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CONSULTING ENGINEERS

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PROPOSED RETROFIT FOR NEW GROCERY STORE
3051 APPLEBY LINE
BURLINGTON, ON

PROJECT No.: 09203

FUNCTIONAL SERVICING & STORMWATER MANAGEMENT BRIEF

Prepared For:

CALLOWAY REIT (BURLINGTON APPLEBY) INC.

Prepared By:

The Odan/Detech Group Inc.

Original: May 2025 Issued for ZBA

STANDARD LIMITATIONS

This report was prepared by The Odan/Detech Group Inc. (Odan/Detech) for the client in accordance with the agreement between Odan/Detech and the client. This report is based on information provided to Odan/Detech which has not been independently verified. The disclosure of any information contained in this report is the sole responsibility of the client. The material in this report, accompanying spreadsheets and all information relating to this activity reflect Odan/Detech judgment in light of the information available to us at the time of preparation of this report and any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Odan/Detech accepts no responsibility for damages, if any, suffered by a third party as a result of decisions made or actions based on this report.

Odan/Detech warrants that it performed services hereunder with that degree of care, skill, and diligence normally provided in the performance of such Odan/Detech in respect of projects of similar nature at the time and place those services were rendered. Odan/Detech disclaims all other warranties, representations, or conditions, either express or implied, including, without limitation, warranties, representations, or conditions of merchantability or profitability, or fitness for a particular purpose.

This Standard Limitations statement is considered part of this report.

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1.0 INTRODUCTION

The subject of this report is an existing 0.509 Ha commercial building located within a 5.99 Ha (14.79 acre) parcel of land bound by the following.

- To the west: There is Appleby Line
- To the north: There is Harrison Court
- To the east: There is an existing commercial property
- To the south: There is Dundas Street

The building of study is an existing Toys 'R' Us store located at the north of the commercial plaza. It is proposed to renovate and convert the existing building into a grocery store. No exterior grading or servicing is proposed exterior of the building as a result of these renovations. Therefore, the sanitary stormwater and watermain infrastructure servicing the building will not be impacted as a result of this development, and is sufficient to support the new building use.

The subject property is currently zoned, CR-312 (Regional Commercial). The special exception 312 prohibits a number of uses, including grocery stores. The subject application is seeking permissions to permit other forms of commercial use for this building, such as grocery store and department store.

Refer to the aerial site view below for the existing site's layout and adjacent properties.



Figure 1 – Aerial View of Existing Site

2.0 SCOPE OF WORK

THE ODAN/DETECH GROUP INC. was retained by **Calloway REIT (Burlington Appleby) Inc.** to review the Site, collect data, evaluate the Site for the proposed use and present the findings in a Functional Servicing and Storm Water Management Report in support of a OPA and ZBA application. The scope of work in brief involves the following:

a) Evaluation of the changing building use and presentation of the findings in a Functional Servicing and Storm Water Management Report in support of the OPA/ZBA Application
b) On-site review and inspection of the existing private wet pond to verify that the facility is operational and functioning as intended.
c) Review of CCTV footage for the existing sanitary and storm sewers to confirm their condition and ensure continued serviceability.
d) Obtain and review hydrant flow test results to confirm that the existing water distribution system can adequately support both domestic and fire protection demands.

3.0 WATER DISTRIBUTION ASSESSMENT

The existing building is currently serviced by a 200 mm diameter water service for fire protection and a 100 mm service for domestic use, both connected at the northeast corner of the building. The broader commercial plaza is serviced by a 200 mm watermain, as shown on the existing Servicing As-Built drawing included in Appendix A.

The proposed renovations will not increase water demand for the site. However, to confirm adequacy of the existing system, a hydrant flow test was conducted on-site. The test results, presented in Appendix B, confirm that the 200 mm watermain has sufficient capacity to meet both peak hour and fire flow demands for the subject building.

The pressures and volumes within the properties existing watermain must be sufficient for Peak hour conditions and under fire conditions as established be the Ministry of Environment and the Fire Underwriters Survey booklet (2020). The minimal residual pressure under fire conditions is 140 kpa (20.3 psi).

The average day water design criteria is 225 L/cap/day, which has been taken from Table ES2 of the Regional Municipality of Halton Development Charges Water/Wastewater Technical Report.

Table ES2 – Water and Wastewater Design Criteria

	Average Day Water Design Criteria	Average Daily Flow Wastewater Design Criteria - Plant	Average Dry Weather Flow Wastewater Design Criteria - System
L/cap/d (Res)	265	360	215
L/emp/d (Non-Res)	225	310	185

The equivalent population density has been taken from Table 2-1 of the Region of Halton Water and Wastewater Linear Design Manual, which is 90 Persons/ha for light commercial areas. Therefore, since the subject building is 0.509 Ha, the population is 46 people.

The water demand for the building is calculated as follows. The peak day and peak hour peaking factors are taken from the Region of Halton Water and Wastewater Linear Design Manual, Section 2.4,

a)	Average Day domestic demand -	using 225L/cap/day (46 persons – Table 2)	0.12 L/sec
b)	Peak day demand -	2.25 x daily demand	0.27 L/sec
c)	Peak hour demand -	2.25 x daily demand	0.27 L/sec
d)	Fire flow as per FUS 2020 manual		167 L/sec

The Fire Underwriters' Survey fire flow calculations have been completed on the following page. The assumptions used in the calculations are as follows:

- The existing building is of non-combustible construction.
- The building is sprinklered for fire protection and the sprinklers are be fully monitored according to NFPA 13.
- The building's contents (residences) will be limited-combustible in nature

The water demand for the proposed building is as follows.

Table 1 – Total Water Demand for Proposed Building

	L/sec	USGM
Peak Day Demand	0.27	4
Fire Flow Demand	133	2113
Total Water Demand	133.27	2117
Available Flow at 20 PSI (3011 Appleby Line)	214	3397

The existing Toys 'R' Us, which is to be renovated into a Food Store, has a water demand of 133.27 L/s (2117 USGPM), which is less than the available flow within the plaza's 200mm watermain of 214 L/s (3397 USGPM). Therefore, the existing watermain infrastructure is sufficient for this building.

WATER SUPPLY FOR PUBLIC FIRE PROTECTION , FIRE UNDERWRITERS SURVEY GUIDE FOR DETERMINATION OF REQUIRED FIRE FLOWS

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

Where:
F = required fire flow in liters per minute
C= Coefficient related to the type of construction
A = the total floor area in square meters (excluding basements) in the building considered

LOCATION:	Food Store				**PROJECT:**	351 Appleby Line, Burlington			
OBC OCCUPANCY:	Commercial				**PROJECT No**	9203			
BUILDING FOOT PRINT (m2):	5091							Contents	Charge
# OF STOREYS	1							Non-Combustible	-25%
								limited Combustible	-15%
								Combustible	0%
CONSTRUCTION CLASS:	Non-Combustible							Free Burning	15%
								Rapid Burning	25%
AUTOMATED SPRINKLER PROTECTION		Credit	Total						
NFPA 13 sprinkler standard	yes	30%							
Standard Water Supply	yes	10%	50%						
Fully Supervised System	yes	10%							
		50%							
CONTENTS FACTOR:	Limited-Combustible				CHARGE:	-15%			
								Seperation	Charge
EXPOSURE 1 (south)	Distance to Exposure Building (m)				>30	0%		0-3 m	25%
	Length - Height							3.1 -10 m	20%
EXPOSURE 2 (West)	Distance to Exposure Building (m)				16	15%		10.1 - 20 m	15%
	Length - Height							20.1 - 30 m	10%
EXPOSURE 3 (East)	Distance to Exposure Building (m)				21	10%		30>	0%
	Length - Height								
EXPOSURE 4 (north)	Distance to Exposure Building (m)				>30	0%			
	Length - Height								
					Total:	25%	no more than 75%		
ARE BUILDINGS CONTIGUOUS:	No								
FIRE RESISTANT BUILDING	Are vertical openings and exterior vertical communications protected with a minimum one (1)							n/a	
CALCULATIONS	*C* =	0.8		Non-Combustible					
	A =	5091	m2	(2 largest floors + 50% floors above)				STOREY AREAS m2	
	F =	12558	L/min					5091	L1
Round to Nearest 1000 L/min	F =	13000	L/min	must be > 2000 L/min					L2
									L3
CORRECTION FACTORS:									L4
OCCUPANCY		-1950	L/min						L5
FIRE FLOW ADJUSTED FOR OCCUPANCY		11050	L/min						L6
REDUCTION FOR SPRINKLER		-5525	L/min						L7
EXPOSURE CHARGE		2762.5	L/min						L8
									L9
REQUIRED FIRE FLOW	**F =**	8287.5	L/min						L10
Round to Nearest 1000 L/min	**F =**	8000	L/min						
	F =	133	L/sec	2113	USGM				

4.0 SANITARY SEWERS

The existing building is serviced by a 150 mm diameter sanitary sewer installed along the west wall of the building at a slope of 2.0%. This sewer discharges to the internal commercial plaza's sanitary system, which ultimately connects to the 300 mm municipal sanitary sewer located beneath Harrison Court. Please refer to the Servicing As-Built drawing in Appendix A for details.

A CCTV inspection was completed on the existing sanitary infrastructure. Based on the review of the footage, The Odan/Detech Group confirms that the sanitary sewers are in good condition and operating as intended.

According to the Halton Region Water and Wastewater Linear Design Manual (April 2019), both the existing Toys “R” Us and the proposed grocery store are classified as "Light Commercial" developments. As such, there is no anticipated change in sanitary flow rates under current regional design criteria. Therefore, the proposed change in building use will not impact the capacity of the existing sanitary sewer system.

Nonetheless, the sanitary discharge rate from the building has been calculated as follows.

- The infiltration and inflow allowance is 0.266 × 10^{-3} m³/s/ha.
- The equivalent population density and unit sewage flow rates are as follows:

Table 3-2 Commercial, Industrial, and Community Dry Weather Flow

Type of Development	Equivalent Population Density (persons/hectare)	Unit Sewage Flow	
		m^3/ha/day	m^3/ha/s
Light Commercial Areas	90	24.750	0.28646 x 10^{-3}
Community Services	40	11.000	0.12732 x 10^{-3}
Light Industrial Areas	125	34.375	0.003183 x 10^{-3}
Hospitals	4 persons per bed	1.1 m^3/bed/day	0.0127 x 10^{-3} m^3/bed/s

- The peaking factor is calculated using the Harmon Formula, as follows:

$$M_e = 0.80 \cdot (1 + \frac{14}{4 + \sqrt{P_e}})$$

where, M_e = ratio of peak flow to average flow
P_e = equivalent tributary population in thousands

- The building’s total sanitary discharge has been calculated to be 0.64L/s.

Table 2 – Sanitary Flows from Subject Building

Component	Population (P)	Average Flow (l/s)	Peaking Factor(M)	Peak Sanitary Flow (l/s)	Area (ha)	Inflow & Infiltration (l/s)	Total Flow (l/s)
Commercial	46	0.146	3.45	0.503	0.5091	0.135	0.64
Total							***0.64***

5.0 STORM WATER MANAGEMENT

The existing commercial plaza is serviced by a network of storm sewers that drain to a private wet pond located at the southwest corner of the site. This stormwater management facility outlets via a headwall into a ditch located west of the property line, which conveys flow southward across Dundas Street through a 2.45 m wide open-bottom concrete culvert. Refer to the Servicing As-Built drawing in Appendix A for details.

The proposed building renovation will not alter the existing site grading. As such, the current overland drainage patterns will be maintained. Refer to the Grading As-Built drawing in Appendix A for confirmation of existing grading conditions.

A CCTV inspection of the on-site storm sewers has been completed, along with a visual inspection of the wet pond. Based on the results of these investigations, The Odan/Detech Group confirms that the existing private storm infrastructure is in good working order and no deficiencies were observed. The site visit confirmed that the wet pond is functioning as intended and continues to provide stormwater management for the plaza. In addition, a bathymetric survey of the wet pond was completed, which confirmed that sediment accumulation within the pond remains below the MOE dredging threshold of 130 cubic metres per hectare. The measured sediment volume was approximately 108 cubic metres, compared to the pond's total sediment capacity limit of 778 cubic metres. Therefore, dredging is not currently required.

6.0 CONCLUSIONS

Based on the results of this functional servicing and stormwater management assessment, the proposed building renovation will not adversely impact the existing municipal or private servicing infrastructure. The key findings are summarized as follows:

- The water demand for the site will remain unchanged; hydrant flow testing confirms that the existing watermain has sufficient capacity to meet both domestic and fire protection needs.
- The proposed change in building use does not increase sanitary flow. The existing sanitary system is adequately sized and in good condition, as confirmed by CCTV inspection.
- The site grading will remain unchanged, and the current drainage patterns will be maintained.
- The on-site storm sewer network and wet pond were inspected and confirmed to be in good working condition.

Respectfully Submitted;
The Odan Detech Group Inc.



Mitchell Bufalino, P.Eng.

Frank Bartolac, C. Tech.

APPENDIX A

3011 Appleby Line As-Built Site Servicing Plan

3011 Appleby Line As-Built Site Grading Plan

ALL TAP(S) TO WATER AND SANITARY SEWER(S) WHERE NOTED TO BE COMPLETED & BY REGIONAL FORCES

ALL TESTING, SAMPLING AND INSPECTION OF ON & OFF SITE WATER MAIN WORKS SHALL CONFORM TO REGION STANDARDS & SPECIFICATIONS

WATERMAIN CROSSING DETAIL

ALL NEW WATER SERVICES TO HAVE PHYSICAL SEPARATION FROM LIVE WATER SERVICES FOR PURPOSES OF TESTING

CONNECTION DETAIL N.T.S.

EXISTING GINO MOBILE REPAIR

EXISTING INDUSTRIAL

EXISTING COMMERCIAL

EXISTING COMMERCIAL

HARRISON COURT

APPLEBY LINE (RR20)

DUNDAS STREET (RR5)

DUFFERIN

CANADIAN NATIONAL RAILWAYS

BLDG. C F.F.E. 156.00m

BUILDING B F.F.E. 156.35m

BLDG. D F.F.E.155.35m

BLDG A F.F.E. 157.00m

BLDG H F.F.E.156.50m

BLDG J F.F.E.156.50m

BLDG. E F.F.E.155.35m

MAINTENANCE ROGERS ROAD

SERVICING LEGEND:

- DENOTES EXISTING STORM MANHOLE
- DENOTES PROPOSED STORM MANHOLE
- DENOTES EXISTING CATCH BASIN
- DENOTES PROPOSED CATCHBASIN
- DENOTES PROPOSED STORMCEPTOR
- DENOTES PROPOSED INLET CONTROL DEVICE (ICD)
- DENOTES EXISTING STORM SEWER
- DENOTES PROPOSED STORM SEWER
- DENOTES EXISTING SANITARY MANHOLE
- DENOTES PROPOSED SANITARY MANHOLE
- DENOTES PROPOSED SANITARY SEWER
- DENOTES EXISTING SANITARY SEWER
- DENOTES PROPOSED HYDRANT
- DENOTES EXISTING HYDRANT
- DENOTES PROPOSED WATER VALVE & BOX
- DENOTES EXISTING WATER VALVE & BOX
- DENOTES PROPOSED WATER METER & BACKFLOW PREVENTOR
- DENOTES EXISTING WATER MAIN
- DENOTES PROPOSED WATER MAIN
- DENOTES PROPOSED SIAMESE CONNECTION
- DENOTES PROPOSED CAP FOR SANITARY, STORM, AND/OR WATER AS NOTED
- DENOTES PROPOSED ENTRANCE LOCATION
- DENOTES PROPOSED LIMIT OF CONSTRUCTION
- DENOTES PROPOSED HEAVY DUTY ASPHALT AREA

CONTRACTOR TO VERIFY ALL INVERTS, SIZE, MATERIAL, AND LOCATION OF ALL SERVICES PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ODAN/DETECH GROUP

CONTRACTOR IS TO TAKE NOTE THAT DEWATERING MAY BE REQUIRED PRIOR TO CONSTRUCTION. CONTRACTOR TO DIG TEST PITS TO DETERMINE FOR HIMSELF THE EXTENT OF THE DEWATERING SYSTEM REQUIRED.

CONTRACTOR TO PROVIDE AS-BUILT DRAWINGS UPON COMPLETION OF ALL WORKS TO THE ODAN/DETECH GROUP

SITE SERVICE CONTRACTOR RESPONSIBLE FOR HYDRANT INSTALLATION IS TO PROVIDE A LETTER CERTIFYING THAT THE HYDRANT HAS BEEN TESTED AND IS OPERATIONAL PRIOR TO OCCUPANCY OF BUILDING

ALL RIM ELEVATIONS ARE PROPOSED AND SHALL BE ADJUSTED BEFORE FINAL COAT OF ASPHALT

SECTION W-W WATERMAIN CROSSING DETAIL

REDLINE As Built // DWG - DAGMAR CONSTRUCTION INC.

KEY PLAN Scale : N.T.S.

SUBJECT LANDS

NOTE :

THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS AND UNDERGROUND AND ABOVE GROUND UTILITIES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING THE WORK THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

THE CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO THE ARCHITECTS/ENGINEERS BEFORE PROCEEDING WITH THE WORKS.

ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE ENGINEER WHICH MUST BE RETURNED AT THE COMPLETION OF WORK.

THIS DRAWING IS NOT TO BE SCALED.

THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE CONTRACTOR FROM OBTAINING, BUT NOT LIMITED TO THE FOLLOWING PERMITS: ROAD CUT, SEWER PERMITS, RELOCATION OF SERVICES, ENCROACHMENT AGREEMENTS, ETC...

EXISTING TOPOGRAPHICAL INFORMATION SUPPLIED BY SPEIGHT VAN NOSTRAND AND GIBSON ONTARIO LAND SURVEYORS

BOUNDARY DATA DERIVED FROM INFORMATION FROM SPEIGHT VAN NOSTRAND AND GIBSON LIMITED, ONTARIO LAND SURVEYORS

BENCH MARK:

ELEVATIONS ARE BASED ON THE CANADIAN GEODETIC DATUM AND WERE DERIVED FROM CITY OF BURLINGTON BENCH MARK #81002, HAVING A PUBLISHED ELEVATION OF 152.339 metres.

BEARING NOTE:

BEARINGS HEREON ARE GRID BEARINGS AND ARE REFERRED TO THE SOUTHERLY LIMIT OF HARRISON COURT AS SHOWN ON PLAN 20R-16602, HAVING A BEARING OF N42°40'39"E.

METRIC NOTE:

DISTANCES AND ELEVATIONS ON THIS PLAN ARE TYPICALLY SHOWN IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

REGIONAL APPROVAL

REGION DESIGN OF WATER &/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS & SPECIFICATIONS & LOCATION APPROVAL FROM AREA MUNICIPALITY.

SIGNED: _____ DATED: _____
BUSINESS AND TECHNICAL SERVICES

The Applicant should be aware that the approval of the water system on private property is the responsibility of the Local Municipality. Regardless, the Applicant must ensure that the Region of Halton's standards and specifications are met. (the Design Criteria, Standard Drawings & Specifications manual may be obtained thru Development Planning & Data Technologies Department at 905-825-6032) Furthermore, all water quality tests must be completed to the Region of Halton's satisfaction, before the water supply can be turned on.

CLIENT : SMART CENTRES
700 Applewood Cres., Suite 100
Vaughan, Ontario, L4K 5X3

PROJECT : PROPOSED COMMERCIAL DEVELOPMENT
3011 APPLEBY LINE AND DUNDAS STREET
BURLINGTON, ONTARIO

DRAWING : SITE SERVICING PLAN
535-03/08

NO	REVISIONS	DATE	BY
5	ISSUED FOR TENDER	APR-26-10	MHH
6	ISSUED FOR SPA (3rd SUB.)	MAY-10-10	MHH
7	ISSUED FOR SPA (3rd SUB.)	MAY-17-10	MHH
8	ISSUED FOR SPA (4th SUB.)	MAY-20-10	MHH
9	ISSUED FOR PRICING (CCO#1)	JUNE-15-10	MHH
10	ISSUED FOR CONSTRUCTION	JULY-12-10	MHH
11	ISSUED FOR PRICING (CN#1)	AUG-10-10	MHH
12	CHANGE NOTICE #2	AUG-11-10	MHH
13	ISSUED TO REGION FIELD CHANGE	OCT-5-10	MHH
14	ISSUED TO REGION FIELD CHANGE	DEC-16-10	MHH

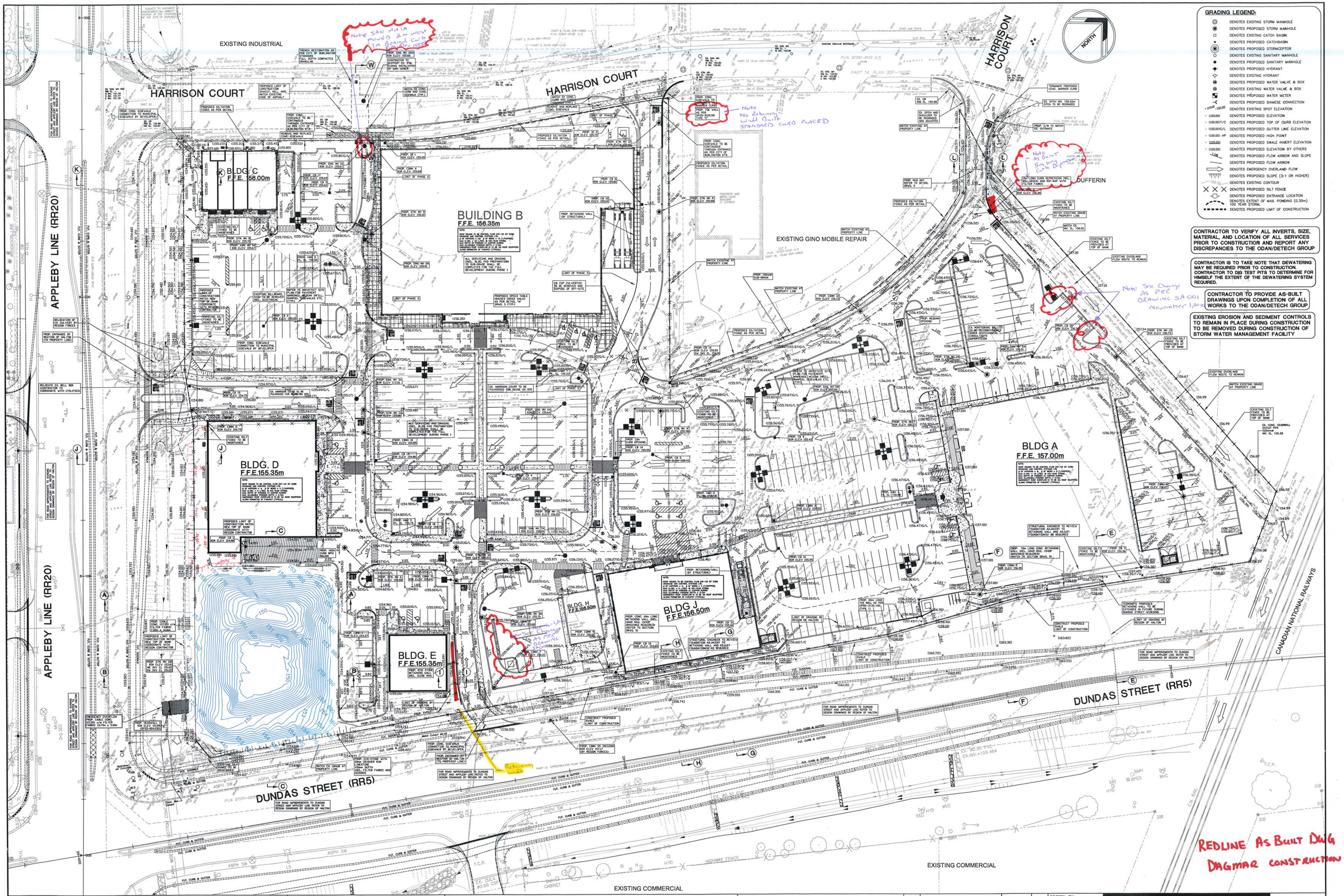
SCALE : 0 5 10 15 20 25 30 35 40

DESIGN BY: J.K.
DRAWN BY: M.H.H.
CHECKED BY: D.C.S.
APPROVED BY: J.K.

ODAN/DETECH
THE ODAN/DETECH GROUP - CONSULTING ENGINEERS
5230 SOUTH SERVICE ROAD, BURLINGTON, ONTARIO L7L 5K2
OFF(905)632-3811 FAX(905)632-3363

I. KRPAN DEC-16-10 REGISTERED PROFESSIONAL ENGINEER PROVINCE OF ONTARIO
ENGINEER

SCALE:	PROJ. NO:	FILE NO:	DRWG. NO:	DATE :
1:400	09203	09203 SET M.DWG	1 of 5	AUG/09



GRADING LEGEND:

- DENOTES EXISTING STORM MANHOLE
- DENOTES PROPOSED STORM MANHOLE
- DENOTES EXISTING CATCH BASIN
- DENOTES PROPOSED CATCHBASIN
- DENOTES PROPOSED STORMCEPTOR
- DENOTES EXISTING SANITARY MANHOLE
- DENOTES PROPOSED SANITARY MANHOLE
- DENOTES PROPOSED HYDRANT
- DENOTES EXISTING HYDRANT
- DENOTES PROPOSED WATER VALVE & BOX
- DENOTES EXISTING WATER VALVE & BOX
- DENOTES PROPOSED WATER METER
- DENOTES PROPOSED SIAMESE CONNECTION
- 123.45 - 122.00 DENOTES EXISTING SPOT ELEVATION
- (100.00) DENOTES PROPOSED ELEVATION
- (100.00)T/C DENOTES PROPOSED TOP OF CURB ELEVATION
- (100.00)G/L DENOTES PROPOSED GUTTER LINE ELEVATION
- (100.00) HP DENOTES PROPOSED HIGH POINT
- (100.00) DENOTES PROPOSED SWALE INVERT ELEVATION
- (100.00) DENOTES PROPOSED ELEVATION BY OTHERS
- DENOTES PROPOSED FLOW ARROW AND SLOPE
- DENOTES PROPOSED FLOW ARROW
- DENOTES EMERGENCY OVERLAND FLOW
- DENOTES PROPOSED SLOPE (3:1 OR HIGHER)
- 185.00 DENOTES EXISTING CONTOUR
- DENOTES PROPOSED SILT FENCE
- DENOTES PROPOSED ENTRANCE LOCATION
- DENOTES EXTENT OF MAX. PONDING (0.30m) 100 YEAR STORM.
- DENOTES PROPOSED LIMIT OF CONSTRUCTION

CONTRACTOR TO VERIFY ALL INVERTS, SIZE, MATERIAL, AND LOCATION OF ALL SERVICES PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ODAN/DETECH GROUP

CONTRACTOR IS TO TAKE NOTE THAT DEWATERING MAY BE REQUIRED PRIOR TO CONSTRUCTION. CONTRACTOR TO DIG TEST PITS TO DETERMINE FOR HIMSELF THE EXTENT OF THE DEWATERING SYSTEM REQUIRED.

CONTRACTOR TO PROVIDE AS-BUILT DRAWINGS UPON COMPLETION OF ALL WORKS TO THE ODAN/DETECH GROUP

EXISTING EROSION AND SEDIMENT CONTROLS TO REMAIN IN PLACE DURING CONSTRUCTION TO BE REMOVED DURING CONSTRUCTION OF STORM WATER MANAGEMENT FACILITY

CITY OF BURLINGTON

KEY PLAN Scale : N.T.S.

SUBJECT LANDS

NOTE :

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BOUNDARY DATA DERIVED FROM INFORMATION FROM SPEIGHT VAN NOSTRAND AND GIBSON LIMITED, ONTARIO LAND SURVEYORS

BENCH MARK:

ELEVATIONS ARE BASED ON THE CANADIAN GEODETIC DATUM AND WERE DERIVED FROM CITY OF BURLINGTON BENCH MARK #18102, HAVING A PUBLISHED ELEVATION OF 152.339 metres.

BEARING NOTE:

BEARINGS HEREON ARE GRID BEARINGS AND ARE REFERRED TO THE SOUTHERLY LIMIT OF APPLEBY LINE AS SHOWN ON PLAN 20R-16602, HAVING A BEARING OF N42°40'59"E.

METRIC NOTE:

DISTANCES AND ELEVATIONS ON THIS PLAN ARE TYPICALLY SHOWN IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

REGIONAL APPROVAL

REGION DESIGN OF WATER &/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAILED CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS & SPECIFICATIONS & LOCATION APPROVAL FROM AREA MUNICIPALITY.

SIGNED:_____DATED:_____
BUSINESS AND TECHNICAL SERVICES

The Applicant should be aware that the approval of the water system on private property is the responsibility of the Local Municipality. Regardless, the Applicant must ensure that the Region of Halton's standards and specifications are met. (the Design Criteria, Standard Drawings & Specifications manual my be obtained thru Capital Planning & Data Technologies Department at 905-825-6032) Furthermore, all water quality tests must be completed to the Region of Halton's satisfaction, before the water supply can be turned on.

CLIENT : **SMART CENTRES**
700 Applewood Cres., Suite 100
Vaughan, Ontario, L4K 5X3

PROJECT : **PROPOSED COMMERCIAL DEVELOPMENT**
3011 APPLEBY LINE AND DUNDAS STREET
BURLINGTON, ONTARIO

DRAWING : **SITE GRADING AND STORM WATER MANAGEMENT PLAN**
535-03/08

NO	REVISIONS	DATE	BY
3	ISSUED FOR COORDINATION	APR-7-10	MHH
4	ISSUED FOR SPA (2nd SUB.)	APR-9-10	MHH
5	ISSUED FOR FOR TENDER	APR-28-10	MHH
6	ISSUED FOR SPA (3rd SUB.)	MAY-10-10	MHH
7	ISSUED FOR SPA (3rd SUB.)	MAY-17-10	MHH
8	ISSUED FOR SPA (4th SUB.)	MAY-20-10	MHH
9	ISSUED FOR PRICING (CCO#1)	JUNE-15-10	MHH
10	ISSUED FOR CONSTRUCTION	JULY-12-10	MHH
11	ISSUED FOR PRICING (CN#1)	AUG-10-10	MHH
12	CHANGE NOTICE #2	AUG-11-10	MHH

SCALE : 0 5 10 15 20 25 30 35 40

DESIGN BY: J.K.
DRAWN BY: M.H.H.
CHECKED BY: D.C.S.
APPROVED BY: J.K.
SCALE: 1:400

ODAN/DETECH
THE ODAN/DETECH GROUP - CONSULTING ENGINEERS
5230 SOUTH SERVICE ROAD, BURLINGTON, ONTARIO L7L 5K2
OFF(905)632-3811 FAX(905)632-3363

I. KRPAN AUG-11-10 PROVINCE OF ONTARIO ENGINEER

PROJ. NO: 09203 | FILE NO: 09203 SET L.DWG | DRWG. NO: 2 of 5 | DATE : AUG/09

APPENDIX B

Fire Flow Test Results

Troy
Life & Fire Safety Ltd.

FLOW TEST REPORT

LOCATION: 3011 Appleby Line, Burlington - TEST 2

DATE OF FLOW TEST: April 25, 2025 TIME OF FLOW TEST: 8:00 AM

TEST BY: TROY LIFE & FIRE SAFETY TEST CONDUCTED BY: Dennis Brady

WITNESSED BY:

FLOW NOZZLE TYPE (IE HOSE MONSTER/PLAY PIPE): Hose Monster

WATER MAIN SIZE (IF AVAILABLE): 8" PVC

HYDRANT ELEVATION COMPARED TO BUILDING: No Elevation Change

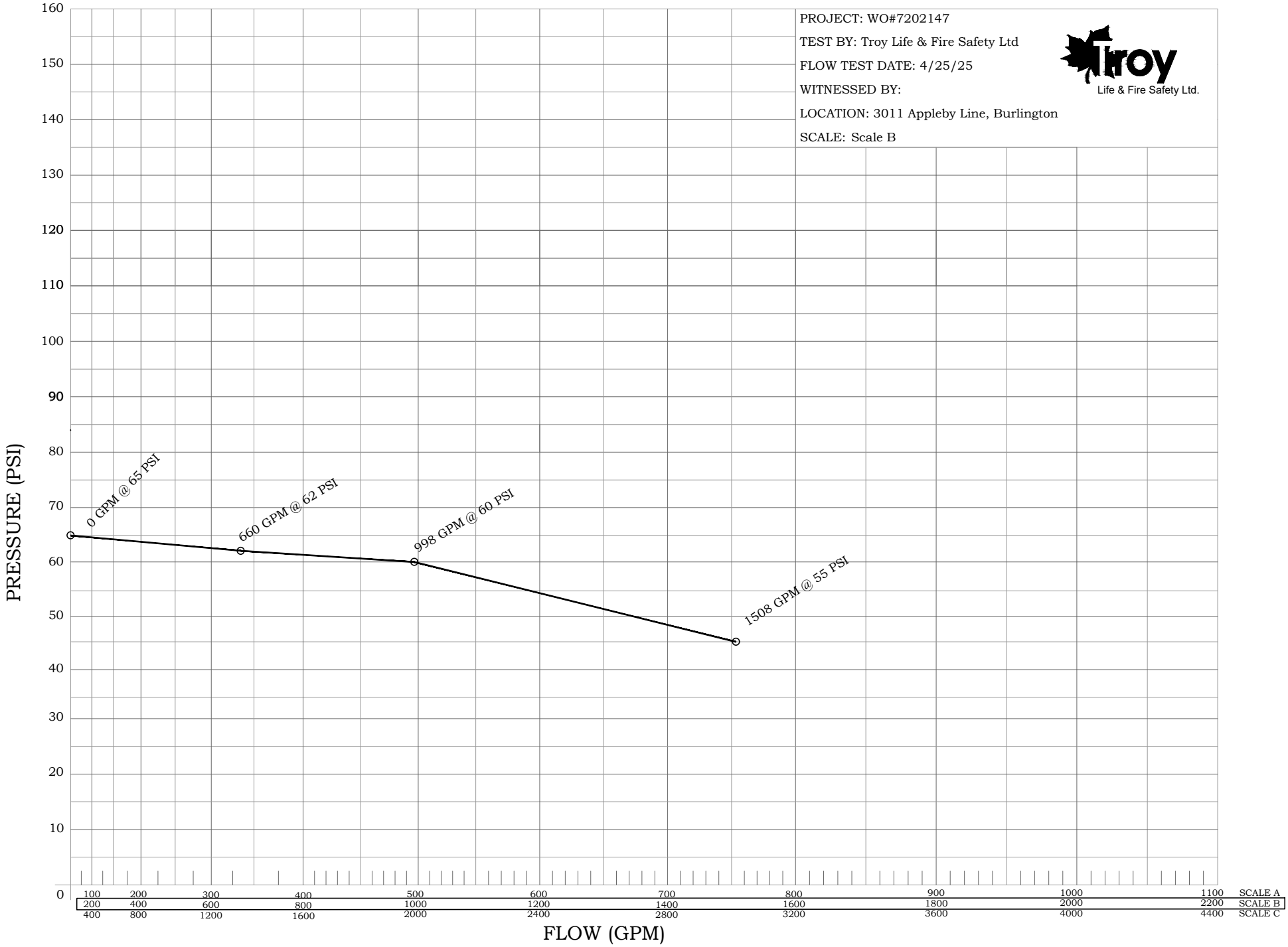
HYDRANT FLOW DATA:

STATIC PRESSURE:	65 PSI		
SIZE OF OPENING:	1x1¾"	1x2½"	2x2½"
DISCHARGE COEFFICIENT:	N/A	N/A	N/A
PITO READING:	55 PSI	35 PSI	20+20 PSI
FLOW USGPM:	660	998	1508
RESIDUAL PRESSURE:	62 PSI	60 PSI	55 PSI

DRAWING OF SITE



WATER SUPPLY GRAPH



Conversion to 20psi:

Watermain Capacity @ 20 PSI Calculator

Watermain Location	3011 Appleby Line
Watermain Size	200mm

$$Q_R = Q_F * \frac{h_r^{0.54}}{h_f^{0.54}}$$

QR = Flow at 20 psi
QF = Total flow measured during test
hr = Pressure drop to 20 psi
hf = Pressure drop measured during test

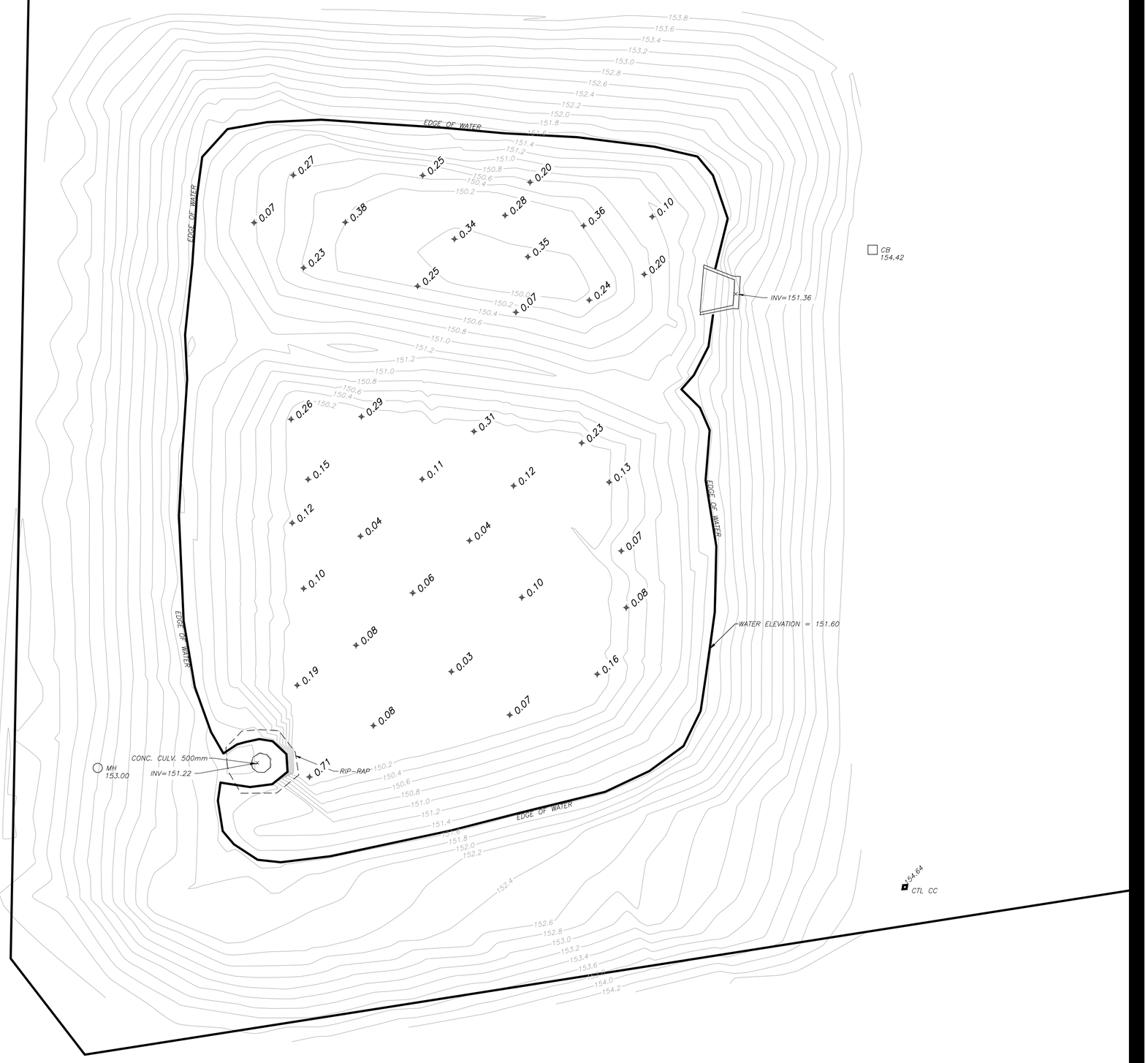
Static Pressure	65	PSI		h_r=	65	-	20	=	45	psi
Residual Pressure	55	PSI		h_f=	65	-	55	=	10	psi
Test Flow Rate	1508	USGPM	(Q_F)							

Q_R= **3397** **USGMP**

Available Fire Flow at 20PSI Residual Pressure (USGM) is **3397** USGPM or 214.3 L/s

APPENDIX C

Bathymetric Survey of Stormwater Pond



SEDIMENT VOLUME 112 CUBIC METERS

Stantec Geomatics Ltd.

CANADA LANDS SURVEYORS
ONTARIO LAND SURVEYORS
SUITE 300, 123 COMMERCE VALLEY DR. W.
MARKHAM, ONTARIO, L3T 7W4
TEL. 416-499-3110
stantec.com

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CAUTION

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

UTILITIES SHOWN ARE FOR DISCUSSION PURPOSES ONLY AND PRIOR TO CONSTRUCTION SHOULD BE CONFIRMED BY A CONTRACTOR.

VERTICAL DATUM

ELEVATIONS ARE GEODETIC, REFERRED TO CGVD-1928:1978 AND WERE DERIVED FROM BENCHMARK No. 443-818102, HAVING A PUBLISHED ELEVATION OF 152.32 METRES. BENCHMARK LOCATED ON TOP OF CONCRETE BOX CULVERT LOCATED ON SOUTHEAST CORNER OF APPLEBY LINE AND DUNDAS STREET.

NOTES

CUT/FILL VALUES SHOWN REPRESENT THE DIFFERENCE BETWEEN THE AS-BUILT BOTTOM OF POND (DATA PROVIDED BY ODAN DETECH LTD.) AND TOP OF SEDIMENT AS SURVEYED BY STANTEC GEOMATICS LTD. APRIL 29, 2025.

CONTOURS SHOWN REPRESENT THE AS-BUILT BOTTOM OF POND.

CLIENT/PROJECT:

SMART CENTRES

APPLEBY LINE AND DUNDAS STREET, BURLINGTON

DRAWING TITLE:

SEDIMENT VOLUME SURVEY

Scale 1:200

5 0 5 10 METRES

Rev.	Description	Drawn	Chk'd	yyyy-mm-dd
1	REVISED VOLUME CALC	BR	MM	2025-05-09
0	ISSUED TO CLIENT	BR	MM	2025-05-01

PROJECT No.: 161670256 PAGE: 1 of 1

5/9/2025 11:44 AM

W:\Active\161670256\Task 102_ Appleby Bathy\drawing\161670256_V-ET_AppleyBathy.dwg

APPENDIX D

Summary of Pond Maintenance

SMARTCENTRES®
REAL ESTATE INVESTMENT TRUST

MEMO

To: Frank Bartolac, Odan Detech
From: Octavio Silveira
Date: May 7, 2025
Maintenance Records: SmartCentres Burlington Appleby (3051 Appleby Line)

Dear Frank,

This memo is to summarize the ongoing maintenance procedures of the storm and sanitary systems by our operations team at the above-noted property.

We clean and maintain the sanitary and stormwater system across the site on a semi-annual basis, including the catch basins and the piping leading to the storm pond.

The storm system is regularly flushed and vacuumed by a qualified contractor and specifically over the last five years on the following dates:

- March 30, 2020
- November 15, 2020
- March 18, 2021
- March 23, 2022
- March 16, 2023
- October 13, 2023
- March 29, 2024
- April 26, 2024
- April 24, 2025

A video inspection of the system (CCTV) was most recently completed on April 29, 2025.

We also do regular garbage removal and grass cutting around the edge of the storm pond as part of our regular maintenance routine.

Sincerely,

Octavio Silveira, CPM, RPA
Regional Director, Operations

OCTAVIO SILVEIRA

3200 Highway 7
Vaughan, ON L4K 5Z5
905 326 6400