

### **Regular Council Meeting**

To:	Mayor and Council
Date:	June 21, 2021
From:	Bill Balfour, Fire Chief
Report Number:	Fire Department 2021–06
Subject:	New Fire Station Site Selection

### Recommendation:

That Council approves the site selection for the replacement of Fire Station One on the identified lands located at 988 County Road 10 based on Greenview Environmental Management Site Selection Study.

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### Overview:

During the May 17<sup>th</sup>, 2021 Council meeting, Council approved recommendations two and three in Fire Department Report 2021-05 (See Attachment 1). In regards to completing the detail design of the replacement of Fire Station One, with the inclusion of combined partnership, and facility with Peterborough County-City Paramedics (PCCP).

Council requested that an estimated costing be prepared in regards to the utilizing of Township owned lands located at 988 County Rd 10 (See Attachment # 2). Greenview Environmental Management prepared a Site Selection Study (See Attachment # 3) that provides Council the required background on technical aspects and estimate costing for the site.

Greenview's Site Selections Study and cost comparison indicates a 19% overall increase (including contingency) from the site at CMCC to the 988 County Rd 10. Staff believe that by utilizing the lands located at 988 County Rd 10 accomplishes a number of items for Council. It positions the Fire Department in an optimal location for resident's insurance rates, utilizing lands we currently own, and direct access onto County Road 10. The PCCP needs can be accommodated at the 988 site and will allow the partnership to move forward providing additional services to our community.

Staff compared the overall project inflationary increase as a benchmark to Greenview's current estimate (See Attachment #3) to the previously received Fire Hall costing that was received in Fire Department Report 2016-02, noting that the previous project did not include the PCCP partnership of two additional bays in the project. The inflation on the construction price previously costed \$4,900,000.00 (2016) which Greeview has re costed at \$5,809,063.00. Which is an 18.5 % increase which aligns with our indexing of development charges .Below is the CPI that was applied to the Townships DC's for the years 2017 through to 2021.

	2017	2018	2019	2020	2021
2016 Fire Hall Quote	3.22%	3.00%	5.20%	3.29%	2.29%
\$4,900,000	\$5,057,674	\$5,209,405	\$5,480,149	\$5,660,572	\$5,790,409
		Overall per	centage increa	se since 2017	18.17%

Building construction price indexes, Toronto, ON - Statistics Canada Q3, year over year change (matching annual Development Charge Indexing)

Note: There will be a cost sharing agreement with the PCCP as the process moves forwards which will provide a revenue stream for the project.

There are several factors that staff and Greenview Environmental Management has evaluated in the comparison between the CMCC lands and 988 County Road 10 lands for a Fire Station site.

### **Access to County Road 10**

Staff and Greenview Environmental Management met with the County engineering staff to ensure that an entrance could be considered for the new Fire Station. As a result of the meeting County staff advised that the entrance would be granted, but requires a site specific amendment to the traffic study that was completed for the proposed Towerhill North subdivision. Both Township and County staff agreed that by placing a directional restriction of exiting only to County Rd 10; and based on the number of movements that the entrance could be achieved. Both the Fire Department and PCCP provided current and projected vehicle movements that support the entrance justification. Based on approval of this report the Director of Public Works will contact the firm that completed the study and have an amendment completed to the traffic study at the appropriate time during the Towerhill North application process.

### Site works

Greenview Environmental Management provided a detailed cost comparison between site works required at the CMCC lands and the 988 County Rd 10 site. The costs outlined in Greenview's report are based on industry pricing that have been broken down for Council into four sections being soft costs, site works, building works and contingency.

While Greenview's report is based on industry pricing, there are opportunities that the Township can utilize and leverage as the project moves forward to reduce some of the costs contained within Greenview's costs estimate. In discussions with the Director of Public Works there is a high probability that the Towerhill North Project may require fill from the 988 County Rd 10 site for the construction of the proposed Street B; thereby lessoning the earth excavation, haulage and disposal fees. As the Towerhill North project is currently in the application stage these discussions have yet to take place due to the status of the project. Staff will negotiate with the developer in regards to the removal of the fill to reduce and or eliminate the cost of the excavation, haulage and disposal fees. Cost savings in items S9 through to S13 of Greenview's report (See Attachment #3) will utilize Township owned materials and tendering processing to reduce these units estimated costs.

### Recommendation

Based on the direction to staff at the Regular Council meeting on May 17<sup>th</sup> and the Site Selection Study prepared by Greenview Environmental Management and staff's investigation regarding the recommendation before Council; that the site located at 988 County Rd 10 be selected for the site of the Fire and PCCP Base.

To proceed forward with this project staff are seeking Council's approval of the Site Selection Study, estimated and conceptual drawing SP05 with additional works, as outlined by Greenview Environmental Management.

Upon Council's approval of the concept design and site selection, Greenview Environmental Management can proceed to detailed design and order of magnitude costing. Once the overall costing is, received staff can then provide Council with an understanding of the financing options for both the Fire Hall and Public Works projects.

As the project moves forward and there is a better understanding of the Towerhill North Street B requirements for fill placement; staff will continue to undertake discussion to decrease the earth excavation portion of the estimate.

### **Financial Impact:**

Based on approval of this report a joint financing report will be brought forward to Council with financing options, for Council's consideration of the Fire Hall and Public Works buildings as directed.

### Attachments:

- 1. Fire Department Report 2021-05
- 2. 988 County Road 10
- 3. Greenview Environmental Management 988 CR10 Site Selection Study Report

Respectfully Submitted by,

Reviewed by,

Bill Balfour Fire Chief Yvette Hurley Chief Administrative Officer

Wayne Hancock Public Works Director



### **Regular Council Meeting**

То:	Mayor and Council
Date:	May 17, 2021
From:	Bill Balfour, Fire Chief
Report Number:	Fire Department 2021–05
Subject:	Fire Station Conceptual Design and Site Selection Report

### **Recommendations:**

- 1. That Council approves the site selection for the replacement of Fire Station One at 986 County Rd. 10, as recommended by the consultant, and;
- 2. That Council approves the conceptual drawing with the additional drivethru bay for Paramedics, to ensure that it meets the needs into the future for both the Paramedics and Fire Services and;
- 3. That Council approves a transfer of an upset limit of \$57,900.00 from the Fire Department Emergency Equipment Reserve to cover the actual cost in excess of the approved budget for the Fire Station change of scope in design. If there are surplus funds in the Fire Department Capital at the end of the year, the surplus will be used as a priority to reduce and/or not require the transfer from the Fire Department Emergency Equipment Reserve.

### Overview:

During the January 18<sup>th,</sup> 2021 Council meeting, Council approved Fire Department Report 2021-02 in regards to selecting Greenview Environmental Management to complete the detail design of the replacement of Fire Station One with consideration to combined facility with Peterborough County-City Paramedics (PCCP) and complete a Site Selection Study Report in regards to the site selection process.

Greenview Environmental Management prepared a Site Selection Study Report (See Attachment #1) to provide Council the required back ground on technical aspects of each of the properties identified in Fire Department Report 2021-02 (See Attachment #2) for the combined facility.

There are several factors that staff and Greenview Environmental Management evaluated for each site that require consideration when choosing a Fire Station site:

- 1. Response Time Considerations,
- 2. Effects on resident's insurance rates,
- 3. Station Sizing Anticipated; future growth and the anticipated type of growth,
- 4. Capital costs of both the building and property acquisition costs.
- 5. Site selection, servicing and grading,
- 6. Planning Policies and Regulations,
- 7. Anticipated timelines to complete the Project.

In addition to the work completed by Greenview Environmental Management, Township staff along with County staff are providing supportive information to the report prepared by Greenview Environmental Management for Councils consideration in (See Attachment #3).

### **Response Time Considerations:**

In relocating a Fire Station consideration on the effects of response times requires consideration to ensure that the community is being serviced in a timely manner. Cavan Monaghan Fire Services relies on volunteer firefighters for suppression activities. The Fire Station location in relation to where volunteers live have a direct relationship with response times as the further the station is located from the catchment area of the fire firefighters the longer the "assembly time" will be thus extending the overall response time. Currently Cavan Monaghan Fire Services has an average of 14-minute response time as outlined in the Master Fire Plan presented in Council Fire Report 2020-03. The average response time currently at the higher limit of the NFPA 1720 recommendations. Choosing a Fire Station location that is not as centrally located not only in the community but to firefighters can lead to increase response times; that to find acceptable solutions to increase response times may result in the hiring of more fire fighters volunteer/full-time staff to reduce the increased response time.

### **Effects on Resident's Insurance Rates:**

Station relocations may affect resident's insurance rates. The further from the current location the new station is located has the potential to effect resident's insurance rates both negatively and positively. The struggle is to find a balance that will have the least negative effect for the most residents. Staff have plotted the address 52 King Street East which identifies the current response coverage (See Attachment #4). Potential locations one and four response coverage has been plotted. (See Attachment #5) and the effects of moving the Fire Station to the identified locations two and three is identified in (See Attachment #6). Moving the Fire Station from its current location to option one is the overall preferred location, based on the best overall coverage for residents, timelines and overall costs to the Township. It is not that other options could not be considered however; it is the best option that maintains less impact.

## Sizing for Station and planning for Anticipated Future Growth and the Anticipated Type of Growth:

Council has directed staff to ensure the Fire and PCCP station is to meet the current needs with ensuring future expansion is possible. Greenview Environmental Management conceptual plan (See Attachment #7) from their Site Selection Study Report (PB01) is based on a foot print of 10,750ft2 (1,000m2) which allows for the specified 7500ft2 (700m2) for fire department use and up to 3,250ft2 (300m2) for PCCP services which is anticipated to meet the needs of both services for the next five years.

The Fire Departments approved Master Fire Plan, provided Council with current and anticipated increased service demands of the fire service based on approved growth studies prepared for the Township. It is expected that the Fire Station is expected to see increased call volumes with the build out of the Towerhill North subdivision. The final approval of the size and type of the buildings permitted in the development will determine the size of additional requirements in station and equipment for both Fire and PCCP future operations.

### Planning Policies and Servicing:

Staff consulted with the Planning Department review the Official Plan and Zoning Bylaw to ensure that the site selection conforms to the Township's Official Plan. (See Attachment #8) is an excerpt from the Official Plan that was provided and confirmed by the Planning Department that the subject properties are able to obtain conformity.

### **Ambulance Service Considerations:**

As directed by Council during the delivery of Fire Department Report 2021-02. The CAO initiated a meeting with County Staff in regards to the inclusion of the ambulance bay into the Fire Station Design. Following the meeting County staff received approval from County Council to move forward with the incorporation of an ambulance bay in the Fire Station design.

Both Township staff and County staff met with Greenview Environmental Management in regards to the ambulance requirements based on current needs of the ambulance service. County staff have advised that the current proposed foot print will meet their current needs and approximately five years. Below are the comments received from the County of Peterborough in regards to the design currently before Council

"Peterborough County staff appreciate the opportunity to provide input into the proposed design of the C-M fire/paramedics shared facility. In our view, the design will meet current needs in terms of a post located in the south-west to address calls in this area. We do note however, that the design does not allow for future expansion/growth of the paramedics' portion of the facility and doesn't incorporate what would be considered as modern/best use design for paramedics' response beyond an estimated five-year time-frame. "

### **Recommendation:**

To proceed forward with this project staff are seeking Council's approval of the conceptual drawing with an additional bay and site selection which is based on all the information received to date from Greenview Environmental Management. Based on the information from the consultant and staff's investigation the recommendation before Council is site Option 1 located at 986 County Rd 10 be selected for the site of the Fire and PCCP Base.

Upon Council's approval of the concept design with the additional bay and site selection Greenview Environmental Management can proceed to detail design and costing to provide Council with an understanding of the costing of the building and the financing options of the project.

Greenview Environmental Management has provided costing in the amount of \$56,875.00 plus HST (Attachment 9) due to the additional costs for the expanded scope of the project. Addition fees for the planning, engineering, design and approvals for site Plan Control requirements such as geotechnical assessments, legal survey, topographic survey and functional servicing will be addressed in a future financing report for the Fire Hall and Cavan Works Depot Capital projects. These fees are to ensure this project can move forward and ensure that the required works are completed ahead of the tender phase ensuring that the items are completed to allow bidders an understanding of the work involved with the above items. Costs associated to the PCCP portion will be invoiced to the County of Peterborough.

During our discussions with the County, it is important to note we have designed a combined facility that meets the current needs however; staff believe we should be considering that with our projected growth numbers, and the number of calls we should consider building an additional drive thru bay now. The Ambulance would prefer a drive thru bay and this would meet their needs now and into the future. Having this drive thru bay would allow for additional space for fire as well supports the future needs of fire which was identified in the Fire Master Plan.

### **Financial Impact:**

A transfer of an upset limit of \$57,900 (\$56,875 plus HST, after municipal rebate) from the Fire Department Emergency Equipment Reserve to the Fire Hall No. 1 Design Capital project (02-4412-4104) to increase the approved budget of \$118,652 to \$176,552. The additional \$57,900 will fund the change of scope in design. If there are surplus funds in the Fire Department Capital at the end of the year, the surplus will be used as a priority to reduce and/or not require the transfer from the Fire Department Emergency Equipment Reserve.

### Attachments:

- 1. Greenview Environmental Management Site Selection Study Report
- 2. Fire Station Location Options
- 3. Back Ground Information for Consideration

- 4. Current Fire Station Response Coverage
- 5. Potential Location One and Four Response Coverage
- 6. Potential Location Two and Three Response Coverage
- 7. Greenview Environmental Management Plan Site Selection Report (PB01)
- 8. Exert from the Official Plan

Fire Chief

9. FS1 Additional Services & Budget Summary

Respectfully Submitted by,	Reviewed by,
Bill Balfour	Yvette Hurley

Chief Administrative Officer



April 14, 2021

### BY ELECTRONIC MAIL ONLY

Township of Cavan Monaghan 988 Peterborough County Road 10 Millbrook, Ontario LOA 1G0 (bbalfour@cavanmonaghan.net)

Attention:

Bill Balfour

Fire Chief

Re:

**Site Selection Study Report** 

**New Fire Station 1** 

Township of Cavan Monaghan Greenview File: 164.21.005

### Dear Chief Balfour:

Greenview Environmental Management Limited (Greenview) has been retained by the Township of Cavan Monaghan (Township) to provide professional consulting services for the design and engineering services for the establishment of a new municipal fire station to replace the Township's Fire Station 1. As part of Greenview's provisional scope of work was to support the Township with the determination of a suitable site to locate the new facility.

### 1.0 Background & Approach

The Township has confirmed that the new building needs to accommodate the municipal Fire Department, and satellite operations of the Peterborough County-City Paramedics (PCCP) serving the regional area. In order to evaluate any given site, a very preliminary assessment of building and site space needs was required, and this was developed as part of this study.

The Township provided Greenview with the following sites for review and a recommendation to locate the Township's new fire station under this assignment.

Site Address	General Information	Reference Figure
963 County Road 10	Privately owned, current residential property located on northeast corner of intersection of County Road 10 and Fallis Line.	SP01
986 County Road 10	Portion of Community Centre site with frontage on Fallis Line.	SP02
988 County Road 10	Existing municipal office property, with frontage on future Street 'B'.	SP03
920 Larmer Line	Lion's Den site.	SP04







Prior to initiating the study Greenview requested and obtained various documentation from the Township, primarily associated with the on-going and proposed residential developments in the region, and the Township's Community Centre project.

The four sites have been evaluated based on metrics that are most applicable to a building that has yet to be fully designed; however, a concept drawing inclusive of general space needs provided has been developed and is attached as Drawing PB01. The proposed new building will be used to replace the existing Fire Hall 1 at 54 King Street East, Millbrook, and allow for Fire Department (the department) expansion and training. A contingent of the PCCP will also be accommodated per recent Township confirmations. The building will contain garage, workshop, storage, office, and training areas with ancillary spaces (washrooms, kitchen(s), incidental storage, etc.), and these elements have been considered in the completion of this study as documented herein.

### 2.0 Building Occupancy

In accordance with the Ontario Building Code, O.Reg. 332/12 (OBC) the building will include the following Major Occupancies:

- Group A, Division 2, assembly occupancy where educational facilities are provided. The department requirement for sixty (60) persons for training purposes is expected to occupy and area of 1,200ft<sup>2</sup> (111m<sup>2</sup>) in conformance with OBC Table 3.1.17.1. for classrooms (1.85m<sup>2</sup>/person). This area is expected to be more than 10% of the floor area and will therefore need to be accounted for as indicated in OBC 3.2.2.8.
- Group D, business and personal services occupancy. The client requirements for offices and related ancillary spaces would be included in this part.
- Group F, Division 2, medium hazard industrial occupancy. Vehicle and other storage and maintenance requirements will be included in this part and will be expected to occupy more than half the building area.

The above occupancies have been considered in the following sections of the study.

### 3.0 Design Building & Site Considerations

Under the scope of this study, a single, provisional "design building" has been developed and used to assess the related metrics. This building will be limited to one storey in building height, will not be sprinklered, and will be limited to noncombustible construction in conformance with an OBC 3.2.2.71., Group F, Division 2 building classification. This classification is currently considered the most restricted as indicated in OBC 3.2.2.4.<sup>(1)</sup> and would be reviewed further after a site has been selected by the Township.

In conformance with OBC 3.2.2.71, the design building will be evaluated with a building area of (or not more than) 10,750ft² (1,000m²). This would allow for the specified 7,500ft² (700m²) for Fire Department use and up to 3,250ft² (300m²) for PCCP or as otherwise required (refer to the attached Figure PB01, attached). The width and length of the design building has been set to 25m and 40m respectively. The 25m width is equivalent to an eighty (80) foot interior drive-through dimension and suitable for the storage of two Fire Department vehicles (back to front) for any drive-through bay. The length would be divided by one or more fire separations as required by OBC with no individual exterior wall area (exposing building face between fire separations) greater than 150m² (25m by 6m ceiling height). Garage door openings would be set along the length of the front and back of the garage part(s) as required for drive through access.

Setting the area for the exposing building face allows a preliminary evaluation of spatial separation and property line setbacks. A limiting distance of 20m would therefore be in conformance with OBC Table 3.2.3.1.C for 100% unprotected openings. This would be used as the setback to adjacent property lines as required to evaluate the limiting distances of adjacent existing buildings (i.e. Community Centre, Municipal Office, etc.). It should also be sufficient for vehicle access to the building where not facing a street and would meet most provisions of the Zoning By-Law No. 2018-58 (Zoning By-Law) based on existent zoning. A 20m setback is also considered appropriate



for street frontage where the centre of road is expected to be an additional 10m distance. Where the maximum (outside) turning radius for all anticipated vehicles would be not more than 15m, this cumulative distance would be sufficient for apparatus (truck) parking in front of their respective garage entrances and full turning onto the near lane for vehicles up to 15m (50ft) in total length. For design buildings adjacent to County Road 10, a 30m property line set back has been used in conformance with Section 11.30.1 of the Zoning By-Law pending further confirmation.

The design building and setbacks generally prescribe a building orientation for the sites being reviewed under the scope of this study as indicated in the evaluation matrix summarized in Table 1, attached. Where the site located at 988 County Road 10 (Municipal Office) is evaluated as facing the future municipal Street 'B', it could also be configured to utilise the existing municipal office entrance, but most likely not both, and sharing the existing municipal office entrance is not preferable due to traffic and parking associated with the recently constructed Community Centre. The related metrics for this site are not however, expected to have a significant influence on the overall site assessment regardless of the building configuration.

### 4.0 Summary of Results

The evaluation matrix summarized in Table 1 provides individual rankings for each of the provided metrics and an overall ranking total. Rankings for each metric are relative to the each of the other sites, and the metrics are not weighted in terms of relative significance.

The overall total indicates that the site located at 986 County Road 10 (Community Centre site), with a new entrance off Fallis Line, ranks first over the other sites considered as part of the study. This site ranks significantly higher than all the other sites, based on the metrics evaluated.

### 5.0 Closing

We trust this report and associated works are of benefit to the Township in the selection of a site to establish the Township's new Fire Station 1.

This report and its findings are subject to the attached conditions and qualifications per our agreement as applicable to the overall project.

All respectfully submitted by,

**Greenview Environmental Management Limited** 

Henry S. Hutchison, P.Eng., B.Arch.

Senior Project Engineer

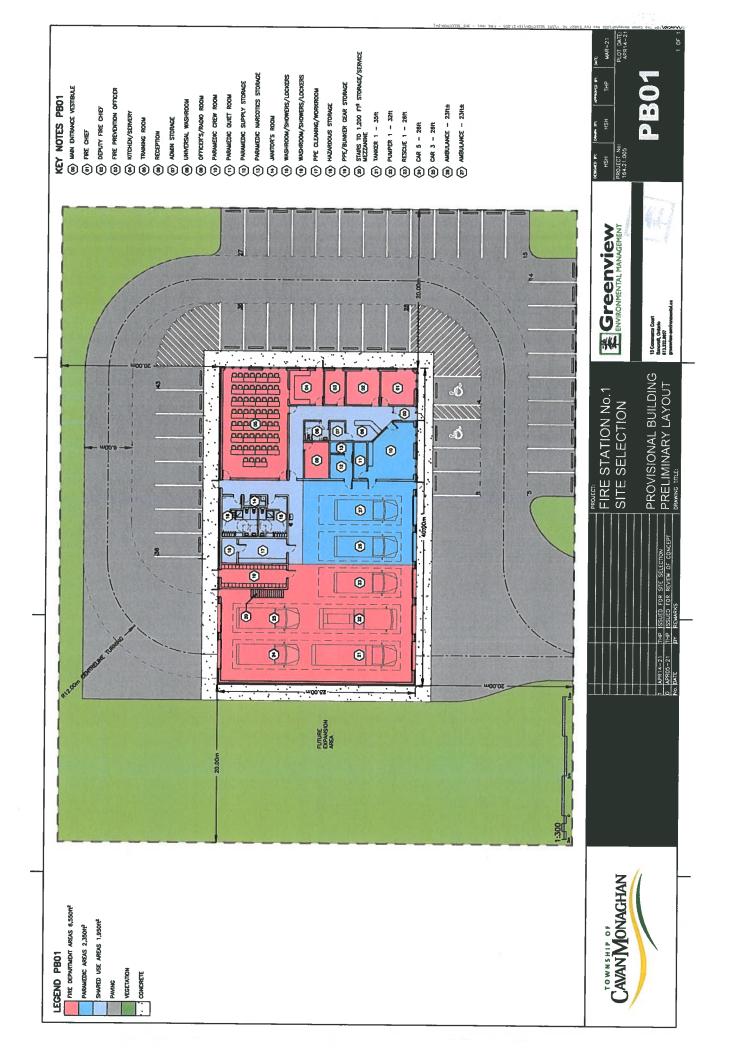
Tyler H. Peters, P.Eng.

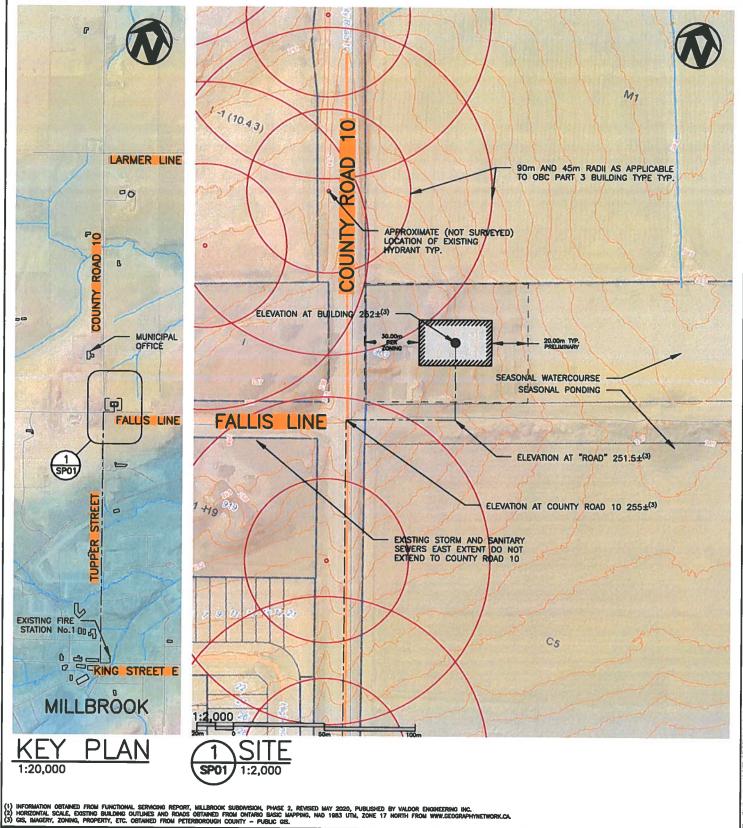
**Project Director** 

Attachments: Figures PB01, SP01, SP02, SP03, SP04

Table 1 – Evaluation Matrix







PROJECT

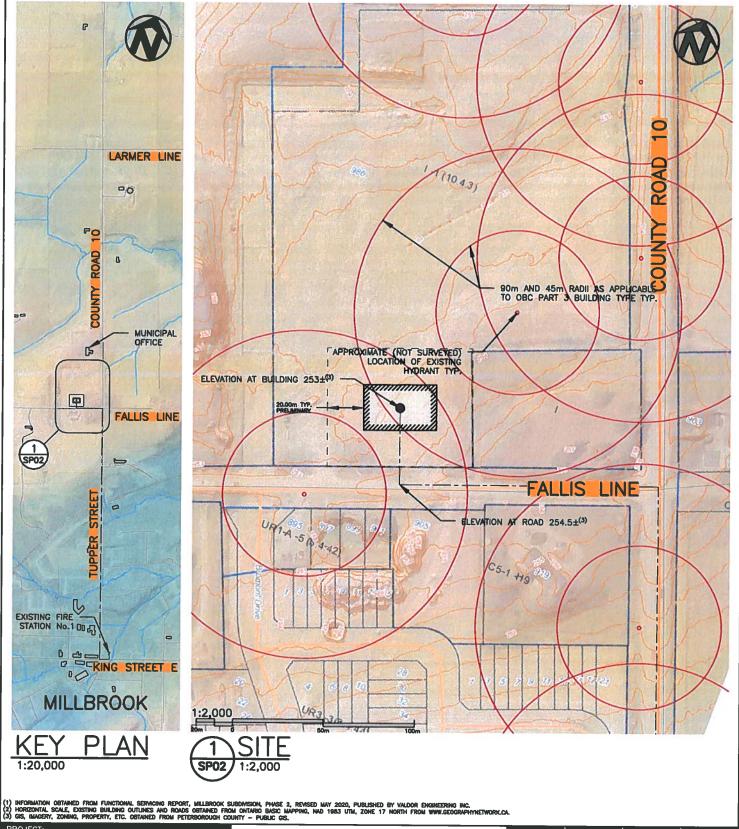
FIRE STATION No. 1 SITE SELECTION 963 COUNTY RD 10 NEW ENTRANCE FALLIS LINE



13 Commerce Court Bancroft, Ontario 613.332.0057 greenview-environmental.ca

DESIGNED BY:	DRAWN BY:	APPROVED BY:	DATE:
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PROJECT No 164.21.005 PLOT DATE: APR14-21



FIRE STATION No. 1 SITE SELECTION 986 COUNTY RD 10 **NEW ENTRANCE** 

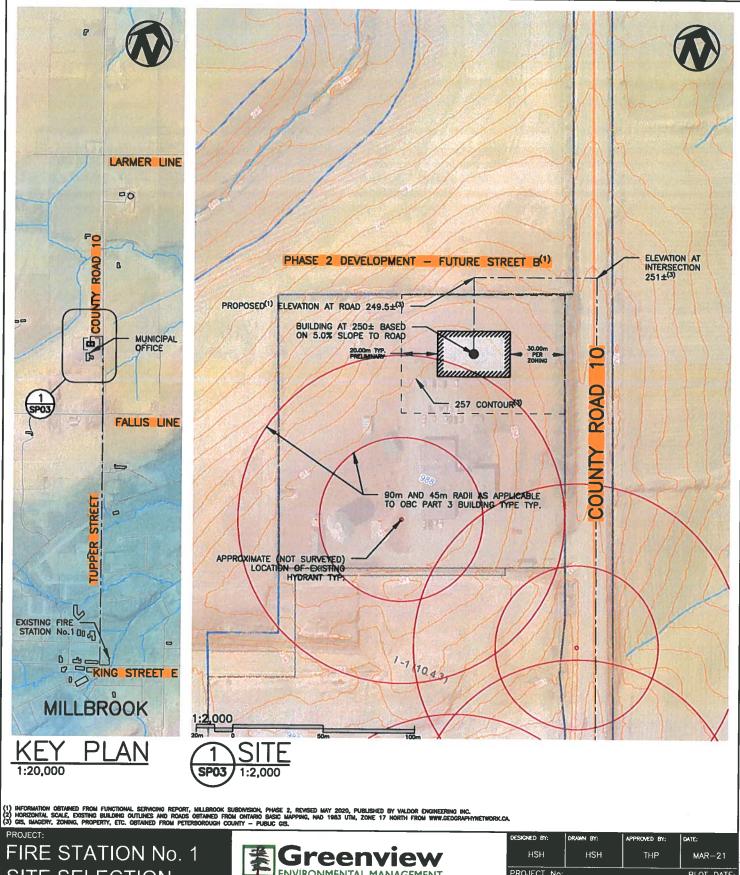
**FALLIS LINE** DRAWING TITLE:

Greenview **ENVIRONMENTAL MANAGEMENT** 

Bancroft, Ontario 613.332.0057

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PROJECT No 164.21.005

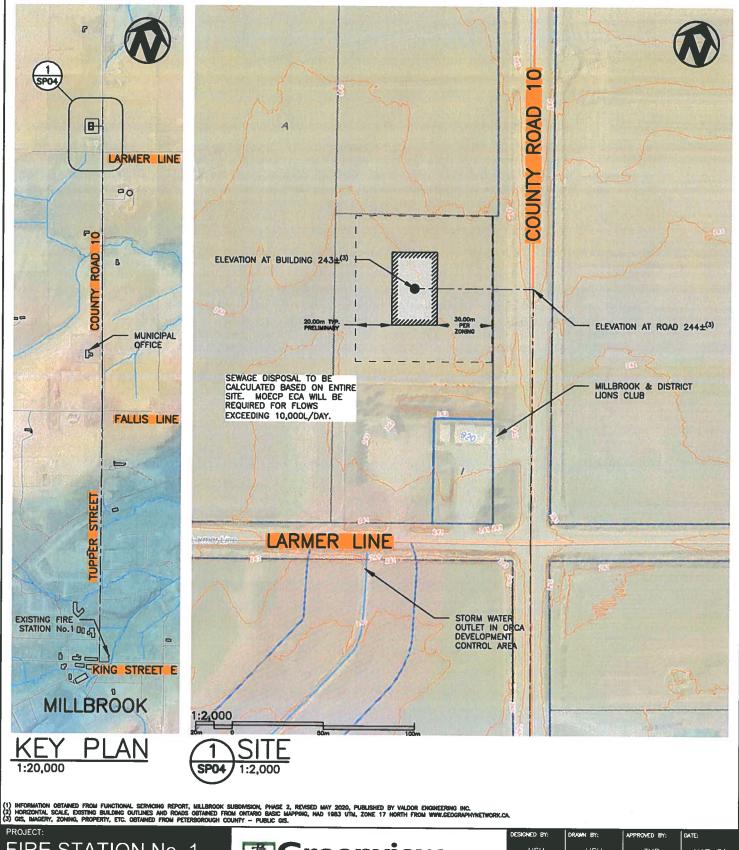


SITE SELECTION 988 COUNTY RD 10 **NEW ENTRANCE** STREET B

ENVIRONMENTAL MANAGEMENT

Bancroft, Ontario 613.332.0057 greenview-environmental.ca

DESIGNED BY:	DRAWN BY:	APPROVED BY:	DATE:
HSH	нѕн	THP	MAR-21
PROJECT No: 164.21.005			PLOT DATE: APR14-21



FIRE STATION No. 1 SITE SELECTION 920 LARMER LINE

**NEW ENTRANCE** COUNTY ROAD 10



Bancroft, Ontario 613.332.0057

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164.21.005





Table 1
Evaluation Matrix
Site Selection Study for New Fire Station 1

ltem	Metric	Description	963 County Road 10	986 County Road 10	988 County Road 10	920 Larmer Line	
			Entrance off Fallis Line	Entrance off Fallis Line	Entrance off Future Street 'B'	Entrance off County Road 10	
	Emergency Response	Location is relative to the distance along roads measured to the intersection of Tupper Street (County Road 10) and King Street. Distance has been measured to the centre of the proposed building area. The existing Fire Hall 1 is therefore 0.08km east of the intersection.	1.48km	1.56km	1.91km	3.00km	
		Ranking	1	1	2	n	
		Is there room for the provisional (25mx40m) building and adjacent site area (per Drawing PB01)?	Yes	Yes	Yes	Yes	
	SO V CO	Are other building configurations considered possible?	Yes	Yes	Yes	Yes	
	מסוכ שניים	Can OBC limiting distances be applied without imposing construction limitations on the building?	Yes	Yes	Yes	Yes	
		Is there sufficient additional space for future expansion?	Yes	Yes	Yes	Yes	
W 3		Ranking	1	1	1	1	

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ltem	Metric	Description	953 County Road 10	986 County Road 10	988 County Road 10	920 Larmer Line
			Entrance off Fallis Line	Entrance off Fallis Line	Entrance off Future Street 'B'	Entrance off County Road 10
3.1	Ownership	Does the municipality currently own the site?	No	Yes	Yes	Yes
		Ranking	2	1	1	1
4.1	Topography	Is the site sloped?	<10%	≈2.0%	≈10%	<2.0%
4.2		What elevation is the site relative to the road/street?	<1.0m-	<1.0m-	>5.0m+	>1.0m-
		Ranking	2	1	m	1
5.1	Vegetative Cover	Are there mature trees in the area of the proposed building?	Yes	N O	o N	o <sub>N</sub>
5.2		Are there mature trees between the site and street access (in or adjacent to the right of way)?	Yes	Yes	Yes	o Z
		Ranking	n	2	2	1
6.1	Surface Water	Is there a surface watercourse on the site? Is it considered to be seasonal or permanent?	Seasonal	<sub>S</sub>	o N	o Z
		Ranking	2	1	1	1



ltem	Metric	Description	963 County Road 10	986 County Road 10	988 County Road 10	920 Larmer Line
			Entrance off Fallis Line	Entrance off Fallis Line	Entrance off Future Street 'B'	Entrance off County Road 10
7.1		Has a geotechnical assessment been completed for the site in the past?	οN	Yes	Yes	o <sub>N</sub>
7.2	Geotechnical Conditions	Will a new geotechnical assessment be required (update for OBC post-disaster use)?	Yes	Update	Update	Yes
7.3		Are elevated groundwater conditions present?	Unlikely	Unlikely	Unlikely	Unlikely
		Ranking	2	1	1	2
8.1	Archeology / Cultural Horitage	Has an archaeological assessment been completed in the past?	N <sub>O</sub>	Yes	Yes	N O
8.2		Are there known archaeological sites/values in the area?	Yes	Yes	Yes	u/k
		Ranking	2	1	1	2
9.1	Environmental / Natural Heritage	Has an environmental impact study (EIS) been completed in the past?	Unlikely	Likely	Likely	o Z
		Ranking	2	1	1	2
10.1		Does street access exist?	No	Yes	No	Yes
10.2	Access	Will an address change be required?	No	Likely	Likely	Likely
10.3		Will new legal boundaries be required?	No	Likely	Likely	Likely
		Ranking	60	1	4	2

ltem	Metric	Description	963 County Road 10	986 County Road 10	988 County Road 10	920 Larmer Line
			Entrance off Fallis Line	Entrance off Fallis Line	Entrance off Future Street 'B'	Entrance off County Road 10
11.1		Are existing buildings present?	Yes	Yes	Yes	Yes
11.2		Will existing buildings need to be demolished?	Yes	N <sub>O</sub>	N <sub>o</sub>	o <sub>N</sub>
11.3	Demolition	Are the existing buildings likely to cause proximity issues?	N <sub>O</sub>	N <sub>O</sub>	Yes	S S
4.11		Are there existing structures present near the new building that will need to be demolished and/or relocated?	Yes	o N	Yes	o N
		Ranking	4	1	m	2
12.1	Municipal Water Services	Is a municipal water service available?	Yes	Yes	Yes	No <sup>(4)</sup>
		Ranking	1	1	1	2
13.1		Are existing municipal hydrants available?	Yes	Yes	Yes	o <sub>N</sub>
13.2	Firefighting Water	Are they OBC compliant relative to prospective building location?	Unlikely	Likely	Unlikely	o Z
13.3		Will on-site water storage be required?	No	S S	o N	Yes
		Ranking	2	1	2	m



ltem	Metric	Description	963 County Road 10	986 County Road 10	988 County Road 10	920 Larmer Line
			Entrance off Fallis Line	Entrance off Fallis Line	Entrance off Future Street 'B'	Entrance off County Road 10
14.1		Are municipal storm sewers available to the site?	No <sup>(2)</sup>	Yes	No <sup>(1)</sup>	No <sup>(4)</sup>
14.2		Will municipal storm sewers be available in the near future?	Yes	Yes	Yes	Unlikely
14.3	Municipal Storm Water	Will storm water infrastructure be required?	Yes	TBC	TBC	Yes
14.4	Services	Will storm water infrastructure require additional site area?	Yes	TBC	Yes	Yes
14.5		Will a stormwater ECA be required?	Yes	TBC	Likely	Yes
14.6		Will an ORCA permit be required?	TBC	TBC	TBC	TBC
		Ranking	n	1	2	4
15.1		Are municipal sanitary sewers available?	No <sup>(2)</sup>	Yes	No(1)	No <sup>(4)</sup>
15.2		Will municipal sanitary sewers be available in the near future?	Unlikely	Yes	Yes	Unlikely
15.3	Municipal Sanitary Services	Apart from sewer connections will sanitary infrastructure be required?	Yes	o N	o N	Yes
15.4		Can the sanitary infrastructure be installed without an ECA (under OBC permitting)?	Likely	Yes	Yes	Likely
		Ranking	က	1	1	m

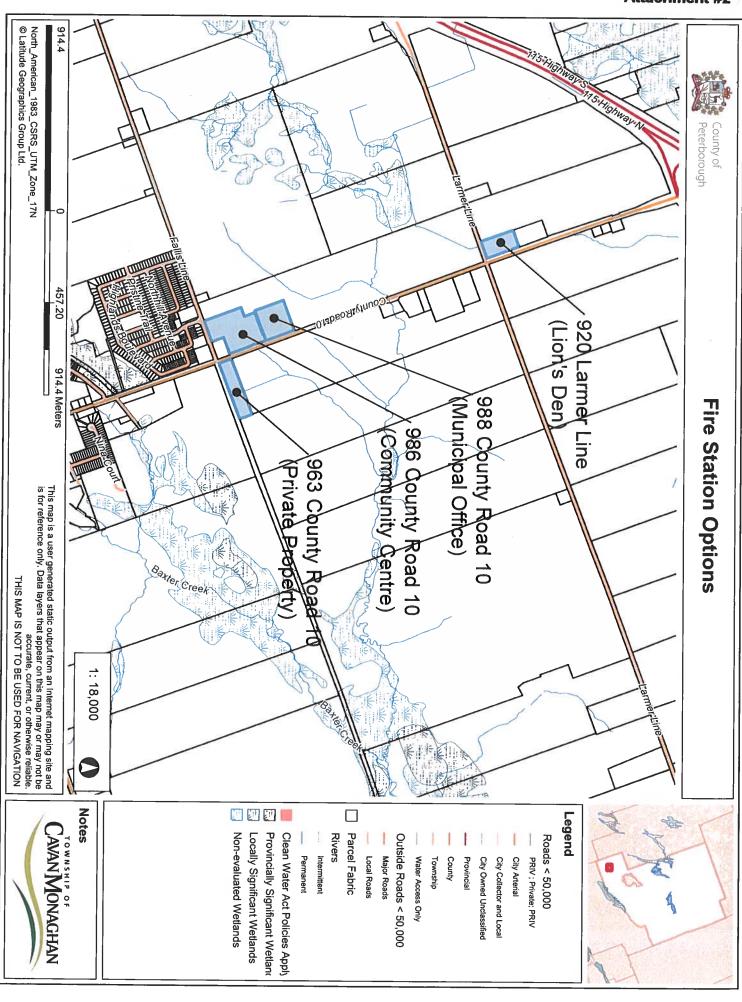


					775200				
TBC	1	Yes	1	∢	Yes <sup>(3)</sup>	8	1	33	က
TBC	1	Yes	1	1-1	Yes	N <sub>O</sub>	1	29	2
TBC	1	TBC	1	7	Yes	No	1	19	-
TBC	1	TBC <sup>(2)</sup>	1	CS	Yes <sup>(3)</sup>	No	1	36	4
Is available electrical supply sufficient for the proposed building?	Ranking	Is natural gas available at the site?	Ranking	What is the existing zoning classification?	Is the proposed building in conformance with existing zoning?	Does zoning pose any significant restrictions to the proposed building?	Ranking	Ranking Totals – All Metrics	Overall Ranking
Electricity		Gas Services			Zoning				Ove
16.1		17.1		18.1	18.2	18.3			

# Notes:

- The proposed building site is considered lower in elevation than existing services will accommodate. Connecting to future Tower Hill Phase 2 development services would likely be recommended over pumping or temporary measures.
- Services located on opposite side of County Road 10 to site. ۲į
- Public Use per 11.38.1 of Zoning By-Law 2018-58. က်
- Connections at Larmer Line may be available with Tower Hill Phase 3 development. 4.







# 986 County Road 10



- Hydro Lines
- Roads < 50,000 PRIV; Private; PRIV
- City Arterial
- City Owned Unclassified City Collector and Local
- County Provincial
- Township
- Water Access Only
- Outside Roads < 50,000 Major Roads
- Civic Address
- Intermittent
- Locally Significant Wetlands Provincially Significant Wetland
- Non-evaluated Wetlands





Hydro Lines

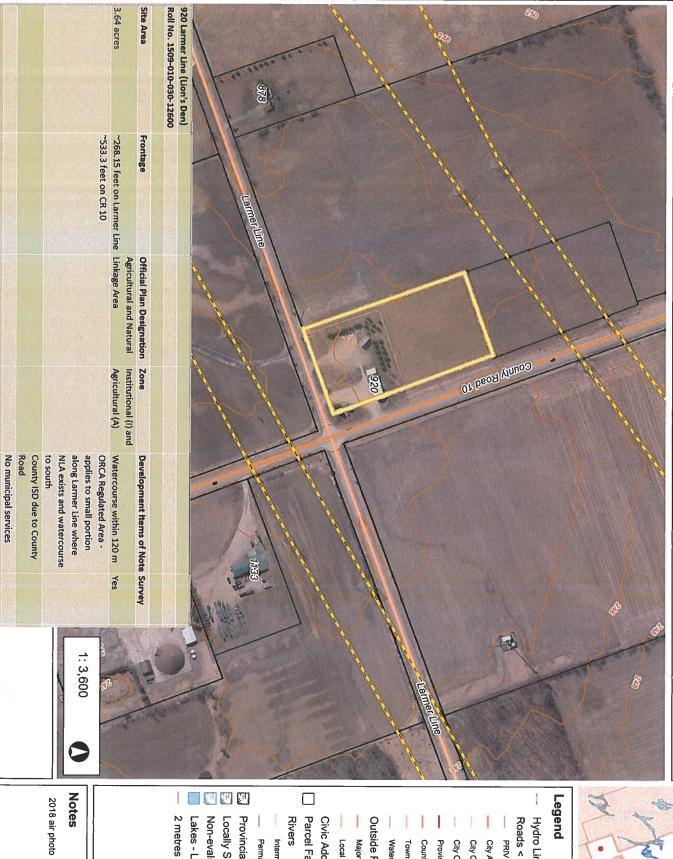
Peterborough County of

988 County Road 10

- Roads < 50,000 PRIV; Private; PRIV
- City Arterial City Collector and Local
- Provincial
- Outside Roads < 50,000
- Local Roads Major Roads
- Civic Address
- Intermittent
- Locally Significant Wetlands Provincially Significant Wetland
- Non-evaluated Wetlands



# 920 Larmer Line





- Hydro Lines
- Roads < 50,000 PRIV ; Private; PRIV
- City Arterial City Collector and Local

City Owned Unclassified

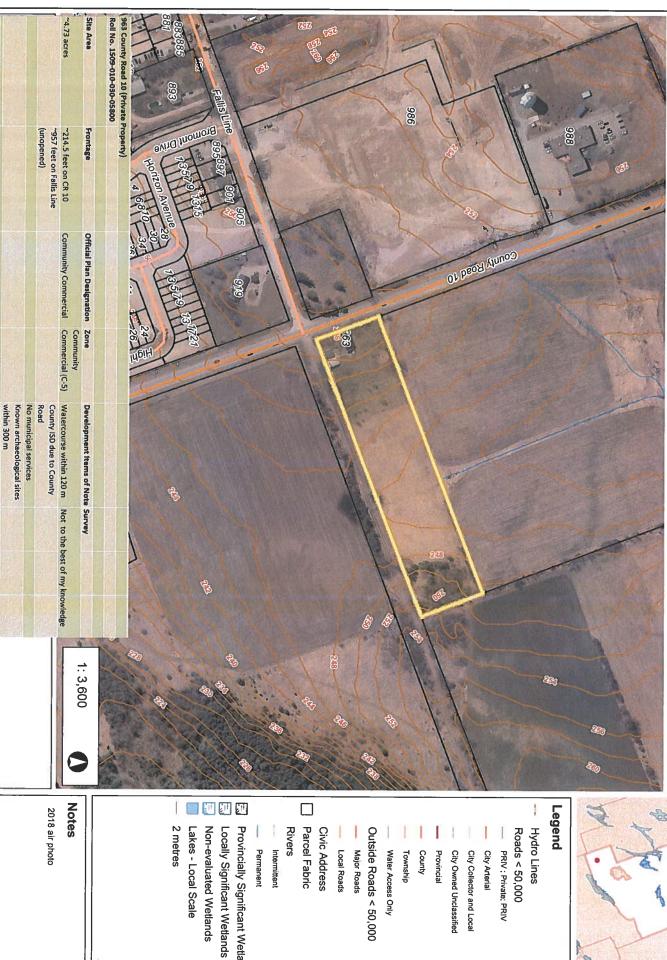
- County Provincial
- Water Access Only

Township

- Outside Roads < 50,000
- Local Roads Major Roads
- Parcel Fabric Civic Address
- Intermittent Permanent
- Provincially Significant Wetland
- Non-evaluated Wetlands Locally Significant Wetlands
- Lakes Local Scale

2018 air photo







Peterborough County of

963 County Road 10

- Hydro Lines
- PRIV; Private; PRIV
- City Collector and Local City Owned Unclassified
- Provincial
- Water Access Only
- Outside Roads < 50,000 Major Roads
- Civic Address
- Parcel Fabric
- Provincially Significant Wetland Permanent
- Non-evaluated Wetlands

### **Back Ground Information for Consideration**

Overall Ranking No	o. 1 - 986 County Rd 10 (Fallis	Line Entrance west of CMCC)
<b>Estimates Property</b>	Advantages	Disadvantages
Costs		
	Township Owned lands.  Least number of Properties affected by possible insurance increases (121)  Municipal services available  Entrance established  Zoned Permitted and OP conformity- Institutional  Meets timelines for moving project forward as requested by Council.  The sanitary sewer and watermain are on an easement along the west side. These services will have to be brought to the site and the estimated cost of this work is \$20,000.00. The storm system is along Fallis Line and will require a connection to this street — estimated cost \$5,000.00  Total Estimated cost	Takes away future Parkland development on portion of CMCC lands. Lands were provided by the developer for parkland development. (no specific Motion of Council) Fire station adjacent to resident development.
	\$25,000.00	

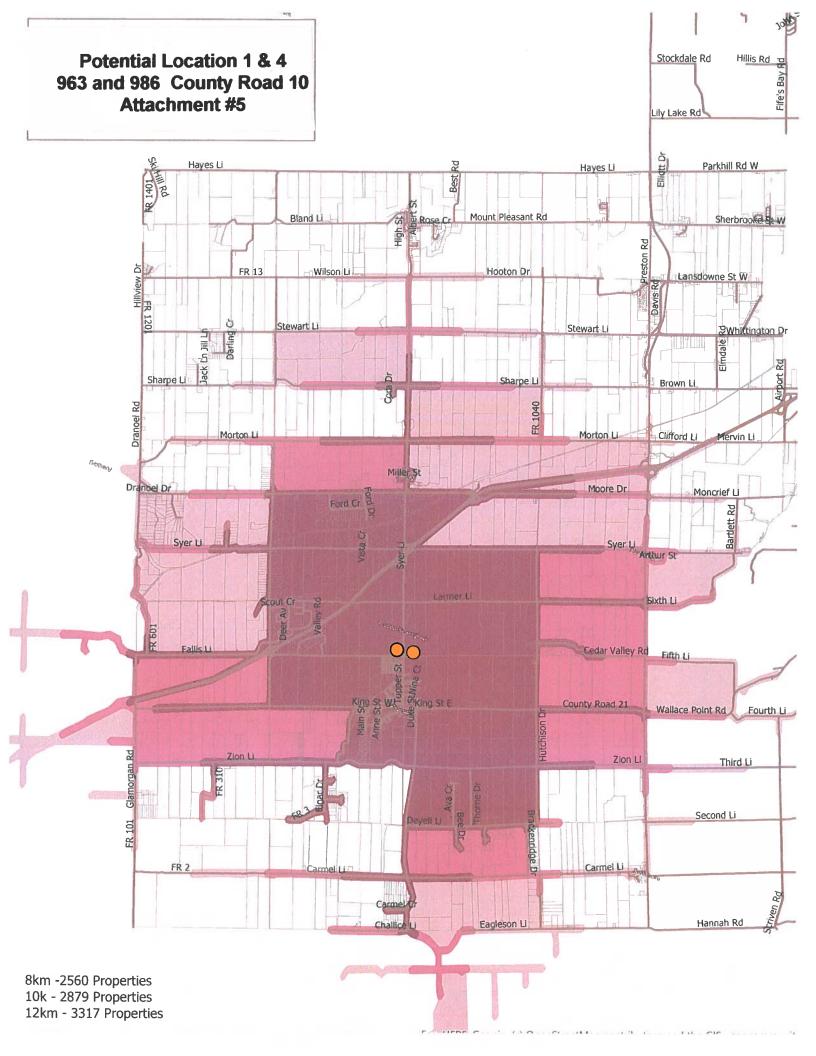
Overall Ranking No	No. 2 - 988 County Road 10 Municipal Officer North Side			
Estimated Property Costs	Advantages	Disadvantages		
Purchase Price N/a Services to site <b>Yes</b> Estimated Surveying costs \$3000.00	Township owned lands  Zoned and Permitted and OP conformity- Institutional	Site Preparation costs regarding road alignment. Property requires substantial grading to the site.  Greater number of properties affected by possible insurance increases (148)  Entrance to be established requiring County approval.  Does not meet timelines for moving project forward as requested by Council.  Present schedule is late fall of this year or early spring subject to planning approvals. There is sanitary, water and storm sewer. Would need to follow the proposed development schedule which will require further discussion on anticipated timelines.  Water & waste water services are dependent on Towerhill proceeding and street B being constructed. This would be completed as part of the development, but we would have to pay 100% of all services, sanitary, storm & water. Cost to the Municipality would be Estimated at \$20,000.00		

Overall Ranking No. 3 – 920 Larmer Line Property to the north of Lion's Den				
Estimated Property	Advantages	Disadvantages		
Costs				
Purchase Price N/a Services to site <b>No</b>	Township owned lands	High number of properties effected (157) for insurance purposes. Longer		
	Zoned Permitted/ not	assembly time for Fire Fighters		
Estimated Surveying costs \$5000.00	OP conformity – Agricultural	resulting in longer response times to residents.		
, , , , , , , , , , , , , , , , , , ,		Added costs for site servicing.		
		Larger set back requirements ORCA regulated area at south end.		
		Located between 2 high transmission		
		hydro tower lines.		
		Property would require Private		
		Services Septic - Estimated		
		\$15,000.00, drilled well - Estimated \$20,000.00		
		Total Estimated Costs \$35,000.00		

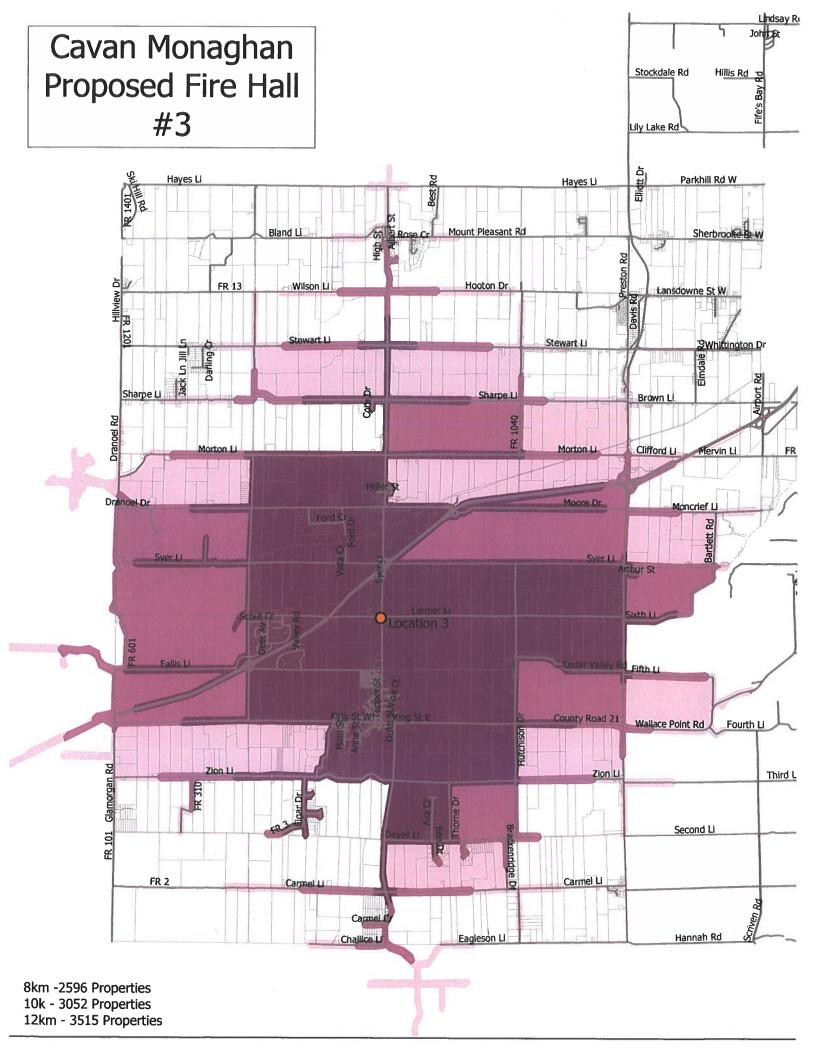
### **Site Location Options for New Fire Station**

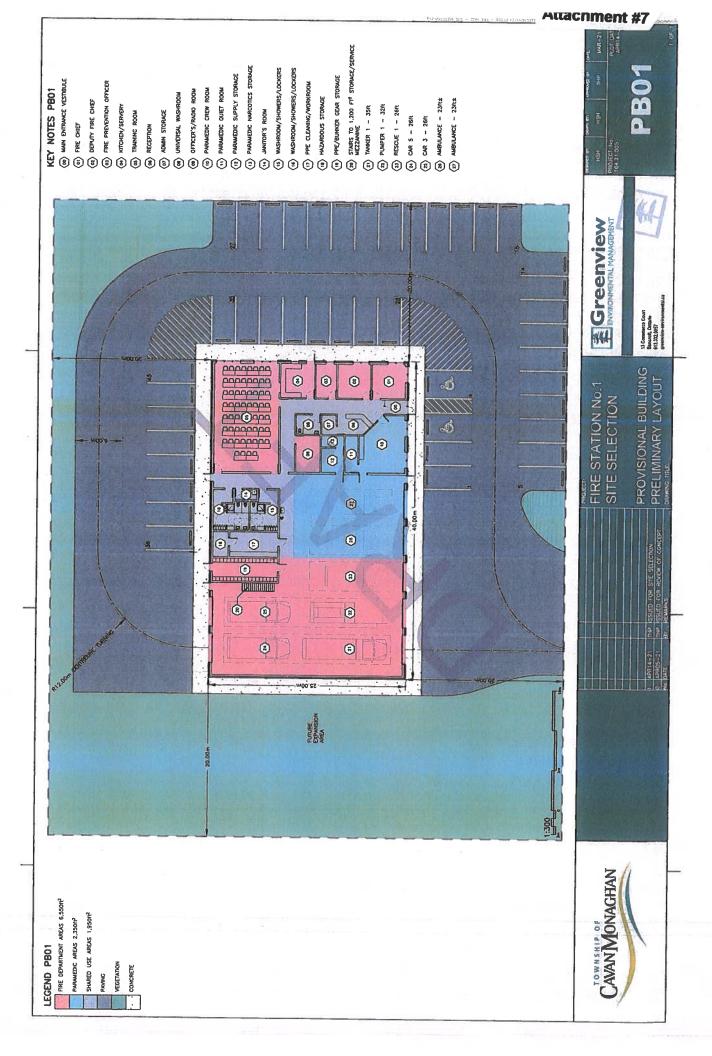
Overall Ranking. 4 - 963 County Road 10 (Fallis Line east)				
<b>Estimated Property</b>	Advantages	Disadvantages		
Costs				
Purchase Price Unknown requires an appraisal.	Fire Station located in Commercial Node limiting nuisance to residents of fire department operations and	Not Township own lands – requires appraisal of property  There is no sanitary service, and		
Township services to site <b>No</b>	training	timelines are not set yet. No storm sewer, so it would be surface		
Estimated Surveying	Least number of properties affected by possible insurance	drainage.		
costs \$5000.00	increases (121)	Need to open Fallis Line East road allowance for access.		
	Zoned Permitted and OP conformity – Community Commercial	Entrance to be established		
	Potential to partner with other municipal services Water service is available at	Time line for servicing and construction estimated to be two years (2022)		
	Fallis and County Rd 10.	Sanitary is on Nina Court and cost to extend is Estimated at		
	Excellent location as Fire station would be located within employment lands as opposed to be located near residential.	\$1,300,000.00. Financing is to be discussed yet. The watermain is at the south side of Fallis Line, east side of County Rd. 10. This service		
	Should the Township bring the services to the site it may spark/support the commercial development.	would have to be extended to the property and estimated cost is \$25,000.00. Storm drainage would be surface.		
		Total Estimated cost \$1,325,000.00		











## Attachment #8

# **Township of Cavan Monaghan Official Plan:**

Official Plan (Section 7.10)

Community facilities include fire stations. Community facilities are encouraged to located in close proximity to centers of activity to enable joint use of facilities. Fire stations are encouraged to locate in Settlement Areas to enable easy accessibility by the majority of the population and, where possible, to utilize full municipal services.

All of the potential sites, except the Lion's Den site, are located in a Settlement Area.

Community facilities are subject to the policies of the land use designations where these facilities are located.

988 County Road 10 (Municipal Office site)	Institutional
986 County Road 10 (Community Centre site)	Institutional
920 Larmer Line (Lion's Den site)	Agricultural
963 County Road 10 (Vargas Properties)	Community Commercial

The Institutional designation policies require that public uses be designed to minimize potential impacts on abutting Residential Areas and uses.

Development of the Institutional area shall include the following design elements (S. 4.3.3):

- i) Extensive landscaping on the periphery of the site to provide buffers from adjacent residential uses;
- ii) All lighting shall be dark sky friendly, using full cut-off fixtures to limit light trespass;
- iii) Parking lots shall contain internal landscaping features to encourage natural infiltration and provide shade;
- iv) Connectivity to the Natural Heritage system and the residential areas in the community; and
- v) Facilities shall be designed to be accessible.

Community Commercial Urban Design Guidelines (S.4.4.3) include consideration of the following:

- a) Require extensive landscaping on the periphery and within parking areas;
- b) Buildings should generally be set at street edge with parking moved to the rear. Where surface parking lots are exposed to the street, significant landscape buffering including the use of decorative walls and fencing is required.
- c) Signage will complement rather than dominate the landscape. It shall be incorporated as an integral part of a building or site layout wherever possible. It will not detract from the overall visual attractiveness of the built environment and will be designed to be located so as not to be hazardous for either pedestrians and motorists and will comply with the relevant County or Townships sign by-laws.

- d) The location and design of outdoor storage and display areas are to be visually acceptable and generally screened from the road frontage.
- e) All lighting shall be dark sky friendly similar to Institutional designation policies.
- f) Parking lots shall contain internal landscaping features to encourage natural infiltration and provide shade.

The Agricultural designation general development policies (S. 5.1.4) include:

- The use will not have a negative impact on the enjoyment and privacy of neighboring properties;
- ii) Adequate on-site parking facilities must be provided and in locations compatible with surrounding land uses;
- iii) The proposed access to the site cannot create a traffic hazard;
- iv) The proposed use must be serviced with an appropriate water supply and an appropriate means of sewage disposal;
- v) The proposed use enhances the rural and open space character of the Township through the establishment of built form that is compatible with the rural surroundings.

To ensure that individual municipal services are provided in a manner that meets the needs of the Township residents, facility strategies that deal with service areas shall be prepared to serve as a guide for the provision of services to a growing and changing population. Your Master Fire Plan will satisfy this requirement.

# Zoning By-law No. 2018-58, as amended:

Section 11.38.1 Public Uses

- a) Public uses are permitted in all Zones, with the exception of the Floodplain Overlay and NC Zone.
- b) Where a public use is permitted, the following provisions apply:
  - (i) Such public use must comply with all applicable Zone standards, and parking and loading requirements of the Zone in which it is located.
  - (ii) No outdoor storage or outdoor storage use is permitted unless specifically permitted in the Zone in which the public use is located.
  - (iii) Any accessory use to a public use must be clearly incidental and accessory to the principal use.

Public Use means "any use of land, buildings or structures by, or on behalf of, a public authority".

Public Authority means "any commission, board, or authority or any quasi-public body that is controlled by the Federal and/or Provincial governments and/or any commission, board, or authority or any quasi-public body that is controlled by the County or Township,

provided it is owned or operated by or for, or under the authority of the County of the Township".

The proposed Fire Hall is considered a public use. It can be permitted on all of the sites.

988 County Road 10 (Municipal Office site)	Zoning	I-1
986 County Road 10 (Community Centre site)	Zoning	I-1
920 Larmer Line (Lion's Den site)	Zoning	I and A
963 County Road 10 (Vargas Properties)	Zoning	C5



May 11, 2021

## BY ELECTRONIC MAIL ONLY

Township of Cavan Monaghan 988 County Road 10 Millbrook, Ontario LOA 1G0 bbalfour@cavanmonaghan.net

Attention:

Chief Bill Balfour

Fire Chief

Re:

Additional Services to Consultant Agreement & Budgetary Considerations (Rev.01)

New Fire Station 1 Millbrook Area, ON

Greenview File: P21-0511 / 164.21.005

#### Dear Chief Balfour:

In response to the Township of Cavan Monaghan's (Township) request, this submission has been prepared by Greenview Environmental Management Limited (Greenview) as a formal request for approval for additional scope of services and associated fees in accordance with Article 1.7 of the consulting service agreement between Greenview and the Township dated January 22, 2021 (Agreement). This is a revised version to the submission dated May 06, 2021.

## **Background**

After the formalization of the Agreement for the engineering and design of an approximate 7,500ft² fire station building, the Township advised that the project would be expanded to include and incorporate vehicle parking and ancillary space needs for an outpost location for the Peterborough County/City Paramedic service (PCCP). Accordingly, Greenview has been working with Township and PCCP representatives to define the independent and shared space needs of both operations in order to quantify the extent of changes to the original design approach per the base Agreement. The result, as currently understood, has the building increasing in area from 7,500ft² (700m²) for fire department use, an additional 3,250ft² (300m²) for PCCP space needs, totalling approximately 10,750ft² (1,000m²) in building area. The total increase in building area equates to over 40% of the originally planned building area. Please refer to the attached concept sketch PB01 developed in consultation with the Township, representing space needs for both operations.

The incorporation of a second building use/occupancy, and associated independent space needs, significantly impacts the design and coordination complexity of the project, as originally understood and proposed per Greenview's January 11, 2021 proposal (Agreement Schedule D).

Greenview understands that municipal staff have supported Greenview's recommendation to site the new Fire Station 1 and Paramedic post at the municipal property as part of 986 County Road 10 fronting onto Fallis Line, and the following additional scope of services, related fees, and budgetary cost estimates assumes this as the project site. In the event that this site is not selected for this project, Greenview would need to review the specifics of this submission, and confirm scope and fees accordingly.







# **Additional Scope of Services**

Greenview's additional scope of services and associated fees required to complete the expanded assignment correlate to those noted in each of the phases of the base services as per our original proposal dated January 11, 2021 (Agreement Schedule D).

Further to the base engineering and design services, the Township has also requested a budgetary estimate of other project related services required for the project to move forward, that are somewhat independent of the core site and building engineering and design services, but are necessary for project execution. In consultation with the Township, these tasks are understood to include the following:

- Site Plan Control Approvals including a development site plan, servicing plan, grading plan, and stormwater management plan, in accordance with municipal/authority standards. A portion of these studies are already part of Greenview's base responsibilities, and will need to be expanded accordingly. It is understood that the existing site water, wastewater, and stormwater servicing would not require amended approvals in the form of an environmental compliance approval (ECA).
- 2. Geotechnical Assessment including a site-specific geotechnical assessment for the proposed site and building works, with specific assessments to address a post-disaster building design/construction.
- Legal Surveying legal cadastral survey and related works to accurately define the legal boundaries of the subject property, with a certified legal plan provided in hardcopy and CAD (.dwg) format for Greenview's use.
- 4. Engineering/Topographic Surveying existing site conditions, features, and services location surveying for use in site plan and civil engineering, grading and drainage design, building design, and related needs.

As specifically noted in Greenview's proposal dated January 11, 2021, until such time that the Township selected a project site, none of the above tasks could be accurately understood, nor accounted for in terms of cost/budget.

# **Additional Fees & Budgetary Cost Estimates**

Assuming that the Township selects the recommended site at 986 County Road 10 fronting onto Fallis Line (southwestern area of the larger Community Centre property), Greenview has determined that the additional fees relative to the additional engineering and design of a new Fire Station 1 with incorporated PCCP shared use, as per the attached concept PB01, is \$44,890.00 (plus HST), which includes additional consulting services related to the PCCP inclusion incurred to April 30, 2021. This value includes the PCCP portion of engineering, design, and related fees, and the allocation of an additional \$10,000.00 to the project's design contingency allowance, to allow for any unknowns and/or future changes in the scope of work to be addressed if they arise.

If the Township decides to add an additional drive-thru type apparatus bay to the building as presented in PB01, an additional fee of \$2,485.00 would apply to the \$44,890.00 value noted above, which would total \$47,375.00 (\$44,890.00 + \$2,485.00).

As the overall size of the building is nearing where sprinklering is recommended/deemed necessary per OBC, an additional, special fee of \$9,500.00 is presented, as requested by the Township. This value is recommended to be carried as a contingency item, and only utilized if needed, once the total building area is confirmed and if sprinklering is to form part of the building's design.

Considering and understanding all of the above, the upset limit for additional design and engineering fees under Greenview's scope and agreement, including recommended contingencies, would total \$56,875.00 (plus HST). These are summarized in the following Table 1, for clarity.



Table 1 - Additional Fees for Engineering & Design Scope

Task	Гоо
Additional Engineering & Design Fees for PCCP Inclusion (Includes Contingency)	Fee
	\$ 44,890
Additional Engineering & Design Fee for Additional Drive-Thru Bay	\$ 2,485
Additional/Special Fee for Building Sprinkler Design (Contingency)	\$ 9,500
Estimated Total (excluding HST)	\$ 56,875

With respect to the scope of work required for project planning, design facilitation/support, and associated development approvals as generally noted above, Greenview provides the following budgetary estimates for consideration by the Township as presented in Table 2. Please note that these tasks and budgets are not currently part of Greenview's service responsibility agreement with the Township.

Table 2 – Budgetary Cost Estimate for Development Servicing

Task	Budget Estimate
Municipal Site Plan Engineering (ECA/Amendment not required)	\$ 10,000
Geotechnical Assessment*	\$ 20,000
Legal Surveying*	\$ 5,000
Engineering / Topographic Surveying	\$ 3,500
Estimated Total (excluding HST)	\$ 38,500

Note: \* Similar recent studies exist for both items, which if expanded, could result in cost savings compared to the above, all to be confirmed with actual quotations.

All relevant conditions of the base Agreement would remain in effect as applicable.

We trust this submission meets with the Township's expectations. Please contact the undersigned at 613-332-0057 extension 102, or <a href="mailto:tyler.peters@greenview-environmental.ca">tyler.peters@greenview-environmental.ca</a>, to discuss any questions or to review in more detail.

All respectfully submitted by,

**Greenview Environmental Management Limited** 

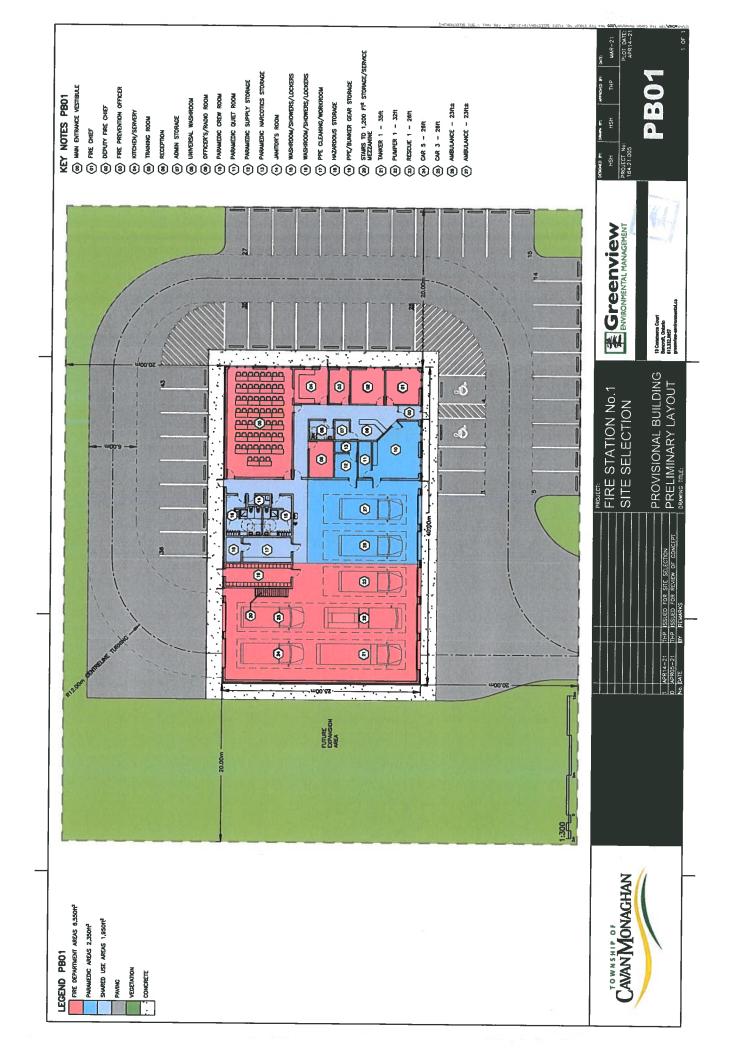
Tyler H. Peters, P.Eng.

Project Director / President

Attachments:

Concept Sketch PB01 (Apr14-21)









June 16, 2021

#### BY ELECTRONIC MAIL ONLY

Township of Cavan Monaghan 988 Peterborough County Road 10 Millbrook, Ontario LOA 1G0 (bbalfour@cavanmonaghan.net)

Attention:

Bill Balfour

Fire Chief

Re:

Site Selection Focused Study Report - 988 County Road 10 Site

**New Fire Station 1** 

Township of Cavan Monaghan Greenview File: 164.21.005

#### Dear Chief Balfour:

As directed by the Township of Cavan Monaghan (Township), Greenview Environmental Management Limited (Greenview) has prepared this report to summarize a focused review of development potential for undeveloped portion of the Township's property at 988 County Road 10, adjacent to the municipal administration office.

This submission extends from Greenview's report dated April 14, 2021, for those components relative to the subject site noted above.

## 1.0 Site Information

The site located on the west side of Peterborough County Road (CR) 10, north of the Cavan Monaghan Community Centre (CMCC), and is currently utilised for municipal administration offices, and related uses. The total site area is approximately 2.34 hectares (5.8 acres).

An above-ground municipal water reservoir tower and related works is located on the southwestern portion of the site. A solar PV array exists west of the municipal administration office, and associated servicing via overhead utilities extends to near the northern boundary of the site, then routes east to a connection on CR 10 near the northeastern corner of the property.

Parking areas, and smaller ancillary buildings (storage sheds/containers) also exist currently on the site.

# 2.0 Development Parameters

Greenview has consulted with the Township in specific detail relative to the subject site at 988. In the interest of time and cost management, available documentation pertinent to the scope of this focused study on the 988 CR 19 sure from the Township has been utilised. In addition, a consultation meeting with County representatives was also facilitated by the Township on May 26, 2021.

With due consideration of the above, Greenview's review of the development potential specific to 988 County Road 10 is based on the following parameters:

- The established building line of the east face of the Municipal Office would be the minimum setback from County Road 10.
- 2. The County may permit an exit (only) onto County Road 10 from the site providing the minimum distance between the proposed intersection of the future Street 'B' and any proposed exit must be a minimum of 30m







(clear between curbs/edges). The approval of any exit onto County Road 10 would be subject to other County requirements.

- A typical setback from future Street 'B' of 20m has been considered; however, this setback could be reconsidered by the Township through a planning review/process, if needed.
- 4. Assuming an exit onto County Road 10 can be properly established, an entrance from future Street 'B' would be preferred over utilization of the existing Municipal Office entrance for public safety and access. Preliminary design information for Street 'B' has been considered for this assignment.
- 5. Typical maximum grades/slopes from County Road 10 and Street 'B' onto and/or around the site should not exceed 5% (1V:20H).
- 6. Due to limited plan area/space in the northern portion of the site, a means of retaining earth related to the proposed development is anticipated, the extent of which depends on detailed site design.
- The proposed development is anticipated to impact existing site services, including municipal staff parking, and electrical servicing to solar tracker array. Other potential impacts to services would need to be verified by the Township.
- 8. Based on recent direction, the new Fire Station building area is approximately 11,950ft<sup>2</sup> (1,110m<sup>2</sup>), incorporating an additional drive-through apparatus bay for paramedic use.
- Subsurface conditions do not include bedrock within the proposed developmental extents. The cost of bedrock removals would most likely make the development financially impractical.
- 10. Demolition and removals would include the historical sewage (septic) system leaching bed, solar array overhead electrical services, portions of the staff parking lot, and ancillary storage buildings. Other needs would be confirmed.

## 3.0 Concept Design

Utilising provided information and the above noted parameters, Greenview has examined the potential to develop the northern, undeveloped portion of the site for the establishment of the new Fire Station 1.

In order to evaluate the site, concept design layouts and a site section have been developed for the purposes of this assignment, and are attached as SP05 and SS01. Also attached is an updated building concept plan has been developed as PB02. The key aspects of the layouts are summarised as follows:

- 1. Using the building concept layout, elevation information for CR 10 and Street 'B' and maximum slopes of 5%, the concept floor elevation (FFE) of the new building would be in the range of 254.5m in elevation, a proposed difference of approximately 3.35m (11ft) lower in elevation than the Municipal Office main floor. Due to the proposed mezzanine space, the height of the new building could be somewhat consistent in elevation with the western portion of the Municipal Office.
- 2. A new entrance has been considered off future Street 'B', at over 100m from County Road 10. A new exit from the site onto County Road 10 has been considered, at a minimum distance of 50m from future Street 'B' (52m) and the existing Municipal Office entrance (71m), consistent with County requirements.
- 3. Due to the proximity to the existing Municipal Office, and the topography of the existing site and adjacent lands, an engineered, earth retaining wall system would need to be employed to permit the development, primarily between the new development and the existing Municipal Office. Retaining walls would be limited to areas where earth grading/slopes are not feasible, anticipated to exceed recommendations of a future site-specific geotechnical assessment.
- 4. With the change in elevation between the existing site and concept, it is not considered advisable to configure the very end of the building in contact with earth as a full height vehicle bay. Providing an additional floor (and related supporting wall), approximately level with the existing grade will provide additional support to offset the loading imposed by the retained earth and any related surcharge from the adjacent municipal building. This additional space area has not yet been programmed and, although represented as a net increase to the overall



Township of Cavan Monaghan

building area (950ft²), will likely allow relocation of other program areas and related size reductions as the building design is advanced.

5. Based on the considerations noted above, Greenview has developed an order of magnitude budgetary cost estimate for site development, servicing, and building works anticipated for a typical, serviced site (such as the previously recommended site at 986 CR 10) as compared to the 988 CR 10 site. Please refer to the attached Table 1.

# 4.0 Summary of Results

Based on the initial analysis completed to date and the findings presented above and attached, Greenview provides the following in summary:

- With considerable site development works, the construction of the new Fire Station 1 appears to be feasible on the northern portion of the Municipal Office property. For this site, any building footprint changes to the concept building plan (PB02) may affect this feasibility. Further, site conditions will make any future expansion of the concept building impractical.
- Compared to other, less constrained locations reviewed in the study, the costs to develop the 988 CR 10 site
  are considerably higher than those at the previously recommended site (CMCC property), and are relative to
  the site selection study process. Detailed design on a selected site will clarify costs as the project moves
  forward.
- Further review and examination of site servicing needs/conflicts, County exit requirements, and other authority
  requirements is required to fully understand the extent of the proposed development, its constraints, and
  associated financial implications.
- 4. It should be noted that, through a design development process, conceptual site planning does not always represent the most optimal design for a specific site. It may be possible to devise more economical solutions to site challenges/constraints as the design work proceeds; however, this may also necessitate compromises in the building layout and function. Under the scope of this submission, the site has only been reviewed with respect to the site-generic concept building layouts previously submitted to the Township.

# 5.0 Closing

We trust this report and associated works are of benefit to the Township for consideration for siting the Township's new Fire Station 1.

This report and its findings are subject to the attached conditions and qualifications per our agreement as applicable to the overall project.

All respectfully submitted by,

**Greenview Environmental Management Limited** 

Tyler H. Peters, P.Eng.

**Project Director** 

Attachments:

Table 1 - Budgetary Cost Estimate

Figures SP05, PB02, SS01





# **Preliminary**

Table 1
Budgetary Cost Estimate
Site Selection Study
New Fire Station 1

Item	Task Description	Estimated (C			e Site C Site)	988 CR 10 (Municipal Office Site)		
				Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	
Soft 0	Costs			WHI WAS TO				
D1	Legal Surveying	LS	3	1	\$5,000	1	\$5,000	
D2	Engineering / Topographic Surveying	LS	12	1	\$3,500	1	\$3,500	
D3	Geotechnical Assessment & Engineering	LS		1	\$20,000	1	\$50,000	
D4	Specialised Civil/Servicing Engineering	LS		0	\$0	1	\$20,000	
	Sub-Total - Soft Costs		, i	-	\$28,500		\$78,500	
Site V	Vorks					The Market		
S1	Demolition & Removals	LS	9	1	\$5,000	1	\$10,000	
S2	Overhead Utility Relocations	EA	\$5,000	0	\$0	5	\$25,000	
S3	Clearing and Grubbing	LS	\$10,000	0	\$0	1	\$10,000	
S4	Earth Excavation (Cuts), Haulage, & Disposal	m <sup>3</sup>	\$11	0	\$0	30,000	\$330,000	
<b>\$</b> 5	Earth Fill (Grade Raise)	m³	\$11	5,250	\$57,750	0	\$0	
S6	Retaining Walls (Modular Block w Tie Backs)	m <sup>2</sup>	\$750	0	\$0	300	\$225,000	
S7	Accessible Pedestrian Ramp (Includes Guards & Railings)	m	\$500	0	\$0	50	\$25,000	
S8	Special Grading (Retaining Wall, Entrance/Exit Sight Lines)	LS	-	0	\$0	1	\$20,000	
S9	Granular B Subbase (Assumed 200mm)	tonnes	\$20	1,400	\$28,000	1,800	\$36,000	
S10	Granular A Base (Assumed 150mm)	tonnes	\$25	1,100	\$27,500	1,400	\$35,000	
S11	Asphalt Paving (Assume 90mm Superpave)	m²	\$50	2,500	\$125,000	3,500	\$175,000	
S12	Entrance Culverts (Assume 1000mm diam).	m	\$1,000	20	\$20,000	60	\$60,000	
S13	Topsoil / Seeding / Restoration	m²	\$8	1,000	\$8,000	3,500	\$28,000	
S14	Special Servicing (Natural Gas Main/Line)	LS	•	1	\$15,000	1	\$100,000	
S15	Sanitary & Stormwater Servicing	LS	-	1	\$15,000	1	\$50,000	
	Sub-Total - Site Works				\$301,250		\$1,129,000	
Buildi	ng Works	No. of the						
В1	Building	SF	\$350	11,950	\$4,182,500	11,950	\$4,182,500	
В2	Building Structural Enhancements & Extension	SF	\$150	950	\$142,500	950	\$142,500	
	Sub-Total - Building Works				\$4,325,000		\$4,325,000	
Sub-T	Sub-Total - All Items				\$4,654,750		\$5,532,500	
Con	Contingency (+/- 25%)				\$1,163,688		\$1,383,125	
Estimated Total Cost		LowR	Low Range		\$3,491,063		\$4,149,375	
Estilli	mateu Iotal Cost		High Range		\$5,818,438		\$6,915,625	

# Notes:

- 1 Estimate based on noted assumptions and/or information available at time of issuance.
- 2 Site servicing values based on initial assumptions only, subject to authority consultations.
- 3 Estimate to be read in conjunction with report as a whole.



