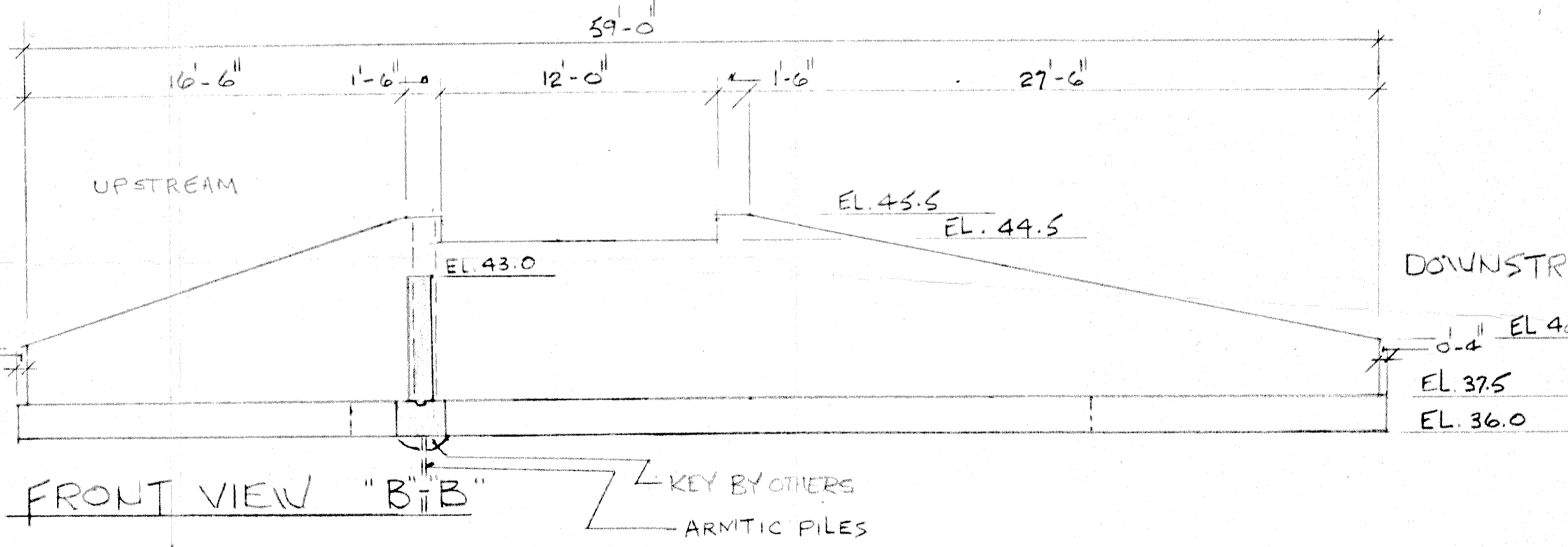
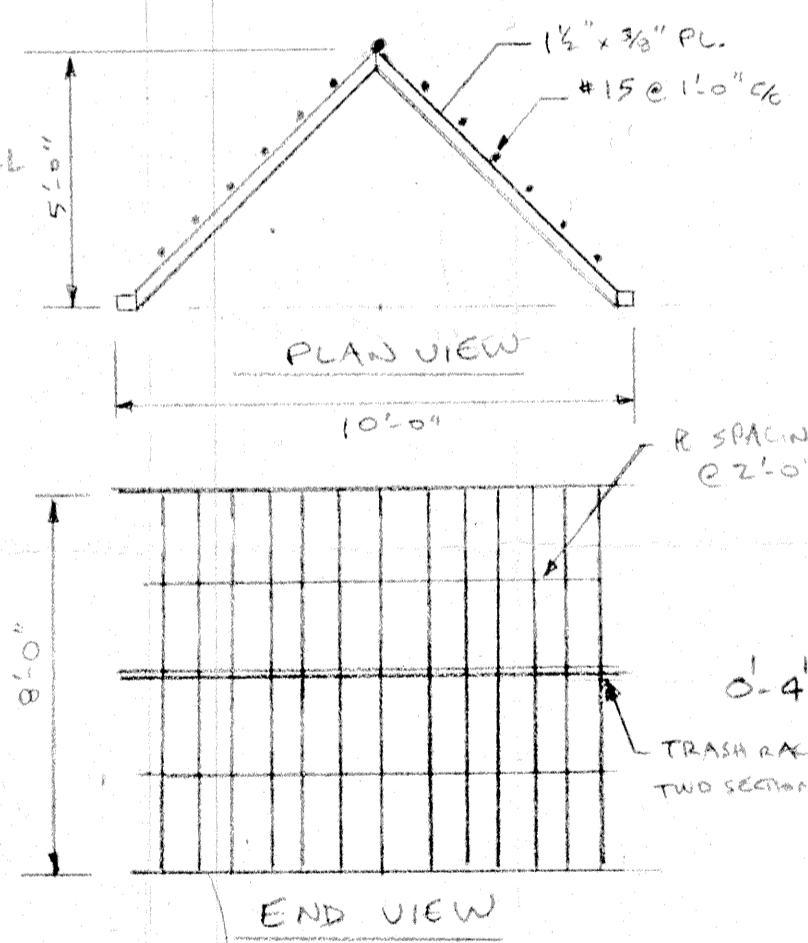
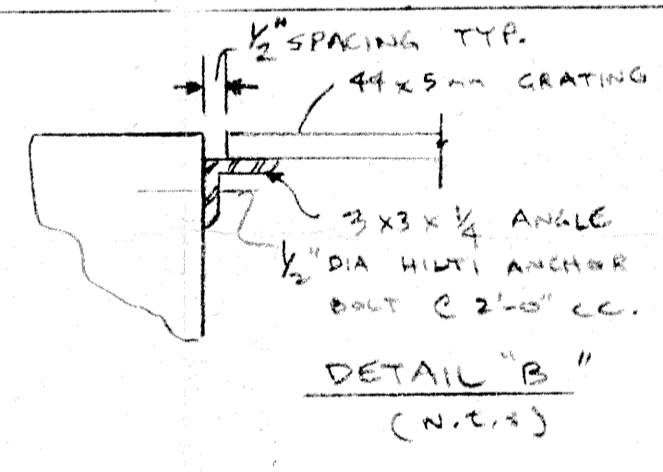
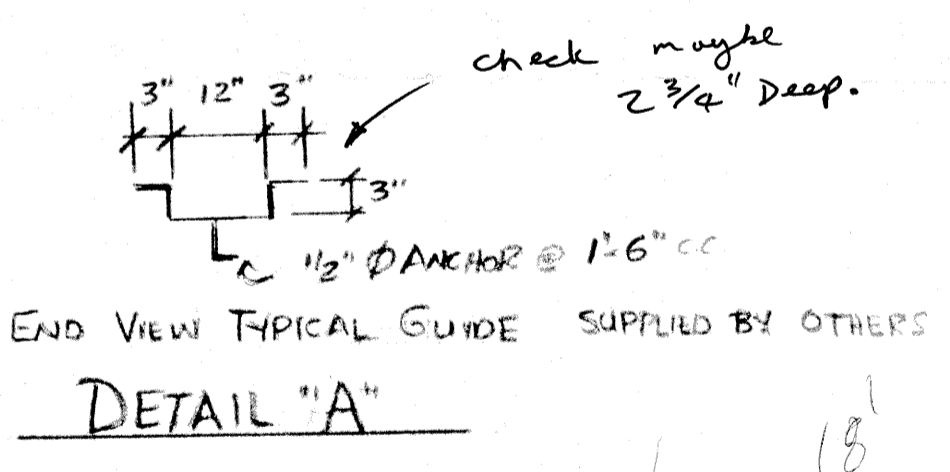
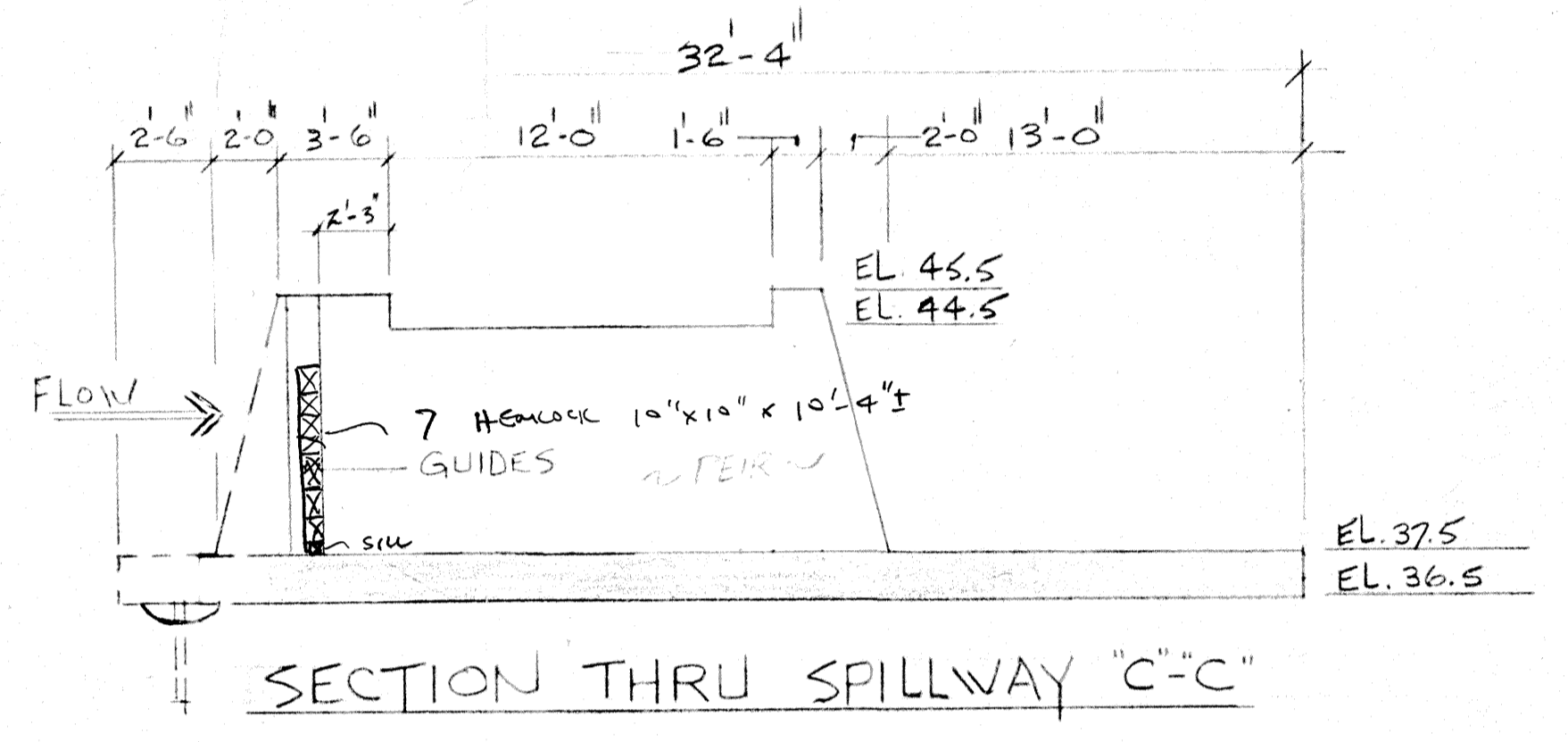
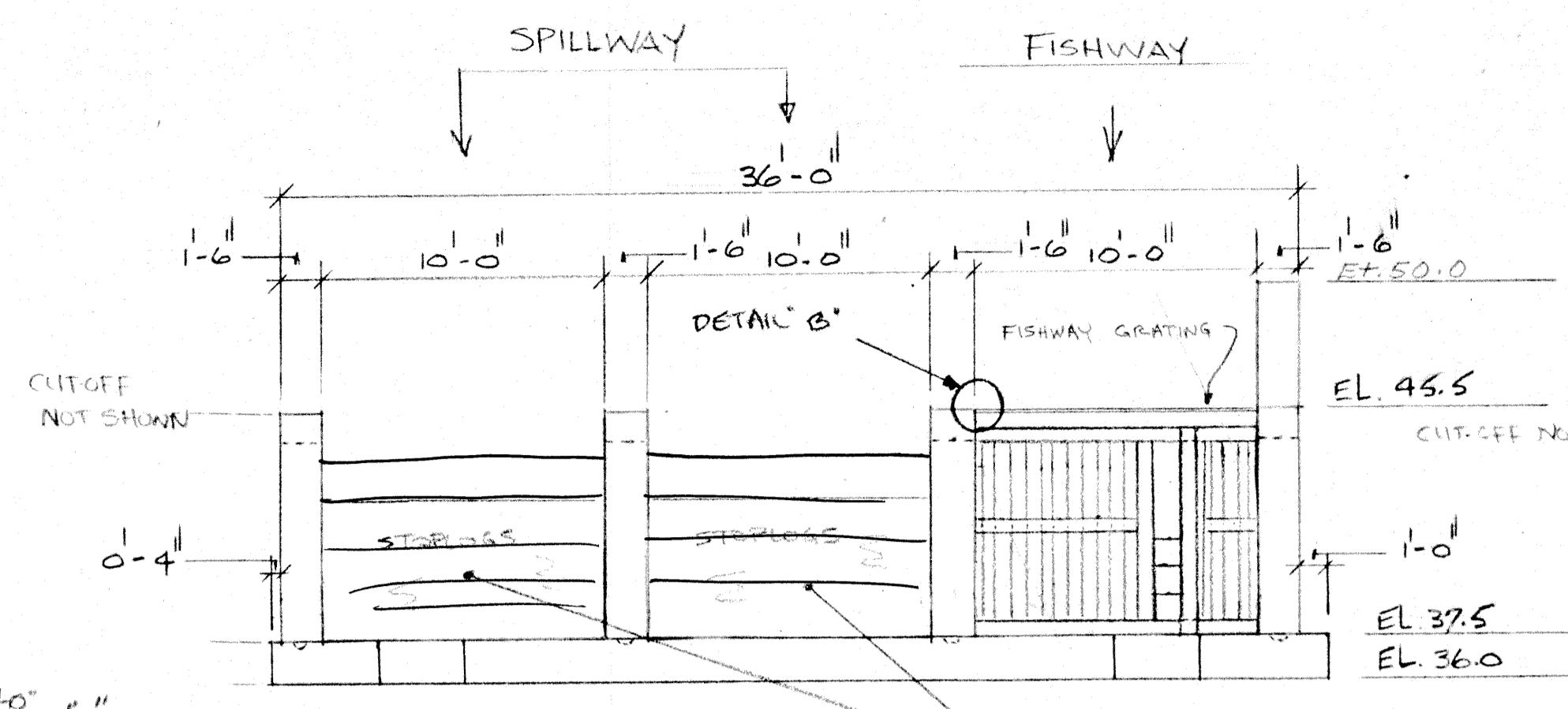
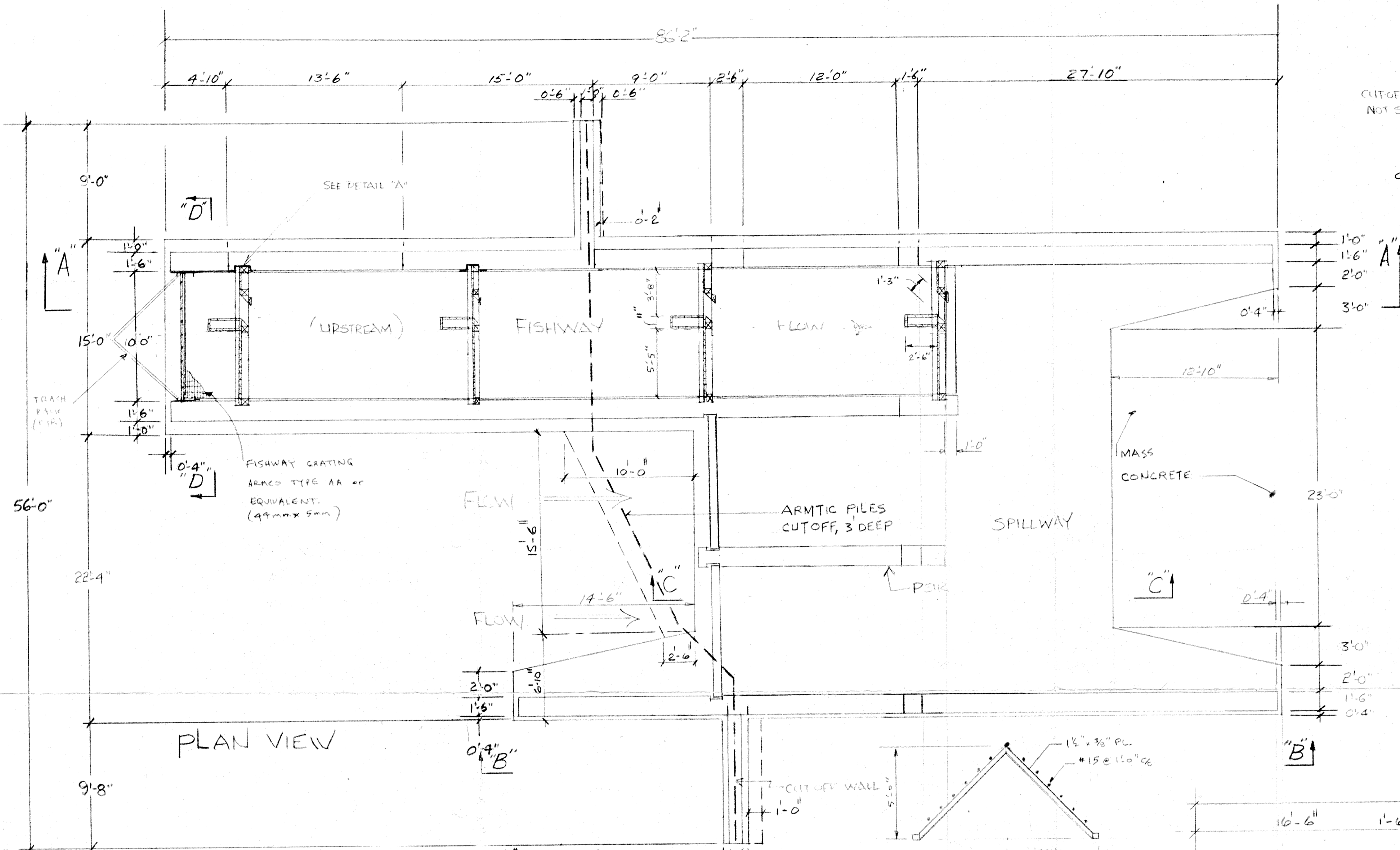
Figure B-7. Weir adjacent to project site (10/09/2019)



Figure B-8. View downstream from project site (10/09/2019)

APPENDIX C – Conceptual Drawing

Please see the accompanying document/file attached.



- NOTES:
1. ALL ELEVATIONS ARE FROM ASSU...
 2. CONCRETE TO BE 4000 P.S.I.
 3. ALL EXPOSED EDGES TO HAVE 1/4"...

NO.	REVISION
4	GRATING TRASH RACK
3	VERTICAL SLOTT BARR
2	AS BUILT
1	GUIDE LOCATION

Ducks Unlimited C
 CONSTRUCTION
 BIRCHY EA
 SCALE 3/16" = 1 FT PROJ
 DRAWN BY B.M.W. APPR
 DATE AUG 9, 1992 DRAW

AS BUILT
 APPR BMR

Amended Letter of Advice - Birchy Basin Fish Baffle Replacement

O'Rourke, John <John.O'Rourke@dfo-mpo.gc.ca>

Mon 3/23/2020 4:46 PM

To: Danielle Fequet <d_fequet@ducks.ca>

Cc: Fraser, Sandra <Sandra.Fraser@dfo-mpo.gc.ca>

 1 attachments (284 KB)

JOR-20-HNFL-00041-AMENDED LoA-Birchy Basin Upper Humber Fish Ladder.pdf;

Warning: External Email. Use caution when opening links or attachments.

Hi Danielle

Further to our correspondence and conference call today, please find the attached amended letter of advice for your project reflecting a change in timing (for the most part).

As we are working in an altered office system, the attached letter is not physically signed, however, my signature block in this email will verify this has been completed and sent by me.

If you have any questions, please do not hesitate to contact me. We are still open for business 😊

John M. O'Rourke, B.Sc.
Senior Biologist – Hydro, Flows & Linear Development
Fisheries Protection Division, Fisheries and Oceans Canada
P.O. Box 5667, St. John's, NL A1C 5X1
Ph: (709) 772-2508, Cell: (709) 725-1286, Fax: 772-5562
Email: john.orourke@dfo-mpo.gc.ca



P.O. Box 5667
St. John's NL A1C 5X1

March 23, 2020

Your file *Votre référence*

Our file *Notre référence*

20-HNFL-00041

Ms. Danielle Fequet
Ducks Unlimited Canada
20 Cochrane Street
St. John's, NL A1C 3L3

**Subject: AMENDED - Birchy Basin Fish Baffle Replacement and Decking Repair—
Implementation of Measures to Avoid and Mitigate the Potential for Prohibited
Effects to Fish and Fish Habitat**

Dear Ms. Fequet:

The Fish and Fish Habitat Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your proposal on February 5th, 2020. We understand that you propose to:

- Divert water around fish ladder and through draw down bays of existing weir and spillway system on the Upper Humber River at Birchy Basin. This component of the project is temporary in nature and is expected to be completed within two (2) days;
- Dewater existing fish ladder and isolate work area from flow using stacked, timber stop logs;
- Remove existing baffles and any compromised timbers from concrete fish ladder;
- Install and secure pre-fabricated baffles and new support timbers in fish ladder;
- Replace and repair associated grating/decking, anchors and railings associated with fish ladder;
- Minimize use of heavy equipment and operate from shoreline;
- All in-water works to be done in Spring/Summer of 2020 and in coordination with C&P Officers in the area (i.e. before adult salmon migration).

Our review considered the following information:

- A submitted “Request for Review” application and associated documentation received by HFLD personnel on February 14, 2020, and
- Telephone conversation with Senior Biologist and Proponent on February 14, 2020.
- Telephone conversation O’Rourke/Fequet/Campbell on March 23, 2020.

Your proposal has been reviewed to determine whether it is likely to result in:

- the death of fish by means other than fishing and the harmful alteration, disruption or destruction of fish habitat which are prohibited under subsections 34.4(1) and 35(1) of the *Fisheries Act*;
- effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*;
- the introduction of aquatic species into regions or bodies of water frequented by fish where they are not indigenous, which is prohibited under section 10 of the *Aquatic Invasive Species Regulations*.

The aforementioned impacts are prohibited unless authorized under their respective legislation and regulations.

To avoid and mitigate the potential for prohibited effects to fish and fish habitat (as listed above), we recommend implementing the measures listed below:

- All works should be completed by August 15th, 2020;
- The proposed project should be carried out in such a manner that sediment, and/or debris does not enter the Upper Humber River;
- In-water works should be carried out during periods of low flow;
- Any salmon incidentally stranded within the fish ladder are to be moved immediately to the natural watercourse with minimal handling;
- Project should be completed as quickly as possible without causing prolonged delay to upstream migration of Atlantic salmon;
- The in-water use of heavy equipment should be avoided. The operation of such equipment should be from dry, stable shore locations;
- All vehicles and equipment must be clean and in good repair, free of mud, fuel, and oil, or other harmful substances that could impair water quality or introduce invasive species;
- Implement an erosion and sediment control plan to avoid the introduction of sediment into any waterbody during all phases of the work, undertaking or activity
 - Schedule work to avoid wet, windy and rainy periods (and heed weather advisories) that may result in high flow volumes and/ or increase erosion and sedimentation.
- An environmental monitor / construction supervisor should be available and consulted during the construction period;
- Ensure that all Provincial regulations are considered for proposed work.

Provided that you incorporate these measures into your plans, the Program is of the view that your proposal will not require an authorization under the *Fisheries Act*, the *Aquatic Invasive Species Regulations* or the *Species at Risk Act*.

Should your plans change or if you have omitted some information in your proposal, further review by the Program may be required. Consult our website (<http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>) or consult with a qualified environmental consultant to determine if further review may be necessary. It remains your responsibility to remain in compliance with the *Fisheries Act*, avoid prohibited effects on listed aquatic species at risk, any part of their critical habitat or the residences of their individuals, and prevent the introduction of non-indigenous species.

It is also your *Duty to Notify* DFO if you have caused, or are about to cause, the death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat. Such notifications should be directed to (<http://www.dfo-mpo.gc.ca/pnw-ppe/CONTACT-eng.html>).

Please notify DFO Conservation and Protection at NLCP@dfo-mpo.gc.ca and the Triage line at FPP.XNFL@dfo-mpo.gc.ca prior to starting your project. A copy of this letter should be kept on site while the work is in progress. It remains your responsibility to meet all other federal, territorial, provincial and municipal requirements that apply to your proposal.

If you have any questions with the content of this letter, please contact Jack O'Rourke at our St. John's office at (709) 772-2508, by fax at (709) 772-5562, or by email at John.orourke@dfo-mpo.gc.ca. Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,

John O'Rourke
Senior Biologist – Hydro, Flows & Linear Development
Regulatory Review, FFHPP