

**CORPORATION OF THE  
TOWNSHIP OF EDWARDSBURGH/CARDINAL**

**BY-LAW NO. 2019-55**

**"BEING A BY-LAW TO AUTHORIZE THE EXECUTION OF A SITE PLAN  
CONTROL AGREEMENT WITH SHORELINE RAIL GROUP INC."**

**WHEREAS** the Council of the Corporation of the Township of Edwardsburgh Cardinal deems it advisable to enter into a Site Plan Control Agreement with ShoreLine Rail Group Inc. respecting development of a property described as:

3518 County Road 2

Con 1, Pt Lot 34, 35

RP 15R9747 Parts 1, 7 and 8

**TOWNSHIP OF EDWARDSBURGH/CARDINAL**

Property Roll #0701 701 050 11501

Identified as Part of PIN 68155-0792 (LT)

**WHEREAS** Authority is granted under Section 41 of the Planning Act, RSO 1990, c.P. 13, as amended to the Council of the Corporation of the Township of Edwardsburgh/Cardinal to enter into and amend such agreements; and

**NOW THEREFORE BE IT RESOLVED THAT** the Council of the Corporation of the Township of Edwardsburgh Cardinal enacts as follows:

1. That the Mayor and Clerk are hereby authorized to execute an agreement with ShoreLine Rail Group Inc. and that a signed copy of said agreement is attached hereto as Schedule "A".
2. That the following by-law to authorize execution of a site plan control previously passed is hereby repealed: By-law 2018-46, GC56137 registered on February 7, 2019.
3. That this by-law shall come into force and effect upon passing.

Read a first and second time in open Council this 23<sup>rd</sup> day of September, 2019.

Read a third and final time, passed, signed and sealed in open Council this 23<sup>rd</sup> day of September, 2019.

\_\_\_\_\_  
Mayor

\_\_\_\_\_  
Deputy Clerk

## **SITE PLAN AGREEMENT**

3518 County Road 2;

Con 1, Pt Lot 34, 35

RP 15R9747 Parts 1, 7 and 8

TOWNSHIP OF EDWARDSBURGH/CARDINAL

Property Roll #0701 701 050 11501

Identified as Part of PIN 68155-0792 (LT)

**BETWEEN**

**SHORELINE RAIL GROUP INC.**

**AND**

**THE CORPORATION OF THE TOWNSHIP  
OF EDWARDSBURGH/CARDINAL**

September 23, 2019

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THIS AGREEMENT MADE BETWEEN: SHORELINE RAIL GROUP INC.  
HEREINAFTER CALLED THE "OWNER"  
OF THE FIRST PART

AND: THE CORPORATION OF THE TOWNSHIP OF  
EDWARDSBURGH/CARDINAL  
HEREINAFTER CALLED THE "TOWNSHIP"  
OF THE SECOND PART

WHEREAS the Township of Edwardsburgh/Cardinal has enacted Site Plan Control By-law 2002-31 pursuant to the provisions of Section 41 of the Planning Act R.S.O. 1990, Chapter P.13, as amended;

AND WHEREAS the Owner is the Owner of the lands, more particularly described in Schedule "A" attached, and which are hereinafter referred to as the "Site";

AND WHEREAS the Owner and the Township have previously agreed to certain matters under Site Plan Control Agreement adopted by Bylaw 2018-46 duly registered on title of the lands;

AND WHEREAS the Owner and Township wish to amend said Agreement by adding certain matters to said Site Plan Control Agreement hereinafter expressed relating to the development of the lands pursuant to the Township's Site Plan Control By-law:

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the approval of the plans for the development on the subject parcel of land by the Township and the sum of One Dollar (\$1.00) of lawful money of Canada paid by the Township to the Owner the receipt whereof is hereby acknowledged by the Owner, the Owner and the Township agree as follows:

## 1. DEFINITIONS

In this Agreement:

"ACCEPTANCE" - means the date on which the Township accepts that all works and obligations which are constructed, installed, supplied or performed by the Owner pursuant to this Agreement and further referred to in this Agreement;

"AGREEMENT" - shall mean this Agreement and the Schedules which Schedules shall also be deemed to be covenants as though specifically set out therein;

"APPROVAL" - means the Township is satisfied that certain works have been constructed, installed or performed to the satisfaction of the Township, and as required in this Agreement;

"TOWNSHIP" - shall mean the Corporation of the Township of Edwardsburgh/Cardinal and shall include its successor and assigns and its officers, employees, agents, and contractors;

"TOWNSHIP ENGINEER" - Means the Director of Operations of the Corporation of the Township of Edwardsburgh/Cardinal or such other person or persons designated;

"CHIEF BUILDING OFFICIAL" - shall mean the person appointed by the Township as the Chief Building Official, or his/her designate;

"TOWNSHIP TREASURER" - shall mean the Treasurer of the Corporation of the Township of Edwardsburgh/Cardinal or such other person or persons so designated;

"LETTER OF CREDIT" - means a letter of credit provided by the Owner to the Township in accordance with the requirements of this Agreement;

"MAINTAIN" - includes repair, replace, and/or keep operational;

"PLAN(S)" OR "SITE PLAN" - means the Site Plan and all associated plans approved by Council and includes the land described in Schedule "A";

"ROAD" - shall mean those public roads or any part thereof, any daylighting triangles, and areas of road widening shown or laid out on the Site Plan. The use of "Street" or "Public Highway" shall be synonymous with "Road";

"WORKS" - shall mean the whole works, materials, matters and things required by this Agreement to be supplied, performed, or constructed.

## 2. LANDS

The Owner agrees that the lands affected by this Agreement shall be those described in Schedule "A". The Owner warrants that it is the Owner in fee simple of the lands described in Schedule "A".

## 3. SCOPE OF WORKS AND CONFORMITY

The Owner agrees to construct and maintain the proposed development in conformity with this Agreement and Schedules attached hereto. No works shall be erected on the lands other than those erected in conformity with the said Schedules. It is understood and agreed that written approval of the Township, in a form determined solely by the Township, is required prior to any departure from the specifications of the Schedules being undertaken.

#### 4. GENERAL

- a) The Owner shall not call into question, directly or indirectly, in any proceeding whatsoever, in law or in equity, or before any administrative tribunal, the right of the Township to enter into this Agreement and to enforce each and every term, covenant and condition herein contained.
- b) The Owner covenants and agrees with the Township that if the Owner sells or conveys the lands herein described as the "Site" or any part thereof; that each transfer of an interest in land shall contain a covenant on the part of the Grantee in such Deed binding itself, its heirs, executors administrators, successors and assigns to the terms of this Agreement. Furthermore, the carrying out of the Works and obligations of the Owner under this Agreement shall include a similar covenant in all subsequent Deeds of Grant of the said lands until the Works and obligations of the Owner under this Agreement have been fully performed. All covenants and Agreements herein contained, assumed by, or imposed upon the Owner are deemed to be covenants which run with and bind the lands herein described and every part thereof.
- c) The Owner agrees that there will be no subdivision of the lands herein described on Schedule "A" except by application pursuant to the provisions of the Planning Act, R.S.O. 1990, Chapter P13, as amended.
- d) The Owner shall provide, in addition, digital copies of plans included in the Schedules of this Agreement in a pdf format.
- e) The Owner shall supply to the Township, one set of "as-constructed" road, grading and service drawings including the location of all works, certified under seal by a Professional Engineer, for Township records, upon completion of the Works. Furthermore, the Owner may be required to provide the "as-constructed" information and attribute data for the works in an electronic form that is compatible with the Township's computer systems.
- f) The Owner covenants and agrees to satisfy all conditions of approval and abide by all municipal by-laws, statutes and regulations, including those of the United Counties of Leeds & Grenville.
- g) The Owner further covenants and agrees to satisfy all conditions of approval and abide by all Federal and Provincial statutes and regulations.

#### 5. BUILDING AND PLANNING REQUIREMENTS

- a) The Owner shall not commence or permit the commencement of any building or structure before the issuance to the Owner by the Township of a building permit, as required.
- b) The Owner further agrees that the proposed Works including lot grading detail specified in the Schedules attached hereto shall be erected in conformity with the said Schedules to the satisfaction of the Township. No buildings or other Works shall be erected on the said lands other than those in conformity with Schedules. It is understood and agreed that written authority

of the Township shall be obtained prior to any alterations being made which would in any way represent a departure from the specifications detailed in the said Schedules.

c) Nothing in this Agreement shall restrict the Owner from applying at any time in the future for building permits to construct extensions and/or additional buildings as may be permitted from time to time by the By-Laws of the Township, subject to the requirement by the Township of a new Site Plan Approval.

d) The property and buildings subject to this Agreement shall be maintained per the provisions of this Agreement as well as being in compliance with any Property Standards By-law adopted by the Township of Edwardsburgh/Cardinal Council. The Owner shall repair and maintain at all times and to the satisfaction of the Township, all buildings located on the subject property together with all other on-site works.

e) The Owner covenants and agrees to pay to the Township any applicable fees which are established by By-Law of the Council of the Township and said charges shall be those in effect on the date of issue of a building permit for which an application has been made.

f) The Owner shall separately arrange for the removal of all construction waste and recycling material from the Site, and shall dispose of such garbage and waste at its own expense in accordance with Township By-Laws.

g) Until all Works have been completed to the satisfaction of the Township, the Owner shall immediately remove at its expense any mud or debris deposited on any public road(s) used for access to the Site which mud or debris has been deposited as a consequence of any Works carried out under the terms of this Agreement.

h) The Owner shall provide adequate parking facilities on-site or other approved locations where workers employed on the Site shall be required to park their vehicles, except for those times when reasonable access to the Site is not available due to services or street construction in the public street or except as may be authorized in writing by the Township.

i) Where any road has been used for the provision of access to a construction site and has been damaged by the Owner, or any employees or authorized agents of the Owner as a result of such use, the Owner shall restore or reconstruct it to its former state to the satisfaction of the Township or appropriate road authority.

j) The Owner shall not dump or permit to be dumped any fill or debris on adjacent lands, except as approved by the Township.

k) All exterior lighting shall be directed to shine away and down from abutting residential zones and public highways. All exterior lighting proposed for the subject lands shall be installed only in the locations and in accordance with specifications shown on the approved plans attached hereto, unless otherwise approved in writing by the Chief Building Official.

l) The Owner shall comply with those additional planning and engineering requirements set out in Schedule "E" hereto attached.

## 6. REGISTRATION

The Township shall require this Agreement to be registered against the lands to which it applies immediately following the execution by the parties hereto and the Owner agrees not to register any other instrument against the subject lands until this has been accomplished.

## 7. FAILURE TO COMPLY

The Owner acknowledges and agrees that failure to comply with any term or condition herein may result in the Township taking such action to enforce compliance, as deemed appropriate by the Township.

## 8. SERVICING AND EASEMENT REQUIREMENTS

a) The Owner shall provide, dedicate, and register such easements to the Township which may be required for water, sewer, drainage or other purposes related to the development of the Owner's lands. Copies of any and all plans and registration documents shall be provided to the Township by the Owner

b) The Owner agrees to clean out and remove solids accumulated in the sumps of catch basins. Township shall be permitted lawful entry onto the Site in order to examine and adjust, at the Owner's expense, all storm water management devices that do not then conform to the requirements of this Agreement. If the Township determines that the devices are not in conformance with this Agreement, the Township shall not enter to complete the adjustments aforesaid unless it has given prior written notice to the Owner and an opportunity to rectify the defect, all in accordance with the default provisions for this agreement. If, in the opinion of the Township, the non-conformance presents an emergency, the Township may, without notice to the Owner enter upon the Site to complete the required adjustments at the Owner's expense.

c) The Owner shall arrange at its own expense with Hydro One, Bell Canada, Union Gas, the local cable company or any other similar utility company for the installation of such services to the Site and for the provision of any easements with respect to such installations and in accordance with the terms, conditions and specifications laid down by said company. If in relation to the development of the Site the Owner is required, it shall also arrange for the relocation of any existing installation at no cost to the Township. Notwithstanding the aforementioned, the location of all boxes, lines or other works proposed to be installed in connection with the provisions of any service shall be submitted for approval to the Township before installation.

d) Water and sanitary services are to be provided on site by the owner and are subject to the approval of the District Health Unit or Ministry of Environment as appropriate

## 9. IMPLEMENTATION OF REPORTS AND STUDIES

All reports and/or studies required as a result of the Works in this Agreement shall be implemented to the Township's satisfaction at the sole expense of the Owner. The studies shall be identified in Schedule "E" Additional Township Conditions.

## 10. COMPLETION TIME LIMIT

Failure by the Owner to complete all Works required by this Agreement within the time limit specified by the Township or as extended, in writing at its sole discretion, shall constitute a default, in which case the Township may avail itself of the remedies hereinafter prescribed or available to it in law.

## 11. FINANCIAL REQUIREMENTS

### a) Payment

The Owner shall pay to the Township, by cash or certified cheque, the charges and fees, as set out in this Agreement and other financial requirements including but not limited to reasonable administrative, legal, planning and engineering fees, development charges and building permit fees that may be required of the Township as established by by-law or resolution of the Council of the Township in effect at the time of application for a building permit.

### b) Performance Deposits

It is further agreed that all matters and things required to be provided and maintained in this Agreement shall be provided and maintained by the Owner at its sole risk and expense and to the satisfaction of the Township. In order to ensure that such matters and things are provided and maintained by the Owner, before this Agreement is executed by the Township, the Owner shall deposit with the Township, a sum in cash or by irrevocable letters of credit in a form approved by the Township Treasurer (which deposit however made, may be referred to hereafter as "a deposit"), equal to fifty percent (50%) of the estimated cost of construction and installation of the Works being shown in Schedule "C" hereto annexed. If The Owner satisfies the provisions of this clause by depositing irrevocable letters of credit with the Township they must be in the form set out in Schedule "D" annexed hereto.

### c) Default

In the event of a default by the Owner or its assigns in the provision and maintenance of all matters and things required to be done by the Owner pursuant to this Agreement, the Township may at the expense of the Owner, enter upon the lands and do all such matters and things as are in default. The Township may authorize the use of any or all of the cash or letters of credit deposited with the Township pursuant to Clause 11(b), to pay for the cost to the Township of carrying out of such matters or things. "Cost" and "expense of the Owner" in this Clause shall be

actual cost incurred by the Township plus twenty-five percent (25 %) of such cost as a charge for overhead and administration fees. Any costs incurred by the Township pursuant to this clause which are in excess of the amount of a deposit held by the Corporation pursuant to clause 11(b) shall be paid by the Owner to the Township within thirty (30) days of the mailing of an invoice by the Township addressed to the Owner at its last known address for such amount in excess and any costs referred to in this clause may be recovered by the Township in like manner as municipal taxes pursuant to the provisions of Section 427 of the Municipal Act, 2001, S.O. 2001, c.25 as amended.

d) Extension of Letter of Credit

If the Owner satisfies the provisions of Clause 11(b) by depositing irrevocable letter(s) of credit with the Township, the following provisions shall apply:

i) Until the completion of all Works required to be provided and maintained by the Owner pursuant to this Agreement, to the satisfaction of the Township, it will be a condition of the letter of credit that it shall be deemed to be automatically extended without amendment from year to year from the existing or any expiration date thereof, unless at least 90 days prior to any such future expiration date, the financial institution which issued the letter of credit notifies the Township in writing by registered mail that it elects not to consider the letter of credit to be renewable for any additional period.

ii) Until the completion of all Works required to be provided and maintained by the Owner pursuant to this Agreement, the irrevocable letter of credit shall continue to be automatically extended in the same manner as provided in sub-clause (i) hereof until the said completion of the Works.

iii) If the Owner and/or financial institution fails to extend the letter of credit as required under sub-clauses (i) and (ii) hereof as required by the Township, such failure shall be deemed to be a breach of this Agreement by the Owner, and the Township, without notice to the Owner, may call upon any part of the whole amount of the existing letter of credit notwithstanding anything otherwise contained herein. Any amount received by the Township shall be held by the Township in the same manner as if it had originally been cash deposited.

e) Release of Performance Deposit

On completion of all matters and things to be provided and maintained by the Owner pursuant to this Agreement to the satisfaction of the Township, the Owner shall be entitled to have released to it the deposit or the balance of the deposit then held by the Township pursuant to this Agreement.

f) Partial Release of Performance Deposit

Partial release of the performance deposit may be permitted prior to final inspection and Approval as described in Clause g) below. Until final release of the performance deposit, the Owner agrees that the Township shall retain a minimum performance deposit in an amount that

is the greater of 10% of the total amount of the performance deposit required by Schedule "C", or \$50,000.00. At no time will this amount be less than the outstanding works.

g) Inspection – Release of Performance Deposit

It is hereby understood that it is the Owner's responsibility to make an application to the Director of Operations for the inspection of any completed works for which the Owner wishes the release of a Performance Deposit. The application must be submitted at least 90 days prior to the expiry of any Letter of Credit held as a Performance Deposit by the Township. Inspections for the release of a Performance Deposit will not be undertaken during winter conditions. The Township shall use all reasonable efforts to reply to requests in a timely manner.

h) Transfer of Performance Deposit

The Owner acknowledges and agrees that the Township shall hold in its possession the Performance Deposit until completion of the Works in accordance with the approved Plans to the satisfaction of the Township. The Owner covenants and agrees:

i) That the Owner shall be responsible to arrange for the transfer or replacement of the Performance Deposit provided to the Township prior to the sale or transfer of the owner's lands;

ii) That if the Performance Deposit has not been replaced prior to the sale or transfer of the Owner's lands, the Township may, to the benefit of the new registered Owner, apply the deposit for any Works as approved by the Township which have not been completed pursuant to the Plans. For this purpose, the Director of Operations is hereby authorized to call in Letters of Credit. The Township may refuse any or all necessary Building Permits until such time as a new Letter of Credit to the satisfaction of the Director of Operations, is provided by the subsequent new Owner (s). The balance of deposit held, if any, will be refunded to the original Owner who provided the deposit, upon completion of the Works to the satisfaction of the Township.

i) Taxes

The Owner shall pay all arrears of taxes outstanding against the lands prior to the execution of this Agreement. The Owner shall pay all taxes levied or to be levied on the lands on the basis of and in accordance with assessment and the collector's roll entries until such time as the lands have been reassessed and re-entered on the tax roll.

## 12. INSURANCE

a) The Owner shall provide before the execution of this Agreement, and continue in force until such time as all obligations under this Agreement are satisfied, a comprehensive policy of public liability and property damage insurance acceptable to the Township, providing insurance coverage in respect of any one occurrence to the limit of at least Five Million Dollars (\$5,000,000.00) per occurrence, exclusive of interest and costs against loss or damage



resulting from bodily injury to, or death of one or more persons and loss of or damage to property. Such policy shall designate the Township as a named additional insured thereunder.

b) The policy shall provide coverage against all claims for all damage or injury including death to any person or persons, for damage to any property of the Township or any other public or private property resulting from or arising out of any act or omission on the part of the Owner or any of its servants or agents or contractors during the construction or installation or maintenance of any Works to be performed pursuant to this Agreement. The policy shall include completed operations coverage and shall be maintained in effect until all obligations under this Agreement are satisfied.

c) The policy shall include blanket written contractual liability, cross liability, contingent employer's liability, personal injury endorsement, liability with respect to non-owned licensed vehicles. In the event that the Owner intends to carry out any shoring, blasting, excavating, underpinning, demolition, pile driving, caisson works and works below ground surface including tunnelling and grading on the lands, it shall first provide the Township with the Certificate of Public Liability Insurance covering such operations in a format satisfactory to the Township, in which the Township is named as additional insured prior to undertaking any such operations.

d) The Owner shall forward to the Township, prior to the signing of this Agreement by the Township, a Certificate of Liability Insurance. This Certificate of Insurance shall be signed by an authorized employee of the Insurance Company providing the insurance. Such insurance policy shall contain an endorsement to provide the Township and the Owner with not less than thirty (30) days written notice of cancellation.

e) The Owner shall furnish, prior to commencement of any construction, and at such other times as the Township may require, a certified copy of the policy together with proof of payment of the premiums for same.

### 13. RELEASE OF PLANS

The Owner hereby releases to the Township its rights to any approved drawings that form part of this Agreement, for the purposes of tendering the construction upon any default of this Agreement. The Owner shall also ensure that appropriate releases to the Township are obtained from the Owner's consultants, if required.

### 14. INDEMNITY

The Owner, on behalf of himself, his heirs, executors, administrators and assigns, including his successors in title; covenants and agrees to indemnify and save harmless the Township from all actions, causes of actions, suits, claims or demands whatsoever which arise directly or by reason of the development of the Site Plan and the construction and maintenance or the improper or inadequate construction and/or maintenance of Works.

15. GENERAL CONDITIONS

- a) If required, the Owner shall at its own cost submit to the Ministry of the Environment Conservation and Parks for approval all plans required by the said Ministry and shall be responsible for obtaining any subsequent approvals from the Ministry of the Environment Conservation and Parks for the proposed site works, facility or any addition thereto and shall supply the Township with copies of all approvals or conditions enforced or set by the Ministry.
- b) If required, the Owner shall at its own cost submit to the Technical Standards and Safety Authority (T.S.S.A.) for approval all plans required by said Authority and shall be responsible for obtaining any subsequent approvals from the T.S.S.A. for proposed site works, facility or any addition thereto and shall supply the Township with copies of all approvals or conditions enforced or set by the Authority.
- c) Any notice required or permitted by this Agreement to be given by the parties hereto shall be in writing and shall be conclusively deemed to have been delivered on the date of mailing of such notice.
- d) Any such notice required to be given herein shall be in writing and shall be delivered in person or by prepaid registered mail, to the attention of the Owner and/or the Township as follows:

TO THE OWNER:

ShoreLine Rail Group  
1044 Hunters Lane  
Oxford Station, ON K0G 1T0  
Attention: Clayton Jones

or such other address as the Owner has notified the Chief Administrative Officer of the Township in writing.

TO THE TOWNSHIP:

THE CORPORATION OF THE TOWNSHIP OF EDWARDSBURGH/CARDINAL  
18 Centre Street  
P.O. Box 129  
Spencerville, ON K0E 1X0

- e) All clause headings are for ease of reference only and shall not affect the construction or interpretation of this Agreement.

16. BINDING EFFECT; ASSIGNMENT

This Agreement shall ensure to the benefit of and be binding upon the parties hereto and their respective successors and assigns, and all covenant and agreements herein contained, assumed by, or imposed upon the Owner are deemed to be covenants which run with and bind the lands and every part thereof. This agreement may not be assigned without the prior written consent of each party.

17. SEVERABILITY

The invalidity or unenforceability of any particular provision of this agreement will not affect or limit the validity or enforceability of the remaining provisions.

18. EFFECTIVE DATE

This agreement is effective as of the date shown at the bottom of the first page, even if any signatures are made after that date.

19. COUNTERPARTS

This agreement may be signed in any number of counterparts, each of which is an original, and all of which taken together, constitute one single document. Counterparts may be transmitted by fax or in electronically scanned form. Parties transmitting by fax or electronically will also deliver the original counterpart to the other parties, but failure to do so does not invalidate this agreement.

20. INTERPRETATION

In construing this agreement, words in the singular shall include the plural and vice versa and words importing the masculine shall include the feminine, and the neuter and vice versa, and words importing persons shall include corporations and vice versa.

21. DISPUTE RESOLUTION

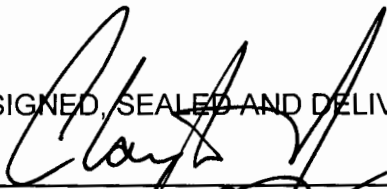
All matters in dispute between the parties, unless otherwise herein provided shall be determined by arbitration conducted by a single arbitrator in accordance with a submission made by either party under the Arbitration Act, 1991 S.O. 1991, CHAPTER 17. The decision of any such arbitrator shall be final and binding upon the parties, and any such arbitrator shall have the power to award costs in his or her discretion.

IN WITNESS WHEREOF the Owner hereunto set his Hand and Seal or affixed its Seal duly attested to by its proper officers in that behalf.

DATED AT THE TOWNSHIP OF EDWARDSBURGH CARDINAL

THIS 8TH DAY OF October, 2019.

SIGNED, SEALED AND DELIVERED in the presence of:

  
per: Clayton Jones  
Title: President

per:

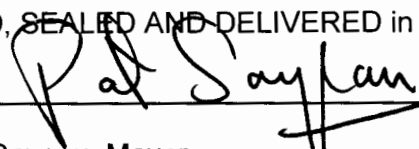

Title:

I/We have the authority to bind the Corporation

DATED AT THE TOWNSHIP OF EDWARDSBURGH/CARDINAL

THIS 18TH DAY OF November, 2019.

SIGNED, SEALED AND DELIVERED in the presence of:

  
Patrick Sayeau, Mayor  
  
Debra McKinstry, CAO/Clerk

SCHEDULE "A"

DESCRIPTION OF THE LANDS TO WHICH THIS AGREEMENT APPLIES:

3518 County Road 2;

Con 1, Pt Lot 34, 35

RP 15R9747 Parts 1, 7 and 8

TOWNSHIP OF EDWARDSBURGH/CARDINAL

Property Roll #0701 701 050 11501

Identified as Part of PIN 68155-0792 (LT)

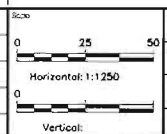
SCHEDULE "B1" to "B7" INCLUSIVE

Being the approved drawings and plans:

Schedule "B1" -	Overall Site Plan
Schedule "B2" -	Stormwater Management Brief, Overall Site
Schedule "B3" -	Site Plan, Greenergy Site
Schedule "B4" -	Stormwater Management Report, Greenergy Site
Schedule "B5" -	Elevations
Schedule "B6" -	County Road 2 Main Entrance Taper
Schedule "B7" -	Fire Suppression Infrastructure

BUILDING AREA	892 m <sup>2</sup>
GRAVEL AREA	—
LANDSCAPE AREA	—

No.	By	Date	Revisions



Design	Checked
Drawn A.L.P.	Checked
Approved	Project No. 7916
Date 2018/4/30	Contract No.

All drawings, specifications and related documents are the copyright property of the Engineer and must be returned upon request. Reproduction of drawings, specifications, and related documents in part or whole is forbidden without the Engineer's written permission.

The contractor must check and verify all dimensions on the job prior to start of construction.

Drawings are not to be scaled.

**EE ASTERN**  
**ENGINEERING GROUP INC.**  
CONSULTING ENGINEERS

Apex Building  
207 - 100 Stouffer Blvd.  
Brookville, Ont. K6V 3J8

Telephone: (613) 345-0400  
Facsimile: (613) 345-0008  
[www.EastEng.com](http://www.EastEng.com)

**CANADIAN RAIL EQUIPMENT  
WORKS AND SERVICES INC.**

JOHNSTOWN RAIL YARD  
PHASE 1

# C1



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File: 7916

**CREWS JOHNSTOWN RAIL YARD  
JOHNSTOWN, ONTARIO  
TOWNSHIP OF EDWARDSBURGH-CARDINAL  
STORMWATER MANAGEMENT BRIEF**

**PROJECT**

The project involves several phases of development on a former crop field which has been left unattended for many years. The site has areas of woodland, open space, wet area caused by beaver dams and exposed bedrock. The development will create a railway siding and loading area for CREWS which will service the CN Rail main line on an existing spur line to the Port of Johnstown. The site will have an asphalt truck lane which will loop around the property to give access for each phase of construction. There will be several rail lines and loading areas throughout the site. The loading areas will be stone base. There is potential for up to 3-4 additional phases on the site including a separate developed area by a separate company in the north west corner of the site. Phase 3 is unknown and assumed to be a gravel loading area for rail cars. There will be multiple small buildings on the site.

**AREA**

The size of the site is 25.78 ha. This currently consists of rail lines, woodland, rock outcrops and wet areas. The site's natural drainage is to the south towards the roadside ditch on County Road 2, then to the St. Lawrence River via overland flow.

The post development flow will be surface drained to the ditches and collected in storm basins around the site. The water will be controlled by elevated outlet storm pipes and subdrains. The outlet will be to the ditch on County Road 2.

The proposed asphalt area is 3.51 ha. The storm basins and ditches will be approximately 0.95 ha. The gravel loading areas for the rail cars and railway lines is 8.94 ha. The untouched green space is 9.30 ha and the unknown Phase 3-5 of the development incorporates 3.08 ha.

**QUALITY CONTROL**

During construction, erosion and sediment is to be contained by the installation and maintenance of a silt fence along the south portion of the site. Sediment from the runoff of the gravel areas will be



collected in the storm basins. The removal of sediment will be part of the maintenance of the stormwater measures. A treatment train will be incorporated into the stormwater management design to treat the water before reaching the outlet from the site. The current site is uncontrolled from quality and quantity aspects. All disturbed grass areas are to be reinstated with topsoil and sod in the Township right of ways.

### **LOT GRADING AND DRAINAGE**

The Lot Grading and Drainage Plan shows the existing ground contours and the proposed grades. Proposed grades at the borders of the property match to existing ground. Lot grading is directed to swales/ditches on the site between the railway lines. The railway lines are constructed with ballast which allows for natural drainage back into the earth. The basins will also be constructed to allow water to infiltrate back into the subsoils. The asphalt area will be sloped to ditches.

### **RUNOFF COEFFICIENT AND STORMWATER FLOW**

The existing site is not developed and has the following characteristics.

Area: 25.78 ha  
Field 15.05 ha @ 0.45  
Woodland 8.43 ha @ 0.25  
Other 2.3 ha @ 0.3  
Pre Runoff Coefficient: 0.372

The proposed site will consist of asphalt, gravel, green space and buildings along with green space and will have the following characteristics.

Area: 25.78 ha  
Asphalt Area 3.51 ha @ 0.9  
Storm Basins 0.95 ha @ 0.35  
Gravel/Ballast 8.94 ha @ 0.45 (C for railway yards)  
Natural/Landscaped 9.30 ha @ 0.35  
Phase 3-5 unknown 3.08 ha @ 0.45 (railyard)  
Post Runoff Coefficient: 0.47

The runoff from the site for a 5 year storm event prior to the development using City of Brockville rainfall intensities is calculated using the Modified Rationale method. We use an estimated time of concentration of 15 minutes. Rainfall intensity for 5 year storm is 84.9 mm/hr

$$Q_{pre} = 2.78 \times C \times I \times A = 2.78 \times .372 \times 25.78 \times 84.9 = 2,251.3 \text{ L/s}$$

$$Q_{post} = 2.78 \times C \times I \times A = 2.78 \times .47 \times 25.78 \times 84.9 = 2,859.8 \text{ L/s}$$

There is a slight increase in runoff with the developed site and the excess storage to release at the 5 year allowable rate will be stored in the 3 storm basins. The three basins shown on the site in the preliminary design allows for up to 6,656 m<sup>3</sup> of stormwater storage. This can be increased if necessary in final design.

The site will be designed to accommodate the 100 year storm on site and release to the pre-development 5 year rate.

### **EROSION AND SEDIMENT CONTROL**

The silt fence and all other ESC measures required will be installed by the contractor as the facilities are constructed and shall remain in place with daily monitoring and maintenance until vegetative cover of disturbed areas has been re-established.

All disturbed areas are to be reinstated with topsoil and sod.



Prepared by:  
Eastern Engineering Group Inc.  
Consulting Engineers  
Colin Jardine, P. Eng  
June 15, 2018

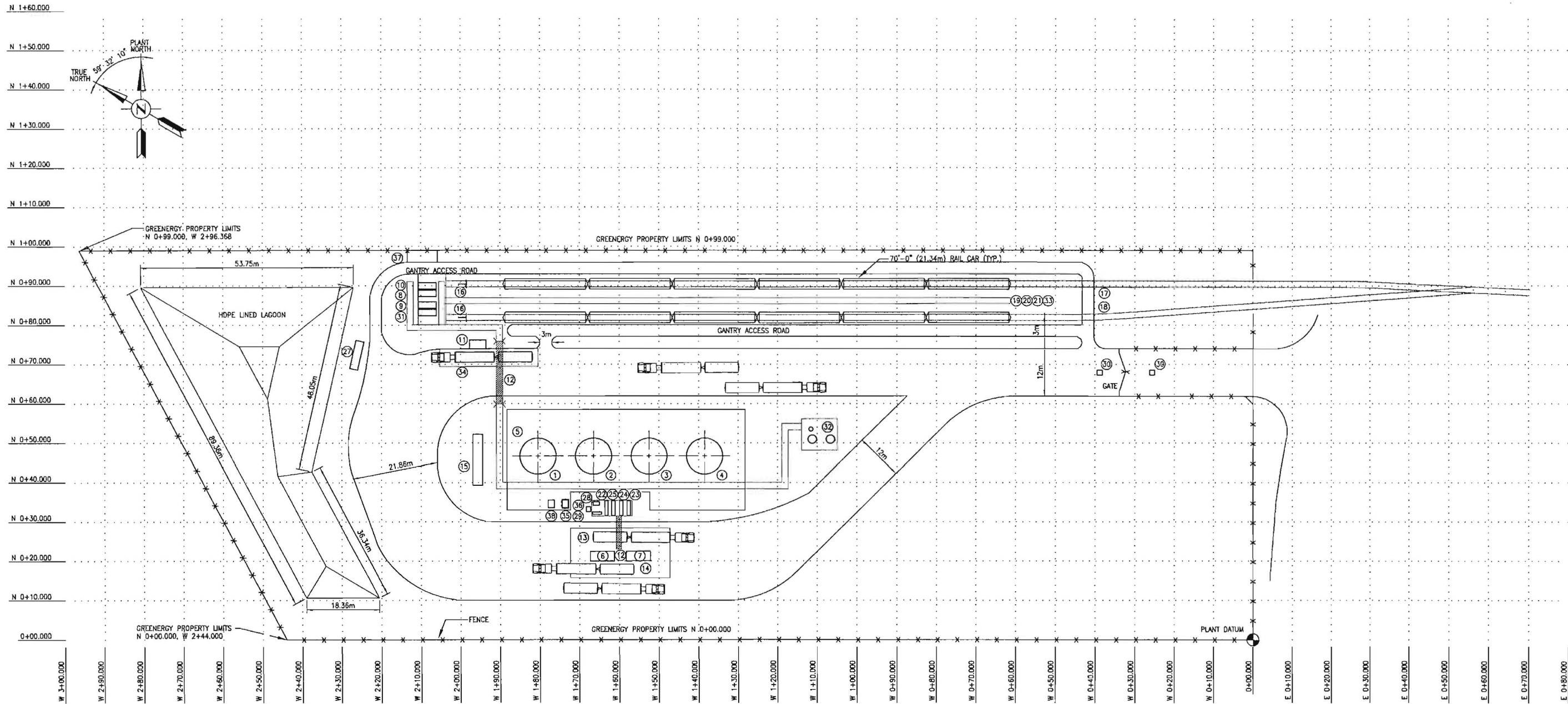
Schedule "B3"  
1 of 5

TRAINS D\_LITBLOCK V. 1

PLOTTED DATE: 2019-05-09 8:33:47 AM BY: TRI DESIGN 01

M:\012 KINLEY CONSTRUCTION\0801 JOHNSTOWN FUEL DISTRIBUTION TERMINAL\GENERAL\JTNW1-G-PP-00100.DWG

LAST SAVED DATE: 2019-05-09 8:33:38 AM BY: TRI DESIGN 01



DATUM POINT (UTM, ZONE 18, NAD83)			
	NORTHING	EASTING	ELEVATION
SITE (B)	4951891.245	460696.840	78.943
PLANT	4952388.005	460455.893	91.477
PLANT LOCAL	0+00.000	0+00.000	100.000

#### EQUIPMENT LIST

- STORAGE TANK - PREMIUM UNLEADED GASOLINE (PUL) (TK-200) 9.144m<sup>3</sup>
- STORAGE TANK - CBOB (TK-210) 9.144m<sup>3</sup>
- STORAGE TANK - ETHANOL (TK-220) 9.144m<sup>3</sup>
- STORAGE TANK - DIESEL (TK-230) 9.144m<sup>3</sup>
- TANK FARM (60m x 25.5m x 1.2m) CONCRETE CONTAINMENT
- TRUCK LOADING SKID #1 (Z-400)
- TRUCK LOADING SKID #2 (Z-410)
- ETHANOL OFFLOAD SKID (Z-120)

- CBOB OFFLOAD SKID (Z-110)
- DIESEL OFFLOAD SKID (Z-130)
- TRUCK OFFLOAD SKID (ALL PRODUCTS)
- PIPE BRIDGE (5.33m CLEAR ABOVE ROADWAY)
- LOADOUT CONCRETE PAD (12.19m x 24.38m)
- LOADOUT ARMS (TYP)
- MCC (BU-800) WITH DRIVER TICKET STATION
- TRACK BUMP STOP (TYP 2)

- TRACK 1 (8 TANK CARS)
- TRACK 2 (8 TANK CARS)
- ETHANOL UNLOAD HEADER
- CBOB UNLOAD HEADER
- DIESEL UNLOAD HEADER
- PREMIUM UNLEADED GASOLINE (PUL) TRANSFER SKID (Z-300)
- DIESEL TRANSFER SKID (Z-330)
- ETHANOL TRANSFER SKID (Z-360)

- CBOB TRANSFER SKID (Z-310)
- TRANSFORMER
- OIL WATER SEPARATOR
- RED DYE ADDITIVE SKID (Z-430)
- CBOB ADDITIVE SKID (Z-420)
- DRIVER SCAN OUT/IN STATION
- PUL OFFLOAD SKID (Z-100)
- VAPOUR RECOVERY UNIT (VRU) PACKAGE (Z-700)

- PUL UNLOAD HEADER
- TRUCK UNLOADING CONCRETE PAD
- RED DYE TANK (FENCED) (T-430)
- ADDITIVE TOTE (T-420)
- LIFT STATION
- SLOP TANK

#### NOTES:

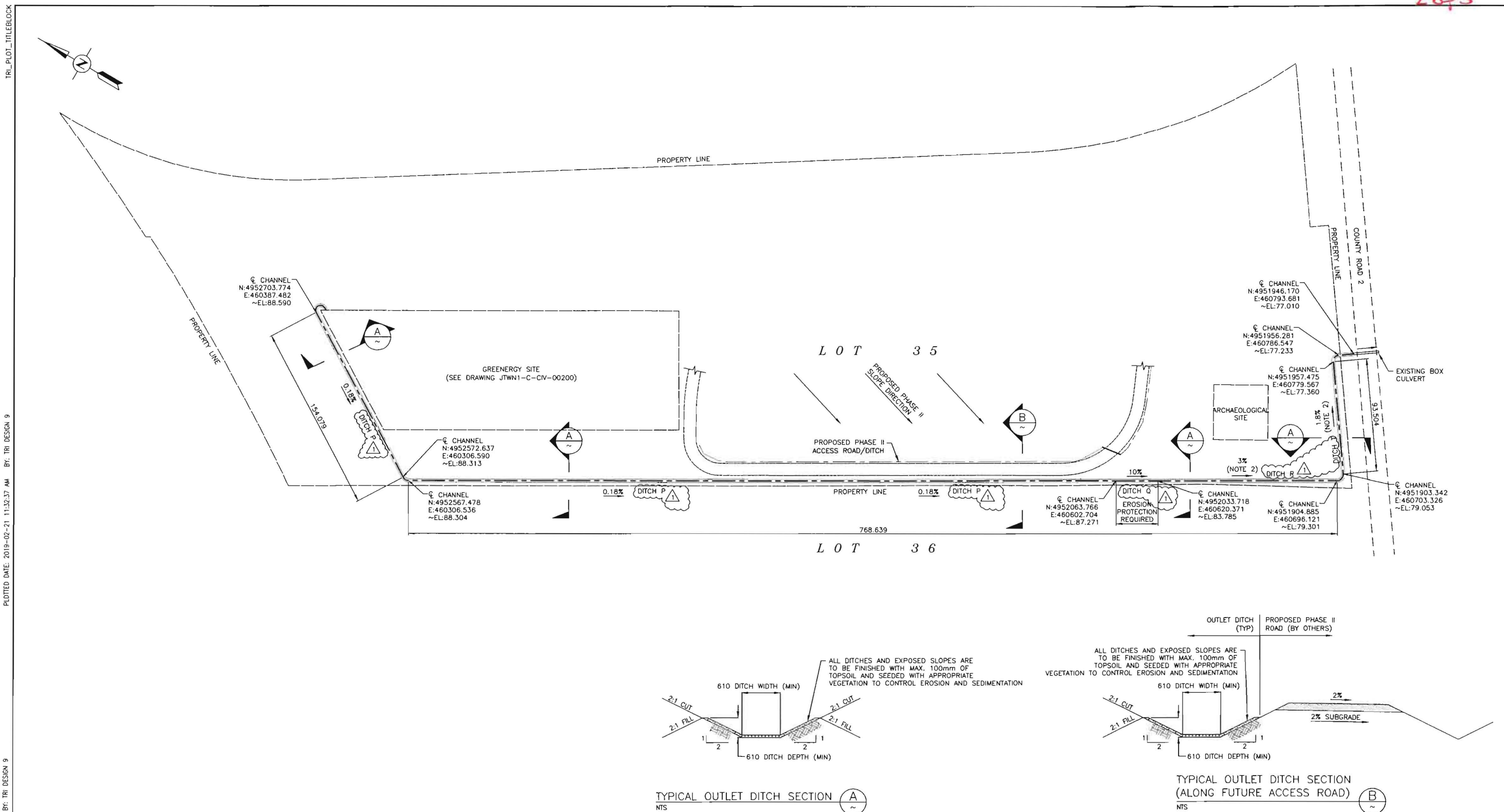
REFERENCE DRAWING NO.	REFERENCE DRAWING	REV.	REVISION DESCRIPTION	BY	DATE	CHD	APPD
-	-	0	ISSUED FOR CONSTRUCTION	KGR	2018-10-12	JG	KLF
-	-	1	ISSUED FOR CONSTRUCTION	KGR	2019-05-09	JG	KLF
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-



PROJECT NO.: 12.008.01				
BY	GC	IS	JG	KLF
DATE	2018-06-04	2018-10-12	2018-10-12	2018-10-12

Greenenergy			
JOHNSTOWN FUEL DISTRIBUTION TERMINAL			
PLOT PLAN			
SCALE	DRAWING NUMBER	SHEET	REV.
1:500	JTNW1-G-PP-00100	1	1





NOTES:

1. COORDINATES ARE IN METERS AND UTM, ZONE 18, NAD83 (CSRS)

2. ~~VELOCITY CHECK DAMS REQUIRED FOR CHANNEL SLOPES GREATER THAN 0.5%~~

3. ~~FOR DAM SPACING SEE DRAWING JTNW1-C-CIV-00209~~

4. FINAL CHANNEL SLOPE AND ROUTING SHALL BE FIELD CONFIRMED.

5. DRAINAGE OF SURROUNDING AREA TO BE MAINTAINED AND NOT IMPACTED.

6. FUTURE SITE DEVELOPMENT CANNOT DRAIN INTO THIS CHANNEL WITHOUT APPROVAL FROM THE ENGINEER.

7. OUTFLOW CHANNEL HAS BEEN SIZED FOR ADDITIONAL TEMPORARY CATCHMENT CAPACITY (APPROX. 2 HECTARES) UNTIL PHASE II WORK IS COMPLETED.

8. LOT 35 AND LOT 36 GENERALLY SLOPE STRAIGHT SOUTH ALONG DIVIDING PROPERTY BOUNDARY.

LEGEND:

0.18%

DIRECTION AND SLOPE OF DRAINAGE

REFERENCE DRAWING NO.	REFERENCE DRAWING	REV.	REVISION DESCRIPTION	BY	DATE	CHD	APPD
		0	ISSUED FOR CONSTRUCTION	CC	2018-12-21	JG	DB
		1	RE-ISSUED FOR CONSTRUCTION	SH	2019-02-20	JG	DB

CNR LANDS

Sketch to Illustrate  
Phase 3 Lands  
Shoreline Rail Group Inc.  
Geographic Township of Edwardsburgh  
**TOWNSHIP OF  
EDWARDSBURGH-CARDINAL**  
**COUNTY OF GRENVILLE**

SCALE = 1 : 2000

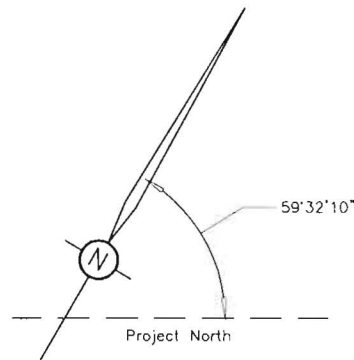


JORDAN - BENNETT GEOMATICS INC.

ONTARIO LAND SURVEYORS

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Phase 3 Location



LOT 36

LOT 35

PART 1

PLAN

PART 8

CONCESSION 1

COUNTY ROAD 2

NOTES

ALL DISTANCES AND COORDINATES ON THIS PLAN ARE IN METRES  
AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

COORDINATES ARE UTM GROUND DERIVED FROM REAL TIME NETWORK  
OBSERVATIONS, UTM ZONE 18, NAD83(CSR5)(2010.0)

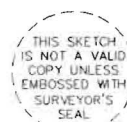
DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID  
BY MULTIPLYING BY AN AVERAGE COMBINED SCALE FACTOR  
OF 0.999611.

LEGEND

- DENOTES SURVEY MONUMENT FOUND
- W DENOTES WOOD STAKE SET
- IB DENOTES IRON BAR
- SIB DENOTES STANDARD IRON BAR
- SSIB DENOTES SHORT STANDARD IRON BAR
- P1 DENOTES REFERENCE PLAN 15R-9747
- P2 DENOTES CONCEPT PLAN BY EASTERN ENGINEERING GROUP  
DATED 2018/04/30

CAUTION

THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE  
USED EXCEPT FOR THE PURPOSE INDICATED IN THE  
TITLE BLOCK.



COMPLETION DATE: Sept. 10, 2018.



**Jordan-Bennett  
Geomatics Inc.**  
Ontario Land Surveyors

Phone: 613-342-7525

Fax: 613-342-9513

P.O. Box 485  
33 Perth Street  
Brockville, Ontario  
K6V-5V7


Drawn By:  
R.J.J.

Party Chief:  
B.K.

Checked By:  
R.J.J.

File No.:  
180172\_01

Schedule "B3"  
3 of 3

 <b>TRI INNOVATIONS CONSULTING LTD</b>	<b>Greenenergy</b> Johnstown Fuel Distribution Facility Stormwater Management Report	Date: 20-Feb-2019
		Rev: H
		Project No: 12.008.01

# Greenenergy

## FUEL DISTRIBUTION FACILITY JOHNSTOWN, ON

### STORMWATER MANAGEMENT REPORT PHASE III SCOPE OF WORK

PROJECT NO.: 12.008.01




Prepared By:



**TRI INNOVATIONS  
CONSULTING LTD**


H	Issued for Review	Dallin Blum	20-Feb-19	Jon Glaser	20-Feb-19		
G	Issued for Review	Dallin Blum	29-Jan-19	Jon Glaser	29-Jan-19		
F	Issued for Review	Dallin Blum	22-Jan-19	Jon Glaser	22-Jan-19		
E	Issued for Review	Dallin Blum	21-Dec-18	Jon Glaser	21-Dec-18		
D	Issued for Review	Dallin Blum	26-Nov-18	Jon Glaser	02-Dec-18		
C	Issued for Review	Dallin Blum	25-Oct-18	Jon Glaser	25-Oct-18		
B	Issued for Review	Dallin Blum	14-Oct-18	Jon Glaser	15-Oct-18		
A	Issued for Review	Dallin Blum	14-Sep-18	Jon Glaser	14-Sep-18		
Rev	Description	Created By	Date	Reviewed By	Date	Client Rep	Date

 <b>TRI INNOVATIONS</b> CONSULTING LTD	<b>Greenergy</b> Johnstown Fuel Distribution Facility Stormwater Management Report	Date: 20-Feb-2019
		Rev: H
		Project No: 12.008.01

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## 1. Scope

### 1.1. Project Description

Shoreline Rail is planning to expand their fuel distribution capacity in the southern Ontario area with Phase III of their Fuel Distribution Terminal near Johnstown, Ontario, Canada. This document/design is for Phase III only, Phases I and II have been addressed in previous applications. The Phase III expansion will be designed to accommodate railcars with various products inbound and truck traffic with the same products or a blended product outbound. Kinley Construction of Canada (Kinley) will provide a turnkey solution for the construction of this project. Tri Innovations Consulting Ltd. (Tri Innovations) has been contracted to prepare the detailed engineering design. The terminal will be operated for Shoreline Rail by Canadian Rail Equipment Works & Services Inc. (CREWS).

The fuel distribution terminal will have the capability to offload Conventional Blendstock for Oxygenate Blending (CBOB), Diesel Fuel Oil (DFO), Premium Unleaded Gasoline (PUL), and Ethanol (E100) from both railcars or tanker trucks. Railcars will be unloaded via six (6) dual sided rail car unloading stations, located on two (2) new rail spur lines, for a total of twelve (12) railcar unloading spots. Trucks will be unloaded via one (1) truck offloading station. All products will be offloaded into dedicated storage tanks located on site. From the storage tanks the product will either be blended and loaded or directly loaded into trucks for local distribution, via two (2) truck loading stations.

### 1.2. Background

This study has been prepared on behalf of Kinley to address the stormwater management requirements for the proposed development. This is a Green Field Facility. The purpose of this report is to outline how the drainage design will not adversely impact the overall drainage of the site and surroundings.

### 1.3. Objectives

- 1) Detect any potential impacts the development runoff may have on downstream watercourses.
- 2) Meet the requirements of the review agencies regarding both quantity and quality of the surface runoff.
- 3) Create a safe, reliable, and effective overall drainage strategy for the facility.

## 2. Site Drainage Summary

### 2.1. Existing Site Drainage

The current Phase III site (Fig 1 - shown in white below) is green field and is approximately 2.65 hectares and has a composite runoff coefficient of 0.3 (for rolling meadows/pasture land).



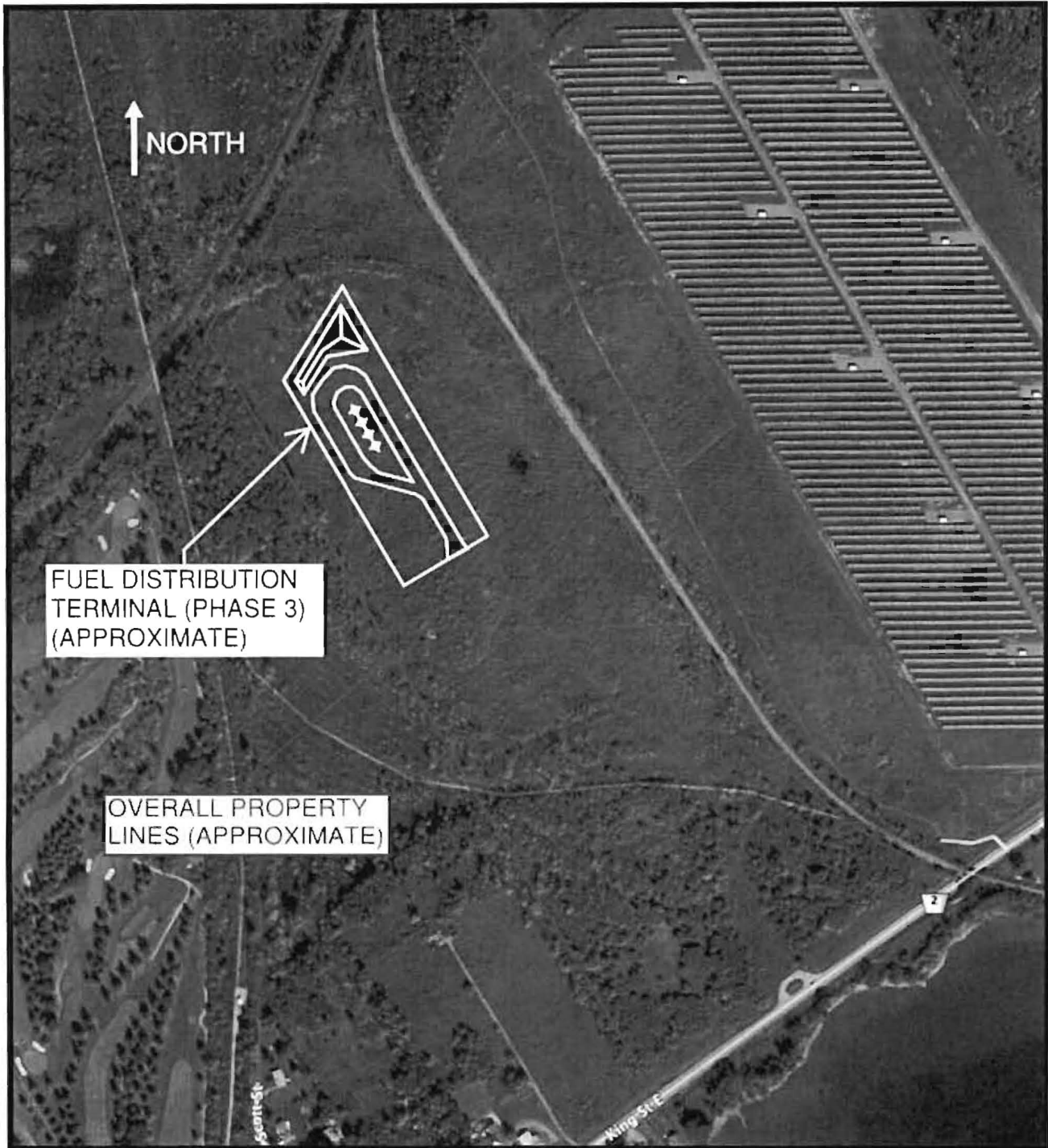



Figure 1 – Site Overview

 <b>TRI INNOVATIONS CONSULTING LTD</b>	<b>Greenergy Johnstown Fuel Distribution Facility Stormwater Management Report</b>	Date: 20-Feb-2019
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## 2.2. Proposed Site Drainage

The Owner plans to develop the property based on the description in Section 1. There is no municipal stormwater sewer on the property, so all surface runoff will be managed on site with the proposed infrastructure in this report. The site will have a synthetically lined surface runoff pond on lease, located at the natural low point of the site. This pond will be owned by Shoreline Rail Group and operated by CREWS as stated in Section 1. All the developed space on the lease will drain to this pond. Any undeveloped areas (currently total approximately 0.4 hectares) will be permitted to bypass this pond and enter the downstream ditch unimpeded. The pond is however adequately sized to manage these areas if they are developed in the future and directed toward the pond. No off-lease surface runoff is permitted to enter the pond catchment area. To ensure this, a collector ditch has been placed along the South and West site boundaries that intercept any off-site water and direct it around the facility. Additionally, the site is locally higher in elevation than its surroundings and this naturally prevents any off-site water from running onto the lease.

A series of ditches and culverts will collect stormwater from the developed lease and deliver it to the pond.

Any stormwater that falls in more spill sensitive locations will be directed through one of two oil water separators (OWS) before entering the pond. The following areas (Fig 2 - highlighted in red) will pass through the OWS with the current design:

- 1) Track pan footprint
- 2) Asphalt housekeeping pad between rail tracks
- 3) Truck loadout slabs
- 4) Equipment slabs
- 5) Secondary containment area

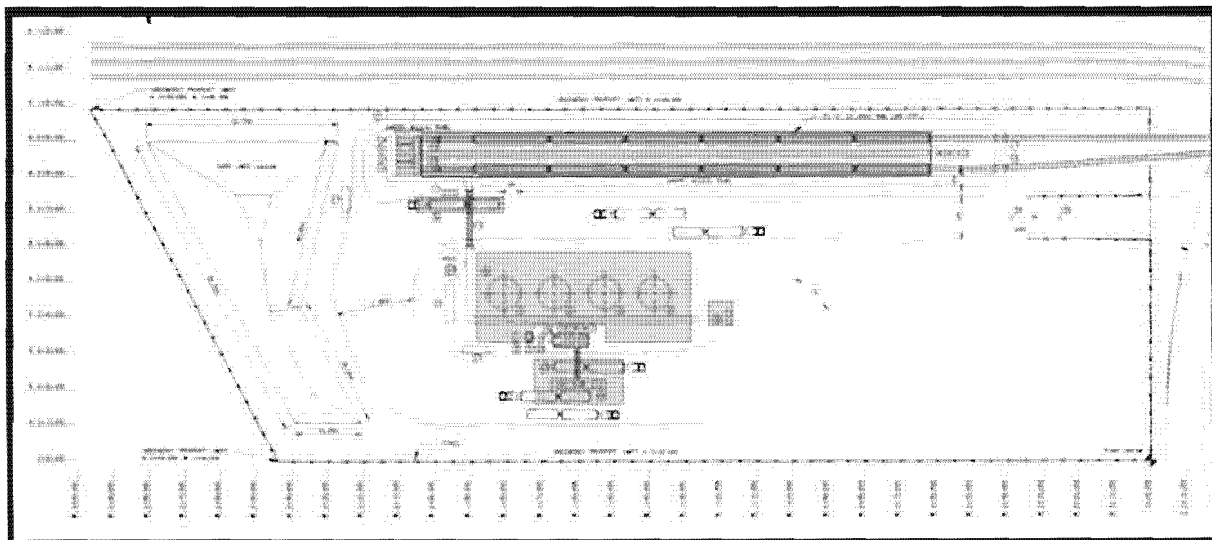



Figure 2

 <b>TRI INNOVATIONS CONSULTING LTD</b>	<b>Greenergy Johnstown Fuel Distribution Facility Stormwater Management Report</b>	Date: 20-Feb-2019
		Rev: H
		Project No: 12.008.01

The rail area access roads are too low in elevation to gravity drain to the pond. Any surface runoff from that area will be directed to an open ditch then flows to a small lift station that will direct the water into the pond. The pump is adequately sized (minimum flow rate of 0.003 m<sup>3</sup>/s or 48 GPM) to meet the 1:25 year, 15 minute rainfall event in conjunction with the available ditch storage upstream. In the event of pump failure, the ditch is adequately sized to hold the entire volume of the rainfall event.

The pond will be equipped with both an overflow pipe and a contingency overflow ditch that enters the bypass ditch which carries the non-developed runoff to the main site outlet. The outlet of this site enters directly into an outflow channel that flows directly to an existing box culvert at the South end of the property. The collection ditch will be owned by Shoreline Rail Group and operated by CREWS as stated in Section 1. The outflow channel is oversized to carry the site pump out flow rates mentioned below in Section 3. The outflow channel will not be required during design rainfall events and will only receive flow during pond pump out, which will not coincide with rainfall events (refer to dwg # JWTN1-C-CIV-00208). It should be noted that the high-level overflow pipe chokes the flow rate exiting the pond to less than the calculated pre-development flow rate for the site as will be further explained below. The contingency overflow channel is not meant for use in normal operation and its only purpose is to control the location of an overflow in the event all of the design flow rates and storage capacities are exceeded.

### 3. Site Drainage Calculations

The Short Duration Rainfall IDF data was obtained for Johnstown, Ontario (Appendix F). The following pre-development flow rates were calculated based on the lease area of 2.65 ha, and a runoff coefficient of 0.3 (for rolling meadows/pasture land).

Pre-Development Runoff Data					
Return Period (years)	Duration (min)	Rainfall Intensity (mm/hr)	Multiplier (Factor)	Peak Flow Rate (m <sup>3</sup> /s)	Volume (m <sup>3</sup> )
2	5	114.7	1.00	0.254	76
	1440	2.2	1.00	0.005	420
5	5	152.8	1.00	0.338	101
	1440	2.9	1.00	0.006	554
10	5	177.2	1.00	0.392	118
	1440	3.4	1.00	0.008	650
25	5	209.0	1.10	0.508	152
	1440	4.0	1.10	0.010	841
50	5	231.7	1.20	0.615	184
	1440	4.4	1.20	0.012	1009
100	5	255.0	1.25	0.705	211
	1440	4.9	1.25	0.014	1170




The following post-development flow rates were calculated based on the 2.65 ha, and a composite runoff coefficient of 0.84 (based on the developed lease surface finishes).

Post-Development Runoff Data (Into Pond)					
Return Period (years)	Duration (min)	Rainfall Intensity (mm/hr)	Multiplier (Factor)	Peak Flow Rate (m <sup>3</sup> /s)	Volume (m <sup>3</sup> )
2	5	114.7	1.00	0.710	213
	1440	2.2	1.00	0.014	1177
5	5	152.8	1.00	0.946	284
	1440	2.9	1.00	0.018	1551
10	5	177.2	1.00	1.097	329
	1440	3.4	1.00	0.021	1819
25	5	209.0	1.10	1.423	427
	1440	4.0	1.10	0.027	2353
50	5	231.7	1.20	1.721	516
	1440	4.4	1.20	0.033	2824
100	5	255.0	1.25	1.973	592
	1440	4.9	1.25	0.038	3276

Because the post-development runoff flow rates are greater than the pre-development flow rates, the surface runoff pond captures all the runoff for the developed site. The post-development runoff flow rate leaving the pond will be equal to 0.00 m<sup>3</sup>/s for any storm of less than 3,160 m<sup>3</sup> (which is the design capacity of the pond). In addition, because of the overflow design, any storm with total volume greater than 3,160 m<sup>3</sup> and less than 3,680 m<sup>3</sup> will be choked back to a flow rate of 0.013 m<sup>3</sup>/s as it leaves the pond. This can be illustrated in the table below:

Return Period (years)	Duration (min)	Peak Flow Rate into Pond (m <sup>3</sup> /s)	Volume into Pond (m <sup>3</sup> )	Peak Flow Rate Out of Pond (m <sup>3</sup> /s)	Volume Out of Pond (m <sup>3</sup> )
2	5	0.710	213	0.000	0
	1440	0.014	1177	0.000	0
5	5	0.946	284	0.000	0
	1440	0.018	1551	0.000	0
10	5	1.097	329	0.000	0
	1440	0.021	1819	0.000	0
25	5	1.423	427	0.000	0
	1440	0.027	2353	0.000	0
50	5	1.721	516	0.000	0
	1440	0.033	2824	0.000	0
100	5	1.973	592	0.000	0
	1440	0.038	3276	0.013	116

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The surface runoff will all be contained within the pond (described below) and the runoff will be tested prior to release. As shown above, the rate of release from the pond during a rainfall event will be kept to less than the 2, 5, and 100-year pre-development flow rates.

The facility operational procedure will stipulate a maximum flow rate for the portable pump that is used during facility operations of 0.045 m<sup>3</sup>/s, however the pump will not be operated in conjunction with a rainfall event. Additionally, the pond outfall pipe flow rate is choked back to 0.013 m<sup>3</sup>/s so under no normal operational circumstances will the pre-development runoff rates be exceeded during post-development conditions.

The approximate rainfall intensity, from the Johnstown Short Duration Rainfall IDF data, is 117.6 mm/24hr (4.9 mm/hour) for the 1:100 year return design storm (IDF data was downloaded from Ministry of Transportation website and can be found in Appendix E). Using the Modified Rational Method for calculating the maximum stormwater run-off rate for the outfall, for the 1:100 year storm, we obtain the following:


$$Q = C_f \times C \times I \times A$$

Where:

- $C_f$  = Run-Off Coefficient Adjustment Factor:
  - 1.0 (for the 1:2, 1:5, & 1:10 year storm events)
  - 1.1 (for the 1:25 year storm event)
  - 1.2 (for the 1:50 year storm event)
  - 1.25 (for the 1:100 year storm event)
- $C$  = Rational Method Runoff Coefficients = 0.8 for graveled area, 0.9 for building roof, 0.9 for asphalt, 0.9 for containment areas, 1.0 for the pond footprint, and 0.8 for unimproved area (weighted composite value for this site is 0.84, note that a value of 0.8 was carried for the unimproved areas of the site to account for the possibility of future development)
- $I$  = Intensity of Rainfall for Johnstown = 117.6mm/24hours (4.9 mm/hour) (average rainfall intensity for 1:100 year 24-hour storm)
- $A$  = Total Drainage Area = 2.65 ha

**Total volume to be contained on site ( $Q$  applied over 24 hour period) = 3276 m<sup>3</sup>**

The actual pond has been designed to hold a volume of 2,824 m<sup>3</sup> (1:50 year 24 hour storm, this value is actually 3,160 m<sup>3</sup> including freeboard and sediment allowance). Once the 1:50 year, 24 hour capacity is exceeded and the freeboard/sediment allowance used up, the operating water level will reach the choked HDPE pipe overflow designed to limit the overflow rate to 0.013 m<sup>3</sup>/s, which is less than the 1:100 year, 24 hour pre-development flow rate listed in the above table. The pond is also equipped with a controlled contingency overflow sized for a 1:100 year 15 minute rainfall event. This contingency outfall is above the 1:100 year, 24 hour water level and is only in place to control the overflow location in the event that a 1:100 year 24 hour volume is exceeded.

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The flow rate through this contingency overflow would exceed any pre-development flow rates listed above and is not meant for use during normal facility operation.

The correct operational procedure for the pond is to test accumulated runoff and release (if test results are acceptable) immediately after the operating water level in the pond reaches 1.5m deep. At this depth, the pond can still accept a 1:50 year, 24 hour rain event without releasing any runoff. As mentioned earlier, a portable pump will be used to empty the pond by the facility operators.

All site ditches and culverts are designed to a 1:25 year, 15 minute rainfall event.

The sub-grade drain headers and oil water separators are designed to a 1:10 year, 60 minute rainfall event. The North OWS will be sized for a minimum flow rate of 0.015 m<sup>3</sup>/s. The South OWS will be sized for a minimum flow rate of .014 m<sup>3</sup>/s (ZCL model # COWS-1630 have been selected for this application. Refer to product datasheet in Appendix I).

#### 4. Flow Velocity Summary

The flow velocity calculations are summarized in Appendix H.


The ditch flow velocities within the Phase III area range from 0.5 m/s to 2.7 m/s. All these ditches will be seeded. Because of the low flow velocities, erosion control measures (check dams) are only necessary in ditches C & F.

The ditch flow velocities in the outfall channel between the Phase III area and the discharge location range from 0.7 m/s to 5.0 m/s. All of these ditches will be seeded. Open ditches with a flow rate greater than 1.2 m/s will be equipped with velocity check dams as shown on the project drawings. The exception is ditch Q (slope of 10%), which will have a full RIPRAP layer to prevent erosion.

#### 5. TSS (Total Suspended Solids) Removal

The normal operation of this facility will not be a contributor to TSS aside from the standard dust and granular material that would be expected at a facility of this nature. The main risks associated with the facility operations are mitigated by the oil water separators strategically located on the site. The primary water quality treatment plan for TSS removal is a combination of prevention and sedimentation/settling. The proposed water quality treatment will remove 80% TSS (Total Suspended Solids) by implementing the following design features:

- 1) The entire site will have at least one of the following surface treatments, no areas will be stripped and left expose post-construction:

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		Rev: H
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- a. Compacted gravel driving surface
  - b. Synthetically lined pond
  - c. Cast-in-place concrete to low point drain
  - d. Seeded/mulched
- 2) Catch basins will be installed upstream of sediment sensitive equipment (oil water separators) and will be regularly maintain by the facility operations group.
  - 3) All ditches and exposed cut/fill slope will be seeded/mulched after construction
  - 4) Synthetically lined surface runoff pond acts as final layer of protection against suspended solids leaving the site. The pond outlet is on the opposite side as the inlets and the water will be tested prior to controlled release. The detention time in the pond will be increased if the test results show higher than acceptable TSS. If the test results continue to be outside of acceptable limits, the water will be treated on site or hauled away to be treated offsite. If the test results are acceptable, the operational procedure will be to draw from near the water surface, preventing the settled solids from being drawn up through the pump and discharged downstream.


## 6. Sediment and Erosion Control Plan

The sediment and erosion control plan on the site will be managed in the following ways:

- Silt fences will be installed around all soil stockpiles (OPSD 219.130).
- Seed and mulch application will be applied on stockpiles and exposed slopes once final grades are met.
- Exposed ditches will be seeded to control erosion. Where ditch flow velocities are to high, check dams will be installed.
- RIPRAP all culverts inverts and ditch direction changes > 45°(OPSD 810.020).
- Catch basins upstream of both oil water separators (OPSD 701.010).

During construction, the contractor (Kinley Construction of Canada) will adhere to their maintenance and inspection plan, which involves daily visual inspections and weekly written inspections for the equipment and work areas. Equipment will be kept clean and will be washed regularly, and prior to removal from site. For regular facility operations (post-construction), the operator will produce a maintenance and inspection plan. It will be written into the operational procedure for the facility to perform daily inspections and weekly written inspections, similar to those performed during construction. These will be performed by CREWS (refer to Section 1).

In addition to the measures listed above, please refer to attached Erosion Control and Sedimentation Plan (drawing # JWTN1-C-CIV-00207, Sheet 1 & 2, located in Appendix D). Please note this is considered a "living document" which may be modified in the event that the control measures are or become insufficient.

 <b>TRI INNOVATIONS CONSULTING LTD.</b>	<b>Greenery</b> <b>Johnstown Fuel Distribution Facility</b> <b>Stormwater Management Report</b>	Date: 20-Feb-2019
		Rev: H
		Project No: 12.008.01

## 7. Conclusion


The post-development runoff for the facility is less than the pre-development runoff and all site runoff is directed into a synthetically lined surface runoff pond on lease that has been sized to store a 1:50 year, 24 hour rainfall event based on the IDF curve data for Johnstown, ON. The pond is also designed to manage a 1:100 year, 24 hour rainfall event without exceeding the pre-development runoff conditions. All drainage infrastructure, both surface and subsurface, has been designed to meet the appropriate flow rates. Any areas on site where a product spill potential exists are contained on concrete slabs and directed through an OWS via impermeable piping systems.

We trust this report satisfies the requirements for managing stormwater and erosion/sediment control for the authorities having jurisdiction.



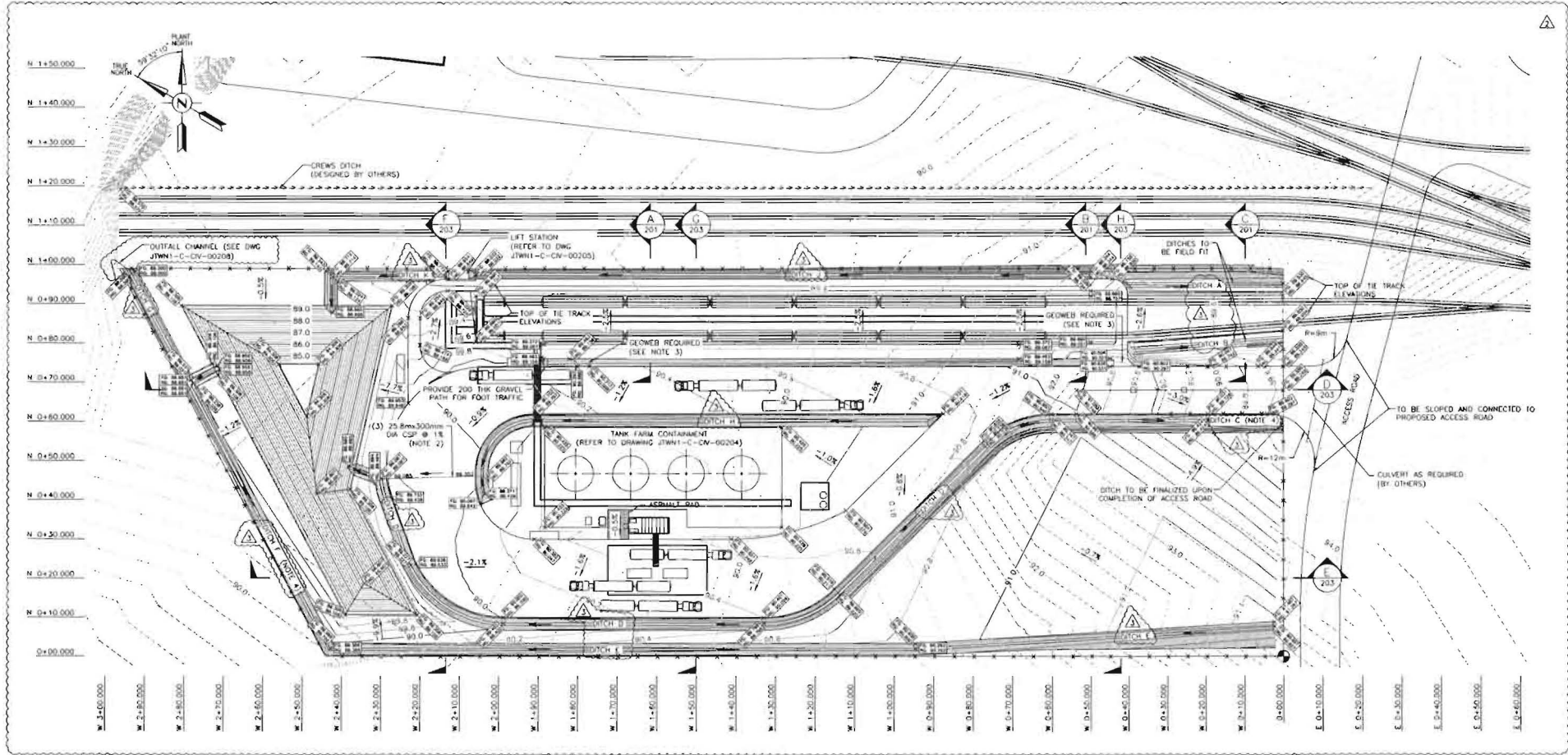
FEBRUARY 21, 2019  
PERMIT NO.: 100504705



 <b>TRI INNOVATIONS</b> CONSULTING LTD.	Greenergy Johnstown Fuel Distribution Facility Stormwater Management Report	Date: 20-Feb-2019
		Rev: H
		Project No: 12.008.01

## Appendix A – Overall Grading Plan

Tri Innovations Drawing JTWN1-C-CIV-00200



DATUM POINT (UTM, ZONE 18, MAGNETIC)		
NORTHING	EASTING	ELEVATION
PLANT UTM	4952396.005	460450.693
PLANT LOCAL	0+00.000	100.000

LEGEND	
-2.3%	DESIGN SLOPE
— 0.2m	FINAL & ROUGH GRADE
— 0.2m	DESIGN CONTOURS @ 0.2m INTERVAL
— 0.2m	EXISTING CONTOURS @ 0.2m INTERVAL

- NOTES:
- ALL ELEVATIONS ARE IN METERS AND GEODETIC.
  - REDUCE CULVERT TO DOUBLE R NON-CORRUGATED CULVERT IS USED.
  - BOTTOM LIFT OF APPROACHES TO BE 150 THK PRESTO GEOMES (OR APPROVED ALTERNATE), CELLS FILLED WITH COMPACTED SUBGRADE MATERIAL FOR SLOPE STABILIZATION (ONLY REQUIRED ON STEEP GENTRY ACCESS ROAD).
  - VELOCITY CHECK DAMS REQUIRED FOR DITCHES C & F, FOR DAM SPACING SEE DRAWING JTNW1-C-CV-00200.

REFERENCE DRAWING NO.	REFERENCE DRAWING	REV.	REVISION DESCRIPTION	BY	DATE	CHK	APPR
		0	ISSUED FOR CONSTRUCTION	OC	2018-10-14	JS	DB
		1	RE-ISSUED FOR CONSTRUCTION	OC	2018-10-25	JS	DB
		2	RE-ISSUED FOR CONSTRUCTION	CC	2018-11-29	JS	DB
		3	RE-ISSUED FOR CONSTRUCTION	SH	2018-02-20	JS	DB

ENGINEER'S STAMP

LEO J. JAMES

REGISTERED PROFESSIONAL ENGINEER

STATE OF OHIO

FEBRUARY 21, 2019

PERMIT NO. 100504705

12.008.01			
DRAWN	CHECKED	DESIGN	APPROVED
BY	JS	DB	DB
DATE	2018-09-07	2018-09-07	2018-09-07

**Greenenergy**

JOHNSTOWN FUEL DISTRIBUTION TERMINAL


OVERALL GRADING PLAN

DRAWING NUMBER: JTNW1-C-CV-00200

SHEET: 1

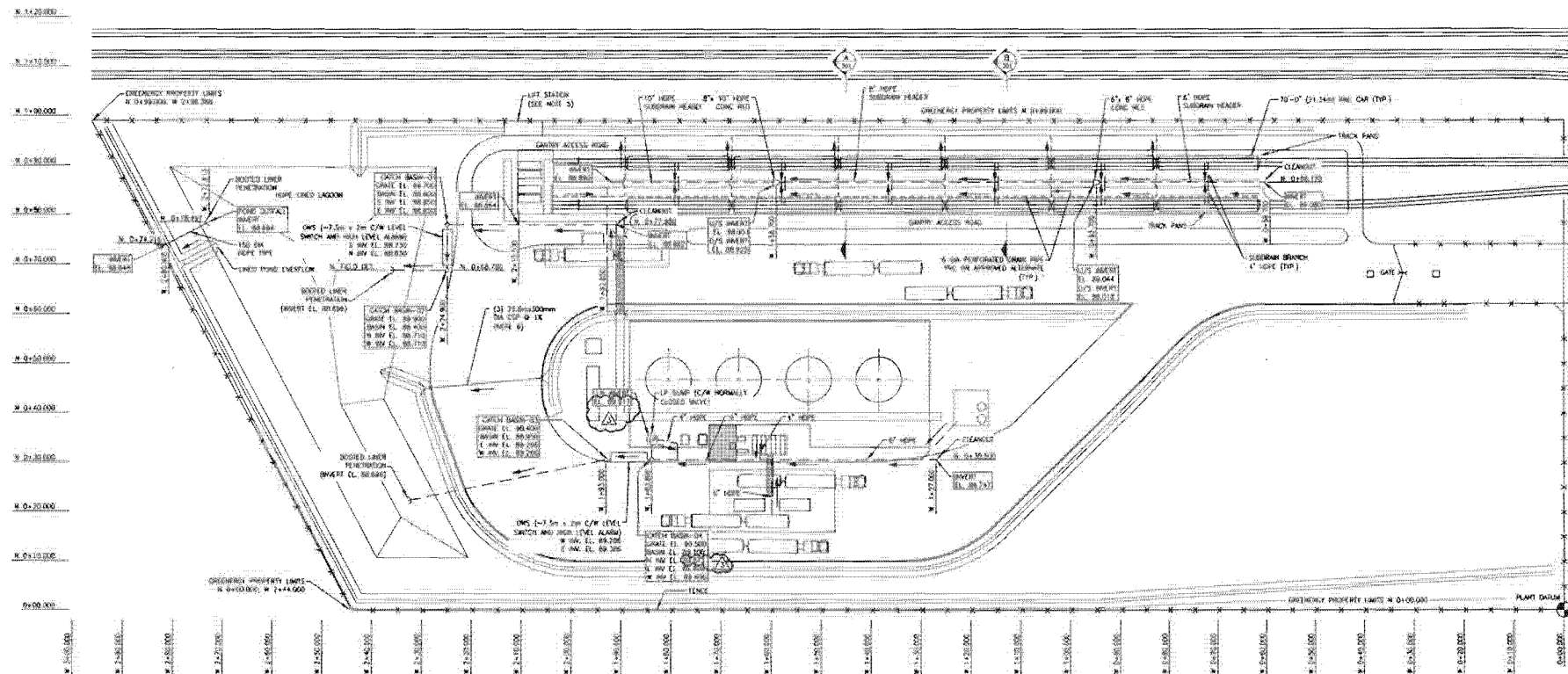
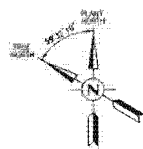
REV: 3

SCALE: 1:500

 <b>TRI INNOVATIONS</b> CONSULTING LTD.	Greenergy Johnstown Fuel Distribution Facility Stormwater Management Report	Date: 20-Feb-2019
		Rev: H
		Project No: 12.008.01

## Appendix B – Underground Drainage Plan

Tri Innovations Drawing JTWN1-C-CIV-00300



**LEADING**

**EQUIPMENT/LOADING SYSTEM**

**TRACK BALLAST SYSTEM**

[illegible]


REFERENCE DRAWING NO.	REFERENCE DRAWING	REV.	REVISION DESCRIPTION	BY	DATE	CHKD	APPD
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		2	RE-ISSUED FOR CONSTRUCTION	CC	2019-10-25	JS	DB
		3	RE-ISSUED FOR CONSTRUCTION	CC	2019-11-15	JS	DB
		4	RE-ISSUED FOR CONSTRUCTION	WW	2019-05-21	JS	DB

	<b>TRI INNOVATIONS</b> <b>CONSULTING LTD</b> <small>INCORPORATED IN CANADA</small>			
<b>PROJECT NO.: 12.008.01</b>				
	<b>DRAWN</b>	<b>CHECKED</b>	<b>DESIGN</b>	<b>APPROVED</b>
<b>BY</b>	JC	JC	JB	DC
<b>DATE</b>	2018-06-24	2018-06-24	2018-06-24	2018-06-24

# Greenergy

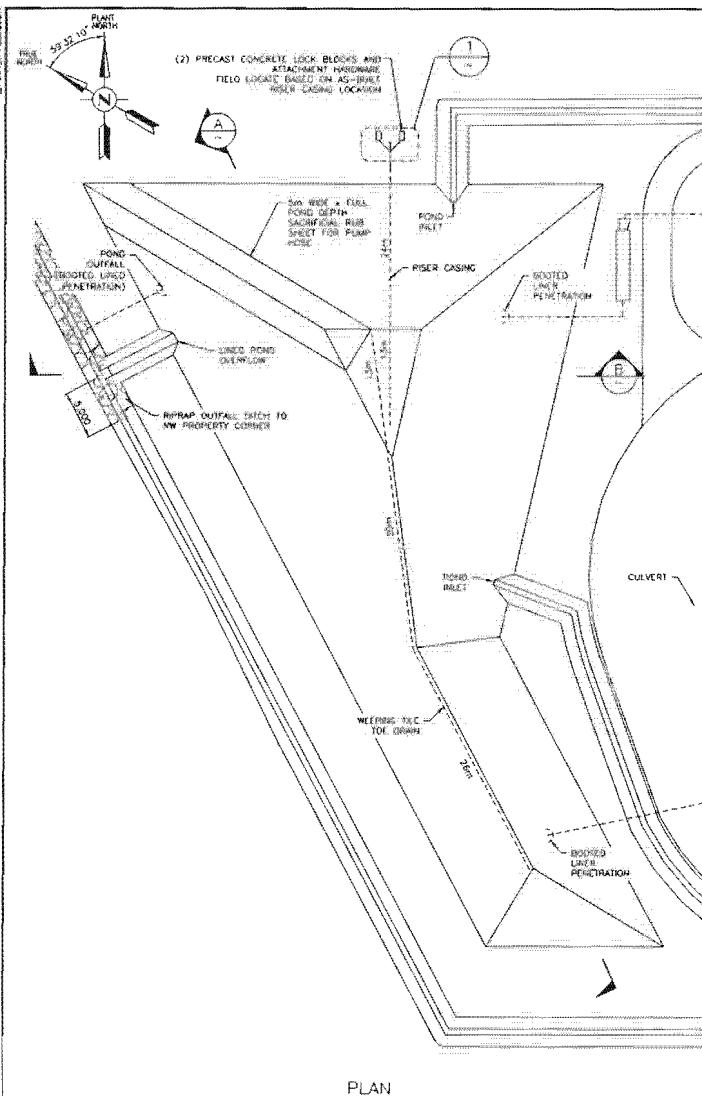
## JOHNSTOWN FUEL DISTRIBUTION TERMINAL

### UNDERGROUND DRAINAGE PLAN

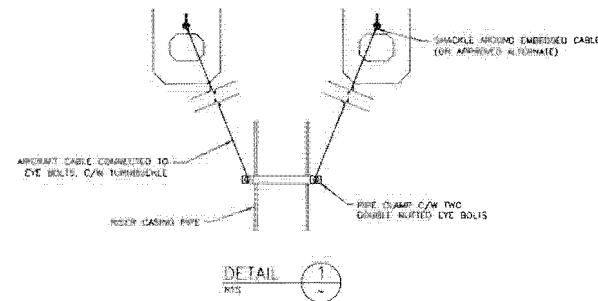
 <b>TRI INNOVATIONS</b> CONSULTING LTD	Greenergy Johnstown Fuel Distribution Facility Stormwater Management Report	Date: 20-Feb-2019
		Rev: H
		Project No: 12.008.01

## Appendix C – Pond Sections and Details

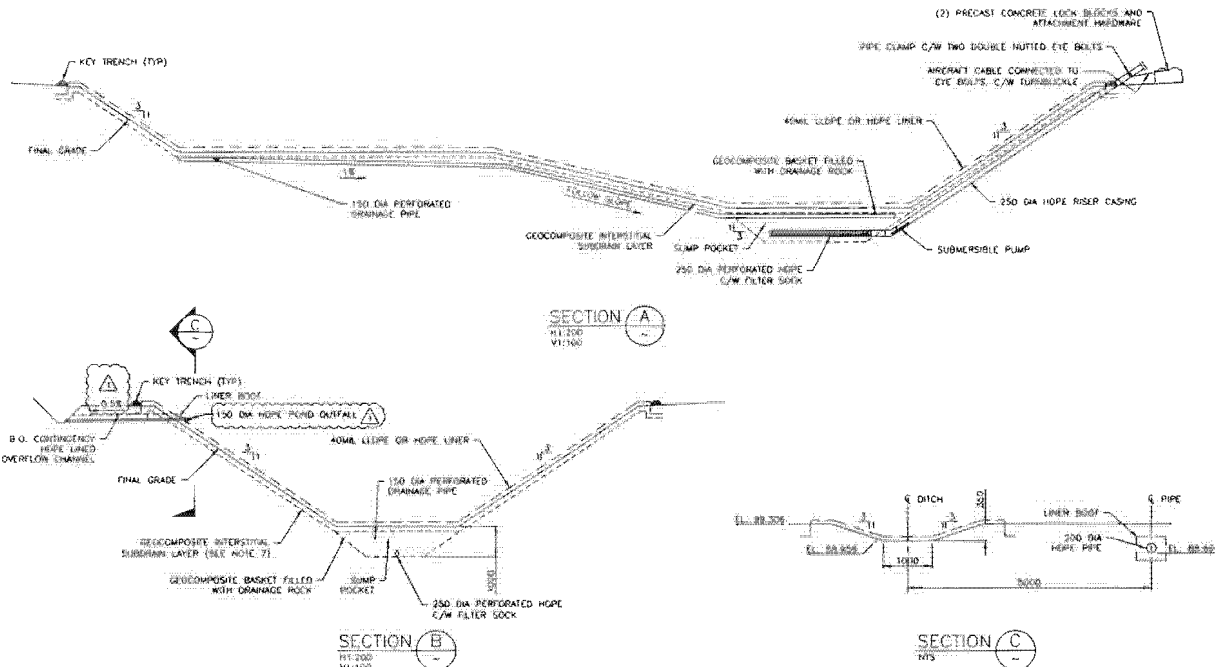
Tri Innovations Drawing JTWN1-C-CIV-00202



### PLAN



DETAIL 1



SECTION B

SECTION C

CONSTRUCTION NOTES:

1. CONTRACTOR SHALL EXCAVATE AND REDIGATE ALL TOPSOIL, ORGANIC AND UNSUITABLE MATERIALS TO APPROVED LOCATION.
2. ALL CONSTRUCTION MATERIALS SHALL BE FREE OF FROST, SNOW, ORGANIC OR OTHER DETERIORABLE MATERIAL.
3. SUBGRADE PREPARATION:
  - 3.1 SCARIFY BOTTOM OF POND EXCAVATION TO MAXIMUM DEPTH OF EXPOSED SUBGRADE AND RECOMPACT TO 90% STANDARD PROCTOR DRY DENSITY.
  - 3.2 PROFIT RILL IN 2 DIRECTIONS AND SORT SPOTS DETECTED IN THE EXPOSED SUBGRADE SHALL BE FURTHER EXCAVATED AND BACKFILLED WITH CLEAN CRUSHED GRAVEL AND COMPACTED TO A SIMILAR DENSITY AS THE ADJACENT SUBGRADE.
  - 3.3 LAY ANY CRUSHED GRAVEL WITH MAXIMUM 10% OF COMPACTED CLAY TO PROTECT LINER.
  - 3.4 ENSURE THERE ARE NO EXPOSED STONES ON SUB GRADE PRIOR TO PAVING THE NON WETTED DETECTOR.
4. THEREAFTER, CONTRACTOR IS RESPONSIBLE TO PROMOTE SUPPORT TO POND LINER CONSTRUCTION.
5. AFTER EXCAVATION OF THE POND IS COMPLETED, CONTRACTOR SHALL ENSURE GEOTECHNICAL ENGINEER PROVIDES FOR SITE REVIEW AND APPROVAL OF DEPTH OF EXCAVATION AND SUFFICIENCY OF THE BASE MATERIAL FOR THE POND.
6. ALL NATIVE CLAY FILL MATERIAL USED FOR CONSTRUCTION OF POND BERMS SHALL BE COMPACTED TO 90% SPECIFIC IN MANY TOPSOIL SITES.
7. RECOMPOSED SUBGRADE SHALL BE SIZED BY THE SUPPLIER FOR A WETTED AREA OF 1.40CM<sup>2</sup> AND SOIL AVERAGE FAVORABLE COEFFICIENT OF 1.00CM<sup>2</sup>/M<sup>2</sup> SUFFICIENTLY HIGH PRELIMINARY WATER LEVEL IS EMPLOYED AT 1.5M ABOVE SURFACE ELEVATION.

## NOTES:

[illegible]

ENGINEER'S STAMP



NOVEMBER 29, 20  
25 PM EST 10150420



TRI INNOVATIONS  
CONSULTING LTD  
2000 UNIVERSITY AVE. # 1000




# Greenenergy

JOHNSTOWN FUEL DISTRIBUTION TERMINAL

### POND SECTIONS AND DETAILS

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BY	00	00	00	00
DATE	2018-09-30	2018-09-30	2018-09-30	2018-09-30

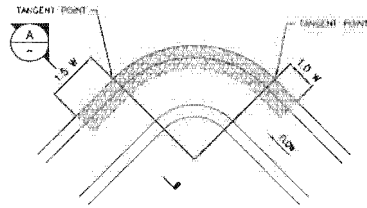
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 <b>TRI INNOVATIONS</b> CONSULTING LTD	Greenergy Johnstown Fuel Distribution Facility Stormwater Management Report	Date: 20-Feb-2019
		Rev: H
		Project No: 12.008.01

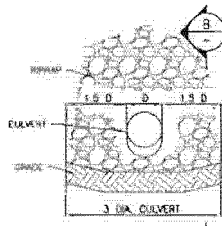
## Appendix D – Erosion Control and Sedimentation Plan

Tri Innovations Drawing JTWN1-C-CIV-00205  
Tri Innovations Drawing JTWN1-C-CIV-00207 SHEET 1  
Tri Innovations Drawing JTWN1-C-CIV-00207 SHEET 2  
Tri Innovations Drawing JTWN1-C-CIV-00209

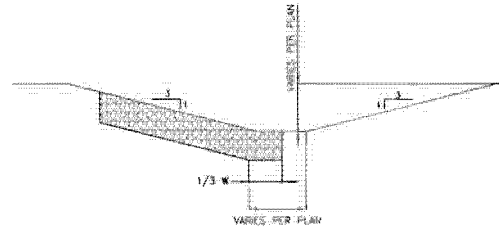


- REQUIRED FOR ALL BENOS IN DITCHES  $\geq 45'$ 

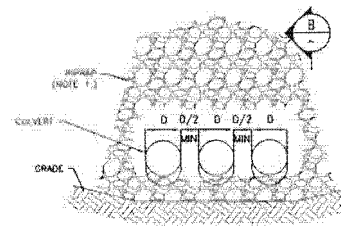
DITCH BEND RIPRAP  
PLAN DETAIL



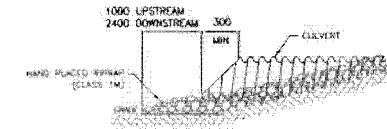
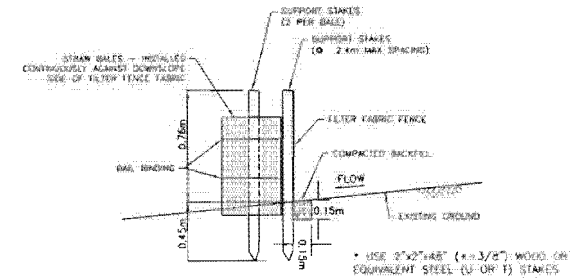
TYPICAL CULVERT INLET/DISCHARGE  
RIPRAP DETAIL



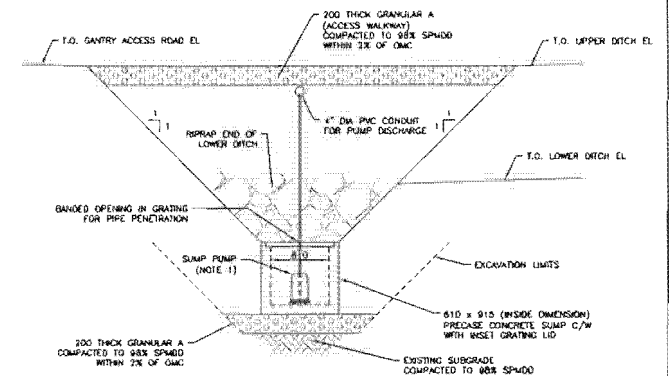
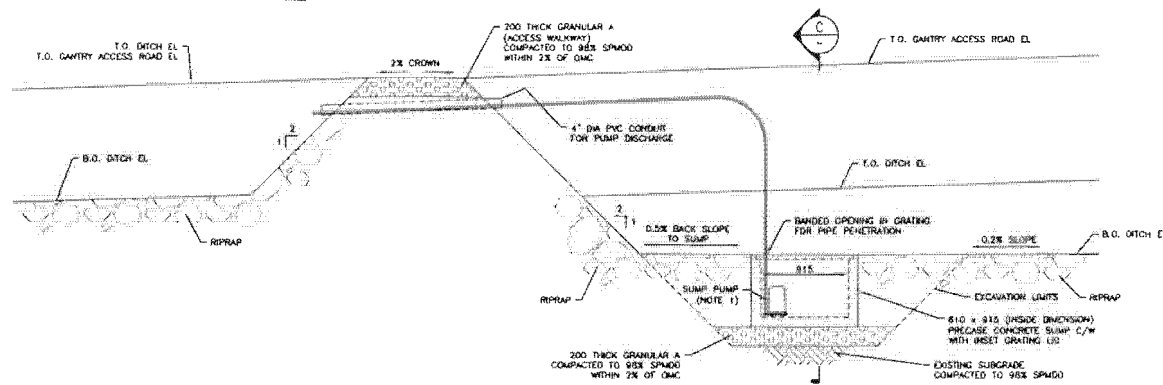
SECTION           A          



CULVERT SPACING FOR DOUBLE/TRIPLE  
N.T.S.

SECTION B

SILT FENCE DETAIL

SECTION C

LIFT STATION DETAIL  
N.Y.C.

NOTES:

1. SUMP PUMP TO HAVE A MINIMUM FLOW RATE OF 0.003m<sup>3</sup>/s (48 GPM)

[illegible]

ENGINEER'S STAMP



**IN INNOVATION**  
CONSULTING LLC  
STRATEGIC BUSINESS FINANCE



**KINLEY**  
CONSTRUCTION  
INC.

# Greenergy

INGTOWN FUEL DISTRIBUTION TERMINAL

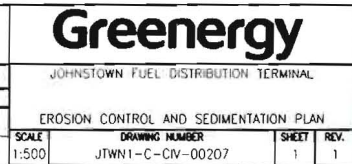
..... EROSION CONTROL DETAILS

DRAWING NUMBER

JIWNA-C-CIV-00205


SHEET	REV.
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1	0
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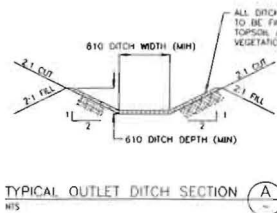


 <b>TRI INNOVATIONS</b> CONSULTING LTD. <small>EST. 2007</small>	Greenergy Johnstown Fuel Distribution Facility Stormwater Management Report	Date: 20-Feb-2019
		Rev: H
		Project No: 12.008.01

## Appendix E – Outlet Ditch Routing Plan

Tri Innovations Drawing JTWN1-C-CIV-00208





REFERENCE DRAWING NO.	REFERENCE DRAWING	REV.	REVISION DESCRIPTION	BY	DATE	CHK	APP	ENGINEER'S STAMP
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		1	RE-ISSUED FOR CONSTRUCTION	JG	08			


12.008.01			
DRAWN		CHECKED	DESIGN
BY	CC	JG	DE
DATE	2018-12-19	2018-12-19	2018-12-19

APPROVED	
DATE	SCALE
2018-12-19	1:1500

DRAWING NUMBER		SHEET	REV.
JTNW1-C-CIV-00208		1	1

 <b>TRI INNOVATIONS</b> CONSULTING LTD.	Greenergy Johnstown Fuel Distribution Facility Stormwater Management Report	Date: 20-Feb-2019
		Rev: H
		Project No: 12.008.01

## Appendix F – Survey of Surrounding Area

Jordan-Bennett Geomatics Survey 180172-01



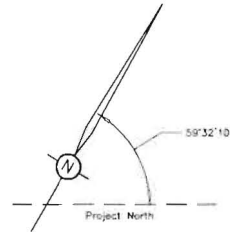
CNR LANDS

Sketch to Illustrate  
Phase 3 Lands  
Shoreline Rail Group Inc.  
Geographic Township of Edwardsburgh  
TOWNSHIP OF  
EDWARDSBURGH-CARDINAL  
COUNTY OF GRENVILLE

SCALE = 1 : 2000



JORDAN - BENNETT GEOMATICS INC.  
ONTARIO LAND SURVEYORS  
(C) COPYRIGHT 2018



LOT 36

LOT 35

CONCESSION 1

COUNTY ROAD 2

Phase 3 Location

NOTES

ALL DISTANCES AND COORDINATES ON THIS PLAN ARE IN METRES  
AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048  
COORDINATES ARE UTM GROUND DERIVED FROM REAL TIME NETWORK  
OBSERVATIONS, UTM ZONE 18, NAD83(CSRS)(2010.0)  
DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID  
BY MULTIPLYING BY AN AVERAGE COMBINED SCALE FACTOR  
OF 0.9999511

LEGEND

- DENOTES SURVEY MONUMENT FOUND
- DENOTES WOOD STAKE SET
- ▨ DENOTES IRON BAR
- ▩ DENOTES STANDARD IRON BAR
- ▧ DENOTES SHORT STANDARD IRON BAR
- #1 DENOTES REFERENCE PLAN 15R-0747
- #2 DENOTES CONCEPT PLAN BY EASTERN ENGINEERING GROUP  
DATED 2018/04/30

CAUTION

THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE  
USED EXCEPT FOR THE PURPOSE INDICATED IN THE  
TITLE BLOCK.



COMPLETION DATE: Sept. 10, 2018.




P.O. Box 485  
33 Perth Street  
Brockville, Ontario  
K6V-5V7

Jordan-Bennett  
Geomatics Inc.  
Ontario Land Surveyors

Phone: 613-342-7525  
Fax: 613-342-9513

Drawn By: R.J.J.	Party Chief: B.K.	Checked By: R.J.J.	File No.: 180172_01
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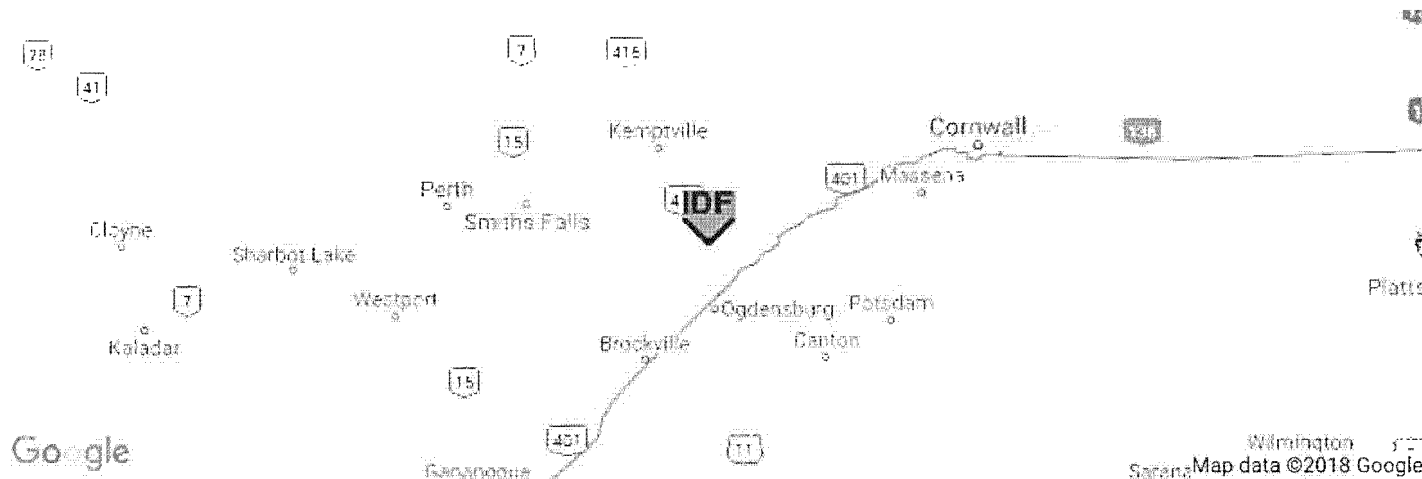
 <b>TRI INNOVATIONS</b> CONSULTING LTD. <small>TRUSTEES OF THE TRI INNOVATIONS FUND</small>	Greenergy Johnstown Fuel Distribution Facility Stormwater Management Report	Date: 20-Feb-2019
		Rev: H
		Project No: 12.008.01

## Appendix G – IDF Curve Data

## Active coordinate

44° 49' 15" N, 75° 30' 14" W (44.820833,-75.504167)

Retrieved: Wed, 13 Jun 2018 17:15:51 GMT



### Location summary

These are the locations in the selection.

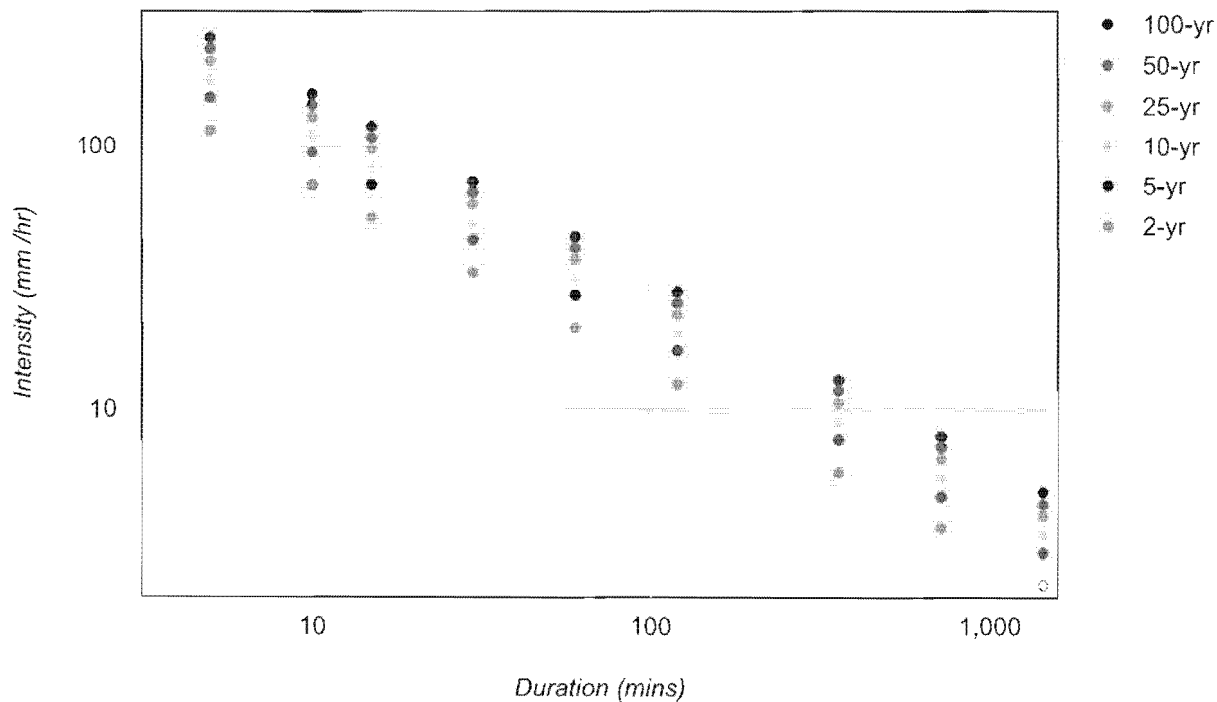
**IDF Curve:** 44° 49' 15" N, 75° 30' 14" W (44.820833,-75.504167)

### Results

An IDF curve was found.

Coordinate: 44.820833, -75.504167

IDF curve year: 2010



**Coefficient summary****IDF Curve:** 44° 49' 15" N, 75° 30' 14" W (44.820833,-75.504167)

Retrieved: Wed, 13 Jun 2018 17:15:51 GMT

**Data year:** 2010**IDF curve year:** 2010

Return period	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
<b>A</b>	20.2	26.9	31.2	36.8	40.8	44.9
<b>B</b>	-0.699	-0.699	-0.699	-0.699	-0.699	-0.699

**Statistics****Rainfall intensity (mm hr<sup>-1</sup>)**

Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
<b>2-yr</b>	114.7	70.7	53.2	32.8	20.2	12.4	5.8	3.6	2.2
<b>5-yr</b>	152.8	94.1	70.9	43.7	26.9	16.6	7.7	4.7	2.9
<b>10-yr</b>	177.2	109.2	82.2	50.6	31.2	19.2	8.9	5.5	3.4
<b>25-yr</b>	209.0	128.8	97.0	59.7	36.8	22.7	10.5	6.5	4.0
<b>50-yr</b>	231.7	142.8	107.5	66.2	40.8	25.1	11.7	7.2	4.4
<b>100-yr</b>	255.0	157.1	118.3	72.9	44.9	27.7	12.8	7.9	4.9


**Rainfall depth (mm)**

Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
<b>2-yr</b>	9.6	11.8	13.3	16.4	20.2	24.9	34.6	42.7	52.6
<b>5-yr</b>	12.7	15.7	17.7	21.8	26.9	33.1	46.1	56.8	70.0
<b>10-yr</b>	14.8	18.2	20.6	25.3	31.2	38.4	53.5	65.9	81.2
<b>25-yr</b>	17.4	21.5	24.2	29.9	36.8	45.3	63.1	77.7	95.8
<b>50-yr</b>	19.3	23.8	26.9	33.1	40.8	50.3	70.0	86.2	106.2
<b>100-yr</b>	21.3	26.2	29.6	36.4	44.9	55.3	77.0	94.9	116.9

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You agree to the Terms of Use of this site by reviewing, using, or interpreting these data.

Ontario Ministry of Transportation | Terms and Conditions | About  
 Last Modified: September 2016

 <b>TRI INNOVATIONS</b> CONSULTING LTD	Greenergy Johnstown Fuel Distribution Facility Stormwater Management Report	Date: 20-Feb-2019
		Rev: H
		Project No: 12.008.01

## Appendix H – Ditch Flow Velocity Summary

**Phase III Area:**

Ditch ID# (Appendix A)	Slope (%)	Flow Velocity (m/s)	Flow Velocity (ft/s)	Surface Treatment	Velocity Control
A	0.0028	0.8	2.8	Seeded	Not Required
B	0.0028	0.8	2.8	Seeded	Not Required
C	0.0028	2.7	8.7	Seeded	Check Dams
D	0.006	1.2	4.0	Seeded	Not Required
E	0.006	1.2	4.0	Seeded	Not Required
F	0.01	1.6	5.2	Seeded	Check Dams
G	0.0011	0.5	1.7	Seeded	Not Required
H	0.006	1.2	4.0	Seeded	Not Required
J	0.002	0.7	2.3	Seeded	Not Required
K	0.002	0.7	2.3	Seeded	Not Required

**Outfall Channel from Phase III Area to Discharge Location:**

Ditch ID# (Appendix B)	Slope (%)	Flow Velocity (m/s)	Flow Velocity (ft/s)	Surface Treatment	Velocity Control
P	0.0018	0.7	2.2	Seeded	Not Required
Q	0.1	5.0	16.5	RIPRAP	Not Required
R	0.0300	2.8	9.0	Seeded	Check Dams
T	0.018	2.1	7.0	Seeded	Check Dams



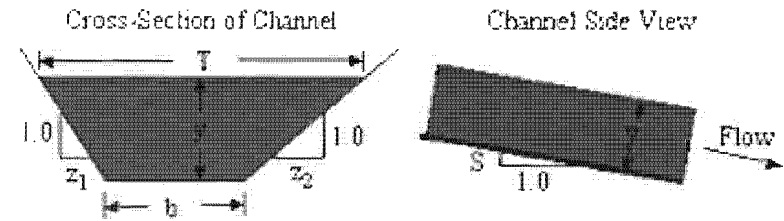
## Grassed Channels

Permissible Velocities for Channels Lined with Grass (SCS, 1941)

Cover	Slope range, %	Permissible velocity, ft/s	
		Erodible soils	Non-erodible soils
Bermuda grass	0 - 5	8	6
	5 - 10	7	5
	> 10	6	4
Buffalo grass, Kentucky bluegrass, smooth brome, blue grama	0 - 5	7	5
	5 - 10	6	4
	> 10	5	3
Grass mixture	0 - 5	5	4
	5 - 10	4	3
Do not use on slopes steeper than 10%			
Lespedeza sericea, weeping love grass, ischaemum (yellow bluestem), kudzu, alfalfa, crabgrass	0 - 5	3.5	2.5
Do not use on slopes steeper than 5%, except for side slopes in a combination channel			
Annuals - used on mild slopes or as temporary protection until permanent covers established, common lespedeza, Sudan grass	0 - 5	3.5	2.5
Use on slopes steeper than 5% is not recommended			

WB, Table 9.3 (from Chow, 1959)

Material	Manning n
Excavated Earth Channels	
Clean	0.022
Gravelly	0.025
Weedy	0.030
Stony, Cobbles	0.035



**Variables** [ ] indicates dimensions. [L]=Length, [T]=Time.

To calculation

$A$  = Flow cross-sectional area, determined normal (perpendicular) to the bottom surface [L<sup>2</sup>].

$b$  = Channel bottom width [L].

$F$  = Froude number.  $F$  is a non-dimensional parameter indicating the relative effect of inertial effects to gravity effects. River flows with  $F < 1$  are low velocity flows called subcritical.  $F > 1$  are high velocity flows called supercritical. Subcritical flows are controlled by downstream obstructions while supercritical flows are affected by upstream controls.  $F = 1$  flows are called critical.

$g$  = acceleration due to gravity = 32.174 ft/s<sup>2</sup> = 9.8066 m/s<sup>2</sup>.  $g$  is used in the equation for Froude number.

$k$  = unit conversion factor = 1.49 if English units = 1.0 if metric units. Our software converts all inputs to SI units (meters and seconds), performs the computations using  $k = 1.0$ , then converts the computed quantities to units specified by the user.

$n$  = Manning coefficient.  $n$  is a function of the channel material, such as grass, concrete, earth, etc. Values for  $n$  can be found in the table of Manning's n coefficients shown below.

$P$  = Wetted perimeter [L].  $P$  is the contact length between the water and the channel bottom and sides.

$Q$  = Discharge or flow rate [L<sup>3</sup>/T].

$R$  = Hydraulic radius of the flow cross-section [L].

$S$  = Slope of channel bottom or water surface [L/L]. Vertical distance divided by horizontal distance.

$T$  = Top width of the flowing water [L].

$V$  = Average velocity of the water [L/T].

$y$  = Water depth measured normal (perpendicular) to the bottom of the channel [L]. If the channel has a small slope ( $S$ ), then using the vertical depth introduces only minimal error.

$z_1, z_2$  = Side slopes of each bank of the channel. These slopes are computed as horizontal distance divided by vertical distance.

$\theta$  = Angle formed by  $S$ .


$$Q = VA \quad V = \frac{k}{n} R^{2/3} S^{1/2} \quad R = \frac{A}{P} \quad A = \frac{y}{2} (b + T)$$

$$P = b + y \left( \sqrt{1 + z_1^2} + \sqrt{1 + z_2^2} \right) \quad T = b + y(z_1 + z_2)$$

$$F = V \sqrt{\frac{T}{gA \cos \theta}} \quad \theta = \tan^{-1}(S)$$

Ditch ID#	A		Ditch ID#	B		Ditch ID#	C		Ditch ID#	D		Ditch ID#	E		Ditch ID#	F		Ditch ID#	G	
Inputs			Inputs			Inputs			Inputs			Inputs			Inputs			Inputs		
A	1.08	m <sup>2</sup>	A	1.08	m <sup>2</sup>	A	1.08	m <sup>2</sup>	A	1.08	m <sup>2</sup>	A	1.08	m <sup>2</sup>	A	1.08	m <sup>2</sup>	A	1.08	m <sup>2</sup>
b	0.6	m	b	0.6	m	b	0.6	m	b	0.6	m	b	0.6	m	b	0.6	m	b	0.6	m
F	0.06	N/A	F	0.06	N/A	F	#NUM!	N/A	F	0.09	N/A	F	0.09	N/A	F	0.12	N/A	F	0.04	N/A
g	9.81	m/s <sup>2</sup>	g	9.81	m/s <sup>2</sup>	g	9.81	m/s <sup>2</sup>	g	9.81	m/s <sup>2</sup>	g	9.81	m/s <sup>2</sup>	g	9.81	m/s <sup>2</sup>	g	9.81	m/s <sup>2</sup>
k	1	N/A	k	1	N/A	k	1	N/A	k	1	N/A	k	1	N/A	k	1	N/A	k	1	N/A
n	0.03	N/A	n	0.03	N/A	n	0.03	N/A	n	0.03	N/A	n	0.03	N/A	n	0.03	N/A	n	0.03	N/A
P	3.28	m	P	3.28	m	P	3.28	m	P	3.28	m	P	3.28	m	P	3.28	m	P	3.28	m
Q	0.91	m <sup>3</sup> /s	Q	0.91	m <sup>3</sup> /s	Q	2.87	m <sup>3</sup> /s	Q	1.33	m <sup>3</sup> /s	Q	1.33	m <sup>3</sup> /s	Q	1.71	m <sup>3</sup> /s	Q	0.56	m <sup>3</sup> /s
R	0.33	m	R	0.33	m	R	0.33	m	R	0.33	m	R	0.33	m	R	0.33	m	R	0.33	m
S	0.0028	m/m	S	0.0028	m/m	S	0.0279	m/m	S	0.0060	m/m	S	0.0060	m/m	S	0.0100	m/m	S	0.0011	m/m
T	3	m	T	3	m	T	3	m	T	3	m	T	3	m	T	3	m	T	3	m
V	0.8	m/s	V	0.8	m/s	V	2.7	m/s	V	1.2	m/s	V	1.2	m/s	V	1.6	m/s	V	0.5	m/s
V	2.8	ft/s	V	2.8	ft/s	V	8.7	ft/s	V	4.0	ft/s	V	4.0	ft/s	V	5.2	ft/s	V	1.7	ft/s
y	0.6	m	y	0.6	m	y	0.6	m	y	0.6	m	y	0.6	m	y	0.6	m	y	0.6	m
z1	2	m/m	z1	2	m/m	z1	2	m/m	z1	2	m/m	z1	2	m/m	z1	2	m/m	z1	2	m/m
z2	2	m/m	z2	2	m/m	z2	2	m/m	z2	2	m/m	z2	2	m/m	z2	2	m/m	z2	2	m/m
Θ	0.16	deg	Θ	0.16	deg	Θ	1.60	deg	Θ	0.34	deg	Θ	0.34	deg	Θ	0.57	deg	Θ	0.06	deg

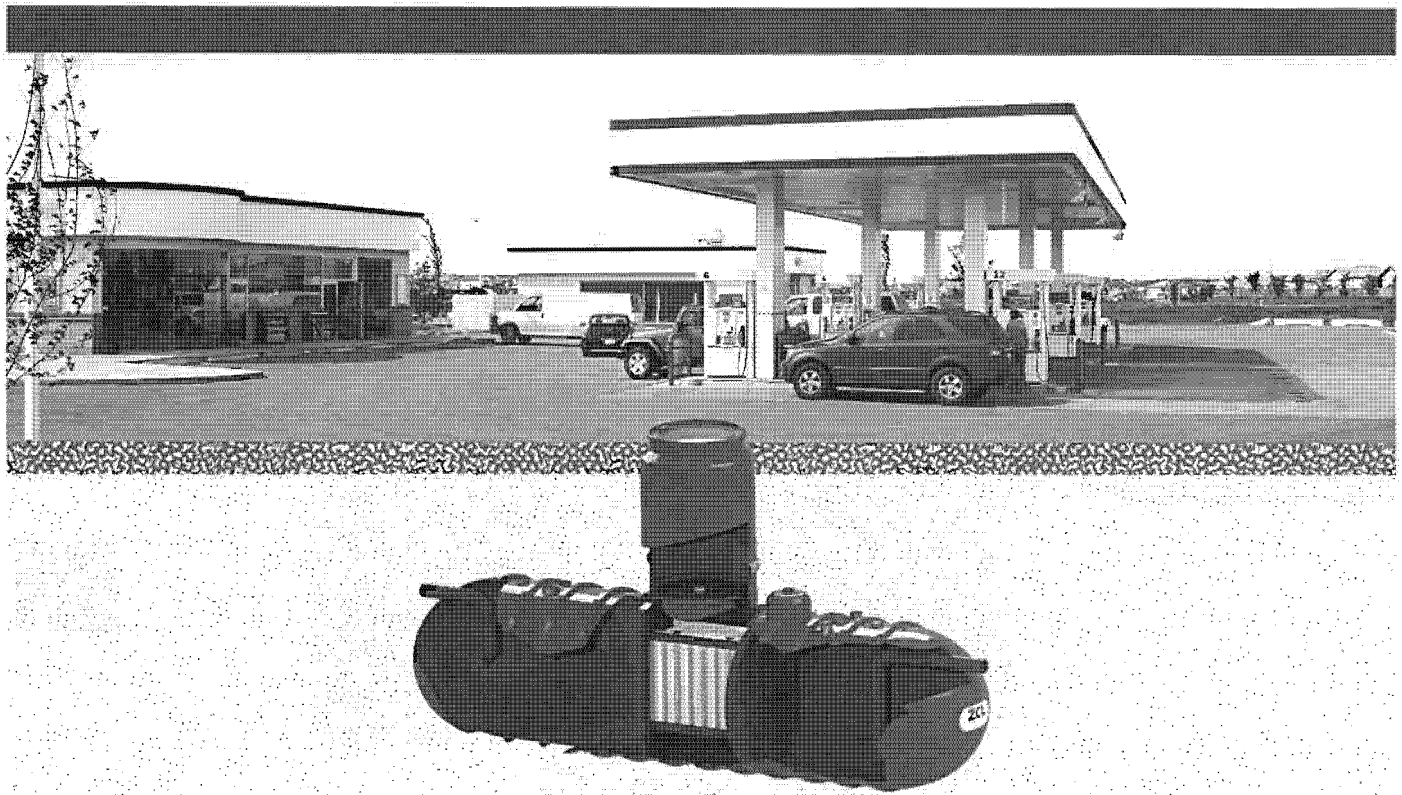
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Inputs			Inputs			Inputs			Inputs			Inputs			Inputs			Inputs		
A	1.08	m <sup>2</sup>	A	1.08	m <sup>2</sup>	A	1.08	m <sup>2</sup>	A	1.08	m <sup>2</sup>	A	1.08	m <sup>2</sup>	A	1.08	m <sup>2</sup>	A	1.08	m <sup>2</sup>
b	0.6	m	b	0.6	m	b	0.6	m	b	0.6	m	b	0.6	m	b	0.6	m	b	0.6	m
F	0.09	N/A	F	0.05	N/A	F	0.05	N/A	F	0.05	N/A	F	0.39	N/A	F	#NUM!	N/A	F	0.21	N/A
g	9.81	m/s <sup>2</sup>	g	9.81	m/s <sup>2</sup>	g	9.81	m/s <sup>2</sup>	g	9.81	m/s <sup>2</sup>	g	9.81	m/s <sup>2</sup>	g	9.81	m/s <sup>2</sup>	g	9.81	m/s <sup>2</sup>
k	1	N/A	k	1	N/A	k	1	N/A	k	1	N/A	k	1	N/A	k	1	N/A	k	1	N/A
n	0.03	N/A	n	0.03	N/A	n	0.03	N/A	n	0.03	N/A	n	0.03	N/A	n	0.03	N/A	n	0.03	N/A
P	3.28	m	P	3.28	m	P	3.28	m	P	3.28	m	P	3.28	m	P	3.28	m	P	3.28	m
Q	1.33	m <sup>3</sup> /s	Q	0.77	m <sup>3</sup> /s	Q	0.77	m <sup>3</sup> /s	Q	0.73	m <sup>3</sup> /s	Q	5.42	m <sup>3</sup> /s	Q	2.97	m <sup>3</sup> /s	Q	2.30	m <sup>3</sup> /s
R	0.33	m	R	0.33	m	R	0.33	m	R	0.33	m	R	0.33	m	R	0.33	m	R	0.33	m
S	0.0060	m/m	S	0.0020	m/m	S	0.0020	m/m	S	0.0018	m/m	S	0.1000	m/m	S	0.0300	m/m	S	0.0180	m/m
T	3	m	T	3	m	T	3	m	T	3	m	T	3	m	T	3	m	T	3	m
V	1.2	m/s	V	0.7	m/s	V	0.7	m/s	V	0.7	m/s	V	5.0	m/s	V	2.8	m/s	V	2.1	m/s
V	4.0	ft/s	V	2.3	ft/s	V	2.3	ft/s	V	2.2	ft/s	V	16.5	ft/s	V	9.0	ft/s	V	7.0	ft/s
y	0.6	m	y	0.6	m	y	0.6	m	y	0.6	m	y	0.6	m	y	0.6	m	y	0.6	m
z1	2	m/m	z1	2	m/m	z1	2	m/m	z1	2	m/m	z1	2	m/m	z1	2	m/m	z1	2	m/m
z2	2	m/m	z2	2	m/m	z2	2	m/m	z2	2	m/m	z2	2	m/m	z2	2	m/m	z2	2	m/m
Θ	0.34	deg	Θ	0.11	deg	Θ	0.11	deg	Θ	0.10	deg	Θ	5.71	deg	Θ	1.72	deg	Θ	1.03	deg

 <b>TRI INNOVATIONS</b> CONSULTING LTD	Greenergy Johnstown Fuel Distribution Facility Stormwater Management Report	Date: 20-Feb-2019
		Rev: H
		Project No: 12.008.01

## Appendix I – Oil Water Separator Datasheet



## Coalescing Oil/Water Separator



### Efficiently Removes Free Oil and Settleable Solids\*\*

ZCL uses multiple angle plates that are virtually self cleaning. Oil contamination can be reduced to less than ten milligrams per litre.

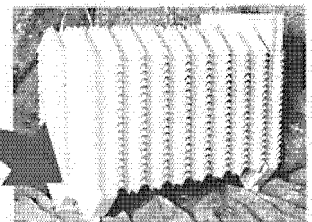
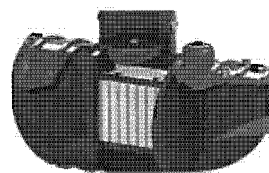
### Corrosion Resistant

ZCL oil/water separators are manufactured with premium grade fibreglass reinforced plastic. They have no moving parts, require only minimal maintenance and are engineered for long term underground service.

\*\*Not chemically or mechanically emulsified or dissolved hydrocarbons.

### Vessels Are Designed And Constructed With Reference To:

- ✓ The API Manual on Disposal of Refinery Wastes
- ✓ API Publication N° 421
- ✓ ULC S615 - 98
- ✓ ZCL Coalescing Oil-Water Separators are certified by Underwriters Laboratories for Canada to the standard ULC-S656-14



Separation is enhanced with multiple angle coalescing plates.

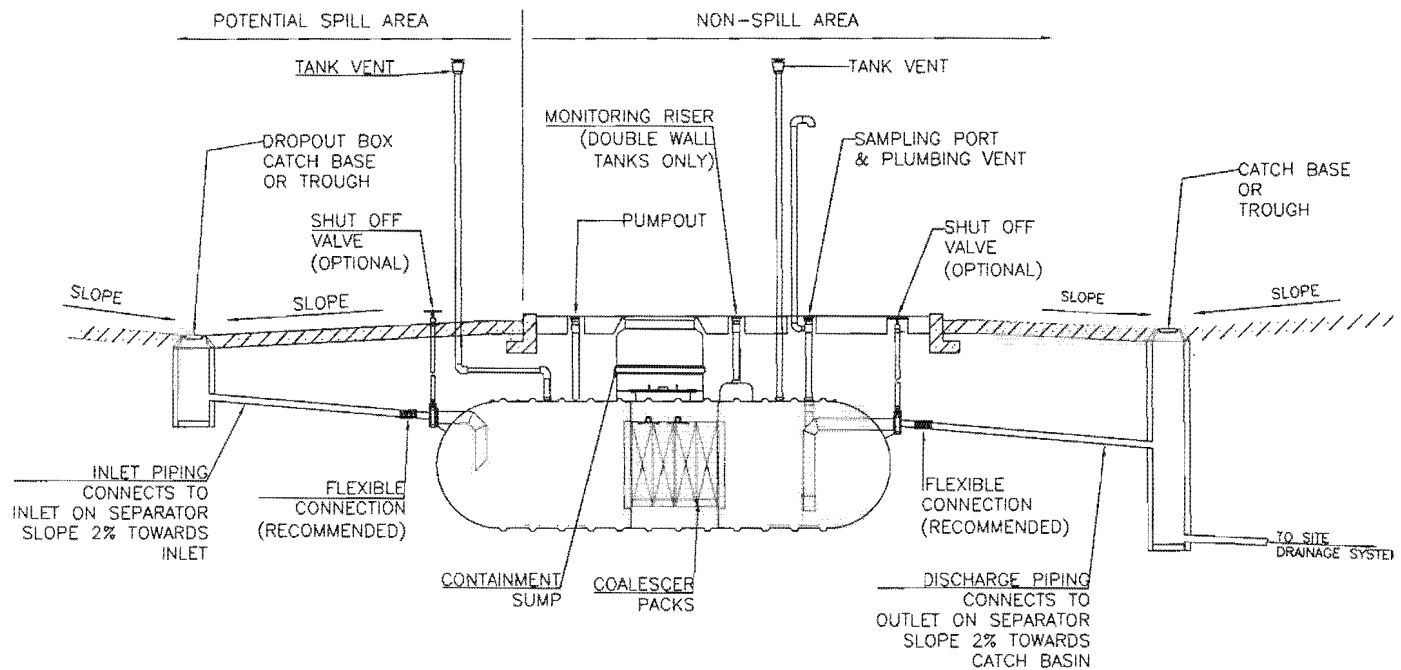
### Better Flow, Better Separation

ZCL coalescing separators provide substantially better separation and higher design flows than differential gravity separators with the same footprint.

## Technical Features

- Available in single wall or double wall construction.
- Corrosion resistant internal and external components.
- The multiple angle plates are self cleaning. Solids are separated to the bottom; oil is separated to the top.
- No moving parts; minimal maintenance requirements.
- The coalescing system can be cleaned in place and is designed for easy removal of plate packs for full maintenance.
- Optional shut off valve is available as an option – either manual or automatic.

## Typical Coalescing Oil/Water Separator



## Separator Model Specifications - SW & DW

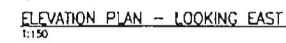
Based on 0.85 SG oil/4.5°C/  
storm water inlet free  
oil concentration 400 mg/L

Based on ULC-S656-14 test criteria  
0.85 SG oil/ 5°C/ storm water inlet free  
oil concentration 2000 mg/L

Model Number COWS- (L)	Nominal Diameter (mm)	Overall Length (mm) SW	Overall Length (mm) DW	Emergency Spill Capacity V <sup>1</sup> (L)	Flow Rate for 15 mg/L (L/minute)	Flow Rate for 10 mg/L (L/minute)	ULC S656 Rated Flow Rate (L/minute)	ULC S656 Rated Free Oil Cap (L)
190 - 5,000	1327	4368	4380	1240	190	130	37	740
380 - 5,000	1327	4368	4380	1240	380	260	74	740
620 - 15,000	1910	6528	6604	8400	620	440	164	1400
830 - 15,000	1910	6528	6604	8400	830	590	219	1400
1670 - 20,000	1910	8426	8465	10900	1670	1170	439	1870
1630 - 30,000	2590	7214	7264	17300	1630	1140	446	2300
2730 - 40,000	2590	9341	9392	22800	2730	1890	744	3040
4900 - 50,000	2590	11259	11328	27800	4900	3400	1339	3720

**ZCL**  
COMPOSITES INC.

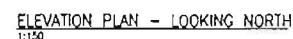
1420 Parsons Road SW • Edmonton • Alberta • Canada • T6X 1M5  
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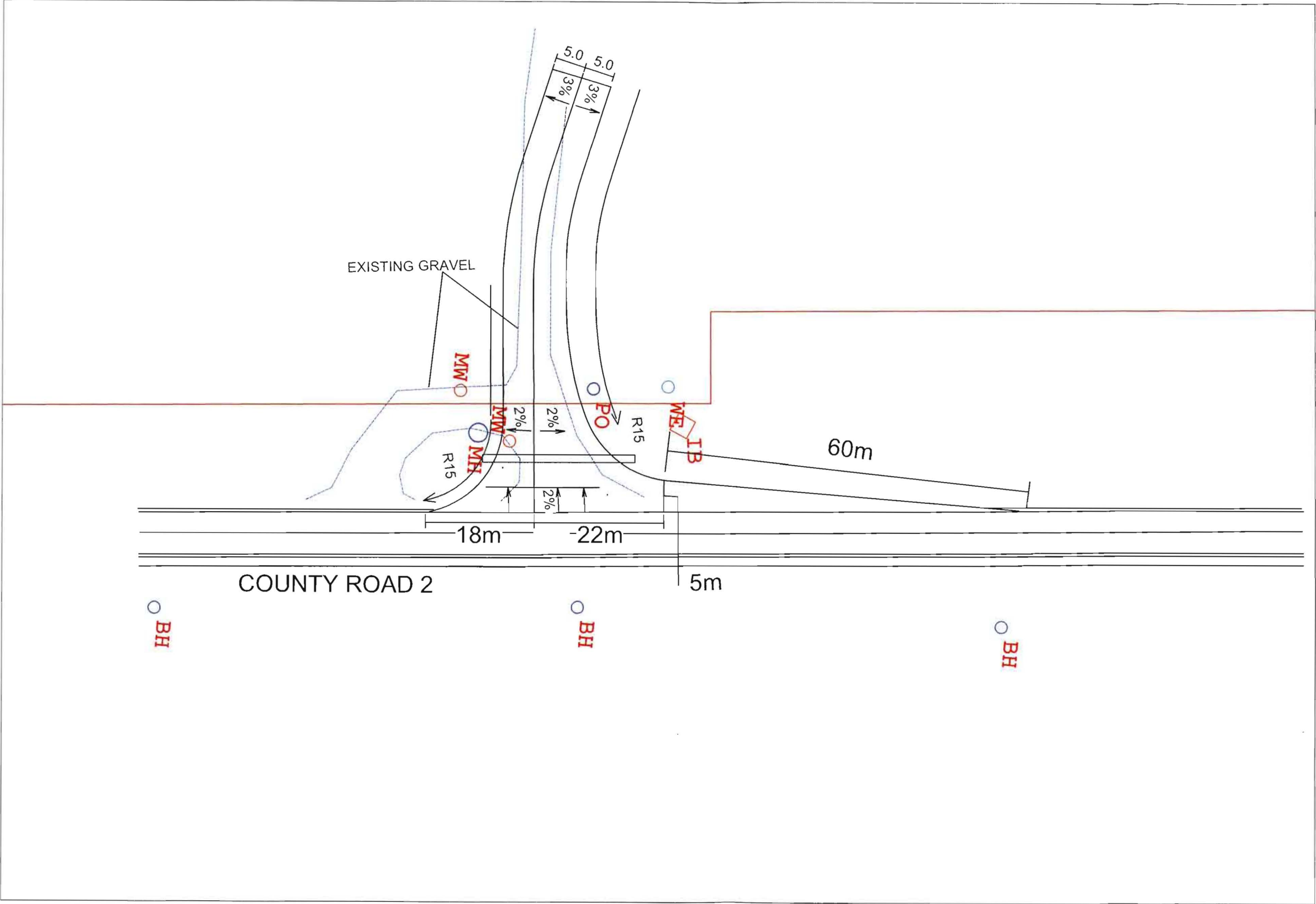
NOTES:

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NOTES:	REFERENCE DRAWING NO.	REFERENCE DRAWING	REV.	REVISION DESCRIPTION	BY	DATE	CHK	APPD	ENGINEER'S STAMP   
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Δ	REVISION	DATE

PROJECT: JOHNSTOWN RAIL YARD		STRUCTURE No.
TITLE: LAYOUT PLAN		
SCALE: 1:500		
DRAWN BY: / DATE: WJM / 15-05-2019		SHEET
CHECKED BY: / DATE:		
DESIGN:		D1

# Greenenergy

August 8 2019

Dear Ms. McKinstry,

As part of our ongoing discussions with Edwadsburgh/Cardinal regarding the development and construction of the Greenenergy Johnstown Terminal, Greenenergy Fuels Canada Inc had committed to provide an overview of the fire suppression infrastructure that will be included as part of the terminal design.

After many discussions with local stakeholders, it was decided that the best option for fire suppression infrastructure would include the addition of two fire hydrants on the property. Appended to this letter is a design of the property which illustrates the location of the two hydrants. The two hydrants are indicated with 'FH' on the drawing:

- First hydrant located at property entrance on County Road 2
- Second hydrant located 1,500 ft inside the property

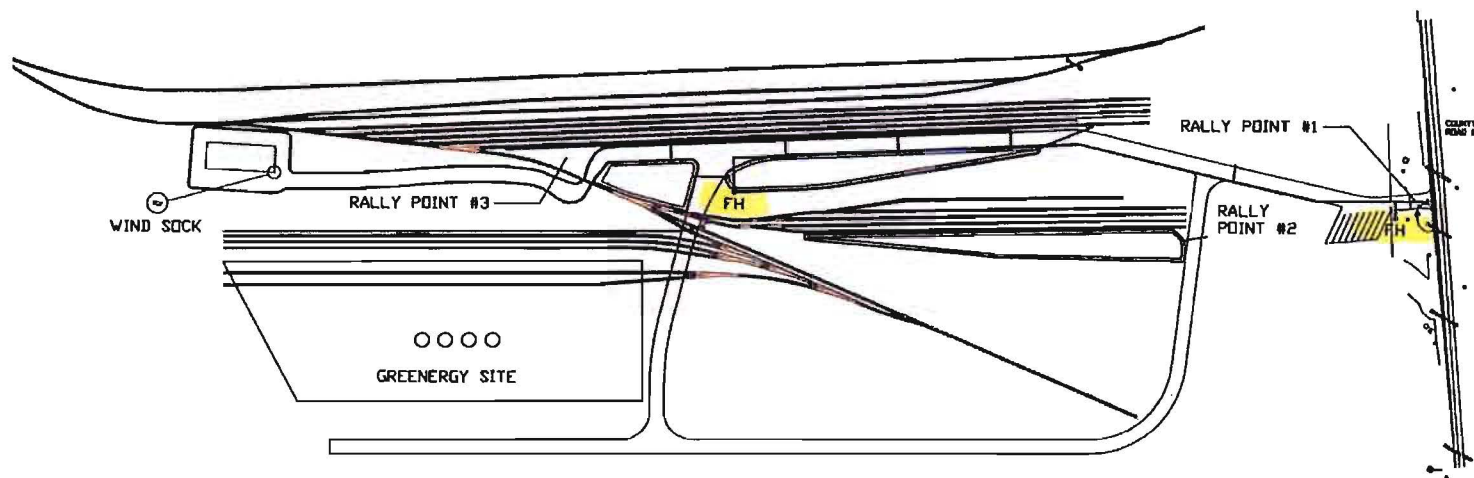
The addition of these two hydrants will provide local responders the necessary water access in the unlikely event of a fire. The technical specifications of the hydrants have also been appended to this letter.

Sincerely,



Zac Scott

Senior VP Operations



11/1/2007  
 11/1/2007  
 11/1/2007

REVISION	DATE

JOHNSTOWN RAIL YARD		
FILED	11/1/2007	11/1/2007
DATE	11/1/2007	11/1/2007
DESIGNED BY	11/1/2007	11/1/2007
CHECKED BY	11/1/2007	11/1/2007
DATE	11/1/2007	11/1/2007

## **CLOW CANADA - M-67 HERITAGE BRIGADIER FIRE HYDRANT SPECIFICATION**

### **TESTING AND DESIGN SPECIFICATIONS (PER AWWA C502 / NSF /ULC & FM)**

1. Hydrant shall be manufactured in accordance with AWWA C502 latest revision
2. Hydrant Has been certified by UL in accordance with the **ANSI/NSF 61 and ANSI/NSF 372** (LEAD CONTENT VERIFICATION OF PRODUCTS INCONTACT WITH POTABLE WATER)
3. Hydrant shall be designed for 250 *PSI* working pressure and tested to 500 *PSI* hydrostatic pressure.
4. Hydrant shall be rated for 250 *PSI*. **FM** working pressure and 200 *PSI*. **ULC** working pressure.
5. Hydrant shall be a compression type, dry barrel design with centre operating stem construction.
6. The O-ring seating surface on the upper stem shall be constructed of stainless steel.
7. Epoxy coating to be applied to interior and exterior of hydrant shoe for corrosion protection.
8. Hydrant shall be manufactured with operating nut and integral thrust collar made of bronze. A Delrin washer bearing shall be located above thrust collar for ease of hydrant operation.
9. Hydrant shall have a lower valve assembly that fully encapsulates the lower operating rod threads. This allows for increased corrosion resistance and ease of disassembly.
10. Intermediate section shall be ductile iron. (AWWA C110 – 08)

### **STANDARD HYDRANT FEATURES**

1. Body style: **Octagon** with **Octagon** nozzle caps
2. Hydrant shall have an internally lubricated bronze operating nut with O-ring seals. Operating nut shall be of the Hydra-lube™ design to ensure self lubrication during operation.
3. Hydrant hose nozzles shall be mechanically locked into place by an external allen screw, and have O-ring seals.
4. Hydrant Lower rod shall be 1-1/4" in sq.
5. Hydrant shall have a main valve opening of 5-1/4".
6. Hydrant shall be a traffic model, complete with safety flanges and stem coupling. Upper body can be rotated 360 degrees to adjust pumper direction.
7. Hydrant shall be manufactured with a lower valve plate that bottoms out in the shoe for maximum opening.
8. Hydrant shall be backed by manufacturer's 12 year limited warranty
9. Hydrant shall be the Clow Canada Brigadier as manufactured by Clow Canada.

**McAvity**

**CLOW**

A division of Canada Pipe Company Ltd.

**CONCORD**



**EDWARDSBURGH CARDINAL**

Phone: 613-658-3055  
Fax: 613-658-3445  
Toll Free: 866-848-9099  
E-mail: [mail@twpec.ca](mailto:mail@twpec.ca)

P.O. Box 129,  
18 Centre St.  
Spencerville, Ontario  
K0E 1X0

November 14, 2019

By Email to [Johannes.Dunn@greenergy.com](mailto:Johannes.Dunn@greenergy.com)

Johannes Dunn, Financial Controller – North America  
Greenergy Fuels Canada Inc.  
107 Germain Street, Suite 300  
Saint John, NB, Canada  
E2L 2E9

Dear Mr. Dunn

**RE: FINANCIAL SECURITY FOR DEVELOPMENT AT 3518 COUNTY ROAD 2  
TOWNSHIP OF EDWARDSBURGH CARDINAL**

Further to our recent correspondence, this letter is to confirm that the Township of Edwardsburgh Cardinal will accept financial security for Greenergy's development at 3518 County Road 2 in the form of a cash bond, in place of the Letter of Credit required under the Site Plan Control Agreement with Shoreline Rail Group Inc.

The amount of the required security is \$116,400 as per Schedule C of the Site Plan Control Agreement.

The municipality also confirms that the funds will be returned after the Township has given the final approval following project completion, which is currently scheduled for last week in November.

Following are the municipality's banking details:

Bank: Royal Bank of Canada  
Institution #: 003  
Transit #: 04782  
Account No.: 119-151-9

Please contact me if you require any additional information.

Yours truly,

Debra McKinstry, Clerk

Cc: Dave Grant, CAO  
Melanie Stubbs, Treasurer  
Zac Scott, Greenergy  
Kirby Tremblay, Greenergy  
Clayton Jones, Shoreline Rail Group Inc.





## Priority Payment

The status for payment 17275M100J31 is: Processed by bank

### Debit account and beneficiary details

UETR: 6bed0ce3-ffb1-4e52-b09f-d327913df5c6  
Pay from: GREENERGY FUELS CANADA INC  
CA CAHBCACA093-134495-001 CAD  
Debit currency: CAD  
Pay to:

### Beneficiary details

Beneficiary name and address: Township of Edwardsburgh Cardinal  
18 Centre Street  
Spencerville  
Ontario, KDE 1X0  
Beneficiary bank: Canada  
ROYAL BANK OF CANADA  
29 BENNETT ST-PO BOX 190  
C/O 302 KING ST W  
SPENCERVILLE

Account number: 1191519  
Bank code: 000304782

### Payment details

Amount: 116,400.00  
Currency: CAD  
Value date: 15 November 2019  
Charges: Sender pays  
Your reference: Cash bond

### Additional details

Information for the beneficiary: Financial Security for Development  
at 3518 County Road 2 Township  
of Edwardsburgh Cardinal  
Intermediary bank: Not provided

Time of report: 15 Nov 2019 15:02:12 GMT

## SCHEDULE "C"

### FINANCIAL REQUIREMENTS

The Owner shall deposit with the Township security, in a form approved by the Township Treasurer, in the amount of 50% of the estimated cost of the fire suppression infrastructure works, as outlined in schedule B7.

Estimated cost of fire suppression infrastructure works: \$ 206,000.<sup>00</sup> + HST (# 232,780)

50% of Estimate to be provided as security: \$ 116,400.<sup>00</sup>

SCHEDULE "D"  
FORM OF LETTER OF CREDIT

The Corporation of the Township of Edwardsburgh/Cardinal  
18 Centre Street, P.O. Box 129  
Spencerville, On  
K0E1X0

RE: Guarantee No.:

Amount \$:

Expiry Date:

Dear Sirs:

At the request of \_\_\_\_\_ (the "Customer") the Bank of \_\_\_\_\_ (the "Bank"), for valuable consideration, the receipt whereof is hereby acknowledged, by this letter of guarantee \_\_\_\_\_ (the "Guarantee") irrevocably and unconditionally guarantees payment to you, the Corporation of the Township of Edwardsburgh/Cardinal (the "Corporation"), of a total amount of \$ \_\_\_\_\_.

This guarantee is issued in connection with the performance by \_\_\_\_\_ of all the terms of a Site Plan Agreement (the "Agreement") dated the \_\_\_\_\_.

A payment under this Guarantee shall be made before the expiry hereof upon your presenting to the Bank at its \_\_\_\_\_ Branch.

- (a) Your written demand for payment in the form described below.
- (b) This Guarantee.
- (c) Either (i) Vouchers paid by the Corporation certified by its Treasurer as having been paid by him on account of the Customer, for works services or materials required to be performed or supplied under the said Agreement, or  
(ii) a letter from the Corporation certifying that the "Customer" is in default in performing or supplying works, services or materials required to be performed or supplied under the said Agreement whether or not the Corporation has itself already performed or supplied the same.

The said demand shall refer to this Guarantee by the above number, shall state the amount demanded and shall certify:

- (a) That the amount is due and payable to you by the Customer, and
- (b) That you have requested payment of the said amount from the Customer and have not received payment, and
- (c) That the amount remains unpaid thirty (30) days after mailing of written demand.

Upon receipt by the Bank at the said Branch of the said demand and the other document(s) referred to above on/or before the Expiry Date, the Bank shall pay to you the amount stated in the said demand to be payable to you by way of the Bank's draft without enquiring whether you have a right to such amount as between yourself and the Customer, provided that such amount, together with other amounts paid to you under this Guarantee, if any, does not exceed in the aggregate the amount of this Guarantee.

The Bank may note on this Guarantee the amount and date of any payment made to you under this Guarantee and shall retain this Guarantee if the aggregate amount of this Guarantee has been paid to you of the Expiry Date has occurred.

This letter of Guarantee is irrevocable until \_\_\_\_\_ but automatically renews from year to year, unless the Bank gives thirty (30) days notice that it does not propose to renew it. This letter of credit may be reduced from time to time if the Corporation certifies to the Bank that part of the works has been completed. The amount by which this letter of credit shall be reduced, shall be one-half (1/2) of the value of the works done and materials supplied as certified in writing by the Corporation.

Yours truly,

(Authorized Signature)

## SCHEDULE "E"

### ADDITIONAL TOWNSHIP CONDITIONS

1. The Owner shall provide revised plans and reports that address the questions of the Township prior to the Agreement being executed.
2. The Owner agrees to implement the recommendations of the reports submitted, and approved as revised, with this application for Site Plan Approval, including:
  - a. Stormwater Management Brief as described in schedule B2;
  - b. Stormwater Management Report as described in schedule B4;
  - c. Fire Suppression Infrastructure Plan as described in schedule B7,
3. The Owner shall be responsible for all approvals from the United Counties of Leeds and Grenville, and subsequent improvements to their satisfaction, regarding improvements that may be required within the County Road 2 right-of-way to service this development.
4. The Owner shall be responsible for any temporary services required for this development, including electrical services.
5. The Owner shall obtain such permits as may be required from Municipal or Provincial authorities including the Ministry of Transportation, Ministry of Environment, Conservation and Parks, the South Nation Conservation, and the United Counties of Leeds & Grenville and all other Federal, Provincial, or regulatory agencies. The Owner shall file copies thereof with the Township. This includes all necessary approvals with regard to the installation of storm sewers, and the provision of sewage treatment facilities where required. The Owner shall also obtain all necessary approvals from the Township regarding the provision and installation of required fire hydrants.
6. The Owner shall provide adequate water supply for firefighting. A report from their consultant, \_\_\_\_\_, shall confirm that the municipal system will have proper capacity to serve this site, and that the design for the site will meet the requirements of the Technical Standards and Safety Authority (TSSA), Ontario Building Code and any other applicable Codes or Regulations and shall be in accordance with the Township's Agreement with the Town of Prescott, barring which the owner shall be responsible for any required amendments to this agreement.
7. The final plans shall show that access routes for firefighting are designed and constructed in accordance with the TSSA and/or Ontario Building Code Act and Regulations. The approved access routes shall be maintained in accordance with the Fire Protection and Prevention Act, 1997. The Owner agrees to provide, maintain, and post signs designating fire lanes. The Owner further agrees to abide by any Township By-law relating to the maintenance and signage of such access routes. The location of any fire hydrants and shall be in accordance with the TSSA and/or Ontario Building Code. The required fire hydrants shall be installed and in service prior to the commencement of any storage or trans-loading of flammable material on the site.
8. Hydrants shall be maintained in operating condition, free of snow and ice accumulations and readily available and unobstructed for use at all times in accordance with the Ontario Fire Code and the requirements of the Township. The Owner acknowledges that no driveway shall be located within 3.0 metres of a fire hydrant. No person shall obstruct the free access to any fire hydrant. Vegetation or other objects shall neither be planted

nor placed within a 1.5 meter radius beside or behind a hydrant without the express written consent of the Township.

9. The Owner shall submit a certificate of insurance in a form satisfactory to the Township. The certificate of insurance must be issued in favor of the Township in an amount not less than five million dollars per occurrence, must contain an endorsement naming the Township as an additional insured and an unconditional thirty days' notice of any material change or cancellation of the policy.
10. The Owner shall contact all utilities, including but not limited to Hydro One, Bell Canada and Union Gas Distribution for service and meter installation details.
11. The Owner acknowledges and agrees that if easement(s) are required to service this development, the Owner shall provide the easement(s).
12. The Township will have no responsibility to install any extension to municipal services which may be required in order for the Owner to comply with this Agreement or with any Provincial or Municipal laws or by-laws. In cases where such an extension of municipal services is required, the Work shall be undertaken by and at the expense of the Owner and construction shall be to the standards established by the Township for the installation of such municipal services. The owner shall provide public liability insurance in a form acceptable to the Township for any Works involving the extension of municipal services and obtain any required approvals and permits from the Township.
13. The Owner shall be responsible to maintain all infrastructure relating to the fire suppression system and storm sewer networks on the property. The Owner shall be required to maintain, clean, and/or repair all infrastructure within the Site.
14. Where the owner is proposing manholes, the maintenance of such manholes is required and it shall be the responsibility of the Owner to perform a regular removal of any trapped material (minimum once per 6 months). All materials arising from any spill should be removed immediately. These facilities are not to be dismantled or removed unless approval has been granted by the Township.
15. The Owner agrees to implement the erosion and sediment control plan as outlined in schedule B4 to provide for the protection of the receiving storm sewer or watercourse during construction activities. This plan to be used during construction is intended to ensure that no sediment and/or associated pollutants are discharged to a receiving water course which could degrade water quality and/or impair fish or other aquatic habitat. The methods used should be regularly maintained to ensure effectiveness of the methods and compliance with Provincial/Federal legislation pertaining to water quality and habitat.
16. The Owner shall require the storm water management calculations to be submitted in writing by a professional engineer to the Township for approval. Upon completion of the Works, a written certification from a professional engineer and as-built plans must be submitted to the Township confirming that the storm water measures have been implemented as per the approved design. The owner shall be responsible for the repair and maintenance of the storm water control facilities.
17. The Owner shall conduct any blasting in accordance with the most recent Ontario Provincial Standard Specifications (OPSS), and must include a pre-blast survey by a qualified consultant. A copy of this survey shall be provided to the Township.



18. The Owner shall maintain all streets within the area on a continuous basis during construction, in order that they are clear of mud, dust, and other material, resulting from vehicles involved in construction, to the satisfaction of the Township. The Owner shall prevent the “flushing” of dirt and debris associated with construction work into any municipal ditch. Upon any default by the Owner to maintain the streets, the Township may, at his/her discretion, arrange for the required cleaning to be performed and the cost incurred by the Township in doing so shall be recovered from the Owner.
19. The Owner shall ensure that the performance of Works required as a result of the Agreement, whether by the Owner or its employees, servants or agents or its contractors or subcontractors, shall be performed so as to not constitute a nuisance or disturbance to abutting or nearby properties or to the owners thereof. The Owner shall comply with and shall ensure that all of its contractors and subcontractors shall comply with any written instructions issued by the Township concerning any such nuisance or disturbance regardless of whether such instructions require positive action or discontinuance of action.
20. CCTV Inspection - The Owner shall be responsible, at his expense, to provide all necessary CCTV inspection for storm sewer works on the Site. If the inspection is not satisfactory to the Township, the Owner shall rectify the works at his sole expense.
21. Video Examination - Video examination of storm sewers, 200 mm or larger in diameter shall be required by the Township, at the Owner's expense, before final release of the Works.
22. Test Results - All necessary and mandatory test results, conditions 20 and 21, must be submitted to the Township for approval prior to receiving a request from the owner to reduce any applicable security deposits.
23. Any portion of the lands which is intended to be used for snow storage shall be shown on the approved Site Plan or as otherwise approved by the Township. The grading and drainage Plan shall not be compromised by the storage of snow. Snow storage areas shall be setback from property lines, foundations, fencing and/or landscaping requirements a minimum of 1.5 metres. Snow storage areas shall not occupy driveways, aisles, required parking spaces or any portion of a road allowance.

SCHEDULE "F"

CONSENT OF MORTGAGEE/CHARGE

IN THE MATTER OF a Site Plan Agreement for the lands described in Schedule "A" attached hereto, the Mortgagee/Chargee, \_\_\_\_\_, under a Mortgage/Charge registered as Instrument Number \_\_\_\_\_, hereby consents to the terms of the attached Site Plan Agreement dated on the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ between \_\_\_\_\_ and the Corporation of the Township of Edwardsburgh/Cardinal and covenants and agrees that in the event that the lands hereinbefore vest in the said Mortgagee/Chargee, the said Mortgagee/Chargee shall be required to comply with the terms herein to the same extent as if it had been the Owner.

IN WITNESS WHEREOF the Mortgagee/Chargee has hereunto affixed its hands and seals this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

\_\_\_\_\_  
WITNESS:

Per: \_\_\_\_\_

OR

## THE LAWYER FORM LETTER

We have been advised by (name of owner) that you will be retained by (him-it-her) to take the necessary steps to complete the registration of the site plan which is referred to above.

The owner (name) has confirmed to the Corporation of the Township of Edwardsburgh/Cardinal that you will certify to the said Township that the rights conferred to it pursuant to the provisions of the said agreement will rank in priority to the interests of any persons or parties which the said owner may have granted or may grant in the future.

The Municipality will not take any further steps in the above matter (issue of permit, etc.) until the aforementioned certification has been received by it.

The Municipality will require the following information to be provided to it at the time that the certification is provided:

- a) a copy of the aforementioned site plan agreement including confirmation of the details of registration;
- b) a copy of the abstract page (legal description) including the details of registration of the said agreement;
- c) (list other required info).

Please confirm to the Township of Edwardsburgh/Cardinal by return mail that you have in fact been retained by (owner) to carry out the aforementioned matters.

Yours very truly,

## ACKNOWLEDGEMENT AND DIRECTION

TO: Samantha Berry  
(Insert lawyer's name)

AND TO: AULT & AULT  
(Insert firm name)

RE: Notice of Site Control Agreement ("the transaction")  
(Insert brief description of transaction)

This will confirm that:

- I/We have reviewed the information set out in this Acknowledgement and Direction and in the documents described below (the "Documents"), and that this information is accurate;
- You, your agent or employee are authorized and directed to sign, deliver, and/or register electronically, on my/our behalf the Documents in the form attached.
- You are hereby authorized and directed to enter into an escrow closing arrangement substantially in the form attached hereto being a copy of the version of the Document Registration Agreement, which appears on the website of the Law Society of Upper Canada as the date of the Agreement of Purchase and sale herein. I/We hereby acknowledge the said Agreement has been reviewed by me/us and that I/We shall be bound by its terms;
- The effect of the Documents has been fully explained to me/us, and I/we understand that I/we are parties to and bound by the terms and provisions of the Documents to the same extent as if I/we had signed them; and
- I/we are in fact the parties named in the Documents and I/we have not misrepresented our identities to you.
- I, \_\_\_\_\_, am the spouse of \_\_\_\_\_, the (Transferor/Chargor), and hereby consent to the transaction described in the Acknowledgment and Direction. I authorize you to indicate my consent on all the Documents for which it is required.

### DESCRIPTION OF ELECTRONIC DOCUMENTS

The Document(s) described in the Acknowledgement and Direction are the document(s) selected below which are attached hereto as "Document in Preparation" and are:

- ☐ A Transfer of the land described above.
- ☐ A Charge of the land described above.
- ☒ Other documents set out in Schedule "B" attached hereto.

Dated at Spencerville, ON, this 13 day of December, 2019.

### WITNESS

(As to all signatures, if required)

[Signature]

THE CORPORATION OF THE TOWNSHIP OF  
EDWARDSEURCH/CARDINAL

[Signature]  
PATRICK SAYEAN - MAYOR

[Signature]  
DEBRA MCKINSTRY - CLERK

We have authority to bind the Corporation

This document has not been submitted and may be incomplete.

**Properties**

*PIN* 68155 - 0792 LT  
*Description* PT LT 35 CON 1 EDWARDSBURGH PTS 1, 7 & 8, 15R9747;  
EDWARDSBURGH/CARDINAL  
*Address* 3518 COUNTY ROAD 2  
PRESCOTT

**Consideration**

*Consideration* \$0.00

**Applicant(s)**

The notice is based on or affects a valid and existing estate, right, interest or equity in land

*Name* THE CORPORATION OF THE TOWNSHIP OF EDWARDSBURGH/CARDINAL  
Acting as a company  
*Address for Service* 18 Centre Street, Spencerville, Ontario, K0E 1X0  
This document is not authorized under Power of Attorney by this party.  
This document is being authorized by a municipal corporation Patrick Sayeau, Mayor and Debra McKinstry, CAO/Clerk.

**Statements**

This notice is pursuant to Section 71 of the Land Titles Act.  
This notice is for an indeterminate period  
Schedule: See Schedules

Properties

PIN68155 - 0792    LT

DescriptionPT LT 35 CON 1 EDWARDSBURGH PTS 1, 7 & 8, 15R9747;  
EDWARDSBURGH/CARDINAL

Address3518 COUNTY ROAD 2  
PRESCOTT

Consideration

Consideration\$0.00

Applicant(s)

The notice is based on or affects a valid and existing estate, right, interest or equity in land

NameTHE CORPORATION OF THE TOWNSHIP OF EDWARDSBURGH/CARDINAL

Address for Service18 Centre Street, Spencerville, Ontario,  
K0E 1X0

This document is not authorized under Power of Attorney by this party.

This document is being authorized by a municipal corporation Patrick Sayeau, Mayor and Debra McKinstry, CAO/Clerk.

Statements

This notice is pursuant to Section 71 of the Land Titles Act.

This notice is for an indeterminate period

Schedule: See Schedules

Signed By

Amanda Jayne Spink Pietersma

Box 428, 522 St. Lawrence St.  
Winchester  
K0C 2K0

acting for  
Applicant(s)

Signed2019 12 16

Tel613-774-2670

Fax613-774-2266

I have the authority to sign and register the document on behalf of the Applicant(s).

Submitted By

AULT & AULT

Box 428, 522 St. Lawrence St.  
Winchester  
K0C 2K0

2019 12 16

Tel613-774-2670

Fax613-774-2266

Fees/Taxes/Payment

Statutory Registration Fee\$65.05

Total Paid\$65.05

File Number

Applicant Client File Number :1369-372