SERVICING REPORT

Donway Co-operative Development Corporation

Type of Document:
Final Report

Project Name:
230 and 240 The Donway West, Toronto

Project Number:
ALL-00256815-B0

Prepared and Reviewed By:
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Approved By:
Scott Passmore

Date + Time Submitted:
2021-05-26
2023-10-30 – Revision 1

Table of Contents

List of Figures

List of Appendices

1. Introduction

EXP Services Inc. has been retained by the Donway Co-operative Development Corporation ("the agent" on behalf of the owner, The Donway Covenant United Church) to prepare a Servicing Report ("Report") in support of an application for a Zoning By-Law Amendment and Official Plan Amendment of the proposed residential use with integrated church ("the site") located at 230 and 240 The Donway West, in the City of Toronto.

This report has been updated to address the first ZBA submission comments from the City of Toronto dated June 2, 2022 and to accommodate the site plan changes.

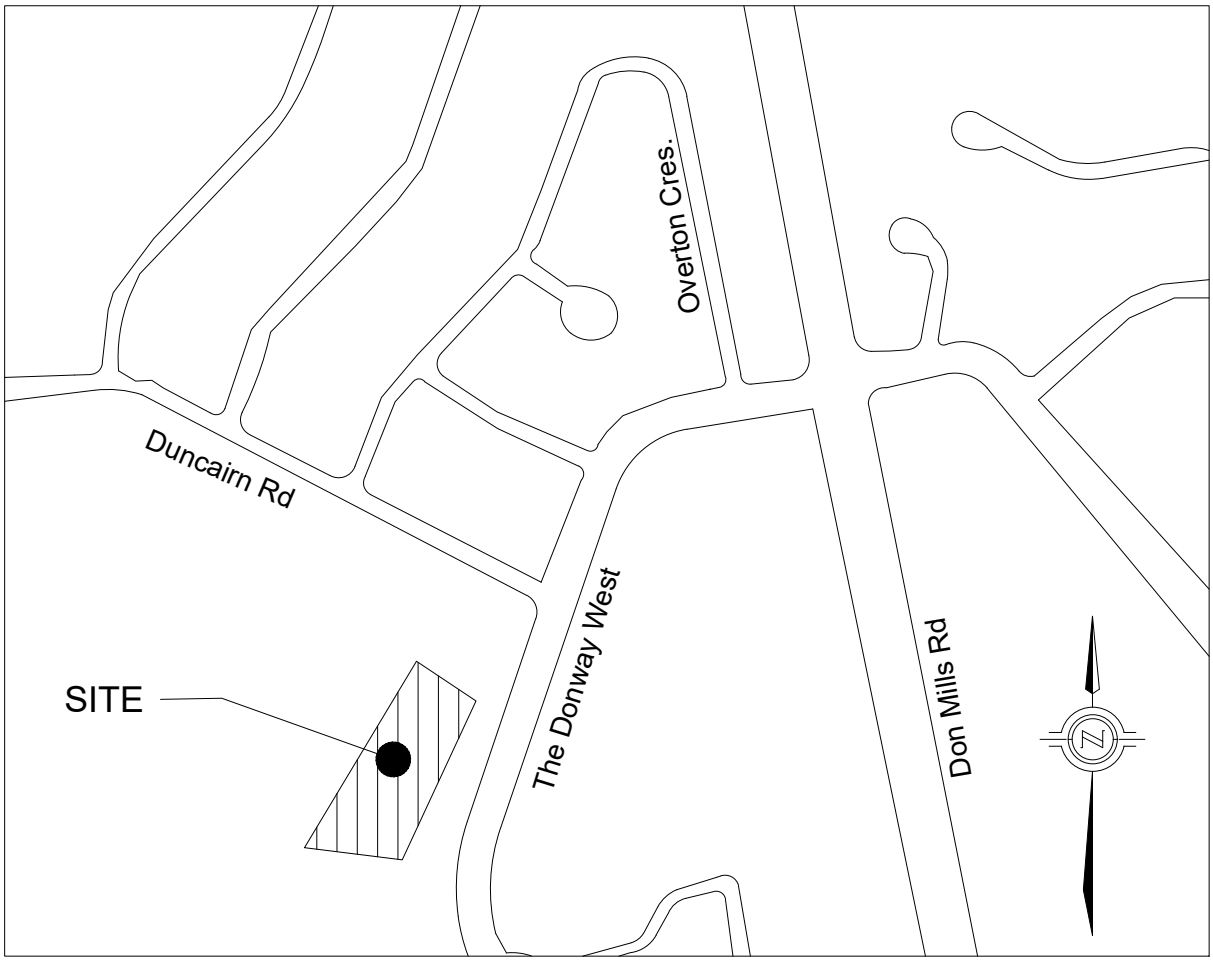
The objective of this report is to provide an overview of the proposed servicing strategy for the site including outlining the required demands on the municipal system while addressing any possible capacity concerns.

2. Site Description and Proposed Development

The subject site is approximately 1.05 hectares in size and bounded by The Donway West to the east, existing residential developments fronting Duncairn Road to the north, and existing public park to the west and south. The legal description of the site is Block B Registered Plan 4332, in the City of Toronto. The subject site is currently occupied by church buildings with associated surface parking and two driveway accesses from The Donway West. Refer to Figure 1 for the Site Location Plan.

This application proposes to redevelop the site into a 6-storey residential development with 308 new condominium units integrated with a church. The south side of the property will have the integrated church with residential units while the remaining portion of the property will have only residential units. The development also includes three levels of underground parking with a single driveway access to The Donway West. A small portion on the south side of the site will be dedicated to be a City's parkland. Refer to the Site Plan (prepared by Architect Unfolded) in Appendix A for additional details.

Be advised that should any party, including the owner or any subsequent owner, apply for more than one condominium corporation encompassing any or all of this development or make an application that results in a land division, Staff may require legal assurances, including but not limited to easements, with respect to the approved services. Such assurances will be determined at the time of application for condominium approval.



Project:	230 AND 240 THE DONWAY WEST, TORONTO, ON			
Title:	LOCATION PLAN			
Approved by:	S.P	Date:	APRIL, 2021	Project No.: ALL-00256815-B0
Drawn by:	J.L	Scale:	N.T.S.	Figure no.: FIG-01

E:\MRK\ALL-00256815-A0\60 Execution\65 Drawings_Civil\256815-FIG-01 LOCATION PLAN.dwg

3. Existing Topography and Proposed Grading

To assess the existing site topography within and surrounding the site, EXP staff reviewed previously completed topographic surveys provided by the Agent and City record drawings for The Donway West. A site visit was then completed by EXP staff on November 27, 2020 to review current conditions including the above ground utility furniture. A sub-surface utility engineering (SUE) investigation was also completed by Multiview on January 17, 2023 to verify any existing underground utilities within the City's right-of-way abutting the site. Previously completed topographic surveys for the site show an existing drainage divide through the middle of the existing surface parking area east to west, where drainage on the west side of the drainage divide flows towards the northwest corner and the balance sheet flows out towards The Donway West. Along The Donway West adjacent to the site, existing elevations are shown to be falling in the easterly direction without any sags or low points. For additional details regarding the existing topography refer to the topographic survey (prepared by J.D. Barnes Limited dated July 2019), SUE investigation report by Multiview, and record drawings provided by the City of Toronto in Appendix A.

The preliminary grading design for the site generally maintains the existing drainage patterns for the site, while directing drainage away from building entrances and ensuring emergency major overland flows are divided per the existing drainage divide through the site. On the east side of the drainage divide, the drainage is conveyed in the southerly and easterly directions towards The Donway West, while on the west side of the drainage divide the drainage is conveyed in the northerly and westerly directions towards the northwest corner of the site. Due to the proposed low courtyard within the building, the proposed grading and servicing design provides an allowance to convey all flows form the courtyard for all storm events up to and including the 100-year storm event where an emergency overflow pump system is provided within the proposed stormwater management (SWM) strategy for the site.

Due to the new driveway connection and new 2.1 m wide concrete sidewalk, some minor adjustments of the grading are required along the 230 The Donway right-of-way. The proposed grading design within the future parkland which will be dedicated to the City will be coordinated with City's parks, Forestry & Recreation Division.

Overall, the preliminary grading design for the site is to be completed in concert with the proposed stormwater management (SWM) strategy for the site which includes a network of high and low points, and an inlet design to capture and attenuate the 100-year storm event. For additional grading details refer to the Preliminary Site Grading Plan on Figure 2.

ALL AREA DRAINS SHALL BE DESIGNED TO CAPTURE 100-YEAR STORM FLOW

PROPOSED GRADE ALTERATIONS ALONG THE BOUNDARIES OF THE SITE WILL BE COORDINATED WITH ADJACENT PROPERTY OWNERS

FOR SITE SERVICING DETAILS REFER TO PRELIMINARY SITE SERVICING PLAN PREPARED BY EXP.

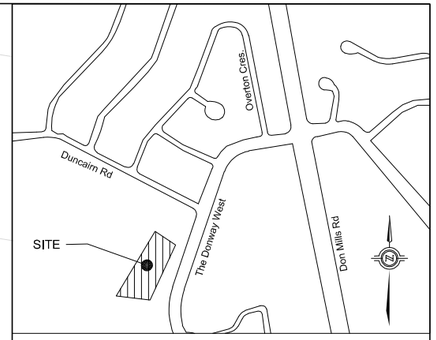
ANY SAFETY RAILING FOR STAIRCASE AND/OR RETAINING WALL REFER TO LANDSCAPE ARCHITECT DRAWINGS

FOR STORMWATER MANAGEMENT DETAILS REFER TO SWM REPORT PREPARED BY EXP.

FOR RETAINING WALL DETAILS, REFER TO LANDSCAPE DRAWINGS

PROPOSED GRADES AND DRAINAGE WITHIN THE FUTURE PARKLAND WILL BE COORDINATED WITH PARKS, FORESTRY & RECREATION DIVISION

CONSTRUCTION NORTH



LID SWALE @ 0.5% MIN SLOPE

LID SWALE @ 1.1% MIN SLOPE

LIMIT OF UNDERGROUND STRUCTURE

MATCH EX ELEVATIONS ALONG PROPERTY LINE

PROPERTY LINE

PROP. RETAINING WALL

LID SWALE @ 0.2% MIN SLOPE

PARKLAND

TOWNHOUSE FFE=143.10

CHURCH/RESIDENTIAL BUILDING FFE=142.40

RESIDENTIAL BUILDING FFE=142.40

RESIDENTIAL BUILDING FFE=143.10

LID SWALE @ 1.0% MIN SLOPE

MATCH EX ELEVATIONS ALONG PROPERTY LINE

FUTURE DUNCAIRN PARK EXPANSION

LIMIT OF BLDG ABOVE

APPROX. FFE DIVIDING LINE

P1 ELEV (REAR)=139.40

P1 ELEV (FRONT)=140.00

LIMIT OF UNDERGROUND STRUCTURE

PROPERTY LINE

PROP. TRANSFORMER

4.5m EX.HYDRO EASEMENT

MATCH EX ELEVATIONS ALONG PROPERTY LINE

MIN 150mm RAISED FOUNDATION WALL/DOOR SILL

PROPERTY LINE

EX. CB TO BE MAINTAINED

MATCH EXISTING 1.5m WIDE SIDEWALK (5:1 TRANSITION WIDTH RATIO)

0.4m ROAD WIDENING CONVEYANCE

PROP. CURB CUT

URBAN DRIVEWAY ENTRANCE AS PER T-350.01

EX. CB TO BE RELOCATED

MAX 3:1 SLOPE

PROP. 2.1m WIDE SIDEWALK

MIN 150mm RAISED FOUNDATION WALL/DOOR SILL

MATCH EXISTING 1.5m WIDE SIDEWALK (5:1 TRANSITION WIDTH RATIO)

PROP. CURB CUT

LIMIT OF UNDERGROUND STRUCTURE

EX. CB TO BE RELOCATED

THE DONWAY WEST

EX. HYDRANT

LEGEND:

- EXISTING WATER VALVE
- EXISTING HYDRO POLE
- EXISTING TREE
- EXISTING TREE DRIPLINE
- EXISTING OVERHEAD HYDRO WIRES
- EXISTING FENCELINE
- EXISTING CURBS
- EX. VALVE CHAMBER
- EX. STORM/SANITARY M.H.
- EX. CATCH BASIN
- PROP. STORM M.H.
- PROP. SANITARY M.H.
- PROP. GW SAMPLING PORT
- AD PROP. AREA DRAIN
- PROPOSED CURBS
- EXISTING HYDRANT
- MAJOR OVERLAND FLOW ARROW
- EMERGENCY MAJOR OVERLAND FLOW ARROW
- × 255.54 PROP. GRADES
- 255.54 ×EX.256.66 EX. GRADES FROM TOPO. SURVEY
- ±255.54 ×EX.256.66 ESTIMATED EX. GRADES
- APPROX LIMIT OF DISTURBANCE
- LIMIT OF UNDERGROUND STRUCTURE

SOURCE:

- BACKGROUND LEGAL AND TOPOGRAPHIC SURVEY PREPARED BY J.D. BARNES
- SITE PLAN PREPARED BY ARCHITECTUREUNFOLDED.
- LANDSCAPE DRAWINGS PREPARED BY NAK DESIGN GROUP

SCALE: 1:600

	DRAWN BY	CHECKED BY
exp.	C.P.	S.P.

PRELIMINARY SITE GRADING PLAN

FIGURE 2

DONWAY CO-OPERATIVE DEVELOPMENT
230 AND 240 THE DONWAY WEST
CITY OF TORONTO

PROJECT NUMBER: ALL-00256815-B0

DATE: OCT 2023

4. Water Servicing

Record drawings show an existing 300 mm diameter municipal watermain on the south side of The Donway West which provides water servicing for the site. EXP staff reviewed City record drawings and confirmed through the site visit, that there is one existing municipal fire hydrant adjacent to the site as well. The City record drawings can be found in Appendix A.

After reviewing the Agent's site plan which includes one superstructure confirmed by the Agent to be under one single corporation ownership and one phase construction, it was confirmed that the development would require a single combined domestic and fire connection to the municipal watermain system as per City of Toronto's current standards. Therefore, the preliminary servicing design shows the following configuration:

- One new combined 200 mm diameter fire/domestic water connection to the existing 300 mm diameter watermain on The Donway West, branching into a separate 200 mm diameter fire and 100 mm diameter domestic water servicing at the property line.

The proposed building mechanical design is to be coordinated to ensure the proposed FDC connection is within 45 m of the existing fire hydrant in vicinity of the site as per OBC requirements. The final watermain sizes and configuration are to be finalized through the detailed design process all in accordance to City of Toronto standards and the City of Toronto Fire Department approval. For additional details regarding the preliminary water servicing design refer to the Preliminary Site Servicing Plan on Figure 3.

To determine the post development domestic water demand for the proposed development, the water consumption calculations were prepared in accordance to the City of Toronto criteria. The calculations showed that under maximum day conditions, a proposed peak domestic demand of 2.3 L/s should be considered for the site.

For calculating the estimated fire protection requirements, the Fire Underwriter's Survey was used where the theoretical demand was calculated to be in the range of 200 L/s. Therefore, for the purposes of assessing the proposed post development water demand calculations, a fire plus maximum day demand of 202.3 L/s should be considered for the site. For additional details on the proposed water demands refer to calculations provided in Appendix B.

To verify existing flows and pressures within the municipal watermain against the proposed demands, EXP staff coordinated a hydrant flow test on the two closest hydrants on Donway West. the flow test results showed that adequate flows and pressures can be obtained to meet the FUS requirements while still maintaining the minimum required 20 psi for the surrounding system. Refer to Appendix B for the hydrant flow test results completed on May 8th, 2023.

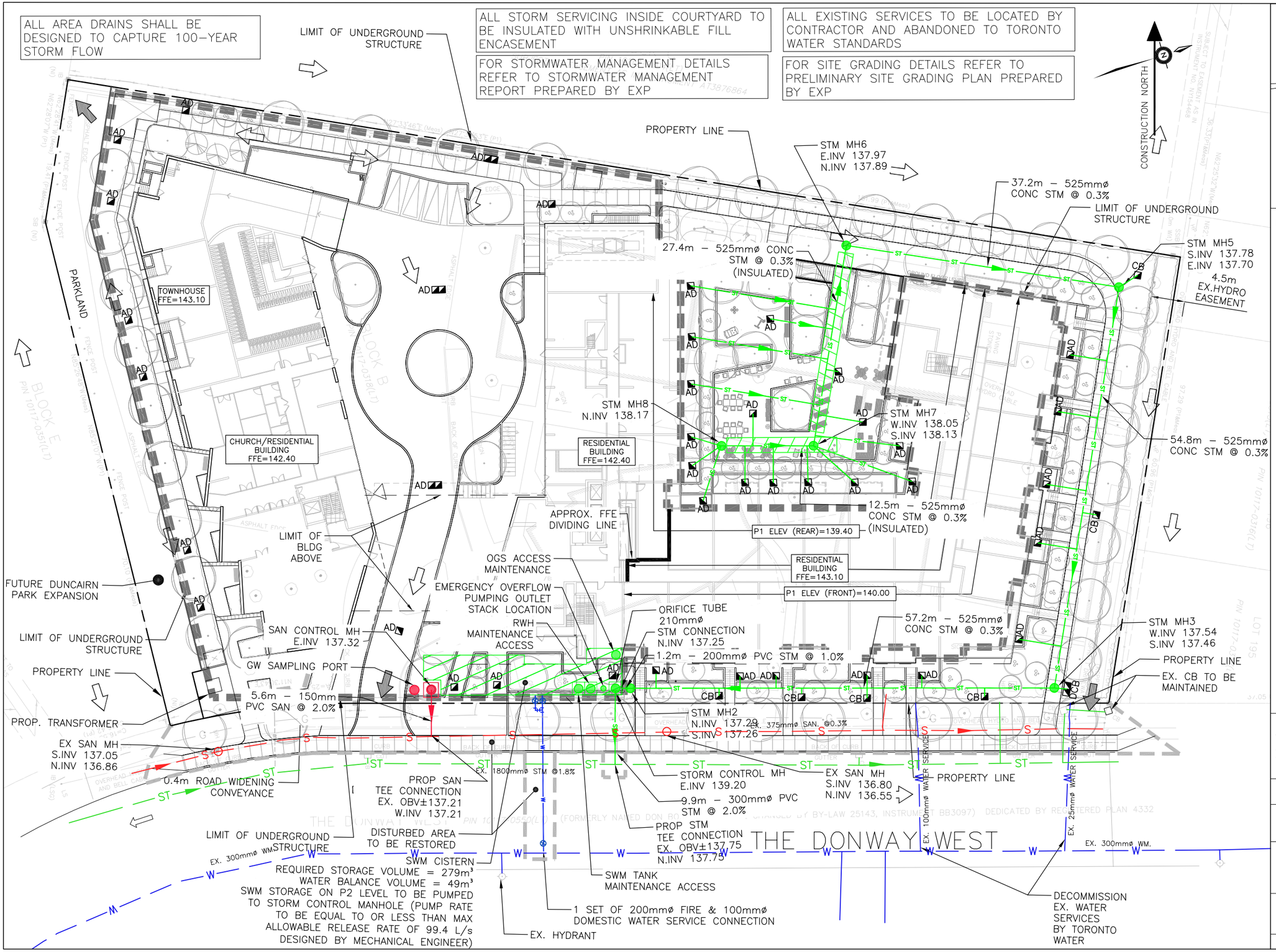
ALL AREA DRAINS SHALL BE DESIGNED TO CAPTURE 100-YEAR STORM FLOW

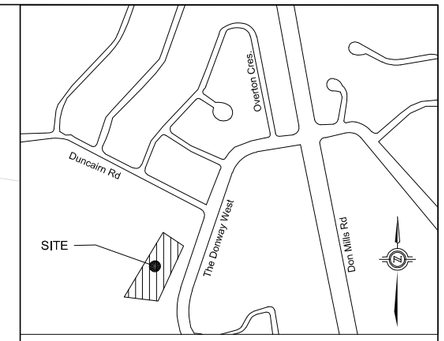
ALL STORM SERVICING INSIDE COURTYARD TO BE INSULATED WITH UNSHRINKABLE FILL ENCASEMENT

FOR STORMWATER MANAGEMENT DETAILS REFER TO STORMWATER MANAGEMENT REPORT PREPARED BY EXP

ALL EXISTING SERVICES TO BE LOCATED BY CONTRACTOR AND ABANDONED TO TORONTO WATER STANDARDS

FOR SITE GRADING DETAILS REFER TO PRELIMINARY SITE GRADING PLAN PREPARED BY EXP





LEGEND:

- EXISTING WATER VALVE
- EXISTING HYDRO POLE
- EXISTING TREE
- EXISTING TREE DRIPLINE
- EXISTING OVERHEAD HYDRO WIRES
- EXISTING FENCELINE
- EXISTING CURBS
- EX. VALVE CHAMBER
- EX. STORM/SANITARY M.H.
- EX. CATCH BASIN
- PROP. STORM M.H.
- PROP. SANITARY M.H.
- PROP. GW SAMPLING PORT
- PROP. AREA DRAIN
- PROPOSED CURBS
- PROP. STORM SEWER
- PROP. WATERMAIN
- PROP. SANITARY SEWER
- EX. SANITARY SEWER
- EX. STORM SEWER
- EX. WATERMAIN
- EX. HIGH VOLTAGE CONDUIT
- EX. GAS
- EX. UNDERGROUND HYDRO
- EX. UNDERGROUND BELL CABLE
- EX. UNDERGROUND TV CABLE
- PROPERTY LINE
- APPROX LIMIT OF DISTURBANCE
- EXISTING HYDRANT
- LIMIT OF UNDERGROUND
- MAJOR OVERLAND FLOW ARROW
- EMERGENCY MAJOR OVERLAND FLOW ARROW

SOURCE:

- BACKGROUND LEGAL AND TOPOGRAPHIC SURVEY PREPARED BY J.D. BARNES
- SITE PLAN PREPARED BY ARCHITECTUREUNFOLDED.
- LANDSCAPE DRAWINGS PREPARED BY NAK DESIGN GROUP

SCALE: 1:600

DRAWN BY	CHECKED BY
C.P.	S.P.

PRELIMINARY SITE SERVICING PLAN

FIGURE 3

DONWAY CO-OPERATIVE DEVELOPMENT
230 AND 240 THE DONWAY WEST
CITY OF TORONTO

PROJECT NUMBER: ALL-00256815-B0

DATE: OCT 2023

5. Sanitary Servicing

5.1 Proposed Sanitary Sewer Servicing

Record drawings show an existing 375 mm diameter municipal sanitary sewer on The Donway West flowing in the easterly direction, which provides sanitary servicing for the site. The SUE investigation shows an existing sanitary service connection for the building has been provided to the site with a clean-out along the east property line. The topographic drawing, City's record drawings, and the SUE investigation report prepared by Multiview can be found in Appendix A.

After reviewing the Agent's site plan which includes one superstructure under single corporation ownership and one phase construction, it was confirmed that one sanitary service connection would be required as per City of Toronto's current standards. Therefore, the preliminary servicing design shows the following configuration:

- One new 150 mm diameter sanitary service connection to the existing 375 mm diameter on The Donway West

Due to the age and location of the existing sanitary service to the site, it is not recommended that the existing sanitary service be re-used and the new sanitary service be constructed. Therefore, the existing sanitary service is to be abandoned as part of the proposed servicing design in accordance to Toronto Water specifications. For additional details regarding the preliminary sanitary servicing design refer to the Preliminary Site Servicing Plan on Figure 3.

To determine the peak sanitary demand for the existing site under the current pre-development conditions, the City of Toronto design criteria was used where the calculations showed a peak sanitary demand of 1.3 L/s including infiltration. Refer to Appendix C for sanitary calculations.

In order to verify the existing site storm and domestic sewage drainage for the site, EXP staff coordinated a SUE investigation with Multiview on January 17, 2023 and a utility dye testing investigation with a utility locate contractor (Aquaflow) on September 12th, 2023. The SUE investigation results showed an existing sanitary service connection to the existing municipal sanitary sewer system on The Donway West.. The dye testing results showed that the foundation drainage for an existing building (Building 5) connects to the 375 mm sanitary sewer on The Donway West. After the dye testing, the Owner's mechanical engineer performed the on-site sump pump inspection on October 4th, 2023 where the flow rate of the pump is found to be at approximate 40 GPM (2.5 L/s). For additional details regarding the dye testing investigation and on-site sump pump inspection, please refer to the dye testing report prepared by Aquaflow and the email correspondence with Novatrend Engineering Group Ltd. in Appendix C.

For calculating the peak sanitary demand for the proposed development, the City of Toronto design criteria was used to first determine the estimated equivalent population. Based on the Agent's site plan statistics and using City of Toronto design criteria, the total estimated equivalent population for the site including residential units and church is calculated to be 587 persons. After determining the population, the City of Toronto sanitary demand criteria and corresponding peaking factors were then used to give peak sanitary demands of 6.6 L/s including infiltration. Refer to Appendix C for the sanitary calculations.

The calculated post development sanitary increase of 2.9 L/s was then increased by 1.3 L/s for the future allowance of groundwater pumping (see Section 7) to be discharged to the sanitary sewer. EXP staff then reviewed the

calculated flow increase of 4.2 L/s against the capacity of the adjacent municipal sanitary system where the flow was found to be in the calculated range of 5.0 % of the full flow capacity on The Donway West.

5.2 Downstream Sanitary Analysis

Once the sanitary calculations showed a post development demand increase for the site, EXP staff then completed a preliminary downstream sanitary capacity analysis to review any possible impacts on the municipal sanitary system. The results of the analysis showed that the municipal sanitary sewer system under design flow conditions did not show signs of any surcharging.

In order to address the City's comments and WWFM guidelines, an additional downstream sanitary capacity analysis using InfoWorks model was completed by Stantec who completed basement flooding study entitled "Stormwater Runoff Control and Investigation of Chronic Basement Flooding: Area 21 – Project Site" dated July 2016), which can be found in Appendix C. The City of Toronto guideline "Sanitary Sewer Surcharge Approval Guideline for Development Applications" (dated July 2021) was referenced to review the effects of increased sanitary flow contributions under both the design flow and extreme wet weather conditions.

Overall, we believe that the sewer analysis model completed by Stantec correctly represents the sewer system, including any updates to the sewer analysis to reflect changes (i.e., sewer construction) since the model was initially prepared. The model has been updated to include all sanitary peak flow rates including peak flow rates from groundwater being discharged to the municipal sanitary system from all active and recent development applications located within the affected sanitary sewershed. Best efforts have been made to include all known peak flows from Private Water discharge agreements in the sanitary sewershed.

Under Design Flow Conditions (Dry Weather Flow) Results:

The results of the analysis under design flow conditions showed that the sanitary sewers downstream of the proposed development operate in range of 0% to 65% of full flow capacity under existing conditions.

With the proposed development demands including the groundwater pumping rate added to the model, the sewers indicate an increase of approx. 1% in capacity percentage where all sections of sewer are remaining in range of 0% to 66% of the full flow capacity, and are shown to be free of any theoretical surcharge.

Therefore, under design flow conditions the municipal sanitary sewer system did not show signs of any surcharging.

Extreme Wet Weather Flow Results:

The extreme wet weather flow analysis includes the Inflow/Infiltration allowance generated under the May 12, 2000 storm event for the balance of the catchment as per City standards. The results showed signs of surcharging under existing conditions where the calculated hydraulic grade line (HGL) of the flow was less than the required 1.8 m clearance requirement below ground surface along The Donway West and Langbourne Place due to the abandoned flow split at Dunairn Road.

With the proposed demands including the groundwater pumping rate added to the model, the HGL rises no greater than 73 mm from the existing conditions.

Therefore, per the City's Sewer Capacity Assessment Guidelines, wet weather flow mitigation measures are required since the HGL elevation is theoretically raised by the proposed sanitary demand increase.

In summary, the downstream sanitary capacity analysis showed that under design flow conditions, there are no signs of theoretical surcharging, but under extreme wet weather flow conditions mitigation measures are required to avoid raising the resultant HGL in the municipal sanitary sewer. EXP staff have been in discussions with City staff regarding the results of the downstream sewer analysis and additional consultation is recommended with City Staff.

6. Storm Servicing

Record drawings show an existing 1800 mm diameter municipal storm sewer on The Donway West flowing in the easterly direction, which provides storm servicing for the site. The topographic survey and City's record drawings show two existing catchbasins within the site connecting to the existing 1800 mm diameter storm sewer at the southeast corner of the site. The topographic drawing and City's record drawings can be found in Appendix A.

In order to verify the existing site storm and domestic sewage drainage for the site, EXP staff coordinated a SUE investigation with Multiview on January 17, 2023 and a utility dye testing investigation with a utility locate contractor (Aquaflow) on September 12th, 2023. The SUE investigation results showed an existing storm service connection to the existing municipal storm sewer system on The Donway West. The dye testing results showed that all roof drains for existing Buildings (Buildings 1, 2, 3, 4 & 5) including the foundation drainage for an existing building (Building 3) drain to the existing 1800 mm storm sewer on The Donway West. The result also showed that the foundation drainage for building 5 connects to the 375 mm sanitary sewer on The Donway West. For additional details regarding the dye testing investigation, please refer to the dye testing report prepared by Aquaflow in Appendix A.

After reviewing the Agent's development concept which included one superstructure, it was confirmed that one storm service connection would be required as per City of Toronto's current standards, where the preliminary servicing design shows the following configuration:

- One new 300 mm diameter storm service connection to the existing 1800 mm diameter storm sewer on The Donway West

Any existing service connections for the building to the existing 1800 mm diameter storm sewer are to be abandoned as part of the proposed servicing design in accordance to Toronto Water specifications.

For additional details regarding the preliminary storm servicing design refer to the Preliminary Site Servicing Plan on Figure 3. The proposed SWM measures are outlined further in the SWM Report prepared by EXP dated April 2021.

7. Groundwater

The hydrogeological investigation completed by EXP shows a calculated short-term groundwater discharge to be 3.45 L/s (298,000 L/day) during construction and a calculated long-term groundwater discharge to be 0.13 L/s (11,000 L/day). EXP then undertook a detailed review of the available options for the proposed groundwater management strategy for the site. It has been confirmed with the owner and the consultant team that the

proposed groundwater management strategy is to include a permanent drainage system (PDS) where all captured groundwater is to be collected and pumped to the municipal sanitary sewer under single ownership.

A proposed flow meter and sampling port shall be provided in accordance to Toronto Water requirements, before connection to the proposed sanitary service draining to the existing sanitary sewer on The Donway. As mentioned in Section 5, an allowance of 1.3 L/s groundwater pumping has been included conservatively in the sanitary demand calculations where the pump size is confirmed with the mechanical engineer Novatrend Engineering Group Ltd.

Finally, a brief summary of the receiving municipal sewers for the proposed groundwater management strategy can be summarized as follows:

- Temporary discharge during construction = existing 375mm sanitary sewer on The Donway West
- Long term discharge = existing 375mm sanitary sewer on The Donway West

The hydrogeological investigation and correspondence with the mechanical engineer have been provided in Appendix E for reference. The proposed groundwater details are also shown on the Preliminary Site Servicing Plan on Figure 3. The Servicing Report Groundwater Review form can be found in Appendix E.

EXP staff have advised the Owner of the City's new foundation drainage policy that came into effect on January 1st, 2022 which generally prohibit any long-term discharge of foundation drainage to the City's municipal sewer system. The Owner has been confirmed that they will be pursuing approval to discharge the groundwater to the municipal sanitary sewer directly with City of Toronto staff for the corresponding Private Water Discharge Agreement with Toronto Water.

8. Utilities

After reviewing record drawing information along The Donway West and verifying existing above ground utility furniture through a recent site visit, it appears all the required utilities can be provided to the site. EXP staff has also reached out to Utility agency staff regarding the development application where they have not yet identified any capacity issues with providing the necessary utility service for the development.

9. Conclusions

In summary, we believe the proposed development can be adequately serviced where some of the key findings are summarized as follows:

- The proposed grading requirements for the site can be accommodated without any negative impact to neighbouring properties
- Water servicing can be provided with a new combined fire/domestic water service connection to the existing 300 mm diameter watermain along The Donway West
- Adequate fire protection for the site and building can be provided based on the required maximum day plus fire flow demand for the site and from the observed hydrant flow testing results completed on May 8th, 2023
- Sanitary servicing can be provided with one new sanitary service connection to the existing 375 mm diameter sanitary sewer on The Donway West
- The results of the downstream sanitary capacity analysis completed by Stantec show no signs of surcharging under the design flow conditions but signs of possible mitigation measures are required for the extreme wet weather flow conditions, where additional consultation is recommended with City staff
- Storm servicing can be provided with a new storm service connection to the existing 1800 mm diameter storm sewer on The Donway West, complete with the proposed SWM control measures outlined in the SWM Report prepared by EXP
- Groundwater management can be accommodated by a permanent drainage system (PDS) where the current discharge strategy includes discharging directly to the municipal sanitary sewer on The Donway West, where the Owner will be pursuing approvals from both City of Toronto and Toronto Water directly

Sincerely,

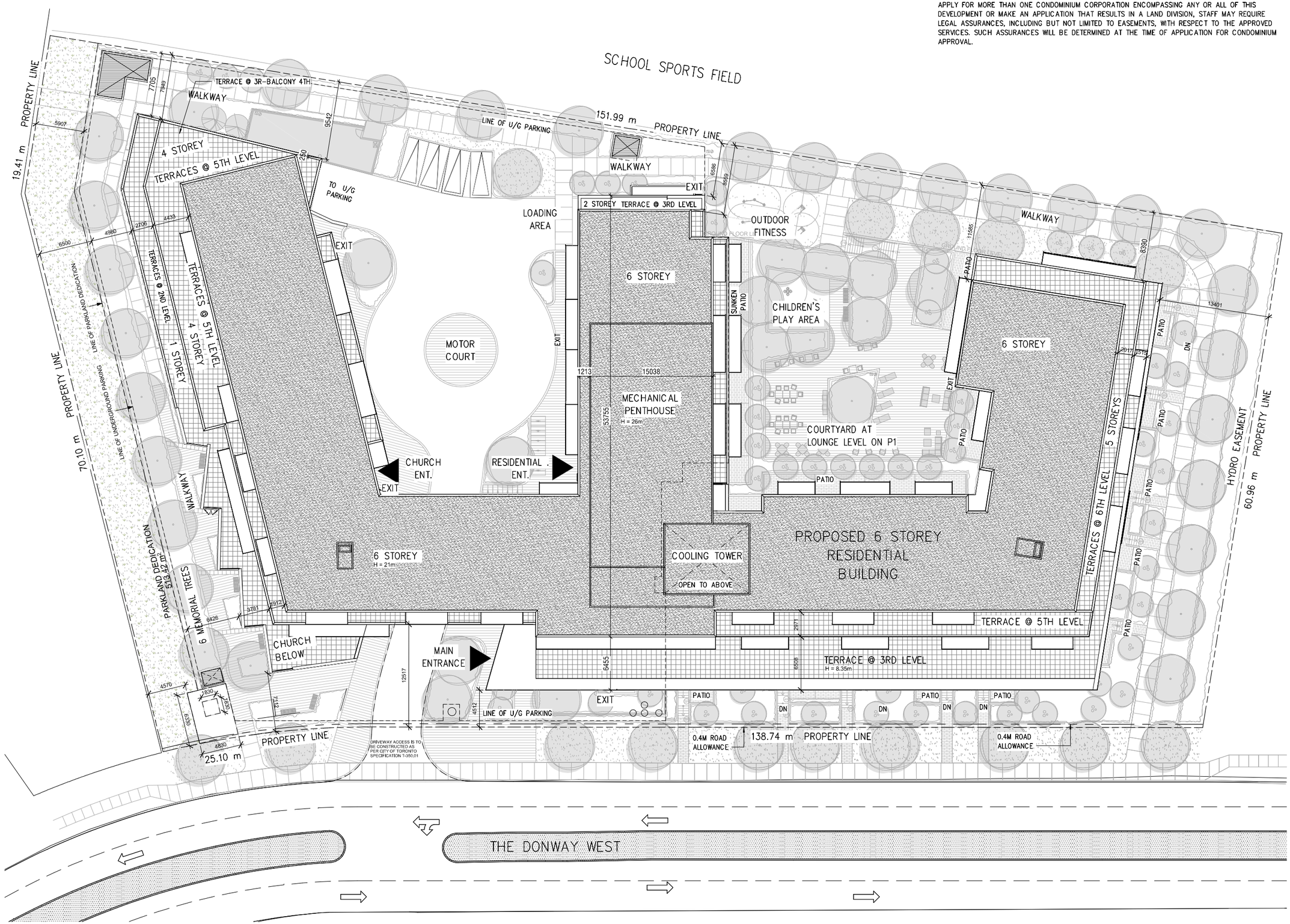
EXP Services Inc.

Steve Park, P.Eng.
Project Manager, Land Development

Scott Passmore, P.Eng.
Vice President, Land Development

Appendix A – Background Information

NOTE: BE ADVISED THAT SHOULD ANY PARTY, INCLUDING THE OWNER OR ANY SUBSEQUENT OWNER, APPLY FOR MORE THAN ONE CONDOMINIUM CORPORATION ENCOMPASSING ANY OR ALL OF THIS DEVELOPMENT OR MAKE AN APPLICATION THAT RESULTS IN A LAND DIVISION, STAFF MAY REQUIRE LEGAL ASSURANCES, INCLUDING BUT NOT LIMITED TO EASEMENTS, WITH RESPECT TO THE APPROVED SERVICES. SUCH ASSURANCES WILL BE DETERMINED AT THE TIME OF APPLICATION FOR CONDOMINIUM APPROVAL.



notes:

12	ISSUED FOR REZONING	2023.10.24
11	ISSUED FOR REZONING	2022.03.09
10	DRAFT REZONING SUBMISSION	2022.01.18
9	DRAFT REZONING SUBMISSION	2021.05.21
8	SUBMISSION FOR CONSULTANTS COORDINATION	2021.04.20
7	SUBMISSION FOR CONSULTANTS COORDINATION	2021.01.21
6	SUBMISSION FOR CONSULTANTS COORDINATION	2020.12.23
5	ISSUED FOR CLIENT REVIEW	2020.11.27
4	PRE-APPLICATION CONSULTATION WITH COMMUNITY PLANNING	2019.11.08
3	ISSUED FOR CLIENT	2019.10.20
2	ISSUED FOR CLIENT REVIEW	2019.09.30
1	FEASIBILITY SUBMISSION	2018.03.20

revisions: dd-mm-yy

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tel: (416) 601 5416 info@unfolded.ca
368 dufferin street, toronto, on. M6K 1Z8

architectural team :

Eduardo Ortiz

interior design:

planning:
BOUSFIELDS INC

structural:

electrical:

mechanical:

landscape:
O2 DESIGN (FORMELY NAK DESIGN GROUP)

site services:
EXP

owner:
DONWAY CO-OPERATIVE DEVELOPMENT CORPORATION AND THE DONWAY COVENANT UNITED CHURCH

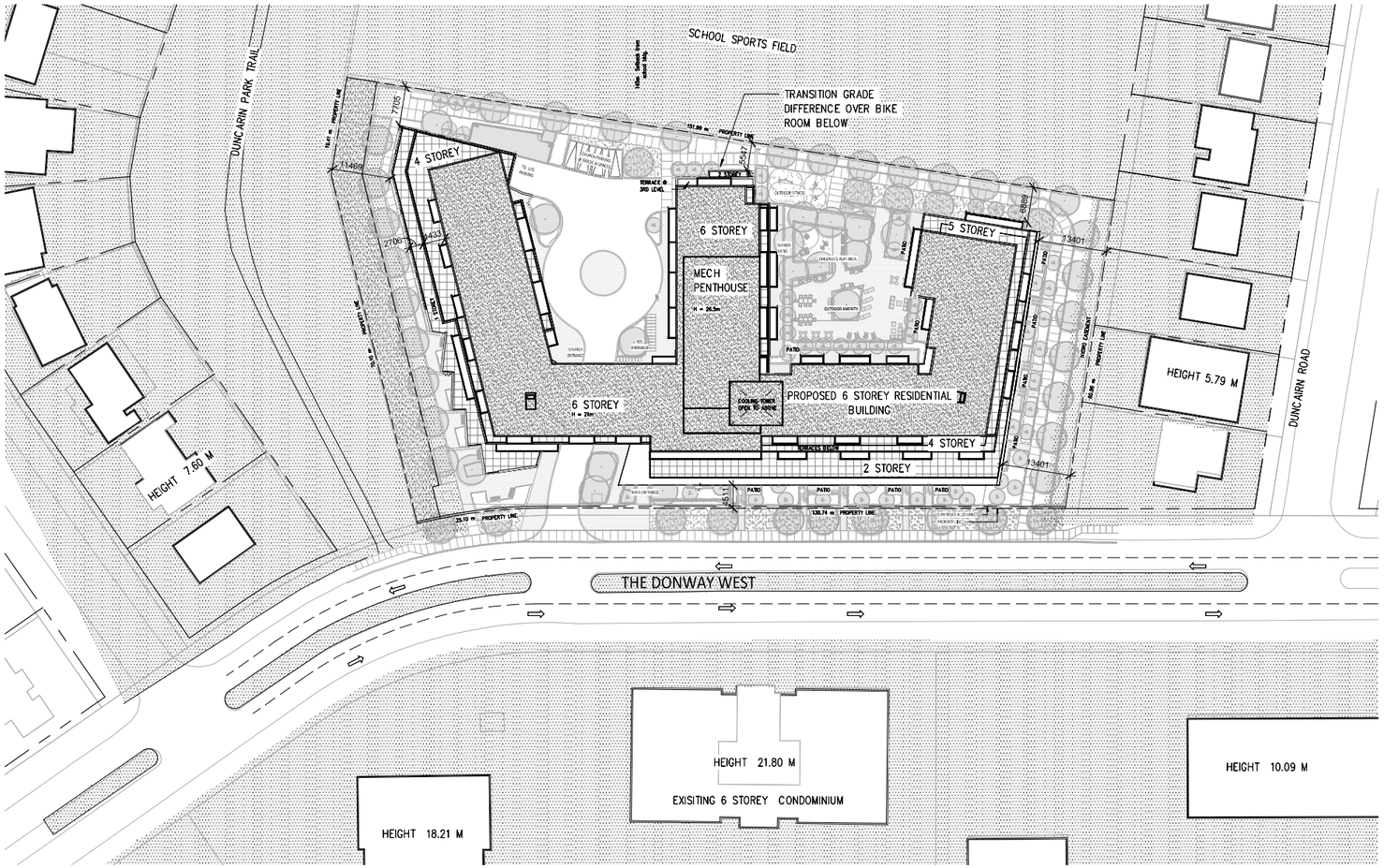
project:
230 THE DONWAY WEST
230 The Donway W., North York, ON

SITE PLAN

2023.10.24 — date:
1 : 200 — scale:
18-16 — project:
Author — drawn by:

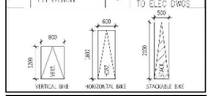
true north / project north

drawning number: A1011

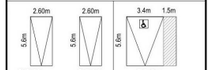


LEGEND

BUILDING ENTRANCE		CB	CATCH BASIN
EXIT		HP	HYDRO POLE
HANDICAPPED PARKING		MH	MANHOLE
EXISTING ELEVATION		FH	FIRE HYDRANT
PROPOSED ELEVATION		BLR	BOLLLARD LIGHT REFER TO ELEC DWGS



PARKING LEGEND



SURVEY DATA

PLAN OF SURVEY AND TOPOGRAPHY OF BLOCK B, REGISTERED PLAN 4332, CITY OF TORONTO (FORMERLY CITY OF NORTH YORK), BEING ALL OF PIN 10117-0318

PREPARED BY : J D BARNES LTD., 140 RENFREW DRIVE, SUITE 100, MARKHAM, ON L3R 6B3 (905) 477-3882 JULY 15, 2019

architecture**unfolded** 368 dufferin street, toronto, on. m6k 1z8. tel. (416) 601-5416

PROJECT # 1816

STATISTICS — 230 AND 240 THE DONWAY WEST

1. ZONING

2. SITE AREA

		10,268.00 m2	110,523.73 ft2	2.54	ACRES
	PARK DEDICATION	513.42 m2	5,526.18 ft2		
	0.4M ROAD ALLOWANCE	47.00 m2	505.90 ft2		
	NET SITE AREA (INCLUDES 187 m2 HYDRO EASEMENT)	9,707.58 m2	104,491.42 ft2	2.40	ACRES
	TOTAL SITE AREA	10,268.00 m2	110,523.73 ft2	2.54	ACRES

3. ESTABLISHED GRADE 141.69 m (AVERAGE GRADE AS PER BY-LAW)

4. PROPOSED BUILDING:

	GFA	22,390.8 m2	241,011.8 ft2
	BUILDING AREA	3,850.25 m2	41,443.71 ft2
	DENSITY	2.18 FSI (GFA / SA)	

UNITS — 308

PROPOSED UNIT TYPE	BACH.	1B.	1B+D	2B	2B+D	3B	Podium towns (included in 3B)	TOTAL
	11	57	92	65	51	32	-	308
TOTAL	11	57	92	65	51	32	4	308

	PARKING	2YUK	
	AMENITY SPACE (INDOOR) 1.5m2/U	477.4 m2	5,139 ft2
	AMENITY SPACE (LANDSCAPED) 1.5m2/U	SOFT-HARD SCAPED 462.0 m2	4,973 ft2

7. FLOOR AREA :

Deductions as per BY-LAW No. 569-2013(30%):
(i)parking, loading and bicycle parking below established grade;
(ii)required loading spaces and required bicycle parking spaces at or above established grade;
(iii)storage rooms, washrooms, electrical, utility, mechanical and ventilation rooms in the basement;
(iv)shower and change facilities required by this By-law for required bicycle parking spaces;
(i)indoor amenity space required by this By-law;
(ii)elevator shafts;
(iii)garbage shafts;
(iv)mechanical penthouse; and
(and stairwells in the building.

	LEVEL	TOTAL FL. AREA (TFA)		DEDUCTIONS (AS PER BY-LAW)		GROSS FL. AREA (GFA)	
U/G PARKING	P3	1,093.0 m2	11,764.9 ft2	1,081.0 m2	11,635.8 ft2	12.0 m1	129.2 ft1
	P2	5,162.0 m2	55,563.3 ft2	5,129.0 m2	55,208.0 ft2	33.0 m2	355.2 ft2
	P1	4,778.0 m2	51,429.9 ft2	4,778.0 m2	51,429.9 ft2	0.00 m2	0.0 ft2
MECH. P.H.	MPH	434.0 m2	4,671.5 ft2	290.0 m2	3,121.5 ft2	144.0 m2	1,550.0 ft2
	SUB TOTAL	11,467.0 m2	123,429.6 ft2	11,278.0 m2	121,395.3 ft2	189.0 m2	2,034.4 ft2
U/G RES.	P1	2,089.0 m2	22,485.8 ft2	91.0 m2	979.5 ft2	1,998.0 m2	21,506.3 ft2

	LEVEL	TOTAL FL. AREA (TFA)		DEDUCTIONS (AS PER BY-LAW)		GROSS FL. AREA (GFA)	
PODIUM RES.	GF.	3,107.0 m2	33,443.4 ft2	992.0 m2	10,677.8 ft2	2,115.0 m2	22,765.6 ft2
	2ND	4,020.0 m2	43,270.9 ft2	187.0 m2	2,012.8 ft2	3,833.0 m2	41,258.0 ft2
	SUB TOTAL	7,127.0 m2	76,714.3 ft2	1,179.0 m2	12,690.6 ft2	5,948.0 m2	64,023.7 ft2
PODIUM CHURCH	LEVEL	TOTAL FL. AREA (TFA)		DEDUCTIONS (AS PER BY-LAW)		GROSS FL. AREA (GFA)	
	GF.	743.3 m2	8,000 ft2	9.00 m2	96.88 ft2	734.3 m2	7,903.4 ft2
	SUB TOTAL	743.3 m2	8,000 ft2	9.00 m2	96.88 ft2	734.3 m2	7,903.4 ft2

	LEVEL	TOTAL FL. AREA(TFA)		DEDUCTIONS (AS PER BY-LAW)		GROSS FL. AREA(GFA)	
TYP.	3RD	3,695.0 m2	39,772.6 ft2	80.0 m2	861.1 ft2	3,615.0 m2	38,911.5 ft2
	4TH	3,688.0 m2	39,804.9 ft2	80.0 m2	861.1 ft2	3,618.0 m2	38,943.8 ft2
	5TH	3,419.3 m2	36,807.2 ft2	80.0 m2	861.1 ft2	3,339.3 m2	35,946.0 ft2
	6TH	3,029.0 m2	32,603.9 ft2	80.0 m2	863.1 ft2	2,949.0 m2	31,742.7 ft2
	TOTAL	13,841.5 m2	148,988.5 ft2	320.0 m2	3,444.4 ft2	13,521.3 m2	145,544.1 ft2
RES. TOTAL		23,057.5 m2	248,168.6 ft2	1,590.0 m2	17,114.6 ft2	21,656.5 m2	233,108.4 ft2
GRAND TOTAL		35,267.8 m2	379,618.5 ft2	12,877.0 m2	138,606.7 ft2	22,390.8 m2	241,011.8 ft2

8. UNIT SUMMARY

FLOOR	BACH.	1B	1B+D	2B	2B+D	3B	INCLUDED IN 3B Podium Towns	TOTAL
P1	2	2	2	7	4	8	0	25
GF.	0	2	10	7	2	6	4	27
2ND	1	9	21	12	5	6	0	54
3RD	0	12	21	6	12	4	0	55
4TH	0	12	21	9	8	5	0	55
5TH	4	11	9	11	10	2	0	47
6TH	4	9	8	13	10	1		45
TOTAL	11	57	92	65	51	32	-	308
	3.6%	18.5%	29.9%	21.1%	16.6%	10.4%	-	100.0%
CLIENT TARGET	5.0%	20.0%	25.0%	25.0%	15.0%	10.0%	-	100.0%

9. ACCESSIBLE UNITS

FLOOR	BACH.	1B	1B+D	2B	2B+D	3B	TOTAL
P1	0	0	0	0	2	0	2
GF.	0	1	2	1	1	1	6
2ND	0	1	4	1	1	1	9
3RD	0	1	3	3	2	1	10
4TH	0	1	2	3	1	1	8
5TH	0	1	2	1	1	1	6
6TH	0	1	2	1	1	1	6
TOTAL (15% for the building)	0	6	15	10	9	6	46

10. EFFICENCY (NSA/GFA)

11. HEIGHT (FROM AVERAGE GRADE (141.69M))
PERMITTED : TOA — MECH. P.H. (EXCL.) Max. 8.00 m FOR 40% OF ROOF AREA + Max.10.00 m FOR 25% OF ROOF AREA
PROPOSED : 6 STY. (21.33m) — MECH. P.H. (EXCL.) = 376 m2 (14% OF ROOF AREA) (5m) — ROOF AREA = 2683 m2

12. PARKING (3.4m x 5.6m SERVED BY 6m DRIVE AISLES)
REQUIRED : (MAX) BY-LAW 569-2013 (4)

BACH.	0.8 PER UNIT(	11	) =	9
1B	0.9 PER UNIT(	149	) =	134
2B	1 PER UNIT(	116	) =	116
3B+	1.2 PER UNIT(	32	) =	38
CHURCH	MAX. 6 PER 100 m2 OF WORSHIP AREA (743M2) =			44
TOTAL				341
VIS. (MIN)	0.05 PER UNIT *(	308	) + 2 =	17

PROPOSED :

RES.	(61 ON P1 + 128 ON P2 + 29 ON P3)	=	218
VIS.	(20 ON P1)		20
CHURCH	(16 ON P1 + 4 ON SURFACE)		20
TOTAL	(includes 11 accessible parking spaces)		258

ELECTRICAL VEHICLE (SUPPLY EQUIPMENT (EVSE) FOR 20% OF PARKING SPACES AND ROUGH IN CONDUITS FOR REMAINING SPACES)
REQUIRED (LEV 2 EVSE) 100% of RES & 25% of VIS = 228 — All remaining to have EV ROUGH-INS
PROPOSED : (LEV 2 EVSE) 100% of RES & 25% of VIS = 228 Provided — All remaining to have EV ROUGH-INS

Note: Vehicular parking calculations resulting in a fraction have been rounded DOWN to the nearest whole number in accordance with Former City of North York By-law 7625.

13. ACCESSIBLE PARKING AS PER ZONING BY-LAW BY-LAW No. 569-2013(30M)
REQUIRED : 11 Spaces
PROPOSED :

RES.	9
VIS.	1
CHURCH	1
TOTAL	11

Note: Vehicular parking calculations resulting in a fraction have been rounded DOWN to the nearest whole number in accordance with Former City of North York By-law 7625.

14. LOCKERS min. 1 locker per dwelling unit min. locker area of 1.35 m2
REQUIRED :
RES. 1 PER UNIT (308) = 308 (MIN. 1.35 m2 AREA PER LOCKER) 308
PROPOSED : (72%)
A/G 0
U/G 222
222

15. BICYCLE
REQUIRED :

RETAIL				
SHORT TERM	(0.25/100m2 +3)			0
LONG TERM	(0.13/100m2)			0
RESIDENTIAL				
SHORT TERM	0.07 PER UNIT (	308	) =	22
LONG TERM	0.68 PER UNIT (	308	) =	210
				232

PROPOSED :

RETAIL		
SHORT TERM		0
LONG TERM		0
RESIDENTIAL		
SHORT TERM	(Ground Floor)	22
LONG TERM	(120 Ground Floor + 90 P1)	210
		232

Note: Bicycle parking calculations resulting in a fraction have been rounded UP to the next whole number in accordance with Former City of North York By-law 7625.

Note: If the requirement for Short-Term bicycle parking spaces is more than 20, at least 50% of the required Short-Term bicycle parking spaces must be located in a bicycle parking area at grade in accordance with City of Toronto By-law 909-2013(OMB) Section 2.7.

16. INDOOR AMENITY
REQUIRED :
TOTAL RES. 2 m2 / UNIT (308) = (m2) 616
PROPOSED :
1.55 m2 / U — 477.40 m2 — 5,138.69 ft2

BREAKDOWN

P1	76.00 m2	818.06 ft2
GROUND FL	383.40 m2	4,126.88 ft2
2ND FL	18.00 m2	193.75 ft2
	477.40 m2	5,138.69 ft2
PART OF GFA	549.00 m2	5,909.38 ft2
AMENITY INCL. IN GFA:	477.40 m2	5,138.69 ft2

17. OUTDOOR AMENITY
REQUIRED :
TOTAL RES. 2 m2 / UNIT (308) = (m2) 616
PROPOSED :
1.50 m2 / U — 462.00 m2 — 4,972.92 ft2

BREAKDOWN

OUTDOOR AMENITY	383.00 m2	4,122.57 ft2
KIDS SPACE	99.00 m2	1,065.63 ft2
OUTDOOR WORKOUT	67.00 m2	721.18 ft2
	m2	ft2
	549.00 m2	5,909.38 ft2

18. LANDSCAPED OPEN SPACE (MIN. 30% OPEN SPACE OF SA)
REQUIRED :
SITE AREA 10,268.00 m2
REQUIRED OPEN SPACE ON SITE 30.0%
TOTAL 3,080.40 m2
PROPOSED :
SITE AREA 10,268.00 m2
PROVIDED OPEN SPACE ON SITE 45.6%
TOTAL 4,680.2 m2

SOFTSCAPE	SOFTSCAPE	N/A	m2
HARDSCAPE	HARDSCAPE	N/A	m2
TOTAL		N/A	m2

SOFTSCAPE	2,660.69	m2
HARDSCAPE	1,736.69	m2
TOTAL	4,396.0	m2

19. REFUSE
REQUIRED :

GARBAGE ROOM AREA	66 m2
BULK AREA	10 m2
BIN STAGING AREA	31 m2

PROVIDED :

GARBAGE ROOM AREA (P1 LEVEL)	76 m2
BULK AREA	54 m2
BIN STAGING AREA	58 m2

20. LOADING SPACES
REQUIRED : 1-TYPE G (13m L X 4m W X 6.1m H)
PROPOSED : 1-TYPE G (13m L X 4m W X 6.1m H)

notes:

12	ISSUED FOR REZONING	2023.10.24
11	ISSUED FOR REZONING	2022.03.09
10	DRAFT REZONING SUBMISSION	2022.01.18
9	DRAFT REZONING SUBMISSION	2021.05.21
8	SUBMISSION FOR CONSULTANTS COORDINATION	2021.04.20
7	SUBMISSION FOR CONSULTANTS COORDINATION	2021.01.21
6	SUBMISSION FOR CONSULTANTS COORDINATION	2020.12.23
5	ISSUED FOR CLIENT REVIEW	2020.11.27
4	PRE-APPLICATION CONSUTATION WITH COMMUNITY PLANNING	2019.11.08
3	ISSUED FOR CLIENT	2019.10.20
2	ISSUED FOR CLIENT REVIEW	2019.09.30
1	FEASIBILITY SUBMISSION	2018.03.20

revisions: dd-mm-yy

architectural team :

Eduardo Ortiz

interior design:

planning:
BOUSFIELDS INC
structural:

electrical:

mechanical:

landscape:
O2 DESIGN (FORMELY NAK DESIGN GROUP)
site services:
EXP
owner:
DONWAY CO-OPERATIVE DEVELOPMENT CORPORATION AND THE DONWAY COVENANT UNITED CHURCH

project:
230 THE DONWAY WEST
230 The Donway W., North York, ON

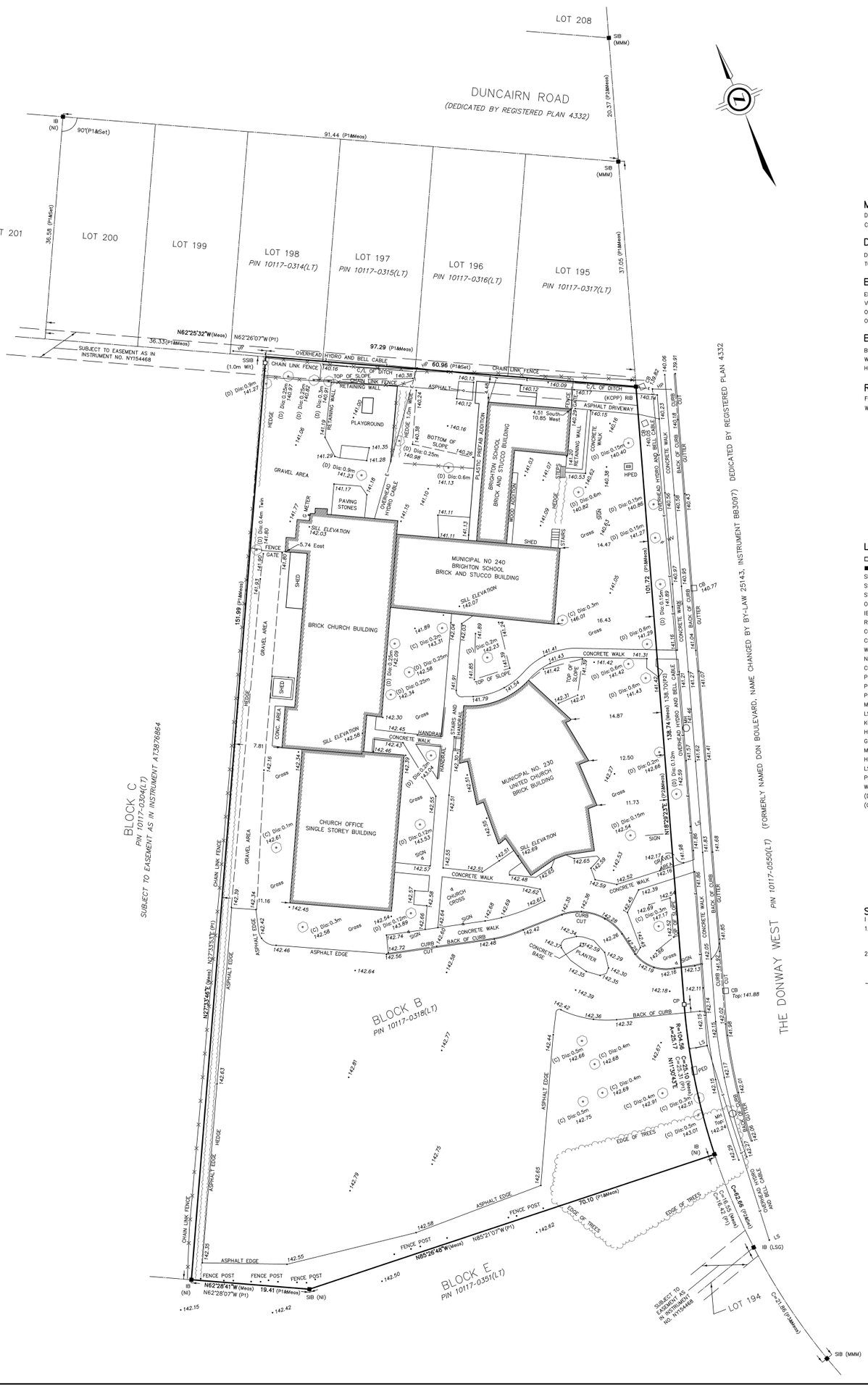
CONTEXT PLAN & STATISTICS

2023.10.24 — date:
1 : 500 — scale:
18-16 — project:
Author — drawn by:

true north / project north

drawning number: A100

architecture unfolded
368 dufferin street, toronto, on. M6K 1Z8
tel. (416) 601 5416 info@unfolded.ca



PLAN OF SURVEY AND TOPOGRAPHY OF

BLOCK B
REGISTERED PLAN 4332
CITY OF TORONTO
(FORMERLY CITY OF NORTH YORK)

SCALE 1 : 300

5 0 5 10 20 metres

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

DISTANCE NOTE
DISTANCES SHOWN ON THIS PLAN ARE GROUND LEVEL DISTANCES, TO CONVERT TO GRID DISTANCE MULTIPLY BY COMBINED SCALE FACTOR 0.999885

BENCH MARK
ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO THE CANADIAN GEODETIC VERTICAL DATUM 1928: PRE 1978 ADJUSTED AND ARE DERIVED FROM THE CITY OF TORONTO BENCH MARK No 12319651314 HAVING A PUBLISHED ELEVATION OF 142.854 METRES.

BEARING NOTE
BEARING SHOWN HEREON ARE ASTRONOMIC AND ARE REFERRED TO THE WESTERLY LIMIT OF THE DONWAY WEST, AS SHOWN ON BA PLAN 64BA2009 HAVING A BEARING OF N18°29'23"E

ROTATION NOTE
FOR BEARING COMPARISONS, A ROTATION OF 00°23'37" COUNTER-CLOCKWISE WAS APPLIED TO BEARINGS ON REGISTERED PLAN 4332.

LEGEND

□	DENOTES SURVEY MONUMENT SET
■	DENOTES SURVEY MONUMENT FOUND
SIB	DENOTES STANDARD IRON BAR
SSIB	DENOTES SHORT STANDARD IRON BAR
SSIB's SET DUE TO A LACK OF OVERBURDEN AND/OR DUE TO THE PROXIMITY OF UNDERGROUND UTILITIES IN ACCORDANCE WITH O.REG.525/91 5.11(4)	
IB	DENOTES IRON BAR
RIB	DENOTES ROUND IRON BAR
CC	DENOTES CUT CROSS
CP	DENOTES CONCRETE PIN WITH OLS IDENTIFICATION WASHER
Wit	DENOTES WITNESS
NI	DENOTES NOT IDENTIFIED
CB	DENOTES CATCHBASIN
P1	DENOTES REGISTERED PLAN 4332
P2	DENOTES 64BA-2009
P3	DENOTES SRPR BY LAND SURVEY GROUP DATED DECEMBER 22, 2015
MMM	DENOTES MARSHALL MACKLIN MONAGHAN, OLS
LSG	DENOTES LAND SURVEY GROUP, OLS
KCPP	DENOTES KING, COONS, PHELAN AND PORTER, OLS
HPED	DENOTES HYDRO PEDESTAL
G METER	DENOTES GAS METER
MH	DENOTES MANHOLE
HP	DENOTES HYDRO POLE
LS	DENOTES LIGHT STANDARD
PED	DENOTES TELEPHONE PEDESTAL
WV	DENOTES WATER VALVE
(D) Dia 0.5m	DENOTES DECIDUOUS TREE, DIAMETER 0.5 METER
(C) Dia 0.5m	DENOTES CONIFEROUS TREE, DIAMETER 0.5 METER

SURVEYOR'S CERTIFICATE
I CERTIFY THAT:
1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON 25th JUNE 2019.

JULY 16, 2019
DATE

GREG MCDONALD
ONTARIO LAND SURVEYOR

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
2083250

THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR In accordance with Regulation 1026, Section 29(3)

PART 2 - SURVEY REPORT

DESCRIPTION OF LAND
230 The Donway West, Toronto
All Of Block B, Registered Plan 4332, City Of Toronto
Being All Of PIN 10117-0318

REGISTERED EASEMENTS AND/OR RIGHTS-OF-WAY
Subject To Easement As In Instrument No. NY154468

COMMENTS
Chain Link Fence Exist Near The Northeast And Northwest Limit As Shown On The Plan.
Hedge Exist Near The Northwest Limit As Shown On The Plan.

BOUNDARY FEATURES
Building Ties To Concrete Foundation Limit, As Shown On The Plan

ZONING COMPLIANCE
Not Reviewed

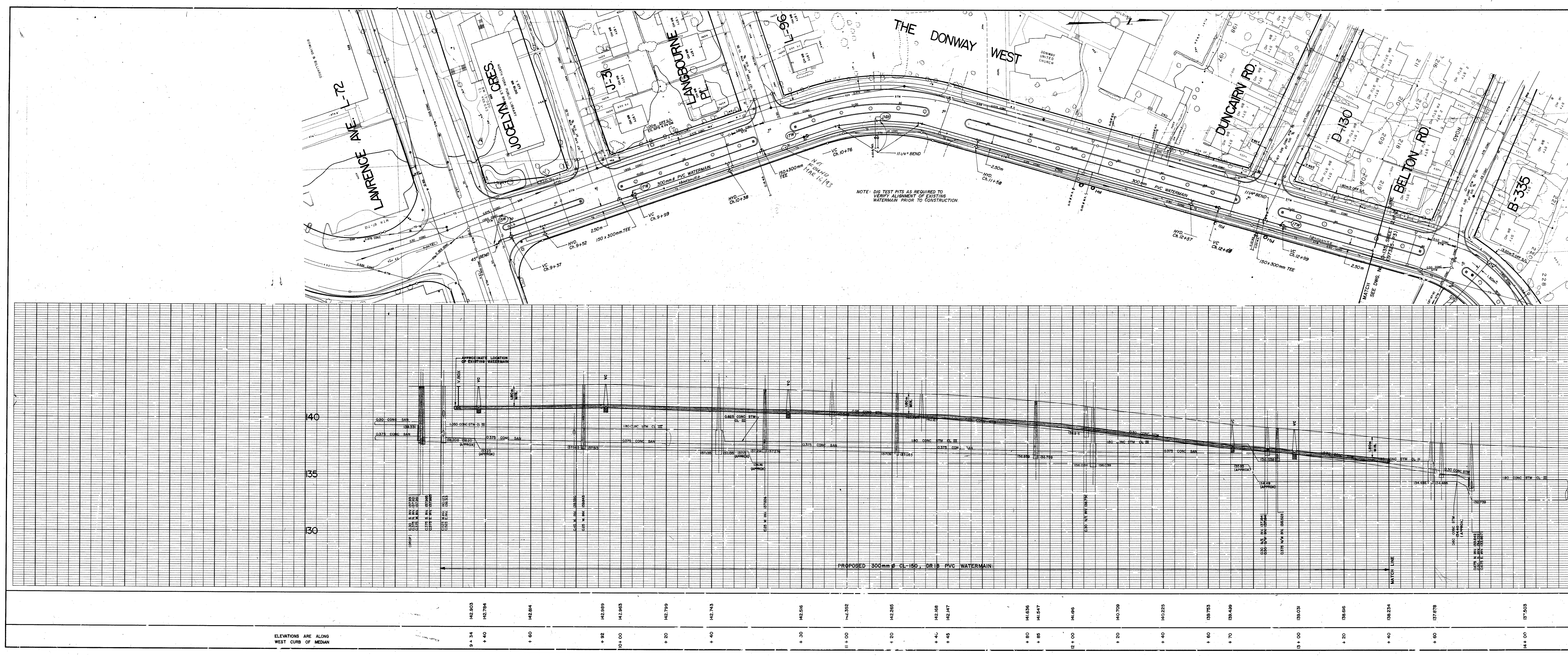
THIS REPORT WAS PREPARED FOR DONWAY CO-OPERATIVE DEVELOPMENT CORPORATION

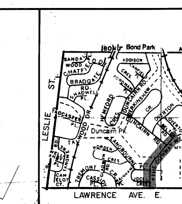
J.D.BARNES LIMITED
SURVEYING MAPPING GIS
LAND INFORMATION SPECIALISTS
140 RENFREW DRIVE, SUITE 100, MARKHAM, ON L3R 6B3
T: (905) 477-3600 F: (905) 477-3882 www.jdbarnes.com

DRAWN BY: JL	CHECKED BY: LL	JOB NO.: 19-15-129-00
		DATE: JULY 15, 2019

CAD FILE: G:\Surveys\19-15-129\00\Drawing\19-15-129-00.dgn

PLOTTED: 7/16/2019





REFERENCE BA-587, BA-2009

GENERAL NOTES

WATERMAIN LAID UNDER SEWER PIPES MUST HAVE MIN 0.5 m CLEARANCE BETWEEN PIPES.

COVER REQUIRED ON WATERMAIN IS 1.8 m MINIMUM OR AS SHOWN ON THE PROFILE. WATERMAIN ON THE PROFILE IS SHOWN FROM CENTRE LINE OF ROAD. ACTUAL DEPTH OF TRENCH MAY BE DIFFERENT THAN THE DEPTH SHOWN ON THE PROFILE.

ALL TRENCHES WITHIN METRO TORONTO ROAD ALLOWANCES ARE TO BE BACKFILLED WITH UNSHRINKABLE FILL.

ALL TRENCHES WITHIN CITY OF NORTH YORK ROAD ALLOWANCES ARE TO BE BACKFILLED WITH GRANULAR B.

WATERMAIN NOTES

1 W	LOCATE WATERMAIN, CUT IN VALVE AND CHAMBER, STD 812/813/814.
2 W	LOCATE WATERMAIN, REMOVE FITTING, CONNECT.
3 W	LOCATE WATERMAIN, CUT IN FITTING, CONNECT.
4 W	REMOVE VALVE, AND TOP 1M OF CHAMBER.
5 W	REMOVE TAPPING SLEEVE AND VALVE.
6 W	REMOVE TAPPING SLEEVE AND VALVE AND TOP 1M OF CHAMBER.
7 W	REMOVE VALVE AND TOP 1M OF CHAMBER, SALVAGE VALVE AND FRAME AND COVER FOR PICK UP BY WORKS DEPARTMENT.
8 W	REMOVE HYDRANT, SALVAGE FOR PICK UP BY WORKS DEPARTMENT.
9 W	REMOVE FITTING AND REJOIN EXIST MAIN.
10 W	TUNNEL PAST POLE OR TREE, OR UNDER EXISTING SEWERS OR WATERMAINS.
11 W	REMOVE VALVE BOX, CONSTRUCT VALVE AND CHAMBER, STD 813.
12 W	CURVE PIPE AS WATERMAIN SPEC 3.2.
13 W	PROVIDE TEMPORARY 50 MM DIA TAP WITH PRESSURE GAUGE AND SAMPLING COCK ON DEAD SIDE AND 25 MM DIA. TAP WITH PRESSURE GAUGE AND SAMPLING COCK ON LIVE SIDE. STD-1007.
14 W	INSTALL TEMPORARY BEND, FILLER PIECE AND CAP WITH HORIZONTAL 50 MM BLOW OFF. CONNECT TO EXISTING WATERMAIN AFTER DISINFECTION STD-1006.
15 W	PROVIDE TEMPORARY LOOP OVER EXISTING WATERMAIN. FINAL CONNECTIONS TO BE MADE WITHOUT BENDS.
16 W	REMOVE HYDRANT AND REUSE ON THIS PROJECT.
17 W	INSTALL 50 MM DIA. TAP WITH SAMPLING COCK AS DIRECTED IN FIELD.
18 W	LOCATE WATERMAIN, REMOVE EXISTING FITTING, INSTALL APPROPRIATE NEW FITTING AND CONNECT.
19 W	RAISE WATERMAIN AT SEWER CROSSING TO MAINTAIN 150 MM VERTICAL CLEARANCE AND INSULATE WATERMAIN IF DEPTH OF COVER IS LESS THAN 1.8 M.
20 W	RAISE WATERMAIN PARALLEL TO SEWER TO MAINTAIN 500 MM VERTICAL CLEARANCE AND INSULATE WATERMAIN IF DEPTH OF COVER IS LESS THAN 1.8 M.
21 W	INSULATE WATERMAIN.
22 W	SUPPORT GAS MAIN PER "CONSUMERS GAS" REQUIREMENTS.
23 W	SUPPORT UTILITY POLE IF REQUIRED.
24 W	INSTALL GATE VALVE AND BOX, RESTRAINED TO TEE.

METRO WATERMAIN NOTES

NOTIFY METROPOLITAN TORONTO WORKS DEPARTMENT, WATERMAIN FIELD SERVICES BRANCH, BY TELEPHONE AT 392-8857 AT LEAST 48 HOURS BEFORE EXCAVATION ON METRO ROADS SO THAT A METROPOLITAN TORONTO INSPECTOR MAY BE PRESENT.

SIMILAR NOTIFICATION IS REQUIRED TO HAVE ANY VALVE ON THE METRO WATER SYSTEM OPERATED.

VALVES ON THE METRO SYSTEM MAY BE OPERATED ONLY BY METRO PERSONNEL.

LEGEND:

——TC——	TELEPHONE CABLE
——TD——	TELEPHONE DUCT
TMH	TELEPHONE MANHOLE
⊠	PEDESTAL

NORTH YORK WATERMAIN REPLACEMENT
CONTRACT No. 971-033

PROCTOR & REDFERN LTD. PROJECT EO 97325

Proctor & Redfern Limited
Consulting Engineers and Planners
Toronto

No	DESCRIPTION	DATE	BY	CKD
4	FINALIZED AS RECORD DRAWING	MAR'98	MJR	JRR
3	WATERMAIN REPLACEMENT STA. 9+26 TO STA. 13+40	JULY'97	JRR	
2	'AS CONSTRUCTED' LAWRENCE TO DON MILLS (ROAD)	1982	RM	
1	'AS CONSTRUCTED' LAWRENCE TO DON MILLS (STORM)	1982	RM	

ALL MEASUREMENTS & ELEVATIONS ON THIS PLAN ARE IN METRES UNLESS OTHERWISE INDICATED.

CITY OF NORTH YORK
DEPARTMENT OF PUBLIC WORKS

THE DONWAY WEST
FROM: LAWRENCE AVENUE
TO: DON MILLS ROAD

REGISTERED PROFESSIONAL ENGINEER J. R. RYAN 07 Aug 97 PROVINCE OF ONTARIO
J.R. RYAN STAMP IS FOR 1997 WATERMAIN REPLACEMENT ONLY

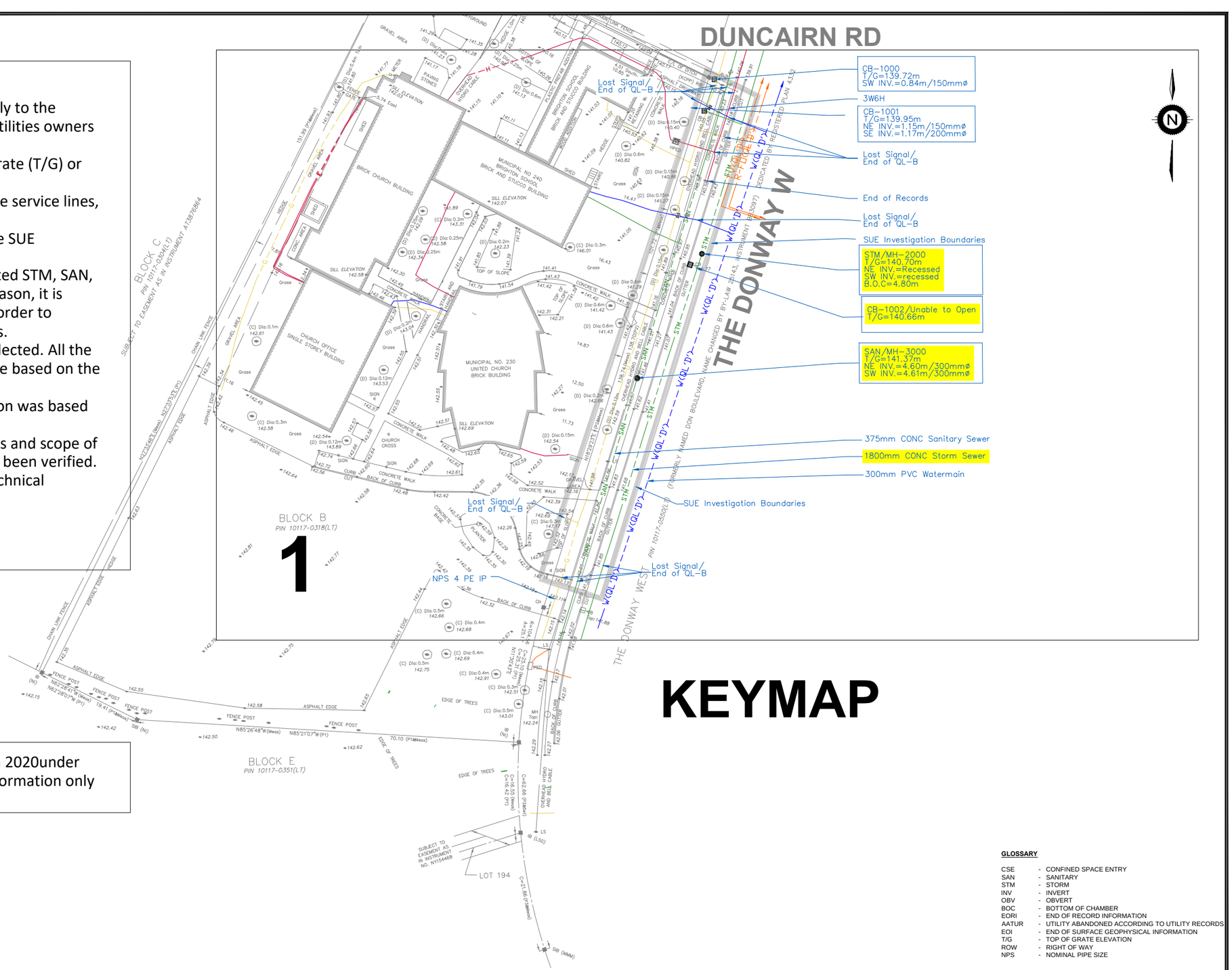
DESIGN	DATE	B.M. NO.
DRAWN	SCALE	SH 1 OF 2
CHKD. J.B.	HOR. 1 : 500	DWG. NO.
APPR.	VERT. 1 : 100	D-135

97325-P2

SUE NOTES:

1. The Project boundaries are not including the full ROW only to the center of the road. For this reason records from the main Utilities owners on The Donway West are not included.
2. All inverts are in meters and are taken from the Top of Grate (T/G) or Rim Elevation reference.
3. All the utility owners could not provide the records for the service lines, they only provided for the main lines.
4. Overhead Utilities are not within the scope of work of the SUE Investigation.
5. No update as built drawings were received, and all depicted STM, SAN, and water mains are based on these old records. For this reason, it is highly recommended to perform sonding for the sewers in order to establish and /or confirm connections for mains and laterals.
6. No records of service utilities lines were available nor collected. All the depicted service lines included in this composite drawing are based on the geophysical survey only.
7. Street Light (SL) and Traffic Lights (TL) utility lines depiction was based on the site investigation only.
8. Any data or information outside of the project boundaries and scope of work is provided for information purposes only and has not been verified.
9. Please see some SUE Investigation challenges and the Technical limitations on sheet # 2

SUE investigation of the private property was performed on 2020under project #46592. Finding of this investigation is added for information only and has not been updated.



KEYMAP

GLOSSARY

CSE	-	CONFINED SPACE ENTRY
SAN	-	SANITARY
STM	-	STORM
INV	-	INVERT
OBV	-	OBVERT
BOC	-	BOTTOM OF CHAMBER
EORI	-	END OF RECORD INFORMATION
AATUR	-	UTILITY ABANDONED ACCORDING TO UTILITY RECORDS
EOI	-	END OF SURFACE GEOPHYSICAL INFORMATION
T/G	-	TOP OF GRATE ELEVATION
ROW	-	RIGHT OF WAY
NPS	-	NOMINAL PIPE SIZE

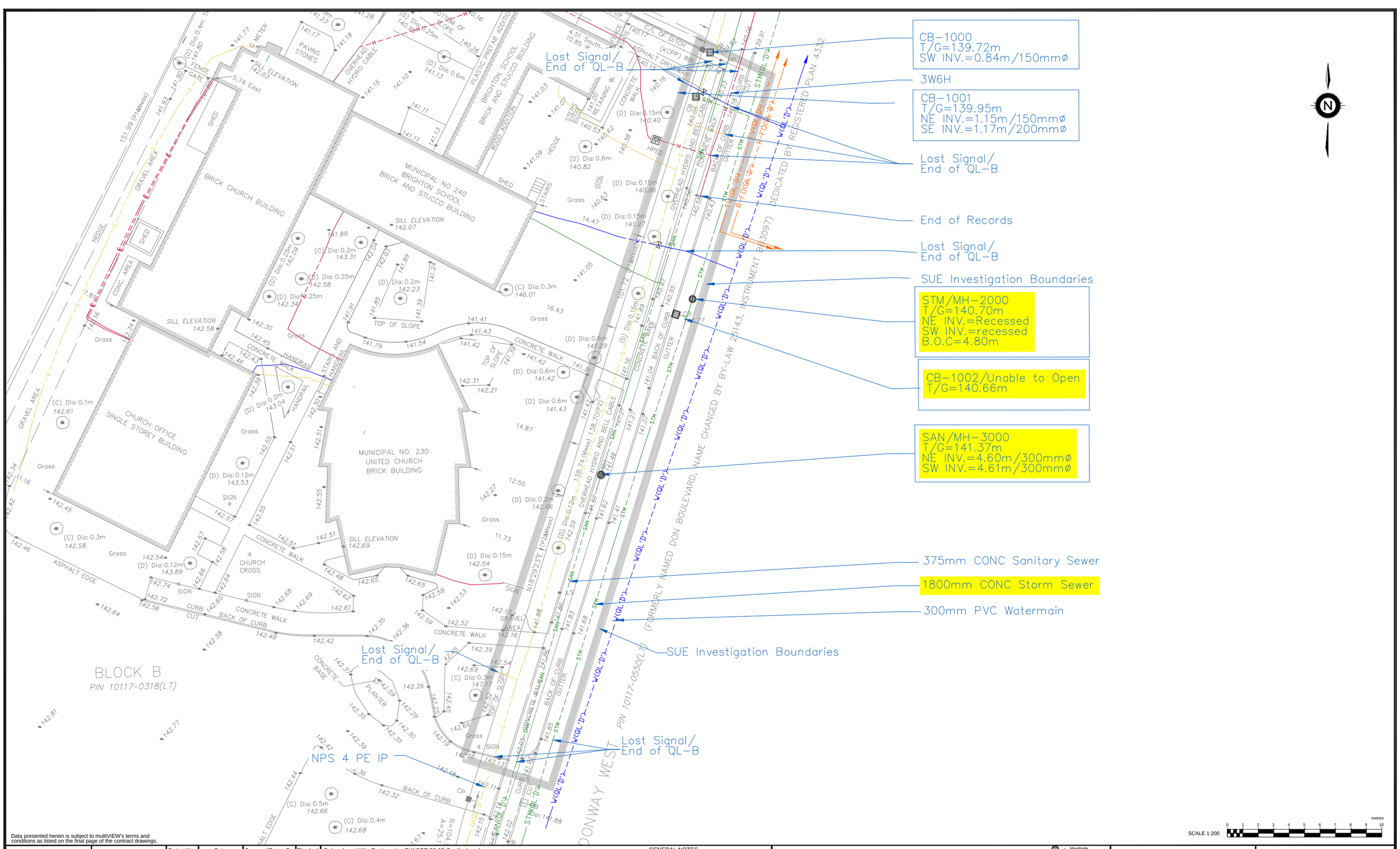
FOR: DONWAY CO-OPERATIVE DEVELOPMENT CORPORATION

PROJECT NO:52787

PROJECT NAME: 230 THE DONWAY W, NORTH YORK, ON

DATE:2023-01-17

multiview
Insight, not hindsight
Tel: 1-800-363-3116
Email: sales@multiview.ca
www.multiview.ca



Data presented herein is subject to multiVIEW's terms and conditions as listed on the final page of the contract drawings.

multiVIEW® Insight, not hindsight

THE LOCATION OF UNDERGROUND SERVICES SHOULD BE VERIFIED PRIOR TO EXCAVATION. UTILITY LOCATES ARE REQUIRED PRIOR TO ANY EXCAVATION ACTIVITY

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325 Matheson Blvd East
Mississauga, ON, L4Z1X8

Project No.:	Date:	Surveyed/Drawn By:	Checked:
52787	2023-01-17	AS/NN	

For: DONWAY CO-OPERATIVE DEVELOPMENT CORPORATION

Site: 230 THE DONWAY W, NORTH YORK, ON

Subsurface Utility Engineering CI/ASCE 38-02 Quality Levels

QL'A': Visual verification of utility location and depth using excavation methods. i.e. Hydrovac.

QL'B': Utility located using surface geophysical methods i.e. electronically applied or induced magnetic field using specific utility locate equipment or ground penetrating radar.

QL'C': Utility plotted using record information in conjunction with a visual field survey of utility furniture.

QL'D': Utility plotted using record information only. This can include oral recollection.

GENERAL NOTES

1. This information is provided for design purposes only.
2. All inverts shown on this plan by multiVIEW Locates Inc.are in meters and were measured from the top of the manhole and/or catch basin lids.
3. Subsurface utility information shown on this drawing was obtained on a best effort, best practices basis, within the technical limitations of the instrumentation.
4. Utilities shown on this map by multiVIEW Locates Inc. were located using ASCE 38-02 Quality Level 'B' methods unless otherwise noted. All other information hereon has been supplied by others and is not certified.
5. Third party information provided on these drawings are for the convenience of use but do not constitute information obtained and delivered by multiVIEW Locates Inc. during the course of this project.
6. Elevations represented for this study were obtained by multiVIEW Locates Inc. utilizing datum derived by differential GPS observations and referred to the CAN-NET Reference Network.

UTILITY CODES & LEGEND

Watermain	W(QL'D')	Sanitary Sewer	SAN
Gasmain	G(QL'D')	Gas QL-D	G(QL'D')
Hydro	H	Water QL-D	W(QL'D')
Gas Service	GS	Storm QL-D	STM(QL'D')
Storm Sewer	STM	TV QL-D	TV(QL'D')
Rogers FO (QL-D)	R-FO(QL'D')	Hydro QL-D	H(QL'D')

Manhole · Catch Basin · Fire Hydrant · Water/Gas Valve · Hand Wheel · Bell/Rogers Ped · Streetlight Pole · Transformer

ALL UTILITIES DEPICTED ARE AT "QUALITY LEVEL B" UNLESS OTHERWISE NOTED

SHEET 1 of 2

Rev. No.	Drawn By	Checked By	Date	Revision
-	-	-	-	-

Technical Limitations

1. Throughout this schedule, "multiVIEW" is the corporate entity multiVIEW Locates Inc.
2. Pipe, cable, conduit, rebar, post-tension cables, anchors, containers, vaults, tanks and similar objects that are buried under the ground or embedded within a structure are referred to in multiVIEW's terms and conditions as Buried Assets
3. Subsurface conditions such as depth to bedrock, change in soil type, presence of karst, voids, contaminated soil or ground water, residual construction or industrial debris or buried waste are referred to in multiVIEW's terms and conditions as Buried Liabilities.
4. The Client acknowledges that the laws of fundamental physics apply and acknowledge that sensing instruments can not detect all Buried Assets and Buried Liabilities. Buried Assets and Buried Liabilities which are detectable by properly deployed and operated instruments are termed Locatable Buried Assets and Locatable Buried Liabilities. Buried Assets and Buried Liabilities which are not clearly detectable in an unambiguous manner due to the laws of fundamental physics are termed Unlocatable Buried Assets and Unlocatable Buried Liabilities. multiVIEW follows industry best-practice procedures but is not responsible for determining the presence and location of Unlocatable Buried Assets or Unlocatable Buried Liabilities.
5. Instruments to locate Buried Assets use a variety of approaches to detect and infer the location of the Buried Assets. Standard pipe and cable locating instruments detect the magnetic fields associated with electrical current flowing in the Buried Asset. GPR (Ground Penetrating radar) techniques depend on the transmission of radio waves into the host material and detection of waves reflected back from the Buried Assets. Sonding methods require insertion of a source of magnetic field into the pipe or conduit and detection of the magnetic field created by source at the surface of the Work Area to locate the sonde position. For the purposes of this estimate, Locatable Buried Assets are normally characterized as:
   a. metallic pipes, cables and conduits that are capable of carrying an electrical current and that can be physically accessed to allow an energizing current source to create an electrical current in the Buried Asset of sufficient magnitude as to be detectable by standard locating instruments;
   b. metallic pipes, cables and conduits that actively carry an identifiable electric current that is sufficiently large and has suitable frequency as to be detectable by standard locating instruments;
   c. metallic and non-metallic pipes, cables, conduits, rods, bars, wires, voids, and inclusions that represent a substantive electrical contrast to the host material and are embedded in a host material transparent to radio waves such that radio waves reflected from the feature are detectable by a GPR instrument;
   d. non-metallic pipes, cables and conduits (i.e. composed of plastic, concrete, asbestos, clay, etc.) which have continuous associated tracer wire capable of carrying an electric current and that can be physically accessed to allow an energizing current source to create an electrical current in the tracer wire of sufficient magnitude as to be detectable by standard cable locating instruments;
   e. non-metallic pipes, cables and conduits which have continuous associated tracer wire capable of carrying an electric current and that naturally carries an electrical current of sufficient magnitude and suitable frequency as to be detectable by standard cable locating instruments;
   f. open pipe and conduits that can be accessed by a sonde and are sufficiently shallow to permit detectable magnetic fields to be sensed at the surface of the Work Area;

   Examples of Unlocatable Buried Assets include, but are not limited to, the following:

   g. pipes, cables and conduits whose depth of burial is too great to create and/or overlain by or in proximity to metallic material which results in signal distortion thus preventing physically measurable signals at the surface or where burial material interferes with current generation and signal emissions;
   h. normally Locatable Buried Assets situated in, or emerging from, an area which is an Inaccessible Area;
   i. normally Locatable Buried Assets with a break or breaks to the electrical continuity of any metallic pipe, cable or tracer wire (i.e. segmented lengths, corroded connections, sections of plastic repair, etc.);
   j. non-metallic pipe, cable and conduits which do not have a continuous and/or accessible associated tracer wire;
   k. the host material is opaque to radio waves;
   l. Buried Assets that are normally characterized as Locatable become Unlocatable when either ambient interfering electromagnetic fields or the material surrounding and/or enclosing and/or above the Buried Asset disrupt the energizing current or the normal operation of the sensing instrument.
6. Instruments used to locate Buried Liabilities use a variety of approaches to detect and infer the location of the Buried Liability. Magnetometers detect the distortion in the local magnetic field induced by the presence of some types of Buried Liabilities. GPR (Ground Penetrating radar) techniques depend on the transmission of radio waves into the host material and detection of waves reflected back from the Buried Liability. In some cases the lack of reflected GPR signal can be a Buried Liability indicator. Electromagnetic induction methods use electromagnetic induction to induce current flow in the subsurface and detect the resulting magnetic fields that are associated with these induced currents to identify Buried Liabilities. Electrical resistivity measurements use direct connect to pass current through host material and map out distortions in the current flow to indicate changes in the subsurface that may indicate the presence of Buried Liabilities. For the purposes of this estimate, Locatable Buried Liabilities are normally characterized as those features that will create a discernable change to the response of the measuring instrument and which differ in character from the background surrounding environment (that is, the features create an Anomalous Response) when industry best practices are followed.
7. The Client acknowledges that the laws of fundamental physics apply and that equipment is subject to measurement distortions that are site specific resulting in limited precision when determining positional coordinates. multiVIEW will use best-practice procedures but is not responsible for determining the location of Buried Assets or Buried Liabilities to an accuracy better that what is typical of normal locate instruments.
8. Determination of type composition, depth or size of the Buried Assets or Buried Liabilities is not possible and does not constitute part of this service. Identification of the type (i.e. gas, electric, communications, etc) of a specific Buried Asset is not technically possible except by visual surface appurtenance or excavation and visual exposure of the Buried Asset. Inferences that may be drawn by correlation with records and as-built drawings may be offered but such inferences are provided on a best effort basis with no guarantee of correctness.
9. Client acknowledges the critical nature of having access to energize Buried Assets to enable locating and assumes full responsibility for identifying and providing access (including provision of licensed plumbing, electrical or confined space entry personnel if required and which adhere to multiVIEW health and safety procedures) to any and all points necessary for the energization of the Buried Assets. multiVIEW accepts no responsibility for locating any Buried Asset for which access and/or appropriate workplace safety measures are not provided.
10. Individual Locatable Buried Assets are deemed Unlocatable Buried Assets where there are numerous Buried Assets clustered together either vertically and/or horizontally ("Clustered Utilities") making identification of individual elements physically impossible. multiVIEW is not responsible for identifying the individual Buried Assets in such situations.
11. Non-metallic pipe and cable (i.e. fibre-optic systems, etc.) are Unlocatable Buried Assets for standard cable locating instruments unless either an unbroken tracer wire or continuous metallic sheathing surrounding such buried plant is easily accessible from the surface. The Client must provide direct and simple access to every traceable wire or continuous metallic sheathing. Otherwise, multiVIEW accepts neither liability nor responsibility for locating such features since they are deemed Unlocatable
12. Non-metallic pipe and conduits (i.e. plastic, concrete, asbestos, clay, etc.) under pressure (i.e. water, gas, forcemain systems, etc.) are Unlocatable Buried Assets for standard cable locating instruments unless an unbroken tracer wire is attached to the pipe and this tracer wire is easily accessible from the surface. The Client must provide direct and simple access to every traceable wire.
13. Non-pressurized, non-metallic (i.e. plastic, concrete, asbestos, clay, etc.) conduits or pipe (i.e. sewers, drains, empty ducts, etc.) are Unlocatable Buried Assets unless a transmitting sonde can be inserted throughout the full length of the pipe or conduit. It is the responsibility of the Client to identify and provide direct access (including provision of licensed plumbing, electrical or confined space entry personnel if required) to any and all access points for such lines. multiVIEW accepts no responsibility for locating such lines where the Client does not provide access and/or appropriate workplace safety measures.
14. Any Buried Asset incapable of generating a reflected radar wave detectable by a GPR instrument is an Unlocatable Buried Assets.
15. All or part of a Work Area is defined as an Inaccessible Area when inaccessible for surveying Inaccessible Areas include the following: those covered by a structure or object (i.e. buildings, vehicles, debris, stockpiled snow, building materials, etc.); those covered by open water; those covered by woods, vegetation, or snow too thick to permit easy walking; those where the surface terrain slopes steeper than 1:2; those covered by snow; and, those where the safety of the operator is jeopardized (i.e. unstable footing, environmental hazards, uncontrolled roads, etc.). The final decision for defining an area as an Inaccessible Area rests with the multiVIEW Health & Safety Officer.
16. Utility data depicted on QL-D CAD lines are derived via utility owners record data and shown only for reference.

Liability Limitations

1. Location and mapping services, marks, reports and results provided by multiVIEW cannot substitute as a legally defined Buried Asset location in jurisdiction where government regulation dictates that the Buried Asset owner is solely responsible for identifying and locating their own Buried Assets. In cases where multiVIEW is legally authorized to act on behalf of the Buried Asset owner to locate the owner's Buried Assets, any results provided by multiVIEW will clearly identify that the Buried Asset location is legally authorized on all records, documents, and reports.
2. multiVIEW's markings of Buried Asset or Buried Liability locations are provided as information to be input into the Client's decision making process and the provision of this information does not relieve the Client, or any other person, party, or corporation, from liability for damages for personal injury including death, or for property damage or liability caused to or from any Buried Asset or Buried Liability, within the Work Area.
3. Cables carrying DC voltages and/or small diameter cables (i.e. fire alarm or security systems, remote signal cables, inaccessible tracer wire, perfectly balanced AC cables, etc.) can only be detected by methods which create electrical currents and signals in the cables. Where a sensitive or dangerous connection is involved, the Client must provide qualified personnel to isolate and enable direct access to these systems. The Client is responsible for defining the impact of locating signals on sensitive electronics. multiVIEW accepts no responsibility for any damage to plant, or any third party, caused by locating signals. Technical information about locating signals is available from multiVIEW upon request.
4. multiVIEW is not liable for damages resulting from physical exposure of any Buried Assets or Buried Liability by the Client, its representatives, their sub-contractors or any other person or corporation.
5. multiVIEW will not accept any liability regarding inaccurate estimates of utility depth secured only by electronic means since multiVIEW recommends exposure of any such issues by vacuum excavating if any such depth information is critical to the design, engineering or construction of subsequent infrastructure.
6. multiVIEW accepts no responsibility and is not liable for damages suffered by any third party as a result of decisions or actions based on the performance of the statement of work by multiVIEW.
7. multiVIEW accepts no responsibility and is not liable for conduit blockage, or restoration of the site to pre-survey conditions, as a result of survey practices needed to fulfill the objectives of the Service provided.
8. The completeness of work carried out by multiVIEW is based on information provided by the Client at or prior to the earlier of the time of issuance of this Estimate. If the scope work or size and/or extent of the Work Area changes, a signed Change Order must be issued so that scope of work can be adjusted to address Client requirement changes. Documents and maps provided by multiVIEW are the definitive means legally defining the extent of the Work Area investigated.
9. multiVIEW accepts no responsibility for locating Buried Assets or Buried Liabilities outside the limit of the Work Area or in the Inaccessible Areas.
10. Except as written in this contract, multiVIEW disclaims any and all promises, representations, warranties and covenants, express, implied, statutory or otherwise.
11. multiVIEW shall not be liable for any amount in excess of the fees paid by the Client to multiVIEW for the work described in this estimate on account of any loss, injury, death, or damage whether resulting directly or indirectly to a person or property irrespective of the cause or origin of such loss, injury, death or damage including, without limitation, loss, injury, death or damage attributable to the negligence of multiVIEW, its employees and agents in the performance or non-performance of the Service.
12. In any action, claim, loss or damage arising out of the work for which this estimate is provided, the Client agrees that multiVIEW Locates Inc.'s liability will be 'several' and not 'joint and several' and the Client may only claim payment from multiVIEW Locates Inc of multiVIEW Locates Inc.'s proportionate share of the total liability based on degree of fault. Any action against multiVIEW Locates Inc must be commenced on or before the date which is the earlier of: i) eighteen months from the date on which the work in this estimate is completed and, ii) the date by which an action must be commenced under any applicable legislation other than limitation legislation. In no event shall multiVIEW Locates Inc be liable to the Client whether the claim be in tort, contract or otherwise, for an amount in excess of the fees paid by the Company for the services work provided. In no event shall multiVIEW Locates Inc be liable to the Client, whether a claim be in tort, contract or otherwise for any consequential, indirect, lost profit or similar damages, or failure to realize expected savings. multiVIEW Locates Inc will use all reasonable efforts to complete within any agreed upon timeframe the performance of the services described herein; however, multiVIEW Locates Inc shall not be liable for failures or delays in performance that arise from causes beyond its control, including the untimely performance or non-performance by the Client of its obligations.

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www.multiVIEW.ca
325 Matheson Blvd East
Mississauga, ON, L4Z1X8

THE LOCATION OF UNDERGROUND SERVICES SHOULD BE VERIFIED PRIOR TO EXCAVATION. UTILITY LOCATES ARE REQUIRED PRIOR TO ANY EXCAVATION ACTIVITY

Project No.:	Date:	Surveyed/Drawn By:	Checked:
52787	2023-01-17	AS/NN	-

For: DONWAY CO-OPERATIVE DEVELOPMENT CORPORATION

Site: 230 THE DONWAY W, NORTH YORK, ON

TERMS & CONDITIONS

SHEET 2 of 2

Rev. No.	Drawn By	Checked By	Date	Revision
-	-	-	-	-

Appendix B – Water Demand Calculations

Domestic Water Demand Calculations

PROJECT: **230 and 240 The Donway West**
PROJECT No: **ALL-00256815-B0**
CREATED BY: **25-Oct-23**
CHECKED BY **25-Oct-23**

Average Day

City of Toronto Sewer and Watermain manual Jan 2021

Apartment Per Capita Demand =	191	L/caps/d	0.002210648	L/cap/s
Row Housing Per Capita Demand =	320	L/caps/d	0.003703704	L/cap/s

City of Toronto Sewer and Watermain manual Jan 2021

Unit Type	Population Density	
1 bedroom	1.4	
2 bedroom	2.1	
3 bedroom	3.1	
4 bedroom	4.0	
Townhouse	2.7	
Church	86	Cap/ha

City of Toronto Sewer and Watermain manual Jan 2021

Max Day Factor	1.65	(Residential)
Max Day Factor	1.1	(Institutional)

Site Stats taken from Architecture unfoldeded Site Plan dwg

Building	Units	Population	Rounded Pop.	Average Day Flow (L/s)	Max. Day Flow (L/s)
1 bedroom	160	224	224	0.495	0.817
2 bedroom	116	243.6	244	0.539	0.890
3 bedroom	32	99.2	100	0.221	0.365
4 bedroom	0	0	0	0.000	0.000
Townhouse	0	0	0	0.000	0.000
Totals:	**308**	**566.8**	**568**	**1.26**	**2.07**

	Area	Population	Rounded Pop.	Average Day Flow (L/s)	Max. Day Flow (L/s)
Church	**1.05**	90.3	91	0.201	**0.221**

Total Church and Residential	**657.10**	**659.00**	**1.46**	**2.29**

Fire Flow Calculation

PROJECT: **230 and 240 The Donway West**
PROJECT No: **ALL-00256815-B0**
CREATED BY: **26-Oct-23**
CHECKED BY **26-Oct-23**

Fire Underwriters Survey 2020 Water Supply for Public Fire Protection - Page 19

1 **Estimate of the required fire flow for a given area can be determined by the formula:**

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

Where F = required fire flow in litres/minute
C = coefficient related to the type of construction
A = total floor area in square meters

For non-combustible construction: C =	0.8
Total area : A =	5,906 m²

Therefore F = 220 x 0.8 x (A)½ =	**13,526**	**L/m**

Fire Underwriters Survey 1999 Water Supply for Public Fire Protection - Page 24

2 **Reduction for fire hazard**

Combustible Contents	0%	
(1) 0% =	**13,526.06**	**L/m**

3 **Reduction for Sprinkler protection**

Sprinkler	30%	
	4,058	**L/m**

4 **Addition for Structures exposed within 45m**

10.1m to 20m	15%	
	2,029	**L/m**

5 **Total Estimated Fire flow** **11,497 L/m**

The estimated fire flow is approx.	**12,000**	**L/m**
	200	**L/s**

Fire Flow Calculation

PROJECT: **230 and 240 The Donway West**
PROJECT No: **ALL-00256815-B0**
CREATED BY: **25-Oct-23**
CHECKED BY **25-Oct-23**

$$Q_F = 29.84 \times c \times d^2 \times \sqrt{p}$$

where,
Q_F = total residual flow during the test, gpm
c = coefficient of discharge 0.9
d = diameter of the outlet, inches 2.5
p = pitot pressure (velocity head), psi 60

QF =		1300	gpm

$$Q_R = Q_F \times (h_r \div h_f)^{0.54}$$

where,
Q_R = flow predicted at the desired residual pressure, gpm
hr = pressure drop to the desired residual pressure, psi 66-20 = 46
hf = pressure drop measured during the test, psi 66 - 63 = 3

QR =		5679	gpm
		358.3	L/s

architectureunfolded | 368 Dufferin Street, Suite 201B, Toronto, ON M6K 1Z8. +1 (416) 601 5416

October 17, 2023

Re: Project: 230 The Donway West
Options for Homes.

Our Project No.: 18-16

To: EXP
220 Commerce Valley Drive West
Ste 110, Markham, ON, L3T 0A8

Attn: Steve Park

Please accept this letter as confirmation of the following:

The podium is part of the proposed building design.

The construction type is non-combustible with a minimum fire resistance rating of 2 hours in accordance with OBC 3.2.2.83 and 3.2.2.1.4.

The entire building will be sprinklered in accordance to OBC and NFPA 13 and/or any other NFPA requirements; The sprinkler system will be designed by a licensed fire protection engineer.

All vertical openings and exterior vertical communications will be properly protected in accordance with the NBC.

I trust this is satisfactory.

Yours truly,

Eduardo A Ortiz, Dipl. Arch., OAA, LEED AP

Hydrant Flow Test Report

SITE NAME: **The Donway Covenant United Church**

SITE ADDRESS / MUNICIPALITY: **230 The Donway West North York, ON**

TEST HYDRANT LOCATION : **42m East of 240 The Donway West Hydrant ID# HY4027720**

BASE HYDRANT LOCATION: **225 The Donway West Hydrant ID# HY4027900**

TEST BY: Luzia Wood

TEST DATE: May 08,2023

TEST TIME: 8:39AM

TEST DATA

FLOW HYDRANT — Pipe Diam. (in / mm): 300 P.V.C.

	PITOT 1	PITOT 2
SIZE OPENING (inches):	2.5	2.5
COEFFICIENT (**note 1**):	0.90	0.90
PITOT READING (psi):	60	42 / 42
FLOW (usgpm):	**1300**	**2175**

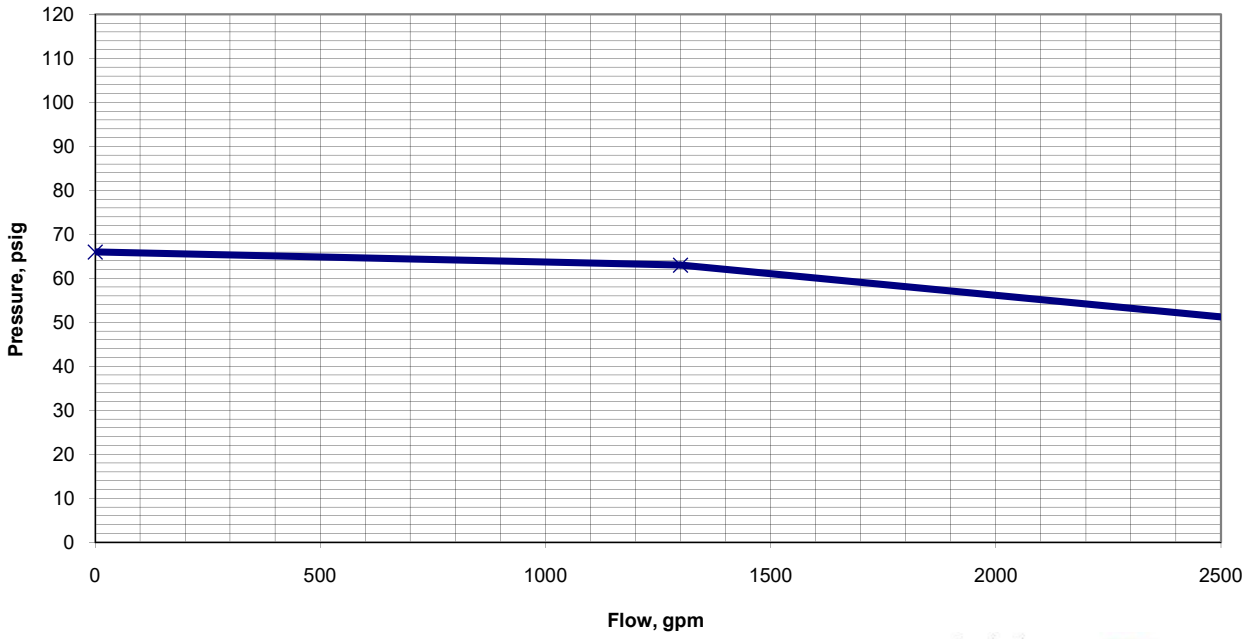
THEORETICAL FLOW @ 20 PSI 5677

BASE HYDRANT — Pipe Diam. (in / mm): 300 P.V.C.

STATIC READING (psi): 66 RESIDUAL 1 (psi): 63 RESIDUAL 2 (psi): 58

REMARKS:

NOTE 1: Conversion factor of .90 used for flow calculation based on rounded and flush internal nozzle configuration. No appreciable difference in pipe invert between flow and base hydrants.



L & D Waterworks Inc.
491 Port Maitland Rd
Dunnville, ON N1A 2W6
Ph: 289.684.6747

Appendix C – Sanitary Demand Calculations

AQUAFLOW TECHNOLOGY INC

226 WILKINSON ROAD, BRAMPTON, ONTARIO L6T 4N7
(905) 792-8169

COMBINED & STORM SEWER VIDEO INSPECTION REPORT
& DYE TEST

150 MM - 375 MM DIAMETER COMBINED SEWER
&
100 MM - 1800 MM DIAMETER STORM SEWERS

FOR

230 THE DONWAY WEST
(THE DONWAY COVENANT UNITED CHURCH)

CITY OF TORONTO

FILE # 23260

CONSULTANT: EXP
CONSULTANT'S REPRESENTATIVE: STEVE PARK. P. ENG.

TUESDAY, SEPTEMBER 12TH, 2023

INDEX:

SEWER CLEANING, VIDEO INSPECTION, INSITU REPAIRS &
MUNICIPAL ENGINEERING SERVICES

2. SUMMARY REPORT AND CONCLUSIONS:

The Dye Test work & video inspection of the combined & storm sewers for 230 The Donway West was carried out by Steven Lostracco, P. Eng., of Aquaflow Technology Inc., and was authorized by Steve Prak of EXP. All combined & storm sewers were power flushed immediately prior to the video inspection. The video inspections were carried out on Tuesday, September 12th, 2023.

COMBINED & STORM SEWERS VIDEO INSPECTED:

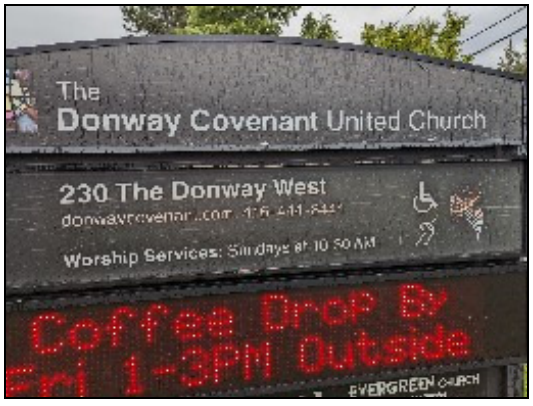
FILE # 23260: 150 - 375 mm diameter Combined sewers inspected

100 mm - 1800 mm diameter Storm sewers inspected

The purpose of this report was to determine if the site drains into the municipal storm sewers or combined sewer system. The dye test & video inspections confirmed the following. For detailed comments on each sewer run, please refer to the attached sewer TV Inspection reports.

1. The sump pump for building #5 (Sump Pump-2) connects to the 375 mm combined sewer system on The Donway West. Blue dye was pumped into the sump pump which was observed in the lateral and also in the main 375 mm combined sewer.

2. All roof drains for buildings 1, 2, 3, 4 + 5, including the sump pump for building 3 (Sump Pump-1) connect to the 1800 mm storm sewer on The Donway West. See photos below and attached video inspections.



1. 230 The Donway West

2. 230 The Donway West

3. 230 The Donway West

4. 230 The Donway West

5. BLDG 5, Sump Pump -2
connects to combined sewer

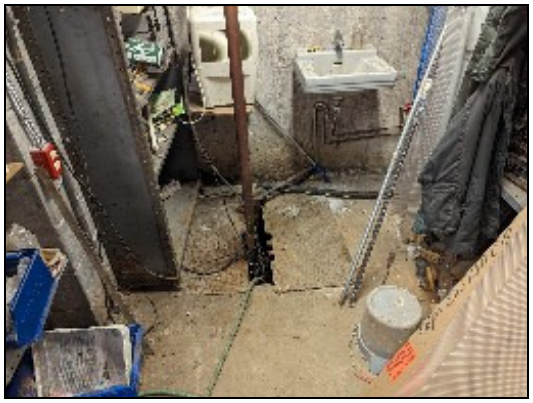
6. Combined sewer lateral (cleanouts)
CO-COMB-1 on grass

7. Two downspouts for BLDG-3

8. Two downspouts for BLDG-3

9. Flat roof - BLDG-4

10. Downspout BLDG-3 drains onto Flat roof of BLDG-4



11. BLDG-3, sump pump-1

12. BLDG-3, sump pump-1 outlet pipe

13. Roof BLDG-3

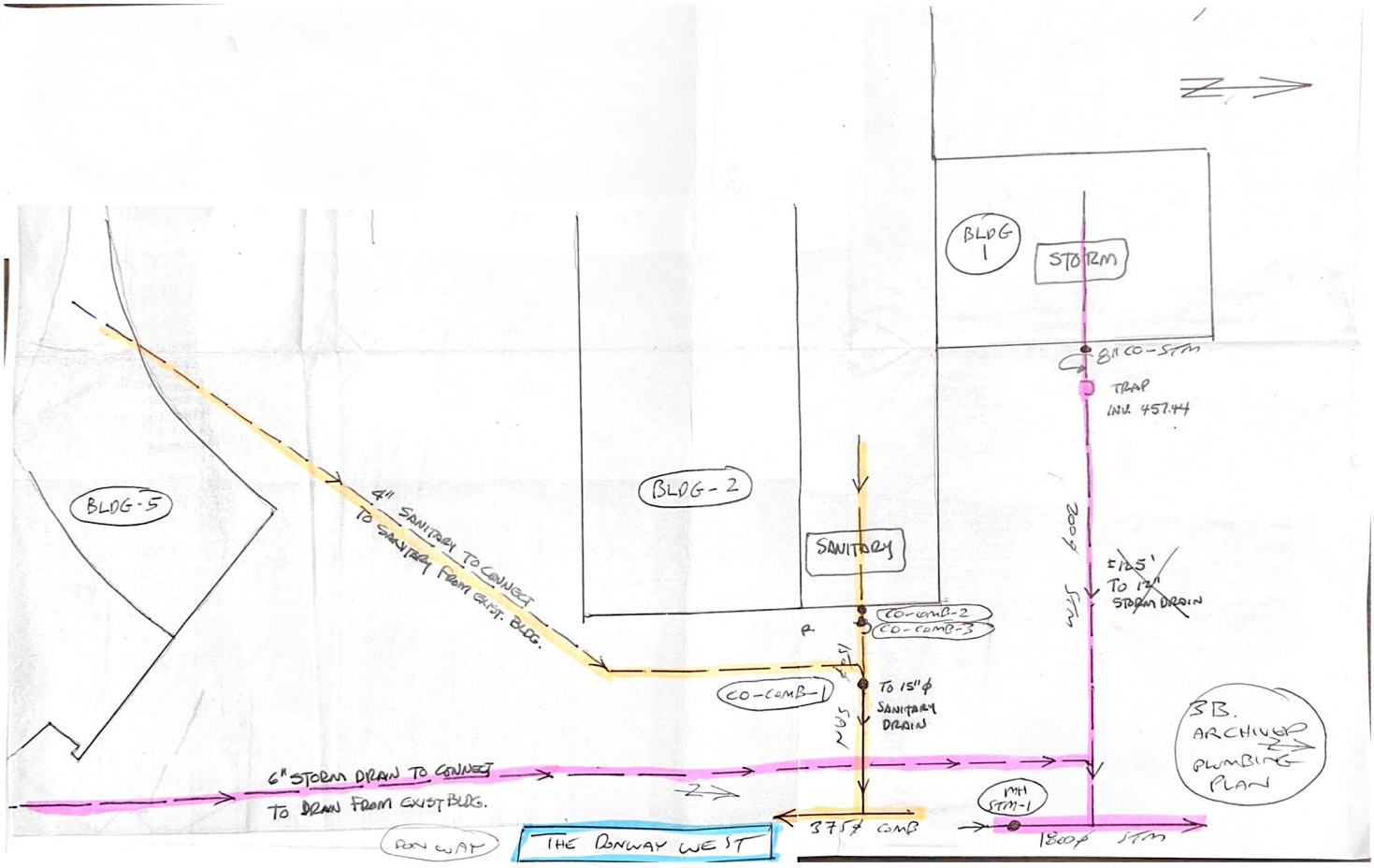
14. Roof BLDG-5

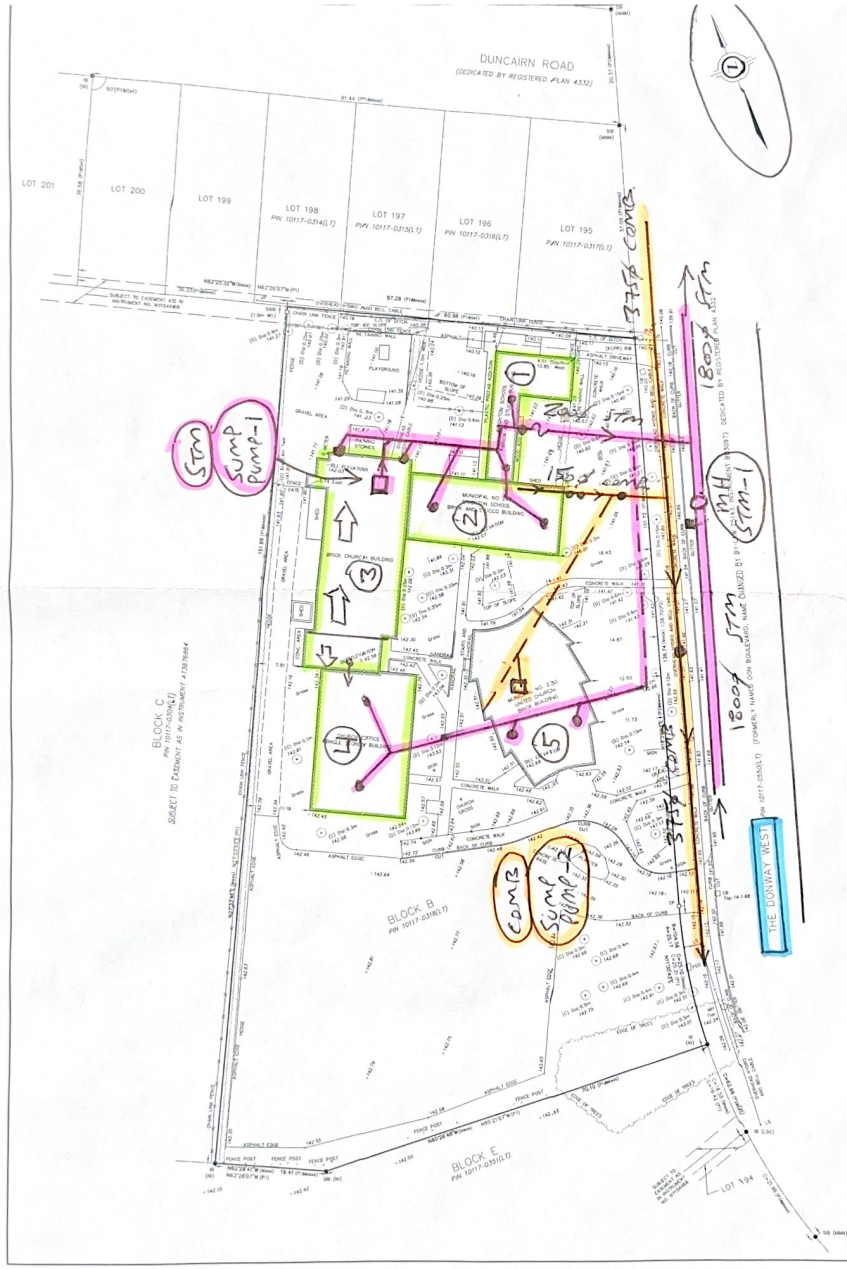
15. Flat roof - BLDG-5

16. Flusher truck with blue dye

Report Prepared by:

Steven Lostracco, P. Eng.


BLDG 1
STORM
8" CO-STM
TRAP
INV. 457.44
BLDG-5
BLDG-2
4" SANITARY TO CONNECT TO SANITARY FROM EXIST. BLDG.
SANITARY
200'
E 125'
To 12" STORM DRAIN
CO-COMB-2
CO-COMB-3
CO-COMB-1
To 15"ϕ SANITARY DRAIN
6" STORM DRAIN TO CONNECT TO DRAIN FROM EXIST BLDG.
3B. ARCHIVES PLUMBING PLAN
INV. STM-1
375ϕ COMB
1800ϕ STM
RON WAY
THE RONWAY WEST



CITY OF TORONTO
(FORMERLY CITY OF NORTH YORK)

SCALE 1 : 300

39 sewer dye test

METRIC

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

DISTANCE NOTE

DISTANCES SHOWN ON THIS PLAN ARE GROUND LEVEL DISTANCES. TO CONVERT TO GRID DISTANCE, MULTIPLY BY COMBINED SCALE FACTOR 0.999980

BENCH MARK

ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO THE CANADIAN GEODETIC VERTICAL DATUM 1928, PRE 1978 ADJUSTED AND ARE DERIVED FROM THE CITY OF TORONTO BENCH MARK No. 123198S314 HAVING A PUBLISHED ELEVATION OF 142.654 METRES.

BEARING NOTE

BEARING SHOWN HEREON ARE ASTRONOMIC AND ARE REFERRED TO THE WESTERLY LIMIT OF THE DONWAY WEST, AS SHOWN ON BA PLAN 64BA2009 HAVING A BEARING OF N19°28' 23"E

ROTATION NOTE

FOR BEARING COMPARISONS, A ROTATION OF 00°23'37" COUNTER-CLOCKWISE WAS APPLIED TO BEARINGS ON REGISTERED PLAN 4332.

LEGEND

□	DENOTES SURVEY MONUMENT SET
■	DENOTES SURVEY MONUMENT FOUND
SIB	DENOTES STANDARD IRON BAR
SSIB	DENOTES SHORT STANDARD IRON BAR
SSIB×	SET DUE TO A LACK OF OVERBURDEN AND/OR DUE TO THE PROXIMITY OF UNDERGROUND UTILITIES PER ACCORDANCE WITH O.REG.525/91 5.1(1)(4)
IB	DENOTES IRON BAR
RIB	DENOTES ROUND IRON BAR
CC	DENOTES CUT CROSS
CP	DENOTES CONCRETE PIN WITH OLS IDENTIFICATION WASHER
WIT	DENOTES WITNESS
NI	DENOTES NOT IDENTIFIED
CB	DENOTES CATCHBASIN
P1	DENOTES REGISTERED PLAN 4332
P2	DENOTES 64BA-2009
P3	DENOTES SRP'R BY LAND SURVEY GROUP DATED DECEMBER 22, 2015
MMM	DENOTES MARSHALL MACKLIN MONAGHAN, OLS
LSG	DENOTES LAND SURVEY GROUP, OLS
KCPP	DENOTES KANCI, CODNI, PHELAN AND PORTER, OLS
HYDO	DENOTES HYDRO PEDESTAL
G METER	DENOTES GAS METER
MH	DENOTES MANHOLE
HP	DENOTES HYDRO POLE
LS	DENOTES LIGHT STANDARD
PED	DENOTES TELEPHONE PEDESTAL
WV	DENOTES WATER VALVE
(D) Dia 0.5m	DENOTES DECIDUOUS TREE, DIAMETER 0.5 METER
(C) Dia 0.5m	DENOTES CONIFEROUS TREE, DIAMETER 0.5 METER

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM
2. THE SURVEY WAS COMPLETED ON 25th JUNE 2018.

JULY 16, 2019
DATE

GREG MCDONALD
ONTARIO LAND SURVEYOR

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
2083250

THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED COPY OF THE ORIGINAL ISSUED BY THE SURVEYOR IN ACCORDANCE WITH Regulation 1026, Section 29(3)

PART 2 - SURVEY REPORT

DESCRIPTION OF LAND

230 The Donway West, Toronto
All Of Block B, Registered Plan 4332, City Of Toronto
Being All Of PIN 10117-0318
REGISTERED EASEMENTS AND/OR RIGHTS-OF-WAY
Subject To Easement As In Instrument No. NY154468
COMMENTS
Chain Link Fence Exist Near The Northeast And Northwest Limit As Shown On The Plan.
Hedge Exist Near The Northwest Limit As Shown On The Plan.
BOUNDARY FEATURES
Building Ties To Concrete Foundation Limit, As Shown On The Plan
ZONING COMPLIANCE
Not Reviewed

THIS REPORT WAS PREPARED FOR DONWAY CO-OPERATIVE DEVELOPMENT CORPORATION

J.D.BARNES LIMITED
LAND INFORMATION SPECIALISTS
INGENUITY DRIVE, SUITE 101, MARKHAM, ON L3R 0B1
T. (905) 477-3600 F. (905) 477-1982 www.jdbarnes.com

DRAWN BY: JL	CHECKED BY: GL	JOB NO.: 19-15-129-00
		DATE: JULY 16, 2019

CAD FILE: G:\Survey\19-15-129\00\Drawing\19-15-129-00.dgn
PLOTTED: 7/16/2019

No.	Date	Street	Start MH	Finish MH	Surv'd Len	Video
1	2023-09-12	230 DONWAY WEST - STORM	STM-1	NORTH	7.2 m	23260
2	2023-09-12	230 DONWAY WEST - STORM	STM-1X	NORTH	7.2 m	23260
3	2023-09-12	230 DONWAY WEST - STORM	STM-1XX	NORTH	7.2 m	23260
4	2023-09-12	230 DONWAY WEST - STORM	STM-1XXX	NORTH	7.2 m	23260
5	2023-09-12	230 DONWAY WEST - COMBINED	COMB-1	MAIN	10.0 m	23260

Survey No:	1	Date:	2023-09-12	Time:	10:12
PipeLenRef:	STM-1 X	Status:	Abandoned	Surveyed Length:	007.2 m
Contractor:	AQUAFLOW	Contract No:	1	Job No:	1
Catchment:	-	Division:	-	District:	-
Street:	230 DONWAY WEST - STORM			City:	TORONTO
Start MH:	STM-1	Location:	WEST SIDE ROAD - DONWAY WEST		
Depth:	00.00 m	Cover:	000.00 m	Invert:	000.00 m
Finish MH:	NORTH	Location:	FURTHER NORTH ON DONWAY WEST		
Depth:	00.00 m	Cover:	000.00 m	Invert:	000.00 m
PipeLength:	2.40 m	Size (Dia):	1800 mm	Total Length:	100.0 m
Use:	Storm	Material:	Concrete	Shape:	Circular
Lining:		Purpose:	Assessment	Category:	Not Known
Weather:	Light Rain	Location Code:	Urban Street	Direction:	Downstream
				Pre-cleaning:	Yes
Year Laid:		Location:			
Video Tape:	23260	Comments:			

Structural Grade:	1	Total Score:	0	Peak Score:	0	Mean Score:	0
Operational Grade:	1	Total Score:	0	Peak Score:	0	Mean Score:	0

Index	Pho	Dist	CD	Code	Description/Remarks	Dim	Clock	Int	Score
0:00:11		000.0		ST	Start of Survey Downstream (with flow)				
0:00:16		000.0		MH	Manhole STM-1				
0:00:20		000.0		WL	Water Level			05%	
0:01:18		006.7		CN	Connection	200mm	10		
0:01:22		007.1		GO	General Observation PUMPING BLUE DYE, BLDG #1, #2, #3				
0:01:45		007.2		GO	General Observation HEAVY RAIN - HVY FLOW -END OF INSPECTION				
0:01:46		007.2		SA	Survey Abandoned -				

Survey No:	2	Date:	2023-09-12	Time:	11:01
PipeLenRef:	STM-1X X	Status:	Abandoned	Surveyed Length:	007.2 m
Contractor:	AQUAFLOW	Contract No:	1	Job No:	1
Catchment:	-	Division:	-	District:	-
Street:	230 DONWAY WEST - STORM			City:	TORONTO
Start MH:	STM-1X	Location:	WEST SIDE ROAD - DONWAY WEST		
Depth:	00.00 m	Cover:	000.00 m	Invert:	000.00 m
Finish MH:	NORTH	Location:	FURTHER NORTH ON DONWAY WEST		
Depth:	00.00 m	Cover:	000.00 m	Invert:	000.00 m
PipeLength:	2.40 m	Size (Dia):	1800 mm	Total Length:	100.0 m
Use:	Storm	Material:	Concrete	Shape:	Circular
Lining:		Purpose:	Assessment	Category:	Not Known
Weather:	Light Rain	Location Code:	Urban Street	Direction:	Downstream
				Pre-cleaning:	Yes
Year Laid:		Location:			
Video Tape:	23260	Comments:			

Structural Grade:	1	Total Score:	0	Peak Score:	0	Mean Score:	0
Operational Grade:	1	Total Score:	0	Peak Score:	0	Mean Score:	0

Index	Pho	Dist	CD	Code	Description/Remarks	Dim	Clock	Int	Score
0:00:12		000.0		ST	Start of Survey Downstream (with flow)				
0:00:18		000.0		MH	Manhole STM-1X				
0:00:23		000.0		WL	Water Level			05%	
0:00:29		000.0		GO	General Observation RE-CCTV FOR ADDITIONAL DYE TESTING				
0:01:21		007.2		CN	Connection	200mm	10		
0:01:29		007.2		GO	General Observation PUMPING DYE, BLDG #4				
0:01:37		007.2		SA	Survey Abandoned END OF INSPECTION				

Survey No:	3	Date:	2023-09-12	Time:	11:25
PipeLenRef:	STM-1XX X	Status:	Abandoned	Surveyed Length:	007.2 m
Contractor:	AQUAFLOW	Contract No:	1	Job No:	1
Catchment:	-	Division:	-	District:	-
Street:	230 DONWAY WEST - STORM			City:	TORONTO
Start MH:	STM-1XX	Location:	WEST SIDE ROAD - DONWAY WEST		
Depth:	00.00 m	Cover:	000.00 m	Invert:	000.00 m
Finish MH:	NORTH	Location:	FURTHER NORTH ON DONWAY WEST		
Depth:	00.00 m	Cover:	000.00 m	Invert:	000.00 m
PipeLength:	2.40 m	Size (Dia):	1800 mm	Total Length:	100.0 m
Use:	Storm	Material:	Concrete	Shape:	Circular
Lining:		Purpose:	Assessment	Category:	Not Known
Weather:	Light Rain	Location Code:	Urban Street	Direction:	Downstream
				Pre-cleaning:	Yes
Year Laid:		Location:			
Video Tape:	23260	Comments:			

Structural Grade:	1	Total Score:	0	Peak Score:	0	Mean Score:	0
Operational Grade:	1	Total Score:	0	Peak Score:	0	Mean Score:	0

Index	Pho	Dist	CD	Code	Description/Remarks	Dim	Clock	Int	Score
0:00:15		000.0		ST	Start of Survey Downstream (with flow)				
0:00:20		000.0		MH	Manhole STM-1XX				
0:00:24		000.0		WL	Water Level			05%	
0:00:30		000.0		GO	General Observation +/-1800 MM STORM				
0:00:30		000.0		GO	General Observation ADDITIONAL DYE TESTING				
0:00:49		007.2		CN	Connection	200mm	10		
0:01:24		007.2		GO	General Observation PUMPING BLUE DYE- BLDG 5				
0:01:34		007.2		SA	Survey Abandoned END OF INSPECTION				

Survey No:	4	Date:	2023-09-12	Time:	12:13
PipeLenRef:	STM-1XXX X	Status:	Abandoned	Surveyed Length:	007.2 m
Contractor:	AQUAFLOW	Contract No:	1	Job No:	1
Catchment:	-	Division:	-	District:	-
Street:	230 DONWAY WEST - STORM			City:	TORONTO
Start MH:	STM-1XXX	Location:	WEST SIDE ROAD - DONWAY WEST		
Depth:	00.00 m	Cover:	000.00 m	Invert:	000.00 m
Finish MH:	NORTH	Location:	FURTHER NORTH ON DONWAY WEST		
Depth:	00.00 m	Cover:	000.00 m	Invert:	000.00 m
PipeLength:	2.40 m	Size (Dia):	1800 mm	Total Length:	100.0 m
Use:	Storm	Material:	Concrete	Shape:	Circular
Lining:		Purpose:	Assessment	Category:	Not Known
Weather:	Light Rain	Location Code:	Urban Street	Direction:	Downstream
				Pre-cleaning:	Yes
Year Laid:		Location:			
Video Tape:	23260	Comments:			

Structural Grade:	1	Total Score:	0	Peak Score:	0	Mean Score:	0
Operational Grade:	1	Total Score:	0	Peak Score:	0	Mean Score:	0

Index	Pho	Dist	CD	Code	Description/Remarks	Dim	Clock	Int	Score
0:00:11		000.0		ST	Start of Survey Downstream (with flow)				
0:00:15		000.0		MH	Manhole STM-1XXX				
0:00:19		000.0		WL	Water Level			05%	
0:00:30		000.0		GO	General Observation PIPE +/-1800 MM				
0:00:50		007.2		CN	Connection	200mm	10		
0:01:06		007.2		GO	General Observation WEEPING TILE DYE TEST INSPECTION				
0:01:13		007.2		GO	General Observation SUMP PUMP-1 (BLDG-3) CONNECTS TO STM				
0:01:13		007.2		SA	Survey Abandoned -				

Survey No:	5	Date:	2023-09-12	Time:	12:25
PipeLenRef:	COMB-1 X	Status:	Completed	Surveyed Length:	010.0 m
Contractor:	AQUAFLOW	Contract No:	1	Job No:	1
Catchment:	-	Division:	-	District:	-
Street:	230 DONWAY WEST - COMBINED			City:	TORONTO
Start MH:	COMB-1	Location:	PROPERTY LINE CLEANOUT		
Depth:	00.00 m	Cover:	000.00 m	Invert:	000.00 m
Finish MH:	MAIN	Location:	DON WAY 375 MM COMBINED SEWER		
Depth:	00.00 m	Cover:	000.00 m	Invert:	000.00 m
PipeLength:	4.00 m	Size (Dia):	0150 mm	Total Length:	010.0 m
Use:	Combined	Material:	Polyvinyl Chloride	Shape:	Circular
Lining:		Purpose:	Assessment	Category:	Not Known
Weather:	Light Rain	Location Code:	Urban Street	Direction:	Downstream
				Pre-cleaning:	Yes
Year Laid:		Location:			
Video Tape:	23260	Comments:			

Structural Grade:	1	Total Score:	0	Peak Score:	0	Mean Score:	0
Operational Grade:	1	Total Score:	0	Peak Score:	0	Mean Score:	0

Index	Pho	Dist	CD	Code	Description/Remarks	Dim	Clock	Int	Score
0:00:11		000.0		ST	Start of Survey Downstream (with flow)				
0:00:15		000.0		MH	Manhole COMB-1				
0:00:20		000.0		WL	Water Level			00%	
0:01:29		005.0		GO	General Observation VERTICAL 100 MM PVC STACK PIPE AT P.L.				
0:01:32		005.0		GO	General Observation WYE INTO MAIN DRAIN +/-150 MM DIA.				
0:01:36		005.0		GO	General Observation VIEW OF COMBINED SEWER LATERAL				
0:01:38		005.0		GO	General Observation SUMP PUMP-2 (BLDG-5) SANCTUARY				
0:02:06		005.0		GO	General Observation VIEW OF BLUE DYE IN COMBINED DRAIN				
0:02:13		005.0		GO	General Observation CONSTANT CLEAR WATER FLOW IN SANITARY				
0:02:31		008.0		GO	General Observation LATERAL IS A.C. PIPE				
0:02:44		010.0		GO	General Observation 375 MM COMBINED SEWER MAIN				
0:02:44		010.0		MH	Manhole MAIN				
0:03:54		010.0		FH	Finish of Survey				

Woo Hyun Kim

Subject: FW: Donway - Review of Updated Civil Plans
Attachments: IMG_0941.jpg; 450-Series.pdf

From: Apollo Lam <alam@novatrend.ca>
Sent: Thursday, October 5, 2023 2:43 PM
To: Steve Park <Steve.Park@exp.com>; Liana Carnevale <LianaC@optionsforhomes.ca>
Cc: Scott Passmore <Scott.Passmore@exp.com>; Joe Kwok <jkwok@novatrend.ca>; Eric Pun <epun@novatrend.ca>; Geoffrey McGrath <geoffreym@optionsforhomes.ca>; Emiliano Cervini <ECervini@Tridel.com>; Masood Molanian <molanian@unfolded.ca>; Gerlyanne Gomes <gomes@unfolded.ca>; Joseph Lupo <JLupo@Deltera.com>
Subject: RE: Donway - Review of Updated Civil Plans

Hi Steve and Liana,

On-site sump pump analysis was performed successfully yesterday. Result as follow for your reference,

1. The GW sump pit in BLDG 5 was inspected, with 2 set of sump pump lifted up to confirm the pump model (See attached photos and reference pump curve).
2. The sump pumps are in duty & backup setting. The backup pump will not kick-in until the water overflow from the sump pit (the float control is near the top of the pit).
3. From the site performed drain-down test, the flow rate of the pumps is found to be approx. at **40GPM i.e. 2.5L/s** which is reasonable referring to the pump curve for the corresponding head.

Kindly let us know if you have further question. Thanks!

Apollo Lam ***P.Eng.***
Mechanical Engineer

NOVATREND
ENGINEERING GROUP LTD
54 West Beaver Creek Road, Unit 200
Richmond Hill, ON L4B 1G5
Tel: (905) 882-5445
Cel: (416) 230-3335
http://www.novatrend.ca

PROJECT: **230 and 240 The Donway West**
PROJECT No: **ALL-00256815-B0**
CREATED BY: **12-May-21**
CHECKED BY **12-May-21**

Sanitary Flow Calculations

Existing Building

Average Day

City of Toronto Sewer and Watermain manual 1st Revision March 2014 - Average wastewater demand page 40

Average Wastewater flow= 240 L/caps/d 0.00278 L/cap/s

City of Toronto Sewer and Watermain manual 1st Revision March 2014 - Population Equivalents page 34

Unit Type	Population Density	
Schools/churches	86	people/ha
Area	1.05	ha

Population	**90.3**

1	**Average Flow**	**0.25**	**L/s**

City of Toronto Sewer and Watermain manual 1st Revision March 2014 - Peaking Factors page 37

Peak Factor = 1+(14/(4+(P/1000)^1/2))

2	**Peaking Factor**	**4.00**

City of Toronto Sewer and Watermain manual 1st Revision March 2014 - infiltration allowance page 37

Infiltration allowance 0.26 L/s/ha
Total Area 1.05 ha

3	**Infiltration**	**0.273**	**L/s**

City of Toronto Sewer and Watermain manual 1st Revision March 2014 - Peak Desgin Flow page 36

Design Flow = average flow x peaking factor + infiltration allowance

4	**Design Flow =**	**1.28**	**L/s**

Sanitary Flow Calculations

PROJECT: **230 and 240 The Donway West**
PROJECT No: **ALL-00256815-B0**
CREATED BY: **27-Oct-23**
CHECKED BY **27-Oct-23**

Average Day

City of Toronto Sewer and Watermain manual Jan 2021
Average Wastewater flow= 240 L/caps/d 0.00278 L/cap/s

City of Toronto Sewer and Watermain manual Jan 2021

Unit Type	Population Density	
1 bedroom	1.4	
2 bedroom	2.1	
3 bedroom	3.1	
4 bedroom	4	
Townhouse	2.7	persons/unit
`	86	Cap/ha

Site Stats taken from Architecture unfoldeded Site Plan dwg

Building	Units	Population	Rounded Pop.	
1 bedroom	160	224	224	
2 bedroom	116	243.6	244	
3 bedroom	32	99.2	100	
4 bedroom	0	0	0	
Townhouse	0	0	0	
Totals:	**308**	**566.8**	**568**	Cap

Church	**19**	Cap

1	**Average Flow**	**1.63**	**L/s**

City of Toronto Sewer and Watermain manual Jan 2021

Peak Factor = 1+(14/(4+(P/1000)^1/2))

2	**Peaking Factor**	**3.94**	

City of Toronto Sewer and Watermain manual Jan 2021

Infiltration allowance 0.26 L/s/ha
Total Area 1.05 ha

3	**Infiltration**	**0.273**	**L/s**

City of Toronto Sewer and Watermain manual Jan 2021

Design Flow = average flow x peaking factor + infiltration allowance

4	**Design Flow =**	**6.6**	**L/s**

City of Toronto - North York District
230 The Donway West
Project Number: ALL-00256815-A0
Sanitary Sewer Design Calculations

PIPE ROUGHNESS (n)		
< 600	=	0.013
≥ 600	=	0.013
DESIGN VELOCITIES		
MIN =	0.60	m/s
MAX =	3.00	m/s

PEAKING FACTOR
$M = 1 + (14/(4 + P^{0.5}))$
P = Population in Thousands
FLOW FACTOR (L/day/capita)
240
INFILTRATION RATE (L/sec/ha)
0.26

DESIGNED BY : Jake Lee, 12-Nov-19
REVISED BY: Jake Lee, 19-Apr-21
CHECKED BY: Scott Passmore, P.Eng 19-Apr-21

STREET NAME	MANHOLE		Length (m)	AREA		POPULATION		FLOW CHARACTERISTICS (L/sec)					EXISTING SEWER DESIGN			CAPACITY (L/s)	Full VELOCITY (m/s)	PERCENT FULL (%)
	FROM	TO		INCREMENTAL (ha)	CUMULATIVE (ha)	Population	Cumulative Population	PEAK FACTOR	PEAK Q_{peak}	INFILT Q_{inflt}	GW Q_{fdn}	TOTAL Q_{tot}	DIAMETER (mm)	TYPE	GRADE (%)			
The Donway West	EXT 5	1A	N/A	54.790	54.790	5824	5824											
The Donway West	1A	2A	63.5	0.000	54.790	0	5824	3.18	51.49	14.25	0.00	65.7	375	CONC	0.31	101.841	0.89	64.6%
The Donway West (Site)	2A	3A	106.4	1.050	55.840	531	6355	3.15	55.55	14.52	2.00	72.1	375	CONC	0.25	90.536	0.79	79.6%
Duncairn Rd	3A	4A	62.7	0.510	56.350	25	6380	3.15	55.74	14.65	2.00	72.4	375	CONC	0.33	105.074	0.92	68.9%
Duncairn Rd	4A	5A	68.4	0.476	56.825	25	6404	3.14	55.92	14.77	2.00	72.7	375	CONC	0.33	105.074	0.92	69.2%
Duncarin Rd	EXT 4	5A	N/A	3.920	3.920	329	329	4.00	3.66	1.02	0.00	4.7						
Overton Cres	5A	6A	87.7	0.530	61.275	21	6754	3.12	58.57	15.93	2.00	76.5	300	CONC	1.40	119.574	1.64	64.0%
Belton Rd	EXT 1	6A	N/A	0.720	0.720	32	32	4.00	0.35	0.19	0.00	0.5						
Overton Cres	6A	7A	88.2	0.546	62.541	25	6810	3.12	58.99	16.26	2.00	77.2	300	CONC	1.51	124.183	1.70	62.2%
Overton Pl	EXT 2	7A	N/A	0.590	0.590	21	21	4.00	0.23	0.15	0.00	0.4						
Overton Cres	7A	8A	105.0	0.878	64.008	42	6873	3.11	59.46	16.64	2.00	78.1	300	CONC	1.58	127.029	1.74	61.5%
Overton Cres	8A	9A	47.1	0.407	64.416	14	6887	3.11	59.56	16.75	2.00	78.3	300	CONC	1.70	131.764	1.80	59.4%
Overton Cres	EXT 3	9A	N/A	10.930	10.930	2909	2909	3.45	27.91	2.84	0.00	30.7						
Overton Cres - Channel	9A	10A	55.4	0.000	75.346	0	9796	2.96	80.64	19.59	2.00	102.2	350	AC	2.28	152.595	2.09	67.0%
Overton Cres - Channel	10A	11A	18.2	0.000	75.346	0	9796	2.96	80.64	19.59	2.00	102.2	350	AC	3.22	181.343	2.48	56.4%

NOTES: 1) Estimated population of subject site calculated separately based on Owner's development concept.
2) Library population density assumed to be same as school.
3) Groundwater allowance pumping rate is 2.0L/s for proposed site where no other groundwater allowances have been assumed.
4) Existing sewer information taken from City of Toronto record drawings

City of Toronto - North York District
230 The Donway West
Project Number: ALL-00256815-A0
Sanitary Sewer Design Calculations - Extreme Wet Weather

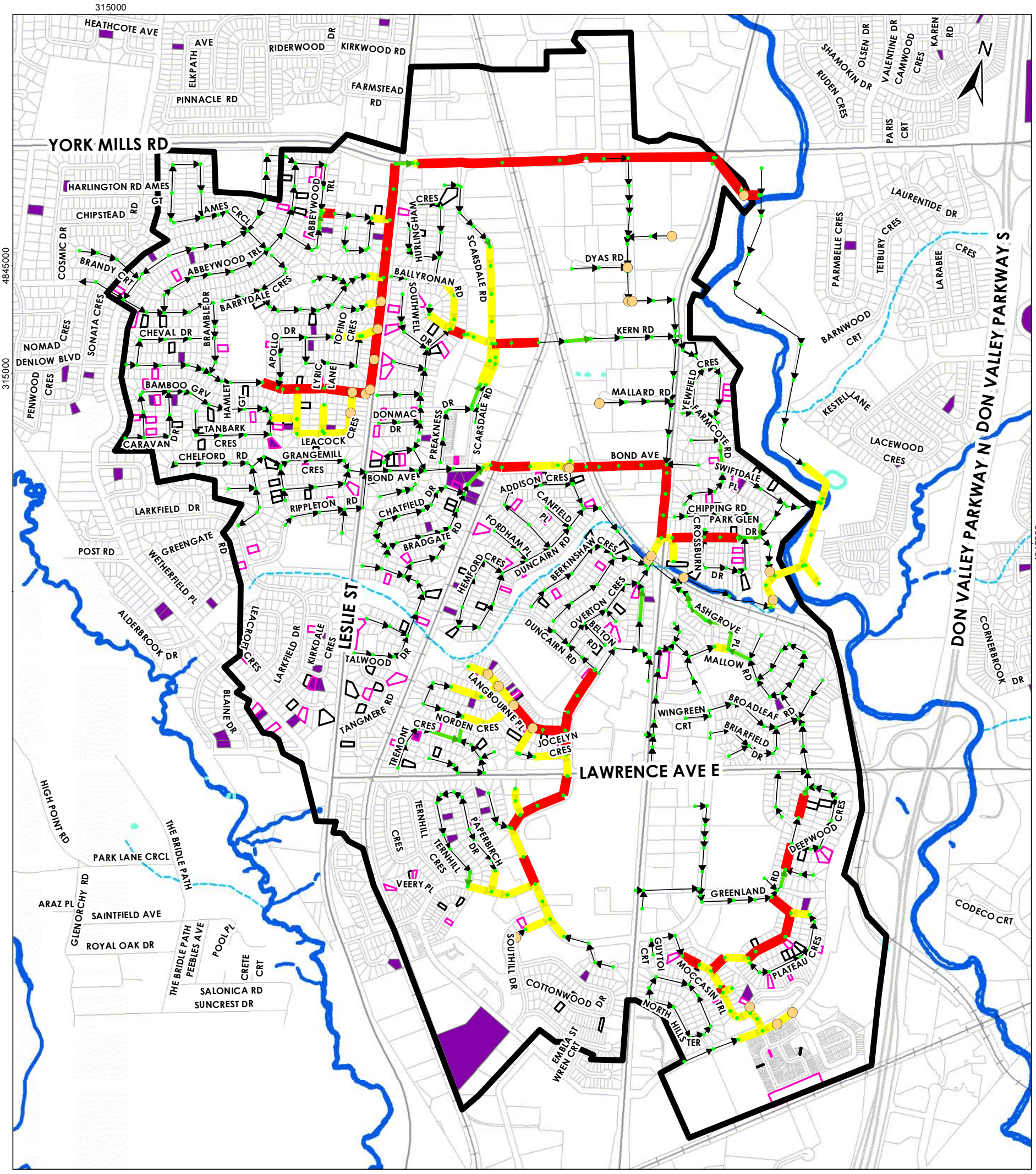
DESIGNED BY :	Jake Lee,	12-Nov-19
REVISED BY:	Jake Lee,	19-Apr-21
CHECKED BY:	Scott Passmore, P.Eng	19-Apr-21

PIPE ROUGHNESS (n)		
< 600	=	0.013
≥ 600	=	0.013
DESIGN VELOCITIES		
MIN =	0.60	m/s
MAX =	3.00	m/s

PEAKING FACTOR
$M = 1 + (14/(4 + P^{0.5}))$
P = Population in Thousands
FLOW FACTOR (L/day/capita)
240
INFILTRATION RATE (L/sec/ha)
3.00 < 50 ha
2.00 > 50ha

STREET NAME	MANHOLE		Length (m)	AREA		POPULATION		FLOW CHARACTERISTICS (L/sec)					EXISTING SEWER DESIGN			CAPACITY (L/s)	Full VELOCITY (m/s)	PERCENT FULL (%)
	FROM	TO		INCREMENTAL (ha)	CUMULATIVE (ha)	Population	Cumulative Population	PEAK FACTOR	PEAK Q_{peak}	INFILT Q_{infilt}	GW Q_{fdn}	TOTAL Q_{tot}	DIAMETER (mm)	TYPE	GRADE (%)			
The Donway West	EXT 5	1A	N/A	54.790	54.790	5824	5824											
The Donway West	1A	2A	63.5	0.000	54.790	0	5824	3.18	51.49	164.37	0.00	215.9	375	CONC	0.31	101.841	0.89	212.0%
The Donway West (Site)	2A	3A	106.4	1.050	55.840	531	6355	3.15	55.55	111.68	2.00	169.2	375	CONC	0.25	90.536	0.79	186.9%
Duncairn Rd	3A	4A	62.7	0.510	56.350	25	6380	3.15	55.74	112.70	2.00	170.4	375	CONC	0.33	105.074	0.92	162.2%
Duncairn Rd	4A	5A	68.4	0.476	56.825	25	6404	3.14	55.92	113.65	2.00	171.6	375	CONC	0.33	105.074	0.92	163.3%
Duncarin Rd	EXT 4	5A	N/A	3.920	3.920	329	329	4.00	3.66	7.84	0.00	11.5						
Overton Cres	5A	6A	87.7	0.530	61.275	21	6754	3.12	58.57	122.55	2.00	183.1	300	CONC	1.40	119.574	1.64	153.1%
Belton Rd	EXT 1	6A	N/A	0.720	0.720	32	32	4.00	0.35	1.44	0.00	1.8						
Overton Cres	6A	7A	88.2	0.546	62.541	25	6810	3.12	58.99	125.08	2.00	186.1	300	CONC	1.51	124.183	1.70	149.8%
Overton Pl	EXT 2	7A	N/A	0.590	0.590	21	21	4.00	0.23	1.18	0.00	1.4						
Overton Cres	7A	8A	105.0	0.878	64.008	42	6873	3.11	59.46	128.02	2.00	189.5	300	CONC	1.58	127.029	1.74	149.2%
Overton Cres	8A	9A	47.1	0.407	64.416	14	6887	3.11	59.56	128.83	2.00	190.4	300	CONC	1.70	131.764	1.80	144.5%
Overton Cres	EXT 3	9A	N/A	10.930	10.930	2909	2909	3.45	27.91	21.86	0.00	49.8						
Overton Cres - Channel	9A	10A	55.4	0.000	75.346	0	9796	2.96	80.64	150.69	2.00	233.3	350	AC	2.28	152.595	2.09	152.9%
Overton Cres - Channel	10A	11A	18.2	0.000	75.346	0	9796	2.96	80.64	150.69	2.00	233.3	350	AC	3.22	181.343	2.48	128.7%

NOTES: 1) Estimated population of subject site calculated separately based on Owner's development concept.
2) Library population density assumed to be same as school.
3) Groundwater allowance pumping rate is 2.0L/s for proposed site where no other groundwater allowances have been assumed.
4) Existing sewer information taken from City of Toronto record drawings



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Revised: 2015-07-03 By: mprentice

July 2015
Project No. 1607-00490

Stantec

Notes

1. Coordinate System: MTM 3Degree
2. Base features produced under license with the City of Toronto, 2014.

Legend

- Storm Boundary
- Historic Watercourse
- River
- Ponds
- Parcels (Land Use)

Basement Flooding Records

- May 12, 2000

Questionnaire Flood Records

- Once
- More Than Once

Sewer Water Level (HGL)

- At or Above Surface
- Within Basement Level
- Below Basement (>1.8m)

Pipe Surcharge State

- Free Flowing (<80%)
- Nearing Capacity (81-99%)
- Downstream Surcharge
- Bottleneck

Client/Project
City of Toronto
Stormwater Runoff Quality Control & Investigation of Basement Flooding
Area 21

Figure No.
5.1

Title
Sanitary Validation - May 12, 2000

Stantec

Legend

- Storm Boundary
- City Park
- Existing Storm Sewers
- Parcels (Land Use)
- Historic Watercourse
- River
- Ponds

Storm System Projects

- Culvert Upgrade
- New Storm Pipe
- Upgrade Existing Storm Pipe
- Underground Storage Pipe
- Overland Channel Upgrade
- Realign Ex. Sanitary Sewer
- Realign Ex. Storm Sewer
- Curb cut / Overland Spill
- Upsize Existing Storm Sewer Outfall
- Decrease Inlet Capacity - ICDs / Remove CBs
- Increase Inlet Capacity
- Underground Storage Tank
- Potential Oil Grit Separator
- Bioretention Filtration Opportunity

Sanitary Projects

- Sanitary In-Line Storage
- Sealed Sanitary Manhole

Notes

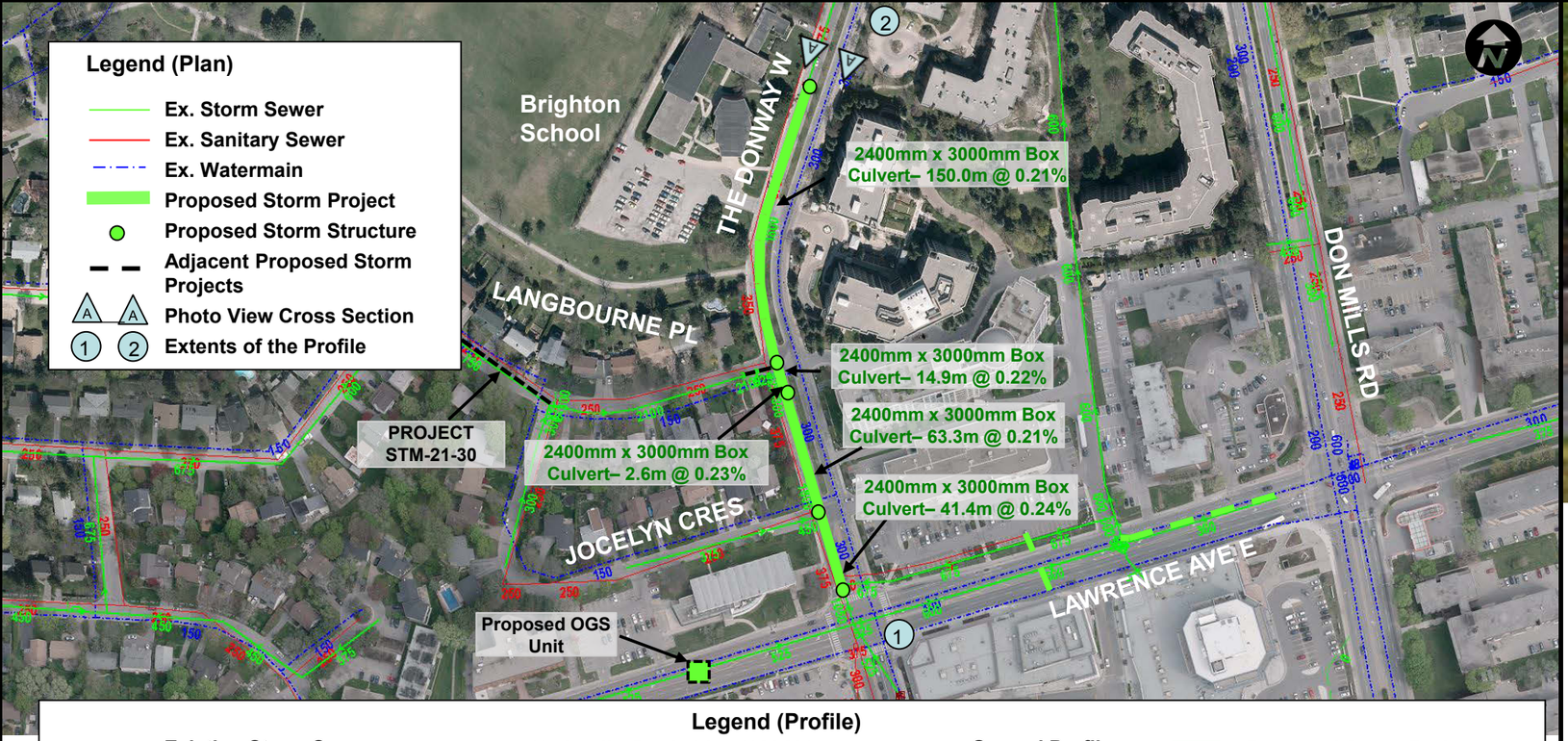
1. Coordinate System: MTM 3Degree
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.
3. Orthoimagery © First Base Solutions, 2011.

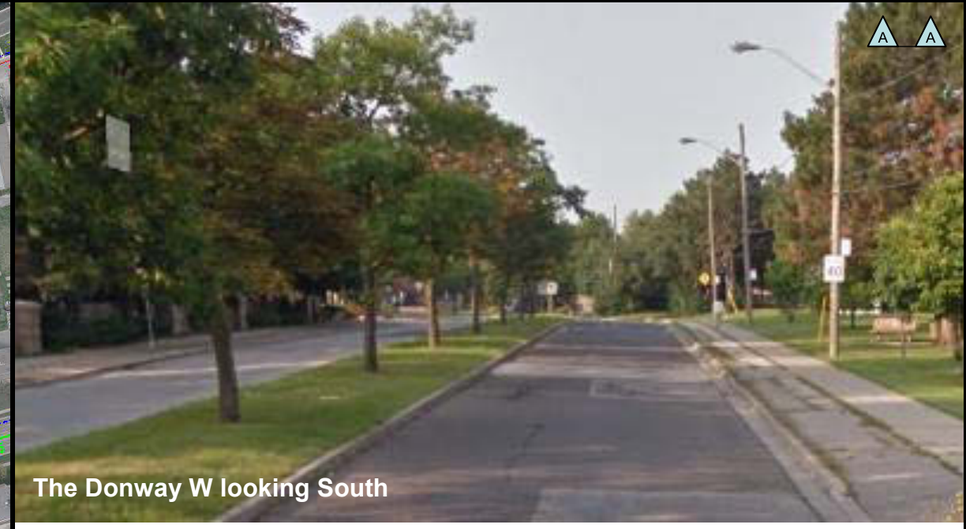
July 2014
Project No.

Client/Project
City of Toronto
Stormwater Runoff Quality Control & Investigation of Basement Flooding
Area 21

Figure No.
6.1

Title
Study Area 21 Class EA Recommended Preferred Solution





Description

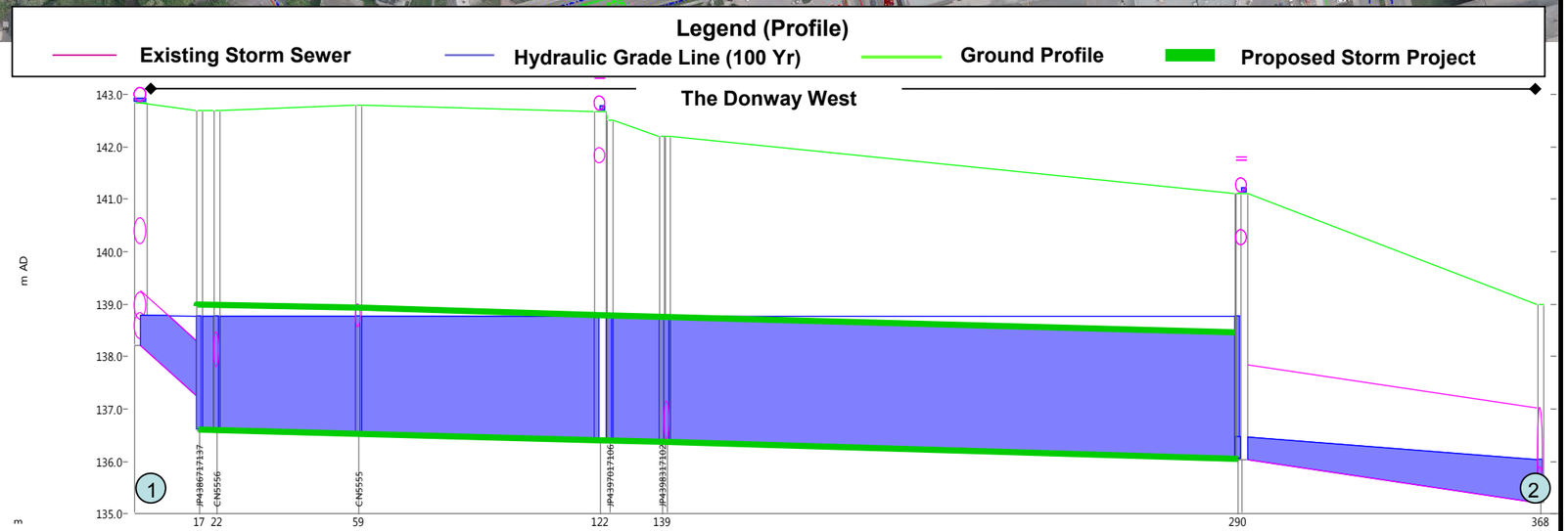
- In-line storage (The Donway E and W, Mallow Rd, Don Mills Rd) to relieve overland ponding and sewer upgrades on Lawrence Ave. and Duncairn Rd.
- Part 5: The Donway W. In-line Storage

Design Details

- Underground In-line Storage Pipe
  - 150.0m x 2400mm to 3000mm (width) @ 0.21%
  - 14.9m x 2400mm to 3000mm (width) @ 0.22%
  - 2.6m x 2400mm to 3000mm (width) @ 0.23%
  - 63.3m x 2400mm to 3000mm (width) @ 0.21%
  - 41.4m x 2400mm to 3000mm (width) @ 0.24%
  - Gravity control via 525mm orifice at 0.9m^3/s at 3.0m head
  - Design Volume = 2,300m^3

Design and Construction Considerations

- Potential Conflicts
  - Crosses two 150mm watermains @ Jocelyn Cr. and Langbourne Pl.
- Sewer alignment within right-of-way marginally flexible due to adjacent sanitary and median boulevard; to be confirmed at detailed design stage. Consider radial box sections in lieu of additional MH structures.
- Partial road closure on The Donway W (minor arterial) during construction; increased construction related traffic
- Project staging to be coordinated with STM-21-30 and STM-21-29, with the downstream sections of STM-21-29 commencing first .
- Consider implementing adjacent OGS unit as part of project.



Pipe			CN5556.A		CN5555.A			CN5557.A		MH4413017117.1	
Length (m)	17.3	4.4	37.4	63.3		13.7	150.0		78.5		
Shape	CIRC		RECT	RECT		RECT	RECT		CIRC		
Width (mm)	1050		3000	3000		3000	3000		1800		
Height (mm)	1050		2400	2400		2400	2400		1800		
U/S invert (m)	138.208		136.590	136.520		136.382	136.350		136.039		
D/S invert (m)	137.250		136.520	136.388		136.353	136.040		135.222		
Slope (m/m)	0.05544		0.00187	0.00208		0.00212	0.00207		0.01042		
Pipe Capacity (m^3/s)	6.431		18.296	19.295		19.440	19.215		11.735		
Surcharge State (q/Qf)	1.00		0.94	0.99		1.00	1.00		0.45		
D/S Depth (100yr) (m)	1.526		2.255	2.387		2.422	2.733		0.811		
D/S Flow (100yr) (m^3/s)	0.71030		0.66530	0.65861		0.69839	1.06903		1.12902		

MH												
Node #			CN5556	CN5555	MH4396717107			CN5557	DMH_MH4413017117	MH4413017117	CN5507	
Ground (m)			142.700	142.800	142.669			142.200	141.110	141.110	139.000	
Inlet Type					CB_FLAT					CB_FLAT		
# of Inlets		1.000	1.000	1.000	2.000			1.000	1.000	6.000	1.000	
Sewer Water Level (m)			138.775	138.775	138.775			138.775	138.773	136.469	136.032	
Max Inlet Flow (m^3/s)					0.02478					0.07181		
HGL Freeboard (m)			3.924945	4.025037	3.894266			3.425418	2.336837	4.641418	2.967773	
Surface Depth (m)					0.100958					0.098786		

Stantec

Investigations of Runoff Quality and Basement Flooding
Area 21 Conceptual Design
(100 Year Design Storm Event Results)

Project: STM-21-29 (Part 5 of 7)
Location: The Donway West

Scale: NTS

Date: July 2016

Figure: STM-21-29E

Stantec

Memo

To:	Donway Co-Operative Development Corporation	From:	Dave Eadie, P.Eng., Stantec Consulting Ltd.
File:	1656-60180	Date:	October 20, 2023

Reference: Sanitary Downstream Capacity Assessment, 230 The Donway West, North York

1.0 INTRODUCTION

In support of the 230-240 The Donway West redevelopment, a Sanitary Downstream Capacity Assessment has been completed following the City's Sewer Capacity Assessment Guidelines (July 2021). This Technical Memorandum (TM) summarizes the existing conditions and proposed redevelopment impact on the downstream sanitary collection system to the connection with the trunk sewer.

2.0 EXISTING AND PROPOSED REDEVELOPMENT

The 1.05 ha proposed redevelopment is located in the former borough of North York and is bounded by The Donway West to the east, existing residential properties fronting Duncairn Road to the north, and existing public park to the west and south. The site is located in the Toronto Basement Flooding Protection Program (BFPP) Study Area 21. **Figure 1** presents the site location context, including the downstream sanitary sewer trace to the trunk sewer, the tributary drainage area to the trunk, and the identification of new growth since the completion of the Area 21 Environmental Assessment.

The existing property is the Donway Covenant United Church and an educational facility, with sanitary servicing to the 375 mm sanitary sewer on The Donway West, that flows northerly to the East Don Sanitary Trunk Sewer (STS). Based on recent dye testing, it is confirmed that approximately 2.5 L/s of existing foundation drainage is being pumped to the sanitary sewer.

The proposed site is to be serviced via a new service connection to the east to the 350 mm sanitary sewer on The Donway West. The equivalent population for the proposed development was calculated using Site Plan statistics (230 and 240 The Donway West, Toronto – Sanitary Flow Calculation, EXP, October 2023) and the City of Toronto's Design Criteria for Sewers and Watermains (January 2021) as shown in **Appendix A** and summarized in **Table 1**.

Table 1 Proposed Site Sewage Design Flow Calculation

Land Use Type		Units	Rate	Unit	Pop-ulation	PF	Sewage Flow (L/s)
Apartments	1Bed	162	1.4	c/unit	227	-	0.63
	2 Bed	110	2.1	c/unit	231	-	0.64
	3 Bed	32	3.1	c/unit	100	-	0.28
ICI	Church	-	0.0086	c/m^2	19	-	0.05
Total @ 240 L/c/d for residential, 250 L/c/d for church					577	3.94	6.32

Reference: **Sanitary Downstream Capacity Assessment, 230 The Donway West, North York**

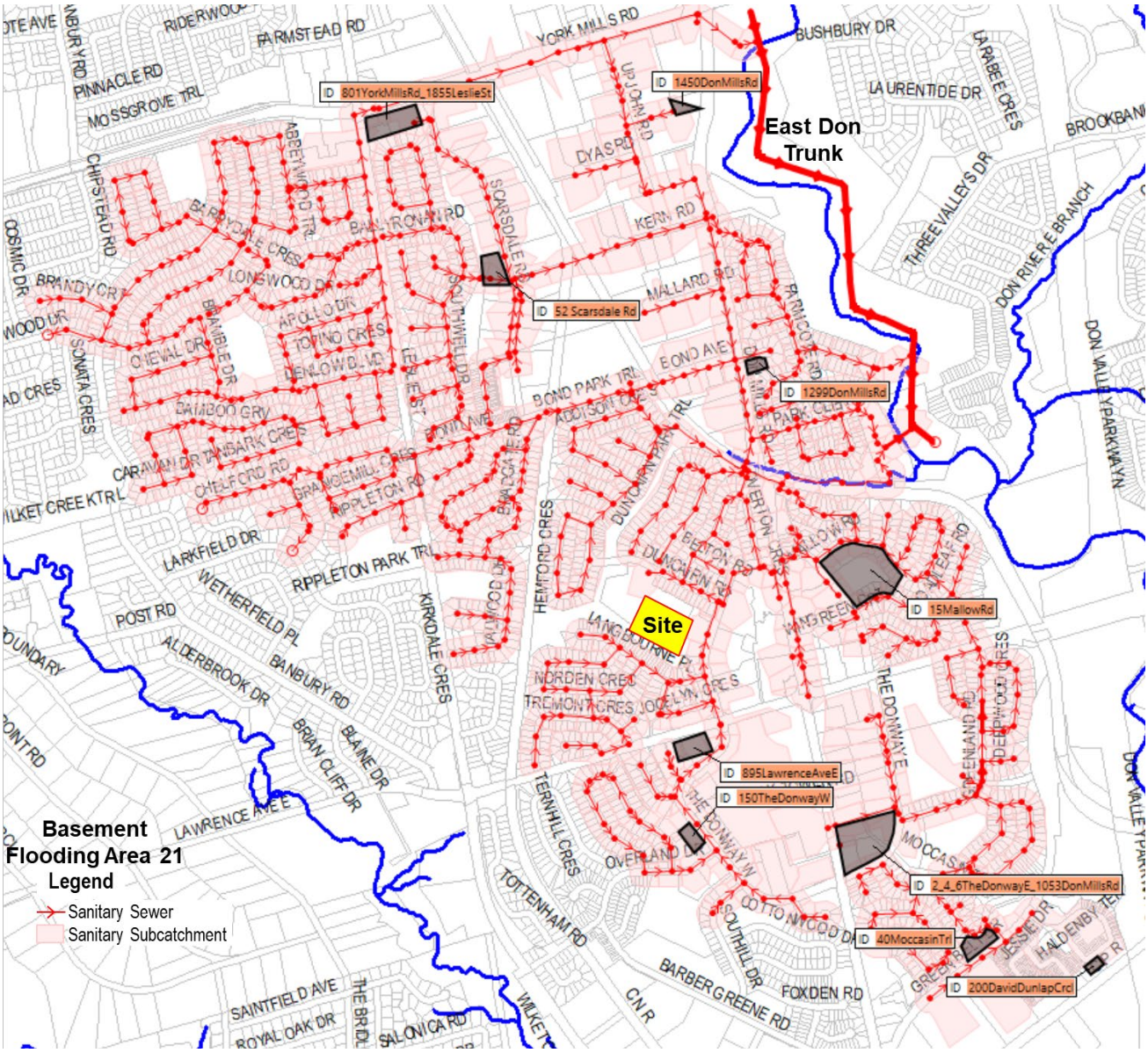


Figure 1 Site Location Plan

Design flows for assessing downstream sanitary sewers is based on the following formula:

- Peak Design Flow, Q = $Q_{domestic}$ + $Q_{institutional}$ +$Q_{commercial}$ + $Q_{industrial}$ + $Q_{extraneous}$ + $Q_{groundwater}$
  - *$Q_{domestic}$ (L/s) = Average Daily Flow per Capita x Population x Peaking Factor*
    - Where Average Daily Flow per Capita is as follows:
      - Residential = 240 L/c/d for assessment of existing municipal sewers
      - Industrial/Commercial/Institutional (ICI) = 180,000 L/floor ha/day or 250 L/c/d

  - The Harmon peaking factor is applied to all external site equivalent population:
    - Peaking Factor = 1 + (14/(4 + (P/1000)1/2))
    - Where P = Equivalent Population in thousands
- $Q_{extraneous}$ = 0.26 L/s/gross ha (parcel), not including approved groundwater discharges
- $Q_{groundwater}$ = short-term construction dewatering and long-term foundation drain pumping needs to be included where Private Water Discharge Approval has been granted for discharge to the sanitary sewer

A permanent groundwater strategy is proposed with foundation drain peak discharge of 1.3 L/s assumed.

Therefore, the sewage flow, long-term groundwater discharge, and the City's extraneous flow allowance (at a rate of 0.26 L/s/ha) represents the proposed development's total design flow. **Table 2** summarizes the pre- and post-development design flows for the site.

Table 2 Proposed Development Design Flow Summary

Flow Type	Flow (L/s)		
	Pre-Development	Post-Development	Delta
Sewage	1.03	6.32	+5.29
Extraneous	0.27	0.27	0.00
Groundwater	2.50	1.30	-1.20
Total Site Design Flow	**3.80**	**7.89**	**+4.09**

The Post-Development modifies the flow generation over existing conditions and therefore requires confirmation of downstream impact.

3.0 METHODOLOGY

The approach to downstream analysis is defined by the City's Sewer Capacity Assessment guidelines (July 2021), which follows the process stream outlined in **Figure 2** that evaluates the following criterion:

- Criterion I – Design Function
  - Under Proposed Peak Design Flow, Q, there shall be no surcharge in the sanitary system
- Criterion II – Basement Flooding Protection
  - Under Proposed Extreme Wet Weather Flow conditions, which include I/I generated under the May 12, 2000 storm event, the hydraulic grade line (HGL) in the sewer shall be greater than or equal to 1.8 m below grade, as measured from the maintenance hole lid.

Reference: **Sanitary Downstream Capacity Assessment, 230 The Donway West, North York**

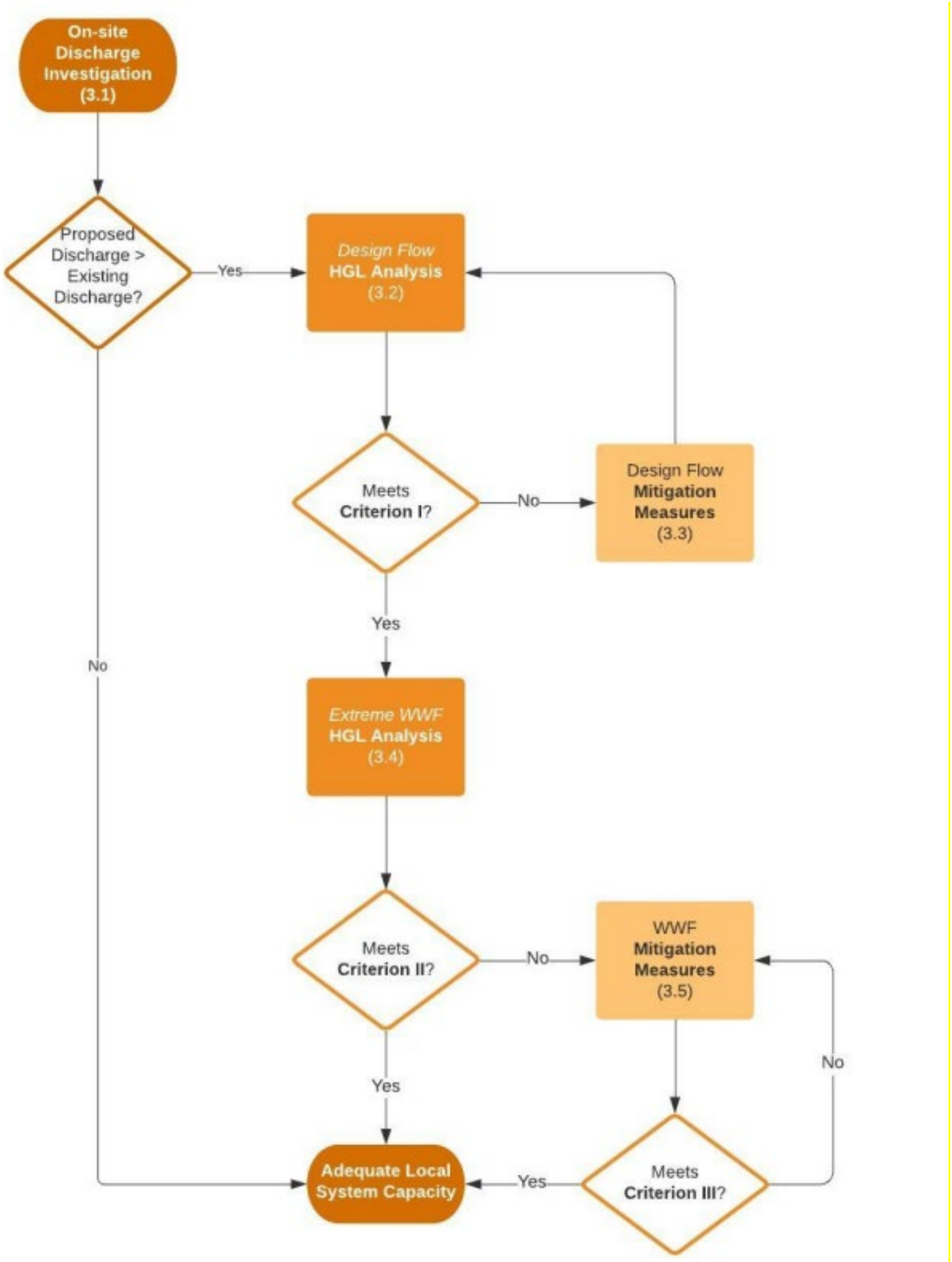


Figure 2 Capacity Assessment Process for Sanitary Sewers

- Criterion III – Wet Weather Flow Mitigation
  - Only applicable if Criterion II is not met
  - Under proposed extreme WWF conditions, WWF mitigation measures will ensure that the proposed HGL will be no higher than the existing HGL. The proposed peak flow rate will be no greater than the existing peak flow rate at the connection to the trunk or pumping station.

Since a Basement Flooding Study InfoWorks sanitary model exists (Area 21), this calibrated tool can be used for the system wide assessment of downstream capacity.

3.1 REVIEW AND MODIFICATION TO THE AREA 21 MODEL

Toronto Water provided the Area 21 model, which is a separate sanitary sewer model originally calibrated to rainfall and flow monitoring data. Since the finalization of the original InfoWorks model, additional developments have either come online or been proposed within the tributary area. Flow rates from these developments (including new builds, sites where zoning has been completed, and where applications are in progress), have been included based on available City Planning Portal data. The existing condition model was modified by adding dedicated subcatchments representing the development, with the calculated future development peak site design flow added to the appropriate subcatchments as Baseflow, as detailed in **Appendix A** and summarized in **Table 3**.

Table 3 New/Planned Developments Added to the Area 21 Model

Development Site	Peak Flow Applied (L/s)	Added Subcatchment ID
895 Lawrence Avenue East	8.3	895LawrenceAveE
1450 Don Mills Road	1.4	1450DonMillsRd
1299 Don Mills Road	0.2	1299DonMillsRd
15 Mallow Road	1.8	15MallowRd
939 Lawrence Avenue East	0.0	No information available
40 Moccasin Trail	2.7	40MoccasinTrl
50 Green Belt Drive	4.2	
200 David Dunlap Circle	2.2	200DavidDunlapCrcl
801 York Mills Rd & 1855 Leslie St	4.0	801YorkMillsRd_1855LeslieSt
2,4,6 The Donway E & 1053 Don Mills Road	23.1	2_4_6TheDonwayE_1053DonMillsRd
150 The Donway W	4.4	150TheDonwayW
52 Scarsdale Road	1.7	52 Scarsdale Rd

As noted, **Appendix A** provides a detailed breakdown of existing vs. proposed flows from these sites, including whether the existing development will remain or be replaced under post-development conditions. **Table A2** of **Appendix A** summarizes flows from these sites, while **Tables A3-A14** provide site details. To account for the change in wet weather flow generation resulting from the new / redevelopments being accounted for as the extraneous allowance of 0.26 L/s/ha, the site areas were removed from the overlapping existing Subcatchment Contributing Area field by area weighting.

Reference: **Sanitary Downstream Capacity Assessment, 230 The Donway West, North York**

Additionally, upon review of the downstream collection system, it was discovered that the bifurcation maintenance hole at Duncairn Rd (MH4420617136 and MH 4420917138) is not active as per the Area 21 model. The 375mm sewer is not connected to the Duncairn Rd 375mm pipe, with all flow travelling northerly to the easterly leg of Overton Cres where the flow path connects again at MH4452717202 with the Duncairn Rd system, per **Figure 3**.

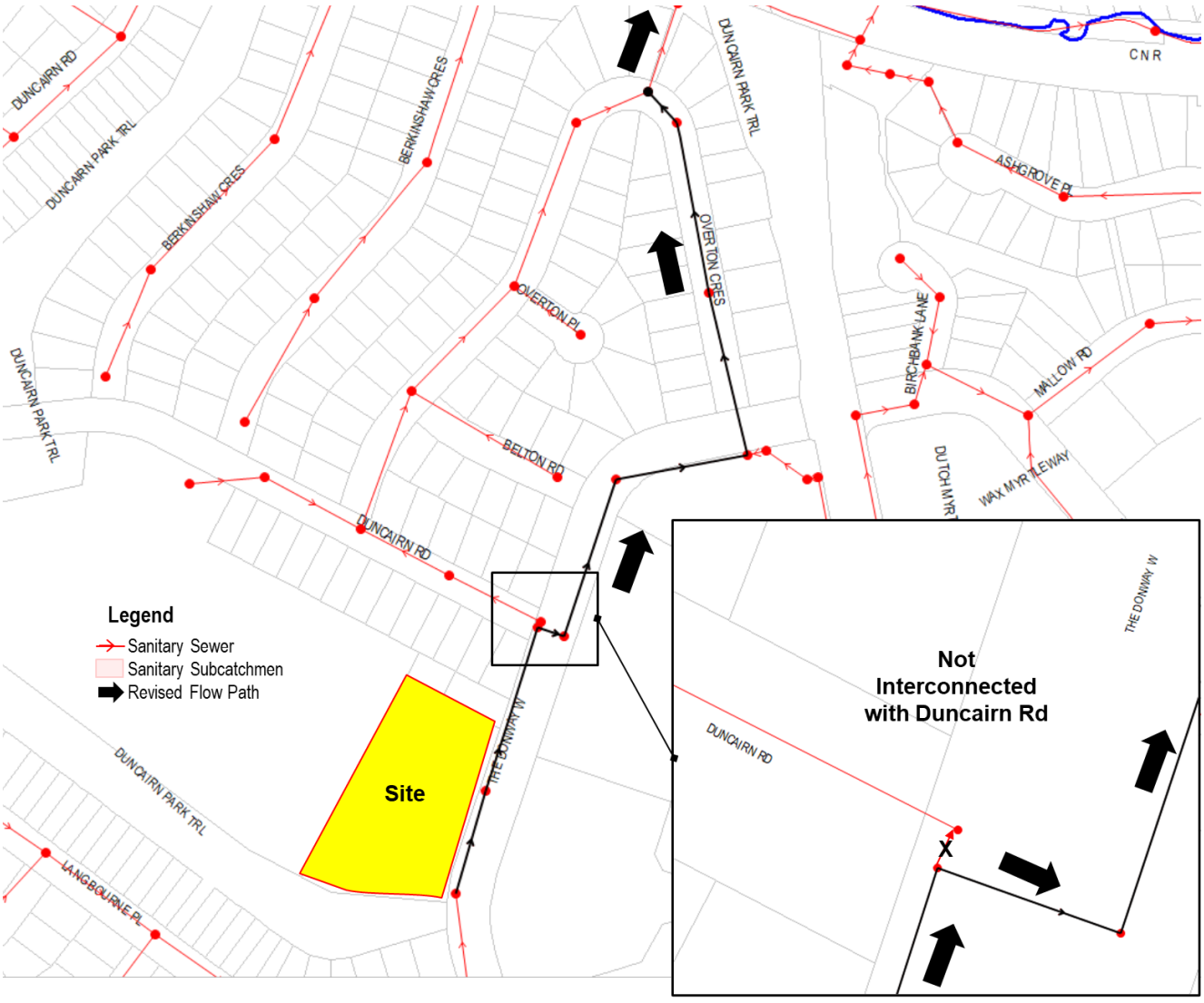


Figure 3 Pipe Network Modification from Area 21 Model

Figure 3 Pipe Network Modification from Area 21 Model

The model network was updated to remove sewer asset SL4037647 from MH4420617136 to MH4420917138. This modifies the flow distribution from the original Environmental Assessment locally, but does not affect the overall contributions to the system downstream of Duncairn Park Tail to the trunk.

Reference: **Sanitary Downstream Capacity Assessment, 230 The Donway West, North York**

4.0 DOWNSTREAM CAPACITY ANALYSIS

As shown in **Figure 1**, the extent of this analysis covers the entire Area 21 model with focus on the sewers downstream from the 250 mm sanitary sewer on Langbourne Place to the connection to the 1350 mm trunk. Dry and wet weather flows are generated by the calibrated Study Area 21 model, with the only alterations to the network being the additional site flows for future developments and the removal of the flow split at Duncairn Rd noted in Section 3.1.

The following design scenarios are considered:

- Pre-Development Dry Weather Flow
- Post-Development Dry Weather Flow
- Pre-Development Extreme Wet Weather Flow (May 12, 2000)
- Post-Development Extreme Wet Weather Flow (May 12, 2000)

The proposed redevelopment in the Post-Development scenarios is simulated by applying the delta between the pre-development and post-development design flow rate from Table 2 (4.1 L/s) to a new subcatchment (230_240TheDonwayW) connecting to MH4410817105 on The Donway. As was done for the future/new developments, the site area was removed from the overlapping subcatchments by area weighting since the design flow applied already accounts for the infiltration and inflow allowance.

The following sections summarize the model results, with hydraulic model tables and profiles presented in **Appendix B**. A figure indicating the reference Pipe ID is also included in the Appendix.

4.1 DRY WEATHER FLOW PERFORMANCE (SCENARIOS 1 & 2)

Scenarios 1 and 2 represent design flow for the existing and post-development conditions, respectively. **Table 4** presents the resulting pipe capacities from the modeling.

Table 4 Comparison of Dry Weather Flow Results

Ref. Pipe ID	From MH	To MH	Pre-Development		Post-Development		% Full Flow Delta	% Full Depth Delta
			% Full Flow (%)	Max Surcharge State	% Full Flow (%)	Max Surcharge State		
1	4410816726	4410216797	0%	0.10	0%	0.10	0%	0%
2	4410216797	4407116842	0%	0.09	0%	0.09	0%	0%
3	4407116842	4402216907	2%	0.13	2%	0.13	0%	0%
4	4402216907	4396716988	7%	0.19	7%	0.19	0%	0%
5	4396716988	4396717023	7%	0.19	7%	0.19	0%	0%
6	4396717023	4398617095	8%	0.21	8%	0.21	0%	0%
7	4398617095	4404717088	35%	0.41	35%	0.41	0%	0%
8	4404717088	4410817105	32%	0.41	31%	0.41	0%	0%
9 (Site)	4410817105	4420617136	34%	0.41	39%	0.44	5%	3%
10	4420617136	4420117152	20%	0.32	22%	0.34	3%	2%

Reference: **Sanitary Downstream Capacity Assessment, 230 The Donway West, North York**

Ref. Pipe ID	From MH	To MH	Pre-Development		Post-Development		% Full Flow Delta	% Full Depth Delta
			% Full Flow (%)	Max Surcharge State	% Full Flow (%)	Max Surcharge State		
11	4420117152	4429517183	21%	0.32	23%	0.34	2%	2%
12	4429517183	4431017262	20%	0.32	22%	0.34	2%	2%
13	4431017262	4440717239	25%	0.36	28%	0.38	3%	2%
14	4440717239	4450817220	27%	0.36	30%	0.38	3%	2%
15	4450817220	4452717202	26%	0.36	29%	0.38	3%	2%
16	4452717202	4458017221	17%	0.30	18%	0.31	2%	1%
17	4458017221	4459017208	40%	0.31	43%	0.32	3%	1%
18	4459017208	4461017212	16%	0.27	17%	0.28	1%	1%
19	4461017212	4462617220	12%	0.24	13%	0.25	1%	1%
20	4462617220	4469217236	15%	0.26	16%	0.27	1%	1%
21	4469217236	4470217271	22%	0.51	22%	0.51	0%	0%
22	4470217271	4472417347	65%	0.53	66%	0.53	1%	0%
23	4472417347	4473217373	32%	0.39	33%	0.39	1%	0%
24	4473217373	4474617425	32%	0.39	33%	0.40	1%	1%
25	4474617425	4475917482	32%	0.40	32%	0.40	1%	0%
26	4475917482	4476617505	32%	0.41	33%	0.42	1%	1%
27	4476617505	4478217555	34%	0.40	34%	0.40	1%	0%
28	4478217555	4476117596	17%	0.30	17%	0.30	0%	0%
29	4476117596	4470617604	13%	0.26	13%	0.26	0%	0%
30	4470617604	4468017615	12%	0.26	12%	0.26	0%	0%
31	4468017615	4466917636	3%	0.25	3%	0.26	0%	1%
32	4466917636	4472617716	20%	0.31	20%	0.31	1%	0%
33	4472617716	4472917726	6%	0.20	7%	0.20	0%	0%
34	4472917726	4468317784	4%	0.14	4%	0.15	0%	1%
Surcharge State (SS) is peak pipe flow depth / diameter when not surcharged. SS=2 indicates the pipe is surcharged and has insufficient capacity. SS=1 indicates the pipe is surcharged due to downstream backwater.								

Under revised existing conditions, the sanitary sewers downstream of the proposed development operate from 9% to 53% full (as measured by depth over diameter, or Surcharge State). With the proposed development added to the model, the sewers immediately downstream of the proposed development indicate an increase of approximately 3% by depth, with the maximum ratio remaining at 53% at Pipe 22 which is flat. There is no surcharge in the post-development scenario, thus meeting Criterion I “Design Function”.

Reference: **Sanitary Downstream Capacity Assessment, 230 The Donway West, North York**

4.2 EXTREME WET WEATHER PERFORMANCE (SCENARIO 3 & 4)

The City's extreme wet weather flow scenarios are intended to evaluate change to potential basement flooding risk post-construction. The existing collection system is categorized as fully separated, with the The City's extreme wet weather flow scenarios are intended to evaluate change to potential basement flooding risk post-construction. The existing collection system is categorized as fully separated, with the sanitary sewer system collecting only wastewater flow with an allowance for inflow and infiltration and is thus subject to the May 12, 2000 storm. The calibrated wet weather flow parameters for the existing tributary area were left unchanged in the InfoWorks model. The resulting HGL freeboard is summarized in **Table 5** for pre- and post-development, while the model results are provided in **Appendix B**.

Table 5 Comparison of Wet Weather HGL Freeboard Results

Ref. Pipe ID	From MH	To MH	Pre-Development		Post-Development		Max SS Delta (m)	HGL Delta (m)
			Max Surcharge State	US HGL Freeboard (m)	Max Surcharge State	US HGL Freeboard (m)		
1	4410816726	4410216797	1.00	2.28	1.00	2.26	0%	-0.018
2	4410216797	4407116842	1.00	1.44	1.00	1.42	0%	-0.018
3	4407116842	4402216907	1.00	0.70	1.00	0.69	0%	-0.018
4	4402216907	4396716988	2.00	0.62	2.00	0.60	0%	-0.018
5	4396716988	4396717023	2.00	1.59	2.00	1.56	0%	-0.029
6	4396717023	4398617095	2.00	1.97	2.00	1.94	0%	-0.032
7	4398617095	4404717088	2.00	2.31	2.00	2.27	0%	-0.041
8	4404717088	4410817105	2.00	3.02	2.00	2.96	0%	-0.056
9 (Site)	4410817105	4420617136	2.00	3.23	2.00	3.15	0%	-0.072
10	4420617136	4420117152	2.00	1.74	2.00	1.69	0%	-0.052
11	4420117152	4429517183	2.00	2.12	2.00	2.07	0%	-0.048
12	4429517183	4431017262	1.00	2.31	1.00	2.29	0%	-0.021
13	4431017262	4440717239	1.00	3.27	1.00	3.21	0%	-0.068
14	4440717239	4450817220	0.24	3.20	0.24	3.16	0%	-0.039
15	4450817220	4452717202	0.10	2.99	0.10	2.98	0%	-0.009
16	4452717202	4458017221	0.13	3.78	0.13	3.78	0%	-0.002
17	4458017221	4459017208	0.62	3.68	0.62	3.68	0%	-0.001
18	4459017208	4461017212	1.00	2.93	1.00	2.93	0%	-0.003
19	4461017212	4462617220	0.18	0.58	0.18	0.57	0%	-0.005
20	4462617220	4469217236	1.00	1.05	1.00	1.04	0%	-0.006
21	4469217236	4470217271	0.38	6.65	0.38	6.64	0%	-0.005
22	4470217271	4472417347	0.46	5.50	0.46	5.50	0%	-0.004

Reference: **Sanitary Downstream Capacity Assessment, 230 The Donway West, North York**

Ref. Pipe ID	From MH	To MH	Pre-Development		Post-Development		Max SS Delta (m)	HGL Delta (m)
			Max Surcharge State	US HGL Freeboard (m)	Max Surcharge State	US HGL Freeboard (m)		
23	4472417347	4473217373	0.20	5.01	0.20	5.00	0%	-0.004
24	4473217373	4474617425	1.00	5.40	1.00	5.40	0%	-0.003
25	4474617425	4475917482	0.38	5.74	0.38	5.74	0%	-0.002
26	4475917482	4476617505	0.48	5.28	0.48	5.28	0%	-0.001
27	4476617505	4478217555	2.00	5.39	2.00	5.39	0%	-0.001
28	4478217555	4476117596	0.14	4.53	0.14	4.53	0%	0.000
29	4476117596	4470617604	0.84	4.19	0.84	4.19	0%	0.000
30	4470617604	4468017615	0.22	2.79	0.22	2.79	0%	0.000
31	4468017615	4466917636	0.30	1.66	0.30	1.66	0%	0.000
32	4466917636	4472617716	0.28	3.11	0.28	3.11	0%	-0.002
33	4472617716	4472917726	0.13	2.72	0.13	2.72	0%	0.000
34	4472917726	4468317784	0.41	3.64	0.41	3.64	0%	0.000
Surcharge State (SS) is peak pipe flow depth / diameter when not surcharged. SS=2 indicates the pipe is surcharged and has insufficient capacity. SS=1 indicates the pipe is surcharged due to downstream backwater.								

The HGL freeboard is the City's basement flooding indicator, where values less than 1.8 m indicate risk to basements, and values less than 0.0 m indicate surcharge to the surface. As per the Environmental Assessment (EA) for Area 21, under revised existing conditions there is surcharge and risk of basement flooding indicated along Langbourne Place, where the HGL freeboard is less than 1.8 m from the surface. The addition of the new/planned developments and removal of the flow split at Duncairn Rd (MH4420617136) results in an elevated HGL along The Donway which triggers another HGL exceedance at Duncairn Rd. The Area 21 EA proposed a basement flooding solution on Langbourne Pl as inline storage to control the HGL, which has not yet been constructed. The addition of the 4.1 L/s flow differential from existing condition for the proposed site has minimal impact on the overall system performance, with the same number of sewers experiencing surcharge and the same number of MHs with HGL freeboard less than 1.8 m (note, there are shallow sewers downstream in the valley that are exempt from HGL criteria since there are no private property connections). The maximum rise in HGL is 72 mm where the proposed development connects to the system. While the impact is minimal, until the proposed EA solution is constructed, Criterion II for Basement Flooding Protection is not satisfied and wet weather flow mitigation measures are required to meet Criterion III of the Capacity Guidelines. Wet weather flow mitigation is being evaluated with the City to remove wet weather contributions from the system such that there is a net zero impact to the existing system performance (refer to functional servicing report).

4.3 CONSTRUCTION DEWATERING

Temporary construction groundwater control will be managed such that the dewatering contractor will store, treat (if required) and release to the municipal sanitary sewer with a maximum discharge rate of the site sanitary design flow (7.9 L/s), during dry weather conditions only. Therefore, as per Scenario 2, there is no impact to the sanitary system.

Reference: **Sanitary Downstream Capacity Assessment, 230 The Donway West, North York**

5.0 CONCLUSIONS

The preceding TM outlined the downstream sanitary sewer analysis for the 230-240 The Donway redevelopment. The main findings are summarized as follows:

- The Basement Flooding Protection Program Area 21 hydraulic model was updated to account for new and planned developments since the completion of the Environmental Assessment, and the discovery of the abandoned flow split at Duncairn Rd tht
- The proposed development results in a 4.1 L/s increase in flow contribution over existing condition, based on a wastewater generation rate of 240 L/c/d, a 0.26 L/s/ha extraneous flow allowance, and a long-term groundwater dewatering rate of 1.3 L/s.
- Under dry weather conditions, the existing downstream collection system operates without surcharge. The addition of the proposed development has no appreciable impact on the downstream collection system. Since there is no surcharge in design flow conditions, Criterion I of the Sewer Capacity Assessment Guideline is satisfied.
- Under the revised pre-development extreme wet weather scenario, the HGL freeboard exceedances of the Area 21 EA remain, and are slightly elevated along The Donway and Langbourne Pl due to the abandoned flow split at Dunairn Rd.
- Under post-development extreme wet weather conditions, the HGL rises no greater than 73 mm from revised existing conditions and thus Sewer Capacity Assessment Criterion II is not satisfied without implementation of the City's Area 21 proposed basement flooding solution.
- Therefore, per the City's Sewer Capacity Assessment Guidelines, wet weather flow mitigation measures are required to meet Criterion III, which is being evaluated with the City by way of wet weather flow contribution removal to offet the small 4.1 L/s flow increase from this development.
- For temporary construction dewatering, the contractor will be required to store, treat (if required) and release to the sanitary sewer at no greater that the site design flowd (7.9 L/s), during dry weather conditions only. Therefore, as per Scenario 2, there is no impact to the sanitary system.

Respectfully submitted,

Stantec Consulting Ltd.

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Attachment: Appendix A – Site Flow Calculations
Appendix B – Model Results Summary

APPENDICES

Appendix A Site Flow Calculations

230-240 The Donway, Toronto - Sanitary Downstream Analysis

Stantec

Table A1a

230-240 The Donway

165660180 Site Flow ANALYZED BY: KV

DATE: October 2023 CHECKED BY: DE

Flow Component	Flow (L/s)
	Pre-Development
Sewage[1]	1.03
Extraneous[2]	0.27
Groundwater[3]	2.50
Total WW Design	**3.80**

Pre-Development Land Use:
Schools/churches

Note:
S/C's ID: 4410817105

1 - Sewage Flows:

Parcel Area 1.050 ha

Residential Per Capita 240 L/c/d, for use in Downstream Analysis Calculations

ICI Per Capita 250 L/c/d, for use in Downstream Analysis Calculations

Land Use Type		Units	GFA (sq.m)	Rate	Unit	Population	PF	Sewage Flow (L/s)
ICI	Church	0	10,500	0.0086	c/sq m	90		0.26
	Total @ 240 L/c/d for Residential, 250 L/c/d for ICI					90	4.00	1.03

2 - Extraneous Flow Design Allowance

Predevelopment Rate = 0.26 L/s/ha

Site Area = 1.05 ha

Total Extraneous Flow = 0.27 L/s

3 - Groundwater

Foundation Drain Allowance

Groundwater Discharge Rate 2.5 L/s foundation drainage confirmed by dye testing (Source: EXP, October 18, 2023)

230-240 The Donway, Toronto - Sanitary Downstream Analysis

Table A1b

230-240 The Donway

Site Flow

165660180

DATE: October 2023

ANALYZED BY: KV

CHECKED BY: DE

Flow Component	Flow (L/s)		
	Post-Development	Pre-Development	Delta
Sewage[1]	6.32	1.03	5.29
Extraneous[2]	0.27	0.27	0.00
Groundwater[3]	1.30	2.50	-1.20
Total WW Design	**7.89**	**3.80**	**4.09**

Post-Development Land Use:

Residential Apartments in addition to existing church

1 - Sewage Flows:

Parcel Area 1.050 ha

Residential Per Capita 240 L/c/d, for use in Downstream Analysis Calculations

Land Use Type		Units	GFA (m^2)	Rate	Unit	Population	PF	Sewage Flow (L/s)
Residential	1-Bed	162	-	1.4	c/unit	227		0.63
	2-Bed	110		2.1	c/unit	231		0.64
	3-Bed	32		3.1	c/unit	100		0.28
ICI	Church	0	-	0.0086	c/sq m	19		0.05
	Total @ L/c/d for Residential, 250 L/c/d for Commercial					577	3.94	6.32

2 - Extraneous Flow Design Allowance

Post-Development Rate = 0.26 L/s/ha

Site Area = 1.05 ha

Total Extraneous Flow = 0.27 L/s

3 - Groundwater

Exemption Request to City Foundation Drainage policy, to allow long-term groundwater flow to the municipal sewer

Groundwater Discharge Rate 1.3 L/s

Source: Client confirmed PDS System related to Groundwater management strategy to discharge 1.3 L/s (EXP, October 18, 2023)

Notes 1 - Proposed church equivalent population of 19 provided by EXP (October 2023).

230-240 The Donway, Toronto - Sanitary Downstream Analysis
Review of Proposed/Constructed Developments Upstream of Site Since Completion of Area 21 Model (2008)
Recalculated Equivalent Population Based on Available Building Stats/Functional Servicing Study

FILE NUMBER: 165660180

DATE: October 2023

Table A2 - Summary of Upstream Developments

	Townh ouse	1-Bed	2-Bed	3-Bed	Commercial / Retail Area (m^2)	Office Area (m^2)	Institutional Area (m^2)	Institutional (#beds)			
Unit Rates [2]	*2.7*	*1.4*	*2.1*	*3.1*	*1.1 /100m2*	*3.3 /100m2*	*0.0258 person/GFA*	*1 /bed/30m2*		*0.26*	
										Extraneous Flow	

Street Address	Application Date	# Storeys	Status	Development Type	Town-house Units	1-Bed	2-Bed	3-Bed	Commercial / Retail Area (m^2)	Office Area (m^2)	Institutional Area (m^2)	Institutional (#beds)	Calc'd Equiv. Population	Site Area (ha)	Qextran (L/s)	GW (L/s)	Site Flow (L/s)	Ex. Area 21 Subcatchment ID	New Future Development S/C
895 Lawrence Avenue East	2022	two towers of 17 and 22-storeys and a 6-storey podium	Under Review	Residential / Commercial	0	327	67	44	1,513	0	0	0	752	0.76	0.20	0.00	8.30	4371917072	895LawrenceAveE
1450 Don Mills Road	2022	five one-storey + existing three storey	NOAC Issued	Commercial	0	0	0	0	8,700	0	0	0	96	0.92	0.24	0.00	1.42	4567617004	1450DonMillsRd
1299 Don Mills Road	2020	Four (4) residential development lots	Await Expiry Date	Residential	4	0	0	0	0	0	0	0	11	0.24	0.06	0.00	0.20	4490617196	1299DonMillsRd
15 Mallow Road	2020	five blocks of three-storey townhouses	Approved	Residential	33	0	0	0	0	0	0	0	89	2.84	0.74	0.00	1.79	4439117550	15MallowRd
939 Lawrence Avenue East	2015		Hearing Scheduled	Residential	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	DonMillsN	N/A
40 Moccasin Trail	2013	a 10 storey condo building, 4 storey condo building and 4 storey rental replacement building	OMB Approved	Residential	4	16	71	9	0	0	0	0	210	0.47	0.12	0.12	2.66	4322517968	40MoccasinTrl
50 Green Belt Drive				Residential	0	80	114	0	0	0	0	0	351	0.74	0.19	0.02	4.16	4322517968	0
200 David Dunlap Circle	2013	3-storey townhouse	OMB Approved	Residential	63	0	0	0	0	0	0	0	170	0.84	0.22	0.00	2.19	4319017995	200DavidDunlapCrcl
801 York Mills Rd & 1855 Leslie St	2019	two 16 storey towers, and a 5 storey	OMB Appeal	Residential	0	247	158	57	0	0	0	0	854	1.12	0.29	0.00	3.98	4563916227	801YorkMillsRd_1855LeslieSt
2,4,6 The Donway E & 1053 Don Mills Road	2021	16 to 32 storeys	Under Review	Residential / Commercial	0	651	416	118	78	0	0	0	2,152	2.00	0.52	1.32	23.12	4355417687	2_4_6TheDonwayE_1053DonMillsRd
150 The Donway W	2022	two buildings of 10-storeys (33.31 m) and 15-storeys (49.94 m) in height	Under Review	Residential	0	100	73	24	0	0	0	0	368	1.02	0.27	0.00	4.39	4354217071	150TheDonwayW
52 Scarsdale Road	2022	new two-storey industrial-office building with a gross floor area of 3,903.54 sq.m	Closed	Industrial / Office	0	0	0	0	0	3,904	0	0	129	0.52	0.14	0.00	1.71	4524116499	52 Scarsdale Rd

Notes:
1. Population and Long-Term Groundwater (GW) Extracted from Servicing Reports available on the City of Toronto Development Application Portal (http://app.toronto.ca/AIC/index.do)
2. Population calculated from unit rates based on City of Toronto Design Criteria for Sewers and Watermains (January 2021)

230-240 The Donway, Toronto - Sanitary Downstream Analysis

Table A3

895 Lawrence Avenue East

165660180 Site Flow ANALYZED BY: KV

DATE: October 2023 CHECKED BY: DE

Flow Component	Flow (L/s)	
	Post-Development	Pre-Development
Sewage[1]	8.10	0.28
Extraneous[2]	0.20	0.00
Groundwater[3]	0.00	0.20
Total WW Design	**8.30**	**0.48**

Post-Development Land Use:
Mixed use towers

1 - Sewage Flows:

Parcel Area 0.760 ha

Residential Per Capita 240 L/c/d, for use in Downstream Analysis Calculations

ICI Per Capita 250 L/c/d, for use in Downstream Analysis Calculations

Land Use Type		Units	GFA (m^2)	Rate	Unit	Population	PF	Sewage Flow (L/s)
Residential	1-Bed	327	-	1.4	c/unit	458		1.27
	2-Bed	67		2.1	c/unit	141		0.39
	3-Bed	44		3.1	c/unit	136		0.38
ICI	Commercial / Retail Area (m2	-	1513	1.1	c/100 sq m	17		0.05
	Total @ 240 L/c/d for Residential, 250 L/c/d for Commercial					752	3.88	8.10

2 - Extraneous Flow Design Allowance

Post-Development Rate = 0.26 L/s/ha

Site Area = 0.76

Total Extraneous Flow = 0.20 L/s

3 - Groundwater

Long term groundwater discharge = 0.00 L/s

Source: 895 Lawrence Avenue East, Functional Servicing and Stormwater Management Report (FCHT Holdings, 2022)

230-240 The Donway, Toronto - Sanitary Downstream Analysis

Table A4

1450 Don Mills Road

165660180 Site Flow ANALYZED BY: KV

DATE: October 2023 CHECKED BY: DE

Flow Component	Flow (L/s)	
	Post-Development	Pre-Development
Sewage[1]	1.18	-
Extraneous[2]	0.24	-
Groundwater[3]	0.00	-
Total WW Design	**1.42**	**-**

Post-Development Land Use:

Mixed use townhouses/commercial. The civil works pertaining to the Phase 1 development (1.05 ha) is detailed in the report titled "Functional Servicing and Stormwater Management Brief, Renovations and Repurposing of Existing Building at 1450 Don Mills Road, Toronto, ON" (Phase 1 FSR) prepared by Stantec Consulting Ltd, dated Dec. 20, 2018.

1 - Sewage Flows:

Parcel Area 0.920 ha

Residential Per Capita 240 L/c/d, for use in Downstream Analysis Calculations

ICI Per Capita 250 L/c/d, for use in Downstream Analysis Calculations

Land Use Type		Units	GFA (m^2)	Rate	Unit	Population	PF	Sewage Flow (L/s)
ICI	Commercial / Retail Area (m2)	-	8,700	1.1	c/100 sq m	96		0.28
	Total @ 240 L/c/d for Residential, 250 L/c/d for Commercial					96	4.25	1.18

2 - Extraneous Flow Design Allowance

Post-Development Rate = 0.26 L/s/ha

Site Area = 0.92 ha

Total Extraneous Flow = 0.24 L/s

3 - Groundwater

Long term groundwater discharge = 0.00 L/s

Source: Stormwater Management (SWM) Report, Stantec (2020)

230-240 The Donway, Toronto - Sanitary Downstream Analysis

Table A5

1299 Don Mills Road

165660180 Site Flow ANALYZED BY: KV

DATE: October 2023 CHECKED BY: DE

Flow Component	Flow (L/s)	
	Post-Development	Pre-Development
Sewage[1]	0.13	-
Extraneous[2]	0.06	-
Groundwater[3]	0.00	-
Total WW Design	**0.20**	**-**

Post-Development Land Use:
Four (4) residential development lots

1 - Sewage Flows:

Parcel Area 0.24 ha

Residential Per Capita 240 L/c/d, for use in Downstream Analysis Calculations

ICI Per Capita 250 L/c/d, for use in Downstream Analysis Calculations

Land Use Type		Units	GFA (m^2)	Rate	Unit	Population	PF	Sewage Flow (L/s)
Residential	Townhouse	4	-	2.7	c/unit	11		0.03
	Total @ 240 L/c/d for Residential, 250 L/c/d for Commercial					11	4.41	0.13

2 - Extraneous Flow Design Allowance

Post-Development Rate = 0.26 L/s/ha

Site Area = 0.24 ha

Total Extraneous Flow = 0.06 L/s

3 - Groundwater

Long term groundwater discharge = 0.00 L/s

Source: Transportation Report (Toronto Services, 2020) & Draft R-Plan (WSP, 2019)

230-240 The Donway, Toronto - Sanitary Downstream Analysis

Table A6

15 Mallow Road

165660180 Site Flow ANALYZED BY: KV

DATE: October 2023 CHECKED BY: DE

Flow Component	Flow (L/s)	
	Post-Development	Pre-Development
Sewage[1]	1.05	-
Extraneous[2]	0.74	-
Groundwater[3]	0.00	-
Total WW Design	**1.79**	**-**

Post-Development Land Use:
Residential development
Condo : 33 Units

Pre-Development was a vacant parcel.

1 - Sewage Flows:

Parcel Area 2.835 ha

Residential Per Capita 240 L/c/d, for use in Downstream Analysis Calculations

ICI Per Capita 250 L/c/d, for use in Downstream Analysis Calculations

Land Use Type		Units	GFA (m^2)	Rate	Unit	Population	PF	Sewage Flow (L/s)
Residential	Townhouse	33	1,377	2.7	c/unit	89		0.25
	Total @ L/c/d for Residential, 250 L/c/d for Commercial					89	4.26	1.05

2 - Extraneous Flow Design Allowance

Post-Development Rate = 0.26 L/s/ha

Site Area = 2.84 ha

Total Extraneous Flow = 0.74 L/s

3 - Groundwater

Long term groundwater discharge = 0.00 L/s

Source: Project Data Sheet (2020)

230-240 The Donway, Toronto - Sanitary Downstream Analysis

Table A7

939 Lawrence Avenue East

165660180 Site Flow ANALYZED BY: KV

DATE: October 2023 CHECKED BY: DE

Flow Component	Flow (L/s)	
	Post-Development	Pre-Development
Sewage[1]	0.00	-
Extraneous[2]	0.00	-
Groundwater[3]	0.00	-
Total WW Design	0.00	-

Post-Development Land Use:

No information Available

1 - Sewage Flows:

Parcel Area 0 ha

Residential Per Capita 240 L/c/d, for use in Downstream Analysis Calculations

ICI Per Capita 250 L/c/d, for use in Downstream Analysis Calculations

Land Use Type		Units	GFA (m^2)	Rate	Unit	Population	PF	Sewage Flow (L/s)
Residential	Townhouse	0	-	2.7	c/unit	0		0.00
ICI	Commercial / Retail Area (m2)	-	0	1.1	c/100 sq m	0		0.00
	Total @ L/c/d for Residential, 250 L/c/d for Commercial					0	4.50	0.00

2 - Extraneous Flow Design Allowance

Post-Development Rate = 0.26 L/s/ha

Site Area = 0.00 ha

Total Extraneous Flow = 0.00 L/s

3 - Groundwater

Long term groundwater discharge = 0.00 L/s

Source: 3050 Pharmacy Ave Functional Servicing/Stormwater Management Report (Counterpoint Engineering, 2021)

230-240 The Donway, Toronto - Sanitary Downstream Analysis

Table A8

40 Moccasin Trail

165660180 Site Flow ANALYZED BY: KV

DATE: October 2023 CHECKED BY: DE

Flow Component	Flow (L/s)	
	Post-Development	Pre-Development
Sewage[1]	2.42	-
Extraneous[2]	0.12	-
Groundwater[3]	0.12	-
Total WW Design	**2.66**	**-**

Post-Development Land Use:

Residential

Sanitary Capacity Analysis the per capita used is 450 L/cap/d

Note:

Population of the existing site development consists of 3 townhouse buildings with 224 people.

1 - Sewage Flows:

Parcel Area 0.470 ha

Residential Per Capita 240 L/c/d, for use in Downstream Analysis Calculations

ICI Per Capita 250 L/c/d, for use in Downstream Analysis Calculations

Land Use Type		Units	GFA (m^2)	Rate	Unit	Population	PF	Sewage Flow (L/s)
Residential	1-Bed	16	-	1.4	c/unit	22		0.06
	2-Bed	71		2.1	c/unit	149		0.41
	3-Bed	9		3.1	c/unit	28		0.08
	Townhouse	4		2.7	c/unit	11		0.03
	Total @ 240 L/c/d for Residential, 250 L/c/d for Commercial					210	4.14	2.42

2 - Extraneous Flow Design Allowance

Post-Development Rate = 0.26 L/s/ha

Site Area = 0.47 ha

Total Extraneous Flow = 0.12 L/s

3 - Groundwater

Long term groundwater discharge = 0.12 L/s

Source: Functional Servicing Report (Schaeffers Consulting Engineers, 2018)

230-240 The Donway, Toronto - Sanitary Downstream Analysis

Table A9

50 Green Belt Drive

165660180 Site Flow ANALYZED BY: KV

DATE: October 2023 CHECKED BY: DE

Flow Component	Flow (L/s)	
	Post-Development	Pre-Development
Sewage[1]	3.95	-
Extraneous[2]	0.19	-
Groundwater[3]	0.02	-
Total WW Design	**4.16**	**-**

Post-Development Land Use:
Residential
In the FSR the per capita used is 450 L/cap/d

1 - Sewage Flows:

Parcel Area 0.740 ha

Residential Per Capita 240 L/c/d, for use in Downstream Analysis Calculations

ICI Per Capita 250 L/c/d, for use in Downstream Analysis Calculations

Land Use Type		Units	GFA (m^2)	Rate	Unit	Population	PF	Sewage Flow (L/s)
Residential	1-Bed	80	-	1.4	c/unit	112		0.31
	2-Bed	114		2.1	c/unit	239		0.67
	Total @ 240 L/c/d for Residential, 250 L/c/d for Commercial					351	4.05	3.95

2 - Extraneous Flow Design Allowance

Post-Development Rate = 0.26 L/s/ha

Site Area = 0.74 ha

Total Extraneous Flow = 0.19 L/s

3 - Groundwater

Long term groundwater discharge = 0.02 L/s

Source: Functional Servicing Report (Schaeffers Consulting Engineers, 2018)

230-240 The Donway, Toronto - Sanitary Downstream Analysis

Table A10

200 David Dunlap Circle

165660180 Site Flow ANALYZED BY: KV

DATE: October 2023 CHECKED BY: DE

Flow Component	Flow (L/s)	
	Post-Development	Pre-Development
Sewage[1]	1.97	-
Extraneous[2]	0.22	-
Groundwater[3]	0.00	-
Total WW Design	**2.19**	**-**

Post-Development Land Use:
Residential

1 - Sewage Flows:

Parcel Area 0.840 ha

Residential Per Capita 240 L/c/d, for use in Downstream Analysis Calculations

ICI Per Capita 250 L/c/d, for use in Downstream Analysis Calculations

Land Use Type		Units	GFA (m^2)	Rate	Unit	Population	PF	Sewage Flow (L/s)
Residential	Townhouse	63	-	2.7	c/unit	170		0.47
	Total @ L/c/d for Residential, 250 L/c/d for Commercial					170	4.17	1.97

2 - Extraneous Flow Design Allowance

Post-Development Rate = 0.26 L/s/ha

Site Area = 0.84 ha

Total Extraneous Flow = 0.22 L/s

3 - Groundwater

Long term groundwater discharge = 0.00 L/s

Source: Functional Servicing and Stormwater Management Report (Urbtech Engineering Inc., 2016)

230-240 The Donway, Toronto - Sanitary Downstream Analysis

Table A11

801 York Mills Rd & 1855 Leslie St

165660180 Site Flow ANALYZED BY: KV

DATE: October 2023 CHECKED BY: DE

Flow Component	Flow (L/s)	
	Post-Development	Pre-Development
Sewage[1]	3.69	1.63
Extraneous[2]	0.29	0.00
Groundwater[3]	0.00	0.00
Total WW Design	**3.98**	**1.63**

Post-Development Land Use:
Residential
In the FSR the per capita used is 450 L/cap/d

1 - Sewage Flows:

Parcel Area 1.120 ha

Residential Per Capita 240 L/c/d, for use in Downstream Analysis Calculations

ICI Per Capita 250 L/c/d, for use in Downstream Analysis Calculations

Land Use Type		Units	GFA (m^2)	Rate	Unit	Population	PF	Sewage Flow (L/s)
Residential	1-Bed	247	-	1.4	c/unit	346		0.96
	2-Bed	158		2.1	c/unit	332		0.92
	3-Bed	57		3.1	c/unit	177		0.49
	Total @ 250 L/c/d for Residential, 250 L/c/d for Commercial					854	3.84	3.69

2 - Extraneous Flow Design Allowance

Post-Development Rate = 0.26 L/s/ha

Site Area = 1.12 ha

Total Extraneous Flow = 0.29 L/s

3 - Groundwater

Long term groundwater discharge = 0.00 L/s

Source: Functional Servicing and Stormwater Management Report (R.J. Burnside & Associates Limited, 2022)

230-240 The Donway, Toronto - Sanitary Downstream Analysis

Table A12

2,4,6 The Donway E & 1053 Don Mills Road

165660180 Site Flow ANALYZED BY: KV

DATE: October 2023 CHECKED BY: DE

Flow Component	Flow (L/s)	
	Post-Development	Pre-Development
Sewage[1]	21.28	3.69
Extraneous[2]	0.52	0.00
Groundwater[3]	1.32	0.00
Total WW Design	**23.12**	**3.69**

Post-Development Land Use:

Mixed use tower

Notes:

A total residential population was calculated to be 2,155 persons, and with an additional 3 persons (from office use), the total equivalent population for the stie is 2,173 persons.

1 - Sewage Flows:

Parcel Area 2.00 ha

Residential Per Capita 240 L/c/d, for use in Downstream Analysis Calculations

ICI Per Capita 250 L/c/d, for use in Downstream Analysis Calculations

Land Use Type		Units	GFA (m^2)	Rate	Unit	Population	PF	Sewage Flow (L/s)
Residential	1-Bed	651	-	1.4	c/unit	911		2.53
	2-Bed	416		2.1	c/unit	874		2.43
	3-Bed	118		3.1	c/unit	366		1.02
ICI	Commercial / Retail Area (m2)	-	78	1.1	-	1		0.002
	Total @ 2.1 L/c/d for Residential, 250 L/c/d for Commercial					2,152	3.56	21.28

2 - Extraneous Flow Design Allowance

Post-Development Rate = 0.26 L/s/ha

Site Area = 2.00 ha

Total Extraneous Flow = 0.52 L/s

3 - Groundwater

Long term groundwater discharge = 1.32 L/s

Source: Functional Servicing and Stormwater Management Report (Counterpoint Engineering, 2021)

230-240 The Donway, Toronto - Sanitary Downstream Analysis

Table A13

150 The Donway W

165660180

Site Flow

ANALYZED BY: KV

DATE: October 2023

CHECKED BY: DE

Flow Component	Flow (L/s)	
	Post-Development	Pre-Development
Sewage[1]	4.13	-
Extraneous[2]	0.27	-
Groundwater[3]	0.00	-
Total WW Design	**4.39**	**-**

Post-Development Land Use:
Residential

1 - Sewage Flows:

Parcel Area 1.02 ha

Residential Per Capita 240 L/c/d, for use in Downstream Analysis Calculations

ICI Per Capita 250 L/c/d, for use in Downstream Analysis Calculations

Land Use Type		Units	GFA (m^2)	Rate	Unit	Population	PF	Sewage Flow (L/s)
Residential	1-Bed	100	-	1.4	c/unit	140		0.39
	2-Bed	73		2.1	c/unit	153		0.43
	3-Bed	24		3.1	c/unit	74		0.21
	Total @ 240 L/c/d for Residential, 250 L/c/d for ICI					368	4.04	4.13

2 - Extraneous Flow Design Allowance

Post-Development Rate = 0.26 L/s/ha

Site Area = 1.02 ha

Total Extraneous Flow = 0.27 L/s

3 - Groundwater

Long term groundwater discharge = 0.00 L/s

Source: Functional Servicing and Stormwater Management Report (Husson, 2022)

230-240 The Donway, Toronto - Sanitary Downstream Analysis

Table A14

52 Scarsdale Road

165660180 Site Flow ANALYZED BY: KV

DATE: October 2023 CHECKED BY: DE

Flow Component	Flow (L/s)	
	Post-Development	Pre-Development
Sewage[1]	1.57	-
Extraneous[2]	0.14	-
Groundwater[3]	0.00	-
Total WW Design	**1.71**	**-**

Post-Development Land Use:
Industrial-Office
Parcel area from survey plan

1 - Sewage Flows:

Parcel Area 0.52 ha

Residential Per Capita 240 L/c/d, for use in Downstream Analysis Calculations

ICI Per Capita 250 L/c/d, for use in Downstream Analysis Calculations

Land Use Type		Units	GFA (m^2)	Rate	Unit	Population	PF	Sewage Flow (L/s)
ICI	Office Area (m2)	-	3903.54	3.3	-	129		0.373
	Total @ 240 L/c/d for Residential, 250 L/c/d for ICI					129	4.21	1.57

2 - Extraneous Flow Design Allowance

Post-Development Rate = 0.26 L/s/ha

Site Area = 0.52 ha

Total Extraneous Flow = 0.14 L/s

3 - Groundwater

Long term groundwater discharge = 0.00 L/s

Source: Project Data Sheet & Survey Plans (2022)

230-240 The Donway, Toronto - Sanitary Downstream Analysis

Table A15

Groundwater Discharge Summary

165660180 ANALYZED BY: KV

DATE: October 2023 CHECKED BY: DE

Short-term construction dewatering		
Max release rate	7.90	L/s

For the temporary dewatering for the development, the dewatering contractor will store the runoff and release to the municipal sanitary sewer with a max release rate of the allocated sanitary demand (7.9 L/s).

Source: Email from EXP, October 20, 2023

Long-term groundwater discharge		
Average Long-Term Rate	39,744	L/d
Average Long-Term Rate	0.46	L/s
Instantaneous Sump Pump Discharge	1.30	L/s

Source: Stormwater Management Report (EXP Services Inc., 2021)

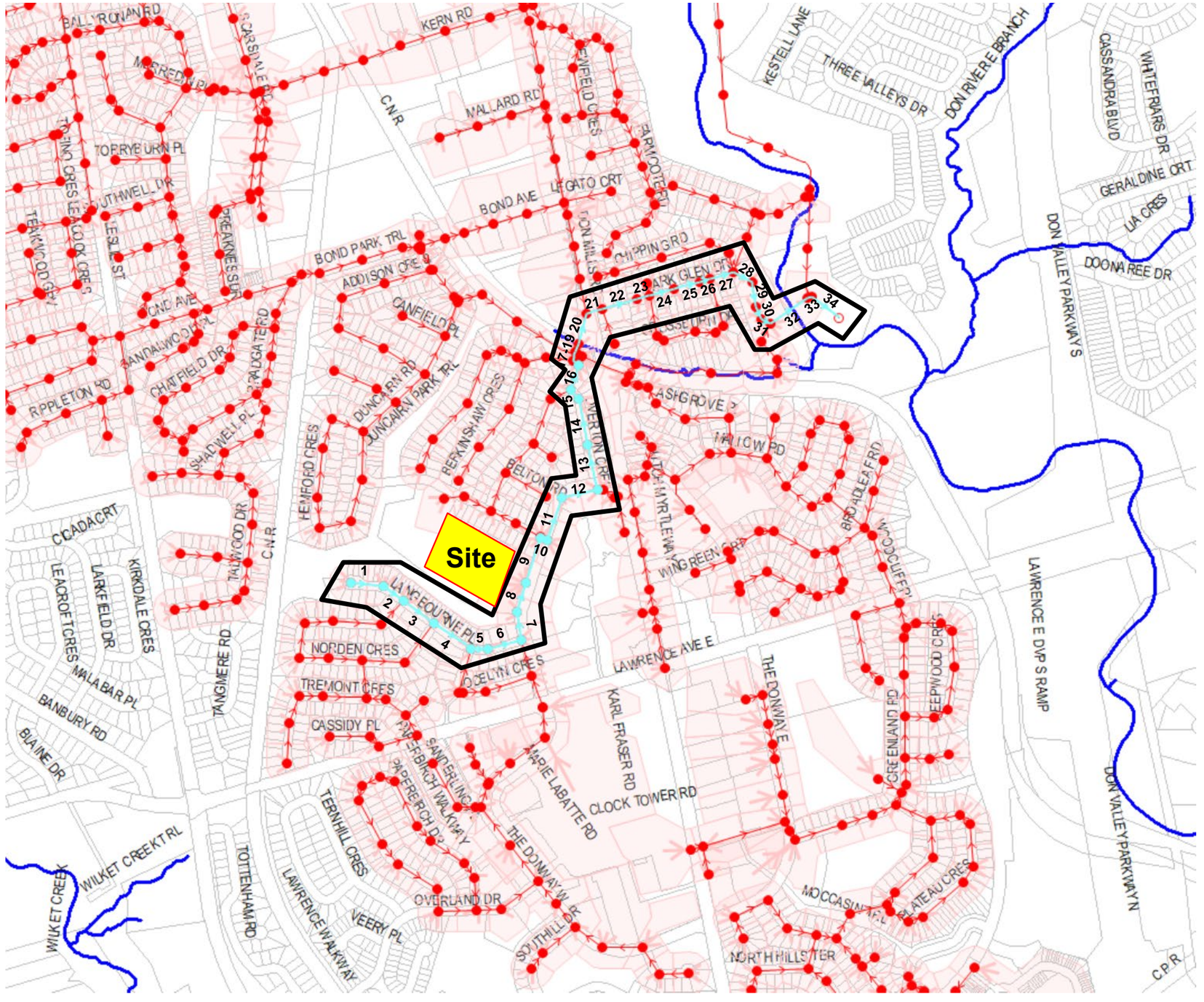
Appendix B Model Results Summary

230-240 The Donway W Proposed Development
Sanitary Sewer Downstream Analysis

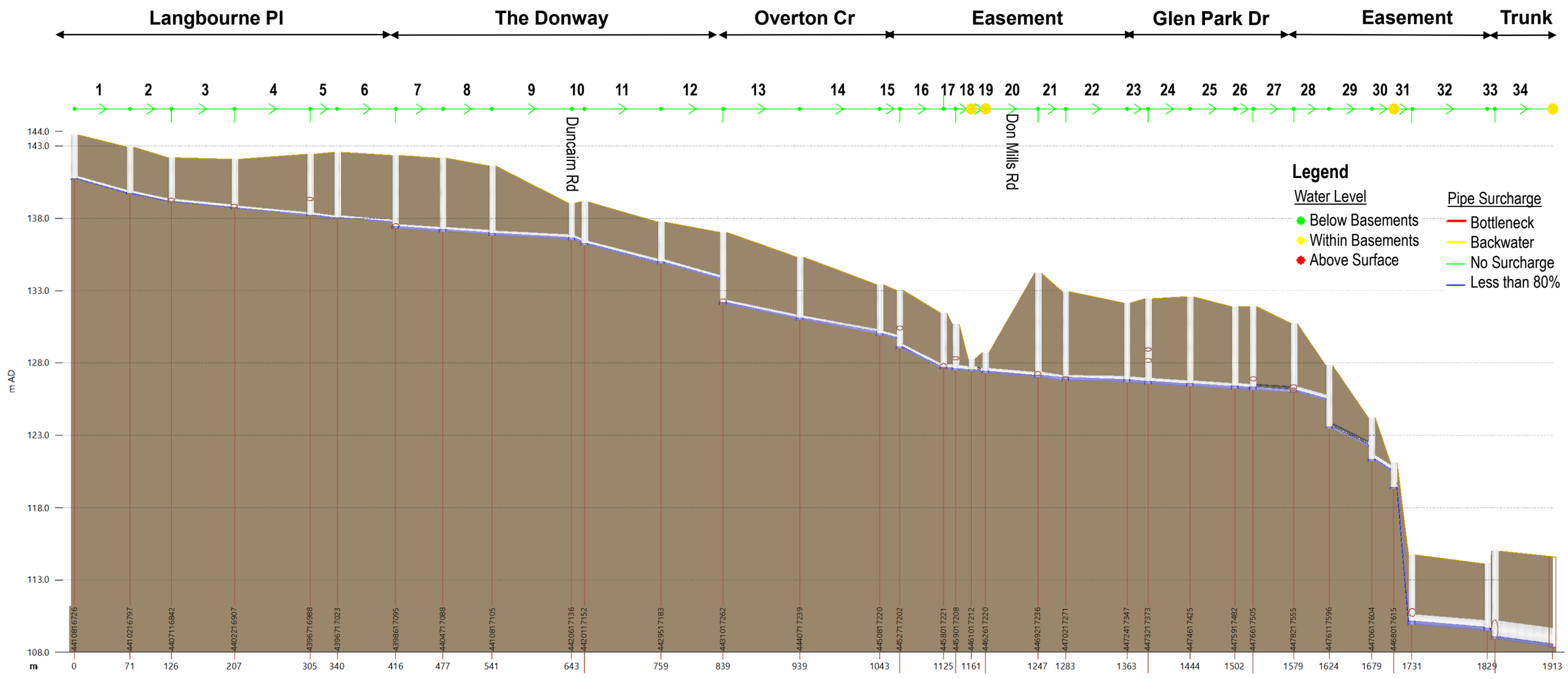
Model Results Summary

October 2023

Location	Pg	Description
INFOWORKS MODEL PLAN VIEW	2	General Study Area from Area 21 Model Indicating Downstream Trace Profile
MODEL PROFILE RESULTS		
SCENARIO 1: PRE-DEVELOPMENT DRY WEATHER FLOW CONDITIONS	3	Revised Baseline, Dry Weather
SCENARIO 2: POST-DEVELOPMENT DRY WEATHER FLOW CONDITIONS	4	Proposed Development Added, Dry Weather
SCENARIO 3: PRE-DEVELOPMENT EXTREME WET WEATHER FLOW CONDITIONS	5	Revised Baseline, May 12, 2000 Design Event
SCENARIO 4: POST-DEVELOPMENT EXTREME WET WEATHER FLOW CONDITIONS	6	Proposed Development Added, May 12, 2000 Design Event
MODEL TABULATED RESULTS		
SCENARIO 1: PRE-DEVELOPMENT DRY WEATHER FLOW CONDITIONS	7	Revised Baseline, Dry Weather
SCENARIO 2: POST-DEVELOPMENT DRY WEATHER FLOW CONDITIONS	8	Proposed Development Added, Dry Weather
SCENARIO 3: PRE-DEVELOPMENT EXTREME WET WEATHER FLOW CONDITIONS	9	Revised Baseline, May 12, 2000 Design Event
SCENARIO 4: POST-DEVELOPMENT EXTREME WET WEATHER FLOW CONDITIONS	10	Proposed Development Added, May 12, 2000 Design Event



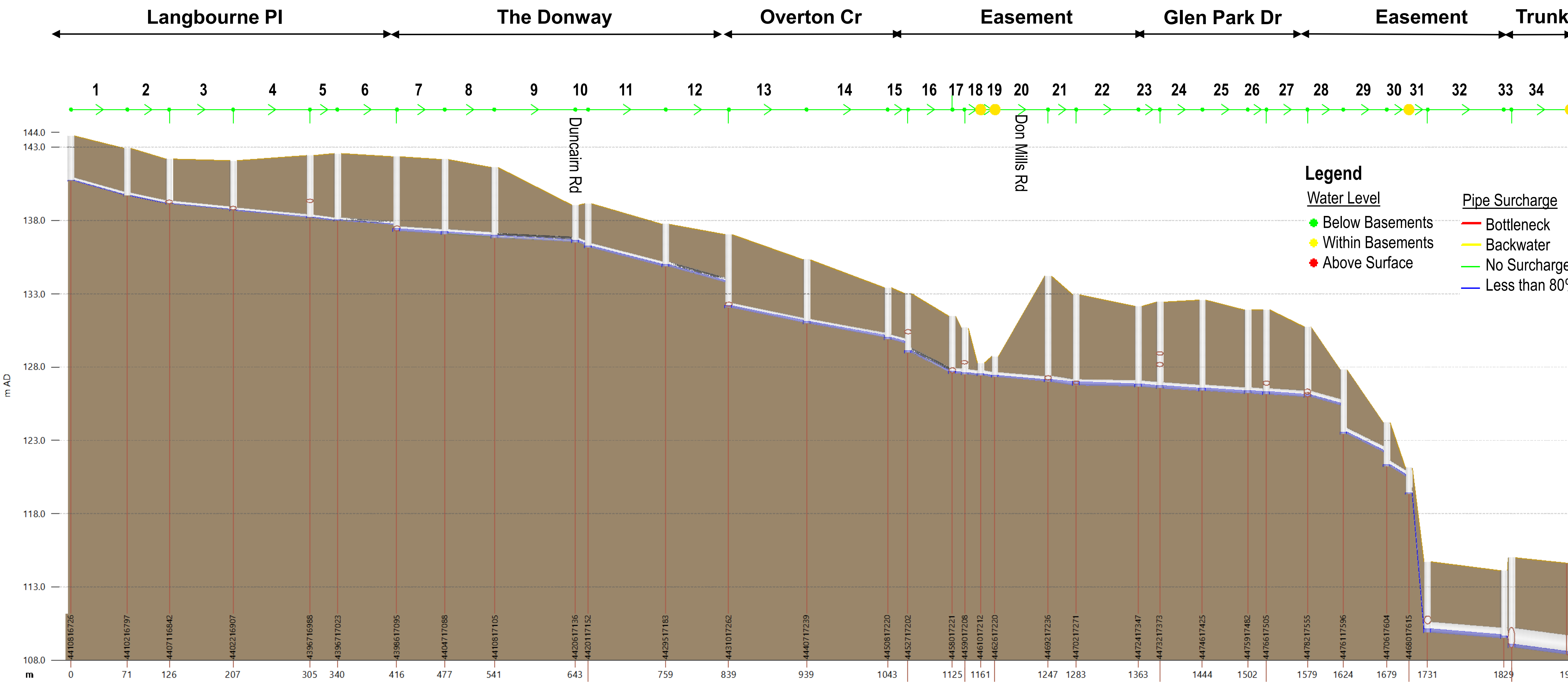
Stantec	230-240 The Donway Proposed Development - Sanitary Sewer Analysis Appendix B – InfoWorks Model Results	SCENARIO: All Scenarios RESULT: Plan View LOCATION Basement Flooding Area 21	Assignment: Date: October 2023	Figure: Page: 2



Link	-	-	4407116842.1	4402216907.1	-	-	-	-	4410817105.1	-	4420117152.1	4429517183.1	4431017262.1	4440717239.1	-	-	-	-	-	-	-	4470217271.1	-	-	-	-	-	-	-	-	-	4466917636.1		-
length (m)	71.5	54.2	81.6	97.9	35.1	75.2	61.4	63.7	102.8	-	99.0	80.2	99.8	103.5	25.6	56.6	-	-	-	68.0	36.0	79.4	27.3	54.2	58.2	-	52.9	45.8	55.1	28.4	-	97.8		74.4
Shape ID	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	-	CIRC	CIRC	CIRC	CIRC	-	CIRC	-	-	-	CIRC	CIRC	CIRC	-	CIRC	CIRC	-	CIRC	CIRC	CIRC	-	-	CIRC		CIRC
width (mm)	250	250	250	250	250	250	350	375	375	-	350	350	350	350	350	375	-	-	-	375	450	450	450	450	450	450	450	450	450	450	450	750		1350
height (mm)	250	250	250	250	250	250	350	375	375	-	350	350	350	350	350	375	-	-	-	375	450	450	450	450	450	450	450	450	450	450	450	750		1350
us inv (m AD)	140.693	139.664	139.114	138.643	-	137.971	137.276	137.053	136.799	-	136.130	134.850	132.050	130.963	-	128.977	-	-	-	127.310	-	126.750	-	126.545	126.382	-	126.136	125.960	123.440	-	-	109.905		108.879
ds inv (m AD)	139.754	139.164	138.735	138.212	-	137.707	137.093	136.859	136.547	-	134.890	133.780	131.043	130.037	-	127.664	-	-	-	127.040	-	126.690	-	126.382	126.199	-	125.977	125.410	122.210	-	-	109.515		108.381
grad (m/m)	0.01313	0.00923	0.00465	0.00440	-	0.00351	0.00298	0.00304	0.00245	-	0.01252	0.01334	0.01009	0.00895	-	0.02318	-	-	-	0.00397	-	0.00076	-	0.00300	0.00314	-	0.00300	0.01201	0.02231	-	-	0.00399		0.00670
pfc (m3/s)	0.068	0.057	0.041	0.039	0.043	0.035	0.080	0.091	0.087	-	0.163	0.169	0.147	0.138	-	0.267	-	-	-	0.110	0.228	0.078	-	0.156	0.160	-	0.156	0.313	0.426	-	-	0.703		4.370
surc	0.10	0.09	0.13	0.19	0.19	0.21	0.41	0.41	0.41	-	0.32	0.32	0.36	0.36	0.36	0.30	-	-	-	0.26	0.51	0.53	0.39	0.39	0.40	-	0.40	0.30	0.26	0.26	-	0.31		0.14
US flow (m3/s)	0.00011	0.00018	0.00082	0.00269	-	0.00293	0.02808	0.02867	0.02990	-	0.03383	0.03384	0.03673	0.03711	-	0.04514	-	-	-	0.01616	-	0.05035	-	0.05065	0.05081	-	0.05226	0.05324	0.05325	-	-	0.13921		0.17316

Node	-	-	-	4402216907	-	-	-	-	-	4410817105	-	-	4429517183	4431017262	4440717239	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ground (m AD)	-	142.926	142.185	142.075	142.427	142.564	142.343	142.154	141.616	139.050	139.143	137.736	137.040	135.317	133.410	-	-		-	-	132.928	-	-	132.570	-	-	-	-	-	-	-	114.727	-	-	-	-
expr:HGL Freeboard	-	3.239812	3.039736	3.383823	4.214216	-	4.922239	4.945428	4.663882	-	-	2.773918	4.865302	4.228392	3.398510	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SCENARIO 1



Link		-	-	4407116842.1	4402216907.1	-	-	-	-	4410817105.1	-	4420117152.1	4429517183.1
length (m)		71.5	54.2	81.6	97.9	35.1	75.2	61.4	63.7	102.8	-	99.0	80.2
Shape ID		CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	-	CIRC	CIRC
width (mm)		250	250	250	250	250	250	350	375	375	-	350	350
height (mm)		250	250	250	250	250	250	350	375	375	-	350	350
us inv (m AD)		140.693	139.664	139.114	138.643	-	137.971	137.276	137.053	136.799	-	136.130	134.850
ds inv (m AD)		139.754	139.164	138.735	138.212	-	137.707	137.093	136.859	136.547	-	134.890	133.780
grad (m/m)		0.01313	0.00923	0.00465	0.00440	-	0.00351	0.00298	0.00304	0.00245	-	0.01252	0.01334
pfc (m3/s)		0.068	0.057	0.041	0.039	0.043	0.035	0.080	0.091	0.087	-	0.163	0.169
surc		0.10	0.09	0.13	0.19	0.19	0.21	0.41	0.41	0.44	-	0.34	0.34
US flow (m3/s)		0.00011	0.00018	0.00082	0.00269	-	0.00293	0.02808	0.02866	0.03397	-	0.03790	0.03791

Link	4431017262.1	4440717239.1	-	-	-	-	-	-	-	4470217271.1	-	-
length (m)	99.8	103.5	25.6	56.6	-	-	-	68.0	36.0	79.4	27.3	54.2
Shape ID	CIRC	CIRC	-	CIRC	-	-	-	CIRC	CIRC	CIRC	-	CIRC
width (mm)	350	350	350	375	-	-	-	375	450	450	450	450
height (mm)	350	350	350	375	-	-	-	375	450	450	450	450
us inv (m AD)	132.050	130.963	-	128.977	-	-	-	127.310	-	126.750	-	126.545
ds inv (m AD)	131.043	130.037	-	127.664	-	-	-	127.040	-	126.690	-	126.382
grad (m/m)	0.01009	0.00895	-	0.02318	-	-	-	0.00397	-	0.00076	-	0.00300
pfc (m3/s)	0.147	0.138	-	0.267	-	-	-	0.110	0.228	0.078	-	0.156
surc	0.38	0.38	0.38	0.31	-	-	-	0.27	0.51	0.53	0.39	0.40
US flow (m3/s)	0.04080	0.04118	-	0.04921	-	-	-	0.01718	-	0.05138	-	0.05167

Link	-	-	-	-	-	-	-	4466917636.1		-
length (m)	58.2	-	52.9	45.8	55.1	28.4	-	97.8		74.4
Shape ID	CIRC	-	CIRC	CIRC	CIRC	-	-	CIRC		CIRC
width (mm)	450	450	450	450	450	450	450	750		1350
height (mm)	450	450	450	450	450	450	450	750		1350
us inv (m AD)	126.382	-	126.136	125.960	123.440	-	-	109.905		108.879
ds inv (m AD)	126.199	-	125.977	125.410	122.210	-	-	109.515		108.381
grad (m/m)	0.00314	-	0.00300	0.01201	0.02231	-	-	0.00399		0.00670
pfc (m3/s)	0.160	-	0.156	0.313	0.426	-	-	0.703		4.370
surc	0.40	-	0.40	0.30	0.26	0.26	-	0.31		0.15
US flow (m3/s)	0.05183	-	0.05329	0.05427	0.05428	-	-	0.14329		0.17724

Node	-	-	-	4402216907	-	-	-	-	4410817105	-	-	4429517183
ground (m AD)	-	142.926	142.185	142.075	142.427	142.564	142.343	142.154	141.616	139.050	139.143	137.736
expr:HGL Freeboard	-	3.239812	3.039736	3.383823	4.214216	-	4.922239	4.945473	4.652819	-	-	2.767662

Node	4431017262	4440717239	-	-	-			-	-	-	-	-
ground (m AD)	137.040	135.317	133.410	-	-			-	-	132.928	-	-
expr:HGL Freeboard	4.858619	4.221343	3.391567	-	-			-	-	-	-	-

Node	-	-	-	-	-	-	-	-	-	-	-
ground (m AD)	132.570	-	-	-	-	-	-	114.727	-	-	-
expr:HGL Freeboard	-	-	-	-	-	-	-	-	-	-	-

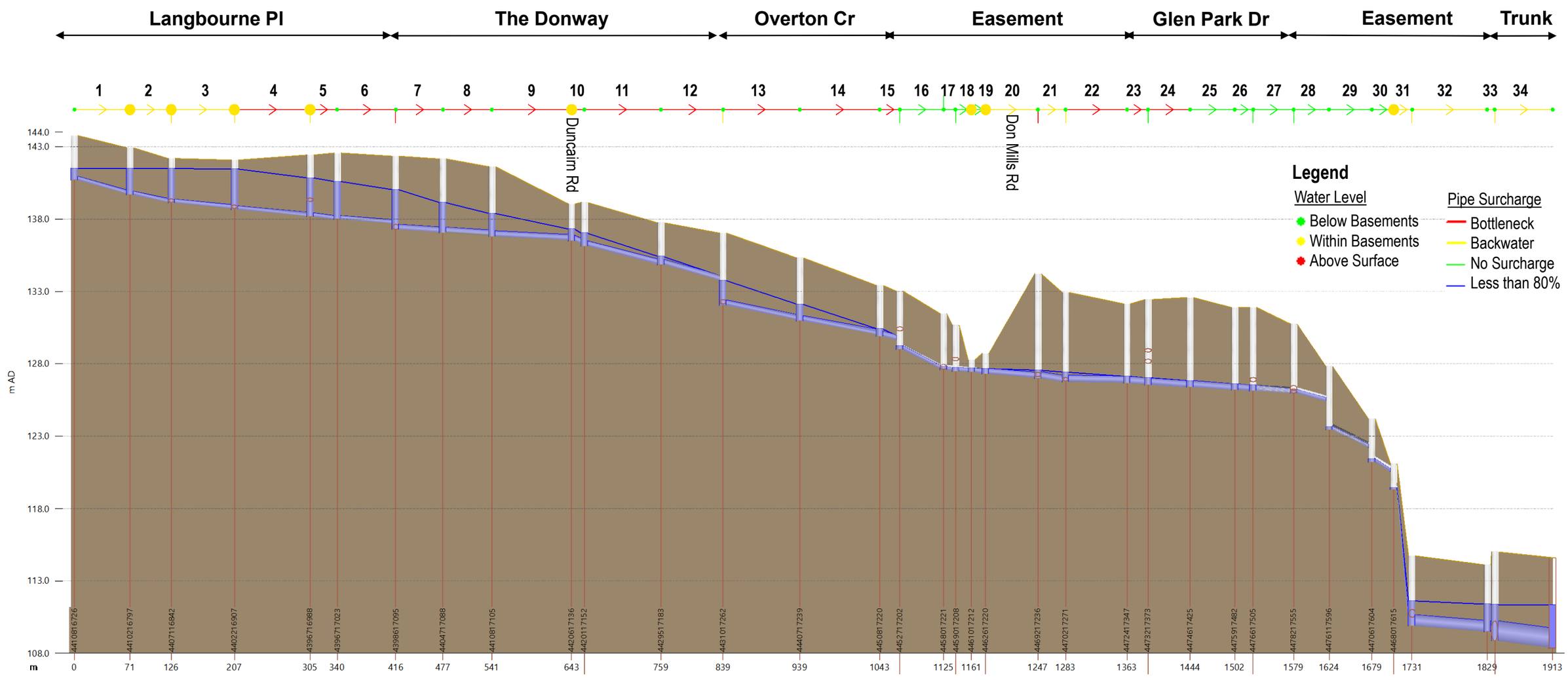
SCENARIO 2

Stantec

230-240 The Donway Proposed Development
Appendix B – InfoWorks Model Results

SCENARIO: Post-Development DWF
RESULT: Profile View
LOCATION: Basement Flooding Area 21

Date: October 2023



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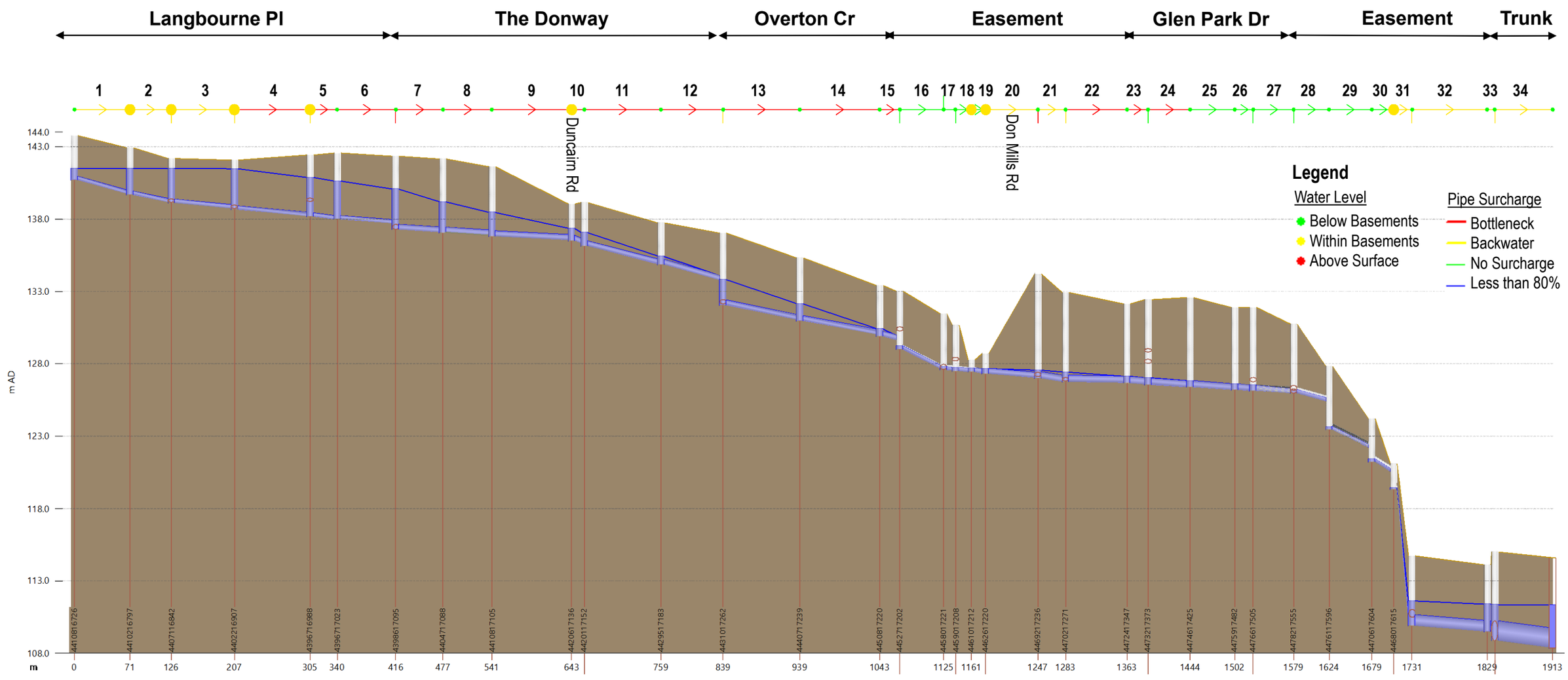
length (m)	71.5	54.2	81.6	97.9	35.1	75.2	61.4	63.7	102.8	-	99.0	80.2	99.8	103.5	25.6	56.6	-	-	-	68.0	36.0	79.4	27.3	54.2	58.2	-	52.9	45.8	55.1	28.4	-	97.8		74.4
Shape ID	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	-	CIRC	CIRC	CIRC	CIRC	-	CIRC	-	-	-	CIRC	CIRC	CIRC	-	CIRC	CIRC	-	CIRC	CIRC	CIRC	-	-	CIRC		CIRC
width (mm)	250	250	250	250	250	250	350	375	375	-	350	350	350	350	350	375	-	-	-	375	450	450	450	450	450	450	450	450	450	450	450	450	750		1350
height (mm)	250	250	250	250	250	250	350	375	375	-	350	350	350	350	350	375	-	-	-	375	450	450	450	450	450	450	450	450	450	450	450	450	750		1350
us inv (m AD)	140.693	139.664	139.114	138.643	-	137.971	137.276	137.053	136.799	-	136.130	134.850	132.050	130.963	-	128.977	-	-	-	127.310	-	126.750	-	126.545	126.382	-	126.136	125.960	123.440	-	-	109.905		108.879
ds inv (m AD)	139.754	139.164	138.735	138.212	-	137.707	137.093	136.859	136.547	-	134.890	133.780	131.043	130.037	-	127.664	-	-	-	127.040	-	126.690	-	126.382	126.199	-	125.977	125.410	122.210	-	-	109.515		108.381
grad (m/m)	0.01313	0.00923	0.00465	0.00440	-	0.00351	0.00298	0.00304	0.00245	-	0.01252	0.01334	0.01009	0.00895	-	0.02318	-	-	-	0.00397	-	0.00076	-	0.00300	0.00314	-	0.00300	0.01201	0.02231	-	-	0.00399		0.00670
pfc (m3/s)	0.068	0.057	0.041	0.039	0.043	0.035	0.080	0.091	0.087	-	0.163	0.169	0.147	0.138	-	0.267	-	-	-	0.110	0.228	0.078	-	0.156	0.160	-	0.156	0.313	0.426	-	-	0.703		4.370
surc	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	-	2.00	2.00	2.00	2.00	2.00	0.65	-	-	-	1.00	1.00	2.00	2.00	2.00	0.99	-	0.84	0.55	0.46	0.46	-	1.00		1.00
US flow (m3/s)	0.00371	0.00932	0.01922	0.04715	-	0.05126	0.17311	0.17521	0.17716	-	0.18066	0.18143	0.18305	0.18444	-	0.19733	-	-	-	0.06568	-	0.16715	-	0.16809	0.16860	-	0.17298	0.17794	0.17848	-	-	0.51745		0.79813

Node	-	-	-	4402216907	-	-	-	-	-	4410817105	-	-	4429517183	4431017262	4440717239	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ground (m AD)	-	142.926	142.185	142.075	142.427	142.564	142.343	142.154	141.616	139.050	139.143	137.736	137.040	135.317	133.410	-	-		-	-	132.928	-	-	132.570	-	-	-	-	-	-	-	114.727	-	-	-	-
expr:HGL Freeboard	-	1.441778	0.703143	0.620029	1.585005	-	2.311353	3.018273	3.225558	-	-	2.312080	3.273902	3.198714	2.987286	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SCENARIO 3



Link	-	-	4407116842.1	4402216907.1	-	-	-	-	4410817105.1	-	4420117152.1	4429517183.1	4431017262.1	4440717239.1	-	-	-	-	-	-	-	4470217271.1	-	-	-	-	-	-	-	-	-	4466917636.1		-
length (m)	71.5	54.2	81.6	97.9	35.1	75.2	61.4	63.7	102.8	-	99.0	80.2	99.8	103.5	25.6	56.6	-	-	-	68.0	36.0	79.4	27.3	54.2	58.2	-	52.9	45.8	55.1	28.4	-	97.8		74.4
Shape ID	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	-	CIRC	CIRC	CIRC	CIRC	-	CIRC	-	-	-	CIRC	CIRC	CIRC	-	CIRC	CIRC	-	CIRC	CIRC	CIRC	-	-	CIRC		CIRC
width (mm)	250	250	250	250	250	250	350	375	375	-	350	350	350	350	350	375	-	-	-	375	450	450	450	450	450	450	450	450	450	450	450	450	750		1350
height (mm)	250	250	250	250	250	250	350	375	375	-	350	350	350	350	350	375	-	-	-	375	450	450	450	450	450	450	450	450	450	450	450	450	750		1350
us inv (m AD)	140.693	139.664	139.114	138.643	-	137.971	137.276	137.053	136.799	-	136.130	134.850	132.050	130.963	-	128.977	-	-	-	127.310	-	126.750	-	126.545	126.382	-	126.136	125.960	123.440	-	-	109.905		108.879
ds inv (m AD)	139.754	139.164	138.735	138.212	-	137.707	137.093	136.859	136.547	-	134.890	133.780	131.043	130.037	-	127.664	-	-	-	127.040	-	126.690	-	126.382	126.199	-	125.977	125.410	122.210	-	-	109.515		108.381
grad (m/m)	0.01313	0.00923	0.00465	0.00440	-	0.00351	0.00298	0.00304	0.00245	-	0.01252	0.01334	0.01009	0.00895	-	0.02318	-	-	-	0.00397	-	0.00076	-	0.00300	0.00314	-	0.00300	0.01201	0.02231	-	-	0.00399		0.00670
pfc (m3/s)	0.068	0.057	0.041	0.039	0.043	0.035	0.080	0.091	0.087	-	0.163	0.169	0.147	0.138	-	0.267	-	-	-	0.110	0.228	0.078	-	0.156	0.160	-	0.156	0.313	0.426	-	-	0.703		4.370
surc	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	-	2.00	2.00	2.00	2.00	2.00	0.66	-	-	-	1.00	1.00	2.00	2.00	2.00	0.99	-	0.84	0.55	0.46	0.46	-	1.00		1.00
US flow (m3/s)	0.00371	0.00927	0.01918	0.04687	-	0.05076	0.17189	0.17337	0.17877	-	0.18220	0.18297	0.18469	0.18610	-	0.19895	-	-	-	0.06615	-	0.16756	-	0.16847	0.16896	-	0.17335	0.17834	0.17887	-	-	0.51920		0.80017

Node	-	-	-	4402216907	-	-	-	-	-	4410817105	-	-	4429517183	4431017262	4440717239	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ground (m AD)	-	142.926	142.185	142.075	142.427	142.564	142.343	142.154	141.616	139.050	139.143	137.736	137.040	135.317	133.410	-	-		-	-	132.928	-	-	132.570	-	-	-	-	-	-	-	114.727	-	-	-	-
expr:HGL Freeboard	-	1.423772	0.685092	0.601993	1.556105	-	2.270063	2.962136	3.153857	-	-	2.290611	3.205863	3.159743	2.978741	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SCENARIO 4

Stantec

230-240 The Donway Redevelopment

Appendix B: Sewer Capacity Analysis Tabular Results

FILE NUMBER: 165660180
DATE: October 2023
ANALYZED BY: KV
CHECKED BY: DFE

Scenario: 1) Pre-Development Dry Weather Flow

Street/ Location	Pipe Ref. #	Manhole From	Manhole To	MODEL HYDRAULIC RESULTS Pipe Shape	Diameter, Height (mm)	Width (mm)	Slope (%)	Pipe Length (m)	Capacity (L/s)	Peak US Flow (L/s)	Percent Flow/ Capacity (%)	Peak US Depth (m)	Max Surcharge State	Residual Capacity (L/s)	Peak Velocity (m/s)	US HGL Freeboard (m)	DS HGL Freeboard (m)	Notes
Langbourne Pl	1	4410816726	4410216797	CIRC	250	250	1.31	71.5	68.0	0.1	0%	0.03	0.10	67.9	0.04	3.0	3.2	
Langbourne Pl	2	4410216797	4407116842	CIRC	250	250	0.92	54.2	57.0	0.2	0%	0.02	0.09	56.8	0.09	3.2	3.0	
Langbourne Pl	3	4407116842	4402216907	CIRC	250	250	0.47	81.6	41.0	0.8	2%	0.03	0.13	40.2	0.25	3.0	3.4	
Langbourne Pl	4	4402216907	4396716988	CIRC	250	250	0.44	97.9	39.0	2.7	7%	0.05	0.19	36.3	0.46	3.4	4.2	
Langbourne Pl	5	4396716988	4396717023	CIRC	250	250	0.52	35.1	43.0	2.9	7%	0.05	0.19	40.2	0.47	4.2	4.5	
Langbourne Pl	6	4396717023	4398617095	CIRC	250	250	0.35	75.2	35.0	2.9	8%	0.05	0.21	32.1	0.48	4.5	4.9	
The Donway W	7	4398617095	4404717088	CIRC	350	350	0.30	61.4	80.0	28.1	35%	0.15	0.41	51.9	0.93	4.9	4.9	
The Donway W	8	4404717088	4410817105	CIRC	375	375	0.30	63.7	91.0	28.7	32%	0.16	0.41	62.3	0.89	4.9	4.7	
The Donway W	9	4410817105	4420617136	CIRC	375	375	0.25	102.8	87.0	29.9	34%	0.15	0.41	57.1	0.93	4.7	2.4	
The Donway W	10	4420617136	4420117152	CIRC	350	350	1.09	16.6	152.0	30.0	20%	0.11	0.32	122.0	1.14	2.4	2.9	
The Donway W	11	4420117152	4429517183	CIRC	350	350	1.25	99	163.0	33.8	21%	0.11	0.32	129.2	1.25	2.9	2.8	
The Donway W	12	4429517183	4431017262	CIRC	350	350	1.33	80.2	169.0	33.8	20%	0.11	0.32	135.2	1.28	2.8	4.9	
Overton Cres	13	4431017262	4440717239	CIRC	350	350	1.01	99.8	147.0	36.7	25%	0.13	0.36	110.3	1.20	4.9	4.2	
Overton Cres	14	4440717239	4450817220	CIRC	350	350	0.90	103.5	138.0	37.1	27%	0.13	0.36	100.9	1.20	4.2	3.4	
Overton Cres	15	4450817220	4452717202	CIRC	350	350	0.94	25.6	141.0	37.3	26%	0.12	0.36	103.7	1.22	3.4	3.9	
Parcel off Overton Cres	16	4452717202	4458017221	CIRC	375	375	2.32	56.6	267.0	45.1	17%	0.11	0.30	221.9	1.66	3.9	3.8	
Valley b/w Overton and Don Mills	17	4458017221	4459017208	CIRC	375	375	0.04	16	34.0	13.5	40%	0.12	0.31	20.5	0.75	3.8	3.1	
Valley b/w Overton and Don Mills	18	4459017208	4461017212	CIRC	375	375	0.35	20.5	103.0	16.2	16%	0.10	0.27	86.9	0.77	3.1	0.7	Shallow
Valley b/w Overton and Don Mills	19	4461017212	4462617220	CIRC	375	375	0.56	17.8	131.0	16.2	12%	0.09	0.24	114.8	0.78	0.7	1.3	Shallow
Valley b/w Overton and Don Mills	20	4462617220	4469217236	CIRC	375	375	0.40	68	110.0	16.2	15%	0.10	0.26	93.8	0.77	1.3	7.1	Shallow
Valley b/w Don Mills and Park Glen	21	4469217236	4470217271	CIRC	450	450	0.64	36	228.0	50.0	22%	0.15	0.51	178.0	0.62	7.1	5.9	
Valley b/w Don Mills and Park Glen	22	4470217271	4472417347	CIRC	450	450	0.08	79.4	78.0	50.4	65%	0.24	0.53	27.7	1.04	5.9	5.3	
Valley b/w Don Mills and Park Glen	23	4472417347	4473217373	CIRC	450	450	0.30	27.3	156.0	50.5	32%	0.17	0.39	105.5	1.04	5.3	5.7	
Park Glen Rg	24	4473217373	4474617425	CIRC	450	450	0.30	54.2	156.0	50.7	32%	0.18	0.39	105.4	0.88	5.7	6.0	
Park Glen Rg	25	4474617425	4475917482	CIRC	450	450	0.31	58.2	160.0	50.8	32%	0.18	0.40	109.2	0.86	6.0	5.5	
Park Glen Rg	26	4475917482	4476617505	CIRC	450	450	0.30	23.4	157.0	50.9	32%	0.18	0.41	106.1	0.82	5.5	5.6	
Park Glen Rg	27	4476617505	4478217555	CIRC	450	450	0.30	52.9	156.0	52.3	34%	0.18	0.40	103.7	1.05	5.6	4.6	
Chipping Greenbelt Trl	28	4478217555	4476117596	CIRC	450	450	1.20	45.8	313.0	53.2	17%	0.13	0.30	259.8	1.35	4.6	4.3	
Chipping Greenbelt Trl	29	4476117596	4470617604	CIRC	450	450	2.23	55.1	426.0	53.3	13%	0.12	0.26	372.8	1.64	4.3	2.9	Shallow
Chipping Greenbelt Trl	30	4470617604	4468017615	CIRC	450	450	2.32	28.4	435.0	53.3	12%	0.12	0.26	381.7	1.66	2.9	1.7	Shallow
Chipping Greenbelt Trl	31	4468017615	4466917636	CIRC	450	450	39.55	23.6	1,793.0	53.3	3%	0.07	0.25	1,739.7	1.83	1.7	4.6	Shallow
Chipping Greenbelt Trl	32	4466917636	4472617716	CIRC	750	750	0.40	97.8	703.0	139.2	20%	0.23	0.31	563.8	1.24	4.6	4.5	
Chipping Greenbelt Trl	33	4472617716	4472917726	CIRC	750	750	3.90	9.7	2,199.0	139.2	6%	0.15	0.20	2,059.8	2.28	4.5	5.9	
Chipping Greenbelt Trl	34	4472917726	4468317784	CIRC	1350	1350	0.67	74.4	4,370.0	173.2	4%	0.19	0.14	4,196.8	1.37	5.9	0.0	Outlet

Pipes indicated as Shallow cannot meet 1.8m HGL Criteria. These are located within the riverines/valleys and therefore are exempt from HGL criteria.

Surcharge State is from InfoWorks ICM Output; SS<1 means the pipe is not surcharged. SS=1 means the surcharge is caused by downstream water levels. SS=2 means the flow through the pipe is greater than pipe full capacity

Stantec

230-240 The Donway Redevelopment

Appendix B: Sewer Capacity Analysis Tabular Results

FILE NUMBER: 165660180
DATE: October 2023
ANALYZED BY: KV
CHECKED BY: DFE

Scenario: 2) Post-Development Dry Weather Flow

Street/ Location	Pipe Ref. #	Manhole From	Manhole To	MODEL HYDRAULIC RESULTS Pipe Shape	Diameter, Height (mm)	Width (mm)	Slope (%)	Pipe Length (m)	Capacity (L/s)	Peak US Flow (L/s)	Percent Flow/ Capacity (%)	Peak US Depth (m)	Max Surcharge State	Residual Capacity (L/s)	Peak Velocity (m/s)	US HGL Freeboard (m)	DS HGL Freeboard (m)	Notes
Langbourne Pl	1	4410816726	4410216797	CIRC	250	250	1.31	71.5	68.0	0.1	0%	0.03	0.10	67.9	0.04	3.0	3.2	
Langbourne Pl	2	4410216797	4407116842	CIRC	250	250	0.92	54.2	57.0	0.2	0%	0.02	0.09	56.8	0.09	3.2	3.0	
Langbourne Pl	3	4407116842	4402216907	CIRC	250	250	0.47	81.6	41.0	0.8	2%	0.03	0.13	40.2	0.25	3.0	3.4	
Langbourne Pl	4	4402216907	4396716988	CIRC	250	250	0.44	97.9	39.0	2.7	7%	0.05	0.19	36.3	0.46	3.4	4.2	
Langbourne Pl	5	4396716988	4396717023	CIRC	250	250	0.52	35.1	43.0	2.9	7%	0.05	0.19	40.2	0.47	4.2	4.5	
Langbourne Pl	6	4396717023	4398617095	CIRC	250	250	0.35	75.2	35.0	2.9	8%	0.05	0.21	32.1	0.48	4.5	4.9	
The Donway W	7	4398617095	4404717088	CIRC	350	350	0.30	61.4	80.0	28.1	35%	0.15	0.41	51.9	0.93	4.9	4.9	
The Donway W	8	4404717088	4410817105	CIRC	375	375	0.30	63.7	91.0	28.7	31%	0.16	0.41	62.3	0.89	4.9	4.7	
The Donway W (Site Added)	9	4410817105	4420617136	CIRC	375	375	0.25	102.8	87.0	34.0	39%	0.16	0.44	53.0	0.97	4.7	2.4	
The Donway W	10	4420617136	4420117152	CIRC	350	350	1.09	16.6	152.0	34.1	22%	0.12	0.34	118.0	1.19	2.4	2.9	
The Donway W	11	4420117152	4429517183	CIRC	350	350	1.25	99	163.0	37.9	23%	0.12	0.34	125.1	1.30	2.9	2.8	
The Donway W	12	4429517183	4431017262	CIRC	350	350	1.33	80.2	169.0	37.9	22%	0.12	0.34	131.1	1.33	2.8	4.9	
Overton Cres	13	4431017262	4440717239	CIRC	350	350	1.01	99.8	147.0	40.8	28%	0.13	0.38	106.2	1.24	4.9	4.2	
Overton Cres	14	4440717239	4450817220	CIRC	350	350	0.90	103.5	138.0	41.2	30%	0.13	0.38	96.8	1.23	4.2	3.4	
Overton Cres	15	4450817220	4452717202	CIRC	350	350	0.94	25.6	141.0	41.4	29%	0.13	0.38	99.6	1.26	3.4	3.9	
Parcel off Overton Cres	16	4452717202	4458017221	CIRC	375	375	2.32	56.6	267.0	49.2	18%	0.12	0.31	217.8	1.71	3.9	3.8	
Valley b/w Overton and Don Mills	17	4458017221	4459017208	CIRC	375	375	0.04	16	34.0	14.5	43%	0.12	0.32	19.5	0.76	3.8	3.1	
Valley b/w Overton and Don Mills	18	4459017208	4461017212	CIRC	375	375	0.35	20.5	103.0	17.2	17%	0.10	0.28	85.8	0.79	3.1	0.7	Shallow
Valley b/w Overton and Don Mills	19	4461017212	4462617220	CIRC	375	375	0.56	17.8	131.0	17.2	13%	0.09	0.25	113.8	0.80	0.7	1.3	Shallow
Valley b/w Overton and Don Mills	20	4462617220	4469217236	CIRC	375	375	0.40	68	110.0	17.2	16%	0.10	0.27	92.8	0.78	1.3	7.1	Shallow
Valley b/w Don Mills and Park Glen	21	4469217236	4470217271	CIRC	450	450	0.64	36	228.0	51.0	22%	0.15	0.51	177.0	0.62	7.1	5.9	
Valley b/w Don Mills and Park Glen	22	4470217271	4472417347	CIRC	450	450	0.08	79.4	78.0	51.4	66%	0.24	0.53	26.6	1.05	5.9	5.3	
Valley b/w Don Mills and Park Glen	23	4472417347	4473217373	CIRC	450	450	0.30	27.3	156.0	51.5	33%	0.18	0.39	104.5	1.05	5.3	5.7	
Park Glen Rg	24	4473217373	4474617425	CIRC	450	450	0.30	54.2	156.0	51.7	33%	0.18	0.40	104.3	0.89	5.7	6.0	
Park Glen Rg	25	4474617425	4475917482	CIRC	450	450	0.31	58.2	160.0	51.8	32%	0.18	0.40	108.2	0.86	6.0	5.5	
Park Glen Rg	26	4475917482	4476617505	CIRC	450	450	0.30	23.4	157.0	52.0	33%	0.18	0.42	105.1	0.82	5.5	5.6	
Park Glen Rg	27	4476617505	4478217555	CIRC	450	450	0.30	52.9	156.0	53.3	34%	0.18	0.40	102.7	1.06	5.6	4.6	
Chipping Greenbelt Trl	28	4478217555	4476117596	CIRC	450	450	1.20	45.8	313.0	54.3	17%	0.14	0.30	258.7	1.36	4.6	4.3	
Chipping Greenbelt Trl	29	4476117596	4470617604	CIRC	450	450	2.23	55.1	426.0	54.3	13%	0.12	0.26	371.7	1.65	4.3	2.9	Shallow
Chipping Greenbelt Trl	30	4470617604	4468017615	CIRC	450	450	2.32	28.4	435.0	54.3	12%	0.12	0.26	380.7	1.67	2.9	1.7	Shallow
Chipping Greenbelt Trl	31	4468017615	4466917636	CIRC	450	450	39.55	23.6	1,793.0	54.3	3%	0.07	0.26	1,738.7	1.75	1.7	4.6	Shallow
Chipping Greenbelt Trl	32	4466917636	4472617716	CIRC	750	750	0.40	97.8	703.0	143.3	20%	0.23	0.31	559.7	1.25	4.6	4.5	
Chipping Greenbelt Trl	33	4472617716	4472917726	CIRC	750	750	3.90	9.7	2,199.0	143.3	7%	0.15	0.20	2,055.7	2.31	4.5	5.9	
Chipping Greenbelt Trl	34	4472917726	4468317784	CIRC	1350	1350	0.67	74.4	4,370.0	177.2	4%	0.20	0.15	4,192.8	1.38	5.9	0.0	Outlet

Pipes indicated as Shallow cannot meet 1.8m HGL Criteria. These are located within the riverines/valleys and therefore are exempt from HGL criteria.

Surcharge State is from InfoWorks ICM Output; SS<1 means the pipe is not surcharged. SS=1 means the surcharge is caused by downstream water levels. SS=2 means the flow through the pipe is greater than pipe full capacity

Scenario: 3) Pre-Development Extreme Wet Weather Flow (May 12, 2000)

Street/ Location	Pipe Ref. #	Manhole From	Manhole To	MODEL HYDRAULIC RESULTS Pipe Shape	Diameter, Height (mm)	Width (mm)	Slope (%)	Pipe Length (m)	Capacity (L/s)	Peak US Flow (L/s)	Percent Flow/ Capacity (%)	Peak US Depth (m)	Max Surcharge State	Residual Capacity (L/s)	Peak Velocity (m/s)	US HGL Freeboard (m)	DS HGL Freeboard (m)	Notes
Langbourne Pl	1	4410816726	4410216797	CIRC	250	250	1.31	71.5	68.0	3.7	5%	0.79	1.00	64.3	0.59	2.28	1.44	BFPP
Langbourne Pl	2	4410216797	4407116842	CIRC	250	250	0.92	54.2	57.0	9.3	16%	1.82	1.00	47.7	0.61	1.44	0.70	BFPP
Langbourne Pl	3	4407116842	4402216907	CIRC	250	250	0.47	81.6	41.0	19.2	47%	2.37	1.00	21.8	0.73	0.70	0.62	BFPP
Langbourne Pl	4	4402216907	4396716988	CIRC	250	250	0.44	97.9	39.0	47.2	121%	2.81	2.00	-8.2	1.12	0.62	1.59	BFPP
Langbourne Pl	5	4396716988	4396717023	CIRC	250	250	0.52	35.1	43.0	49.7	115%	2.67	2.00	-6.7	0.84	1.59	1.97	BFPP
Langbourne Pl	6	4396717023	4398617095	CIRC	250	250	0.35	75.2	35.0	51.3	146%	2.62	2.00	-16.3	1.11	1.97	2.31	
The Donway W	7	4398617095	4404717088	CIRC	350	350	0.30	61.4	80.0	173.1	216%	2.74	2.00	-93.1	1.56	2.31	3.02	
The Donway W	8	4404717088	4410817105	CIRC	375	375	0.30	63.7	91.0	175.2	193%	2.07	2.00	-84.2	1.48	3.02	3.23	
The Donway W	9	4410817105	4420617136	CIRC	375	375	0.25	102.8	87.0	177.2	204%	1.58	2.00	-90.2	1.70	3.23	1.74	BFPP
The Donway W	10	4420617136	4420117152	CIRC	350	350	1.09	16.6	152.0	177.4	117%	0.79	2.00	-25.4	1.88	1.74	2.12	BFPP
The Donway W	11	4420117152	4429517183	CIRC	350	350	1.25	99	163.0	180.7	111%	0.87	2.00	-17.7	1.89	2.1	2.3	
The Donway W	12	4429517183	4431017262	CIRC	350	350	1.33	80.2	169.0	181.4	107%	1.34	1.00	-12.4	2.00	2.3	3.3	
Overton Cres	13	4431017262	4440717239	CIRC	350	350	1.01	99.8	147.0	183.1	125%	1.64	1.00	-36.1	1.75	3.3	3.2	
Overton Cres	14	4440717239	4450817220	CIRC	350	350	0.90	103.5	138.0	184.4	134%	0.07	0.24	-46.4	1.91	3.2	3.0	
Overton Cres	15	4450817220	4452717202	CIRC	350	350	0.94	25.6	141.0	185.4	131%	0.03	0.10	-44.4	2.04	3.0	3.8	
Parcel off Overton Cres	16	4452717202	4458017221	CIRC	375	375	2.32	56.6	267.0	197.3	74%	0.03	0.13	69.7	2.59	3.8	3.7	
Valley b/w Overton and Don Mills	17	4458017221	4459017208	CIRC	375	375	0.04	16	34.0	55.7	164%	0.28	0.62	-21.7	1.13	3.7	2.9	
Valley b/w Overton and Don Mills	18	4459017208	4461017212	CIRC	375	375	0.35	20.5	103.0	66.1	64%	0.77	1.00	36.9	1.16	2.9	0.6	Shallow
Valley b/w Overton and Don Mills	19	4461017212	4462617220	CIRC	375	375	0.56	17.8	131.0	65.9	50%	0.05	0.18	65.1	1.15	0.6	1.0	Shallow
Valley b/w Overton and Don Mills	20	4462617220	4469217236	CIRC	375	375	0.40	68	110.0	65.7	60%	0.03	1.00	44.3	0.93	1.0	6.6	Shallow
Valley b/w Don Mills and Park Glen	21	4469217236	4470217271	CIRC	450	450	0.64	36	228.0	166.2	73%	0.11	0.38	61.8	1.00	6.6	5.5	
Valley b/w Don Mills and Park Glen	22	4470217271	4472417347	CIRC	450	450	0.08	79.4	78.0	167.2	214%	0.21	0.46	-89.2	1.29	5.5	5.0	
Valley b/w Don Mills and Park Glen	23	4472417347	4473217373	CIRC	450	450	0.30	27.3	156.0	167.5	107%	0.05	0.20	-11.5	1.24	5.0	5.4	
Park Glen Rg	24	4473217373	4474617425	CIRC	450	450	0.30	54.2	156.0	168.1	108%	1.78	1.00	-12.1	1.13	5.4	5.7	
Park Glen Rg	25	4474617425	4475917482	CIRC	450	450	0.31	58.2	160.0	168.6	105%	0.10	0.38	-8.6	1.11	5.7	5.3	
Park Glen Rg	26	4475917482	4476617505	CIRC	450	450	0.30	23.4	157.0	169.1	108%	0.12	0.48	-12.1	1.15	5.3	5.4	
Park Glen Rg	27	4476617505	4478217555	CIRC	450	450	0.30	52.9	156.0	173.0	111%	0.68	2.00	-17.0	1.58	5.4	4.5	
Chipping Greenbelt Trl	28	4478217555	4476117596	CIRC	450	450	1.20	45.8	313.0	177.9	57%	0.03	0.14	135.1	1.97	4.5	4.2	
Chipping Greenbelt Trl	29	4476117596	4470617604	CIRC	450	450	2.23	55.1	426.0	178.5	42%	0.38	0.84	247.5	2.47	4.2	2.8	Shallow
Chipping Greenbelt Trl	30	4470617604	4468017615	CIRC	450	450	2.32	28.4	435.0	178.9	41%	0.05	0.22	256.1	2.51	2.8	1.7	Shallow
Chipping Greenbelt Trl	31	4468017615	4466917636	CIRC	450	450	39.55	23.6	1,793.0	179.1	10%	0.08	0.30	1,613.9	1.02	1.7	3.1	Shallow
Chipping Greenbelt Trl	32	4466917636	4472617716	CIRC	750	750	0.40	97.8	703.0	517.5	74%	0.08	0.28	185.6	1.09	3.1	2.7	
Chipping Greenbelt Trl	33	4472617716	4472917726	CIRC	750	750	3.90	9.7	2,199.0	518.6	24%	0.03	0.13	1,680.4	1.08	2.7	3.6	
Chipping Greenbelt Trl	34	4472917726	4468317784	CIRC	1350	1350	0.67	74.4	4,370.0	798.1	18%	0.10	0.41	3,571.9	0.52	3.6	3.3	Outlet

Pipes indicated as Shallow cannot meet 1.8m HGL Criteria. These are located within the riverines/valleys and therefore are exempt from HGL criteria.

Surcharge State is from InfoWorks ICM Output; SS<1 means the pipe is not surcharged. SS=1 means the surcharge is caused by downstream water levels. SS=2 means the flow through the pipe is greater than pipe full capacity

BFPP indicates Toronto's Basement Flooding Protection Program, which identified a recommended solution to mitigate the elevated HGL on Langbourne / The Donway W

Scenario: 4) Post-Development Extreme Wet Weather Flow (May 12, 2000)

Street/ Location	Pipe Ref. #	Manhole From	Manhole To	MODEL HYDRAULIC RESULTS Pipe Shape	Diameter, Height (mm)	Width (mm)	Slope (%)	Pipe Length (m)	Capacity (L/s)	Peak US Flow (L/s)	Percent Flow/ Capacity (%)	Peak US Depth (m)	Max Surcharge State	Residual Capacity (L/s)	Peak Velocity (m/s)	US HGL Freeboard (m)	DS HGL Freeboard (m)	Notes
Langbourne Pl	1	4410816726	4410216797	CIRC	250	250	1.31	71.5	68.0	3.7	5%	0.81	1.00	64.3	0.59	2.26	1.42	BFPP
Langbourne Pl	2	4410216797	4407116842	CIRC	250	250	0.92	54.2	57.0	9.3	16%	1.84	1.00	47.7	0.61	1.42	0.69	BFPP
Langbourne Pl	3	4407116842	4402216907	CIRC	250	250	0.47	81.6	41.0	19.2	47%	2.39	1.00	21.8	0.73	0.69	0.60	BFPP
Langbourne Pl	4	4402216907	4396716988	CIRC	250	250	0.44	97.9	39.0	46.9	120%	2.83	2.00	-7.9	1.12	0.60	1.56	BFPP
Langbourne Pl	5	4396716988	4396717023	CIRC	250	250	0.52	35.1	43.0	49.2	114%	2.70	2.00	-6.2	0.84	1.56	1.94	BFPP
Langbourne Pl	6	4396717023	4398617095	CIRC	250	250	0.35	75.2	35.0	50.8	145%	2.65	2.00	-15.8	1.11	1.94	2.27	
The Donway W	7	4398617095	4404717088	CIRC	350	350	0.30	61.4	80.0	171.9	215%	2.78	2.00	-91.9	1.54	2.27	2.96	
The Donway W	8	4404717088	4410817105	CIRC	375	375	0.30	63.7	91.0	173.4	191%	2.12	2.00	-82.4	1.46	2.96	3.15	
The Donway W (Site Added)	9	4410817105	4420617136	CIRC	375	375	0.25	102.8	87.0	178.8	205%	1.65	2.00	-91.8	1.70	3.15	1.69	BFPP
The Donway W	10	4420617136	4420117152	CIRC	350	350	1.09	16.6	152.0	179.0	118%	0.84	2.00	-27.0	1.89	1.69	2.07	BFPP
The Donway W	11	4420117152	4429517183	CIRC	350	350	1.25	99	163.0	182.2	112%	0.92	2.00	-19.2	1.89	2.1	2.3	
The Donway W	12	4429517183	4431017262	CIRC	350	350	1.33	80.2	169.0	183.0	108%	1.41	1.00	-14.0	2.01	2.3	3.2	
Overton Cres	13	4431017262	4440717239	CIRC	350	350	1.01	99.8	147.0	184.7	126%	1.70	1.00	-37.7	1.76	3.2	3.2	
Overton Cres	14	4440717239	4450817220	CIRC	350	350	0.90	103.5	138.0	186.1	135%	0.07	0.24	-48.1	1.91	3.2	3.0	
Overton Cres	15	4450817220	4452717202	CIRC	350	350	0.94	25.6	141.0	187.0	133%	0.03	0.10	-46.0	2.05	3.0	3.8	
Parcel off Overton Cres	16	4452717202	4458017221	CIRC	375	375	2.32	56.6	267.0	199.0	75%	0.03	0.13	68.1	2.59	3.8	3.7	
Valley b/w Overton and Don Mills	17	4458017221	4459017208	CIRC	375	375	0.04	16	34.0	56.3	165%	0.28	0.62	-22.3	1.14	3.7	2.9	
Valley b/w Overton and Don Mills	18	4459017208	4461017212	CIRC	375	375	0.35	20.5	103.0	66.7	65%	0.78	1.00	36.3	1.17	2.9	0.6	Shallow
Valley b/w Overton and Don Mills	19	4461017212	4462617220	CIRC	375	375	0.56	17.8	131.0	66.4	51%	0.05	0.18	64.6	1.15	0.6	1.0	Shallow
Valley b/w Overton and Don Mills	20	4462617220	4469217236	CIRC	375	375	0.40	68	110.0	66.2	60%	0.03	1.00	43.9	0.94	1.0	6.6	Shallow
Valley b/w Don Mills and Park Glen	21	4469217236	4470217271	CIRC	450	450	0.64	36	228.0	166.7	73%	0.11	0.38	61.4	1.00	6.6	5.5	
Valley b/w Don Mills and Park Glen	22	4470217271	4472417347	CIRC	450	450	0.08	79.4	78.0	167.6	215%	0.21	0.46	-89.6	1.29	5.5	5.0	
Valley b/w Don Mills and Park Glen	23	4472417347	4473217373	CIRC	450	450	0.30	27.3	156.0	167.9	108%	0.05	0.20	-11.9	1.24	5.0	5.4	
Park Glen Rg	24	4473217373	4474617425	CIRC	450	450	0.30	54.2	156.0	168.5	108%	1.78	1.00	-12.5	1.13	5.4	5.7	
Park Glen Rg	25	4474617425	4475917482	CIRC	450	450	0.31	58.2	160.0	169.0	106%	0.10	0.38	-9.0	1.11	5.7	5.3	
Park Glen Rg	26	4475917482	4476617505	CIRC	450	450	0.30	23.4	157.0	169.4	108%	0.12	0.48	-12.4	1.15	5.3	5.4	
Park Glen Rg	27	4476617505	4478217555	CIRC	450	450	0.30	52.9	156.0	173.4	111%	0.69	2.00	-17.4	1.58	5.4	4.5	
Chipping Greenbelt Trl	28	4478217555	4476117596	CIRC	450	450	1.20	45.8	313.0	178.3	57%	0.03	0.14	134.7	1.97	4.5	4.2	
Chipping Greenbelt Trl	29	4476117596	4470617604	CIRC	450	450	2.23	55.1	426.0	178.9	42%	0.38	0.84	247.1	2.47	4.2	2.8	Shallow
Chipping Greenbelt Trl	30	4470617604	4468017615	CIRC	450	450	2.32	28.4	435.0	179.3	41%	0.05	0.22	255.7	2.51	2.8	1.7	Shallow
Chipping Greenbelt Trl	31	4468017615	4466917636	CIRC	450	450	39.55	23.6	1,793.0	179.5	10%	0.08	0.30	1,613.5	1.03	1.7	3.1	Shallow
Chipping Greenbelt Trl	32	4466917636	4472617716	CIRC	750	750	0.40	97.8	703.0	519.2	74%	0.08	0.28	183.8	1.10	3.1	2.7	
Chipping Greenbelt Trl	33	4472617716	4472917726	CIRC	750	750	3.90	9.7	2,199.0	520.4	24%	0.03	0.13	1,678.7	1.09	2.7	3.6	
Chipping Greenbelt Trl	34	4472917726	4468317784	CIRC	1350	1350	0.67	74.4	4,370.0	800.2	18%	0.10	0.41	3,569.8	0.53	3.6	3.3	Outlet

Pipes indicated as Shallow cannot meet 1.8m HGL Criteria. These are located within the riverines/valleys and therefore are exempt from HGL criteria.

Surcharge State is from InfoWorks ICM Output; SS<1 means the pipe is not surcharged. SS=1 means the surcharge is caused by downstream water levels. SS=2 means the flow through the pipe is greater than pipe full capacity

BFPP indicates Toronto's Basement Flooding Protection Program, which identified a recommended solution to mitigate the elevated HGL on Langbourne / The Donway W

Appendix D – Hydrogeology Investigation and Groundwater Pump Design Correspondence

4.3 Stormwater

Additional pumping capacity may be required to maintain dry conditions within the excavation during and following significant precipitation events. Therefore, the dewatering rates at the Site should also include removing stormwater from the excavation.

A 15 mm precipitation event was utilized for the estimate. Given that the total area of the excavation is approximately 10,140 m^2 the estimated stormwater volume to be collected in the excavation is approximately 152 m^3 for a 15 mm precipitation event. The calculations for the stormwater estimate are included in Appendix E.

It is noted that a two (2) year storm event over a 24-hour period is approximately 57 mm. During large precipitation events, the water should be retained onsite to not exceed the allowable water taking and discharge limits as necessary.

4.4 Results of Dewatering Rate Estimate

4.4.1 Construction Dewatering Rate Estimate

For this assessment, it was assumed that the proposed construction plans include an excavation with shoring extending to the Site boundaries. EXP should be retained to review the assumptions outlined in this section, should the assumed shoring design change. Short-term (construction) dewatering calculations are presented in Appendix E. Based on the assumptions provided in this report, the results of the dewatering rate estimate are summarized in Table 4-2

Table 4-2 Summary of Dewatering Flow Rate Estimate

Peak Dewatering Flow Rate Including Rain Collection Volume and Zone of Influence		
Description	**Units**	**Value**
Estimated Short Term Dewatering Rate (without safety factor or precipitation)	L/day	73,000
From Precipitation Event of 15 mm in one day	L/day	152,000
With Factor of Safety of 2 (excluding Precipitation) for designs and budgeting	L/day	145,000
Without Factor of Safety (including Precipitation)	L/day	225,000
With Factor of Safety of 2 (including Precipitation)	L/day	298,000
Radius of Influence from sides of excavation	m	8

This peak dewatering flow rates accounts for accumulation of some precipitation, seasonal fluctuations in the groundwater table, flow from beddings of existing sewers, and variation in hydrogeological properties beyond those encountered during this study. This peak dewatering flow rate also provides additional capacity for the dewatering contractor.

Localized dewatering may be required for pits (elevator pits, sump pits) if they extend deeper than the dewatering target. Dewatering estimates should be reviewed once the pit dimensions are available.

It is noted that the maximum flow estimate equation calculated with a high K-value, provides a conservative estimate to account for higher-than-expected flow rates during the construction dewatering.

Please note that it is the responsibility of the contractor to ensure dry conditions are always maintained within the excavation at all costs.

4.4.2 Post-Construction Dewatering Rate Estimate

It is our understanding that the development plan includes a permanent foundation sub-drain system that will ultimately discharge to the municipal sewer system if conventional footings are installed.

As of January 1, 2022, the foundation drainage policy from the City of Toronto prohibits post construction discharge of groundwater into the municipal sewer system.

The long-term dewatering was based on the same equations as construction dewatering shown in Section 4.1.

The calculation for the estimated flow to the future sub-drain system (with no cutoff walls) is provided in Appendix E. The dewatering target for the foundation drainage system is taken at 0.5 m below the lowest slab elevation.

The foundation drain analysis provides a flow rate estimate. Once the foundation drain is built, actual flow rate measurements of the sump discharge will be required to confirm the estimated flow rate.

Seasonal and daily fluctuations are expected. These estimates may be affected by hydrogeological conditions beyond those encountered at this time, fluctuations in groundwater regimes, surrounding Site alterations, and existing and future infrastructures.

For the design of shallow foundations without perimeter and/or foundation drainage system, shallower wells need to be considered to evaluate the shallow groundwater table. The hydrogeologist needs to be consulted during the design process.

Table 4-3: Summary of Long-Term Dewatering Rate

Long-Term Dewatering Flow Rate	Building with P1 (L/day)
Long-Term Dewatering Rate without Safety Factor	8,000
Long-Term Dewatering Rate with Safety Factor of 1.5 for design, budgeting and permitting	11,000

Intermittent cycling of sump pumps and seasonal fluctuation in groundwater regimes should be considered for pump specifications. A safety factor was applied to the flow rate to account for water level fluctuations due to seasonal changes.

These estimates assume that pits (elevator and/or sump pits) are made as watertight structures (without drainage), if their depths extend below the dewatering target, as previously stated. The dewatering assumptions are based on using shoring system without open cuts. Open cuts can act as preferential groundwater pathways in the long-term and cause foundation drainage volumes to increase.

The sub-drain rate estimate is based on the assumptions outlined in this report. Any variations in hydrogeological conditions beyond those encountered as part of this investigation may significantly influence the sub-drain discharge volumes.

4.5 MECP Water Taking Permit

4.5.1 Short-Term Discharge Rate (Construction Phase)

In accordance with the Ontario Water Resources Act, if the water taking for the construction dewatering will be more than 50 m^3/day but less than 400 m^3/day, then an online registration in the Environmental Activity and Sector Registry (EASR) with MECP is required. If groundwater dewatering rates exceed 400 m^3/day, then an application for a Category 3 Permit to Take Water (PTTW) will be required from the MECP.

As of July 1, 2021, an amendment of O. Reg. 63/16 has come into effect and replaced the former subsection 7 (5) such that the water taking limit of 400,000 L/day would apply to groundwater takings of each dewatered work area only, excluding stormwater.

The maximum flow estimate, which was calculated with a representative K-value, provides a conservative estimate to account for higher-than-expected flow rates during construction dewatering. The dewatering estimate including a safety factor and excluding precipitation is stated below. The MECP construction dewatering rate excludes the precipitation amount and is the rate used for the permit application. Based on the MECP construction dewatering an EASR will be required to facilitate the construction dewatering program of the Site.

Table 4-4: MECP Construction Dewatering Flow Rate

Scenario	Building with P1 (L/day)
MECP Construction Dewatering Flow Rate **With Safety Factor** of 2 (excluding rainwater collection)	145,000

A Discharge Plan (dewatering sketch, sewer discharge agreement) must be developed and applied for any discharges from the Site. Monitoring of both water quantity and water quality must be carried out for the entire duration of the construction dewatering phase. During this phase, the Discharge Plan and the daily water taking records must be available onsite.

The EASR, Discharge Plan, hydrogeological investigation report, and geotechnical assessment of settlements must also be available at the construction Site during the entire construction dewatering. EXP should be notified immediately about any changes to the construction dewatering schedule or design, since the EASR will need to be updated to reflect these modifications. Altogether, the hydrogeological report, EASR, Discharge Plan and geotechnical assessment constitute the Water Taking Plan which needs to be available onsite during the construction dewatering.

4.5.2 Long-Term Discharge Rate (Post Construction Phase)

In accordance with the Ontario Water Resources Act, if the water taking for the construction dewatering is more than 50,000 L/day, then an application for a Category 3 Permit to Take Water (PTTW) will be required from the MECP.

The maximum flow rate, which was calculated with a representative K-value, provides a conservative estimate to account for higher-than-expected flow rates during post-development dewatering. Based on the dewatering estimate of approximately 11,000 L/day (applying a safety factor of 1.5) for this project, no permit to take-water will be required for the post-development phase.

The safety factor for construction (short-term) dewatering is selected larger than for long-term to account for anticipated greater groundwater volumes during initial dewatering. The applied analytical formula is adequate for long-term (steady state) conditions as it omits specific yield and time dependency. When the formula is used for short-term conditions a larger safety factor is recommended to cover a larger initial dewatering rate, which is required to remove stored groundwater. Moreover, a large initial construction dewatering rate is favorable, as it supports reducing the time to reach the dewatering target elevation.

6 Environmental Impact

6.1 Surface Water Features

The Site is located within the Don River Watershed. No surface water features exist onsite. The nearest surface water feature is a small tributary of the Don River East Branch, located approximately 400 meters northeast of the Site boundary. The Don River East Brach is approximately 770 meters northeast of the Site. Roughly 1,1 km southwest flows Wilket Creek, a tributary of the Don River West Branch. Lake Ontario is approximately 8.8 kilometers southeast of the Site boundary.

Due to the limited extent of zone of influence and the large distance of the nearest surface water feature, no impacts to surface water features are expected during construction activities.

6.2 Groundwater Sources

Well Records from the MECP Water Well Record (WWR) Database were reviewed to determine the number of water supply wells present within a 500 m radius of the Site centroid. Given that the dewatering zone of influence, no dewatering related impact is expected on the water wells in the area.

6.3 Geotechnical Considerations

Under certain conditions, dewatering activities can cause settlements due to an increase of the effective stress in the dewatered soil. A letter related to geotechnical issues (i.e. settlement) as it pertains to the Site is recommended to be completed under a separate cover.

6.4 Groundwater Quality

It is our understanding that the potential discharge from the dewatering system during the construction will be directed to the municipal sewer system. As such, the quality of groundwater discharge is required to conform the City of Toronto Sewer Use By-Law.

Based on the water quality results for the water sample collected for ESA, the concentrations of all tested parameters were reported below both Sanitary and Storm Sewer Use By-Law limits. For the short-term dewatering system (construction phase), it is anticipated that TSS levels and some other parameters (for example, Total Manganese) in the pumped groundwater may become elevated and exceed both, Sanitary and Storm Sewer Use By-Law limits. To control the concentration of TSS and associated metals, it is recommended that a suitable treatment method be implemented (filtration or decantation facilities and/ or any other applicable treatment system) during construction dewatering activities to discharge to the applicable sewer system. The specifications of the treatment system will need to be adjusted to the reported water quality results by the treatment contractor/process engineer.

Dewatering (short and long-term) may induce migration of contaminants within the zone of influence and beyond due to changing hydraulic gradients, hydrogeological conditions beyond Site boundaries and preferential pathways in utility beddings etc. The water quality sampling conducted as part of this assessment was performed under static conditions. As a result, monitoring may be required during dewatering activities (short and long-term) to monitor potential migration, and this should be performed more frequently during early dewatering stages.

Fort the long-term dewatering (post-construction), the water is suitable to be released into the Sanitary Sewer system without a treatment system. However, the pumped water is unsuitable to be discharged into the Storm Sewer system without implementing an appropriate pre-treatment system as required.

It is noted that the water quality results presented in this report may not be representative of the long-term condition of groundwater quality onsite. As such, regular water quality monitoring is recommended for the post-construction phase as required by the City.

An agreement to discharge into the sewers owned by the City of Toronto will be required prior to discharging dewatering effluent.

The Environmental Site Assessment Report(s) should be reviewed for more information on the groundwater quality conditions at the Site.

6.5 Well Decommissioning

In conformance with Regulation 903 of the Ontario Water Resources Act, the installation and eventual decommissioning of any dewatering system wells or monitoring wells must be completed by a licensed well contractor. This will be required for all wells that are no longer in use.

Appendix E – City's Servicing Report Groundwater Review Form

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December 2017

SERVICING REPORT GROUNDWATER SUMMARY

The form is to be completed by the Professional that prepared the Servicing Report.
Use of the form by the City of Toronto is not to be construed as verification of engineering/hydrological content.

For City Staff Use Only:	
Name of ECS Case Manager (please print)	
Date Review Summary provided to to TW	

A. SITE INFORMAITON		Included in SR (reference page number)	Report Includes this information City staff (Check)
Date Servicing Report was prepared:	October 30, 2023	Title	
Title of Servicing Report:	Servicing Report	Title	
Name of Consulting Firm that prepared Servicing Report:	EXP Services Inc.	Title	
Site Address	230 The Donway West Toronto, Ontario	Title	
Postal Code	M3B 2V8	Title	
Property Owner (identified on planning request for comments memo)	Donway Co-operative Development Corporation	Title	
Proposed description of the project (ex. number of point towers, number of podiums, etc.)	6 storey residential complex with residential units and church	pg 2	
Land Use (ex. commercial, residential, mixed, industrial, institutional) as defined by the Planning Act	Residential with Church	pg 2	
Number of below grade levels	Three levels	pg 2	

TORONTO

December 2017

SERVICING REPORT GROUNDWATER SUMMARY

Does the SR include a private water drainage system (PWDS)? **PWDS: Private Water Drainage System:** A subsurface drainage system which may consist of but is not limited to weeping tile(s), foundation drain(s), private water collection sump(s), private water pump or any combination thereof for the disposal of private water on the surface of the ground or to a private sewer connection or drainage system for disposal in a municipal sewer.	If **Yes** continue completing Section B (Information Relating to Groundwater) **ONLY** **If Yes, Number of PWDS?** 1 *(Each of these PWDS may require a separate Toronto Water agreement)* If **No** skip to Sections C (On-site Groundwater Containment) and/or D (Water Tight Requirements) as applicable	☑ YES ◯ NO	
B. INFORMATION RELATING TO GROUNDWATER		**Included in SR (reference page number)**	**Report Includes this information City Staff (Check)**
A copy of the pump schedule(s) for **ALL** groundwater sump pump(s) for the development site has been included in the SR **or** A letter written by a Mechanical Consultant (signed and stamped by a Professional Engineer of Ontario) shall be attached to the SR stating the peak flow rate of the groundwater discharge for the development site for all groundwater sump pump(s). This peak flow rate must be based on the pump schedule(s) that have been designed by the Mechanical Consultant. A template of this letter is attached in Schedule A.		Refer to the written letter by mechanical engineer attached in this GW review form	

TORONTO

December 2017

SERVICING REPORT GROUNDWATER SUMMARY

****If there is more than one groundwater sump they must ALL be included in the letters along with a combined flow****			
Is it proposed that the groundwater from the development site will be discharged to the sanitary, combined or storm sewer?	☑ Sanitary Sewer ◯ Combined Sewer ◯ Storm Sewer	p10	
Will the proposed PWDS discharge from the site go to the Western Beaches Tunnel (WBT)? *Reference attached WBT drainage map*	◯ YES ☑ NO **If Yes, private water discharge fees will apply and site requires a sanitary discharge agreement.**		
What is the street name where the receiving sewer is located?	The Donway West	p10	
What is the diameter of the receiving sewer?	375 mm	p10	
Is there capacity in the proposed local sewer system? ☑ YES ◯ NO	Are there any improvements required to the sewer system? If yes, identify them below and refer to the section and page number of the SR where this information can be found. Additional consultation with City staff is recommended to address extreme wet weather flow conditions If a sewer upgrade is required, the owner is required to enter into an Agreement with the City to improve the infrastructure? ◯ YES	p9	
Has Toronto Water-WIM confirmed that there is there capacity in the proposed infrastructure listed below? - Trunk System? ◯ YES ☑ NO -Pumping Station? ◯ YES ☑ NO	Pending Toronto Water approval		

SERVICING REPORT GROUNDWATER SUMMARY

-Wastewater treatment plant? ◯ YES ✓ NO -Outfall? ◯ YES ✓ NO -Combined Sewer Overflow? ◯ YES ◯ NO N/A *If there is no capacity in any of the above then alternative options need to be considered by the Owner and site cannot discharge to City sewer system.			
Total allowable peak flow rate during a 100 year storm event (L/sec) to storm sewer When groundwater is to be discharged to the storm sewer the total groundwater and stormwater discharge shall not exceed the permissible peak flow rate during a 2 year pre development storm event, as per the City's Wet Weather Flow Management Guidelines, dated 2006	99.4 L/sec GW is to be discharged to the municipal sanitary sewer for this development	p10 & p11	
Short-Term Groundwater Discharge Provide proposed total flow rate to the sanitary/combined sewer in post-development scenario Total Flow (L/sec) = sanitary flow + peak short-term groundwater flow rate	Total Flow = Sanitary Flow (0L/s) + Peak Short-Term GW Rate (3.45L/s) = 3.45L/s 3.45 L/sec	p10 & p11	
Long-Tem Groundwater Discharge Provide proposed total flow rate to the sanitary/combined sewer in post-development scenario	Total Flow = Sanitary Flow (6.6L/s) + Peak Long-Term GW Rate (1.3L/s) = 7.9L/s 7.9 L/sec	p10 & p11	

SERVICING REPORT GROUNDWATER SUMMARY

Total Flow (L/sec) = sanitary flow + peak long-term groundwater flow rate			
Does the water quality meet the receiving sewer Bylaw limits? ☑ YES ◯ NO	If the water quality does not meet the applicable receiving sewer Bylaw limits and the applicant is proposing a treatment system the applicant will need to include a letter stating that a treatment system will be installed and the details of the treatment system will be included in the private water discharge application that will be submitted to TW EM&P.	EXP's HG report in Appendix D	
C. ON-SITE GROUNDWATER CONTAINMENT		**Included in SR (reference page number)**	**Report Includes this information City Staff (Check)**
How is the site proposing to manage the groundwater discharge on site?			
Has the above proposal been approved by:	◯ TW-WIM And ◯ TW-EM&P And ◯ ECS		
If the site is proposing a groundwater infiltration gallery, has it been stated that the groundwater infiltration gallery will not be connected to the municipal sewer? A connection between the infiltration gallery/dry well and the municipal sewer is not permitted Please be advised if an infiltration gallery/dry	◯ YES ◯ NO		

SERVICING REPORT GROUNDWATER SUMMARY

well on site is not connected to the municipal sewer, the site **must** submit two letters using the templates in Schedule B and Schedule C.			
Confirm that the infiltration gallery can infiltrate 100% of the expected peak groundwater flow year round, ensure that the top of the infiltration trench is below the frost line (1.8m depth), not less than 5 m from the building foundation, bottom of the trench 1m above the seasonally high water table, and located so that the drainage is away from the building.			
D. WATER TIGHT REQUIREMENTS		**Included in SR (reference page number)**	**Report Includes this information City Staff (Check)**
If the site is proposing a water tight structure: 1. The owner must submit a letter using the template in Schedule D. 2. A Professional Engineer (Structural), licensed to practice in Ontario and qualified in the subject must submit a letter using the template in Schedule E. 3. A Professional Engineer (Mechanical), licensed to practice in Ontario and qualified in the subject must submit a letter using the template in Schedule F.			

Provide a copy of the approved SR to Toronto Water Environmental Monitoring & Protection Unit at pwapplication@toronto.ca.

Consulting Firm that prepared Servicing Report: EXP Services Inc.

Professional Engineer who completed the report summary: Steve Park
Print Name

LICENSED PROFESSIONAL ENGINEER
C. PARK
100168818
Oct 23/23
PROVINCE OF ONTARIO

October 19, 2023

Attention: Executive Director, Engineering and Construction Services
c/o Manager, Development Engineering
Engineering & Construction Services
City of Toronto
100 Queen St. W
Suite 16E
Toronto, ON M5H 2N2

c.c. General Manager, Toronto Water
c/o Manager, Environmental Monitoring and Protection Unit
2126 Kipling Ave, Toronto ON M9W 4K5

Re: Proposed Co-operative Development at 230 and 240 The Donway West, Toronto – Private Water Discharge

Dear Sir or Madam,

This letter is to confirm that ground water from the Private Water Drainage System, consists of two submersible sump pumps (duty-standby) inside a 1,200mm sump pit in lower P-2 level of U/G parking, will be collected and discharged into the sanitary control manhole, at a maximum peak flow rate of [0.65 L/sec].

The groundwater sump pumps will be sized at [0.65 L/sec] and are expected to run approximately [4.7 hours per day].

This peak flow rate will be used for assessing capacity for the peak discharge flow into the City's sanitary sewer system.

Once the proposed groundwater peak flow rate of [0.65 L/sec] is approved by Engineering Construction Services (ECS), City of Toronto at the zoning stage, the property owner will not be allowed to amend this flow rate in the future. Should there be any amendment to the peak flow rate of [0.65 L/sec] total in future, the property owner shall re-submit either the updated pump schedule or a revised letter to ECS. In addition, the sewer capacity will need to be re-assessed.

Sincerely,

Novatrend Engineering Group Ltd.

Eric Pun, P. Eng.

54 West Beaver Creek Road, Unit 200
Richmond Hill, Ontario L4B 1G5
Tel: 905-882-5445
www.novatrend.ca

End Document