

Conditions that relate to compensatory habitat:

23. The compensatory habitats shall consist of a number of features which are listed below and numerically referenced to a plan of ultimate drainage (refer to ECL Drawing No. 467-02-12, Revision 03, attached in Appendix A). These works are also described in the Habitat Balance (Appendix B). Design drawings are referenced for each project on the ultimate drainage plan.
34. Gloucester shall ensure that the compensatory habitat is functioning as intended for the lifetime of Gloucester Industrial Estates. If at any time Gloucester becomes aware that the compensatory habitat is not functioning as intended Gloucester shall carry out any works which are necessary to enable the compensatory habitat to function as designed. If Gloucester transfers its interest in Gloucester Industrial Estates, and the transferee assumes the obligations of this Authorization in a form satisfactory to DFO, Gloucester shall thereafter be relieved of these obligations.

Amendment to Authorization 99-HPAC-PA2-000-000217

de la Loi sur l'accès à l'informa

construction of an 'Interim Detention Pond' in 2004, between 1 August 2004 and 30 September 2004.

2. The 'Interim Detention Pond' will be constructed as shown on Aplin and Martin Design Drawing Nos. 24066-01 through -06, including:
  - a. The construction of a permanent berm;
  - b. The construction of a flow control structure within the hydraulic channel of West Creek at the berm crossing of the creek;
  - c. The excavation of lands on either side of the creek and landward of the 15m no disturbance zone;
  - d. Removal to two (2) existing sediment ponds and construction of a temporary storm water drainage ditch; and,
  - e. Riparian planting along the berm slope and hydro-seeding of all disturbed areas.
3. The amended conditions of Authorization shall be consistent with the application for amendment submitted to DFO from ECL Envirowest Environmental Consultants, dated 19 July 2004, entitled "Gloucester Industrial Estates, Township of Langley".

All other conditions associated with Authorization Number 99-HPAC-PA2-000-000217 shall remain as per the original Authorization document, signed by 161884 Canada Inc., 24 August 2000 and by DFO on 29 August 2004.

The terms and conditions of the Authorization Amendment withstanding, Fisheries and Oceans Canada (DFO) may at any time and at their sole discretion acting reasonably direct, Gloucester and their consultant, agents or contractors, to suspend or alter works and activities associated with this project.

Added June 29 2023

Oct 3 2013 Page 272

DFO Inspection Report

<https://westcreekawareness.files.wordpress.com/2022/10/a-2017-01193-dq-final-1.pdf>

Our review consisted of:

5. Project Review application form;
6. Figure showing previously approved (99-HPAC-PA2-000-000217) concept plan with total habitat areas, and figure showing currently proposed total habitat areas;
7. Aerial photograph of interim detention pond approved by DFO;
8. Plan of habitat features to be included in proposed pond.



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

200 – 401 Burrard St.,  
Vancouver, BC, V6C 3S4

Your file      Votre référence

October 3, 2013

Our file      Notre référence  
99-HPAC-PA2-00217

s.19(1)

161884 Canada Inc.  
Gloucester Industrial Estates  
310 - 1001 West Broadway  
Vancouver, B.C.  
V6H 4B1

Dear [REDACTED]

**Subject:** Request for amendment to Fisheries Act Authorization.

DFO File No.:      **99-HPAC-PA2-00217**  
Title:

On August 26, 2013, the following documents were submitted to DFO for review by [REDACTED] envirowest consultants inc.

1. Project Review application form;
2. Figure showing previously approved (99-HPAC-PA2-000-000217) concept plan with total habitat areas, and figure showing currently proposed total habitat areas;
3. Aerial photograph of interim detention pond approved by DFO;
4. Plan of habitat features to be included in proposed pond.

"The configuration of the constructed habitat may be revised subject to advance notification to DFO and completion of a similar or greater amount of habitat."

Our review consisted of:

5. Project Review application form;
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7. Aerial photograph of interim detention pond approved by DFO;
8. Plan of habitat features to be included in proposed pond.

If the plans have changed or if DFO's understanding of your project is inaccurate, you should contact DFO to determine if the advice in this letter still applies.

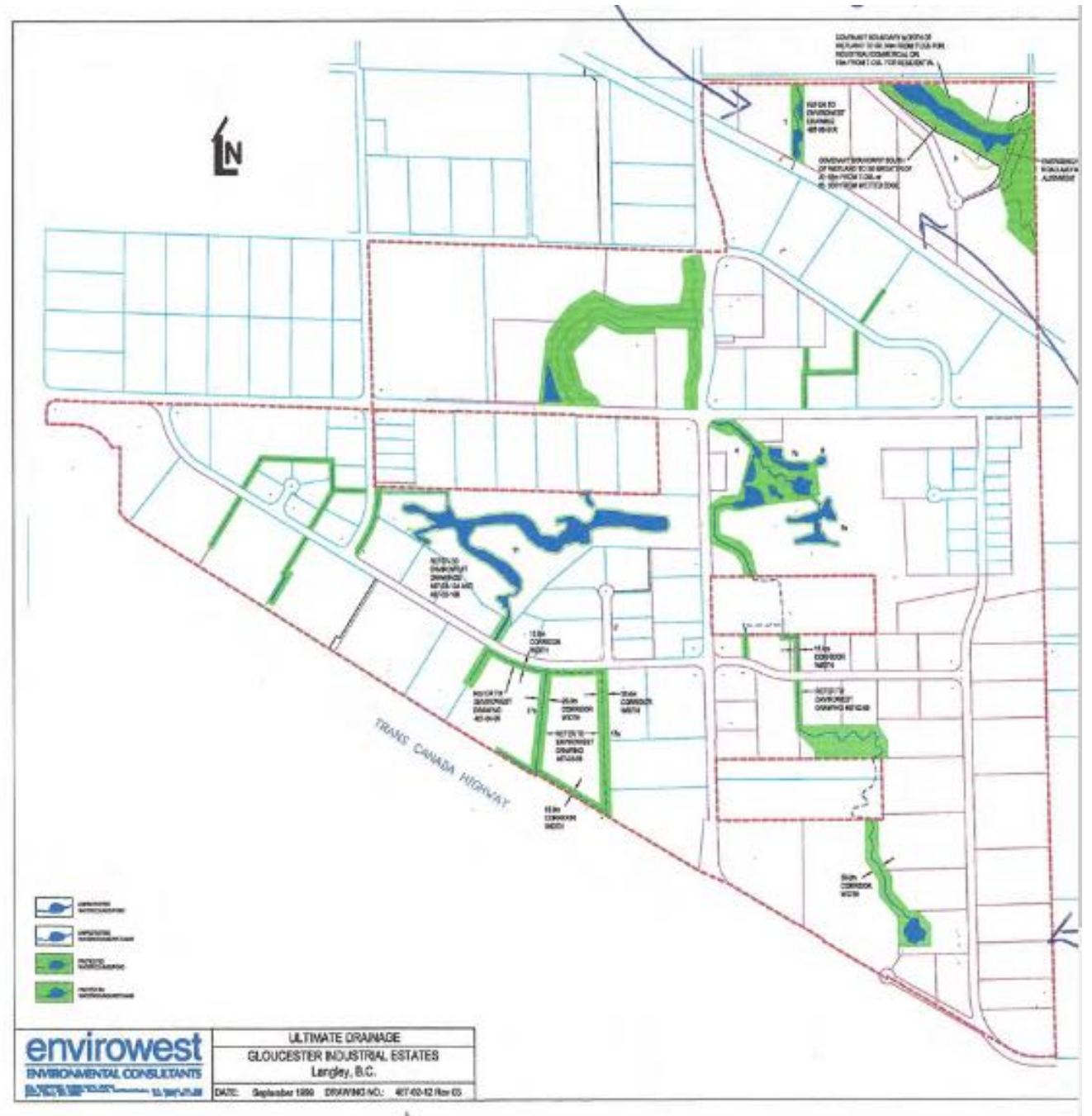
If you have any questions please contact the undersigned.

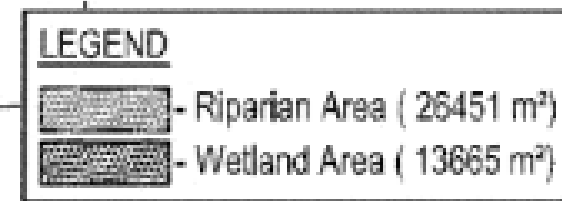
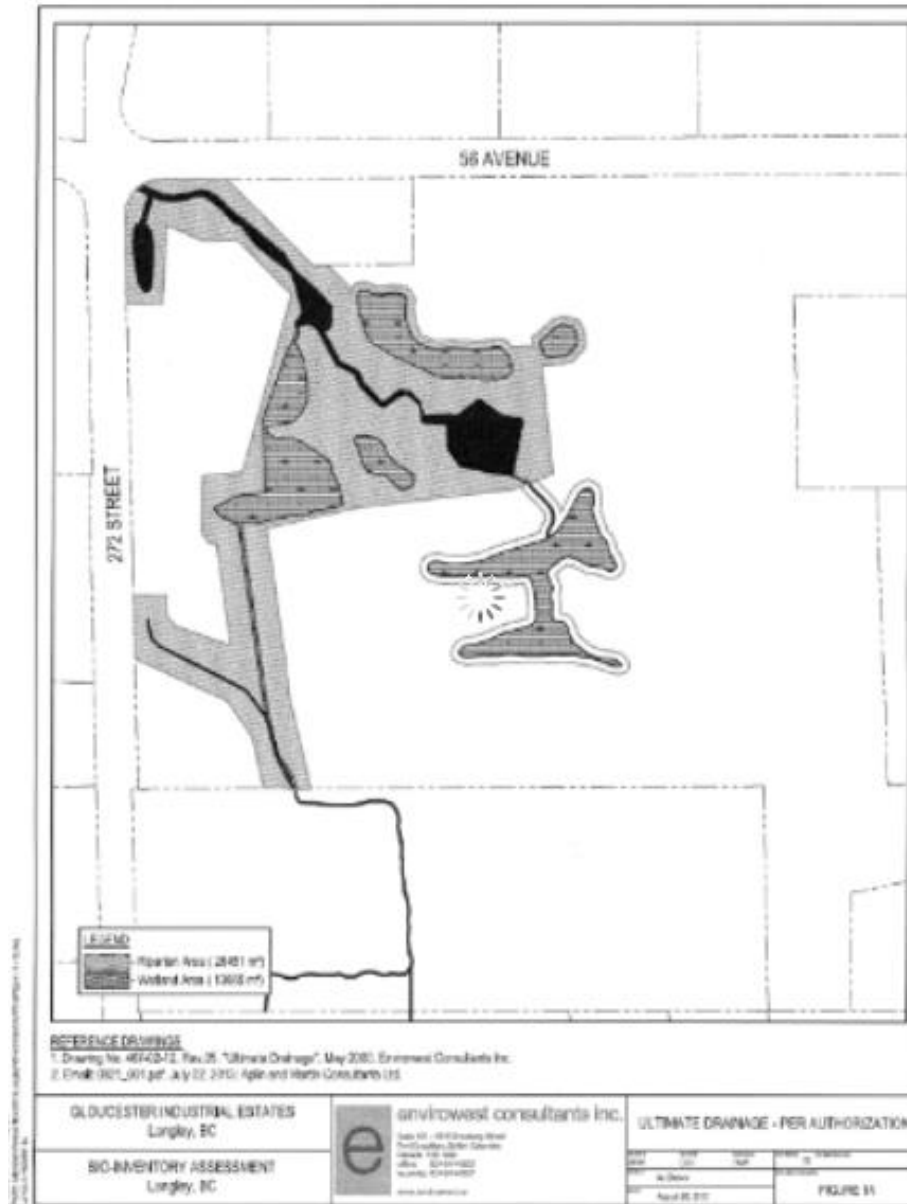
Canada

Added June 29 2023

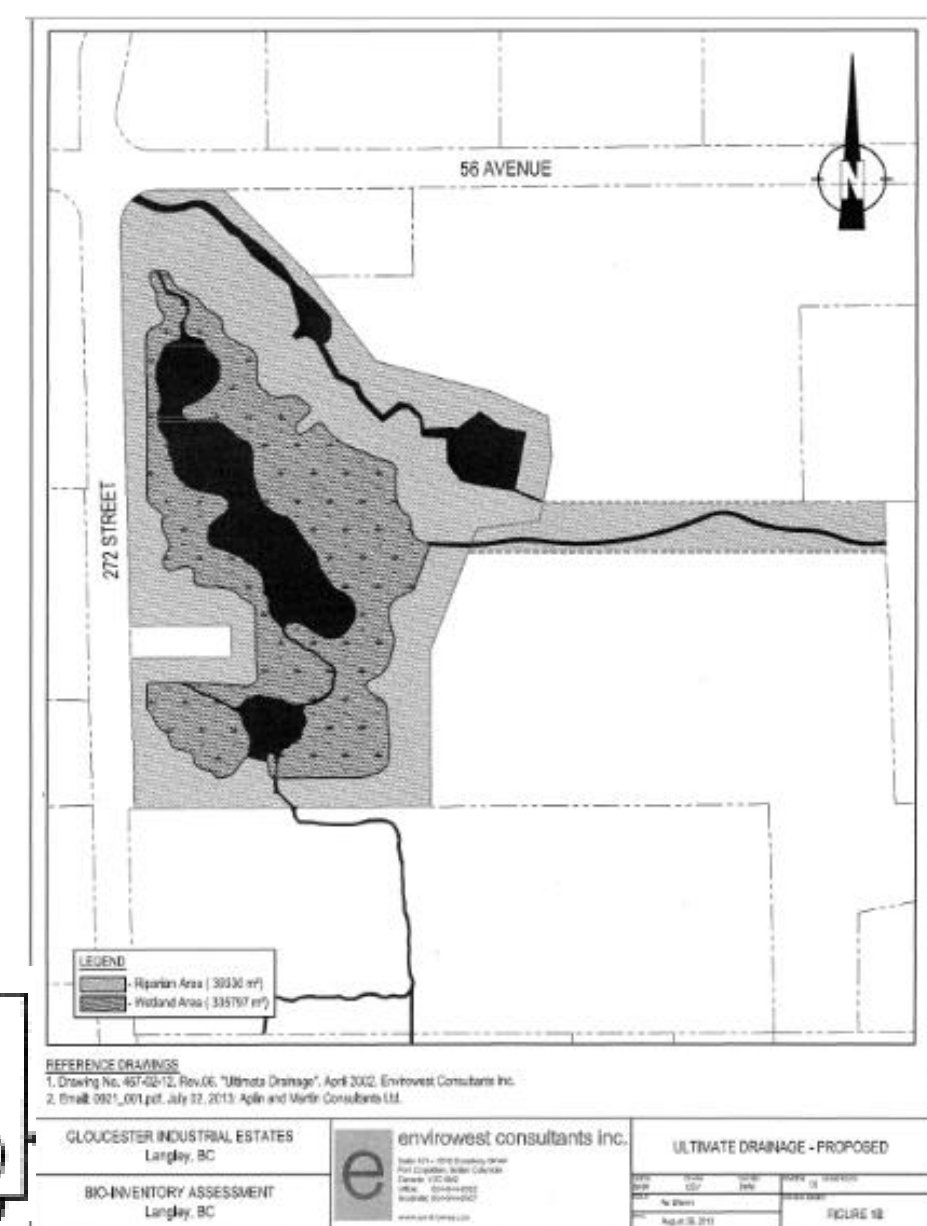
## Ultimate Drainage drawing #467-02-12Rev 05

<https://westcreekawareness.files.wordpress.com/2022/07/cavanaugh-letter-mar-2021-riparian-area-on-274th-street.pdf>





Added June 29  
2023 Page 266  
Source DFO  
Inspection Report  
<https://westcreekawareness.files.wordpress.com/2022/10/a-2017-01193-dq-final-1.pdf>

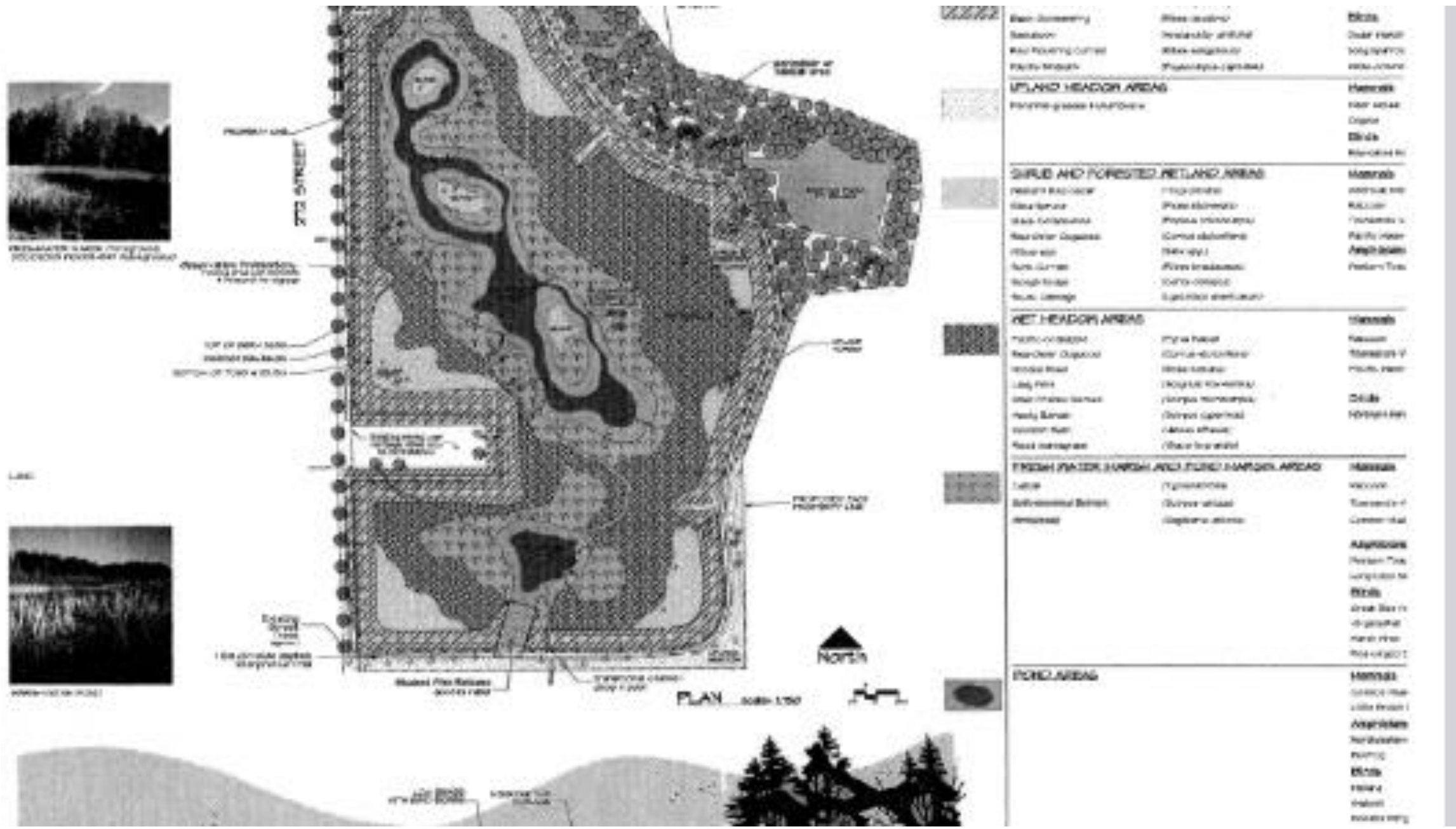


## REFERENCE DRAWINGS

- Drawing No. 467-02-12, Rev.05, "Ultimate Drainage". May 2000. Envirowest Consultants Inc.
- Email: 0921\_001.pdf, July 02, 2013; Aplin and Martin Consultants Ltd.

## REFERENCE DRAWINGS

- Drawing No. 467-02-12, Rev.06, "Ultimate Drainage". April 2002. Envirowest Consultants Inc.
- Email: 0921\_001.pdf, July 02, 2013; Aplin and Martin Consultants Ltd.



Added June 29 2023 DFO Inspection Report Page 2744  
<https://westcreekawareness.files.wordpress.com/2022/10/a-2017-01193-dq-final-1.pdf>

On August 26, 2013, the following documents were submitted to DFO for review by [REDACTED] envirowest consultants inc.:

- Project Review Application Form;
- Figure showing previously approved (99-HPAC-PA2-000-000217) concept plan with total habitat areas, and figure showing currently proposed total habitat areas;
- Aerial photograph of interim detention pond approved by DFO;
- Plan of habitat features to be included in proposed pond.

DFO accepts the plans as submitted.

Fisheries Act Authorization 99-HPAC-PA2-00217 states, "The configuration of the constructed habitat may be revised subject to advance notification to DFO and completion of a similar or greater amount of habitat." Therefore, an amendment will not be required.

In regard to the valid period of the Authorization, the dates are hereby extended to include 2014 and 2015.



Fisheries and Oceans Canada  
Pêches et Océans Canada

200 – 401 Burrard St.  
Vancouver, BC, V6C 3S4

Your file Votre référence

October 8, 2013

Our file Notre référence  
99-HPAC-PA2-00217

s.19(1)

161884 Canada Inc.  
Gloucester Industrial Estates  
310 - 1001 West Broadway  
Vancouver, B.C.  
V6H 4B1

Dear [REDACTED]

**Subject:** Request for amendment to Fisheries Act Authorization.

DFO File No.: **99-HPAC-PA2-00217**  
Title: Gloucester Industrial Estates

On August 26, 2013, the following documents were submitted to DFO for review by [REDACTED] envirowest consultants inc.:

- Project Review Application Form;
- Figure showing previously approved (99-HPAC-PA2-000-000217) concept plan with total habitat areas, and figure showing currently proposed total habitat areas;
- Aerial photograph of interim detention pond approved by DFO;
- Plan of habitat features to be included in proposed pond.

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In regard to the valid period of the Authorization, the dates are hereby extended to include 2014 and 2015.

If the plans have changed or if DFO's understanding of your project is inaccurate, you should contact DFO to determine if the advice in this letter still applies.

If you have any questions please contact the undersigned.

Yours sincerely,

*Karen Billard*

Fisheries Protection Program / Programme de protection des pêches  
Ecosystem Management Branch / Gestion des écosystèmes  
Phone / téléphone: 604-666-0126  
Fax / télécopieur: 604-666-0417  
E-mail/Courriel: [karen.billard@dfo-mpo.gc.ca](mailto:karen.billard@dfo-mpo.gc.ca)

copy: [REDACTED] envirowest consultants inc.

Canada

Photograph 3. Looking east at wetland (May 1, 2008).



Photograph 3. Looking east at wetland (May 1, 2008).

Photograph 4. Looking east at wetland (April 7, 2009).



Photograph 4. Looking east at wetland (April 7, 2009).



## **VIDEOS OF WEST CREEK WWETLANDS**

[Wetlands](#) [West Creek at Risk From Industrial Development](#) [Aerial Survey of West Creek](#)

**# 99-HPAC-PA2-000-000217**  
**MELP File # A2004880**

16. GLOUCESTER shall ensure that the compensatory habitat is functioning as intended for the lifetime of Gloucester Industrial Estates. If at any time GLOUCESTER becomes aware that the compensatory habitat is not functioning as intended GLOUCESTER shall carry out any works which are necessary to enable the compensatory habitat to function as designed. If GLOUCESTER transfers its interest in Gloucester Industrial Estates, and the transferee assumes the obligations in Paragraph 12 in a form satisfactory to DFO, GLOUCESTER shall thereafter be relieved of these obligations.
17. GLOUCESTER will provide a restrictive covenant in favour of BC Environment pursuant to s. 215 of the *Land Title Act*, to ensure the compensatory habitat is left undisturbed in perpetuity. The restrictive covenant will be attached as Schedule "C". GLOUCESTER confirms it shall leave the compensatory habitat undisturbed. After the compensatory habitat is functioning as intended, GLOUCESTER shall not carry on any work or undertaking that will adversely disturb or impact the compensatory habitat, and will take all reasonable steps to ensure that the compensatory habitat is not disturbed by others, so long as GLOUCESTER is associated with Gloucester Industrial Estates.



200 – 401 Burrard St.,  
Vancouver, BC, V6C 3S4

*Your file* *Votre référence*

October 8, 2013

*Our file* *Notre référence*

99-HPAC-PA2-00217

Mr. Dave Gormley  
161884 Canada Inc.  
Gloucester Industrial Estates  
310 - 1001 West Broadway  
Vancouver, B.C.  
V6H 4B1

Dear Mr. Gormley:

**Subject:** Request for amendment to Fisheries Act Authorization.

DFO File No.: **99-HPAC-PA2-00217**  
Title: Gloucester Industrial Estates

On August 26, 2013, the following documents were submitted to DFO for review by Ian Whyte of envirowest consultants inc.:

- Project Review Application Form;
- Figure showing previously approved (99-HPAC-PA2-000-000217) concept plan with total habitat areas, and figure showing currently proposed total habitat areas;
- Aerial photograph of interim detention pond approved by DFO;
- Plan of habitat features to be included in proposed pond.

DFO accepts the plans as submitted.

Fisheries Act Authorization 99-HPAC-PA2-00217 states, "The configuration of the constructed habitat may be revised subject to advance notification to DFO and completion of a similar or greater amount of habitat." Therefore, an amendment will not be required.

In regard to the valid period of the Authorization, the dates are hereby extended to include 2014 and 2015.

If the plans have changed or if DFO's understanding of your project is inaccurate, you should contact DFO to determine if the advice in this letter still applies.

If you have any questions please contact the undersigned.

Yours sincerely,

*Karen Billard*

Fisheries Protection Program / Programme de protection des pêches  
Ecosystem Management Branch / Gestion des écosystèmes  
Phone/ téléphone: 604-666-0126  
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E-mail/Courriel: [karen.billard@dfo-mpo.gc.ca](mailto:karen.billard@dfo-mpo.gc.ca)

Canada

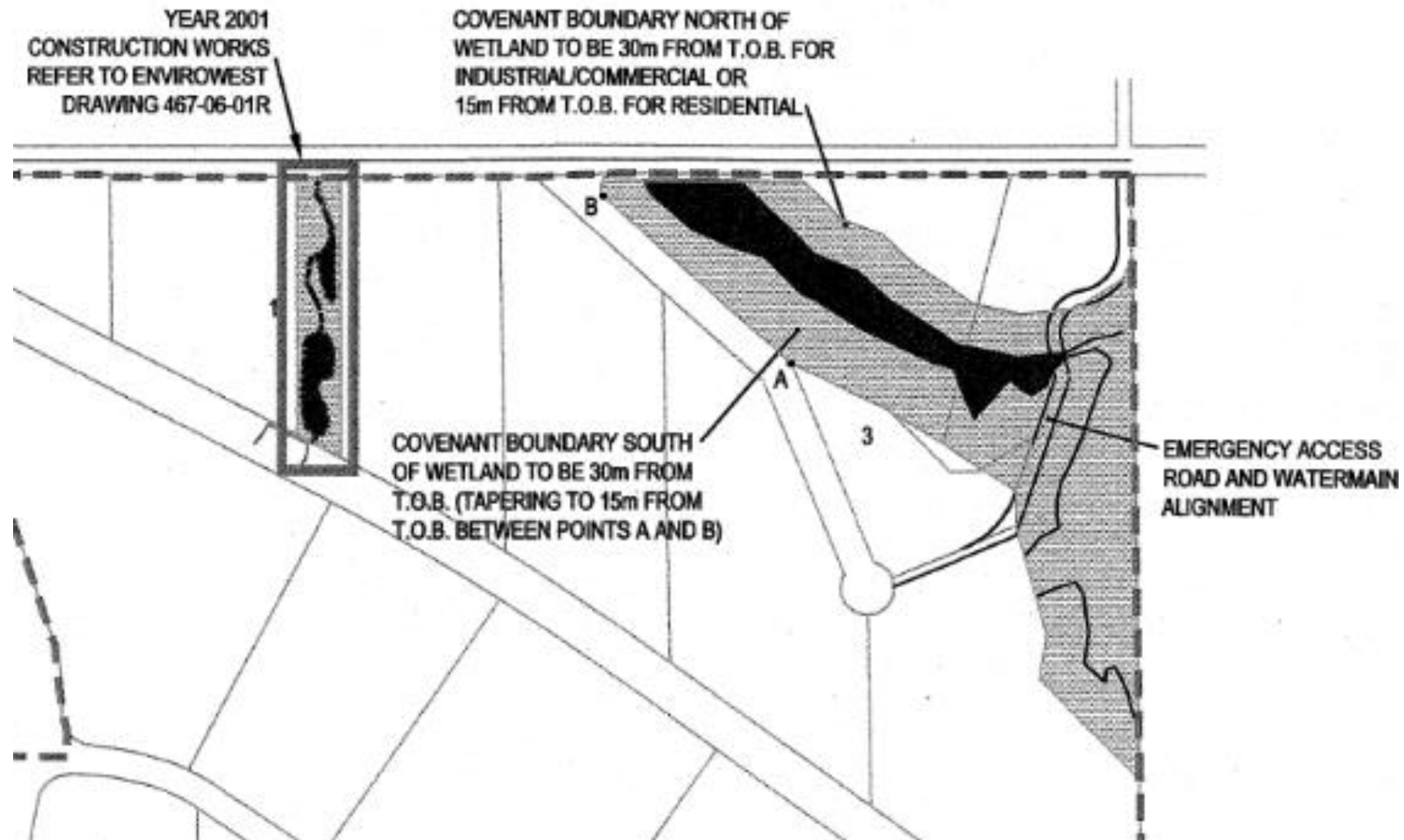
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In regard to the valid period of the Authorization, the dates are hereby extended to include 2014 and 2015.

## 1.0 INTRODUCTION

The enclosed report consists of environmental monitoring and post construction monitoring of constructed habitats associated with Gloucester Industrial Estates. The report is comprised of 4 components. Sections 2.0 and 3.0 address Condition #19 of the Section 35(2) Fisheries Act Authorization No. 99-HPAC-PA2-000-000217 for habitats constructed during the years 2000 and 2001, respectively. Sections 4.0 and 5.0 address Condition #14 (a) through (e) and Condition #15 (a) through (d) of the Section 35(2) Fisheries Act Authorization Nos. 97-HPAC-PA2-0150 and 97-HPAC-PA2-023-000034, respectively, for habitats constructed in 1997.

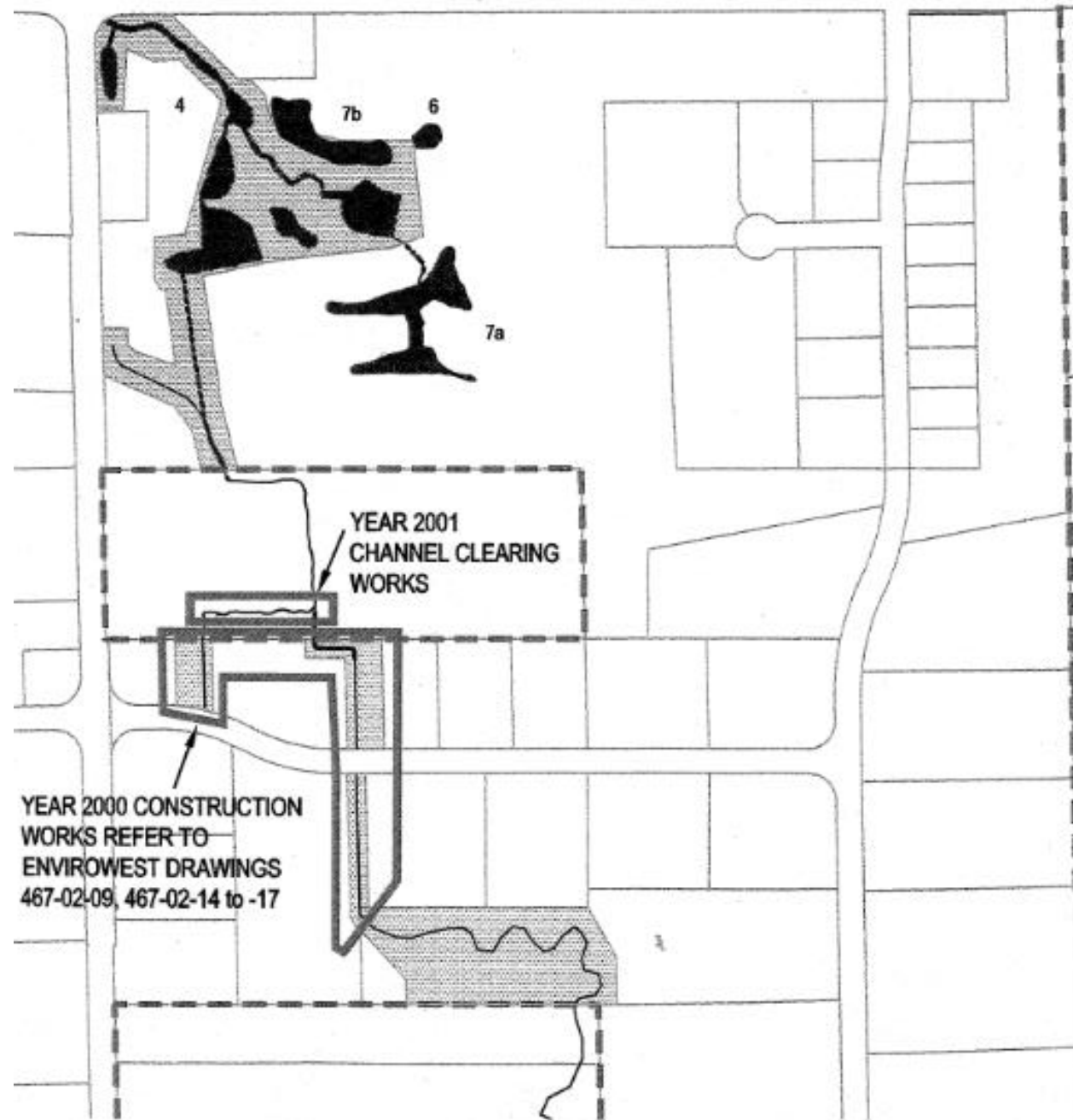




***In the Northeast Quadrant of the development -***

Compensatory Site A, located at or near Site 1:

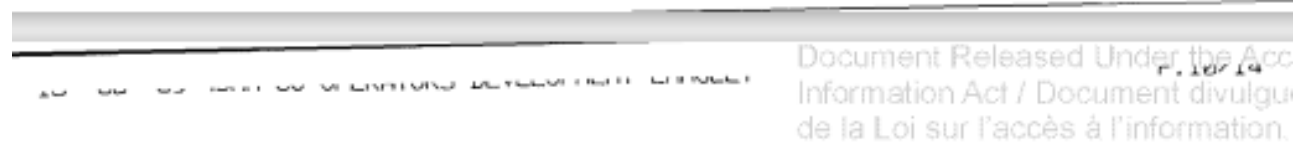
- Enhancement of an existing watercourse, including partial realignment, wetland/pond creation and riparian enhancement (refer to ECL Drawing No. 467-06-01R, dated March 1999). This watercourse discharges to the existing roadside ditch at 60th Avenue, subsequently flowing in a culvert under 60th Avenue.
- Native shrubs shall include a mix of species (minimum size #2 pot) including snowberry, red elderberry, salmonberry, red-flower currant, pussy willow, red-osier dogwood and thimbleberry (no species to consist of more than 20 percent of the total). Live stakes shall be planted at a density of 5 stakes per square metre.
- Large woody debris (tree, log and rootwad) placement will be undertaken as directed by the environmental consultant. All large woody debris will be placed in such a manner so as to ensure that they are appropriately keyed into the sides of banks or are otherwise stable. Rootwads should be placed so that the gnarly portions of the root mass are below the wetted perimeter of the creek/ pond area, thus providing maximum refuge cover for juvenile salmonids. Trees and logs must have a minimum diameter of 350 mm; rootwads a minimum diameter of 2.0 metres.
- Marsh planting in the northeast quadrant of the development will be undertaken as per the specifications indicated on ECL Drawing 467-02-10A (species list). All wetland planting will meet the minimum density criteria of 4 plants per square metre. Marsh planting may be undertaken early in the spring planting season post construction, provided that appropriate sediment control measures are undertaken throughout the winter season to prevent downstream sedimentation from such areas. Marsh planting must be completed by April 30, the end of the spring planting season.



*In the Southeast Quadrant of the development -*

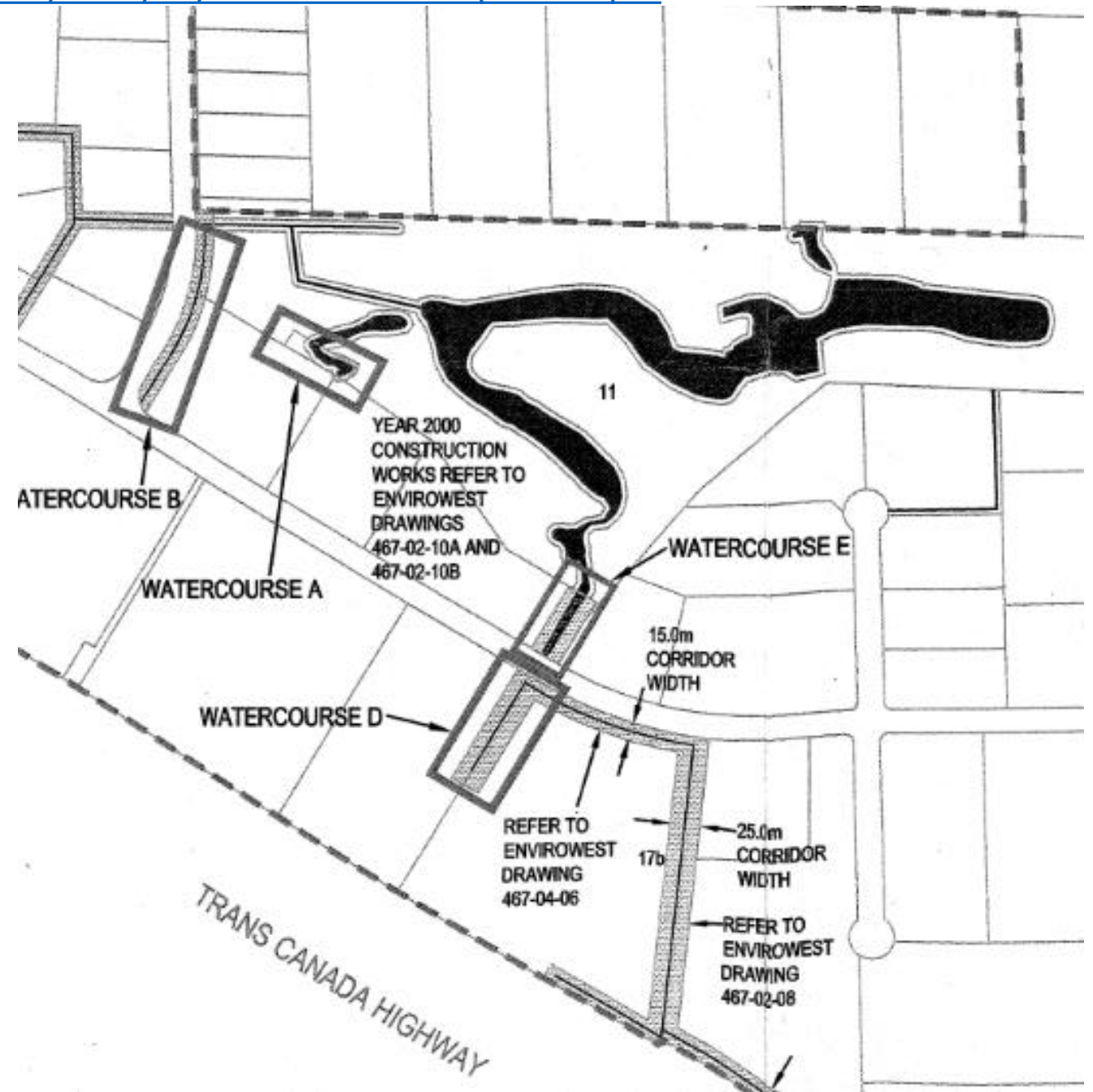
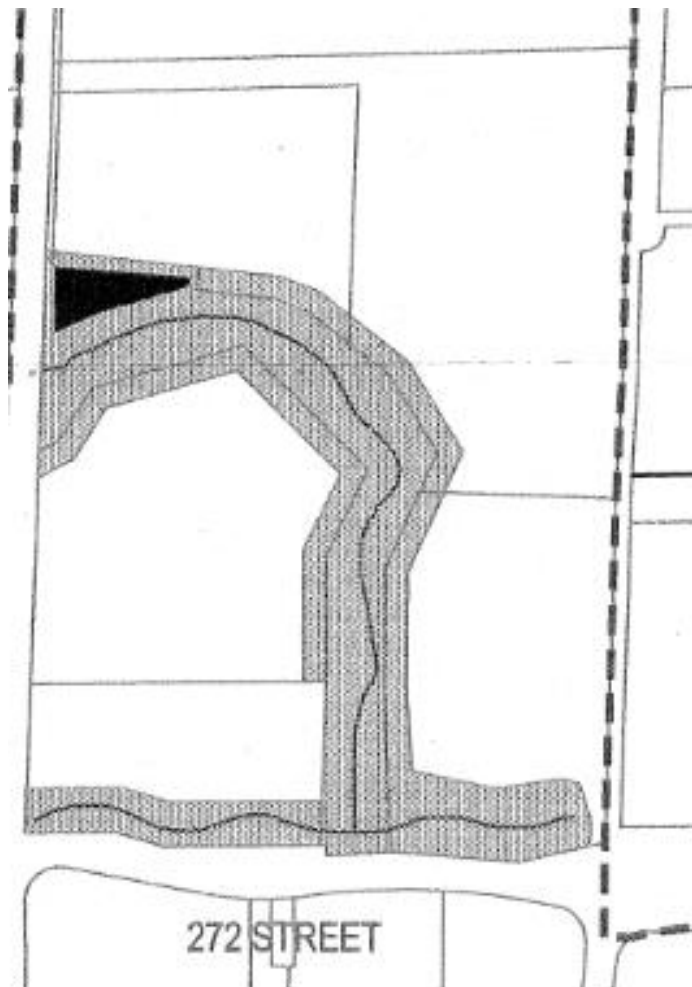
Compensatory Site B, located at or near Site 9:

Page 90 – 91 <https://westcreekawareness.files.wordpress.com/2022/10/a-2017-01193-dq-final-1.pdf>



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- Re-alignment of a watercourse, including development of pools (each with two rootwads) at 30 metre intervals, boulder complexing (minimum 6 boulders per 30 metre interval), and riparian enhancement (refer to ECL Drawing No. 467-02-09, Revision 00, dated April 12, 1999, and Hunter Laird Engineering Ltd. Job No. 4518, Sheets 9 of 14 and 10 of 14, both Revision A and dated July 29, 1999).
- A 1 metre wide strip on each side of the channel/pools is to be live-staked with a combination of red-osier dogwood and willow at a density of 5 stakes per square metre. Densities for trees and shrubs shall be one per five square metres and one per one square metre, respectively. Trees shall be increased in number to ten percent of total plants. Salvaged plant material may be used as an alternative to nursery stock, provided that it meets the required success rate.
- Rip rap is to be deleted from the side slopes of the pools; refer to ECL Dwg. #467-02-09.
- Boulder and boulder cluster placement will be undertaken as per the direction of the environmental consultant. Boulder complexing should be undertaken to provide fish habitat, direct flow, promote flushing, prevent infilling and to ensure bank stabilization, where necessary. Boulders must be appropriately keyed into the sides of banks and placed to ensure they are stable. Boulder diameter may be varied, depending on stream cross-section and gradient, but must average 400mm.



*In the Southwest Quadrant of the development -*

Compensatory Site C, located at or near Site 11:

- Pond/wetland creation north of Gloucester Way within the lands designated as future golf course (refer to ECL Drawings 467-02-10A and 467-02-10B).
- Wetland plants shall be planted at a density of four plants per square metre and trees and shrubs at densities one per five square metres and one per one square metre, respectively.
- The configuration of the constructed habitat may be revised subject to advance notification to DFO and completion of a similar or greater amount of habitat.
- Large woody debris placement should provide a minimum average of 25% cover in pools/ wetland using either gnarly rootwads and/ or whole tree sections.

Compensatory Site D, located at or near Site 17:

- Re-alignment of a watercourse south of Gloucester Way (refer to Apin & Martin Consultants Ltd. Drawing Nos. 96025SR-1, Revision 1; 96025SR-2, Revision 2; and 96025SR-3, Revision 2). The portion adjacent to Gloucester Way is to be located within a 15-metre wide corridor; habitat details for this portion are shown in ECL Drawing No. 467-04-08, Revision 01. Habitat details for the remaining portions are shown in ECL Drawing No. 467-02-08, Revision 01. The north-south portion is to be constructed with a corridor width of 25 metres. Wherever possible, existing trees and

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shrubs are to be retained along the margins of the new watercourse. Where existing vegetation is disturbed it will be re-planted in accordance with the specifications on ECL Drawing No. 467-02-08, Rev 01, and as detailed further herein.

- Deflector logs, aeration logs and rootwads shall each be installed in the channel at 10 metre intervals. Boulder clusters, each comprised of a minimum of four boulders of a minimum diameter of 400mm, are to be installed at 5 metre intervals.
- A one metre wide strip on each side of the channel is to be live-staked with a combination of red-osier dogwood and willow at a density of 5 stakes per square metre. Densities for trees and shrubs shall be one per five square metres and one per one square metre, respectively. Salvaged plant material may be used as an alternative to nursery stock.





Photograph 5. Looking north at realigned channel south of constructed pond (October 13, 2000). Note riparian planting and hydroseeding.



Photograph C1. Looking north at constructed wetland (Watercourse C) south of Gloucester Way (June 26, 2001).

34. Gloucester shall ensure that the compensatory habitat is functioning as intended for the lifetime of Gloucester Industrial Estates. If at any time Gloucester becomes aware that the compensatory habitat is not functioning as intended Gloucester shall carry out any works which are necessary to enable the compensatory habitat to function as designed. If Gloucester transfers its interest in Gloucester Industrial Estates, and the transferee assumes the obligations of this Authorization in a form satisfactory to DFO, Gloucester shall thereafter be relieved of these obligations.



OR

