FUNCTIONAL SERVICING REPORT

PROPOSED SINGLE FAMILY RESIDENTIAL

44 - 45 LONGVIEW PLACE
DIGAMBER SINGH

CITY OF MISSISSAUGA
REGIONAL MUNICIPALITY OF PEEL

FILE NO. 219-M117

JANUARY 27, 2021

SKIRA & ASSOCIATES LTD.
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TABLE OF CONTENTS

LIST OF FIGURES

APPENDICES

1.0 INTRODUCTION

Skira & Associates Ltd. has been retained by Digamber Singh to investigate and prepare a Functional Servicing Report (FSR) in support of an Official Plan Amendment and Zoning By-Law Amendment for a residential development of three (3) single family homes, on land east of a cul-de-sac at the south terminus of Longview Road, in the City of Mississauga, Region of Peel.

The purpose of this report is to define the existing municipal services to the subject parcel of land and the proposed servicing details in support of the proposed residential development.

It is intended this FSR will result in 'approval in principal' of the design proposal by the City of Mississauga, Regional Municipality of Peel and any other relevant authorities. Detailed design will be provided during the Site Plan Application process.

2.0 SITE AREA INFORMATION

The subject property is located east of the cul-de-sac at the south terminus of Longview Road, south of Derry Road West, and covers an area of approximately 0.50 Ha. It is legally known as Part of Lot 10, Concession 1, West of Hurontario Street and Part 6 of Plan 43R-27818, in the City of Mississauga, Regional Municipality of Peel.

The site fronts Longview Road cul-de-sac, and is bounded by Fletcher's Creek to the north, east and south. Refer to ***Figure 1 Key Plan***.

The land is currently vacant and is comprised of sod and vegetation.

The proposed development will consist of three (3) single family residential homes and will be setback from the Fletcher's Creek top of bank and tree dripline limits, with an developable area of approximately 0.22 Ha.

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KEY PLAN

PROJECT No. 219-M117	**FIGURE No. 1**
DATE - JULY 2020	
SCALE - N.T.S. / DRAWN BY - K.G.	

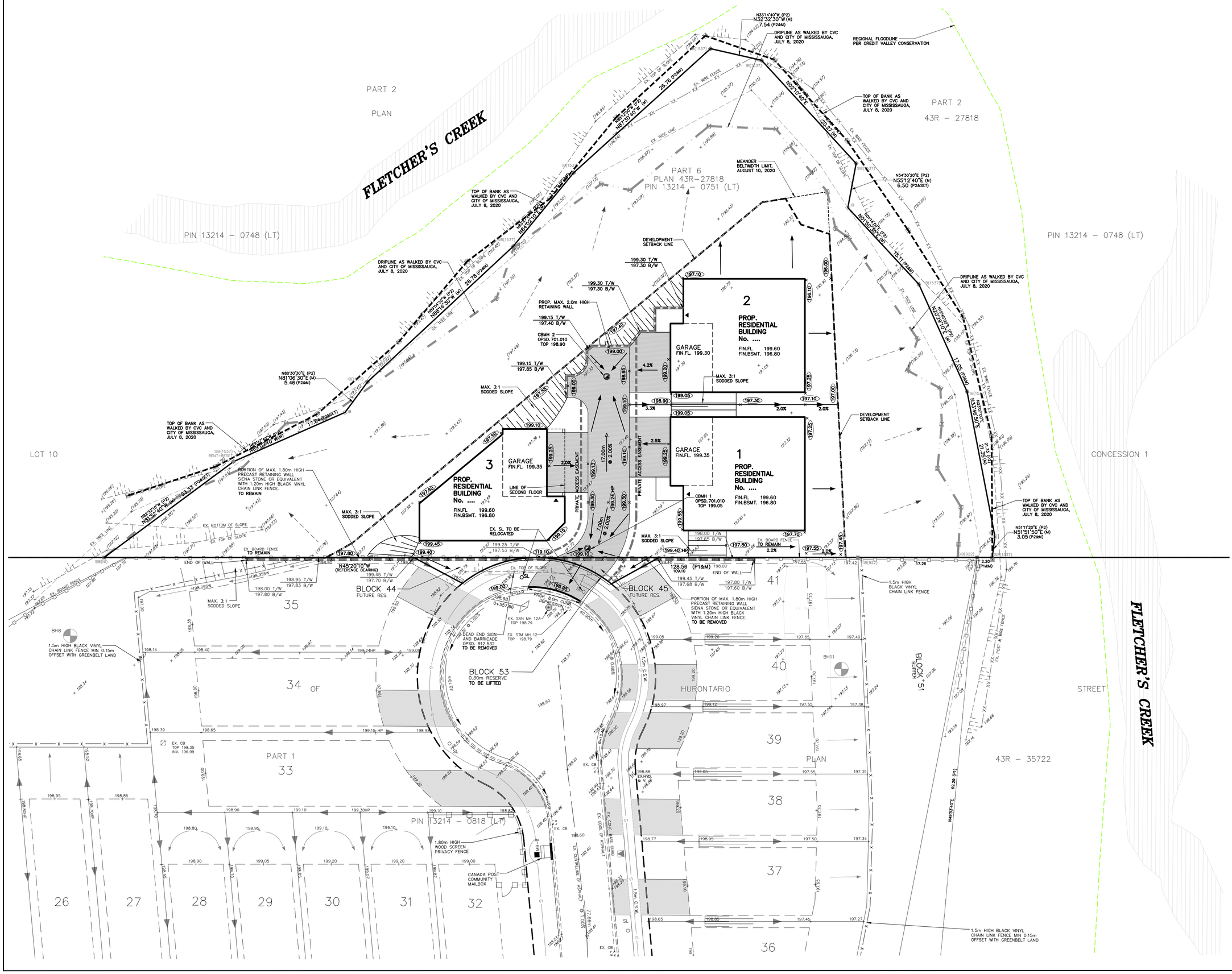
3.0 SITE ACCESS

The existing road network surrounding the subject site will provide access to major arterial roads, including Derry Road West, McLaughlin Road and Hurontario Street, and to nearby Highways 401, 407, and 410.

Currently, the site does not have any access driveways.

It is intended to provide the proposed three (3) single family homes with individual driveways to a private shared driveway access to Longview Place cul-de-sac.

Refer to ***Figure 2 Concept Site Grading Plan***.



LEGEND

198.95	- EXISTING ELEVATION
(000.00)	- EXISTING ELEVATION TO REAIN
126.25	- PROPOSED ELEVATION
2.0% →	- DIRECTION OF SURFACE FLOW
000.00	- EXISTING CONTOURS
	- EXISING OVERLAND FLOW ROUTE
	- PROPOSED OVERLAND FLOW ROUTE
	- LIMIT OF PROPERTY

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CONCEPT SITE GRADING

PROJECT No. 219-M117	FIGURE No. 2
DATE - JULY 2020	
SCALE - 1 : 300	DRAWN BY - K.G.

4.0 WATER DISTRIBUTION SYSTEM

According to available records, there is an existing 150mm diameter watermain on Longview Place, connecting the existing 50mm diameter watermain along the cul-de-sac.

Currently, there are no existing water service connections from the cul-de-sac to the subject property.

The proposed homes will be serviced by new individual 25mm water service connection to the existing 50mm diameter watermain.

The existing watermain will provide sufficient water supply to service the residential homes. The existing hydrant on Longview Place will provide fire coverage. Refer to ***Figure 3 Water Distribution Plan***.

Water Demand Calculations

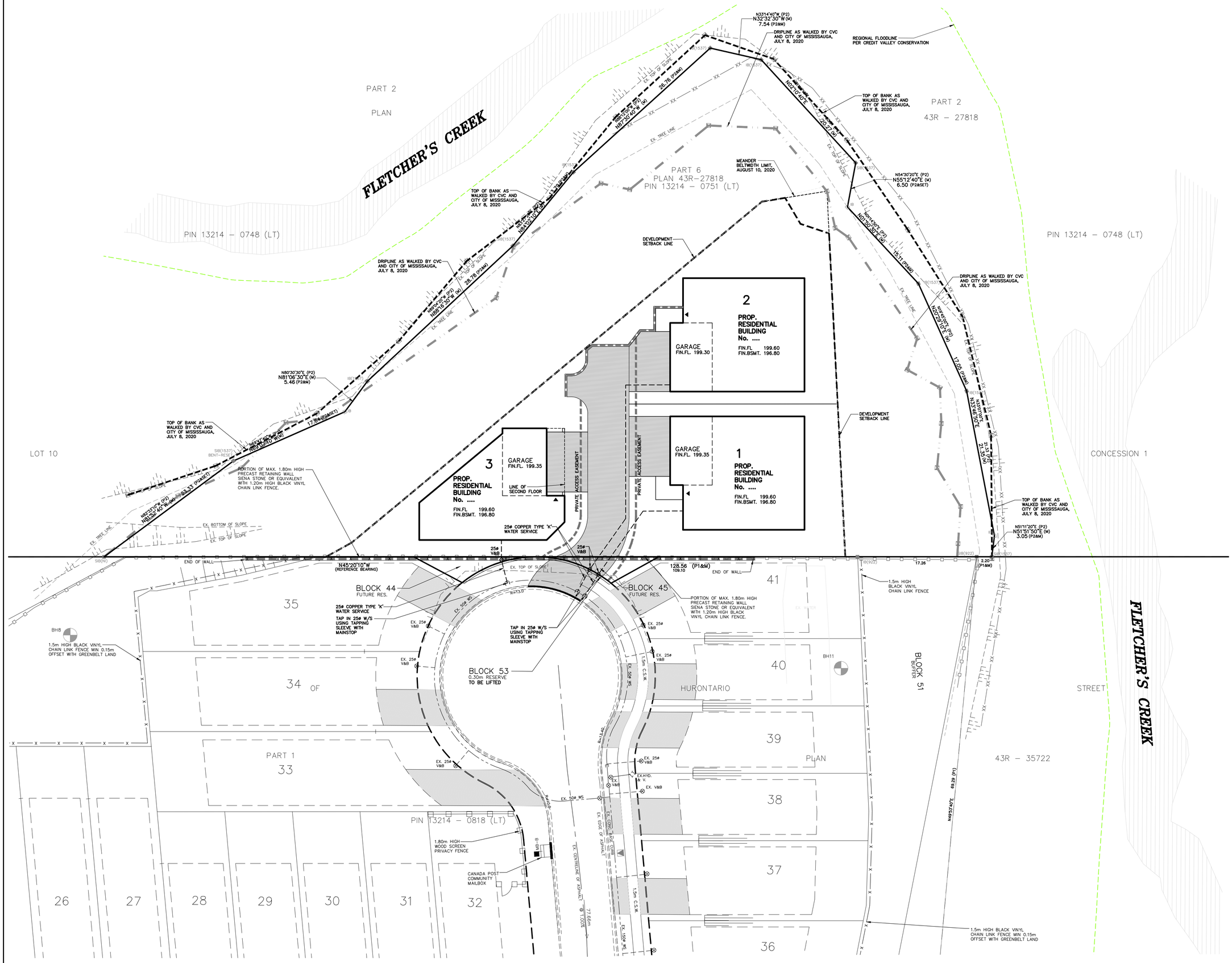
The estimated domestic water demand from the site was calculated as follows:

Proposed population – 4.15 people x 3 single homes = 12.45 ≈ 13 persons

Site Average Flow = 280 Litres/capita/day
= 280 x 13
= 3,640 L/day
= 0.042 L/s

Total Expected Peak Flow Rate = Site Average Flow x Peak Hour Factor
= 3,640 x 3.0
= 10,920 L/day
= 0.126 L/s

Total Expected Maximum Daily Flow = Site Average Flow x Maximum Day Factor
= 3,640 x 2.0
= 7,280 L/day
= 0.084 L/s



LEGEND

EX. 150ø WM - EXISTING WATERMAIN

- PROPOSED WATER SERVICE CONNECTION

- EXISTING FIRE HYDRANT

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WATER DISTRIBUTION SYSTEM

PROJECT No. 219-M117

DATE - JULY 2020

SCALE - 1 : 300

DRAWN BY - K.G.

FIGURE No. 3

5.0 SANITARY DRAINAGE SYSTEM

According to available records, there is an existing 250mm diameter sanitary sewer on Longview Place.

Currently, there are two (2) existing 125mm sanitary connections from the existing 250mm diameter sanitary sewer to the subject property, previously included in the design of Exquisite Bay Development Inc. subdivision T-13007. The existing sanitary connections are to remain and be utilized for two of the proposed homes.

The third residential home will be serviced by a proposed 125mm sanitary connection to the existing 250mm diameter sanitary sewer.

The proposed lowest tentative finished floor elevation is approximately 196.80m. The existing and proposed 125mm diameter sanitary sewer invert elevations are approximately 196.00m. Based on these inverts and the tentative finished floor elevation, each home will have sufficient depth to be serviced by gravity flow. Refer to ***Figure 3 Sanitary Drainage Plan*** and ***Appendix A Sanitary Sewer Design Chart***.

Sanitary Flow Calculations

The average flow from the development to the 250mm sanitary sewer on Longview Place:

Proposed population – 4.15 people x 3 single homes = 12.45 ≈ 13 persons

Average Daily Flow = 302.8 L/cap/day x 13
= 3,936.4 L/day
= 0.046 L/s

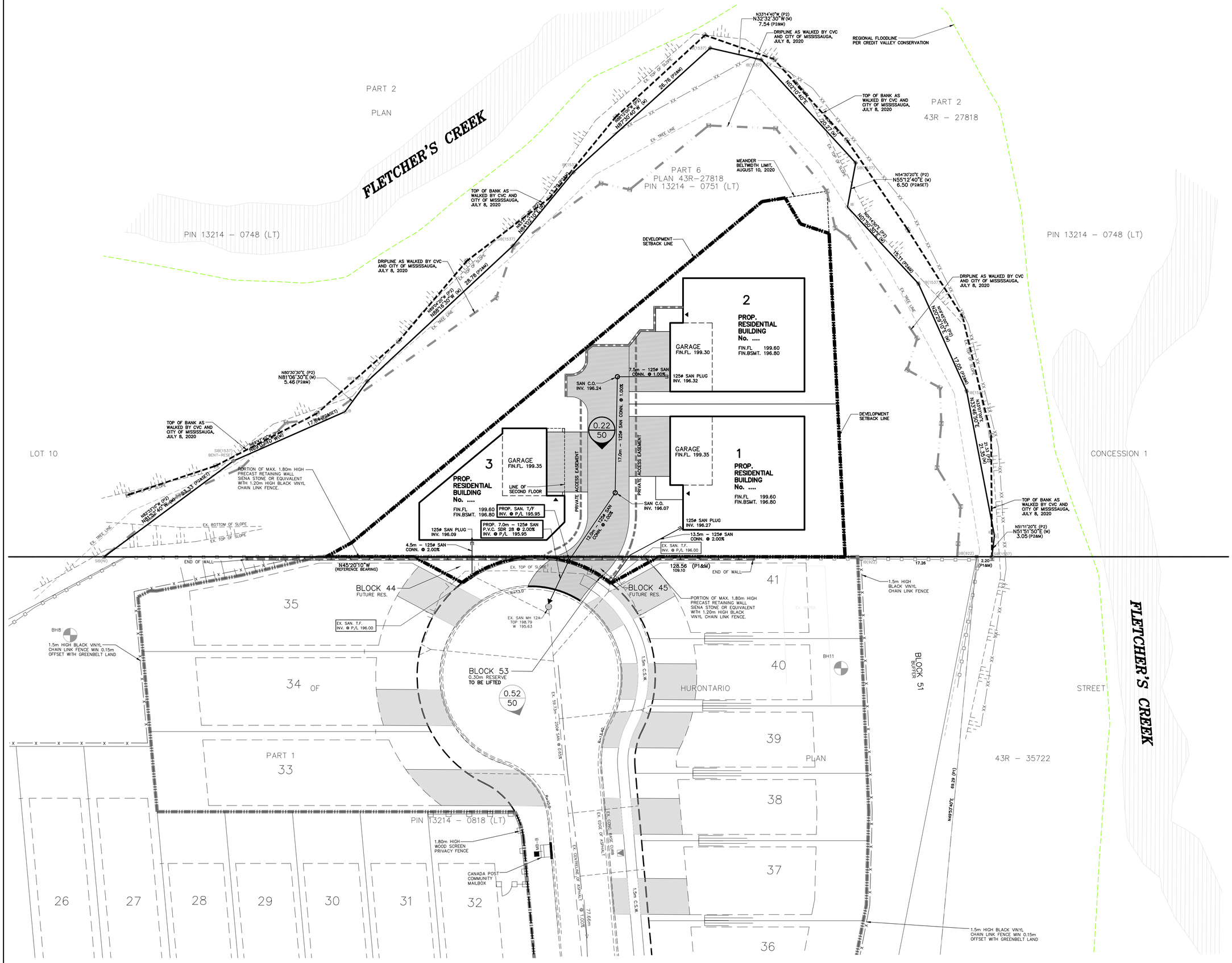
Peak Factor $= 1 + \frac{14}{4 + P^{0.5}}$ Where, P = population in thousands

$= 1 \frac{14}{4 + 0.013^{0.5}}$

= 1 + 3.40

= 4.40 Maximum Peak Factor is 4.0.

Peak Flow Rate = Average Daily Flow x Peak Factor
= 3,936.4 x 4.0
= 15,745.6 L/day
= **0.182 L/s**



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SANITARY DRAINAGE

PROJECT No. 219-M117	FIGURE No. 4
DATE - JULY 2020	
SCALE - 1 : 300	DRAWN BY - K.G.

6.0 STORM DRAINAGE SYSTEM

According to available records, there is an existing 300mm diameter storm sewer on Longview Place.

The subject property is within the Fletcher's Creek subwatershed of Credit Valley Conservation (CVC). Onsite stormwater management is not required for the area.

Currently, the land drains towards Fletcher's Creek.

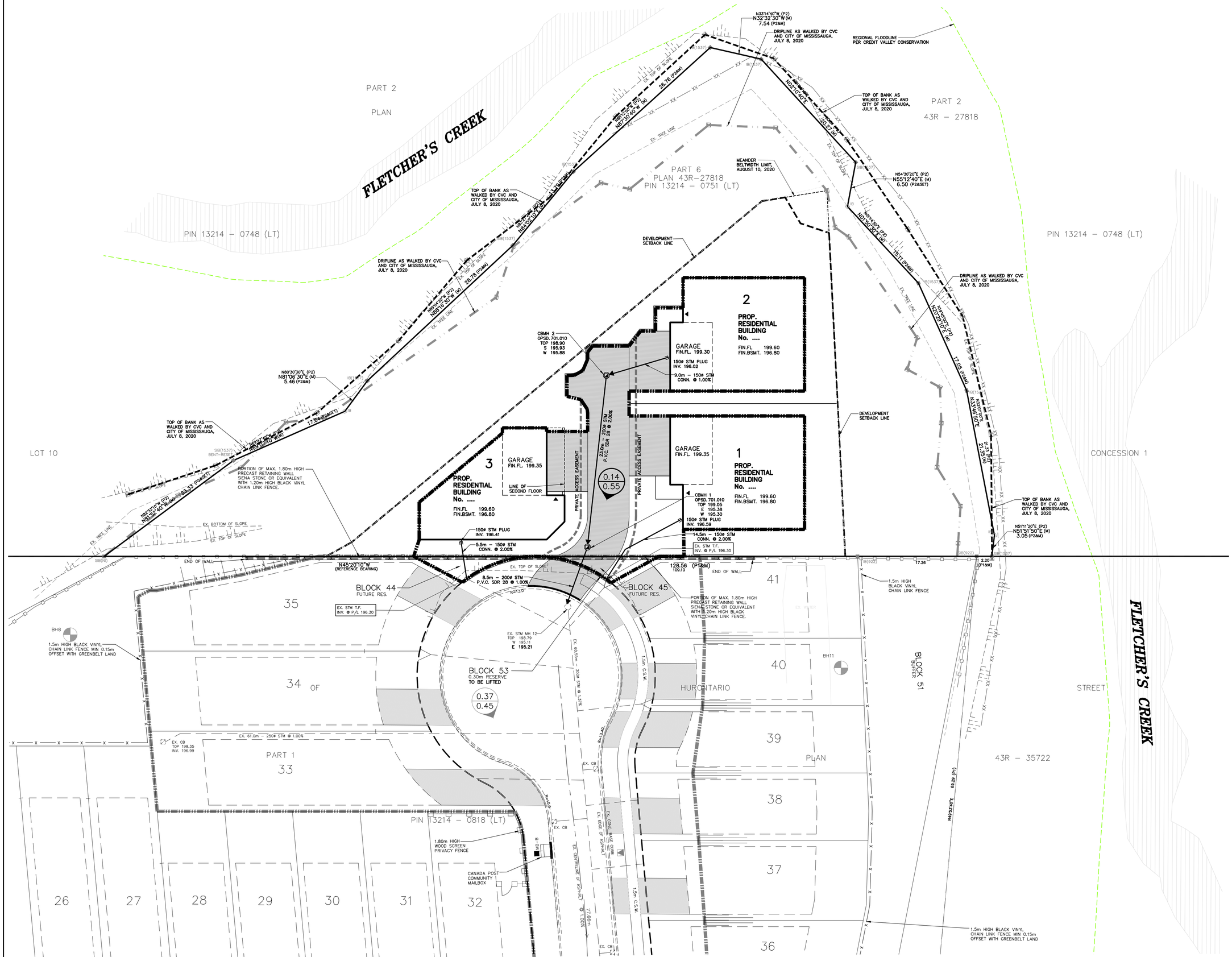
The proposed lots will be graded to split drainage, where front yards drain to the private shared driveway and Longview Place and back yards to Fletcher's Creek.

A 200mm diameter storm sewer will be provided to drain the proposed shared driveway and front yards and connected to the existing 300mm diameter storm sewer on Longview Place.

Roof downspouts will discharge onto surface via splash pad and directed towards the proposed side yard swales.

Basement weeping tiles will be connected and drain by gravity to the existing storm sewer system. There are two (2) existing 150mm storm connections from the existing 300mm diameter storm sewer to the subject property, previously included in the design of Exquisite Bay Development Inc. subdivision T-13007. The existing storm connections are to remain and be utilized for two of the proposed homes. The third residential home will be serviced by a proposed 150mm storm connection to the proposed 200mm diameter storm sewer.

Refer to ***Figure 4 Storm Drainage Plan*** and ***Appendix B Storm Sewer Design Chart***.



LEGEND

- EXISTING STORM SEWER
- PROPOSED STORM CONNECTION
- EXISING STORM MANHOLE
- PROPOSED STORM MANHOLE
- PROPOSED DRAINAGE AREA BOUNDARY
- EXISTING DRAINAGE AREA BOUNDARY
- 0.36 / 0.70 — AREA (HECTARES) / RUN-OFF COEFFICIENT
- LIMIT OF PROPERTY

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STORM DRAINAGE

PROJECT No. 219-M117	FIGURE No. 5
DATE - JULY 2020	
SCALE - 1 : 300	DRAWN BY - K.G.

7.0 SUMMARY

Our findings reveal the proposed residential development of three (3) single family homes can be fully serviced to the existing available services on Longview Place. The findings of this report are global and are related to the servicing functionality of this application. These findings by no means are final and are not to replace the detailed review of this application.

The conclusion is as follows:

- Each home will be provided with individual driveways to a private shared driveway access to Longview Place cul-de-sac.
- Each home will be serviced by individual proposed **25mm diameter** water service connections to the existing 50mm diameter watermain.
- Each home will be serviced by individual existing/proposed **125mm diameter** sanitary connections to the existing 250mm diameter sanitary sewer.
- A 200mm diameter storm sewer will be provided to drain the proposed shared driveway and front yards and connected to the existing 300mm diameter storm sewer on Longview Place.
- Roof downspouts will discharge onto surface via splash pad and directed towards the proposed side yard swales.
- Basement weeping tiles will be connected and drain by gravity. Each home will be serviced by individual existing/proposed **150mm diameter** storm connections.

We respectively submit this report with the intention of obtaining approval in principal of the recommendations herein, and trust the information provided meets with the requirements. The report's recommendations will be implemented in detail design during the site plan and building permit process.

Yours truly,

SKIRA & ASSOCIATES LTD.

Kathy Grycko, P. Eng.

NOTE: ***Limitation of Report***

This report was prepared by ***Skira & Associates Ltd.*** *for* ***Digamber Singh*** *for review and approval by government agencies only.*

In light of the information available at the time of preparation of this report, any use by a ***Third Party*** *of this report are solely the responsibility of such* ***Third Party*** *and* ***Skira & Associates Ltd.*** *accepts no responsibility for any damages, if any, suffered by the* ***Third Party***

Appendix A

Sanitary Sewer Design Chart

SUBDIVISION : **320 DERRY ROAD DEVELOPMENTS**

LONGVIEW PLACE

REGION FILE: **T-13007**

CONSULTANT : **SKIRA & ASSOCIATES LTD.**

REGION OF PEEL

SANITARY SEWER DESIGN CHART

SHEET No. 1 of 1

PROJECT No. : 219-M117

DESIGNED BY : K.G.

DATE : Jan - '21

LOCATION	FROM MH	TO MH	AREA Aa	DENSITY	POP. Pp	ACCUM. AREA A=∑Aa	ACCUM. POP. P=∑Pp	SEWAGE FLOW	INFILT. FLOW	TOTAL FLOW Q_{ACT}	TYPE OF PIPE	LENGTH L	SLOPE S	PIPE SIZE NOMINAL D	CAPACITY n=0.013 Q_D	VELOCITY n=0.013 V	VELOCITY ACTUAL Va	INVERT ELEV. UPPER	INVERT ELEV. LOWER
	MH#	MH#	ha	ppha		ha		m^3/s	m^3/s	m^3/s		m	%	mm	m^3/s	m^3/s	m^3/s	MH	MH
LONGVIEW PLACE	5A	4A	0.45	50	23	0.45	23	0.013	0.0001	**0.013**	PVC	62.97	1.00	250	**0.062**	1.22			
	4A	3A	0.52	50	26	0.97	49	0.013	0.0002	**0.013**	PVC	38.63	1.04	250	**0.063**	1.25			
WATERHOUSE CRESC	TO	9A	1.11	70	78	1.11	78	0.013	0.0002	**0.013**	PVC	8.00	0.50	250	**0.044**	0.87			
NORTH	9A	8A	0.23	70	16	1.34	94	0.013	0.0003	**0.013**	PVC	37.31	0.59	250	**0.048**	0.94			
	8A	3A	0.00	0	0	1.34	94	0.013	0.0003	**0.013**	PVC	13.47	0.82	250	**0.056**	1.11			
LONGVIEW PLACE	3A	2A	0.40	50	20	2.71	162	0.013	0.0005	**0.014**	PVC	85.72	0.48	250	**0.043**	0.85			
WATERHOUSE CRESC	TO	7A	0.92	70	64	0.92	64	0.013	0.0002	**0.013**									
SOUTH	7A	6A	0.19	70	13	1.11	78	0.013	0.0002	**0.013**	PVC	18.89	0.74	250	**0.053**	1.05			
	6A	2A	0.00	0	0	1.11	78	0.013	0.0002	**0.013**	PVC	7.91	0.51	250	**0.044**	0.87			
LONGVIEW PLACE	2A	1A	0.17	50	9	3.99	249	0.013	0.0008	**0.014**	PVC	34.8	0.40	250	**0.039**	0.77			
	1A	16A	0.22	50	11	4.21	260	0.013	0.0008	**0.014**	PVC	41.1	0.53	250	**0.045**	0.89			
PROPOSED SITE	TO	12A	0.22	50	13	0.22	13	0.013	0.0000	**0.013**									
LONGVIEW PLACE	12A	11A	0.52	50	26	0.74	39	0.013	0.0001	**0.013**	PVC	59.73	0.65	250	**0.050**	0.99			
	11A	10A	0.00	0	0	0.74	39	0.013	0.0001	**0.013**	PVC	4.25	1.88	250	**0.085**	1.68			
	10A	18A	0.33	50	17	1.07	56	0.013	0.0002	**0.013**	PVC	8.60	0.81	250	**0.056**	1.10			
	18A	17A	0.93	50	47	2.00	102	0.013	0.0004	**0.013**	PVC	109.70	0.39	250	**0.039**	0.76			
	17A	16A	0.15	50	8	2.15	110	0.013	0.0004	**0.013**	PVC	31.30	0.40	250	**0.039**	0.77			
ARROWSMITH DRIVE	16A	15A	0.40	50	20	6.76	389	0.013	0.0014	**0.014**	PVC	56.90	0.97	250	**0.061**	1.21			

Appendix B

Storm Sewer Design Chart

SUBDIVISION : **320 DERRY ROAD DEVELOPMENTS**

LONGVIEW PLACE

MAJOR DRAINAGE AREA:

REGION FILE: **T-13007**

CONSULTANT : **SKIRA & ASSOCIATES LTD.**

CITY OF MISSISSAUGA

STORM SEWER DESIGN CHART

SHEET No. 1 of 1

PROJECT No. : 219-M117

DESIGNED BY : K.G.

DATE : Jan - '21

$I_{(10YR)} = 1010/(Tc+4.6)^{0.78}$

MANNING'S ROUGHNESS COEFF. n = 0.013

LOCATION	FROM MH	TO MH	AREA Aa	RUNOFF COEFF. Ca	AaxCa	ACCUM. AREA A=∑Aa	ACCUM. AaxCa C=∑AaxCa	Tc	INTENSITY I	EXPECTED FLOW Q=I·A·C / 360	TYPE OF PIPE	LENGTH L	SLOPE S	PIPE SIZE NOMINAL D	CAPACITY n=0.013 e	VELOCITY n=0.013 V	TIME OF FLOW T = L / V x 60	VELOCITY n = 0.009	VELOCITY ACTUAL	INVERT ELEV. UPPER	INVERT ELEV. LOWER
	MH#	MH#	ha			ha		min	mm/hr	m^3/s		m	%	mm	m^3/s	m/s	min	m/s		MH	MH
LONGVIEW DR	TO	5	0.22	0.75	0.17	0.22	0.17	15.00	99.17	**0.047**	PVC	12.7	1.89	300	**0.139**	1.90	0.08	2.75			
	5	4	0.57	0.90	0.51	0.79	0.68	15.00	99.17	**0.187**	PVC	62.7	1.00	450	**0.297**	1.81	0.40	2.62			
	TO	4	0.42	0.75	0.32	0.42	0.32	15.00	99.17	**0.088**	PVC	11.1	1.26	300	**0.113**	1.55	0.08	2.24			
	4	3	0.21	0.90	0.19	1.42	1.19	15.40	97.62	**0.323**	PVC	31.4	1.08	525	**0.465**	2.09	0.17	3.01			
WATERHOUSE CRESC	TO	9	1.11	0.55	0.61	1.11	0.61	15.00	99.17	**0.168**	PVC	9.5	0.50	450	**0.210**	1.28	0.09	1.85			
NORTH	9	8	0.23	0.45	0.10	1.34	0.71	15.09	98.81	**0.195**	PVC	35.4	0.68	450	**0.245**	1.49	0.27	2.16			
	8	3	0.00	0.00	0.00	1.34	0.71	15.36	97.77	**0.193**	PVC	11.7	0.94	450	**0.288**	1.76	0.08	2.54			
LONGVIEW DR	3	2	0.30	0.45	0.14	3.06	2.04	15.57	96.97	**0.549**	PVC	84.8	0.57	675	**0.663**	1.79	0.55	2.59			
WATERHOUSE CRESC	TO	7	0.91	0.55	0.50	0.91	0.50	15.00	99.17	**0.138**											
SOUTH	7	6	0.18	0.45	0.08	1.09	0.58	15.00	99.17	**0.160**	PVC	18.3	0.22	450	**0.139**	0.85	0.25	1.23			
	6	2	0.00	0.00	0.00	1.09	0.58	15.25	98.19	**0.158**	PVC	6.6	1.21	450	**0.327**	1.99	0.04	2.88			
LONGVIEW DR	2	1	0.17	0.45	0.08	4.32	2.70	16.12	94.96	**0.712**	PVC	38.4	0.68	750	**0.958**	2.10	0.21	3.03			
	1	16	0.22	0.45	0.10	4.54	2.80	16.33	94.22	**0.733**	PVC	44.0	0.52	750	**0.838**	1.84	0.28	2.65			
PROPOSED SITE	TO	12	0.14	0.55	0.08	0.14	0.08	15.00	99.17	**0.022**											
LONGVIEW DR	12	11	0.37	0.45	0.17	0.51	0.25	15.00	99.17	**0.069**	PVC	60.55	1.37	300	**0.118**	1.62	0.43	2.34			
	11	10	0.00	0.00	0.00	0.51	0.25	15.43	97.50	**0.068**	PVC	3.37	0.42	450	**0.193**	1.17	0.03	1.70			
	10	18	0.26	0.45	0.12	0.77	0.37	15.46	97.39	**0.100**	PVC	11.70	0.42	450	**0.193**	1.17	0.12	1.70			
	18	17	0.90	0.45	0.41	1.67	0.78	15.58	96.94	**0.210**	PVC	110.00	0.50	525	**0.317**	1.42	0.89	2.05			
	17	16	0.15	0.45	0.07	1.82	0.85	16.47	93.73	**0.221**	PVC	29.00	0.34	600	**0.374**	1.28	0.26	1.85			
ARROWSMITH DRIVE	16	15	0.39	0.45	0.18	6.75	3.83	16.61	93.24	**0.992**	PVC	53.6	1.06	750	**1.196**	2.62	0.24	3.79			
	15	STM	0.70	0.45	0.32	7.45	4.15	16.85	92.43	**1.066**	PVC	116.30	0.90	750	**1.102**	2.42	0.56	3.49			