TOWN OF FORT FRANCES

Planning & Development Executive Committee

AGENDA - July 4, 2017 at 8:00 AM

MEETING - Civic Centre - Committee Room

			Page
1.	**Call to Order** Session #30		
2.	**Disclosure of pecuniary interest and the general nature thereof**		
3.	**Approval of Previous Committee Minutes**		
	3.1	Approval of June 19th, 2017 meeting minutes.	2 - 3
4.	**Non-agenda items identified to be considered later in this meeting, both in-camera and in open meeting.**		
5.	**In-Camera**		
6.	**Items Referred from Council**		
7.	**New Business**		
	7.1	MNR Sign Install Request at Sorting Gap Marina.	4 - 8
	7.2	Phase 4 - Wahkaihganun Futures Corporation Site Plan Amendment	9 - 26
	7.3	RRDSSAB 8-Plex Apartment Building - Site Plan Control Agreement	27 - 52
	7.4	Sovereign Asset Management - 850 King's Hwy (Great Canadian Oil Change) - Site Plan Control Agreement	53 - 76
8.	**Outstanding Items**		
9.	**Information**		
10.	**Non-agenda Items**		
11.	**Adjourn / Next Meeting Date** Tuesday August 8th, 2017.		

TOWN OF FORT FRANCES

MINUTES SESSION NO. #29 June 19, 2017

The meeting of Planning & Development Executive Committee of the Town of Fort Frances was held in the Civic Centre - Committee Room on June 19, 2017 from 8:00 a.m. to 9:20 a.m.

PRESENT: D. Kitowski, Chair, J. Caul, Councillor, J. Albanese, Councillor.

ALSO PRESENT: T. Dennis, CBP/Planner, P. Briere, Secretary.

1. Call to Order - 0800am
Session #29

2. Disclosure of pecuniary interest and the general nature thereof
None.

3. Approval of Previous Committee Minutes

3.1 Approval of May 15th, 2017 meeting minutes.
- Approved as presented.

4. Non-agenda items identified to be considered later in this meeting, both in-camera and in open meeting.
Property Standards Questions - Item added as 10.1.

5. In-Camera

5.1 Property Standards Matter.
- Matter and some ideas discussed on this item. The Planning& Development Executive Committee is recommending to refer this matter to the next scheduled meeting set for Tuesday July 4th, 2017. This is to ensure that all members of the Committee and staff are available to attend.

Caul-Albanese: THAT the Planning and Development Executive Committee now meet in camera in order to address a matter pertaining to: litigation or potential litigation, including matters before administrative tribunals, affecting the municipality or local board; more specifically item 5.1 - Property Standards Matter.

CARRIED

6. Items Referred from Council
None.

7. New Business

7.1 Deeming.
- An overview of the report was presented to the Committee. The Planning & Development Executive Committee is recommending to approve the report as presented.

8. Outstanding Items

8.1 Residential Property Review and Future Residential Development Planning.
- A lengthy discussion was had on this item and overview of the recommendations provided from the other Executive Committees was given. The Planning & Development Executive Committee is recommending to approve the recommendations as presented.

8.2 Draft Fence By-Law.

- An overview of the history of this item was discussed and than a review of the changes that occurred were provided by staff. The Planning & Development Executive Committee is recommending to approve the report and draft by-law as presented.

9. Information

None.

10. Non-agenda Items

10.1 Property Standards Matter.

- A discussion was had in regards to a letter that was received by Mayor & Council in regards to the condition of a property on Nelson Street. An update as to the status of this was provided to the Committee.

11. Adjourn / Next Meeting Date - 0920am

Tuesday July 4th, 2017

_____

Executive Committee Chair

_____

Secretary, Planning & Development Executive Committee

Date: July 4th, 2017

Report To: Planning & Development Executive Committee

From: Patrick Briere, By-Law Enforcement Officer

Re: Request to Erect a Sign at the Sorting Gap Marina.

On June 22, 2017, Administration received a request (attached for your reference) from Mr. TJ Maedel, MNR to erect a sign describing the Rainy Lake Island Conservation Reserve at the Sorting Gap Marina. The sign's proposed location is on the North side of the parking lot near the Resolute FP Weigh Scales, adjacent to the existing large Fort Frances Canadian Bass Championship and Rainy Lake Maps. The sign's dimensions are to be 4' x 8' with the Ministry being responsible for the installation and maintenance of the sign. The purpose of this sign is to provide locals and tourists with information in regards to the Rainy Lake Conservation, as well as a map of the protected area.

With this stated, after review of the request and receiving input from the Operations & Facilities Executive Committee, we are recommending that the Planning & Development Executive Committee approve the request and grant permission to allow the MNR to install the sign in the proposed location, subject to the conditions stipulated in the Town of Fort Frances Sign By-Law and after obtaining the proper utility locates.

Respectfully submitted

Patrick Briere
By-Law Enforcement Officer

July 5, 2017

Report To: Mayor and Council

From: Operations and Facilities Executive Committee

RE: Request to Erect a Sign at the Sorting Gap Marina

On June 22, 2017 Administration received a request, attached, from Mr. TJ Maedel with the Ministry of Natural Resources and Forestry to erect a sign describing the Rainy Lake Island Conservation Reserve at the Sorting Gap Marina on the north side of the parking lot near the Resolute weigh scales, adjacent to the existing large Fort Frances Canadian Bass Championship and Rainy Lake maps. The sign is proposed to be 4' x 8' in size with the Ministry being responsible for installation.

The sign provides locals and tourists information on the Rainy Lake Island conservation, its protection as well as a map of the area protected. Attached to this report is some provided pictures of the sign, which can be seen at other landings around Rainy Lake. It is the recommendation of the Operations and Facilities Executive Committee that permission be granted to install the sign, subject to the conditions stipulated in the Town of Fort Frances Sign By-Law and after obtaining proper utility locates.

Respectfully Submitted

Paul Ryan
Chair
Operations and Facilities Executive Committee

2927JulyMNRFSignRequest

Travis Rob

From: Lisa Slomke
Sent: June-26-17 3:20 PM
To: Patrick Briere; Arlene Byrnes; Travis Rob
Cc: Jason Kabel
Subject: FW: Rainy Lake Island Conservation Reserve Sign - Sorting Gap Marina
Attachments: IMG_2645.JPG; IMG_2646.JPG; IMG_2648.JPG

Good Afternoon:

Please place the attached on the next PDEC agenda and obtain input from OFEC. In light of there being only one meeting in July and one in August, please place on agenda without being referred by Council (which is standard practice).

Thanks.
Lisa

From: Jason Kabel
Sent: Friday, June 23, 2017 12:00 PM
To: Lisa Slomke <lslomke@fortfrances.ca>
Cc: Kathy Lawson <klawson@fortfrances.ca>
Subject: FW: Rainy Lake Island Conservation Reserve Sign - Sorting Gap Marina

Hi Lisa,

The MNR has made a request below that I think should be forwarded to Council for consideration please.

Thanks,
Jason

Jason Kabel, B.Sc., B.Ed.
Community Services Division Manager
740 Scott Street Fort Frances, ON P9A 1H8
Tel: 807-274-4561 ext. 1719 Fax: 807-274-3799
jkabel@fort-frances.com | www.fort-frances.com

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From: Maedel, Thomas (MNRF) [mailto:Thomas.Maedel@ontario.ca]
Sent: Thursday, June 22, 2017 2:54 PM
To: Jason Kabel <jkabel@fortfrances.ca>
Subject: RE: Rainy Lake Island Conservation Reserve Sign - Sorting Gap Marina

Hi Jason,

As discussed yesterday please accept this email as a request to put up a sign located at the Sorting Gap Marina. We would like to locate the sign to the west of the Fort Frances Sign in front of the scaling yard. If this location does not work or after reviewing the attached photos of the sign, you believe there is another location that would work better for the Town please don't hesitate to let me know and we can discuss.

Thanks,

TJ Maedel

Resource/Bear Management Technician
Ministry of Natural Resources and Forestry
Fort Frances District
922 Scott Street, Fort Frances, ON, P9A1J4
Phone:(807) 274-8622
Fax:(807) 274-4438

ion Reserve
Ontario
Kenora
Dryden
Lake Of The Woods
Minnesota
Fort Frances
The islands contain representative landform and vegetation types and have significant scenic and recreational attributes.
This protected area is regulated under the Provincial Parks and Conservation Reserve Act. For more information or to report concerns to the Ministry of Natural Resources over activities occurring in this protected area please contact the District Manager at 922 Scott St. Fort Frances, ON P9A 1J4.

Rainy Lake Islands Conservation Reserve
Ontario
Rainy Lake
Minnesota
Fort Frances
The islands contain representative landform and vegetation types and have significant scenic and recreational attributes.
This protected area is regulated under the Provincial Parks and Conservation Reserve Act. For more information or to report concerns to the Ministry of Natural Resources over activities occurring in this protected area please contact the District Manager at 922 Scott St. Fort Frances, ON P9A 1J4.

FORTFRANCES
BOUNDLESS

Date: June 29, 2017

Report To: Planning and Development Executive Committee

From: Tyson Dennis, Chief Building Official/Municipal Planner

Re: **Phase 4 Wahkaihganun Futures Corporation Site Plan Amendment**

The property known as 237 8th St. W. was created in 2010 (Consent File B2/2010) in contemplation of a staged development of multi-residential dwellings by Fort Frances Native Urban Wahkaihganun Corporation (WFC).

By-Law #51/11 invoked site plan control on the project and an agreement (Agreement) entered into to authorize a two story 10-unit complex as Phase 1 with provisions for future buildings over the next five years.

Phase 2, as well as Phase 3 were two, 6-unit apartment complexes which were completed in 2016. The Completion of the two complexes brought other changes to the properties such as fencing the property perimeters of adjacent neighbors, a complete deigns of storm water management system, and proper fire lane access.

This final Phase 4 of this WFC multi-residential development, will be for another 6-plex apartment building. The amended Site Plan Control Agreement, will maintain the completion of site grading, parking lot covering according to the Town's Zoning By-Law, sewer access holes and parking lot lighting.

Hatch Engineering and AG Engineering have provided storm water and electrical drawings for the completion of the project. Saulteaux Consulting and Engineering have provided structural drawings for the final Phase 4 of this development.

It is the recommendation of the Planning and Development department to approve the final Phase 4 of the Wahkaihganun Futures Corporation residential development Site Plan Control Agreement as submitted.

Originally Signed

Tyson Dennis
Chief Building Official and Municipal Planner

HATCH

301-200 S Syndicate Ave
Thunder Bay, Ontario, Canada P7E 1C9
Tel: +1 (807) 623-3449 Fax: +1 (807) 623-5925 www.hatch.com

November 1, 2016

H-148468-GC
Native Housing Corporation

Town of Fort Frances
320 Portage Avenue
Fort Frances ON, P9A 3P9

Attention: Travis Rob

Subject: Wahkaihganun Futures
Native Housing Corporation
8th Ave Development Fort Frances
Storm Water Management, Lot Grading and Drainage – Drawing A1-348468-G15 Rev. 1

On Monday October 31st, 2016 our local inspector Mr. Jim Squissato visited the above referenced site and confirmed that the following items as noted in our letter dated October 26th, 2016 were satisfactorily attended to:

Item #1

Action Required: Extend swale to the limits shown on the drawing.
Conclusion: The cut off swale has been extended.

Item #2

Action Required: Relocate or partially relocate the fence in order to accommodate the construction of the berm and to tie into the existing berm along the east side of the site.
Conclusion: The fence has been partially relocated and the berm extended to the east side of the site.

Item #3

Action Required: Construct Pond to the elevations and dimensions as shown on the drawing.
Conclusion: The pond between building #2 and Eighth Street has been constructed. The depth of excavation, width, and length, need to be confirmed and if found not to be in accordance with the plan drawing then remedial action should be taken next year.

With the above Items #1 to #3 now completed to a rough grade condition and with the site remaining unpaved until the summer of 2017 it is our opinion that in the short term the site will perform adequately with respect to grading, drainage, and storm water management.

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The remaining Items #4 and #5 which cover fine grading, topsoil placement, sodding, seeding, widening of the access road, clearing of trees, grading of access road and parking areas, can be completed in the 2017 construction season and prior to the deadline for paving the site which we understand is October 31st, 2017. Item #6 "ponding of water" should also be completed to the satisfaction of the Native Housing Corporation.

We have attached photos of the relevant work and trust that this report is adequate to resolve the issue of granting occupancy permits for the remaining units in Building #3.

Should you have any questions with respect to the above matter please do not hesitate to contact one of the undersigned.

Sincerely,

Robert Marasco C.E.T.
Principal Project Manager
Hatch Corporation

Gerald Buckrell P. Eng
Project Engineer
Hatch Corporation

RM:lw

Cc Neil Kabel, Wahkaihganun Futures
John Degagne, Degagne Construction
Gerald Buckrell, Hatch Corporation

Encl.

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AGREEMENT

THIS AGREEMENT dated the day of June, 2017.

B E T W E E N :

Wahkaihganun Futures Corporation (collectively, the "Owner")

and

The Corporation of the Town of Fort Frances (the "Town")

WHEREAS:

A. The Owner and the Town (herein collectively the "Parties", individually a "Party") entered into a Site Plan Control Agreement (the "SPA") dated June 30, 2011 relating to the construction of a 10 unit residential apartment complex (herein sometimes referred to as the "Phase 1 Development") in and on the Lands (as "Lands" is defined in paragraph A. of the SPA);

B. Paragraph 5(a) of Schedule 2 to the SPA reads, in part, as follows:

> ... the Owner's development of the Lands [as "Lands" is defined in paragraph A. of the SPA] in accordance with the Plans and Drawings is part of a phased development plan, and that the Owner anticipates further development within the next 5 years. The Owner acknowledges that each development phase shall be subject to the approval of the Town prior to the issuance of any building permit for any phase, and that any subsequent development shall require, without limitation, submission to the Town of fresh and further plans and drawings relating to such subsequent development, a further site plan agreement in respect thereof, and such further and other things as the Town may require therefor;

C. The Owner:

(i) by application dated June 27, 2013, made application to construct, in and on the lands (the "Phase 2 Property") legally described in **Schedule 1** attached to and forming part of this Agreement, a further 6 unit multi-unit residential complex (herein sometimes referred to as the "Phase 2 Development"); and

(ii) by application dated September 3, 2015, made application to construct, in and on the lands (the "Phase 3 Property") legally described in **Schedule 1**, an additional 6 unit multi-unit residential complex (herein sometimes referred to as the "Phase 3 Development"); and

(iii) by application dated May 29, 2017, made application to construct, in and on the lands (the "Phase 4 Property") legally described in **Schedule 1**, an additional 6 unit multi-unit residential complex (herein sometimes referred to as the "Phase 4 Development"); and

(iv)

D. The Owner wishes to amend the SPA in light of, and to include and provide for, the Phase 2, Phase 3 and Phase 4 Developments.

NOW THEREFORE THIS AGREEMENT WITNESSETH THAT in consideration of the mutual covenants hereinafter expressed and other good and valuable consideration, the receipt of which is hereby acknowledged, the Parties agree as follows:

1. The preamble to this Agreement is incorporated into and forms an integral part of this Agreement.

2. The Parties acknowledge and agree that:

(a) plans and drawings and accompanying materials (collectively, the "Phase 2, 3 and 4 Plans and Drawings") of and relating to the Phase 2 and Phase 3 Developments are listed in **Schedule 2** attached to and forming part of this Agreement, and have been provided to and filed with the Town at the offices of the Town prior to the execution of this Agreement; and

(b) such Phase 2 and Phase 3 Plans and Drawings shall be and be deemed to be added into and listed in Schedule 1 attached to and forming part of the SPA, and such Schedule 1 (so amended to include such Phase 2, Phase 3 and Phase 4 Plans and Drawings) shall be and be deemed to be the Schedule 1 attached to and forming part of the SPA;

(c) the Phase 2, Phase 3 and Phase 4 Plans and Drawings shall be and be deemed to be included in and within the definition of Plans and Drawings in the SPA for all purposes of the SPA, and the SPA shall be and be deemed to be amended to reflect same and reference the Phase 2 and Phase 3 Developments accordingly;

(d) the definition of "Lands" as set out in paragraph A. of the preamble to the SPA shall be and is hereby deemed expanded so as to include and be deemed to include (in addition to the Lands defined in the SPA) any and all lands comprising the Phase 2, Phase 3 and Phase 4 Properties, and any reference to Lands in this Agreement (other than as referenced in paragraphs A. and B. of the preamble to this Agreement) shall be and be deemed to include the Phase 2 and Phase 3 Properties;

(e) the definition of "Works" as set out in paragraph 3(b) of the SPA shall be and is hereby deemed expanded so as to include and be deemed to include (in addition to any items or matters or things to be done as provided for in the SPA) any and/or all buildings, structures, works, services, facilities, and/or matters and/or otherwise (and whether internal or external to the Phase 2, 3 or 4 Properties), shown on, or specified in or on, or contemplated or required by or for, the Phase 2, 3 and 4 Plans and Drawings and/or the Phase 2 Phase 3 and Phase 4 Developments;

(f) without limiting the generality of the foregoing, and in addition thereto, the Owner shall, on or before an occupancy permit being issued by the Town permitting occupancy of any part of the Phase 3 Development and occupancy of the Phase 3

Development or any part thereof being permitted, at Owner's sole cost and expense:

(i) surface/surface treat with concrete, asphalt, double float tar and chip surface, or a combination thereof, in accordance with the Town's Zoning Bylaw and other requirements and in a good and workmanlike manner and in a manner and to the satisfaction of the Town, all parking lots, approaches, loading, walkways, and areas in connection therewith relating to or in respect of the Phase 1, Phase 2, Phase 3 and Phase 4 Developments; and

(ii) design and provide lighting, light standards, fixtures, and illumination devices to adequately illuminate the Phase 2, Phase 3 and Phase 4 Properties and otherwise related thereto but also to prevent the spread of light onto other properties, all to the satisfaction of the Town; and

(iii) clean and grade, in a good and workmanlike manner and to the satisfaction of the Town, the ditch(es) along Eighth Street adjacent to, abutting, or in the immediate vicinity of the Phase 1, 2, 3 and 4 Properties; and

(iv) sod/seed, in a good and workmanlike manner and to the satisfaction of the Town, and so as to prevent the transmission and run-off of silt and soil into the Town's drainage and water systems, the storm water retention ponds in, on, or relating to, the Phase 1, 2, 3 and 4 Properties;

(v) provide, in addition to the Plans and Drawings, such other plans, specifications, and drawings as the Town may require; and

(vi) the Owner shall construct and install all Works in a good and workmanlike manner and to the satisfaction of the Town.

3. The Owner shall and does hereby agree that the SPA and this Agreement, together with any Schedules thereto, shall, forthwith upon request of the Town, be registered against title to the Lands. The covenants, agreements, conditions and undertakings herein contained on the part of the Owner shall run with the Lands and shall be binding upon the Owner, its successors and assigns as Owner and occupiers from time to time and this covenant shall be to the benefit of the Town and its lands and highways appurtenant and adjacent to the Lands. The Owner further covenants and agrees, notwithstanding anything contained in the SPA, to pay to the Town the legal and other costs and expenses of the preparation and registration of this Agreement or otherwise related thereto, as well as any further costs incurred by the Town as a result of the preparation, registration, or otherwise of any other documents pertaining to this Agreement.

4. The Owner covenants and agrees, at its own cost and expense and if so requested by the Town, to obtain and register such documentation (collectively, the "Subordination and Postponement Documentation") from its mortgagees, lessees, and/or encumbrancers and otherwise interested therein or with respect thereto (collectively, "Encumbrancers") as may be deemed necessary by the Town to postpone and subordinate their interest in the Lands in order to ensure that this Agreement shall take effect and have priority as if it had been executed and registered prior to the execution and registration of the document or documents giving to the Encumbrancers their interest in the Lands. The Subordination and Postponement Documentation shall, if so requested by the Town, be registered (at the sole cost and expense of the Owner), on title to the Lands immediately after the registration of this Agreement.

5. The Owner acknowledges that the Town, in addition to any other remedy it may have at law or equity, shall also be entitled to enforce this Agreement in accordance with and under the *Municipal Act*, 2001, S.O. 2001, c. 25, as amended, including, without limitation, s.446 thereof.

6. Nothing in this Agreement shall relieve the Owner from compliance with all applicable municipal by-laws, laws, regulations, notices or other policies or laws and/or regulations established by any other governmental body that may have jurisdiction of or over the Lands or otherwise.

7. (a) Any part numbers and headings, subheadings and section, subsection, clause and paragraph numbers are inserted for convenience of reference only and shall not affect the construction or interpretation of this Agreement.

(b) This Agreement shall be construed with all changes in number and gender as may be required by the context.

(c) Every provision of this Agreement by which the Owner is obligated in any way shall be deemed to include the words "at the expense of the Owner" unless the context otherwise requires, including the payment of any applicable taxes (including, without limitation, HST).

(d) References herein to any statute or any provision thereof include such statute or provision thereof as amended, revised, re-enacted and/or consolidated from time to time and any successor statute thereto.

(e) All obligations herein contained, although not expressed to be covenants, shall be deemed to be covenants.

(f) Whenever a statement or provision in this Agreement is followed by words denoting inclusion or example and then a list of or reference to specific items, such list or reference shall not be read so as to limit the generality of that statement or provision, even if words such as "without limiting the generality of the foregoing" do not precede such list or reference.

(g) The Owner and the Town agree that all covenants and conditions contained in this Agreement shall be severable, and that should any covenant or condition in this Agreement be declared invalid or unenforceable by a court of competent

jurisdiction, the remaining covenants and conditions and the remainder of the Agreement shall remain valid and not terminate thereby.

(h) Any rule of construction that a document is to be construed more strictly against the Party who itself, or through its agent, drafted such document, shall not apply to this Agreement as it is agreed that the Parties, directly or through their agents, have participated in the preparation of this Agreement.

8. Neither this Agreement nor any interest therein nor any rights under it shall be assigned or otherwise transferred in whole or in part without the prior consent in writing of the Town.

9. If the Owner hereunder is constituted by or of more than one Person, their obligations hereunder shall be joint and several.

10. The Owner shall indemnify and save harmless the Town for and against all actions, causes of action, claims, suits, and demands whatsoever which may or do arise directly or indirectly by reason of this Agreement, the Phase 2 and Phase 3 Developments, and/or the Owner undertaking the Phase 2, Phase 3 and Phase 4 Developments.

11. The Owner agrees, at its sole cost and expense, to do such further and other things and sign any further documents necessary or desirable to give effect to this Agreement.

12. The failure of the Town at any time to require performance by the Owner of any obligation under this Agreement shall in no way affect its right thereafter to enforce such obligation, nor shall the waiver by the Town of the performance of any obligation hereunder be taken or be held to be a waiver of the performance of the same or any other obligation hereunder at any later time. The Town shall specifically retain its rights at law and/or otherwise to enforce this Agreement.

13. Time shall be of the essence of this Agreement. Any time limits specified in this Agreement may be extended with the consent in writing of both the Owner and the Town, but no such extension of time shall operate or be deemed to operate as an extension of any other time limit, and time shall be deemed to remain of the essence of this Agreement notwithstanding any extension of any time limit.

14. The Owner covenants and agrees not to call into question or challenge, directly or indirectly, in any proceeding or action in court, or before any administrative tribunal, the Party's right to enter into and enforce this Agreement. The law of contract applies to this Agreement and the Parties are entitled to all remedies arising from it, notwithstanding any provision in the *Planning Act*, R.S.O. 1990, c. P.13, as amended interpreted to the contrary. The Parties agrees that adequate consideration has flowed from each Party to the other and that they are not severable. This provision may be pleaded by either Party in any action or proceeding as an estoppel of any denial of such right.

15. This Agreement shall be interpreted under and be governed by the laws of the Province of Ontario.

16. The Owner understands and agrees that this Agreement and any materials or information provided to the Town may be subject to disclosure under the *Municipal Freedom of Information and Protection of Privacy Act* or as otherwise required by law.

17. The Parties acknowledge and confirm that the SPA is and remains in full force and effect, subject to as set out herein and except as may be amended by this Agreement.

18. Any notice required or permitted to be given hereunder shall be in writing and shall be effectively given if (a) delivered personally, (b) sent by prepaid courier service or mail,

or (c) sent prepaid by facsimile or other similar means of electronic communication and confirmed on the same or following day by prepaid mail, addressed, in the case of notice to the Owner, if addressed to it as follows:

Wahkaihganun Futures Corporation P.O.
Box 393
Fort Frances, Ontario
P9A 3M7

Facsimile: (807) 274-7968

and in the case of notice to the Town, if addressed to it as follows:

The Corporation of the Town of Fort Frances 320
Portage Ave.
Fort Frances, Ontario
P9A 3M5
Attention: Clerk
Facsimile: (807) 274-8479

and in all cases so delivered personally or by courier or so sent by means of electronic communication, so confirmed. Any notice so given is deemed conclusively to have been given and received when so personally delivered or sent by facsimile or other electronic communication, or on the second day following the sending thereof by private courier or mail. Any Party hereto or others mentioned above may change any particulars of its address for notice by notice to the others in the manner aforesaid.

19. This Agreement may be executed and/or amended by facsimile and/or electronic transmission, and any such execution, amendments, and/or signatures and/or initials, or otherwise done by or via facsimile and/or email transmission shall be good and valid as if original.

20. This Agreement may be executed in any number of counterparts and all of these counterparts shall for all purposes constitute one agreement, binding on the Parties, notwithstanding that all Parties are not signatory to the same counterpart.

21. This Agreement and everything herein contained shall ensure to the benefit of and be binding upon the parties hereto and their successors and assigns.

IN WITNESS WHEREOF the Parties have executed this Agreement under seal.

SIGNED, SEALED AND DELIVERED

Wahkaihganun Futures Corporation

Per

_____
Name:
Title:

Per

_____
Name:
Title:

I/we have authority to bind the Corporation

The Corporation of the Town of Fort Frances

Per _____
Name: R. Avis
Title: Mayor

Per

_____
Name: E. Slomke Title: Clerk

I/we have authority to bind the Town

Schedule 1

Legal Description of the Phase 2, Phase 3 Phase 4 Properties

The legal Description of the Phase 2, Phase 3 and Phase 4 Properties is:

1. Firstly; Part of Lots 2 & 3, Plan SM138 McIrvine Part 3, Plan 48R4369; Surface Rights Only Secondly; Part Lots 1 &2, Plan SM138 McIrvine Part 3, Plan 48R-4286 Surface Rights Only; Town of Fort Frances [PIN 56019-1125]; and

2. Part Lt 3, Pl SM138 McIrvine, Surface Rights Only Des Pt 6, Pl 48R-4456; Town of Fort Frances [PIN 56019-1133] ; and

3. Part Lt 4, Pl SM138 McIrvine, Pt 5 48R-4456; Town of Fort Frances [PIN 56019-1135]; and

4. Part Lt 4, Pl SM138 McIrvine, Pts 3 & 4 48R-4456; Town of Fort Frances [PIN 560191136].

Schedule 2

List of Phase 2, 3 and 4 Plans and Drawings

5. Site Plan and Drainage Plan, Hatch Engineering Dated June 15, 2017, Plan # A1-348468-G16

6.. General Notes and Project Plans Seaulteaux Consulting and Engineering Dated May 11, 2017, Plan Project # 17-022

7. Site Plan, Revision 4, date 06/10/15, Sheet No. SP.

FORTFRANCES
BOUNDLESS

Date: June 29, 2017

Report To: Planning and Development Executive Committee

From: Tyson Dennis, Chief Building Official/Municipal Planner

Re: **Rainy River District Social Services Administrative Board 8-Plex Apartment Building Site Plan Control Agreement**

Planning and Development Executive Committee members will recall on June 26, 2017, Council passed the approval of deeming for 1300 Fifth Street and 1301 Elizabeth Street. This would allow the proposed building of an 8-Plex on the property of 1301 Elizabeth Street.

The application for Site Plan Control was submitted to the Planning and Development department April 27, 2017. The applicant and the Planning department have been working with True Grit Engineering to proposed and complete a Site Plan Control Agreement.

I have attached the application, site plan of the site and the report from True Grit Engineering to this report. The report from True Grit describes the action that will be taken in regard to storm water management. The Operations and Facility manager, Travis Rob, has sign off on the report for storm water. The fire department has gone over the plan and is satisfied with the installation of new water hydrants and sprinkler system to the development. It has been added in the Site Plan Control Agreement, section 3.25 of the Zoning By-Law, a fence be built in height of six feet around the adjacent properties. The fence will be a buffer strip to all residential properties that abut to RRDSSAB property. As a condition for Site Plan Control, the Town may collect a proponent to satisfy conditions of this Site Plan Control Agreement. All legal costs will be covered by RRDSSAB.

It is the recommendation of the Planning and Development department to issue a building permit for the proposed 8-Plex apartment building located at 1301 Elizabeth Street and enter into agreement with Rainy River District Social Services Administrative Board with a Site Plan Control Agreement with the above stated conditions. These conditions will be entered into an agreement to be registered on title, once approved at the next Council Meeting.

Originally Signed

Tyson Dennis
Chief Building Official and Municipal Planner

TOWN OF FORT FRANCES

FORTFRANCES BOUNDLESS

Planning and Development Division
320 Portage Avenue
Fort Frances, ON P9A 3P9
807.274.5323 ext. 275

APPLICATION FOR SITE PLAN CONTROL APPROVAL

Section 41 of the Planning Act, R.S.O., 1990 (as amended)

Notice of Public Record: All information and materials required in support of your application shall be made available to the public, as indicated by Section 1.0.1 of The Planning Act, R.S.O. 1990, C.P.13.

Municipal Freedom of Information and Protection of Personal Privacy: Personal information on this form is collected under the Authority of The Planning Act and will be used to process this application.

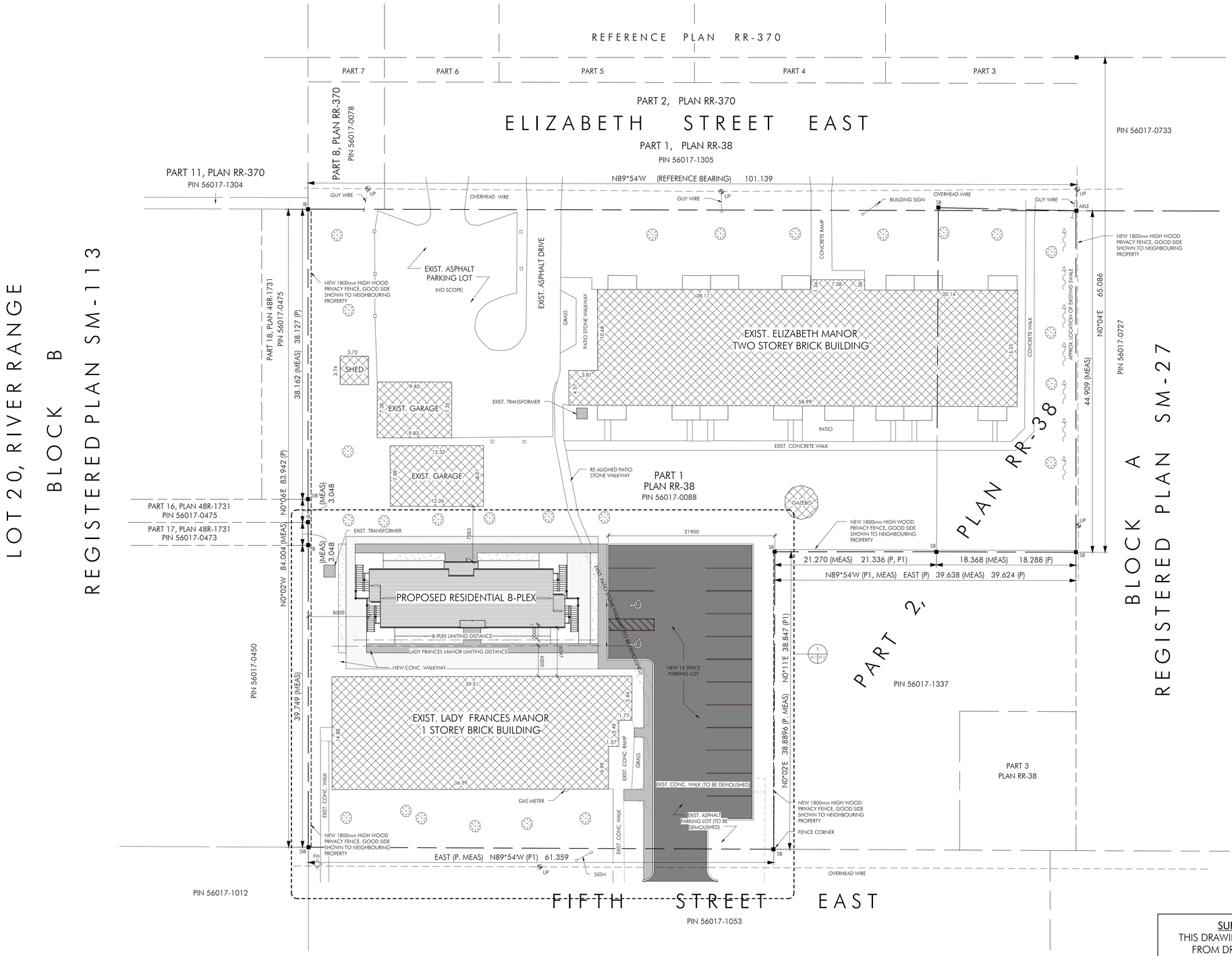
1. APPLICATION TYPE						
a) New Site Plan Control Agreement: ☑						
b) Amendment to existing Agreement: ☐ Authorizing By-Law Number _____						
2. PROPERTY INFORMATION						
a) Address	1300 Fifth St E + 1301 Elizabeth St E					
b) Tax Roll No.	59-12-030-007-11200-0000					
c) Legal Description	Pcl 19824. Firstly Pt Lt 19 River Range Pt 1, RR38, except Pt 16, RR138, Pt 2, RR370; secondly Pt Lt 19 River Range Pt 16, RR138 except Pt 8, RR370; thirdly Nly 148.38 pt of Pt 2, RR38 except Pt 1, RR370					
d) Dimensions	Frontage	61.36m	Depth	84m	Area	6,934.26m²
3. APPLICANT INFORMATION						
a) Applicant	Michelle Shute			Phone 274-5349		
b) Mailing Address	450 Scott St			Postal Code P9A 1H2		
c) Email	michelles@rrdssab.on.ca					
4. AGENT INFORMATION (if applicable)						
a) Agent Name				Phone		
b) Mailing Address				Postal Code		
c) Email						
5. OWNER (If different from 3 above)						
a) Owner	Rainy River District Social Services Administration Board			Phone 274-5349		
b) Mailing Address	450 Scott St			Postal Code P9A 1H2		
c) Email						
Note – All communication will be sent to Application Contact unless otherwise requested						

6. MORTAGEEES, HOLDERS OF CHARGES OR OTHER ENCUMBRANCES	
a) Institution	LMHC + Province of Ontario
b) Contact/Reference	Simon Lam — Phone (416)585-7611
c) Mailing Address	777 Bay St., 3rd Floor, Toronto, ON — Postal Code M5G 2E5
d) Email	simon.lam@ontario.ca
7. OTHER APPLICATIONS (Complete if applicable)	
a) File Type & No.	
Details	
b) File Type & No.	
Details	
8. LAND USE	
a) Official Plan	Living
b) Current Zoning	Residential (R2)
c) Current Land Use	Residential

9. BUILDINGS & STRUCTURES

	Existing			Proposed			Required
	Lady Frances	Elizabeth	Shop1	Shop2	Shed		
a) Width	15.24m	16.76m	7.38m	8m	3.74m	7.88m	N/A
b) Length	39.26m	59.13m	9.83m	12.28m	3.72m	22.14m	N/A
c) Ground Floor Area	557m²	878m²	72.5m²	98.2m²	13.99m²	147.6m²	N/A
d) Gross Floor Area	1114m²	1756m²	72.5m²	98.2m²	13.99m²	285.2m²	Min. 70m²
e) Storeys (#)	2 (incl. bsmt)	2	1	1	1	2	N/A
f) Dwelling Units(#)	10	29	Ø	Ø	Ø	8	N/A
g) Building Height	4.82m	8.2m	4.25m	4.5m	3.4m	7.84m	Max 12m
h) Lot Coverage (%)	8%	12.6%	1%	1.4%	0.2%	2.1%	Max 50%
i) Landscaped Area (%)	Ø	68%	Ø	Ø	Ø	Ø	Min 20%
j) Parking Spaces(#)	5	14	Ø	Ø	Ø	16 (remove 5 LF spaces)	1.25/dwelling unit

all existing



1 A1.1 Key Plan
scale = 1 : 250

REVISION	DATE	DESCRIPTION
"1"	2017.05.15	ISSUED FOR PERMIT - REV. 1
"0"	2017.03.08	ISSUED FOR PERMIT

SEALS:

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PROJECT NAME:
Rainy River District Social Services Board

Proposed 8-Plex Residence Building

Fifth Street East — Fort Frances, ON

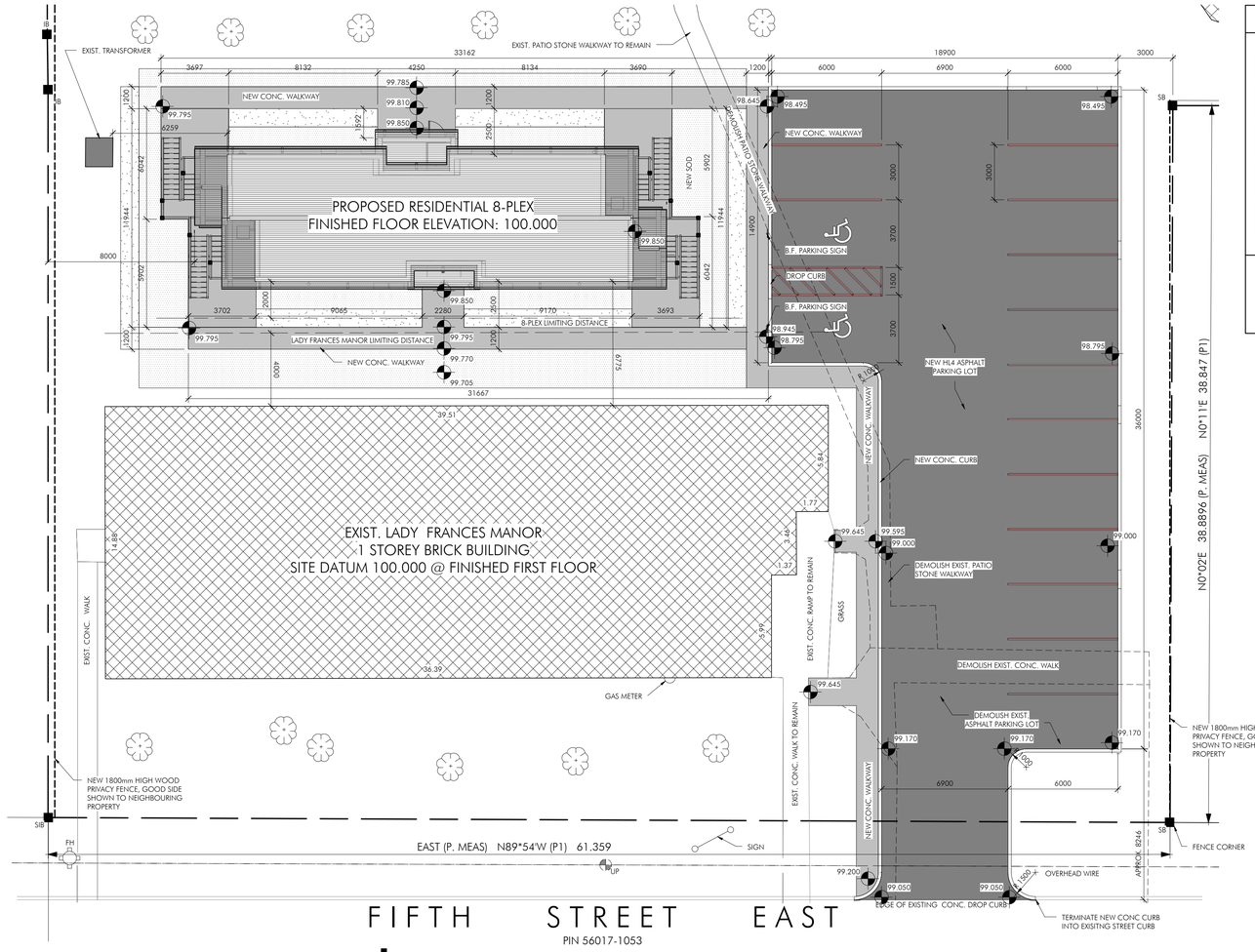
SHEET TITLE:
Site Plan

SURVEY NOTE:
THIS DRAWING REFERS TO DATA FROM DRAWING F10-733, PRODUCED BY exp GEOMATICS INC., DATED DEC. 19TH 2016, AS SURVEYED BY D.S. (DAVE) URSO, O.L.S.

DATE: March 2017
DRAWN: AYL
PROJECT: 2016042

A1.1

C:\Revit Projects\2016042 STE C_Arch

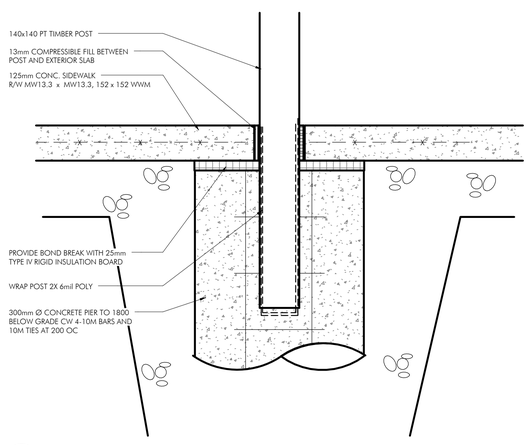


1 Enlarged Site Plan - Proposed 8-plex
A1.1 | A1.2 scale = 1 : 150

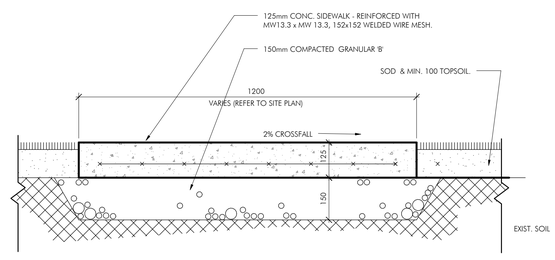
SURFACE LEGEND

- NEW SOD
- NEW PLANTING BED*
- NEW COBBLEFIELD
- NEW HL4 ASPHALT ON COMPACTED GRANULAR MATERIAL
- NEW CONCRETE WALKWAY OR SLAB

* PLANTING TO BE CHOSEN DURING CONSTRUCTION ACCORDING TO ALLOWANCE. PLANTING TO OFFER PRIVACY TO UNITS FROM SIDEWALKS AND PARKING LOT

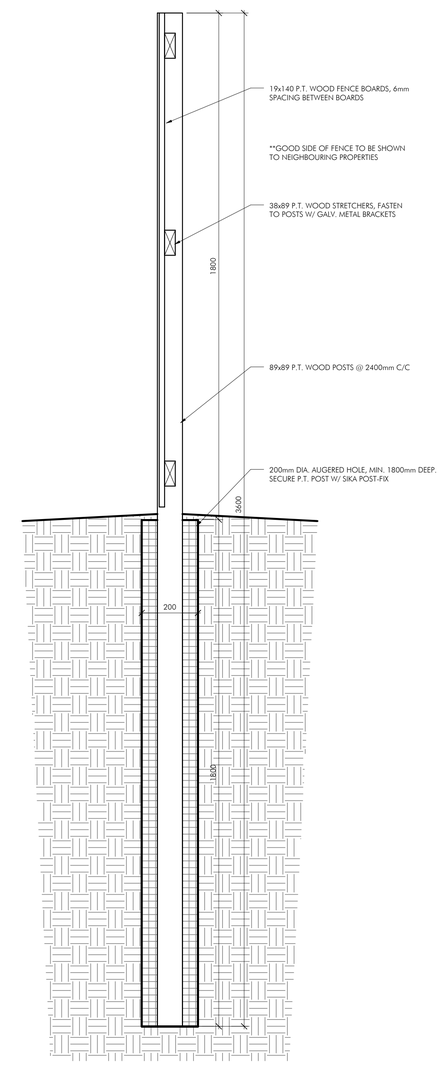


2 Imbedded Deck Footing Detail
A1.2 scale = 1 : 10



- PROVIDE CONSTRUCTION JOINTS AT 1500 O/C UNLESS OTHERWISE NOTED, PROVIDE BITUMINOUS MATERIAL AT EXPANSION JOINTS AND ADJACENT OTHER CONC. SURFACES
- PROVIDE 40mm DEEP SAW CUTS AT 9000mm INTERVALS
- PROVIDE WOOD FLOAT AND LIGHTLY BROOMED FINISH, EDGE WITH EDGING TOOL
- SPRAY SIDEWALKS WITH WHITE RESIN BASED PIGMENTED CURING COMPOUND

3 Typical Concrete Sidewalk Section
A1.2 scale = 1 : 10



4 Section Detail - Fence Construction
A1.2 scale = 1 : 10

REVISION	DATE	DESCRIPTION
"1"	2017.05.15	ISSUED FOR PERMIT - REV. 1
"0"	2017.03.08	ISSUED FOR PERMIT

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PROJECT NAME:
Rainy River District Social Services Board
Proposed 8-Plex Residence Building
Fifth Street East — Fort Frances, ON

SHEET TITLE:
Enlarged Site Plan

DATE: March 2017
DRAWN: AYL
PROJECT: 2016042

A1.2

June 23, 2017 Project No. 17-095-57E

VIA EMAIL: (john.s@formarchitecture.ca)

Mr. John Stephenson
FORM Architecture Engineering
131 Court Street North
Thunder Bay, ON P7A 4V1

Dear Mr. John Stephenson.

Re: Rainy River District Social Services Board Proposed 8-Plex Apartment Building
Site Servicing and Stormwater Management Design Brief
Fort Frances, Ontario

True Grit Engineering (TGE) was retained by FORM Architecture Engineering (FORM) to prepare a site servicing and stormwater management (SWM) design for the Rainy River District Social Services Board (RRDSSB) proposed 8-Plex Apartment project, located in Fort Frances, Ontario.

This report summarizes the design initiatives required to provide the proposed development with the following site services:

- Water Supply
- Sanitary Servicing
- Stormwater Management
- Erosion and Sediment Control
- Lot Grading
- Facility Maintenance

This report assists in the attainment of the minimum requirements set out by the Ministry of the Environment and Climate Change (MOECC), the American Water Works Associations (AWWA), and the Ontario Building Code (OBC). This report shall be read in conjunction with the attached drawing set (Appendix A).

Water Supply

A 300 mm diameter watermain is located within 5th Street East adjacent to the proposed site. The Water Treatment Plant (WTP) is located at the corner of Colonization Road East and 5th Street East approximately 100 metres from the proposed site. Based on the size of the existing watermain adjacent to the site and location of the WTP, TGE does not anticipate concerns with available flow for the proposed fire and domestic cold water (DCW) services for the proposed 8-Plex apartment. Hydraulic modelling of the distribution system shall be completed by others to ensure the new demands generated by the proposed development can be achieved.

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www.truegriteng.com

The proposed apartment will be provided with a new 50 mm ø DCW service connecting to the existing 300 mm ø main within 5th Street East. Based on the total fixtures proposed for the apartment building and AWWA *Sizing Water Service Lines and Meters*, *Third Edition* (2014), the total Fixture Value (FV) is estimated to be approximately 195 (attached). Based on the FV estimate and Figure 4-3 from the aforementioned manual, the probable water demand is estimated to be 2.30 L/s. To achieve the new demands, while maintaining a single water meter, a new DCW service is proposed. Sizing for this service is detailed in the following table.

Table 1 Water Service Sizing	
Fixture Value	195
Probable Demand	2.3 L/s
Length of New DCW Service	75 m
Proposed DCW Service Size	50 mm
Proposed Fire Line Size	150 mm

Fire Protection

Sizing for the fire line is based on NFPA *Standard for installation of Private Fire Service Main and Their Appurtenances* (2016 Edition). In order to ensure adequate flow is available to the sprinkler system, a 150 mm ø pipe will be connected to the existing 300 mm ø main within 5th Street East. The length of the proposed fire line is estimated to be 77 metres. The fire flow for the 8-Plex apartment building is estimated to be 117 L/s based on the methodology stipulated in Fire Underwriters Survey (FUS) *Water Supply for Public Fire Protection* (1999). See attached FUS design sheet for a detailed breakdown of the fire flow requirements.

In order to ensure backflow prevention, the fire service will be provided with a double check detector assembly in a chamber located within 3.0 metres of the property line. Backflow from fire protection systems shall be in accordance with Section 7.6.2.4 of the OBC (2012).

Fire Coverage

In accordance to Section 3.2.5.7 of the OBC (2012), any portion of a buildings perimeter facing a street is to be within 90 metres horizontally of the nearest hydrant. Also, according to Section 3.2.5.5 of the OBC (2012), access routes shall be provided to a building so that the unobstructed path of travel from the vehicle to one entrance of the building is not more than 45 metres. To achieve these two requirements, a new hydrant will be located north of the proposed parking lot facility.

Sanitary Servicing

The proposed apartment building will receive a new 150 mm ø sanitary service that will be connected to the existing 300 mm ø sanitary main within 5th Street East. To satisfy Section 7.4.7.2 of the OBC (2012), a manhole is required not more than 30 metres from the building. The first section of pipe extends 15.2 metres east at 2.0% to a new manhole (MH1). Subsequent to MH1, the sanitary service extends 46.0 metres south at 4.0% connecting to the existing sanitary main. The proposed service does not exceed 4.0% of its available capacity. The service is sized to achieve desirable velocities between 0.6 – 3.0 m/s. See attached sanitary hydraulic design sheet for capacity requirements.

Stormwater Management

TGE understands that the 5th Street East experiences frequent flooding during larger rain events and the spring freshet; therefore, TGE has delineated the majority of the impervious area generating an increase in runoff in the post-development conditions towards an existing swale located in the northeast corner of the subject site. This swale eventually discharges runoff to Elizabeth Street and subsequent storm sewer system. The subject site is divided into two catchment areas (Post-201 and Post-202).
The appended drawing set delineates the pre-development and post-development catchment areas (Appendix B). Catchment Post-201 is 1359 m^2 and consists of the east portion of the proposed apartment rooftop, sidewalk, parking lot and landscape surfaces.

Runoff for this area is directed towards the proposed bioretention swale. The bioretention swale is oriented south-to-north, ultimately discharging runoff towards the existing drainage swale located in the northeast corner of the site. Catchment Post-202 is 394 m^2 and consists of the west portion of the proposed apartment rooftop, sidewalk and landscape surfaces. Runoff for this area mimics the existing drainage patterns, ultimately discharging runoff towards 5th Street East.

The bioretention swale consists of a sod/mulch surface, overlying a 500 mm engineered soil mixture, followed by a 100 mm pea gravel layer, situated on top of a 300 mm clear stone infiltration gallery. The engineered soil mixture provides a planting medium for native trees, shrubs, and perennials. Minimum slope is provided for the bioretention swale to encourage infiltration. Rock flow checks dams located at regular intervals, interrupts flow which reduces the velocity, allowing for increased infiltration into the bioretention practice. Based on the borehole logs and geotechnical analysis (Appendix C), the native soil appears to be a silty sand type soil. The percolation rate is estimated to be greater than 25 mm/hr, which is suitable for a bioretention practice.

Table 2 summarizes the composite runoff coefficient for the individual land-use types and for the overall site conditions for the pre-development and post-development conditions.

Table 2
Pre-Development and Post-Development Runoff Coefficients

	Pre-Development		Post-Development		Post-201		Post-202	
	A	C	A	C	A	C	A	C
Landscape	1497.7	0.2	785.4	0.2	524.9	0.2	260.5	0.2
Rooftop	0.0	0.9	195.0	0.9	97.5	0.9	97.5	0.9
Sidewalk	85.7	0.9	151.3	0.9	115.3	0.9	36.0	0.9
Asphalt	170.0	0.9	621.7	0.9	621.7	0.9	0.0	0.9
Total	1753.4	-	1753.4	-	1359.4	-	394.0	-
Composite C	**-**	**0.30**	**-**	**0.59**	**-**	**0.63**	**-**	**0.44**

Overall, the pre-development runoff coefficient increases in the post-development conditions (0.30-pre vs. 0.59-post); therefore, quantity control considerations are required. The proposed site achieves pre-development levels for all events from the 2-year event up to the 100-year storm event, matching or reducing the existing peak flows. Catchment Post-202 is discharged off-site without attenuation. The total runoff for the subject site is the net total of Post-201 and Post-202.

Table 3 summarizes the flow generated by the 2-year up to the 100-year storm event for the pre-development, post-development, and Post-201 and Post-202 sub-catchment areas.

Table 3 Pre, Post and Controlled Development Conditions						
	2-year	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Pre-Development[1] (m^3)	6.938	9.321	10.857	12.870	14.353	15.783
Pre-Development[1] (m^3/s)	0.012	0.016	0.018	0.021	0.024	0.026
Post-201 (m^3)	11.214	15.066	17.549	20.801	23.198	25.510
Post-202 (m^3)	2.256	3.032	3.531	4.186	4.668	5.133
Storage Volume (m^3)	13.530	13.530	13.530	13.530	13.530	13.530
Post-Development[1] (m^3)	2.256	4.568	7.550	11.457	14.336	17.113
Post-Development[1] (m^3/s)	0.004	0.008	0.013	0.019	0.024	**0.029[2]**

Notes:
1. Entire Development (1753 m^2).
2. Exceeds the Pre-Development Peak Flow.
3. Time of Concentration (t_c) = 10 minutes

It should be noted that Catchment Post-201 is directed towards the existing drawing swale located in the northeast corner of the site and not 5th Street East. Catchment Post-201 will encounter an increase in asphalt surfaces, which increases the amount of contaminants, such as oil and grit, which can be discharged into the environment. As a result, quality control considerations are required. The proposed development will treat stormwater runoff for catchment Post-201 to a level that is identified by the MOECC *Stormwater Management Planning and Design Manual* (2003), as being enhanced to the point that the total suspended solids removal rate is greater than 80%. This will involve a bioretention swale located along the east side of the development. Table 4 summarizes the volumetric sizing requirements.

Table 4 Volumetric Quality Control Sizing Requirements	
Catchment Post-201	
Total Drainage Area Contributing to the Practice	0.14 ha
Total Impervious Percentage (TIMP)[1]	61%
Storage Volume (m^3/ha) for Impervious Level[2]	32 m^3/ha
Required Bioretention Swale Storage Volume = 32*0.14 = 4.48 m^3	
Minimum Bioretention Volume Proposed[3] = 5.04 m^3	

Notes:
1. TIMP = (C-0.2)/0.7
2. MOECC *Stormwater Management Planning and Design Manual* (2003), Table 3.2
3. Porosity of clear stone layer and pea gravel layer = 0.4

It should be noted that stormwater runoff from Post-202 is generated by rooftop, landscape and minimum sidewalk surfaces; therefore, does not require quality control.

Erosion and Sediment Control

During the construction phase, a number of erosion and sediment control measures will be implemented to maintain the quality of stormwater discharge at various locations throughout the facility. The proposed measures for sediment control include the covering of catch basin inlets with filter cloth, using the existing landscaped areas for ponding, the installation of a silt fence and the placement of mud mats. These devices are to be installed prior to construction.

Construction and maintenance requirements are outlined in the *Ministry of Transportation Ontario Provincial Standard Specification 805* (OPSS 805). Regular maintenance and inspection of the applied sediment control measures shall be conducted during the construction phase to ensure structures are functioning as intended.

Lot Grading

The proposed apartment building will be encompassed by landscape surfaces on the north, south and west sides and asphalt surface to the east. The elevation of the proposed building is to be higher than the surrounding area to ensure runoff is not directed towards the building. The perimeter of the subject site is designed to match existing grades to mimic the existing drainage patterns of the site. The parking lot facility slopes east towards the bioretention swale, where runoff is encourage to infiltrate; runoff exceeding the capacity of the bioretention swale is directed south towards municipal property.

Facility Maintenance

The proposed stormwater management plan and bioretention practices are subject to degradation if the appropriate practices are not followed.

Snow clearing work and winter road sand applications may impact the efficiency of the practice. The thawing of snow piles will also deposit sediment that will accumulate over time and potentially clog the infiltration capacity of the site reducing efficiency. It is important that the snow piles be located at least 15 metres away from the practice.

Seasonality of the site may result in the accumulation of sand, leaves, and other debris in the bioretention practice. Clearing debris from the practice will ensure that the stormwater management of the site is working as intended.

Limitations

- The existing swale and ditch network is being assessed by TGE staff subsequent to this letter brief submission to ensure existing elevations are suitable to convey runoff generated by the proposed development. Based on the site assessment, the proposed design is subject to minor changes.

Closure

The information and data contained in this report, including without limitation, the results of any assessment, sampling and analyses conducted by TGE pursuant to its Agreement with the client, have been developed or obtained through the exercise of TGE's professional judgment and are set forth to the best of TGE's knowledge, information and belief. Although efforts have been made to confirm that this information is factual, complete and accurate, TGE makes no guarantees or warranties whatsoever, whether expressed or implied, with respect to such information or data.

The information and data presented in this report are based on the purpose and scope of the project and form the basis for any conclusions and recommendations presented herein. Any conclusions and recommendations presented herein do not preclude the existence of environmental or engineering concerns other than those that may have been identified.

Work performed by TGE personnel employed sound engineering principles. TGE cannot guarantee the accuracy and reliability of information provided by others or third parties. Therefore, TGE does not claim responsibility for undisclosed concerns or conditions that may result in costs for exceedances and/or remediation. This report is intended for information purposes only.

Sincerely,

TRUE GRIT ENGINEERING

LICENSED PROFESSIONAL ENGINEER
A. F. ROSE
100097616
23/06/17
PROVINCE OF ONTARIO

Luke Viljakainen, B. Eng.
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Adam Rose, P.Eng.
Principal/Manager, Engineering Services
arose@truegriteng.com

LV/AR:ls

Enclosures:
Table 5: Water Demand and Water Service Sizing
Table 6: Fire Underwriters Survey
Table 7: Sanitary Hydraulic Design Sheet
Appendix A: Drawing Set
Appendix B: Pre and Post Development Catchment Areas
Appendix C: Geotechnical Laboratory Results

Tables

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Table 5 Water Demand and Service Sizing Requirements				
FORM Architecture Engineering				
Rainy River DSSB - 8 Plex Apartment			**Project No. 17-095-57E**	
Site Servicing and SWM Design			**9-May-17**	
AWWA Manual M22				
Fixture Type	**Fixture Value**	**No. of Fixtures**	**Subtotal Fixtures Value**	**Unit**
Water Closet	6	8	48	FV
Shower/Bathtub	8	8	64	FV
Lavatory	1.5	8	12	FV
Kitchen Sink	1.8	8	14.4	FV
Washing Machine	6	8	48	FV
Hose Bib	9	1	9	FV
Combined Fixture Value			195.4	FV
Other Demands (e.g. Irrigation, sprinklers etc.)			0.0	FV
Total Number Fixtures Served			195.4	FV
Water Flow Demand (Figure 4-2)			2.3	L/s
Estimate Length From Curb to Furthest Fixture			75	m
Pipe Size Based on the No. of Fixtures Served			50	mm

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Table 6
Fire Underwriters Survey

FORM Architecture Engineering | **Project No.** 17-095-57E
Rainy River DSSB - 8 Plex Apartment | **Date:** 9-May-17
Fort Frances, Ontario

Note: This estimate of required fire flow for the proposed development is based on 1999 ed. of "Water Supply for Public Fire Protection" as developed by the Fire Underwriters Survey (FUS).

Outline of Procedure (FUS, 1999)

A. Determine the type of construction.
B. Determine the ground floor area.
C. Determine the height in storeys.
D. Using the fire flow formula, determine the required fire flow to the nearest 1,000L
E. Determine the increase or decrease for occupancy and apply to the value obtained in Table D (FUS, 1999). Do not round
F. Determine the decrease,if any, for automatic sprinkler protection. Do not round off the value.
G. Determine the total increase for exposures. Do not round off the value.
H. To the answer obtained in E, subtract the value obtained in F and add the value obtained in G.
*The final figure is customarily rounded off to the nearest 1000 L/min. (FUS, 1999)

1.0 <u>24 Unit 3 Story Apartment - Royston Ct</u>

A. Combustible construction		**C**	**1**	
B. Groundfloor area			195	sq.m
C. Storeys			2	
		Total Area, A	**390**	
D. **$F = 220\ C\ A^{1/2}$**		F =	4345	L/min
		Fire Flow, F	**4345**	**L/min**
E. Occupancy, entertainment complex		Adjustment	0%	
F. Automatic sprinkler protection, proposed		Adjustment	-30%	
G. Increase for exposure	3.1m to 10m	Adjustment, N	25%	
	30.1m to 45m	Adjustment, E	5%	
	3.1m to 10m	Adjustment, S	25%	
	3.1m to 10m	Adjustment, W	25%	
H. Overall adjustments to fire flow estimates		Total Adjustments:	50%	6516.977827 L/min
Therefore the final F_F estimate is:		**Final Fire Flow, F_F =**	**<u>7000</u>**	**<u>L/Min</u>**
			<u>117</u>	**<u>L/s</u>**
With a corresponding required duration of fire flow of:			**<u>2</u>**	**<u>Hours</u>**

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Table 7
Sanitary Hydraulic Design Sheet

FORM Architecture Engineering
Rainy River DSSB - 8 Plex Apartment
Fort Frances, Ontario
Project No. 17-095-57E

Smooth Wall Pipe, n = 0.013
Design Flow for Residential, q= 450 L/capita/d
Extraneous, E = 0.28 L/ha/s

I = unit of peak extraneous flow
Q(p) = peak population flow (L/s)
Q(I) = peak extraneous flow (L/s)
Q(d) = peak design flow (L/s)

Peaking Factor (Harmon):
$M = 1 + 14 / (4 + (P/1000)^{0.5})$
Q(p) = (P/1000)qM/86.4
Q(I) = IA (L/s); Area in ha.
Q(d) = Q(p) +Q(I) (L/s)

Mannings Equation
Qcap=(D/1000)^2.667*(S/100)^0.5(3.211*n)*1000 L/s
D: pipe size (mm)
S: slope (grade) of pipe (%)
n: roughness coefficient

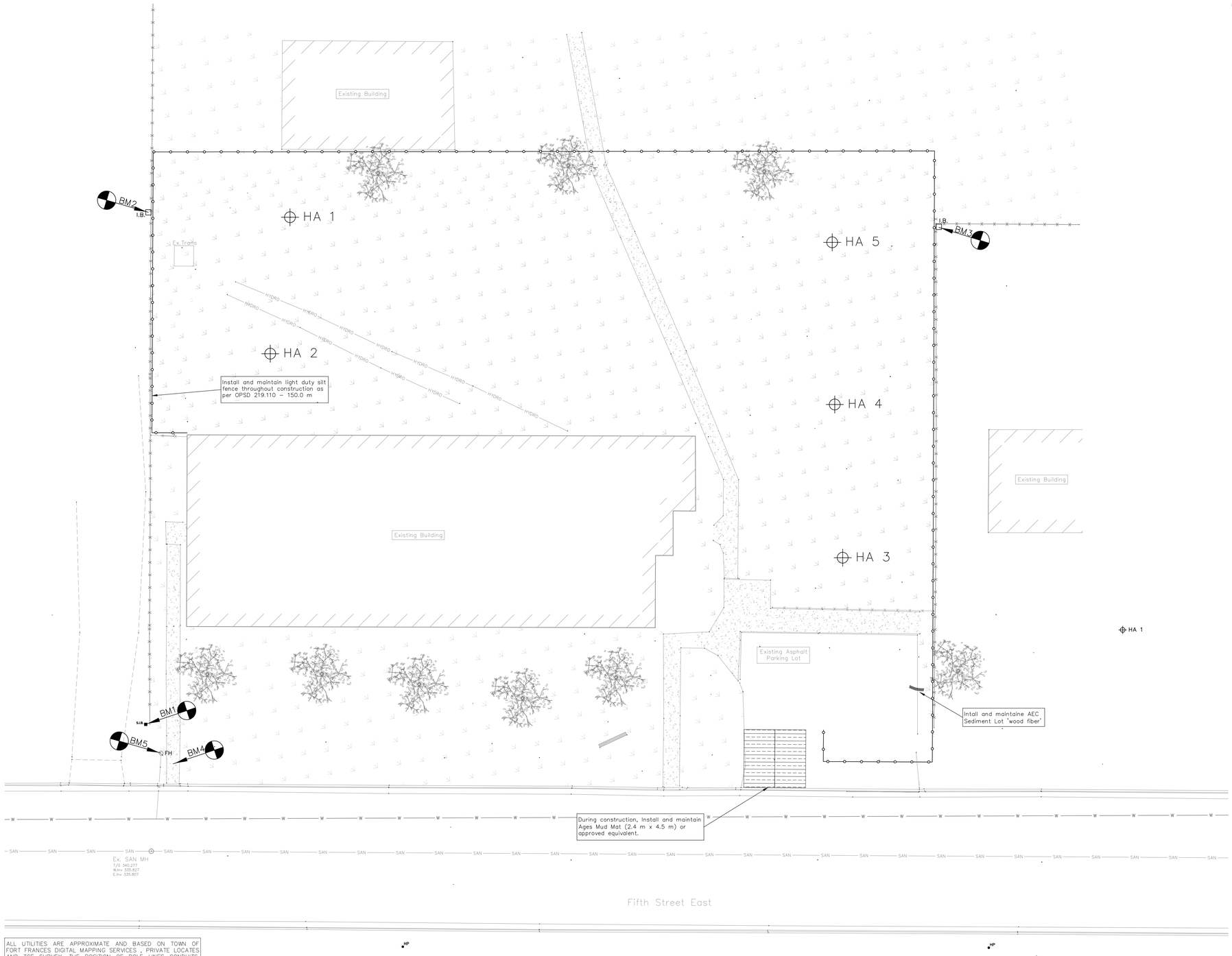
Location			Individual		Accumulative		Peaking	Avg	Peak	Extran.	Total	Length	Size	Slope	Capacity	Velocity	Q(d) /
Street/Lot	From	To	P, cap	Area, ha	P, cap	Area, ha	Factor, M	Q(A), L/s	Q(p), L/s	Q(I), L/s	Q(d), L/s	L , m	D, mm	S, m/m	Qcap(full),L/s	V(full),m/s	Qcap
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
8-Plex	Onsite	MH1	32	0.18	32	0.18	4.35	0.17	0.73	0.0504	0.78	15.2	150	0.02	21.51	1.22	4%
											0.78	46	150	0.04	30.41	1.72	3%

Appendix A: Drawing Set

1263 Innovation Drive, Thunder Bay, ON, P7B 0A2
Tel: (807) 626-5640 | Fax: (807) 623-5690
www.truegriteng.com

Plot Size: ARCH D (24.00 X 36.00 INCHES)

13: INSTALL BACK FLOW PREVENTER AS PER OBC



EROSION AND SEDIMENT CONTROL:

1: CONTRACTOR SHALL INSTALL EROSION AND SEDIMENTATION CONTROLS AS ILLUSTRATED IN THE CIVIL DRAWING SET PRIOR TO CONSTRUCTION AND SHALL MAINTAIN IN GOOD CONDITION UNTIL CONSTRUCTION IS COMPLETED AND VEGETATED COVER HAS BEEN ESTABLISH

2: ALL SILT FENCING TO BE INSTALLED PRIOR TO ANY AREA GRADING, EXCAVATING OR DEMOLITION WORK.

3: SILT FENCING TO BE INSTALLED AROUND BASE OF ALL STOCK PILES.

4: EROSION CONTROL PROTECTION TO BE PROVIDED AROUND ALL STORM MANHOLES AND CATCHBASINS AS INDICATED IN THE DRAWING SET.

5: ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES MAY BE IDENTIFIED AND REQUIRED ONSITE WHILE CONSTRUCTION IS IN PROGRESS. CONTRACTOR TO PROVIDE ADDITIONAL STRUCTURE AS DIRECTED.

6: EROSION AND SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACE HAS BEEN STABILIZED BY VEGETATED COVER.

7: ALTERNATIVE EROSION AND SEDIMENTATION CONTROL STRUCTURES MUST FIRST RECEIVE THE APPROVAL OF THE ENGINEER AND THE CITY BEFORE BEING CONSTRUCTED.

8: CONTRACTOR TO CLEAN ROADWAY AND SIDEWALKS OF SEDIMENTS RESULTING FROM CONSTRUCTION TRAFFIC FROM THE SITE EACH DAY.

9: CONTRACTOR TO INSTALL MUD MAT AS SPECIFIED IN THE CONTRACT DRAWINGS. THE SUBJECT SITE IS TO HAVE ONLY ONE POINT OF INGRESS/EGRESS VIA THE MUD MAT.

Hand Auger Identification Chart

Hand Auger No.	Depth (m)	Material
HA #1	0.0 – 0.5	Silty Sand
	0.5 – 1.0	Sand
	1.0 – 1.5	Silt/Clay
	1.5 – 2.0	Sand
HA #2	0.0 – 0.5	Silty Sand
	0.5 – 1.0	Sand
	1.0 – 1.5	Silt/Clay
	1.5 – 2.0	Sand
HA #3	0.0 – 0.5	Silty Sand
	0.5 – 1.5	Coarse Sand/Gravel
	1.5	Refusal
HA #4	0.0 – 0.5	Silty Sand
	0.5 – 1.0	Coarse Sand
	1.0 – 1.5	Silt/Clay
	1.5 – 2.0	Sand/Silt
HA #5	0.0 – 0.5	Silty Sand
	0.5 – 1.0	Coarse Sand
	1.0 – 1.5	Silt/Clay
	1.5 – 2.0	Sand

Legend

MH	New Manhole	W	Proposed Watermain
MH	Existing Manhole	W	Existing Watermain
FH	New Fire Hydrant	SAN	Proposed Sanitary Sewer
FH	Existing Fire Hydrant	SAN	Existing Sanitary Sewer
	New Water Valve	ST	Proposed Storm Sewer
WV	Existing Water Valve	ST	Existing Storm Sewer
CB	New Catch Basin		Existing Building
CB	Existing Catch Basin		New Building Addition
CS	New Curb Stop		New Topsoil and Sod
CS	Existing Curb Stop		Existing Grass
HA 1	Hand Auger Location (TGE 2017)		

ALL UTILITIES ARE APPROXIMATE AND BASED ON TOWN OF FORT FRANCES DIGITAL MAPPING SERVICES , PRIVATE LOCATES AND TGE SURVEY. THE POSITION OF POLE LINES CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND UTILITIES AND STRUCTURES ARE NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS. CONTRACTOR RESPONSIBLE TO LOCATE, PROTECT AND MAINTAIN SURVEY AND PROPERTY MARKER MONUMENTS ON THE PROPERTY.ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE NOTED.

Rainy River District Social Services Administration Board

Client

CONTROL – UTM ZONE 15 NAD 83 (CSRS) CBNv6–2010.0

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM 1	5384694.655	472806.126	340.384	S.I.B
BM 2	5384734.414	472806.334	340.400	I.B
BM 3	5384733.253	472867.672	340.364	I.B
BM 4	5384691.588	472808.246	340.289	PK Nail
BM 5	5384692.422	472806.563	341.011	Top Nut FH

Note

Contractor responsible for confirming all benchmarks prior to starting construction.

Scale

N

0 1.5 3 m SCALE 1:150

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03.05.17	Issued for Site Plan Control	TR	AR	LV	AR
23.06.17	Re-Issued for Site Plan Control	TR	AR	LV	AR

LICENSED PROFESSIONAL ENGINEER
A.F. ROSE
100087516
23/06/17
PROVINCE OF ONTARIO

TRUE GRIT ENGINEERING

Civil Sub Consultant

Rainy River District Social Services Board
Proposed 8-Plex Residence
1300 Fifth Street East,
Fort Frances, On.

Existing Conditions

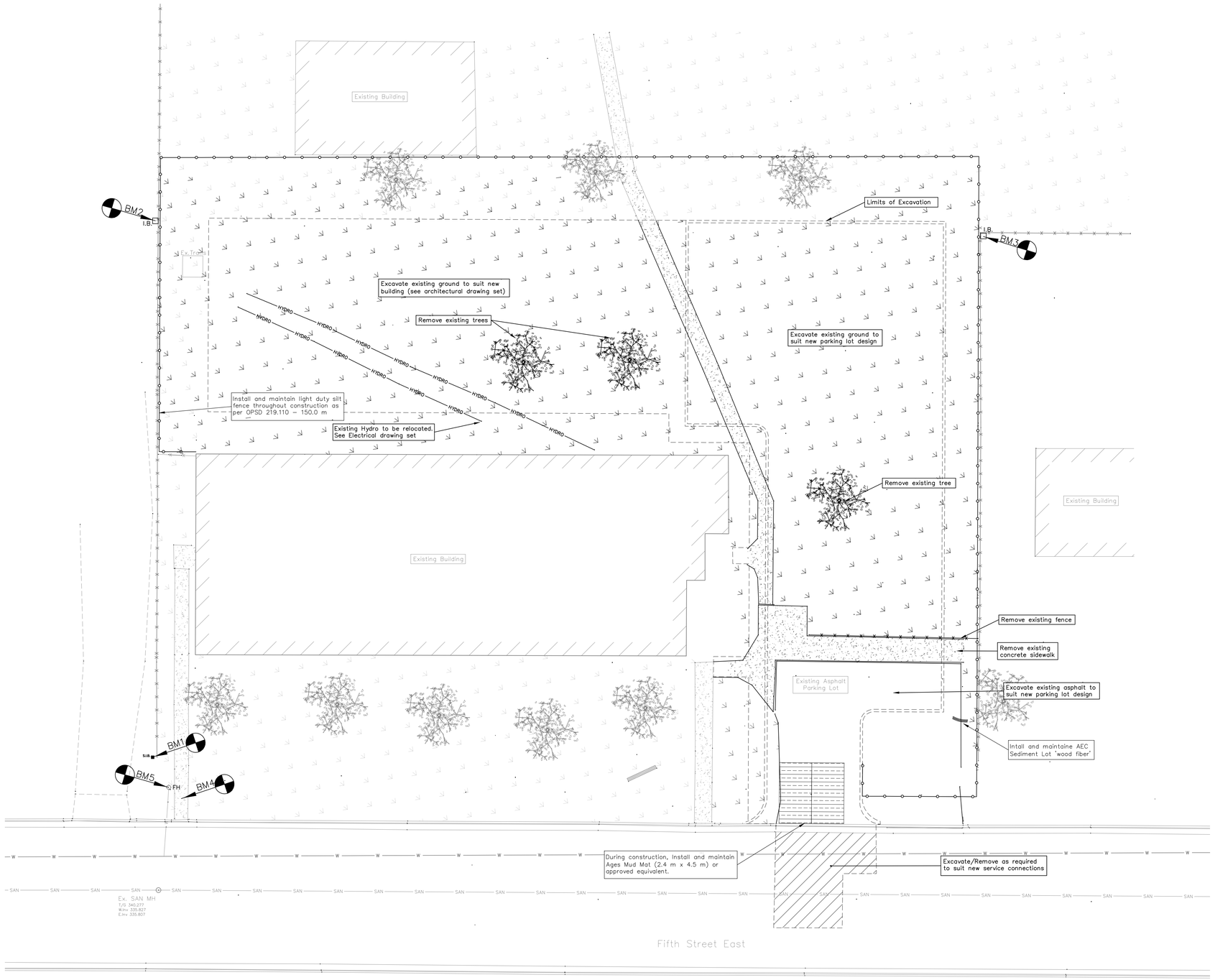
Project No. 17–095–57E

Revision 02

Drawing No. 01

File No. 17-095-57E-07-01

Plot Size: ARCH D (24.00 X 36.00 INCHES)



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GENERAL NOTES AND DEFINITIONS:

1. THE ENTAILED SITE SERVICING AND STORMWATER MANAGEMENT DRAWING SET IS NOT FOR CONSTRUCTION UNTIL SIGNED AND SEALED BY AN ENGINEER AND APPROVED BY THE TOWN OF FORT FRANCES.
2. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE DESIGN ENGINEER 48 HOURS PRIOR TO COMMENCING WORK TO ARRANGE FOR INSPECTION. THE ENGINEER SHALL DETERMINE THE DEGREE OF INSPECTION AND TESTING REQUIRED FOR CERTIFICATION OF UNDERGROUND SERVICE INSTALLATION. FAILURE TO NOTIFY THE DESIGN ENGINEER WILL RESULT IN EXTENSIVE POST CONSTRUCTION INSPECTION AT THE CONTRACTORS EXPENSE.
3. SITE PLAN INFORMATION SUPPLIED BY FORM ARCHITECTURE.
4. THESE PLANS ARE FOR SITE SERVICING AND GRADING USE ONLY; ANY OTHER INFORMATION PROVIDED HEREIN IS FOR ILLUSTRATION PURPOSES ONLY. THESE PLANS MUST NOT BE USED TO SITE THE PROPOSED BUILDING.
5. NO CHANGES ARE TO BE MADE WITHOUT THE WRITTEN APPROVAL OF THE DESIGN ENGINEER.
6. THESE PLANS ARE NOT TO BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF TRUE GRIT ENGINEERING.
7. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR ANY DAMAGE TO EXISTING INFRASTRUCTURE.
8. ALL WORKS ON A MUNICIPAL RIGHT–OF–WAY OR CONNECTION TO TOWN SERVICES SHALL BE INSTALLED BY THE TOWN OF FORT FRANCES UPON APPLICATION BY THE OWNER AT THE OWNER'S EXPENSE. THE CONTRACTOR IS TO CONNECT TO THESE SERVICES AND RESTORE ALL AFFECTED PROPERTY TO ITS ORIGINAL CONDITION.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPLY, SAFE STORAGE, HANDLING, AND QUALITY CONTROL OF ALL MATERIALS SET FORTH IN THIS CONTRACT.
10. THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING ALL LINES, GRADES, AND SLOPES TO PRODUCE THE INTENT OF THE WORK.
11. ALL MATERIALS SUPPLIED IN THIS DRAWING SHALL BE SUBJECT TO INSPECTION AND TESTING BY THE ENGINEER AND/OR BY THE TESTING LABORATORY DESIGNATED BY THE ENGINEER.
12. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES WITHIN THE CONSTRUCTION ZONE PRIOR TO COMMENCING WORK AND SHALL EXERCISE THE NECESSARY CARE AND PRECAUTIONS TO SAFEGUARD UTILITIES FROM DAMAGE.
13. CONTRACTOR RESPONSIBLE TO LOCATE, PROTECT AND MAINTAIN SURVEY AND PROPERTY MARKER MONUMENTS ON THE PROPERTY.
14. CONTRACTOR TO MAINTAIN A 'CONFINED TRENCH CONDITION' IN ALL SEWER AND SERVICE TRENCHES.
15. ALL WORK SHALL BE IN ACCORDANCE WITH THE ONTARIO HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
16. ANY WORK OCCUPYING ROAD SPACE TO FOLLOW MTO OTM BOOK7.
17. WATERMAIN, SANITARY SEWER, STORM SEWER UTILITIES AND INFRASTRUCTURE LOCATIONS ARE APPROXIMATE ONLY. CONTRACTOR TO CONFIRM LOCATION OF PIPE, SEWER AND INFRASTRUCTURE PRIOR TO WORK START.
18. MINIMUM INCONVENIENCE TO THE PUBLIC IS PRIORITY; THEREFORE, CONTRACTOR SHALL LEAVE EXTERNAL ROUTES AVAILABLE FOR PEDESTRIAN AND VEHICULAR TRAFFIC.
19. THE CONTRACTOR SHALL KEEP THE SITE CLEAN, SWEEPING EQUIPMENT MAY BE REQUIRED FOR PUBLIC ROADS.
20. FOR EXCAVATIONS THAT EXPOSE INFRASTRUCTURE, ALL PIPE AND SEWER WORK IS TO BE SUPPORTED SUCH THAT STRUCTURAL INTEGRITY IS ACHIEVED AND THAT THERE IS NO LEAKAGE.
21. PROPERTY LIMIT VERIFICATION IS THE RESPONSIBILITY OF THE CONTRACTOR, WHO IS TO ENSURE ALL NEW CONSTRUCTION IS WITHIN THE PROPERTY LIMITS. IN ADDITION, CONTRACTOR IS RESPONSIBLE TO ENSURE REQUIRED SETBACKS ARE ACHIEVED AS ILLUSTRATED IN THE ARCHITECTS DRAWING.
29. PROPOSED BUILDING FOOTPRINT IS APPROXIMATE ONLY, CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR ACTUAL LOCATION.
30. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE MINIMUM EROSION AND SEDIMENTATION CONTROLS PRESCRIBED BY THE MINISTRY OF ENVIRONMENT AND SPECIFICATIONS OF THE CONTRACT.
31. DEWATER AS PER OPSS 517 AND 518. IF INDICATIONS OF CONTAMINATED WATER, IMMEDIATELY CONTACT THE ENGINEER. ALL POTENTIALLY CONTAMINATED SOURCES OF WATER TO DISPOSED OF IN ACCORDANCE WITH MINISTRY OF ENVIRONMENT REGULATIONS, OFFSITE BY A LICENSED CONTRACTOR.
32. THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER (OR THEIR CONTRACTOR) TO OBTAIN THE VARIOUS PERMITS / APPLICATIONS NORMALLY REQUIRED TO COMPLETE A CONSTRUCTION PROJECT SUCH AS, BUT NOT LIMITED TO:
   - 32.1. ENTRANCE PERMIT.
   - 32.2. ROAD CLOSURE / SIDEWALK CLOSURE PERMIT.
   - 32.3. BUILDING PERMIT.
   - 32.4. ENCROACHMENT / LICENSE AGREEMENTS.
   - 32.5. SEWER AND WATER CONNECTION APPLICATIONS.

33. ALL DIMENSIONS AND ELEVATIONS IN METERS UNLESS OTHERWISE NOTED.
34. LICENSED PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR CERTIFICATION.

ANY DISTURBED AREAS ARE TO BE REINSTATED WITH TOPSOIL AND SOD TO THE SATISFACTION OF THE MUNICIPALITY

EQUIPMENT / DEMOLITION NOTES:

1. THE TYPE OF EQUIPMENT USED SHALL BE SUITED TO THE MATERIAL TO BE COMPACTED, EXCAVATED, GRADED, AND PLACED TO THE DEGREE REQUIRED AND SPACE AVAILABLE.
2. EXCESS MATERIALS REMOVED AND NOT INCORPORATED INTO THE WORK, AS INDICATED IN THE CONTRACT DOCUMENTS, SHALL BECOME THE PROPERTY AND RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE MANAGED AND DISPOSED OF IN ACCORDANCE WITH OPSS 180 OFF PROPERTY.
3. DURING EXCAVATION WORK, THE CONTRACTOR SHALL BE CAREFUL NOT TO UNDERMINE EXISTING STRUCTURE OR DAMAGE UTILITIES.

Legend

MH	New Manhole	W	Proposed Watermain
MH	Existing Manhole	W	Existing Watermain
FH	New Fire Hydrant	SAN	Proposed Sanitary Sewer
FH	Existing Fire Hydrant	SAN	Existing Sanitary Sewer
WV	New Water Valve	ST	Proposed Storm Sewer
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CS	Existing Curb Stop		Existing Grass
HA 1	Hand Auger Location (TGE 2017)		

Rainy River District Social Services Administration Board

Client

Scale

SCALE 1:150

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03.05.17	Issued for Site Plan Control	TR	AR	LV	AR
23.06.17	Re-Issued for Site Plan Control	TR	AR	LV	AR

LICENSED PROFESSIONAL ENGINEER A.F. ROSE 100087510 23/06/17 PROVINCE OF ONTARIO

TRUE GRIT ENGINEERING

Civil Sub Consultant

Rainy River District Social Services Board
Proposed 8-Plex Residence
1300 Fifth Street East,
Fort Frances, On.

Removals and Excavation Plan

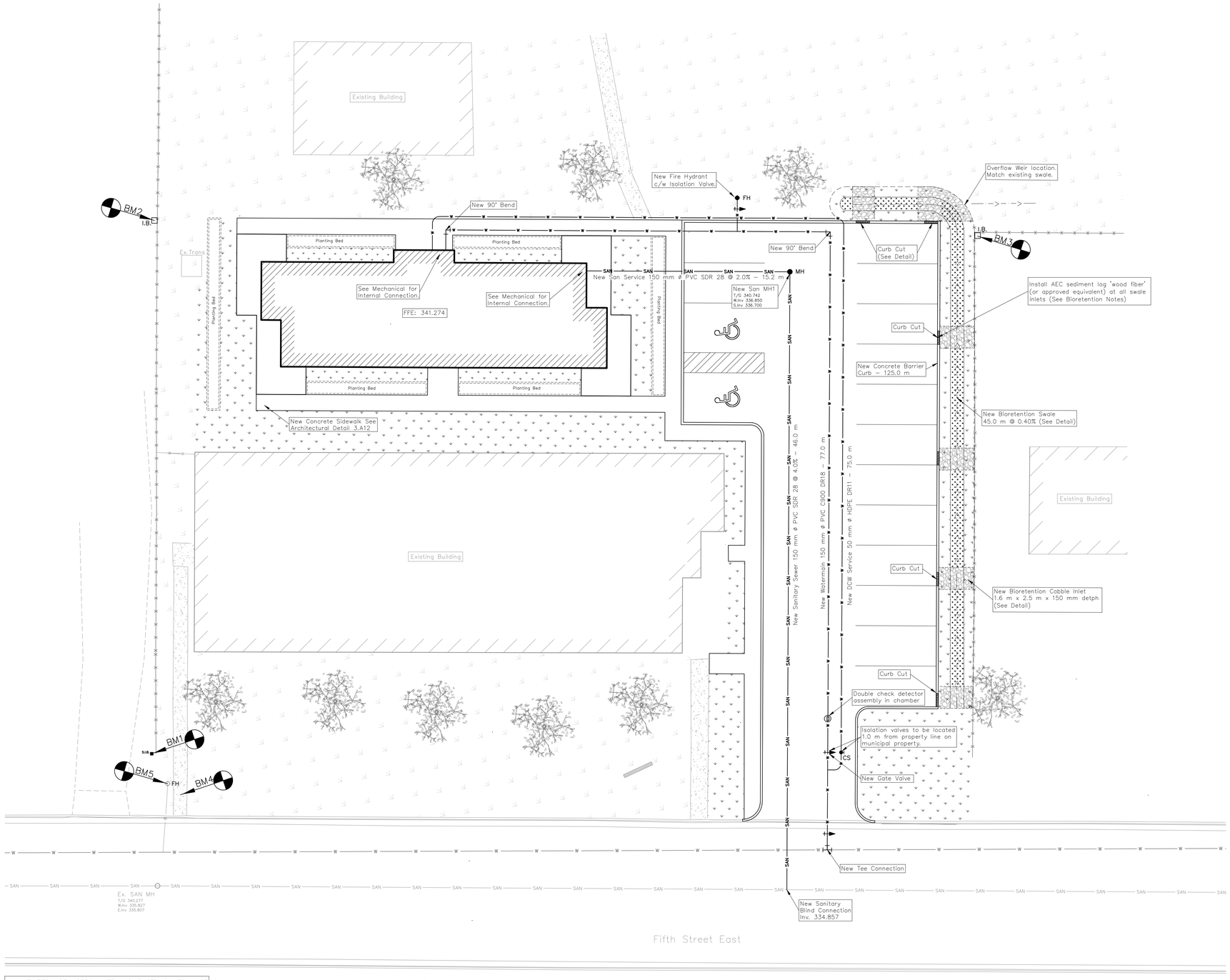
Project No. 17–095–57E

Revision 02

Drawing No. 02

File No. 17-095-57E-07-01

Plot Size: ARCH D (24.00 X 36.00 INCHES)



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NOTES FOR SERVICES INSTALLATION

1: WATER, SANITARY AND STORM INFRASTRUCTURE ARE TO BE CONSTRUCTED IN ACCORDANCE TO OPSS STANDARDS: 401, 410, 441, 517, 518, 1010, AND 1841.
2: EXISTING ELEVATIONS NOTED ARE APPROXIMATE ONLY. CONTRACTOR TO CONFIRM AND ADJUST TO SUIT ACTUAL ELEVATIONS.
3: ALL WATERMAIN, SANITARY AND STORM SEWER INFRASTRUCTURE SHALL BE INSPECTED BY THE ENGINEER PRIOR BACKFILLING EXCAVATION.
4: ALL WATERMAIN, SANITARY AND STORM SEWER INFRASTRUCTURE SHALL BE THE CURRENT MODEL YEAR.
5: ALL PIPE AND SEWERS ARE TO BE CLEAN INSIDE PRIOR TO INSTALLATION.
6: WATERMAIN, SANITARY AND STORM SEWER WITHIN PRIVATE PROPERTY TO FOLLOW SPATIAL (JOINT) SEPARATION AS PER OBC (2012) SECTION 7.3.5.7.
7: WATERMAIN, STORM AND SANITARY SEWERS TO BE 2.5m APART WHERE POSSIBLE, WITH A MINIMUM VERTICAL SEPARATION OF 0.5m. VARIATIONS FROM THESE REQUIREMENTS ARE SUBJECT TO THE APPROVAL OF THE ENGINEER.
8: MINIMUM DEPTH OF COVER FOR THE WATER LINE SHALL BE 2.2m. DEPTHS LESS THAN 2.2m SHALL BE INSULATED IN ACCORDANCE WITH OPSD 1109.030.
9: A MINIMUM CLEARANCE BETWEEN PIPE CROSSINGS OF 75mm IS TO BE ACHIEVED.
10: FACTORY FABRICATED WYES SHALL BE USED FOR ALL PRIVATE STORM AND SANITARY SERVICE CONNECTIONS.
11: UNDER NO CIRCUMSTANCES SHALL THE BUILDING FOUNDATION DRAINS BE CONNECTED DIRECTLY TO THE STORM SEWER SYSTEM.
12: IF REQUIRED, EXISTING COPPER WATER SERVICE CONNECTIONS SHALL BE RECONNECTED TO EXISTING WATERMAIN USING 50mm TYPE 'K' COPPER AND APPROVED COUPLINGS TEES AND SADDLES. VERIFY SIZES OF ALL CONNECTIONS THAT ARE LARGER THAN 50mm. MATCH TO EXISTING SIZE USING SIMILAR MATERIALS.
13: THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING FIELD LOCATES TO DETERMINE THE PIPE TYPE, LOCATION AND DEPTH OF EXISTING WATER CONNECTIONS.
14: THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOWERING, RAISING AND RECONNECTION OF EXISTING SERVICES AS REQUIRED TO SUIT THE NEW CONSTRUCTION.

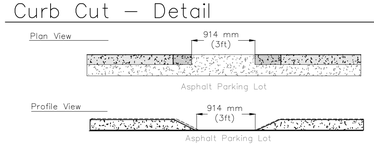
SANITARY AND STORM SEWER

1: TYPE OF SEWER PIPE, CLASS, ORIENTATION, SLOPE AND LENGTH ARE OUTLINED IN THE CONTRACT DRAWING.
2: EXISTING SEWER CONNECTIONS TYPE AND SIZE TO BE CONFIRMED PRIOR TO ORDERING NEW MATERIALS TO ENSURE COMPATIBILITY.
3: NEW SEWERS TO BE CONSTRUCTED AS SHOWN ON THIS DRAWING AND IN ACCORDANCE WITH OPSS 410, 1010, AND 1841.
4: ALL CHANGES IN DIRECTION OR INTERSECTION OF SEWER PIPE SHALL OCCUR IN A MANHOLE UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
5: NEW SANITARY SERVICE AND MANHOLE CONNECTIONS TO HAVE CLASS "B" BEDDING.
6: NEW SANITARY MANHOLES SHALL BE CONSTRUCTED AS PER OPSD 700.032, UNLESS DIRECTED OTHERWISE BY THE ENGINEER. FINAL COVER ELEVATION TO SUIT FINAL ASPHALT GRADES
6: ALL SANITARY SEWER WITH LESS THAN 2.5m OF COVER SHALL BE INSULATED IN ACCORDANCE WITH OPSD 1109.030.
7: ENDS OF SANITARY STUBS SHALL BE MARKED WITH A 4"X4"X10' BOARD PAINTED RED.
8: ALL MANHOLE FRAMES AND COVERS SHALL BE RESET TO NEW FINAL GRADE.

WATERMAIN CONSTRUCTION:

1: EXISTING WATERMAIN PIPE CONNECTION FOR SERVICE CONNECTION SHALL BE CONFIRMED FOR PIPE TYPE AND SIZE PRIOR TO ORDER OF NEW MATERIALS TO ENSURE COMPATIBILITY.
2: NEW WATERMAIN TO BE CONSTRUCTED AS SHOWN ON THIS DRAWING AND APPLICABLE OPSD'S.
3: NEW WATER LINE TO HAVE CLASS B BEDDING. BACKFILL TO BE GRANULAR B TYPE I. BEDDING, HAUNCHES AND BACKFILL COMPACTED TO 95% SPDD. SHOVEL MATERIAL INTO HAUNCHES. HAND HELD PLATE PACKERS UP TO HAUNCHES. MATERIAL SPECIFICATIONS AS PER OPSS 1010.
4: NEW SERVICE SHALL HAVE NO. 2/7 STRAND RWU–90 COPPER THAW/TRACER WIRE. THE THAW/TRACER WIRE SHALL BE CAD WELDED TO METALLIC FITTINGS, VALVES AND HYDRANT BOOTS.
5: FLUSHING AND CHLORINATION METHOD TO FOLLOW AWWA C651 STANDARDS AND MOECC DESIGN OF DRINKING WATER SYSTEMS (2008).
6: FIELD DE–CHLORINATION METHOD TO FOLLOW AWWA C655 STANDARDS AND MOECC DESIGN OF DRINKING WATER SYSTEMS (2008).
7: ALL PRIVATE FIRE LINES SHALL HAVE ONE (1) SWAB INSTALLED IN THE SYSTEM FOR FLUSHING PURPOSES.
8: NEW WATERMAIN WORK SHALL BE PHYSICALLY SEPARATED FROM THE EXISTING DISTRIBUTION SYSTEM UNTIL AFTER DISINFECTION IS SUCCESSFULLY COMPLETED.
9: CONTRACTOR IS RESPONSIBLE FOR ANY POINTS WITHIN THE EXISTING WATER DISTRIBUTION SYSTEM TO ENSURE SUITABLE WATER QUALITY AS A RESULT OF ANY ISOLATION ON DEAD ENDS DURING THE WORK.
10: CONTRACTOR TO PROVIDE TEMPORARY WATER SUPPLY TO ALL HOMES/BUSINESSES THAT WILL BE AFFECTED BY THE NEW WATERMAIN CONSTRUCTION. THE CONTRACTOR MAY CHOOSE TO RETAIN THE EXISTING WATERMAIN IN SERVICE DURING THE CONSTRUCTION OR PROVIDE OTHER TEMPORARY DISTRIBUTION.
11: THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING FIELD LOCATES TO DETERMINE THE PIPE TYPE, LOCATION AND DEPTH OF INFRASTRUCTURE.
12: THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOWERING, RAISING AND RECONNECTION OF EXISTING SERVICES AS REQUIRED TO SUIT THE NEW CONSTRUCTION.

Curb Cut – Detail



Rainy River District Social Services Administration Board

Client

Scale

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0 1.5 3 m SCALE 1:150

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23.06.17	Re–Issued for Site Plan Control	TR	AR	LV	AR

LICENSED PROFESSIONAL ENGINEER A.F. ROSE 100087516 23/06/17 PROVINCE OF ONTARIO

TRUE GRIT ENGINEERING

Civil Sub Consultant

Rainy River District Social Services Board
Proposed 8-Plex Residence
1300 Fifth Street East,
Fort Frances, On.

New Construction

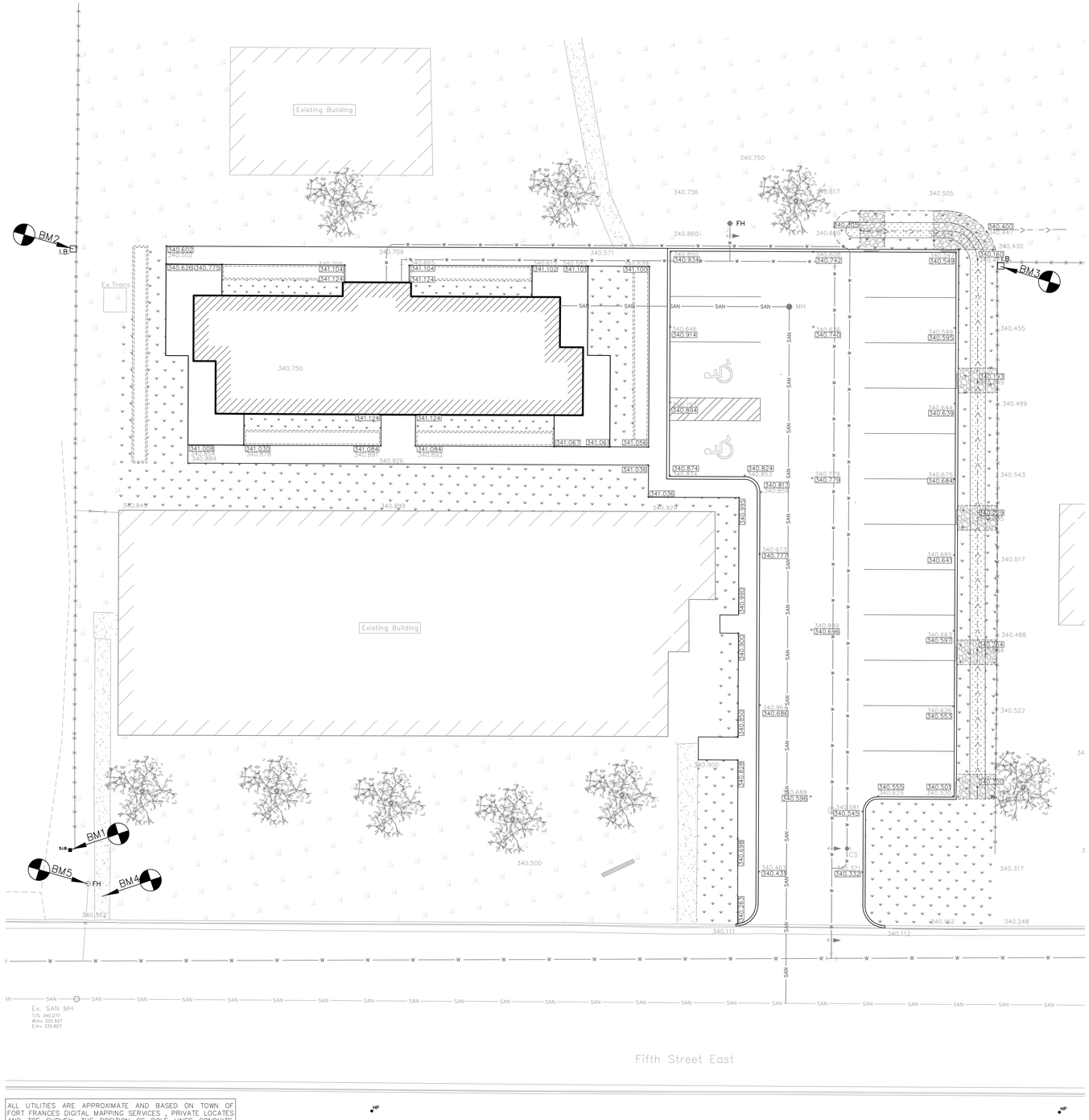
Project No. 00–000–00E

Revision 00

Drawing No. 03

File No. 17-095-57E-07-01

Plot Size: ARCH D (24.00 X 36.00 INCHES)



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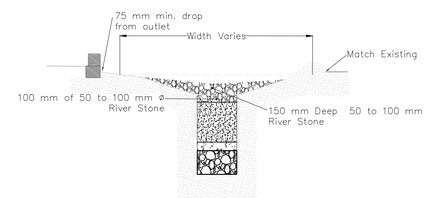
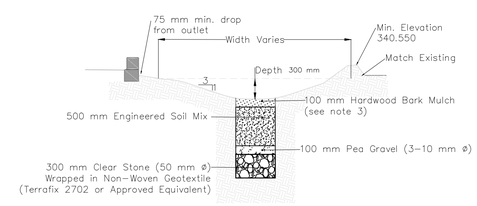
APPLICABLE ONTARIO STANDARD DRAWINGS (OPSD'S)

219.110	LIGHT–DUTY SILT FENCE BARRIER
400.001	HOISTING HOOK RIB FOR CAST IRON FRAMES FOR CATCH BASINS, MAINTENANCE HOLES, AND VALVE CHAMBERS
701.010	PRECAST CONCRETE MAINTENANCE HOLE (1200MM DIA.)
701.030	PRECAST CONCRETE MAINTENANCE HOLE COMPONENTS (1200MM DIA. TAPERED TOP AND FLAT CAP)
701.031	PRECAST CONCRETE MAINTENANCE HOLE COMPONENTS (1200MM DIA. RISER AND MONOLITHIC BASE)
700.032	PRECAST CONCRETE MAINTENANCE HOLE COMPONENTS (1200MM DIA. BASE SLAB)
802.030	RIGID PIPE BEDDING, COVER, AND BACKFILL TYPE 1 OR 2 SOIL – EARTH EXCAVATION
802.031	RIGID PIPE BEDDING, COVER, AND BACKFILL TYPE 3 SOIL – EARTH EXCAVATION
802.032	RIGID PIPE BEDDING, COVER, AND BACKFILL TYPE 4 SOIL – EARTH EXCAVATION
802.033	RIGID PIPE BEDDING, COVER, AND BACKFILL ROCK EXCAVATION
802.030	RIGID PIPE BEDDING, COVER IN EMBANKMENT RIGIC=NAL GROUND: EARTH OR ROCK
1006.010	SEWER SERVICE CONNECTIONS FOR RIGID MAIN PIPE SEWER
1006.020	SEWER SERVICE CONNECTIONS FOR FLEXIBLE MAIN PIPE SEWER
1103.010	CONCRETE THRUST BLOCKS FOR TEES, PLUGS, AND HORIZONTAL BENDS
1103.020	CONCRETE THRUST BLOCKS FOR VERTICAL BENDS
1103.021	DIMENSION TABLES FOR CONCRETE THRUST BLOCKS FOR VERTICAL BENDS
1104.010	WATER SERVICE CONNECTION 19 AND 25MM DIA. SIZES
1104.020	WATER SERVICE CONNECTION 32, 38, AND 50MM DIA. SIZES
1104.030	BLOW OFF INSTALLATION
1105.010	HYDRANT INSTALLATION
1109.010	CATHODIC PROTECTION FOR METALLIC WATERMAIN SYSTEMS
1109.011	CATHODIC PROTECTION FOR PVC WATERMAIN SYSTEMS
1109.013	ANODE INSTALLATION OVER PIPE METHOD FOR EXISTING METALLIC WATERMAINS

Bioretention Cobble Inlet – Detail



Bioretention Swale – Detail



Notes:
1. Contractor to ensure positive drainage.
2. Contractor to place cobbles at inlet. location as specified on the drawing. See cobble inlet detail.
3. 100 mm Hardwood Bark Mulch to be used if planting will occur in swale. If no planting is to occur, replace Hardwood Bark Mulch with Sod.

GRADING NOTES:

1. EXISTING ASPHALT/CONCRETE, BASE, SUBBASE, AND SUBGRADE TO BE REMOVED TO THE DEPTH AND WIDTH SPECIFIED.
2. GRANULAR MATERIALS SHALL BE COMPACTED IN 150mm LIFTS AND BE COMPACTED TO 100% OF A STANDARD PROCTOR IN ACCORDANCE WITH OPSS STANDARDS 314, 501, AND 1010.
3. VERTICAL ELEVATIONS SHALL BE WITHIN +/– 15mm, WHILE MAINTAINING THE INTENT OF FLOWS AND POSITIVE DRAINAGE.
4. ASPHALT/CONCRETE WALKWAY SHALL BE CONSTRUCTED WITH POSITIVE GRADING WITH NO AREAS OF PONDING WATER PERMITTED IN ACCORDANCE WITH OPSS 311.
5. ALL MANHOLE COVERS TO BE FIELD FIT TO MATCH EXISTING GRADES OF ASPHALT. GRADES PROVIDED ARE APPROXIMATE ONLY.
6. THE ELEVATIONS AND GRADES ON THE CONTRACT DRAWINGS ARE FOR GENERAL GRADING PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR SETTING FINAL GRADES AND ELEVATIONS TO ENSURE THE INTENT OF THE WORK IS CONSTRUCTED IN ACCORDANCE WITH ALL APPLICABLE SPECIFICATIONS AND TYPICAL DRAWINGS INCLUDED IN THE CONTRACT DOCUMENTS. ANY ADJUSTMENTS MADE TO THE GRADES OR ELEVATIONS ON THE CONTRACT DRAWINGS SHALL BE PROVIDED TO THE CONSULTANT A MINIMUM OF 48 HOURS PRIOR TO ANY PLACEMENT OF MATERIALS INTO THE WORK.
7. IN THE EVENT SUBDRAINS ARE ENCOUNTERED, CONTRACTOR SHALL REPAIR/REPLACE TO ORIGINAL CONDITION.
8. BOULEVARDS TO BE RESTORED WITH 75mm OF TOPSOIL AND SEED/MULCH. LIMITS SHALL BE DETERMINED AT THE TIME OF CONSTRUCTION. TOPSOIL SHALL BE IN ACCORDANCE WITH OPSS 802 AS REQUIRED TO MATCH INTO EXISTING FEATURES AND MATCHING INTO GRASSED YARDS OR AREAS. THE EXISTING SURFACE SHALL BE STRIPPED, AND GRADED WITH 75mm OF TOPSOIL AND SEED/MULCH. SEED AND MULCH SHALL BE PLACED IN ALL AREAS OF TOPSOIL PLACEMENT IN ACCORDANCE WITH OPSS 804.

BIORETENTION SWALE:

1. BIORETENTION ENGINEERED SOIL MIX COMPOSITION:
   1.1. SAND (2.0 TO 0.050 MM DIA. – 85 TO 88% BY WEIGHT.
   1.2. FINES (<0.050 MM DIA.) – 8 TO 12% BY WEIGHT.
   1.3. ORGANIC MATTER – 3 TO 5% BY WEIGHT.
   1.4. ENGINEERED SOIL SHALL HAVE THE FOLLOWING PROPERTIES;
      1.4.1. PHOSPHORUS SOIL TEST (P–INDEX) VALUE BETWEEN 10 TO 30 PPM.
      1.4.2. CATIONIC EXCHANGE CAPACITY (CEC) EXCEEDIGN 10 MILLIEQUIVALENTS PER 100 GRAMS (MEQ/100G).
      1.4.3. THE MIXTURE SHOULD BE FREE OF STONES,STUMPS,ROOTS, OR OTHER SIMILAR OBJECTS LARGER THAN 50 MM.
      1.4.4. PH BETWEEN 5.5 TO 7.5.
      1.4.5. THE MEDIA SHOULD HAVE AN INFILTRATION RATE OF GREATER THAN 25MM/HR.
2. GEOTEXTILE TO CONFORM TO OPSS 1860 FOR CLASS II GEOTEXTILE FABRIC.
3. PEA GRAVEL: 100 MM DEEP LAYER OF 3 – 10 MM DIA. WASHED CLEAR STONE. NO FINES.
4. GRAVEL STORAGE LAYER TO BE 50 MM DIA. WASHED CLEAR STONE. NO FINES.
5. BIORETENTION AREAS SHOULD BE FULLY PROTECTED BY SILT FENCE OR CONSTRUCTION FENCING TO PREVENT SEDIMENT FROM ENTERING THE AREAS AND TO PREVENT COMPACTION BY CONSTRUCTION TRAFFIC AND EQUIPMENT.
6. INSTALLATION MAY ONLY BEGIN AFTER ENTIRE CONTRIBUTING DRAINAGE AREA HAS BEEN EITHER STABILIZED OR FLOWS HAVE BEEN SAFELY ROUTED AROUND THE AREA.
7. EXCAVATORS OR BACKHOES WORKING ADJACENT TO THE PROPOSED BIORETENTION AREA SHOULD EXCAVATE CELL TO THE APPROPRIATE DESIGN DEPTH.
8. IT MAY BE NECESSARY TO RIP/SCARIFY THE BOTTOM SOILS TO PROMOTE GREATER INFILTRATION OR EXCAVATE ANY SEDIMENT THAT MAY HAVE BUILT UP DURING CONSTRUCTION.
9. SUBMIT SOIL TEST REPORT FOR BIORETENTION ENGINEERED SOIL FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
10. BIORETENTION ENGINEERED SOIL SHOULD BE OBTAINED PREMIXED FROM A VENDOR, APPLY IN 200 MM LIFTS UNTIL DESIRED TOP ELEVATION OF BIORETENTION AREA IS ACHIEVED. THOROUGHLY WET BIORETENTION AREA AS DIRECTED BY ENGINEER. CHECK FOR SETTLEMENT AFTER 48 HOURS AND ADD ADDITIONAL MEDIA AS NEEDED.
11. PREPARE PLANTING HOLES FOR ANY TREES AND SHRUBS, INSTALL VEGETATION AND WATER ACCORDINGLY.
12. PLANT LANDSCAPING MATERIAL AS SHOWN AND WATER WEEKLY IN THE FIRST TWO MONTHS.

Legend

MH	New Manhole	W	Proposed Watermain
MH	Existing Manhole	W	Existing Watermain
FH	New Fire Hydrant	SAN	Proposed Sanitary Sewer
FH	Existing Fire Hydrant	SAN	Existing Sanitary Sewer
WV	New Water Valve / Existing Water Valve	ST	Proposed Storm Sewer
CB	New Catch Basin	ST	Existing Storm Sewer
CB	Existing Catch Basin		Existing Building
CS	New Curb Stop		New Building Addition
CS	Existing Curb Stop		New Topsoil and Sod
HA 1	Hand Auger Location (TGE 2017)		Existing Grass

File No. 17-095-57E-07-01

Rainy River District Social Services Administration Board
Client

Scale
SCALE 1:150

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DD.MM.YY	Issue.Revision.Description	Drn	Chk	Des	Eng
03.05.17	Issued for Site Plan Control	TR	AR	LV	AR
23.06.17	Re-Issued for Site Plan Control	TR	AR	LV	AR

LICENSED PROFESSIONAL ENGINEER A.F. ROSE 100087516 23/06/17 PROVINCE OF ONTARIO

TRUE GRIT ENGINEERING
Civil Sub Consultant

Rainy River District Social Services Board
Proposed 8-Plex Residence
1300 Fifth Street East,
Fort Frances, On.

Proposed Grading and Stormwater Management Plan

Project No. 17–095–57E
Revision 02
Drawing No. 04

Appendix B: Pre and Post Development Catchment Areas

1263 Innovation Drive, Thunder Bay, ON, P7B 0A2
Tel: (807) 626-5640 | Fax: (807) 623-5690
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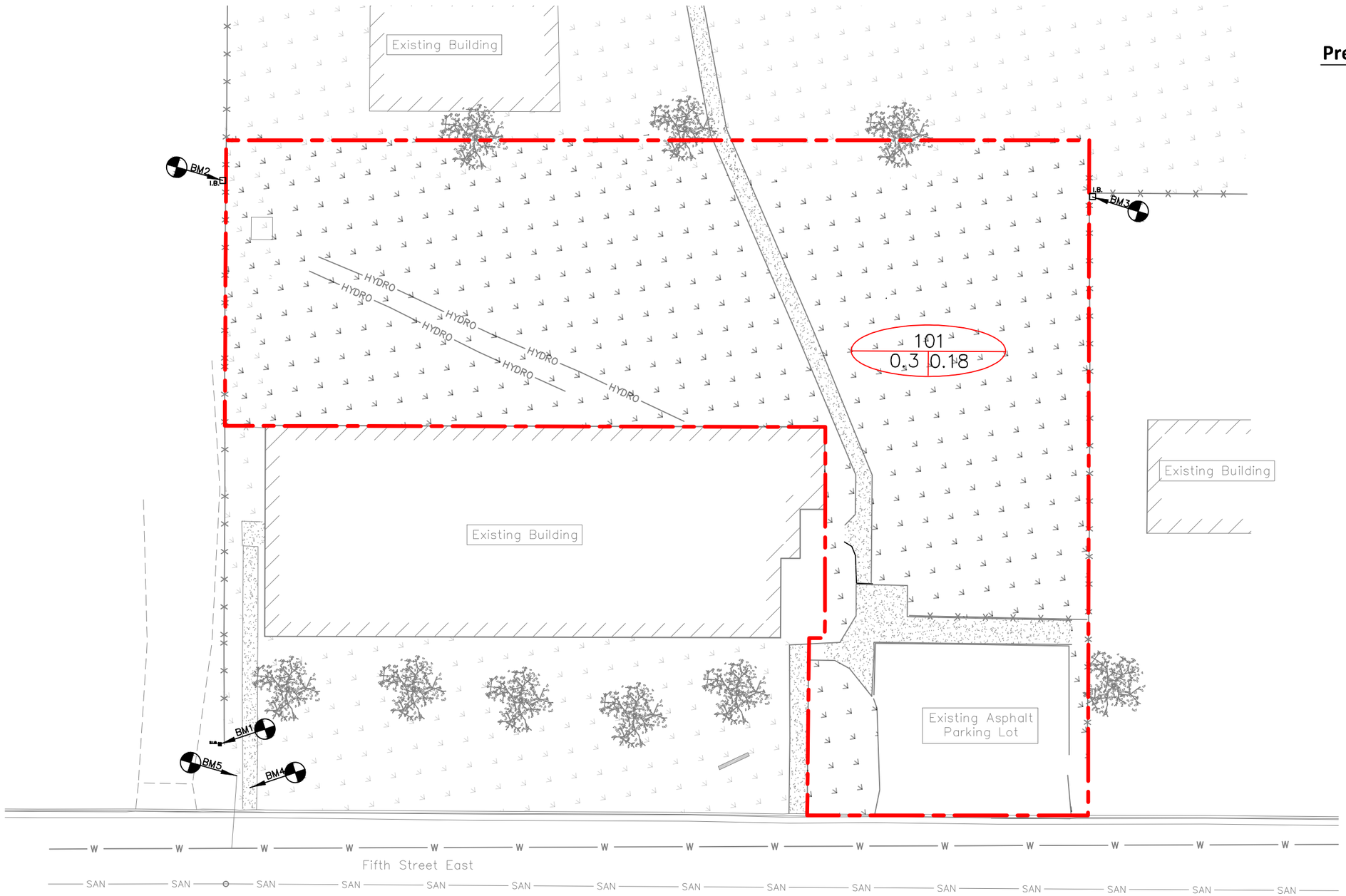
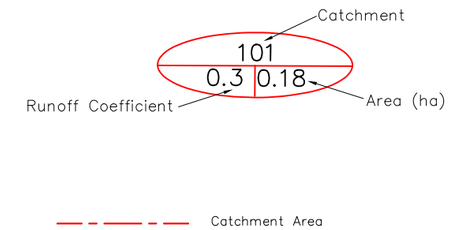
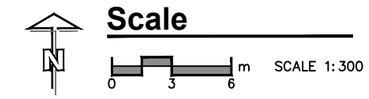
Plot Size: ANSI EXPAND B (11.00 X 17.00 INCHES)



Pre-Development Catchment Area





Note

This drawing is for conceptual purposes only and shall not be used for construction.

Rainy River District Social Services Administration Board

CLIENT

YY/MM/DD	ISSUE/REVISION DESCRIPTION	DRN	CHK	DES	ENG
17.05.09	Issued for Civil Design Brief	TR	AR	LV	AR

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TRUE GRIT ENGINEERING

CIVIL SUB CONSULTANT

Rainy River District Social Services Board
Proposed 8-Plex Residence
1300 Fifth Street East, Fort Frances, Ontario

Pre-Development Catchment Area

PROJECT NUMBER 17-095-57E

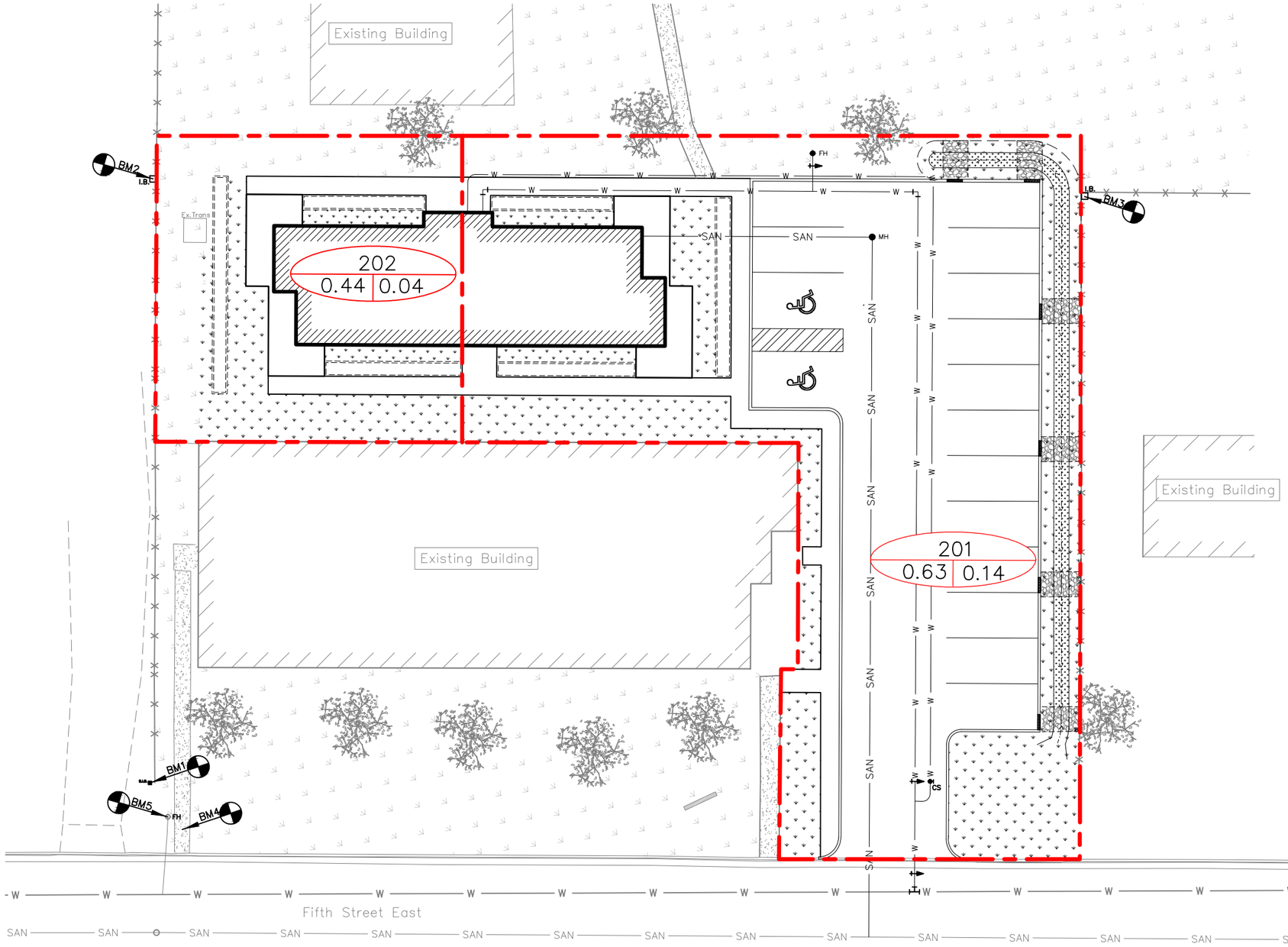
ISSUE/REVISION 01

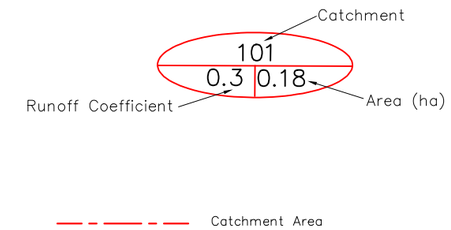
DRAWING NUMBER 01

File No. 17-095-57E-05-01 - CATCHMENT AREA-

Plot Size: ANSI EXPAND B (11.00 X 17.00 INCHES)

Post-Development Catchment Area





Scale

SCALE 1:300

0 3 6 m

Note

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Rainy River District Social Services Administration Board

CLIENT

YY/MM/DD	ISSUE/REVISION DESCRIPTION	DRN	CHK	DES	ENG
17.05.08	Issued for Civil Design Brief	TR	AR	LV	AR
17.06.08	Re-Issued for Catchment Update	TR	AR	LV	AR

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Rainy River District Social Services Board
Proposed 8-Plex Residence
1300 Fifth Street East, Fort Frances, Ontario

Post-Development Catchment Area

PROJECT NUMBER 17-095-57E

ISSUE/REVISION 02

DRAWING NUMBER 01

Appendix C: Geotechnical Laboratory Results

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TRUE GRIT ENGINEERING

1263 Innovation Drive
Thunder Bay, ON P7B 0A2
T 807.626.5640 F 807.623.5690

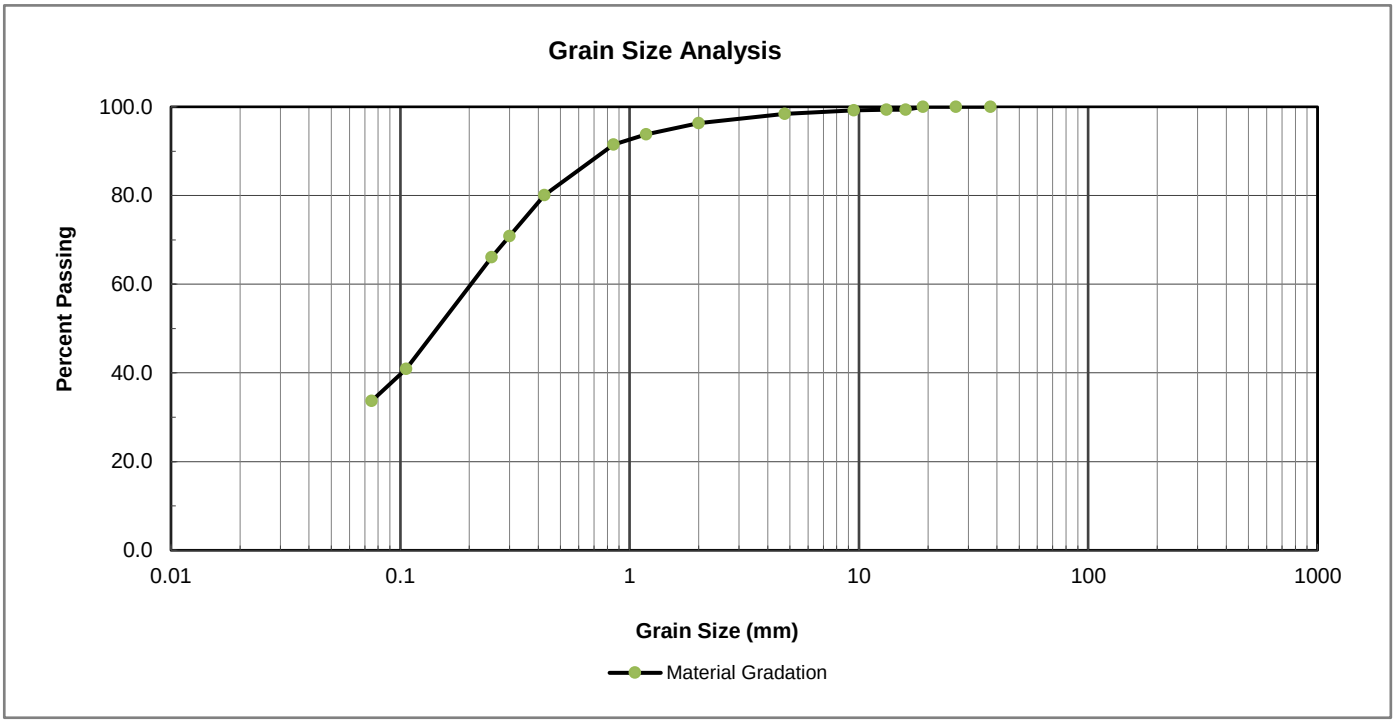
Grain Size Analysis Test Report

Client: FORM Architecture
Project Description: Rainy River DSSAB - 8 Plex Studio Apartment
True Grit Project No. 17-095-57E
Client Project No.:

Material Type: Silt/clayey sand, traces gravel
Source: Rainy River
Sample Location: HA03 S-1 0.0 - 0.5 m
Sampled By: BW
Date Sampled: 26-Apr-17

Lab No.: 1252 A
Date Received: 01-May-17
Tested By: AR
Date Tested: 02-May-17

Grain Size Analysis		
Sieve	**Percent Passing**	
Sizes,mm	**Sample**	**Specification**
37.5	100.0	
26.5	100.0	
19	100.0	
16	99.3	
13.2	99.3	
9.5	99.2	
4.75	98.4	
2	96.3	
1.18	93.8	
0.85	91.5	
0.425	80.1	
0.3	70.8	
0.25	66.1	
0.106	40.9	
0.075	33.7	



Remarks: -Tested in accordance with LS-601/602
- Gravel % = 1.6
- Sand % = 64.7
- Silt/Clay % = 33.7

Results reviewed by:

Erika Endaya
Supervisor, Materials Testing

CCIL The Voice Of Independent Canadian Laboratories La voix des laboratoires indépendants canadiens

TRUE GRIT ENGINEERING

1263 Innovation Drive
Thunder Bay, ON P7B 0A2
T 807.626.5640 F 807.623.5690

Grain Size Analysis Test Report

Client: FORM Architecture
Project Description: Rainy River DSSAB - 8 Plex Studio Apartment
True Grit Project No.: 17-095-57E
Client Project No.:

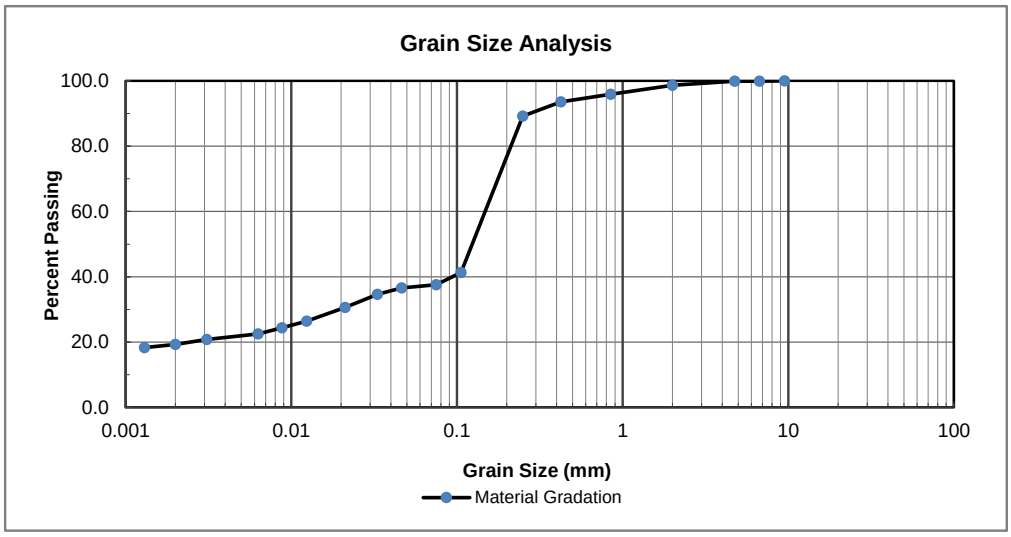
Material Type: Sand some clay, some silt, trace gravel
Source: Rainy River
Sample Location: HA05 S-3 1.0 - 1.5 m
Sampled By: BW
Date Sampled: 26-Apr-17

Lab No.: 1252 B
Date Received: 01-May-17
Tested By: AR
Date Tested: 03-May-17

Sieve Analysis	
Sieve Sizes,mm	**Percent Passing**
53.0	
37.5	
26.5	
19	
16	
13.2	
9.5	100.0
6.7	99.9
4.75	99.9
2	98.7
0.85	95.9
0.425	93.6
0.25	89.2
0.106	41.3
0.075	37.6

- % Gravel = 0.1
- % Sand = 62.3
- % Silt = 18.3
- % Clay-sized particles = 19.3

Hydrometer Analysis	
Particle Sizes,mm	**Percent Smaller**
0.0465	36.6
0.0331	34.6
0.0212	30.6
0.0124	26.4
0.0088	24.4
0.0063	22.5
0.0031	20.8
0.002	19.3
0.0013	18.3



Remarks: Sieve analysis combined with hydrometer analysis on the soil fraction passing 75 µm sieve to obtain the complete grain size distribution data.

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Results reviewed by: **Erika Endaya**
Materials Testing Supervisor

FORTFRANCES
BOUNDLESS

Date: June 29, 2017

Report To: Planning and Development Executive Committee

From: Tyson Dennis, Chief Building Official/Municipal Planner

Re: **Sovereign Asset Management 850 Kings HWY Great Canadian Oil Change Site Plan Control Agreement**

The application for Site Plan Control was submitted to the Planning and Development department November 16, 2016. The applicant and the Planning department have been working with Antech Design and Engineering Group (ADEG) to propose and complete a Site Plan Control Agreement.

I have attached the application, site plan of the proposed building and the report from ADEG to this report. The report from ADEG describes the action that will be taken regarding storm water management. The Operations and Facility manager, Travis Rob, has signed off on the report for storm water. The installation of new water and sewer services will be completed at the owners cost. The fire department has gone over the plan and is satisfied with the proposed development. The Zoning By-Law states regulations on parking lot completion, proper buffer from adjacent properties as well as site triangle distances. As a condition for Site Plan Control, the Town may collect a proponent, to satisfy conditions of this Site Plan Control Agreement. All legal costs will be covered by Sovereign Asset Management as a part of the agreement.

It is the recommendation of the Planning and Development department to enter into a Site Plan Control Agreement with the above stated conditions. These conditions will be entered into an agreement to be registered on title, once approved at the next Council Meeting.

Originally Signed

Tyson Dennis
Chief Building Official and Municipal Planner

ANTECH DESIGN AND ENGINEERING GROUP

32 ZATONSKI AVENUE • BRANTFORD, ON N3V 1G1

FUNCTIONAL SERVICING REPORT

850 Kings Highway, Fort Frances

Abstract

Functional Servicing Report for a new Great Canadian Oil Change with car wash at 850 King's Highway

Contents

1.0 INTRODUCTION 2
FIGURE 1 SITE LOCATION MAP 2
2.0 SITE INFORMATION 2
FIGURE 2 AREIAL PHOTO 3
3.0 PROPOSED DEVELOPMENT 3
3.1 SANITARY SEWERS 3
3.2 STORM SEWERS 3
3.3 WATER USAGE / WATERMAIN 4
3.4 FIRE FLOW ESTIMATE 4
FIGURE 3 EXPOSURE CORRECTIONS 4
3.5 WASTEWATER GENERATION ASSESSMENT 4
4.0 STORMWATER MANAGEMENT 4
4.1 DESIGN CRITERIA 4
FIGURE 4 STORM PARAMETERS 5
4.2 PRE-DEVELOPMENT SITE CONDTIONS 5
FIGURE 5 EXISTING CONDITION CATCHMENT AREAS 5
FIGURE 6 EXISTING CONDITION SITE DISCHARGE – CATCHMENT 101 5
4.3 POST-DEVELOPMENT CONDITIONS 5
FIGURE 7 PROPOSED CONDITION CATCHMENT AREAS 6
FIGURE 8 POST-DEVELOPMENT SITE DISCHARGE – CATCHMENT 201 6
FIGURE 9 POST-DEVELOPMENT SITE DISCHARGE – CATCHMENT 202 6
5.0 WATER QUANTITY CONTROL 6
6.0 WATER QUALITY CONTROL 6
7.0 SEDIMENT AND EROSION CONTROL 7
8.0 CONCLUSIONS 7

Appendices

Appendix A – Legal Survey Plan ..... Encl.

Appendix B – Proposed Site Plan ..... Encl.

Appendix C – Site Services Design Sheet ..... Encl.

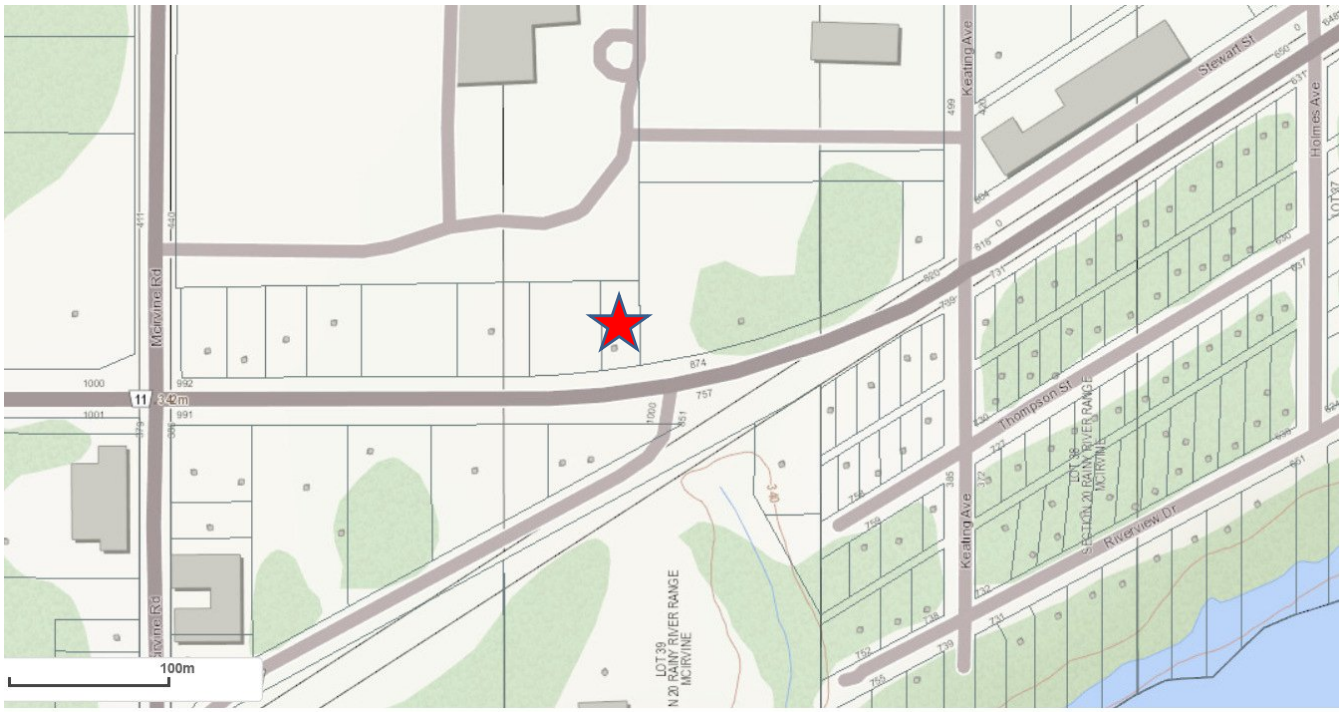
Appendix D – Stormwater Management Information / Calculations ..... Encl.

Appendix E- Preliminary Stormwater Management Plan ..... Encl.

1.0 INTRODUCTION

In support of the proposed development, a 136m^2 Great Canadian Oil Change with carwash, this report documents the preliminary site servicing and stormwater management design for the development of 850 Kings Highway in the Town of Fort Frances. Figure 1 below is a site location map.

FIGURE 1 SITE LOCATION MAP



2.0 SITE INFORMATION

The subject property has an area of 1378.3m^2 (0.13783ha). The subject property has a frontage of 24.8m on The Kings Highway.

The site is bounded to the north by Confederation College – Rainy River District Campus. The site is bounded to the south by The King's Highway. The site is bounded to the east by Boston Pizza. The site is bounded to the west by A&W.

The site is developed with a single-family dwelling operating a commercial business (Insurance). The subject property is primarily flat and even throughout. The Appendix A contains the existing plan of survey which illustrates the pre-development property.

FIGURE 2 AREIAL PHOTO

3.0 PROPOSED DEVELOPMENT

This report is in support of the site plan requirements for the Town of Fort Frances. The proposed development is a 136m^2 Great Canadian Oil Change with carwash. The site plan of the proposed development can be found in Appendix B.

3.1 SANITARY SEWERS

Sanitary demand for the proposed development is based on the number of fixture units and is calculated as per Ontario Building Code (OBC) Section 7 Table 7.6.3.2.A, sizing of water distribution system and OBC Appendix B Table 7.6.3.1, pipe size based on the number of fixture units served. Appendix C of this report contains the site services design calculation sheet.

A proposed 6" (150mm) diameter sanitary sewer, at a minimum slope of 0.75%, is to be connected to the existing 250mm diameter sewer on The Kings Highway will service the proposed development.

3.2 STORM SEWERS

Storm sewer demand is based on the storm water management calculations. The composite runoff coefficient (Cr) of the existing site is less than the proposed developed site. For the proposed development, a 10" (250mm storm), 3 new catch basins and an orifice plate will connect to the existing 750mm diameter storm sewer on The King's Highway. This is further detailed in Section 4.0 Stormwater Management.

3.3 WATER USAGE / WATERMAIN

Water demand for the proposed development is based on the chart in Appendix C. Total peak water usage for the site was derived from the fixture unit count as per OBC 7.4.10.5.(a).

A proposed minimum 1 1/2" (38mm) diameter water service connected to the existing 150mm diameter water service on The Kings Highway will service the proposed development based on 62.5 fixture units as per OBC Appendix A Table A-7.6.3.1.

3.4 FIRE FLOW ESTIMATE

The proposed development consists of a one-storey Great Canadian Oil Change with carwash with the associated parking and landscaped areas. The proposed building has a ground floor area of approximately 136m^2 as per the Site Plan attached in Appendix B. The fire flow estimate is based on Water Supply for Public Fire Protection – 1999 issued by Fire Underwriters Survey.

The fire flow estimate is calculated from the following formula:

$$F = 220C\sqrt{A}$$

The proposed building will be of non-combustible construction (C= 0.8). Exposure corrections are added to the value for C and are based on the following table:

FIGURE 3 EXPOSURE CORRECTIONS

FACE OF BUILDING	EXPOSURE	CORRECTION %
North	36.1m	5 %
South	12.3m	15 %
East	10.7m	15 %
West	4.1m	20 %
TOTAL		55 %

Using the formula above with A being (136*1=136), C = 0.8 and the percent correction is equal to 55 %, the required fire flow F for the proposed development is 3,000 l/min.

3.5 WASTEWATER GENERATION ASSESSMENT

Wastewater design flow is to be determined by the designer of the building. It is strongly recommended that wastewater regeneration measures are employed on site in order to limit wastewater quantity.

4.0 STORMWATER MANAGEMENT

4.1 DESIGN CRITERIA

The storm water management criteria provided by the Town of Fort Frances used for the analysis on the site are as follows:

- Quantity Control – 50-year post development flow should be controlled to 2-year pre-development flow or to the capacity of the existing storm lateral, whichever is less
- Quantity Control – quality control Level 1 (Enhanced) quality control should be provided
- Erosion and sediment control measures will be implemented in accordance with the standards of the City

The Town of Fort Frances storm parameters used to model the 2-year and 50-year design rainfall events for the site are summarized in the table below.

FIGURE 4 STORM PARAMETERS

Coefficient	2 Year	50 Year
A	576.11	1350.00
B	3.80	5.50
C	0.7418	0.7497
R	0.4	0.4
Duration (min)	180	180
Total Depth (mm)	36.136	80.701
Maximum Intensity (mm/hr)	114.786	231.605

4.2 PRE-DEVELOPMENT SITE CONDTIONS

In the existing condition the site is developed with a gravel area, some curbing, and landscaping as per the legal survey contained in Appendix A.

One catchment area, Catchment 101, has been identified in the existing condition. Catchment 101 represents drainage from the entire site, which drains towards The King's Highway (Figure 5 below).

FIGURE 5 EXISTING CONDITION CATCHMENT AREAS

Catchment ID	Description	Area (ha)	% Impervious	Runoff Coeff. (Cr)
101	Entire Site	0.13783	44.2	0.442

An analysis was performed on the existing condition site using hydrologic modeling for the 2-year, and 50-year Town of Fort Frances. These results can be found in Figure 6 below.

FIGURE 6 EXISTING CONDITION SITE DISCHARGE – CATCHMENT 101

Event	Volume (m^3)	Max Flow (m^3/s)
2 Year Event	24.14	0.013
50 Year Event	71.28	0.030

4.3 POST-DEVELOPMENT CONDITIONS

Two catchment areas, Catchments 201 and 202, have been identified for the proposed development condition (see Figure 7 below). Catchment 201 represents drainage from the roof area which will be diverted to the proposed catch basin in the parking lot. Catchment 202 represents the remainder of the property which will drain into a catch basin located in the parking area of the property. Note that the

composite runoff coefficient for the post-development condition is 0.763 and the pre-development condition is 0.442. Appendix E contains the storm water management drawing illustrating the ponding areas.

FIGURE 7 PROPOSED CONDITION CATCHMENT AREAS

Catchment ID	Description	Area (ha)	% Impervious	Runoff Coeff. (Cr)
201	Roof	0.01356	90%	0.90
202	Remaining	0.12427	75%	0.75

An analysis was performed on the post-development condition of the site using hydrologic modeling for the 2-year and 50-year City of Fort Frances design storms. These results are shown in Figures 8 and 9 below.

FIGURE 8 POST-DEVELOPMENT SITE DISCHARGE – CATCHMENT 201

Event	Volume (m^3)	Max Flow (m^3/s)
2 Year Event	3.88	0.003
50 Year Event	9.61	0.006

FIGURE 9 POST-DEVELOPMENT SITE DISCHARGE – CATCHMENT 202

Event	Volume (m^3)	Max Flow (m^3/s)
2 Year Event	31.04	0.020
50 Year Event	80.26	0.044

5.0 WATER QUANTITY CONTROL

It is required to provide water quantity control measures to restrict the discharge from the subject property to the existing 2-year discharge rate during all storm events, up to and including the 50-year event. From Figure 6 this rate is 0.013 m^3/s. For Catchment 201 initial storm flow will be held on the roof using flow control drains and then diverted to the parking lot catch basin. The catch basin closest to the street will be equipped with a 60mm orifice plate that will limit the flow to 0.013m^3/s.

The parking area of the property will be graded to provide approximately 17 m^3 of storage behind the building. As mentioned previously, flow control roof drains can be employed to use the roof as a storage area for storm water. Approximately 17m^3 of water will need to be stored during the 50 year storm. Water in excess of the 50-year amount will flow overland to the street.

6.0 WATER QUALITY CONTROL

Quality of Storm water runoff from the proposed development will be maintained through landscaping and property design. The water generated from the automobile washing facility will be filtered through an oil and grit separator beneath the wash bay and then directed to the sanitary sewer system.

7.0 MAINTENANCE RECOMMENDATIONS

The maintenance of the storm water management systems is crucial to the functionality of the system. The following are the minimum maintenance requirements:

1. Inspection of all catchbasins and manholes a minimum of monthly
2. Any structure that requires repair must be immediately repaired or replaced
3. All sediment buildup to be removed a minimum of twice annually at the beginning of spring and before first frost or within 7 days of monthly inspection when 70% full, whichever is sooner.
4. All areas of landscaping shall be maintained. Where grass or ground cover is required these areas shall be kept up
5. All sediment disposal to be in accordance with MOE standards.

8.0 SEDIMENT AND EROSION CONTROL

To protect watercourses, existing developments and the sewer system it is suggested that the following erosion control measures be implemented for the subject development.

1) Medium Duty Sediment Control Fence Barrier
   To inhibit the transport of sediment to surrounding properties and to provide opportunity for suspended sediments to settle on site
2) Use of mud matts at the entrance / exits of the property during construction
   To inhibit the transport of sediment to other properties
3) Catchbasin / Manhole inserts
   To capture suspended solids prior to entering the storm sewer network

Using these practices will assist in addressing water quality during the construction and post construction phases. It is advised that these measures be implemented prior to the commencement of work and be maintained throughout the construction processes until the site is fully restored and vegetated.

9.0 CONCLUSIONS

Based on the information contained within this report and its appendices, it is concluded that the proposed development at 850 Kings Highway can be constructed to meet the requirements of the Town of Fort Frances.

In summary, the features of the design for the proposed development are as follows:

- Sanitary service to the proposed building will be provided via a 150mm service
- Water service to the proposed building will be provided via a minimum 38mm service to the building
- 3 new catch basins an orifice plate and storm sewer are proposed to be connected to the existing storm sewer system
- The stormwater discharge rate from the proposed site shall be controlled to the existing 2-year discharge rate during all storm events up to and including the 50-year event,

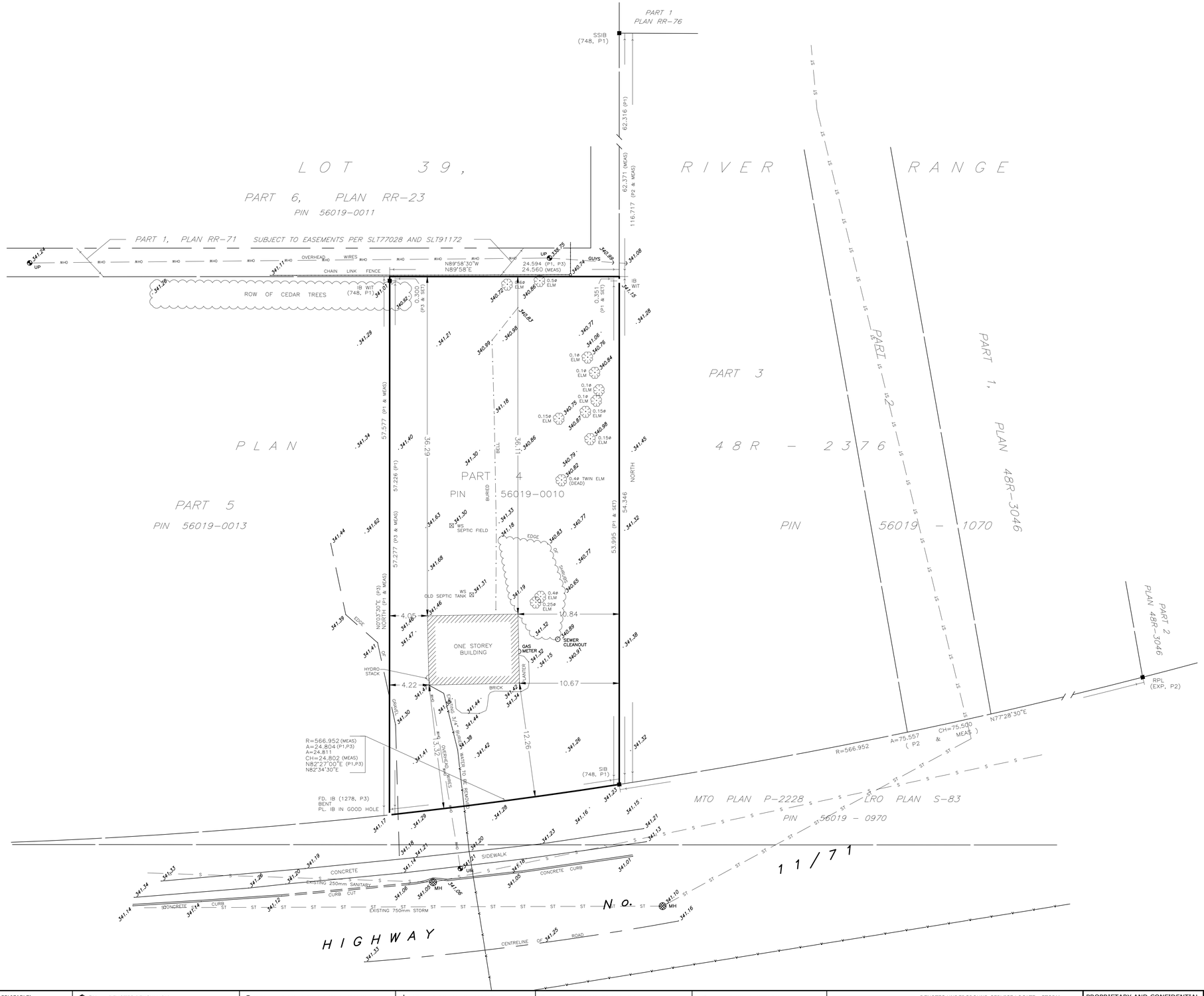
- Erosion and sediment control measures will be implemented in accordance with the standards of the Town of Fort Frances

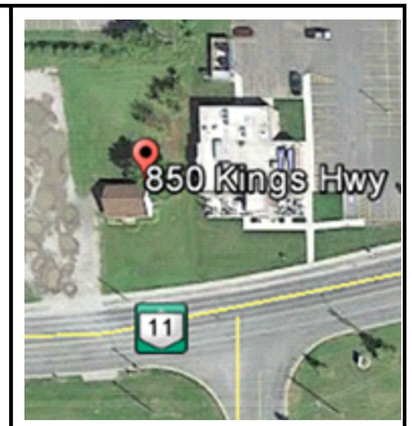
Candice Micucci, MCIP, RPP

Andrew Butler P.Eng.

LICENSED PROFESSIONAL ENGINEER
J. A. BUTLER
2017.02.21
09:26:07 -05'00'
PROVINCE OF ONTARIO

APPENDIX A
Legal Survey Plan





NOTES
1. ALL TOPOGRAPHIC & SERVICE INFORMATION COMPLETED BY EXP., ONTARIO LAND SURVEYORS. SEE ORIGINAL SURVEY DATED SEPTEMBER 30TH, 2016.
2. THE POSITION & SIZE OF POLE LINES, CONDUITS, WATERMAINS, SEWERS & OTHER UNDERGROUND & ABOVE GROUND UTILITIES & STRUCTURES ARE NOT NECESSARILY SHOWN ON THE DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION & SIZE OF SUCH UTILITIES & STRUCTURES IS NOT GUARANTEED. BEFORE COMMENCING WORK, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES & STRUCTURES & SHALL ASSUME ALL LIABILITY FROM DAMAGE TO SAME.

SOVEREIGN ASSET MANAGEMENT

REV:	DESCRIPTION	DATE	APPROVED BY

ANTECH DESIGN & ENGINEERING GROUP
Engineers and Urban Planners
32 Zatonski Avenue
Brantford, ON. N3V 1G2
www.antechdesign.com

PROJECT:
SITE PLAN OF PROPOSED NEW CONSTRUCTION OF

PART OF LOT 39, RIVER RANGE
TOWNSHIP OF MCIRVINE
TOWN OF FORT FRANCES
DISTRICT OF RAINY RIVER
DESIGNATED AS PART 4, PLAN 48R-2376

850 KING'S HIGHWAY, FORT FRANCES, ONTARIO

Scale 1 : 200
8 6.0 4.0 2.0 0 4 8 Metres

METRIC CONVERSION
DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

ELEVATION NOTE:
ELEVATIONS ARE REFERRED TO BENCH MARK No. 0011979U171, LOCATED ON THE ADVENTURE INN, HAVING AN ELEVATION OF 341.184 METRES CGVD28.

SHEET 2 OF 9

TITLE: EXISTING CONDITION PLAN

DRAWN BY: CHM | CHECKED BY: JAB | DRAWING DATE: 2017.01.31
CUSTOMER: SOVEREIGN ASSET MANAGEMENT
DRAWING NUMBER: 161709

LEGEND & NOTES: (IF APPLICABLE)

■	DENOTES FOUND MONUMENTS
□	DENOTES SET MONUMENTS
IB	DENOTES IRON BAR
SIB	DENOTES STANDARD IRON BAR
SSIB	DENOTES SHORT STANDARD IRON BAR
CC	DENOTES CUT CROSS
N&W	DENOTES NAIL & WASHER
PL	DENOTES REGISTERED PLAN
OU	DENOTES ORIGIN UNKNOWN
M	DENOTES MEASURED
PROP	DENOTES PROPORTIONED
WIT	DENOTES WITNESS
BM	DENOTES BENCHMARK
	DENOTES TREELINE
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	DENOTES TRAFFIC SIGN
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	DENOTES TRAFFIC FLOW DIRECTION
	DENOTES DIRECTION OF SURFACE WATER

PROPRIETARY AND CONFIDENTIAL

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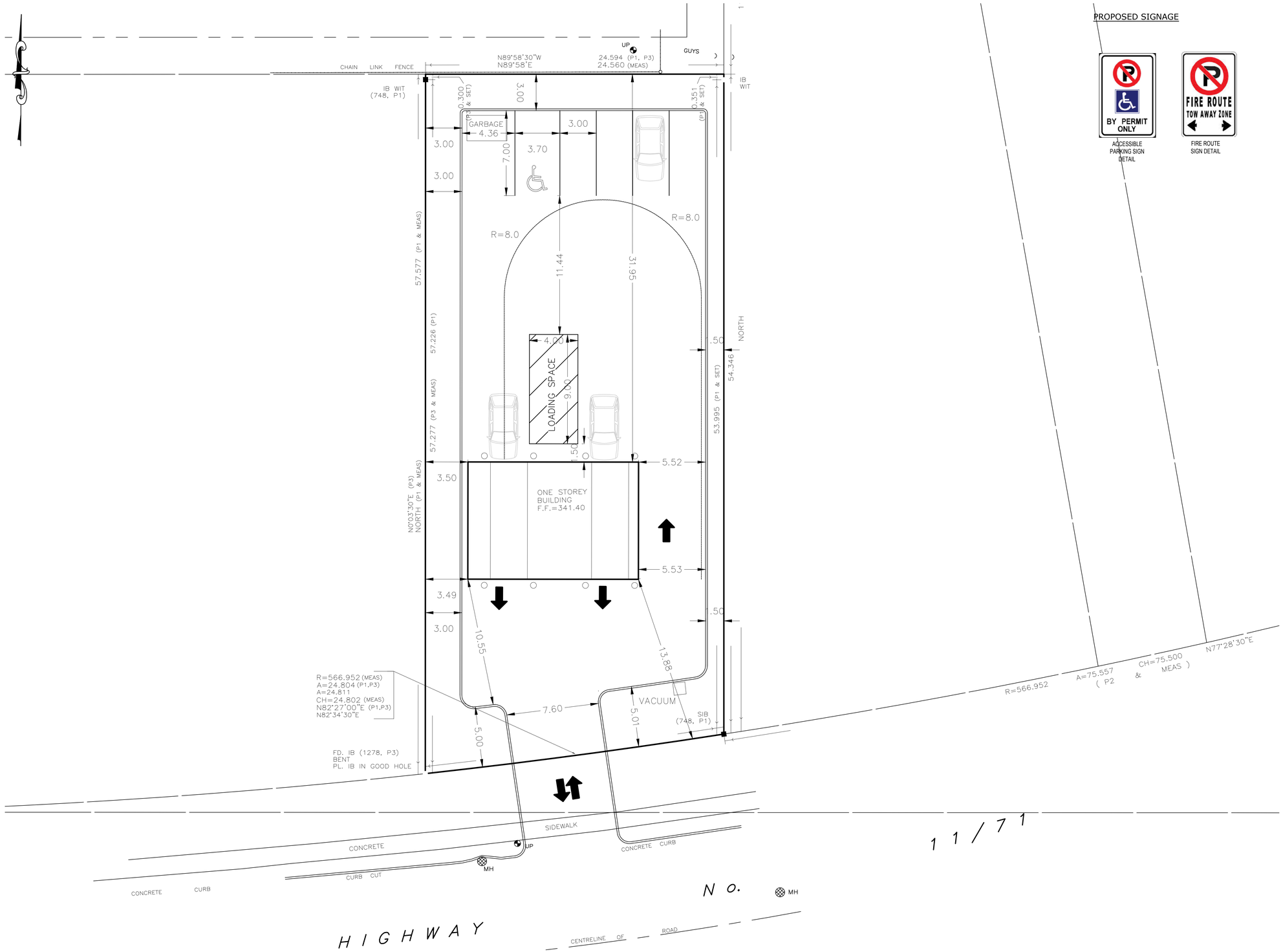
LICENSED PROFESSIONAL ENGINEER
J. A. BUTLER
PROVINCE OF ONTARIO

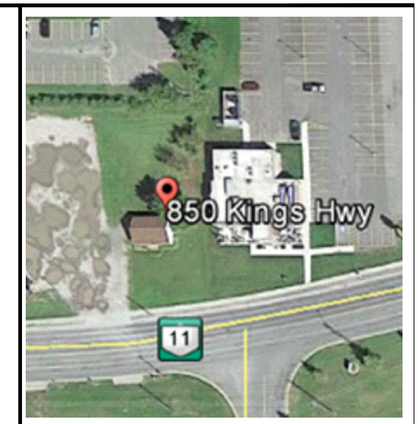
APPENDIX B
Site Plan



PROPOSED SIGNAGE

ACCESSIBLE PARKING SIGN DETAIL

FIRE ROUTE SIGN DETAIL



SITE STATISTICS

	ZONING REQUIREMENTS	EXISTING	PROPOSED
OFFICIAL PLAN DESIGNATION			
ZONING CATEGORY	E	E	E
E REQUIREMENTS			
MINIMUM LOT AREA	930m²		1378.3m²
MINIMUM LOT FRONTAGE	23m		24.8m ARC
MAXIMUM LOT COVERAGE	30%		9.9%
BUILDING AREA			136m²
MAXIMUM BUILDING HEIGHT	10.0m		10.0m
FRONT YARD SETBACK	7.5m		13.8m
REAR YARD SETBACK	10m		31.9m
SIDE YARD			
INTERIOR	3.5m		3.5m
INTERIOR	3.5m		7.0m
MINIMUM LANDSCAPE OPEN SPACE	20%		27%
PLANTING STRIP	3.0m / 1.5m		3.0 / 1.5m
PARKING SPACES	SECTION 3.20		
NO. OF ACCESSIBLE SPACES	1 SPACES		1
PARKING SPACE DIM.	3.0m x 7.00m		
ACC. PARKING SPACE DIM.	3.7m x 6.7m		3.7m X 6.7m
LOADING SPACE DIMENSIONS	3.50m X 9.00m		3.5m X 9.0m
TOTAL PARKING			
DRIVE THRU QUEUING	3.0m X 6.5m		
INBOUND QUEUING SPACES	5		5
MEASURED FROM THE ENTRANCE			

NOTES

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3. ALL WORKS INVOLVED IN THE CONSTRUCTION, RELOCATION AND REPAIR OF MUNICIPAL SERVICES SHALL BE TO THE SATISFACTION OF THE GENERAL MANAGER OF PUBLIC WORKS
4. STREET EXCAVATION PERMITS ARE REQUIRED FOR ANY WORK IN CITY RIGHT OF WAY BY ANY CONTRACTOR
5. REMOVE CURBS AND POUR NEW CURBS FOR ANY NEW DRIVEWAYS OR DRIVEWAYS TO BE ABANDONED AND / OR MADE GOOD.
6. STORM WATER DRAINAGE MUST NOT HAVE A NEGATIVE IMPACT ON ADJACENT PROPERTIES
7. NO PERSON SHALL CONSTRUCT OR DEMOLISH A BUILDING OR CAUSE A BUILDING TO BE CONSTRUCTED OR DEMOLISHED (INCLUDING SITE SERVICING) UNLESS A BUILDING PERMIT HAS BEEN ISSUED BY THE CHIEF BUILDING OFFICIAL
8. STOP BARS TO BE PAINTED ON PARKING AREAS TO CONTROL TRAFFIC FLOW
9. ABANDONED ENTRANCES TO BE REMOVED AND CURBS / SIDEWALKS RESTORED AS REQUIRED
10. ACCESSIBLE PARKING SPACES TO BE INDICATED WITH PAINTED SYMBOL ON ASPHALT AND EITHER POLE-MOUNT OR BUILDING-MOUNT SIGNS IN ACCORDANCE WITH LOCAL BY-LAWS

SOVEREIGN ASSET MANAGEMENT

REV:	DESCRIPTION	DATE	APPROVED BY
1	MISC.	2017.01.26	AB

ANTECH DESIGN & ENGINEERING GROUP
Engineers and Urban Planners
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Brantford, ON. N3V 1G2
www.antechdesign.com

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PART OF LOT 39, RIVER RANGE
TOWNSHIP OF MCIRVINE
TOWN OF FORT FRANCES
DISTRICT OF RAINY RIVER
DESIGNATED AS PART 4, PLAN 48R-2376

850 KING'S HIGHWAY, FORT FRANCES, ONTARIO

Scale 1 : 150

6 4.5 3.0 1.5 0 3 6 Metres

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SHEET 1 OF 9

TITLE: SITE PLAN

DRAWN BY: CHM | CHECKED BY: JAB | DRAWING DATE: 2017.01.31

CUSTOMER: SOVEREIGN ASSET MANAGEMENT

DRAWING NUMBER: 161709

LEGEND & NOTES: (IF APPLICABLE)

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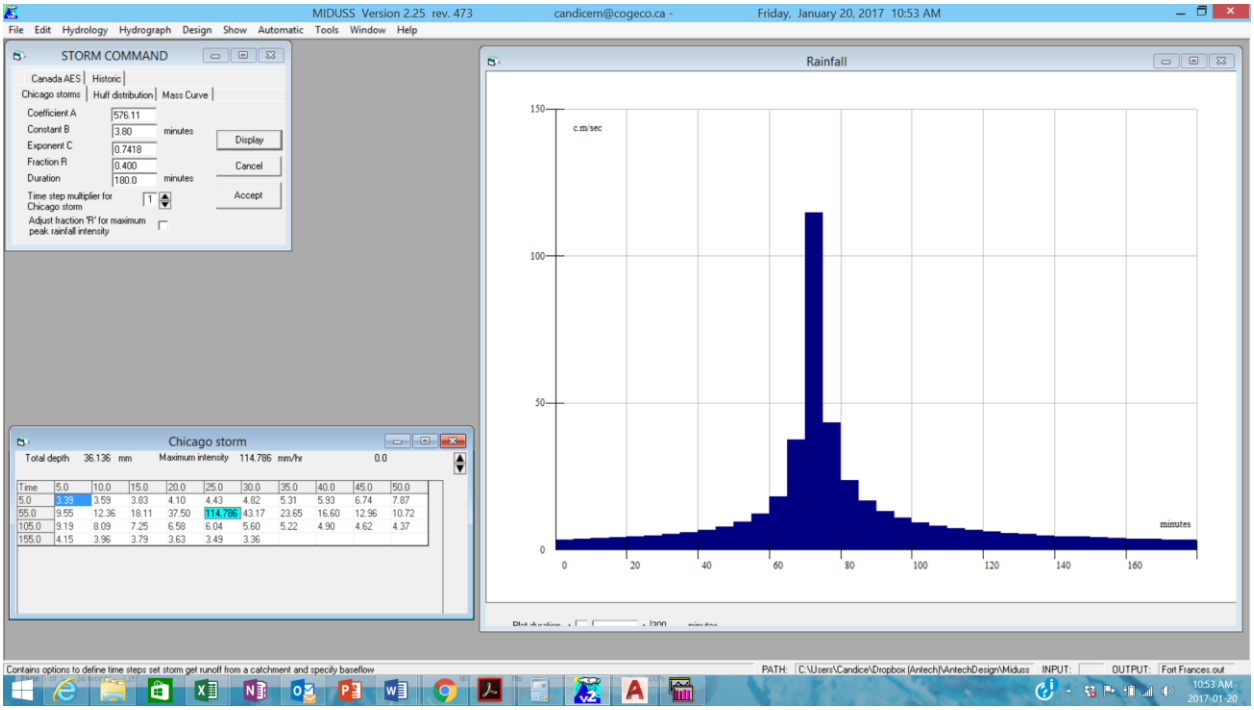
LICENSED PROFESSIONAL ENGINEER
J. A. BUTLER
PROVINCE OF ONTARIO

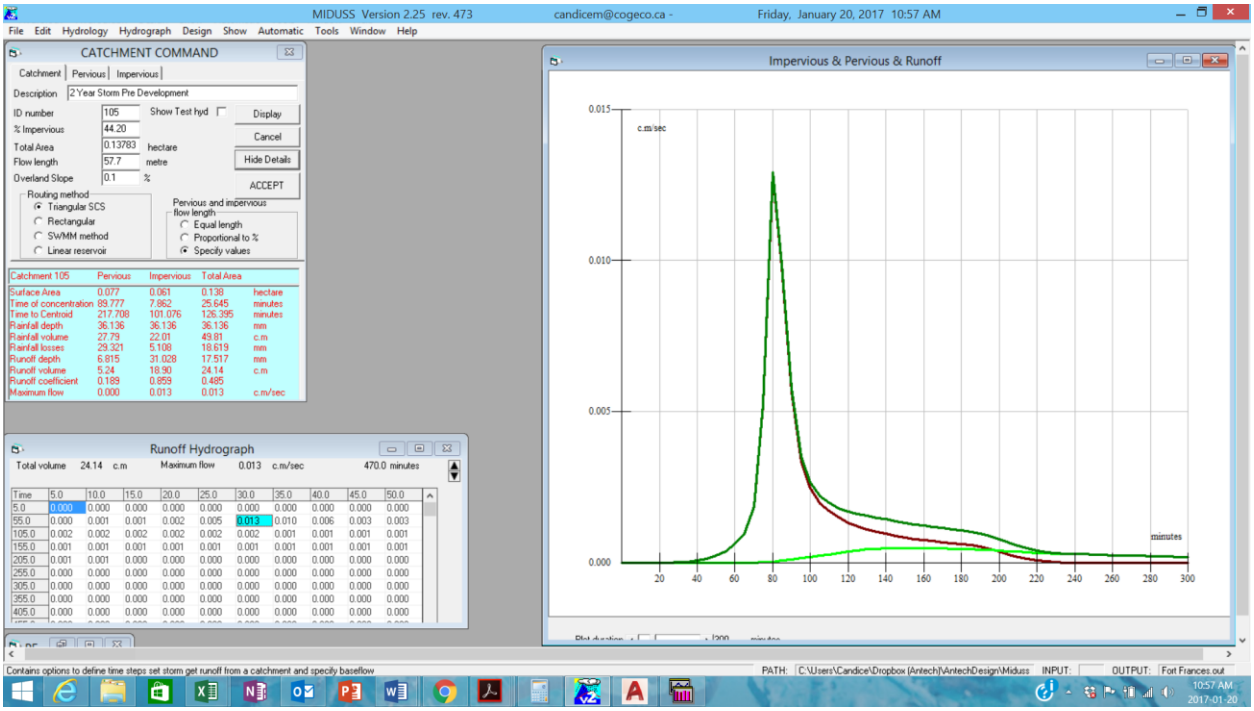
APPENDIX C
Site Services Design Sheet

	Hydraulic Load				Hydraulic Load			
	Supply				Waste			
Fixture or Device	Supply Size	Fixture Units	Quantity	Total	Outlet Pipe	Fixture Units	Quantity	Total
Toliet	3/8"	5	1	5	3	6	1	6
Bathroom sink	3/8"	2	1	2	1 1/2"	3	1	3
Hose Bib	1/2"	2.5	1	2.5				
Hot Water Expansion Tank	1/2"	4		0				
Mop Sink	1/2"	3	0	0	1 1/2"	3	1	3
Water Softener	3/4"	6	0	0				
Three Compartment Sink	1/2"	4	0	0	1 1/2"	3		0
Wall Mount Sink - Eye Wash Station	1/2"	4	1	4	1 1/2"	3	1	3
Commercial Dishwasher	1/2"	15	0	0	2	3		0
Wall Mount Sink	1/2"	4	1	4	1 1/2"	3		0
Coffee Machine	1/2"	4	0	0				
Iced Cappuccino Machine	1/2"	4	0	0				
Ice Machine	1"	10	0	0				
Pop Despenser	1/2"	10	0	0				
Funnel Floor Drain				0	2	3		0
Typical Floor Drain				0	2	3	3	9
Hub Drain				0	2	3		0
Carwash		45	1	45		100	1	100
Total Fixture Units				**62.5**				**124**

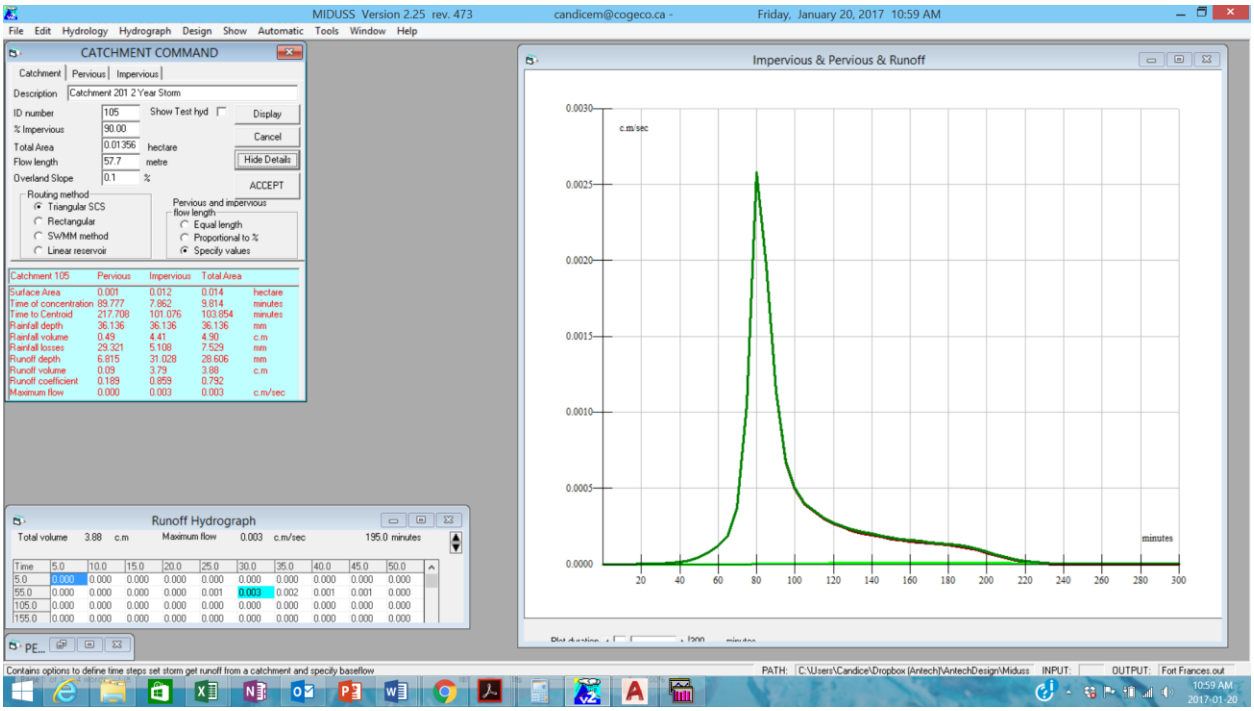
APPENDIX D
Stormwater Management Information/ Calculations

2 Year Pre Development

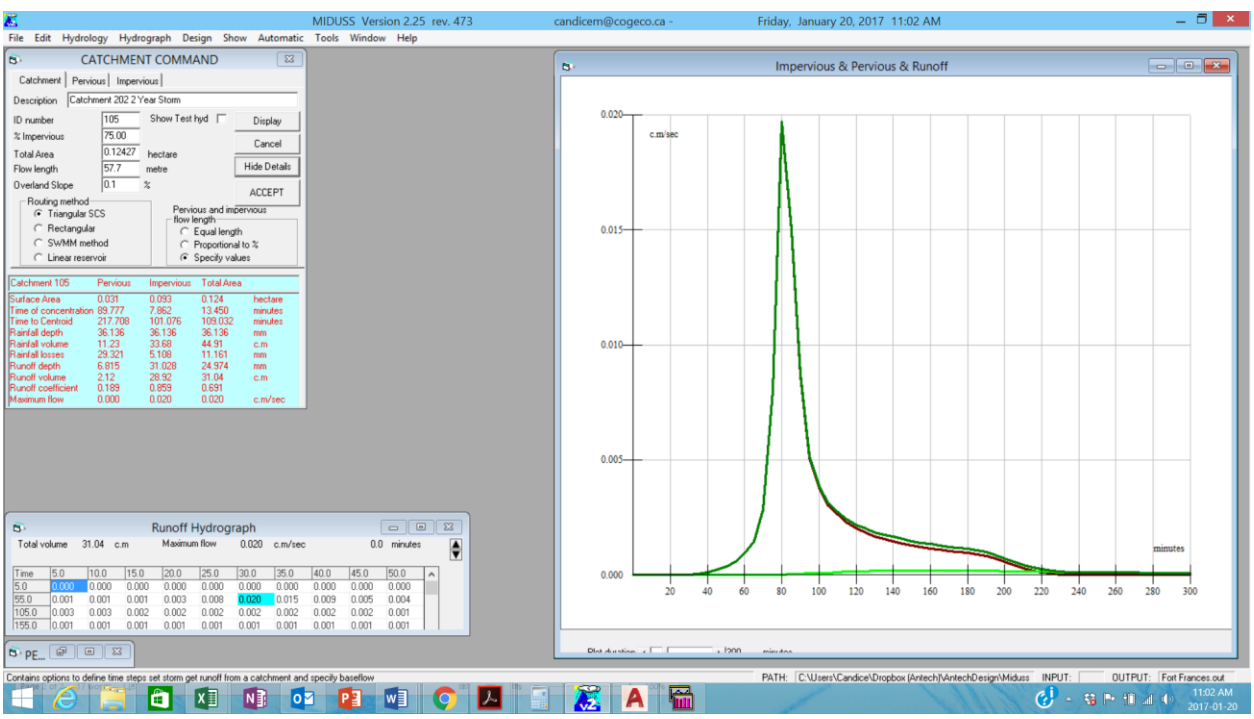




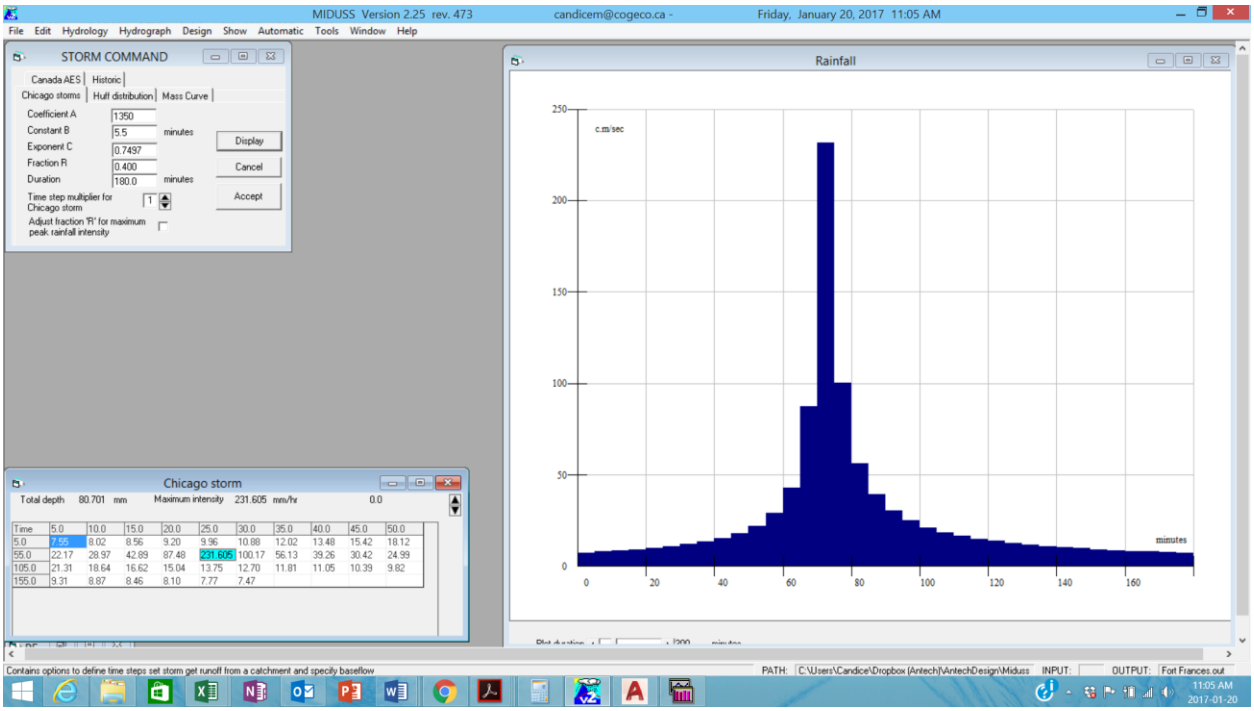
Post Development Catchment 201 (roof) 2 Year Storm

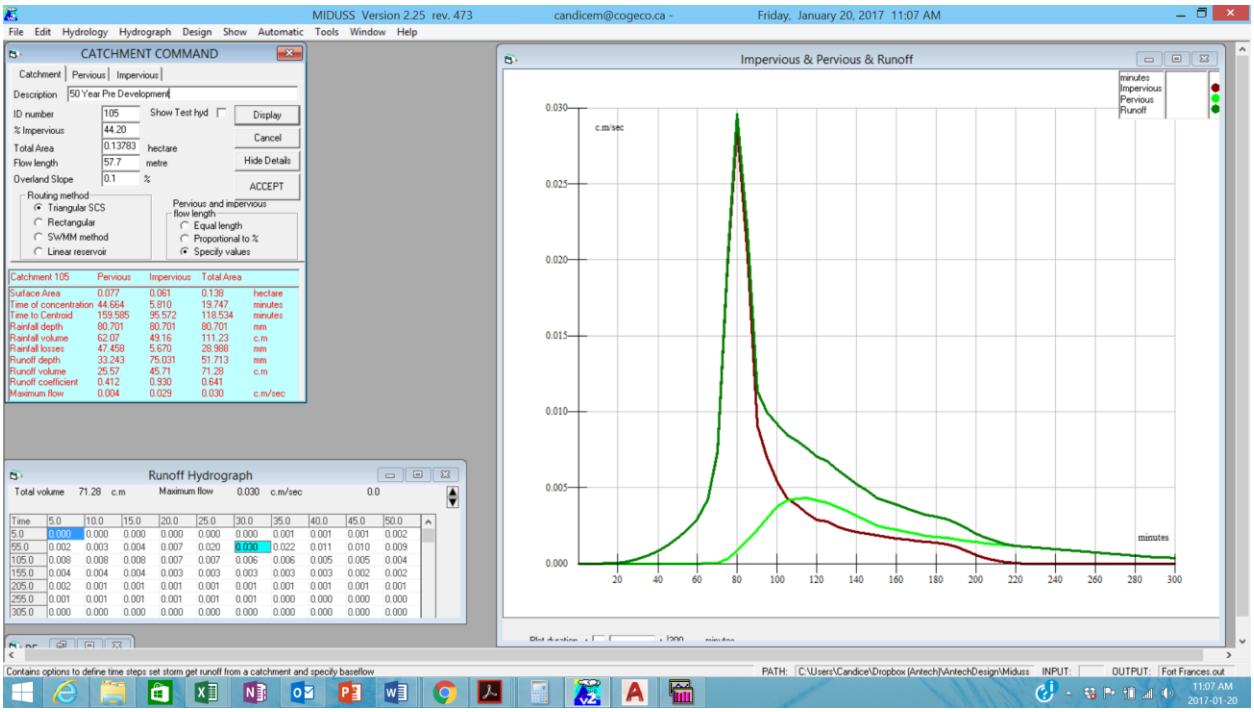


Catchment 202 (remainder) 2 Year Storm

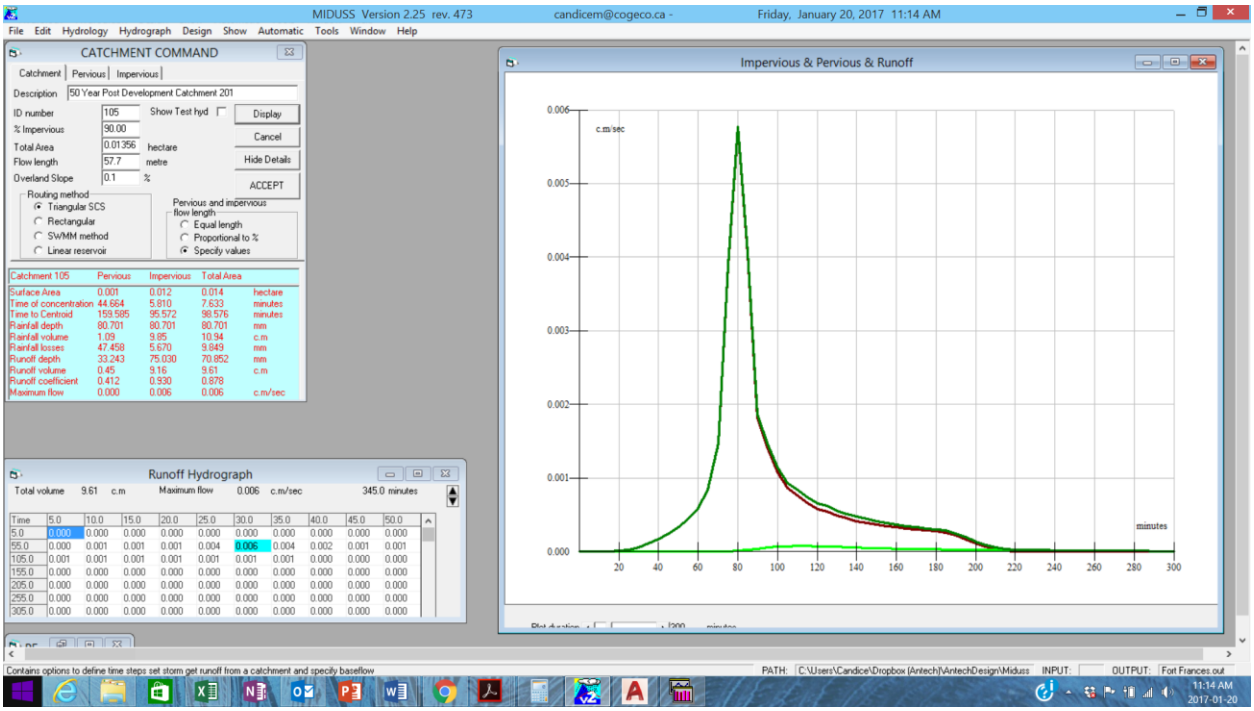


50 Year Storm Pre Development

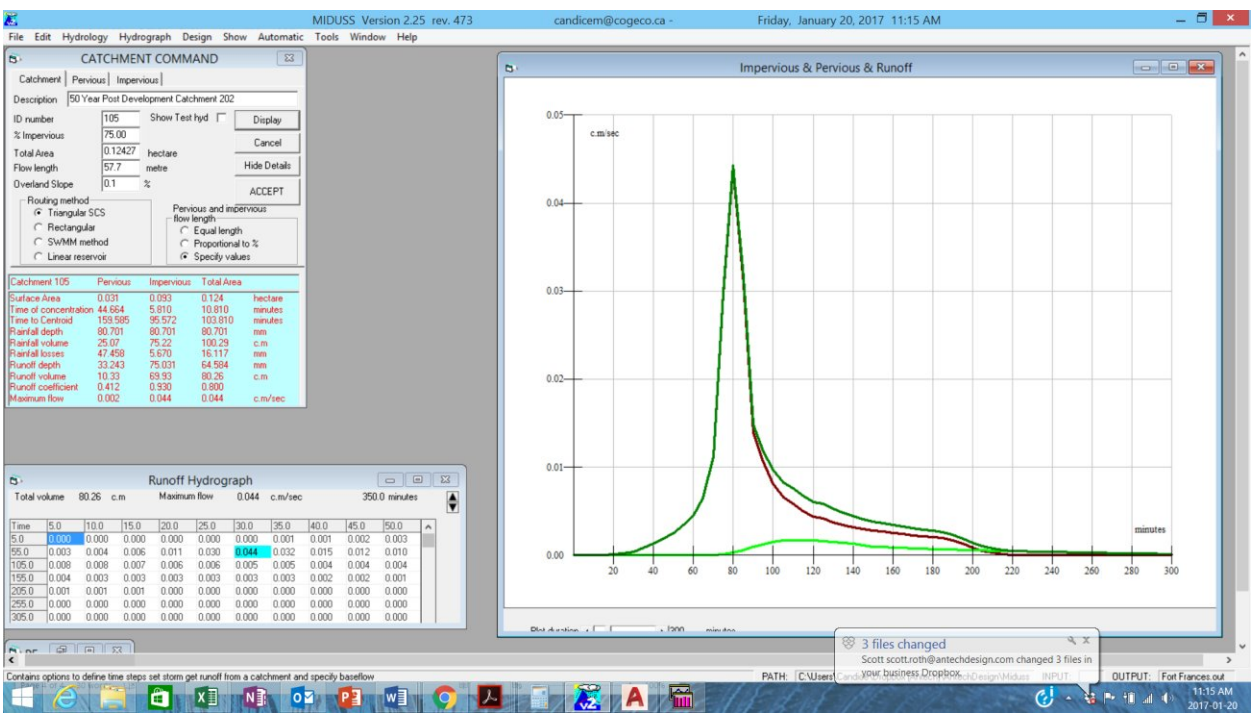




Post Development Catchment 201 50 Year Storm



Post Development Catchment 202 50 Year Storm



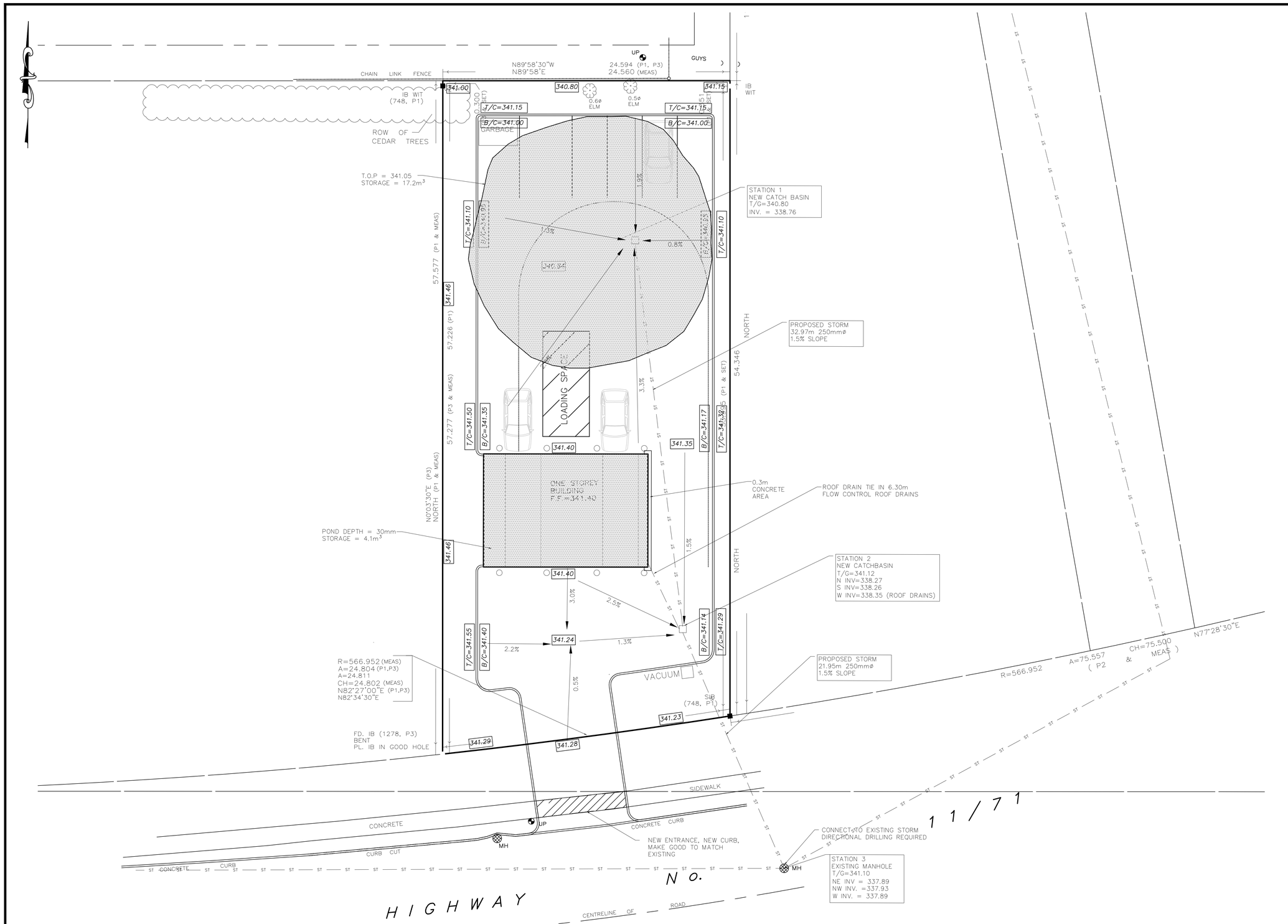
Storm Water Management Analysis Worksheet

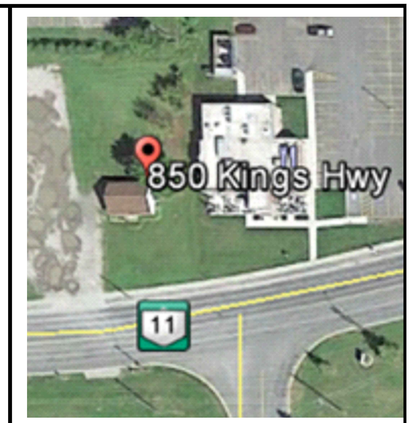
Project: 161709 **Client:** SAM
Date: 2017.01.20 **Property:** 850 Kings Highway

	Existing Site				Proposed Development			
Property Details	**Existing**	**Fraction**	**Runoff Coeff. Cr**	**Cr Total**	**Proposed**	**Fraction**	**Runoff Coeff. Cr**	**Cr Total**
Total Area (m^2)	1378.3	1.0000			1378.3	1.0000		
Buildings	71.7	0.0520	0.90	0.047	135.6	0.0984	0.90	0.089
Asphalt area	0	0.0000	0.90	0.000	865.5	0.6279	0.90	0.565
Gravel drive and parking	62	0.0450	0.75	0.034	0	0.0000	0.75	0.000
Bush	0	0.0000	0.35	0.000	0	0.0000	0.35	0.000
Marsh	0	0.0000	0.15	0.000	0	0.0000	0.15	0.000
Grass area	1244.6	0.9030	0.40	0.361	377.2	0.2737	0.40	0.109
Permeable Pavers	0	0.0000	0.60	0.000	0	0.0000	0.60	0.000
Composite Cr				**0.442**				**0.763**

Catchment Areas	**Existing Site**				**Proposed Development Catchment Area 202**				**Post Development Catchment Area 201**			
Property Details	**Existing**	**Fraction**	**Runoff Coeff. Cr**	**Cr Total**	**Proposed**	**Fraction**	**Runoff Coeff. Cr**	**Cr Total**	**Proposed**	**Fraction**	**Runoff Coeff. Cr**	**Cr Total**
Total Area (m^2)	1378.30	0.00			1242.70	1.00			135.60	1.00		
Buildings					0.00	0.00	0.90	0.00	135.60	1.00	0.90	0.90
Asphalt area					865.10	0.70	0.90	0.63	0.00	0.00	0.90	0.00
Gravel drive and parking					0.00	0.00	0.75	0.00	0.00	0.00	0.75	0.00
Bush					0.00	0.00	0.35	0.00	0.00	0.00	0.35	0.00
Marsh					0.00	0.00	0.15	0.00	0.00	0.00	0.15	0.00
Grass area					377.20	0.30	0.40	0.12	0.00	0.00	0.40	0.00
Permeable Pavers					0.00	0.00	0.60	0.00	0.00	0.00	0.60	0.00
Composite Cr								**0.75**				**0.90**

APPENDIX E
Stormwater Management Plan





NOTES

1. THIS PLAN IS NOT FOR CONSTRUCTION UNTIL SIGNED AND SEALED BY ENGINEER AND APPROVED BY THE LOCAL MUNICIPALITY.
2. ALL TOPOGRAPHIC & SERVICE INFORMATION COMPILED FROM SURVEY DATA COMPLETED BY EXP., ONTARIO LAND SURVEYORS.
3. THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE:
   A. SITE PLAN
   B. EXISTING CONDITIONS PLAN
   C. SITE SERVICING
   D. STORM WATER MANAGEMENT REPORT
4. THIS PLAN IS TO BE USED FOR STORM WATER MANAGEMENT ONLY; ANY OTHER INFORMATION SHOWN IS FOR ILLUSTRATION PURPOSES ONLY. THIS PLAN MUST NOT BE USED TO SITE THE PROPOSED BUILDING OR SERVICES.
5. PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST
   A. CHECK AND VERIFY ALL EXISTING CONDITIONS, LOCATIONS AND ELEVATIONS WHICH INCLUDED BUT IS NOT LIMITED TO THE BENCHMARK ELEVATIONS, EXISTING SERVICE CONNECTIONS AND EXISTING INVERTS. REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING
   B. OBTAIN ALL UTILITY LOCATED AND REQUIRED PERMITS AND LICENSES
   C. VERIFY THAT THE FINISHED FLOOR ELEVATIONS AND / OR BASEMENT FLOOR ELEVATIONS (WHICHEVER MAY APPEAR ON THE FACE OF THIS PLAN) COMPLY WITH THE FINAL ARCHITECTURAL DRAWINGS.
   D. CONFIRM ALL DRAWINGS USED FOR CONSTRUCTION ARE THE MOST RECENT REVISIONS
6. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR ANY DAMAGE AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT-OF-WAY TO THE LOCAL STANDARDS.
7. IF, FOR UNFORESEEN REASONS, THE OWNER AND/OR THEIR REPRESENTATIVE MUST ENCROACH ONTO PRIVATE LANDS TO UNDERTAKE ANY WORKS, THEY MUST OBTAIN WRITTEN PERMISSION FORM THE ADJACENT PROPERTY OWNERS PRIOR TO ENTERING UPON THE PRIVATE PROPERTY TO PERFORM ANY WORKS. COPIES OF THESE LETTERS OF CONSENT MUST BE SUBMITTED TO INFRASTRUCTURE SERVICES - ENGINEERING DEVELOPMENT DIVISION, PRIOR TO ANY WORK BEING PERFORMED. FAILURE TO COMPLY WITH THE ABOVE IS AT THE PROPERTY OWNERS OWN RISK.
8. ALL WORK WITHIN THE MUNICIPAL OR REGIONAL RIGHT-OF-WAY MUST GO THROUGH THE LOCAL OFF-SITE WORKS PROCESS AND MUST BE COMPLETED BY A DEVELOPMENT SELECTED CONTRACTOR SOLELY AT THE DEVELOPER'S EXPENSE.
9. NO CHANGES ARE TO BE MADE WITHOUT THE APPROVAL OF THE ENGINEER.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC AND SAFETY MEASURES DURING THE CONSTRUCTION PERIODS INCLUDING THE SUPPLY, INSTALLATION AND REMOVAL OF ALL NECESSARY SIGNALS, DELINEATORS, MARKERS AND BARRIERS. ALL SIGNS, ETC. SHALL CONFORM TO LOCAL STANDARDS OF THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

SOVEREIGN ASSET MANAGEMENT

REV:	DESCRIPTION	DATE	APPROVED BY

ANTECH DESIGN & ENGINEERING GROUP
Engineers and Urban Planners
32 Zatonski Avenue
Brantford, ON. N3V 1G2
www.antechdesign.com

PROJECT:
SITE PLAN OF PROPOSED NEW CONSTRUCTION OF

PART OF LOT 39, RIVER RANGE
TOWNSHIP OF MCIRVINE
TOWN OF FORT FRANCES
DISTRICT OF RAINY RIVER
DESIGNATED AS PART 4, PLAN 48R-2376

850 KING'S HIGHWAY, FORT FRANCES, ONTARIO

Scale 1 : 200
8 6.0 4.0 2.0 0 4 8 Metres

METRIC CONVERSION
DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

ELEVATION NOTE:
ELEVATIONS ARE REFERRED TO BENCH MARK No. 0011979U171, LOCATED ON THE ADVENTURE INN, HAVING AN ELEVATION OF 341.184 METRES CGVD28.

SHEET 1 OF 1

TITLE: STORM WATER MANAGEMENT PLAN

DRAWN BY: CHM	CHECKED BY: JAB	DRAWING DATE: 2017.01.31

CUSTOMER: MELKO DEVELOPMENT INC.
DRAWING NUMBER: 161709

LEGEND & NOTES: (IF APPLICABLE)

■	DENOTES FOUND MONUMENTS
□	DENOTES SET MONUMENTS
IB	DENOTES IRON BAR
SIB	DENOTES STANDARD IRON BAR
SSIB	DENOTES SHORT STANDARD IRON BAR
CC	DENOTES CUT CROSS
N&W	DENOTES NAIL & WASHER
PL	DENOTES REGISTERED PLAN
OU	DENOTES ORIGIN UNKNOWN
M	DENOTES MEASURED
PROP	DENOTES PROPORTIONED
WIT	DENOTES WITNESS
BM	DENOTES BENCHMARK
	DENOTES TREELINE
INV	DENOTES INVERT
VCM	DENOTES VERTICAL CONTROL MONUMENT
BP	DENOTES BELL PEDESTAL
FL	DENOTES FLOOD LIGHT
	DENOTES TRAFFIC SIGN
AC	DENOTES AIR CONDITIONER
GMRK	DENOTES GAS MARKER
CUL	DENOTES CULVERT
CB	DENOTES DOUBLE CATCH BASIN
CBMH	DENOTES CATCH BASIN MANHOLE
CB	DENOTES CATCH BASIN
DCBMH	DENOTES DOUBLE CATCH BASIN MANHOLE
DICB	DENOTES DITCH INLET CATCH BASIN
MH–ST	DENOTES STORM MANHOLE
MH–F	DENOTES FIBER OPTIC MANHOLE
MH–S	DENOTES SANITARY MANHOLE
MH–BMH	DENOTES BELL MANHOLE
MH–H	DENOTES HYDRO MANHOLE
MH–T	DENOTES TRAFFIC MANHOLE
VC	DENOTES VALVE CHAMBER
DRN	DENOTES DRAIN
WELL	DENOTES WATER WELL
HYD	DENOTES FIRE HYDRANT
HGUY	DENOTES HYDRO GUIDE WIRE
UP	DENOTES UTILITY POLE
HP	DENOTES HYDRO POLE
LS	DENOTES LIGHT STANDARD
HLS	DENOTES HYDRO LIGHT STANDARD
FP	DENOTES FLAG POLE
HH	DENOTES HAND HOLE
SN	DENOTES SIGN
MB	DENOTES MAIL BOX
BP	DENOTES BELL POLE
BLRD	DENOTES BOLLARD
OW	DENOTES OBSERVATION WELL
TL	DENOTES TRAFFIC LIGHT
MP	DENOTES MONITORING PIN
CS	DENOTES CURB STOP VALVE
RXS	DENOTES RAILWAY SIGN
RSB	DENOTES RAILWAY SIGNAL CONTROL BOX
BGUY	DENOTES BELL GUIDE WIRE
CTV	DENOTES CABLE PEDESTAL
TCB	DENOTES TRAFFIC CONTROL BOX
WV	DENOTES WATER VALVE
DP	DENOTES DECORATIVE POLE
GV	DENOTES GAS VALVE
PLR	DENOTES PILLAR
GP	DENOTES GUARD POST
IP	DENOTES IRON PIPE
IS	DENOTES SPRINKLER HEAD
OFC	DENOTES OIL FILLER CAP
HW	DENOTES HAND WELL
HTRAN	DENOTES HYDRO TRANSFORMER
PS	DENOTES POWER SUPPLY
PKM	DENOTES PARKING METER
TH	DENOTES TEST HOLE
BH	DENOTES BOREHOLE
MW	DENOTES MONITORING WELL
BMRK	DENOTES BELL MARKER
	DENOTES VALVE BOX
CMRK	DENOTES CABLE TV MARKER
	DENOTES UNDERGROUND SERVICE LOCATE - STORM
	DENOTES UNDERGROUND SERVICE LOCATE - SANITARY
B	DENOTES UNDERGROUND SERVICE LOCATE - BELL, TELEPHONE, CABLE
P	DENOTES UNDERGROUND SERVICE LOCATE - HYDRO
GAS	DENOTES UNDERGROUND SERVICE LOCATE - GAS
	DENOTES UNDERGROUND SERVICE LOCATE - WATER
OHW	DENOTES OVERHEAD WIRES
	DENOTES PROPERTY LINE
	DENOTES TRAFFIC FLOW DIRECTION
	DENOTES DIRECTION OF SURFACE WATER

PROPRIETARY AND CONFIDENTIAL

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LICENSED PROFESSIONAL ENGINEER
J. A. BUTLER
PROVINCE OF ONTARIO