FUNCTIONAL SERVICING REPORT

Burnhamthorpe/Oakville Holdings Inc.

Type of Document:
Final Report

Project Name:
Neyagawa & Hwy 407, Oakville

Location:
Northwest corner of Neyagawa Boulevard and Burnhamthorpe Road West

Project Number:
ALL-23012713-A0

Prepared and Reviewed By:
Woo Hyun Kim, Michelle Yip and Scott Passmore, P.Eng.
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Approved By:
Scott Passmore

Date + Time Submitted:
2025-09-08

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1. Introduction

EXP Services Inc. has been retained by Burnhamthorpe/Oakville Holdings Inc ("Owner") to prepare a Functional Servicing Report (FSR) in support of an application for an Official Plan and Zoning By-Law Amendment on approximately 2.40 ha of land ("site") in the Town of Oakville, Region of Halton. Refer to Figure 1 for site location plan.

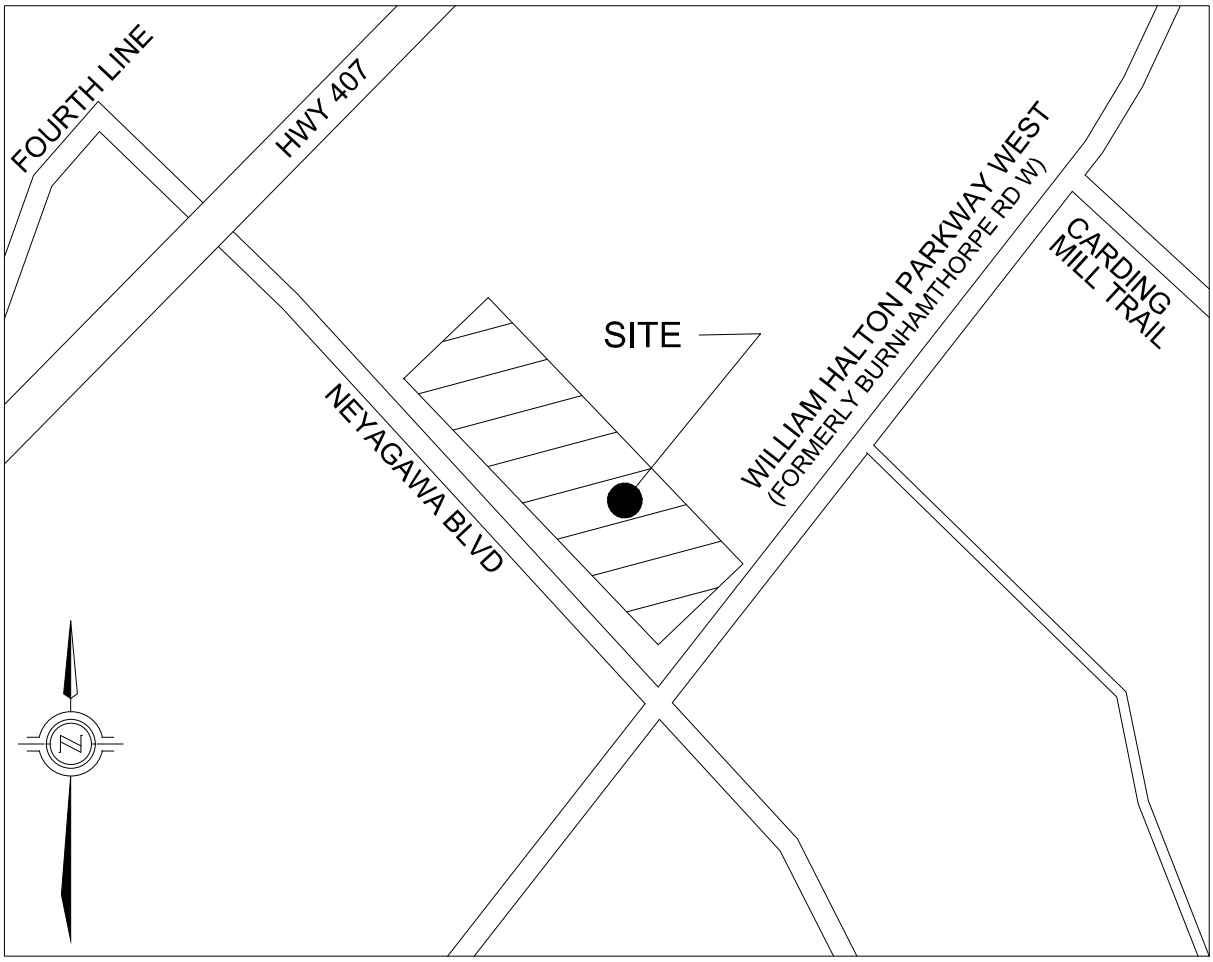
The subject site is located on the northeast corner of Neyagawa Boulevard and Burnhamthorpe Road West with an existing driveway entrance to Burnhamthorpe Road West. The site is bound by Neyagawa Boulevard to the west, Burnhamthorpe Road West to the south, an on-ramp to Highway 407 to the north and an existing private property to the east. The site is currently unoccupied with existing vegetated areas. Finally, the Owner is a member of the North Oakville East Developers Group which has undertaken master studies including the *East Sixteen Mile Creek ES6-East Environmental Implementation Report and Functional Servicing Study (EIR/FSS).*

The objective of this FSR is to give an overview of the proposed servicing strategy for the site while demonstrating conformance to the Town and Region design standards and the master EIR/FSS study while addressing any corresponding capacity concerns.

2. Site Characteristics and Proposed Development

Along the north side of the site, the property is located immediately adjacent to the existing on-ramp from Neyagawa Boulevard to the Highway 407. Therefore, a portion of the site is located with MTO's regulated area and permit control requirements. In reviewing the Halton Region Conversation Authority (HRCA) mapping, the site is not located within any existing HRCA regulated areas. Refer to Figure 1 for Site Location Plan.

The proposed mixed-use development will comprise two (2) separate blocks, featuring a total of five (5) residential condominium buildings with retail spaces all under single ownership. The development shows approximately 898 units with an approximate GFA of 24,052 m^2 over a shared underground parking structure with driveway access to both Neyagawa Boulevard and the future William Halton Parkway West (formerly Burnhamthorpe Road West). Through the Owner's pre-consultation meetings and correspondence with the Town and MTO, portions of the site are to be dedicated various agencies resulting in a net development area of approximately 1.77 ha. Refer to the Owner's Site Plan located in Appendix A for reference.



Project: NEYAGAWA & HWY 407, OAKVILLE, ON			
Title: LOCATION PLAN			
Approved by: S.P	Date: SEPT. 2025	Project No.: ALL-23012713-A0	
Drawn by: W.K	Scale: N.T.S.	Figure no.: FIG-01	

E:\MRK\ALL-23012713-A0\60 Execution\65 Drawings\Civil\Drawings\xxxx-FIG-01 LOCATION PLAN.dwg

3. Background Reference Documents

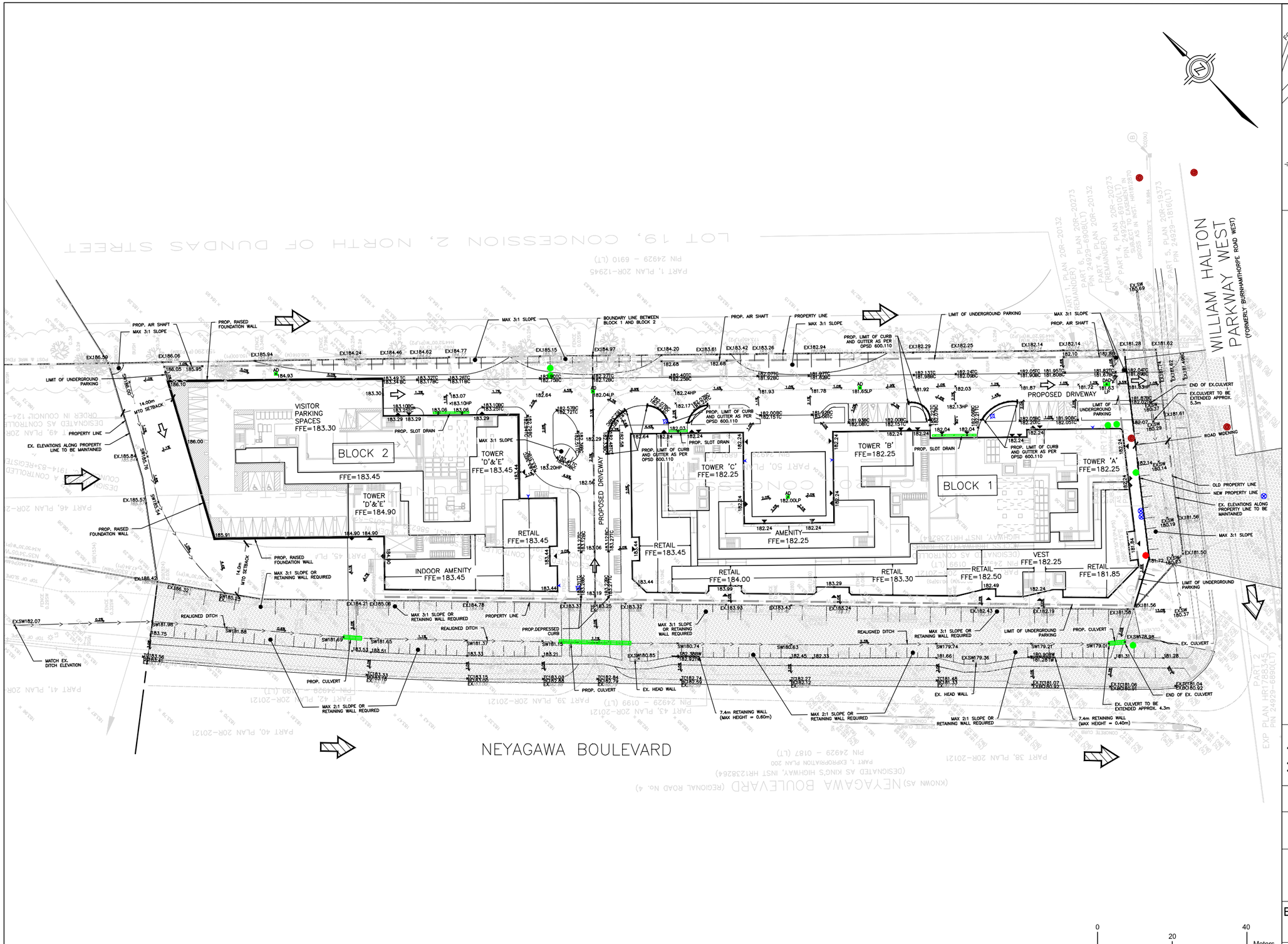
The following is a summary of the key design standards and background documents that have been referenced as part of the preparing the preliminary servicing strategy for the site:

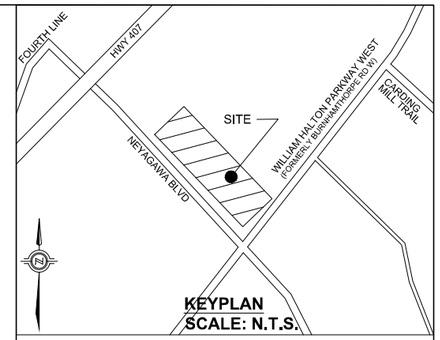
- Town of Oakville Development Engineering Procedures and Guidelines;
- Development Charges Background Water Report & Wastewater Linear Design Manual, Region of Halton;
- Record Plan and Profile Drawings for Neyagawa Boulevard and Burnhamthorpe Road West provided by the Town of Oakville and Region of Halton;
- Water and Wastewater Operation Maps, Region of Halton;
- The East Sixteen Mile Creek ES6-East Environmental Implementation Report and Functional Servicing Study (EIR/FSS) prepared by North Oakville East Developers Group;
- MECP Stormwater Management Planning and Design Manual; and,
- Conservation Halton Policies and Guidelines for Administration of O.Reg. 162/06.

4. Existing Topography and Proposed Grading

To assess the existing site topography within and surrounding the site, EXP staff visited the site and reviewed the topographic survey completed by KRCMAR Surveyors Ltd for the site. The topographic survey information indicates that the site's overall elevations generally slope in the southerly direction with an approximate fall in the range of 10 m. The topographic survey also shows the northerly portion of the site also drains in the easterly direction towards the existing neighbouring property via sheet flow. Refer to the topographic survey in Appendix A for reference.

The proposed 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, two (2) underground SWM chambers, and inlets all designed to capture and attenuate the 100-year storm event to the allowable release rate for the site. Overall, the proposed grading design generally maintains the existing drainage patterns for the site, while meeting Town of Oakville criteria and ensuring emergency major overland flow is directed west towards William Halton Parkway West without any negative impact to neighbouring property to the north or south. For additional grading details refer to the Preliminary Site Grading Plan on Figure 2.





LEGEND:

- PROPERTY LINE
- NEW / EXISTING WATER VALVE AND BOX
- PROPOSED HYDRANT
- 109.42 — PROPOSED ELEVATION
- 109.42 — EXISTING ELEVATION
- DRAINAGE ARROW / SLOPE (MAX 3:1)
- EMERGENCY OVERLAND FLOW (GREATER THAN 100-YEAR STORM)
- MAJOR OVERLAND FLOW
- DISTURBED AREA WITHIN CITY RIGHT-OF-WAY
- PROPOSED TRENCH DRAIN
- EX. STORM/SANITARY M.H.
- EX. CATCH BASIN
- LIMIT OF UNDERGROUND PARKING
- DAD — PROP. DOUBLE AREA DRAIN
- AD — PROP. AREA DRAIN
- CB — PROP. CATCHBASIN
- PROP. STORM M.H.
- PROP. SANITARY M.H.
- FUT. SANITARY M.H.
- PROP. SIAMESE
- PROP. WATER VALVE
- SWALE DIRECTION
- PROP. RAISED FOUNDATION WALL
- EXISTING / PROPOSED CULVERT

SOURCE:

- BACKGROUND LEGAL AND TOPOGRAPHIC SURVEY PREPARED BY KRCMAR SURVEYORS LTD. DATED NOVEMBER 02, 2023
- SITE PLAN PREPARED BY KIRKOR ARCHITECTS AND PLANNERS
- LANDSCAPE DRAWINGS PREPARED BY LANDSCAPE PLANNING LIMITIED

SCALE: 1:1000

	DRAWN BY	CHECKED BY
exp.	W.K.	S.P.

PRELIMINARY SITE GRADING PLAN

FIGURE 2

BURNHAMTHORPE/OAKVILLE HOLDINGS INC.
NEYAGAWA & HWY 407
TOWN OF OAKVILLE

PROJECT NUMBER: ALL-23012713-A0

DATE: SEPTEMBER 2025

5. Water Servicing

Region of Halton operating maps show the site is not currently located within an existing pressure zone (M4L) and is immediately adjacent to the existing O4 Pressure Zone. Available record drawings provided by the Region show the following existing municipal watermains adjacent to the site:

- 1200 mm diameter municipal trunk watermain along the south side of Burnhamthorpe Road West.

Through the review of all background servicing documents, there does not appear to be any existing water service connections for the site. For the background operating maps and record drawings please refer to Appendix A.

As previously mentioned, the Owner is a member of the North Oakville East Developers Group where the EIR/FSS study recommended a future 300 mm diameter municipal watermain on William Halton Parkway West connecting into the existing 1200 mm diameter municipal trunk watermain adjacent to the site. Therefore, until the future ultimate servicing scenario, the site can be serviced from advanced construction of the proposed 300 mm diameter municipal watermain on the interim. For excerpts from the water servicing component of the EIR/FSS please refer to Appendix A.

After reviewing the Owner's site plan where all development is under single ownership, it was confirmed that the preliminary water servicing design shall consist of the following configuration:

Interim Servicing Conditions:

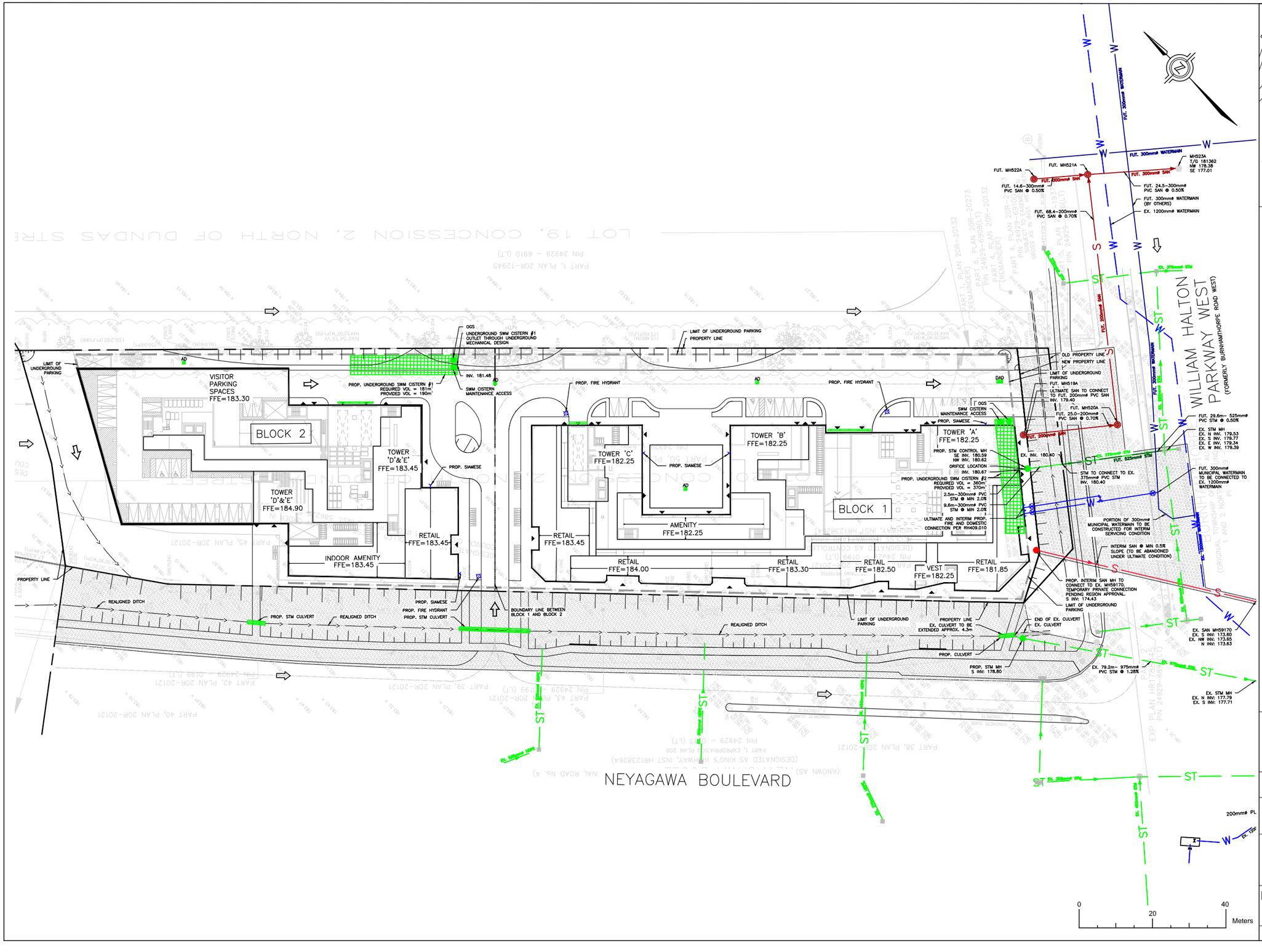
- Constructing a small portion of the 300 mm municipal watermain outlined in the EIR/FSS with a single connection to the existing 1200 mm diameter trunk watermain on Burnhamthorpe Road West; and,
- One (1) new combined domestic/fire water service connection to the constructed 300 mm diameter municipal watermain described above branching into separate fire and domestic water services at the property line.

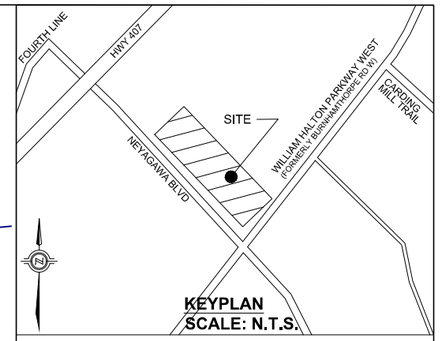
Ultimate Servicing Conditions:

- Maintain the interim servicing configuration described above and extending the 300 mm diameter municipal watermain along William Halton Parkway West to the east as part of the ultimate works outlined in the EIR/FSS (North Oakville East Developers Group works).

The site fire protection design also includes the provision for three (3) private fire hydrants within the site for adequate building protection coverage. For additional details regarding the proposed preliminary water servicing design refer to the Preliminary Site Servicing on Figure 3.

To determine the total equivalent population for the development, the Region of Halton Development Charges Background Water Report and Wastewater Linear Design Manual was utilized. Based on the Region standards, the average density for medium and high-density residential developments is 2.85 and 1.66 persons per unit (ppu) respectively. After reviewing the Owner's architectural design, a rounded value of 2 persons per unit was utilized across the whole site for a conservative approach. Applying alternative Region criteria for retail uses, the equivalent population was calculated as 1,072 persons for Block 1 and 741 persons for Block 2, resulting in a total site population of 1,813 persons.





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- W — INTERIM WATERMAIN
- S — INTERIM SANITARY SEWER
- S — EX. SANITARY SEWER
- ST — EX. STORM SEWER
- W — EX. WATERMAIN
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- W — ULTIMATE WATERMAIN
- S — ULTIMATE SANITARY SEWER
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- LANDSCAPE DRAWINGS PREPARED BY LANDSCAPE PLANNING LIMITIED

SCALE: 1:1000

exp.

DRAWN BY	CHECKED BY
W.K.	S.P.

PRELIMINARY SITE SERVICING PLAN

FIGURE 3

BURNHAMTHORPE/OAKVILLE HOLDINGS INC.
NEYAGAWA & HWY 407
TOWN OF OAKVILLE

PROJECT NUMBER: ALL-23012713-A0

DATE: SEPTEMBER 2025

To determine the post development domestic water demand on the municipal watermain distribution system, the water consumption calculations were prepared in accordance with the Region of Halton design criteria. Under maximum day conditions, the calculations indicate a proposed demand of 13.65 L/s for Block 1 and 9.43 L/s for Block 2, resulting in a total maximum day demand of 23.08 L/s. For the water demand calculations refer to Appendix B.

Then using the Fire Underwriter's Survey (2020) and referencing the Owner's architectural drawings, a fire demand of 167.0 L/s for Block 1 and 183.0 L/s for Block 2, giving a critical maximum day plus fire demand of 206.1 L/s for the purposes of reviewing required fire protection measures. For the fire demand calculations please refer to Appendix B.

In summary, based on the available flows and pressures within the existing 1200 mm diameter municipal trunk watermain and the modelled data provided for the proposed 300 mm diameter municipal watermain connection the EIR/FSS, there are not deemed to be any concerns with the required flows and pressures for the site all pending Region of Halton approval.

6. Sanitary Servicing

Region of Halton operating maps do not show the site currently within any existing sanitary servicing areas, where available record drawings provided by the Region show the following existing municipal sanitary sewers closes to the site:

- 450 mm diameter municipal sanitary sewer on the east side of Neyagawa Boulevard located approximately 105 m south of Burnhamthorpe Road West conveying flows in the southerly direction.

Through the review of all background servicing documents, there does not appear to be any existing sanitary services for the site. For the background operating maps and record drawings please refer to Appendix A.

The North Oakville East Developers Group EIR/FSS recommended a future 300 mm diameter municipal sanitary sewer on William Halton Parkway West to convey flows in the easterly and then southerly direction through future lands located south of William Halton Parkway West. Therefore, until the future ultimate servicing scenario, EXP staff reviewed the possibility of servicing the site from the existing 450 mm diameter municipal sanitary sewer on Neyagawa Boulevard on the interim. For excerpts from the sanitary servicing component of the EIR/FSS please refer to Appendix A.

After reviewing the Owner's site plan where all development is under single ownership, it was confirmed that the preliminary sanitary servicing design shall consist of the following configuration:

Interim Servicing Conditions:

- Constructing a temporary private sanitary sewer service and sewer of approximately 165 m length to the existing 450 mm diameter municipal sanitary located on the east side of Neyagawa Boulevard through a separate external servicing agreement with the Region of Halton.

Ultimate Servicing Conditions:

- Abandon the interim servicing configuration described above and construct one (1) new private sanitary service to the future 300 mm diameter municipal sanitary sewer along William Halton Parkway West to the east as part of the ultimate works outlined in the EIR/FSS (North Oakville East Developers Group works).

For additional details regarding the proposed preliminary sanitary servicing design refer to the Preliminary Site Servicing on Figure 3.

To determine the peak sanitary demand for the proposed development, the Region of Halton standards design criteria was used to first determine the estimated equivalent population. Based on the Owner's unit breakdown and development type the total estimated equivaled population is calculated to be 1,072 persons for Block 1 and 741 persons for Block 2. After determining the equivalent population, the Region of Halton's sanitary design criteria and corresponding peaking factors were used to give a peak sanitary demand of 13.89 L/s including infiltration for Block 1 and a peak sanitary demand of 9.60 L/s for Block 2. The total peak sanitary demand for the site is 23.49 L/s including infiltration. Refer to Appendix C for the completed sanitary calculations.

In summary, based on the reviewed servicing conditions and the modelled data provided for the future municipal sanitary sewer system outlined within the EIR/FSS, adequate sanitary servicing is available for the site for both the interim and ultimate servicing scenarios where the available capacity is pending Region of Halton approval.

7. Storm Servicing

Available record drawings provided by the Town of Oakville show the following existing municipal storm sewers and drainage features adjacent to the site:

- 300 mm to 825 mm diameter municipal storm sewer system located on the south side of Burnhamthorpe Road West conveying flows in the easterly direction; and,

- Roadside ditch located on the east side of Neyagawa Boulevard conveying flows in the southerly direction through an existing 975 mm diameter culvert under Burnhamthorpe Road West.

Record drawings also show an existing storm sewer service stub of 375mm diameter located along the south side of the site connected to the existing storm sewer system on Burnhamthorpe Road West mentioned above. For the background record drawings please refer to Appendix A.

The storm sewer system within the North Oakville East Developers Group EIR/FSS generally maintains the existing storm sewer system on William Halton Parkway West but also recommends upsizing an existing 375 mm diameter storm sewer to 525 mm diameter to assist in conveying flows from the site. The EIR/FSS also recommends a new municipal stormwater management (SWM) facility within the future lands to the south for the required SWM quantity and quality controls within the expanded municipal storm system. For excerpts from the storm servicing component of the EIR/FSS please refer to Appendix A.

After reviewing the Owner's site plan where all development is under single ownership, it was confirmed that the preliminary storm servicing design shall consist of the following configuration:

Interim and Ultimate Servicing Conditions:

- Maintain the existing 375 mm diameter storm service connection for the site and discharge flows into the existing 375 mm diameter storm sewer on Burnhamthorpe Road West using Town of Oakville SWM quantity and quality controls prior to discharging into the municipal storm system.

For additional details regarding the proposed preliminary storm servicing design refer to the Preliminary Site Servicing on Figure 3.

In summary, based on the reviewed servicing conditions and the modelled data provided for the future municipal storm sewer system outlined within the EIR/FSS, adequate storm servicing is available for the site for both the interim and ultimate servicing scenarios where the proposed SWM measures are outlined further in the SWM Report prepared by EXP.

8. Groundwater

The hydrogeological investigation completed by EXP indicates a calculated short-term discharge of 15.4 L/s (1,331,000 L/day) during construction which would require a permit to take water approval with the MECP for the construction works. The hydrogeological investigation also notes that pre-treatment methods may be required to meet the Town's storm sewer by-law requirements prior to discharging any groundwater during construction. For the long-term groundwater management strategy, it was confirmed with the Owner and consulting team that a watertight foundation will be implemented for the building design as the Town of Oakville no longer accepts discharge from any permanent groundwater dewatering to their municipal storm sewer system.

9. Conclusions

In summary, our findings outlined in this FSR report demonstrate that the proposed development can be adequately serviced to meet the Town and Region design requirements including the ultimate servicing design outlined within the East Sixteen Mile Creek ES6-East EIR/FSS study, where the results can be summarized as follows:

- The proposed grading design can be accommodated without any negative impact to neighbouring properties
- Domestic water servicing and fire protection can be provided with one new combined fire/domestic water service connection and 300 mm diameter municipal watermain connection to the existing 1200 mm diameter watermain on William Halton Parkway West for both the interim and ultimate servicing conditions as outlined in the EIR/FSS
- Interim sanitary servicing can be provided with a temporary sanitary service connection and private watermain connection to the existing 450 mm diameter municipal sanitary sewer located on Neyagawa Boulevard south of Burnhamthorpe Road West and conveying flows in the southerly direction pending capacity approvals by the Region of Halton
- Ultimate sanitary servicing can be provided by abandoning the temporary sanitary service connection to Neyagawa Boulevard and providing a new sanitary service connection to the future 300 mm diameter municipal sanitary sewer on William Halton Parkway West and conveying flows in the easterly direction as outlined in the EIR/FSS
- Interim and ultimate storm servicing can be provided by maintaining the existing 375 mm diameter storm servicing connection to existing storm sewer system on Burnhamthorpe Road West and utilizing Town of Oakville on-site SWM quantity and quality controls
- Stormwater management requirements can be met for both the interim and ultimate servicing scenarios with the proposed SWM control measures outlined in the SWM Report prepared by EXP
- Groundwater management can be accommodated by a proposed watertight foundation design for any new building construction

Sincerely,

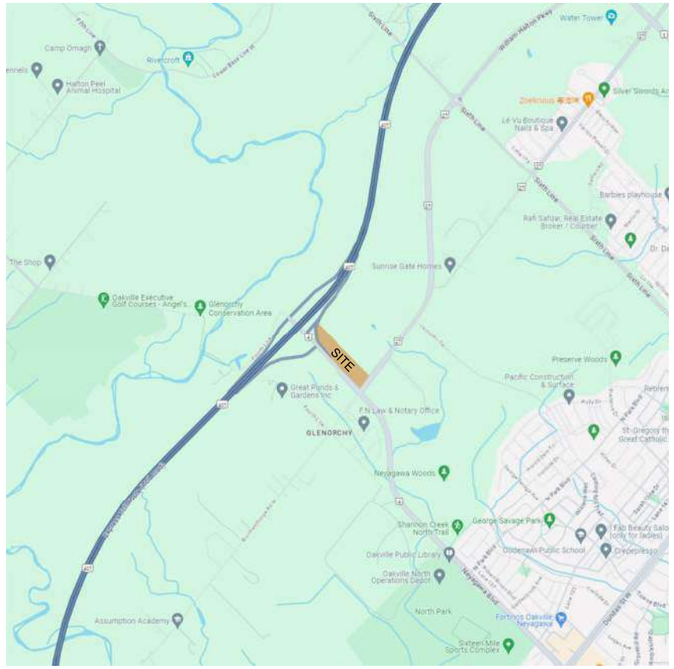
EXP Services Inc.

LICENSED PROFESSIONAL ENGINEER
S.W. PASSMORE
90539925
PROVINCE OF ONTARIO

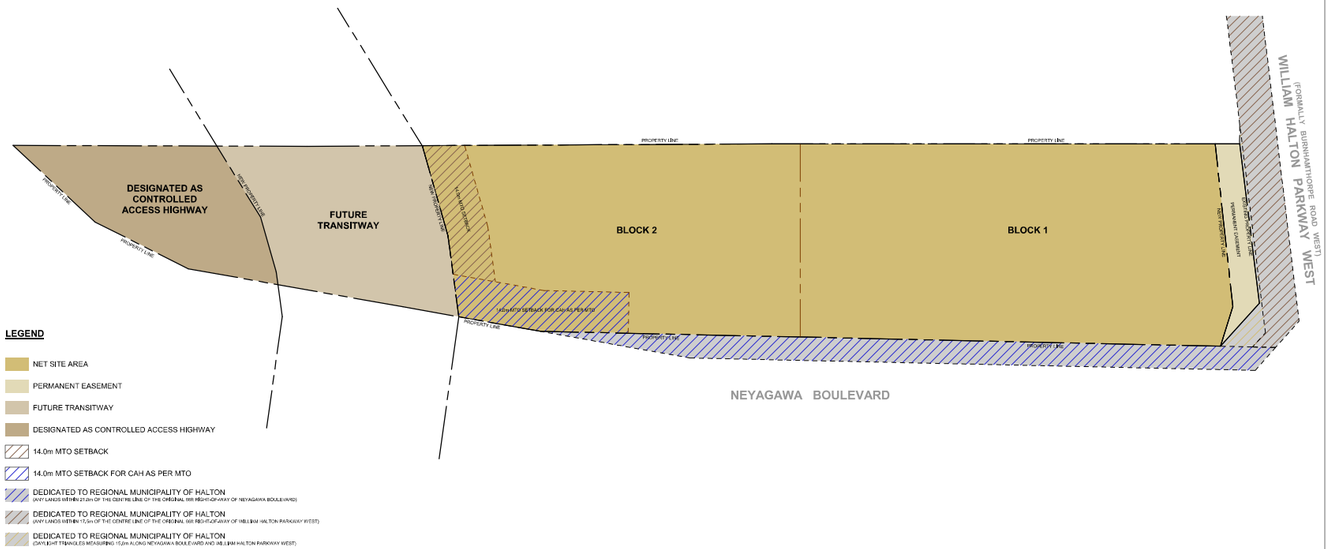
Scott W. Passmore, P.Eng.
Vice President, Land Development

Michelle Yip, EIT
Project Designer, Land Development

Appendix A – Site Plan and Background Documents

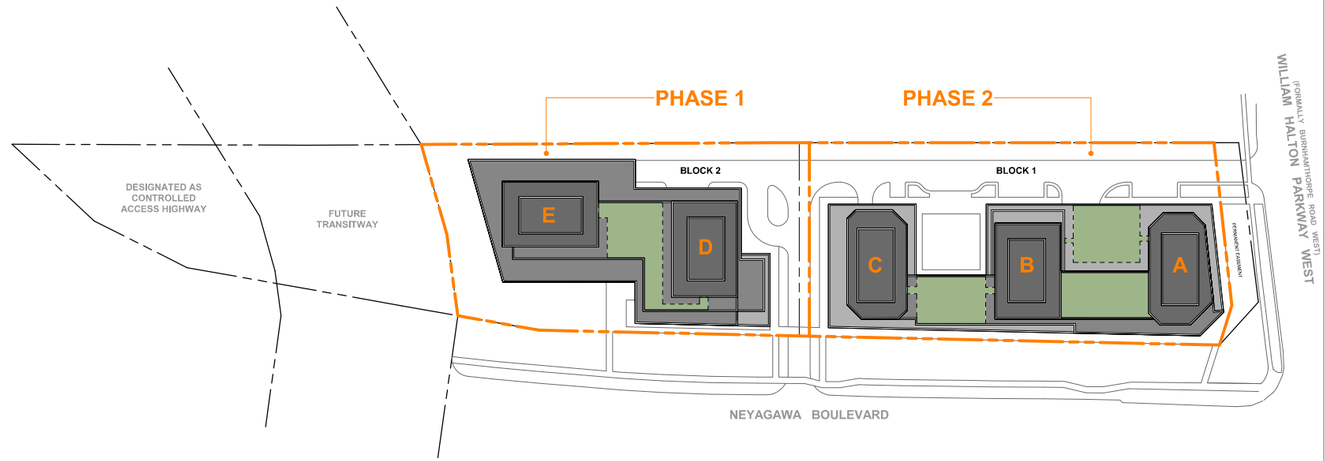


1 | Key Map



2 | Land Use Diagram

3 | Aerial Photograph



4 | Phasing Plan

Authorities Having Jurisdiction

August 21, 2025

KIRKOR
ARCHITECTS AND PLANNERS

No.	Revision:	Date:
		Revisions:

No.:	Revision:	Date:
1.	Rezoning	xx
No.:	Issued For:	Date:

Client:
Sky Property Group Inc.

Neyagawa Boulevard & William Halton Parkway West Oakville, ON.
Proposed Residential Development

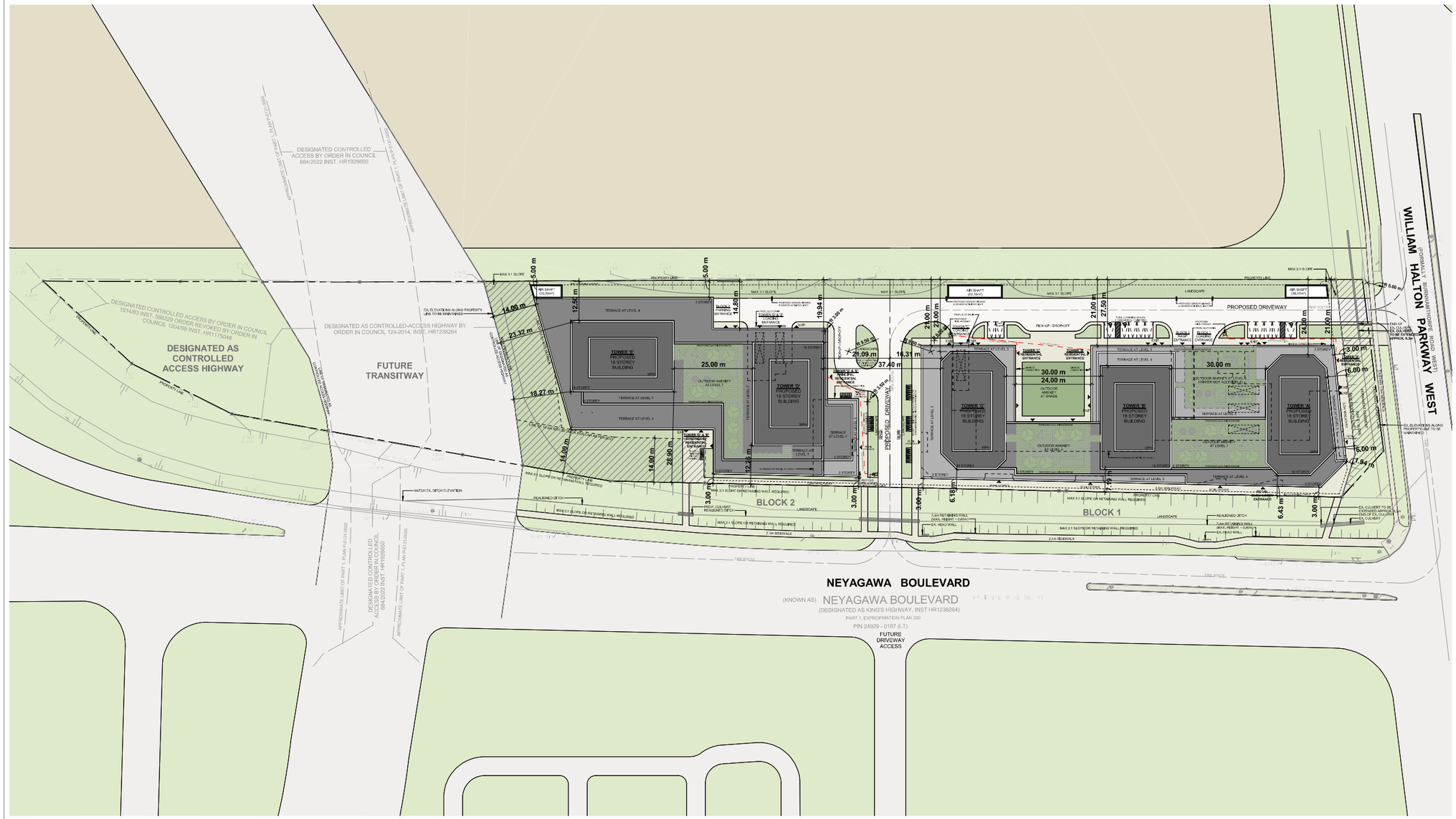
Drawing Title:
Land Use Diagram & Phasing Plan

Scale: 1 : 750
Drawn by: A.S.
Checked by: D.S.
Project No.: 23-144
Date: August 21, 2025
Drawing No.:

dA1.02

Notes:

All lighting devices shall be full cut off and night sky friendly to mitigate illumination at the source and not directly projected onto adjacent properties. Illumination levels at the property line shall not exceed 0.0 lux.



1 | Site Plan
1 : 500

Authorities Having Jurisdiction

August 21, 2025

KIRKOR
ARCHITECTS AND PLANNERS

Revisions:

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Scale: 1 : 500
Drawn by: G.H.
Checked by: D.S.
Project No.: 23-144
Date: August 21, 2025
Drawing No.:
dA1.06

File Date: 2025-08-20 3:23:03 PM by Parker, Amanda Date: //ACC-CEPH-CSVHA01 - By: - Dates: - Regions: - ACC_PLOTSTYLE

RESIDENTIAL WASTE STORAGE ROOM :

WASTE DIVERSION SYSTEM: SINGLE CHUTE EQUIPPED WITH A TRI-SORTER

CITY OF TORONTO REQUIREMENTS FOR GARBAGE, RECYCLING AND ORGANICS COLLECTIONS SERVICES (LAST REVISED - MAY 2023):

THE WASTE STORAGE ROOM MUST PROVIDE A MINIMUM FLOOR AREA OF:
- 25m² FOR THE FIRST 50 UNITS (TO ACCOMMODATE CONTAINERS AND THE COMPACTOR),
- 0.26m² FOR EACH ADDITIONAL UNIT, OVER 50 UNITS,
- 10m² FOR OVERSIZED ITEM, AND ITEMS ELIGIBLE FOR SPECIAL COLLECTION SERVICES.

NOTE: SPECIAL STORAGE OR CONTAINMENT MAY BE REQUIRED FOR PROPER SAFE STORAGE OF HOUSEHOLD HAZARDOUS WASTE ITEMS.
THIS MAY REQUIRE MORE THAN THE MINIMUM AREA LISTED ABOVE.

WASTE CALCULATION: ((UNIT COUNT - 50) x 0.26) + 25m² + 10m²

TOTAL UNITS PROVIDED: 898 UNITS

BLOCK 1: 529 UNITS **BLOCK 2: 369 UNITS**

BLOCK 1 - CALCULATED WASTE STORAGE ROOM REQUIREMENT: ((529 - 50) x 0.26) + 25m² + 10m² = **159,54m²**
BLOCK 2 - CALCULATED WASTE STORAGE ROOM REQUIREMENT: ((369- 50) x 0.26) + 25m² + 10m² = **117,94m²**

NUMBER OF COLLECTION BINS REQUIRED:
(REFERENCE FROM CITY OF TORONTO WASTE DESIGN GUIDLINES - RECOMMENDED VOLUMN FOR WASTE STORAGE FOR FRONT-END)

CONTAINERS DESIGNATION: G = GARBAGE, R= RECYCLING, O = ORGANIC

BLOCK 1: GARBAGE STORAGE: TOTAL OF 32 yd³ / 3 yd CONTAINER = 11 CONTAINERS
RECYCLING STORAGE:TOTAL OF 43 yd³ / 3 yd CONTAINER = 15 CONTAINERS
ORGANIC STORAGE: TOTAL OF 11 yd³ / 3 yd CONTAINER = 4 CONTAINERS
CALCULATED TOTAL NUMBER OF CONTAINERS REQUIRED: 30 CONTAINERS

BLOCK 2: GARBAGE STORAGE: TOTAL OF 24 yd³ / 3 yd CONTAINER = 8 CONTAINERS
RECYCLING STORAGE:TOTAL OF 32 yd³ / 3 yd CONTAINER = 11 CONTAINERS
ORGANIC STORAGE: TOTAL OF 8 yd³ / 3 yd CONTAINER = 3 CONTAINERS
CALCULATED TOTAL NUMBER OF CONTAINERS REQUIRED: 22 CONTAINERS

STAGING PAD:

- 6.1m UNENCUMBERED VERTICAL CLEARANCE THROUGHOUT, AT MINIMUM,
- 5m² IS THE MINIMUM REQUIRED FOR DEVELOPMENTS WITH 50 UNITS OR LESS,
- 0.10m² FOR EACH ADDITIONAL UNIT FOR DEVELOPMENTS WITH 51 UNITS OR MORE, INCLUDING A STARTING BASE OF 5m² FOR THE FIRST 50 UNITS,
- WITH 100 UNITS OR MORE, A MINIMUM OF 8m², OUT OF THE TOTAL STAGING PAD AREA REQUIRED, MUST BE ALLOCATED AT THE FRONT OF THE TYPE G, WITH THE REMAINDER BEING LOCATED ALONG THE SIDE IF ALL OF IT CAN'T BE LOCATED IN FRONT.

CALCULATED STAGING PAD REQUIREMENT: (UNIT COUNT - 50)/50 x 5m² + 5m²

BLOCK 1: 529 UNITS **BLOCK 2: 369 UNITS**

BLOCK 1 - CALCULATED STAGING PAD REQUIREMENT: (529 - 50)/50 x 5m² + 5m² = **52,90m²**
BLOCK 2 - CALCULATED STAGING PAD REQUIREMENT: (369 - 50)/50 x 5m² + 5m² = **36,90m²**

WASTE MANAGEMENT NOTES:

COMPACTOR UNIT:

A STATION COMPACTION UNIT MUST BE INSTALLED IN EACH BUILDING AND SECURED AT ALL TIMES. PRESSURE SHOULD BE SET A 5500 kPa (800 lbs / square inch).

STORAGE:

A WASTE STORAGE ROOM IN EACH BUILDING MUST BE BUILT IN ACCORDANCE WITH ALL APPLICABLE BUILDING AND FIRE CODES AND BE LARGE ENOUGH TO STORE ALL WASTE CONTAINERS BETWEEN COLLECTION DAYS. THE WASTE STORAGE ROOM MUST BE LARGE ENOUGH TO PERMIT MOVEMENT OF THE CONTAINERS, TO ALLOW FOR WASHING OF THE ENTURE ROOM AND CONTAINERS, AND PROVIDE ADDITIONAL SPACE FOR FUTURE PROGRAM EXPANSION. THE WASTE STORAGE ROOM MUST BE LOCATED ON PROVATE PREPERTY, WITHIN THE BUILDING ENVELOPE.

THE WASTE STORAGE ROOM MUST BE DESIGNED IN SUCH A WAY THAT ALL FRONT-END CONTAINERS CAN BE PLACED OUT FOR COLLECTION IN THE LOADING AREA. IT IS RECOMMENDED THAT THE OVERSIZED ITEM STORAGE AREA BE LCOATED WITHIN OR WITH DIRECT ACCESS TO THE LOADING AREA.

ALL DOORWAYS THAT WASTE CONTAINERS TRAVEK THROUGH BETWEEN THE WASTE STORAGE ROOM AND THE COLLECTION POINT MUST BE EITHER DOUBLE DOORS OR OVERHEAD DOORS.

ALL FRONT-END CONTAINERS MUST BE TRANSPORTED THROUGH THE BUILDING THROUGH SERVICE CORRIDORS WHEN THE WASTE STORAGE ROOM DOES NOT DIRECTLY CONNECT TO THE LOADING AREA.

ALL FRONT-END CONTAINERS MUST BE ACCESSABLE AT THE COLLECTION POINT BY 7:00am ON COLLECTION DAYS AND MUST BE RETURNED TO THE WASTE STORAGE ROOM IMMEDIATELY FOLLOWING COLLECTION.

LOADINGA AREA:

TYPE G LOADING SPACE - 13m (length) X 4m (width) X 6.1m (unencumbered vertical clearance thoughout)
* A MINIMUM 2m BUFFER BETWEEN THER FRONT OF THE TYPE G AND ADJACENT WALL IS REQUIRED.

ALL DIMENSIONMS ARE MINIMUM AND UNENCUMBERED FROM SPRINKLER SYSTEM, SUPPORT BEAMS, OVERHEAD DOORS, METERS, PIPES, HVAC SYSTEMS, SURVEILLANCE CAMERAS, MIRROES, ETC.

WITH 100m² UNITS OR MORE , A MINIMUM OF 8m², OUT OF THE TOTAL STAGING PAD AREA REQUIRED, MUST BE ALLOCATED AT THE FRONT OF THE TYPE G, WITH REMAINDER BEING LOCATED ALONG THE SIDE IF ALL OF IT CAN'T BE LOCATED IN FRONT.

THE STAGING PAD AND THE TYPE G LOADING SPACE MUST BE CONSTRUCTED OF:
- 200mm THICK REINFORCED CONCRETE,
- HAVE A SLOPE THAT IS LEVEL +/- 2% FROM GRADE,
- THE USE OF PAVER STONES, OR OTHER DECORATIVE INTERLOCKING MATERIAL, IS NOT PERMITTED WITHIN THE STAGING PAD AND TYPE G LOADING SPACE DEFINED AREAS

THE STAGING PAD AND THE TYPE G LOADING SPACE MUST HAVE AT LEAST A 6.1m UNENCUMBERED VERTICAL CLEARANCE THROUGHOUT THE ENTIRE FLOOR AREA.
THIS VERTICAL CLEARANCE RESTRICTS DEVELOPMENTS TO USING ONLY 2.3m³ (3 yd³) CONTAINERS.
- CONTAINERS LARGER THAN 2.3m³ (3 yd³) WILL NOT BE COLLECTED WITH THIS HEIGHT RESTRICTION
- THE STAGING PAD AND TYPE G LOADING SPACE IN THIS SITUATION MUST BE OUTDOORS OR HAVE AN APPROPRIATELY HIGHER VERTICAL CLEARANCE IF INDOORS.

THE DESIGN OF THE STAGING PAD SHOULD NOT REQUIRE THE JOCKEYING OF CONTAINERS BY THE DRIVER. IF JOCKEYIONG OF CONTAINERS IS NECESSARY, AN ON-SITE STAFF PERSON MUST BE AVAILABLE TO MANOEUVRE THE CONTAINERS FOR THE DRIVER. THE CITY DOES NOT ALLOW THE DRIVER TO LEAVE THE COLLECTION VEHICLE.

IF THE LOADING AREA IS ENCLOSED, IT SHALL BE ADEQUATELY VENTILATED. FRESH AIR INTAKES SHALL NOT BE LOCATED IN OR NEAR AND LOADING AREA.

THE STAGING PAD AREA MUST BE NO HIGHER THAN 0.6m ABOVE THE TYPE G.

ACCESS:

THE ACCESS ROUTE AND LOADING AREA MUST BE DESIGNED IN SUCH A WAY AS TO ALLOW A COLLECTION VEHICLE TO ENTER THE SITE, COLLECT THE WASTE, AND EXIT THE SITE IN A FORWARD MOTION WITHOUT THE NEED TO REVERSE ONTO A PUBLIC ROAD.

ACCESS DRIVEWAYS MUST BE A MINIMUM OF 6m WIDE AT THE POINT OF INGRESS / EGRESS TO THE SITE AND A MINIMUM OF 4.5m WIDE THROUGHOUT THE SITE WITH AN UNENCUMBERED CERTICAL CLEARANCE OF 4.4m THROUGHOUT. CONSIDERATION MUSH BE MADE REGARDING WIDTH REQUIREMENTS FOR RIGHT OR LEFT HAND TURNS THAT MAY BE REQUIRED ON PRIVATE PROPERTY.

TURNING RADII OF 9.5m INSIDE AND 14m OUTSIDE MUST BE AVAILAVBLE THROUGHOUT THE ACCESS ROUTE.

THE SLOPE OF THE ACCESS ROUTE CAN INCREASE UP TO +/- 8% FROM LEVEL WITH APPROPRIATE GRADUAL CHANGES IN THE SLOPE AT THE TOP AND BOTTOM TO PRECENT BOTH TYPES OF COLLECTION VEHICLES FROM BOTTOMING OUT OR OTHERWISE MAKING CONTRACT WITH THE GROUND. THE SLOPE OF THE ACCESS ROUTE MUST NOT EXCESS +/- 8% FROM LEVEL AND MUST PROVIDE ADEQUATE VERTICAL CLEARANCE THOUGHOUT THE ACCESS ROUTE.

IF THE COLLECTION VEHICLE IS REQUIRED TO DRIVE ONTO OR OVER A SUPPORTED STRUCTURE (SUCH AS AN UNDERGROUND PARKING GARAGE) THE CITY MUST BE PROVIDED WITH A LETTER CERTIFIED BY A PROFESSIONAL ENGINEER THAT THE STRUCTURE CAN SAFELY SUPPORT A DULLY LOADED COLEECTION VEHICLE (35,000 KILOGRAMS) AND CONFORMS TO THE FOLLOWING:
- DESIGN CODE - ONTARIO BUILDING CODE,
- DESIGN LOAD - CITY BULK LIFT VEHICLE IN ADDITION BUILDING COOE REQUIREMENTS,
- IMPACT FACTOR - 5% FOR MAXIMUM VEHICULAR SPEEDS TO 15km/h AND 30% FOR HIGHER SPEEDS.

IT IS THE RESPONSIBILITY OF THE DEVELOPER, AND SUBSEQUENT PREPERTY OWNERS, TO ENSURE THAT THE ACCESS ROUTE IS FREE OF OBSTRUCTIONS AND PROTRUSIONS, INCLUDING, BUT NOT LIMITED TO, SIGHTLINE OBSTRICTIONS, OVERHANGING STRUCTURES AND SPEED BUMPS AT ALL TIMES. THE CITY IS NOT RESPONSIBLE FOR COLLECTING WASTE IN THE EVENMT THAT THE ACCESS ROUTE IS OBSTRUCTED.

FOR SAFETY REASONS, PAVEMENT MARKINGS, WARNING LIGHTS, MIRRORS AND SIGNAGE MAY BE REQUIRED.

WASTE COLLECTION IS NOT PERMITTED IN DESIGNTED FIRE ROUTES.

LOADING SPACE: TYPE 2: RECYCLING 9.65m (length) X 2.44m (width) X 3.69m (bucket up 5.08m) (height); 13.00m (turning radius)

TYPE 3: FRONT END 9.70m (length) X 2.70m (width) X 3.80m (bucket up 5.08m) (height); 11.50m (turning radius)

ACCESS ROUTE

PROPOSED ACCESS ROUTE FOR WASTE COLLECTION VEHICLE TO HAVE MINIMUM 4.4m VERTICAL CLEARANCE THROUGHOUT AND DESIGNED TO SAFELY SUPPORT 35,000kg.
STRUCTURAL ENGINEER TO DESIGN AREA TO CONFORM AS FOLLOWS:
(A) DESIGN CODE - ONTARIO BUILDING CODE
(B) DESIGN LOAD - CITY BULK LIFT VEHICLE IN ADDITION TO BUILDING CODE REQUIREMENTS
(C) IMPACT FACTOR - 5% FOR MAXIMUM VEHICLE SPEEDS TO 15KM/H AND 20% FOR HIGHER SPEEDS

LOADING AREA

THE ENTIRE LOADING AREA MUST BE CONSTRUCTED OF 6" (0.2m) THICK REINFORCED CONCRETE, WITH GRADE NOT TO EXCEED 2% TRAINED ON-SITE CUSTODIAL STAFF MUST BE AVAILABLE TO MANEUVER BINS FOR THE COLLECTION DRIVER AND ALSO ACT AS A SIGNAL PERSON WHEN THE TRUCK IS REVERSING.
IN THE EVENT THE ON-SITE STAFF MEMBER IS UNAVAILABLE AT THE TIME THE CITY COLLECTION VEHICLE ARRIVES ON SITE, THE COLLECTION VEHICLE WILL LEAVE THE SITE AND NOT RETURN UNTIL THE NEXT SCHEDULED COLLECTION DAY.

1 | Waste Management Statistics & Notes

Sky Property Group Inc. - Neyagawa Boulevard & Highway 407
Residential Development
Oakville, Ontario

Project Statistics
August 20, 2025 Project No: 23-144

1.0 Site Information

	Hectares	acres	m²	ft²
Gross Site Area	4.8812	12.0621	48,812.40	525,356
Easements	0.1344	0.1182	1,343.80	14,467
Future Road(s)	0.1331	0.3290	1,331.00	14,328
Net Site Area (Gross Site Area minus Future Road and Easements Areas)	4.5137	11.1150	45,137.60	485,889
Net Site Area	**1.7320**	**4.2800**	**17,319.34**	**186,395**

2.0 Proposed TFA (Total Floor Area)

"Total Floor Area" means the total area of all floors in a building (other than cellar, basement or sub-basement floors) measured between the outside faces of exterior walls, but does not include a porch, roof, cistern, car shelter, attic, mechanical, mechanical penthouse, elevator shaft, chute, chute enclosure (described by the By-law - 2252-2017)

2.1 **Proposed Underground TFA**

	No. Floors	m²/U	m²	ft²
Level P2	P-2	14,901.75	14,901.75	160,408
Level P1	P-1 to P-2	15,833.68	15,833.68	170,413
Level 1 (Level 1 and P-1)	P-1	14,751.43	14,751.43	158,756
Total Proposed Underground TFA			**45,486.86**	**489,578**

2.2 **Proposed Above Ground TFA - Residential TFA**

	No. Floors	m²/U	m²	ft²
BLOCK 1				
Condo				
Level 1	1	1,774.46	1,774.46	19,100
Level 2	1	2,961.35	2,961.35	31,877
Level 3	1	3,523.85	3,523.85	37,934
Levels 4 to 5	2	3,965.15	7,930.31	85,357
Type G				
Level 6	1	722.39	722.39	7,775
Levels 7 to 18	12	301.39	3,616.68	38,922
Type L				
Level 6	1	703.39	703.39	7,570
Levels 7 to 18	12	301.39	3,616.68	38,922
Type L1				
Levels 6 to 17	11	703.39	11,756.80	126,541
Level 18	1	303.39	290.60	3,797
BLOCK 2				
Condo				
Level 1	1	3,561.47	1,782.92	19,190
Level 2	1	3,561.47	3,561.47	38,332
Level 3	1	3,199.16	3,199.16	34,438
Levels 4 to 5	2	3,953.58	7,190.27	77,407
Type G				
Level 6	1	722.39	722.39	7,775
Levels 7 to 18	12	301.39	3,616.68	38,922
Type L				
Level 6	1	703.39	703.39	7,570
Levels 7 to 18	12	301.39	3,616.68	38,922
Type L1				
Levels 6 to 17	11	703.39	11,756.80	126,541
Level 18	1	303.39	290.60	3,797
Total Proposed Above Ground - Residential TFA				
BLOCK 1			47,291.35	444,529
BLOCK 2			51,482.34	554,251
Total Proposed Above Ground - Residential TFA			**98,698.69**	**978,980**

2.3 **Proposed Retail (Non-Residential) TFA**

	m²	ft²
RETAIL 1 - Location TBD	1,160.91	12,494
BLOCK 2 - Location TBD	334.07	3,596
Non-Residential - Other TBD	1,941.27	20,895
Total Proposed Retail (Non-Residential) TFA	**3,436.24**	**36,985**

2.4 **Total Proposed TFA**

	m²	ft²
Total Residential TFA (Above and Below Ground)	144,184.69	1,551,509
Total Retail (Non-Residential) TFA	3,436.24	36,985
Total Proposed TFA (Sum Total of the Above)	**147,620.93**	**1,588,494**
Total Proposed TFA	**606,706.93**	**6,588,494**

3.0 Proposed Density / FSI (Floor Space Index)

"Floor Space Index" means the ratio of the gross floor area of a building or an addition to the area of the lot on which the building or addition is located (By-law 2252-2017)

Density FSI (Gross Floor Area / Net Site Area)	3.39
Net FSI (Gross Floor Area / Net Site Area)	**4.74**

4.0 Unit Count

Unit Count	No. Floors	1BR	1BR+D	2BR	2BR+	No. of units per level	Total Floors
BLOCK 1							
Condo							
Level 1	1		+ 3	+ 11	+ 2	+ 13	29
Level 2	1	+ 5	+ 12	+ 10	+ 2	+ 29	29
Level 3	1	+ 7	+ 7	+ 11	+ 1	+ 26	26
Levels 4 to 5	2	+ 7	+ 7	+ 10		+ 24	48
Type L							
Level 6	1		+ 5	+ 2		+ 7	7
Levels 7 to 17	11		+ 5	+ 2		+ 7	77
Type L1							
Level 6	1		+ 1	+ 1		+ 2	2
Levels 7 to 17	11		+ 5	+ 6		+ 11	110
Type G							
Level 6	1		+ 1	+ 1		+ 2	2
Levels 7 to 18	12		+ 6	+ 6		+ 12	144
BLOCK 2							
Condo							
Level 1	1		+ 9	+ 5	+ 1	+ 15	15
Level 2	1		+ 11	+ 14	+ 4	+ 29	29
Levels 3 to 4	2		+ 13	+ 7	+ 5	+ 25	50
Type G							
Level 5	1		+ 5	+ 4		+ 13	13
Levels 6 to 17	11		+ 5	+ 4		+ 13	143
Type L							
Level 5	1		+ 6	+ 3		+ 10	10
Levels 6 to 17	11		+ 6	+ 4		+ 13	143
Total Unit Count							
BLOCK 1		24	274	210	13		521
BLOCK 2		16	223	135	27		401
Total Unit Count		40	497	345	40		922

5.0 Proposed Amenity Area

"Amenity Area" means an area of landscaped open space or part of a building or structure, the use of which is provided for the purpose of active or passive recreation, and includes a children's play area, but does not include a private domestic garden, ramp, parking area, service area or any area occupied by mechanical equipment (By-law 2252-2017)

5.1 **Proposed Amenity Area**

	Metric
Indoor Amenity	2,574.19
Outdoor Amenity	711.94

5.2 **Amenity Area Required**

	No. Units	ratio	m²	ft²
Indoor Amenity (BLOCK 1 + BLOCK 2)	921	2.0 M²	1,842.00	19,827
Indoor Amenity (BLOCK 2 - 5.7)	369	2.0 M²	738.00	7,944
Outdoor Amenity (BLOCK 1 + BLOCK 2)	921	1.8 M²	1,658.00	17,847

5.3 **Proposed Indoor Amenity Area**

	Level 1	Level 2	Level 7	
BLOCK 1	1,371.19	1,203.00		2,574.19
BLOCK 2	329.78	381.16		710.94
Total Proposed Indoor Amenity Area				**3,285.13**

5.4 **Proposed Outdoor Amenity Area**

	At Grade	Level 3	Level 4	Level 7	m²	ft²
BLOCK 1 & 2	346.00	424.58	360.27	519.79	1,650.64	17,765
Total Proposed Outdoor Amenity Area					**1,650.64**	**17,765**

5.5 **Total Proposed Indoor & Outdoor Amenity Area**

	m²	ft²
Total Proposed Indoor Amenity Area	3,285.13	35,368
Total Proposed Outdoor Amenity Area	1,650.64	17,765
Total Proposed Indoor & Outdoor Amenity Area	**4,935.77**	**53,133**

6.0 Vehicular Parking

6.1 **Proposed Vehicular Parking**

	Metric
Occupant Parking	0.82 /unit
Visitor Parking	0.15 /unit
Non-Residential	1.29 /per m² GFA
Accessible Parking	7% of the total number of parking spaces will be provided as accessible parking spaces (By-law 2019-0079)

6.2 **Vehicular Parking Required**

	ns. suites / leasable area (m²)	ratio	Total Parking
BLOCK 1 - Residential	529	0.82 /unit	434
BLOCK 1 - Visitors	529	0.20 /unit	106
BLOCK 2 - Residential	369	0.82 /unit	303
BLOCK 2 - Visitors	369	0.20 /unit	74
Non-Residential	3,525.00	1.29 /m²	46
Total Vehicular Parking Required			**964**

6.3 **Vehicular Parking Provided**

	At Grade / Level 1	Lower Level 1	Level P1	Level P2	Level P3	Total Parking
BLOCK 1 - Residential	91		30	179	224	424
BLOCK 1 - Visitors		31	106			106
BLOCK 2 - Residential	49	148				197
Non-Residential			10			10
Car Share	4					4
Total Vehicular Parking Provided	**53**	**179**	**146**	**179**	**224**	**781**

6.4 **Proposed Electric Vehicular Infrastructure Parking**

	Ratio
Residential Parking	100%
Visitors Parking / Non-Residential	15%

6.5 **Electric Vehicular Infrastructure Parking Required**

	no. of provided parking	ratio	Total Parking
BLOCK 1 - Residential	424	100%	424
BLOCK 1 - Visitors	106	15%	16
BLOCK 2 - Residential	235	100%	235
BLOCK 2 - Visitors	74	15%	11
Non-Residential	14	20%	10
Total Electric Vehicular Infrastructure Parking Required			**696**

6.6 **Electric Vehicular Infrastructure Parking Provided**

	At Grade / Level 1	Lower Level 1	Level P1	Level P2	Level P3	Total Parking
BLOCK 1 - Residential					224	424
BLOCK 1 - Visitors	91		96	179		16
BLOCK 2 - Residential		82	106	132		235
BLOCK 2 - Visitors	59					11
Non-Residential			10			10
Total Electric Vehicular Infrastructure Parking Provided						**696**

6.7 **Accessible Parking Required**

	no/elec. of parking spaces	ratio	Total Parking
BLOCK 1 - Residential & Visitors	530	2%	11
BLOCK 2 - Residential & Visitors	309	2%	7
Non-Residential	14	2%	1
Total Accessible Parking Required			**19**

6.8 **Accessible Parking Provided**

	At Grade / Level 1	Lower Level 1	Level P1	Level P2	Level P3	Total Parking
BLOCK 1 - Residential & Visitors	5		3	3		11
BLOCK 2 - Residential & Visitors	2	2	2	2		8
Non-Residential						
Total Accessible Parking Provided						**20**

7.0 Bicycle Parking

7.1 **Proposed Bicycle Parking**

	Ratio
Residential Occupant	0.68 (or equivalent to 680 bicycle parking spaces shall be required)
Residential Visitors	0.07 /unit
Non-Residential	Floor area to be particularly appropriate, as required by the municipal urban design and economic development Bicycle Parking Standards Manual

7.2 **Bicycle Parking Required - Residential**

	ns. suites	Occupant (0.68 /unit)	Visitors (0.07 /unit)	Total Parking
BLOCK 1	529	360	37	397
BLOCK 2	369	251	26	277
Total Bicycle Parking Required - Residential				**674**

7.3 **Bicycle Parking Required - Non-Residential**

	required automobile parking spaces	ratio	Total Parking
BLOCK 1	14	1%	0
Total Bicycle Parking Required - Non-Residential			**0**

7.4 **Total Bicycle Parking Provided**

	Level 2	At Grade - exterior	Level 1 - indoor	Level P1	Total Parking
BLOCK 1 - Residential				206	206
BLOCK 1 - Visitors		30	106		136
BLOCK 2 - Residential	440				440
BLOCK 2 - Visitors		10	76		86
Non-Residential		6			6
Total Bicycle Parking Provided	**440**	**46**	**182**	**206**	**874**

7.5 **Proposed Electric Vehicular Infrastructure Parking**

	Ratio
Residential Occupant	5%
Residential Visitors	15%

7.6 **Electric Vehicular Infrastructure Parking Required**

	Occupant (5%)	Visitors (15%)	Total Parking
BLOCK 1	18	2	20
BLOCK 2	18	11	29
Total Electric Vehicular Infrastructure Parking Required	36	13	**49**

7.7 **Electric Vehicular Infrastructure Parking Provided**

	Level 2	Level 1 - indoor	Level P1	Total Parking
BLOCK 1 - Residential			16	16
BLOCK 1 - Visitors		22		22
BLOCK 2 - Residential	19			19
BLOCK 2 - Visitors		10		10
Total Bicycle Electric Vehicular Infrastructure Parking Provided				**66**

8.0 Loading Space

Loading Area Required

- Residential: 1 Type G shall be provided + 1 Type B (length of 11.0m/36.1ft)
- Commercial/Retail: 1 Type B shall be provided (minimum) for every 2,000 m² (21,528 ft²) of retail space (By-law 2019-0079)

1 or 2 Level Underground Parking Garage (Level P1 and P2 - Title Block) will allow access to Level 1 via Overhead Doors (Level 1 - Floor Plan) for the following:

Type 2 Recycling 9.65m (length) X 2.44m (width) X 3.69m (bucket up 5.08m) (height); 13.00m (turning radius)
Type 3 Front End 9.70m (length) X 2.70m (width) X 3.80m (bucket up 5.08m) (height); 11.50m (turning radius)

Loading Space Provided	Residential	Non-Residential	Total Loading Space
BLOCK 1	1	1	2
BLOCK 2	1	-	1
Total Loading Space Provided	2	1	3

9.0 Coverage

	m²	ft²	Percentage (%)
Building Coverage	6,134.80	66,036	12.6%
Paved Areas	2,430.00	27,615	13.0
Hard Landscape	1,650.64	17,765	9.5
Soft Landscape	7,104.17	76,472	39.2%
Site Area Total	**17,319.60**	**186,395**	**100.00**

2 | Site Statistics

Authorities Having Jurisdiction

August 21, 2025

KIRKOR
ARCHITECTS AND PLANNERS
80 De Boers Drive Suite 600
Toronto ON M3J 0H1

No.	Revision:	Date:
1.	Rezoning	XX
No.:	Issued For:	Date:

Revisions:

Client:
Sky Property Group Inc.

Neyagawa Boulevard & William Halton Parkway West
Oakville, ON.
Proposed Residential Development.

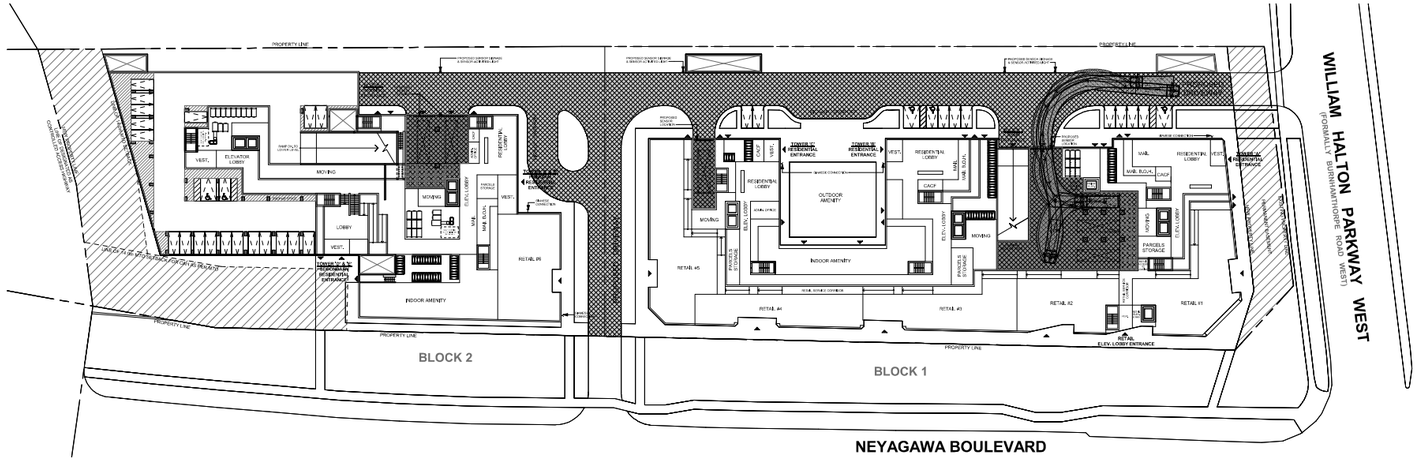
Drawing Title:
Site Statistics & Waste Management Notes

Scale:

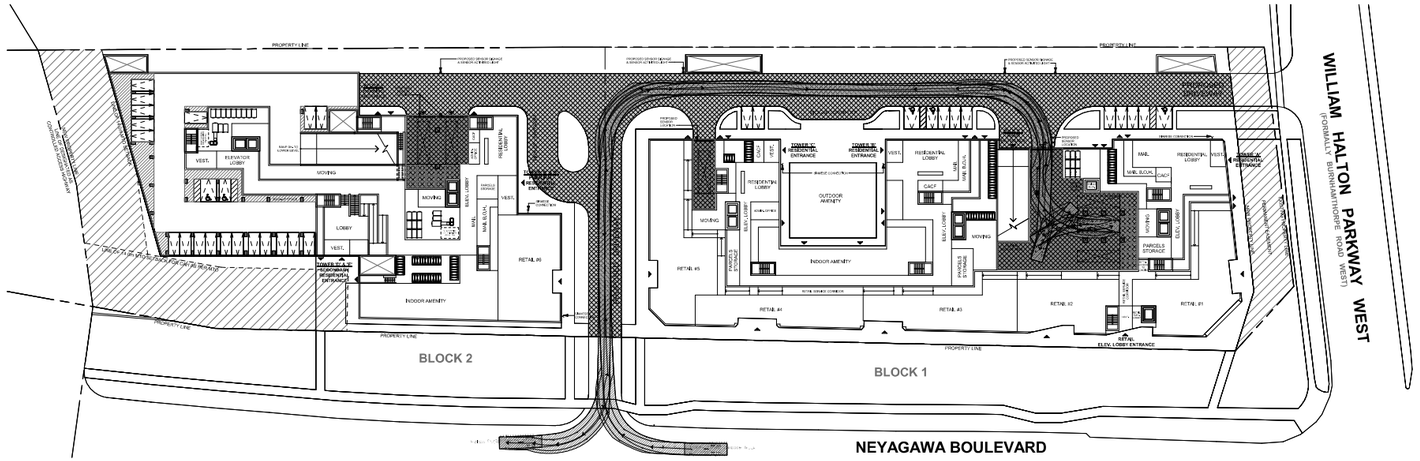
Drawn by: G.H.
Checked by: D.S.
Project No.: 23-144
Date: August 21, 2025
Drawing No.:

dA1.07

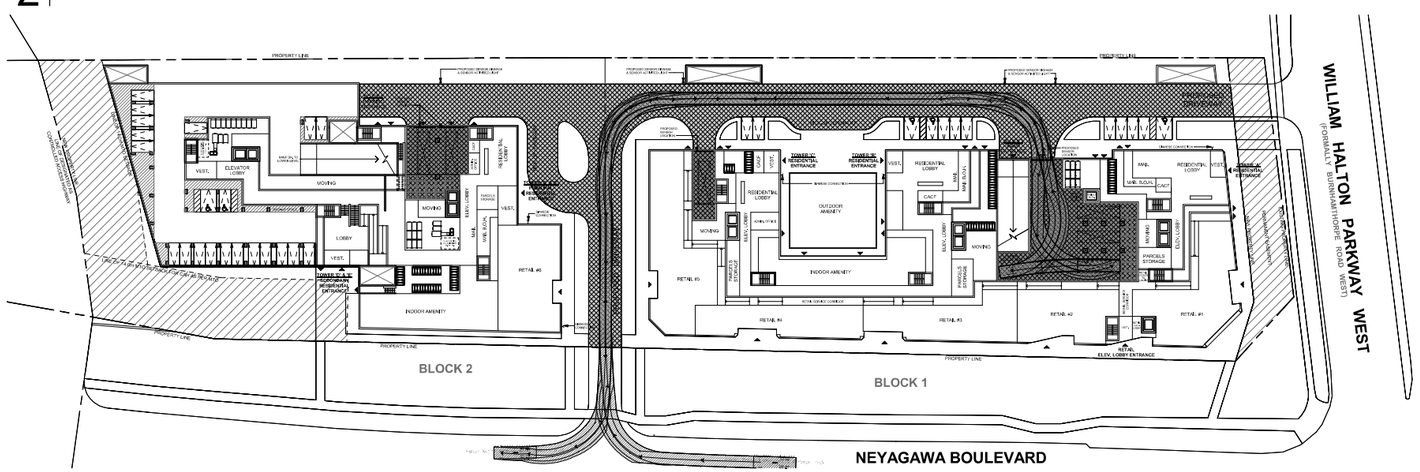
Ref. Date: 2025-08-20 3:53:53 PM By: Author: Gina // ACC-CENTRAL[GH] - By - Date - Issued at 40_RESIDENTIAL



1 | Tower 'A' - Retail Waste Collection Vehicle Movement Diagram



2 | Waste Collection Vehicle Movement Diagram - Tower 'A' - Residential



3 | Waste Collection Vehicle Movement Diagram - Tower 'B' - Residential

Authorities Having Jurisdiction

August 21, 2025

KIRKOR
ARCHITECTS AND PLANNERS

Revisions:

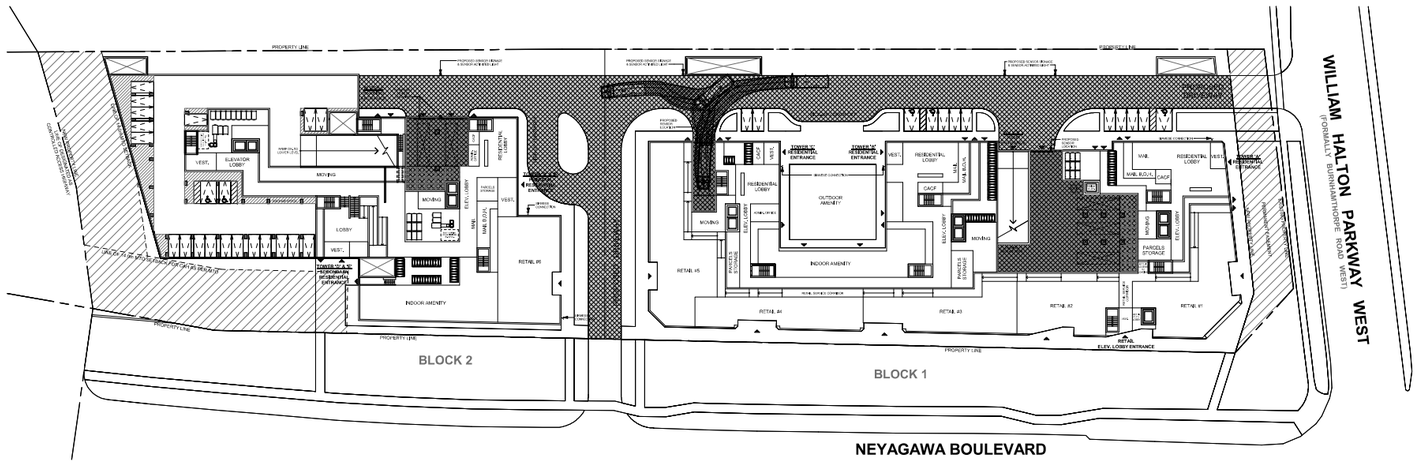
No.:	Revision:	Date:
1.	Rezoning	xx
No.:	Issued For:	Date:

Client:
Sky Property Group Inc.

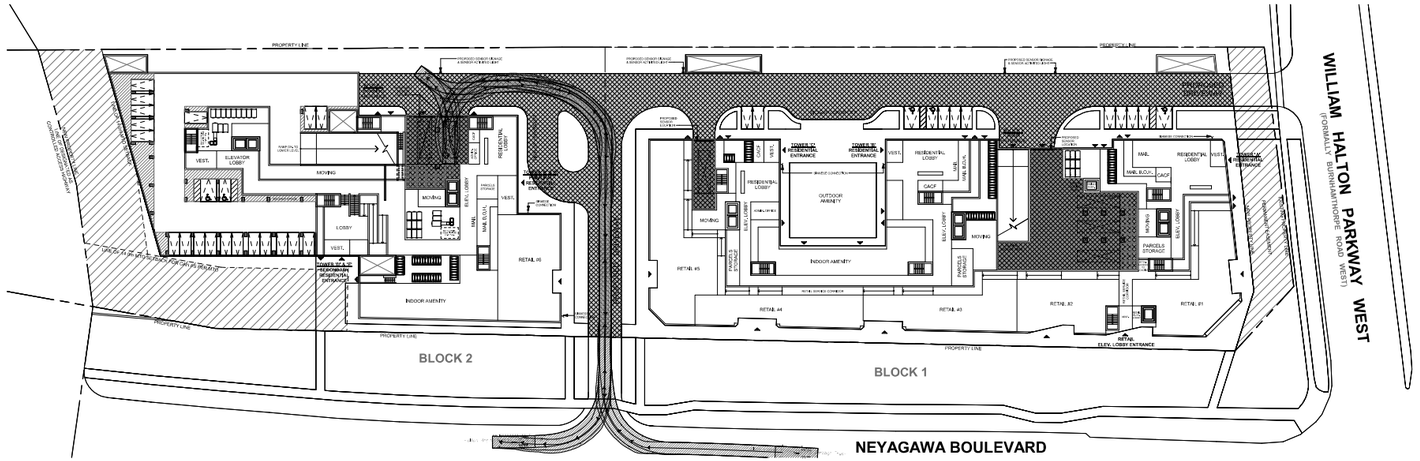
Neyagawa Boulevard &
William Halton Parkway West
Oakville, ON.
Proposed Residential Development.

Drawing Title:
Waste Management Plans

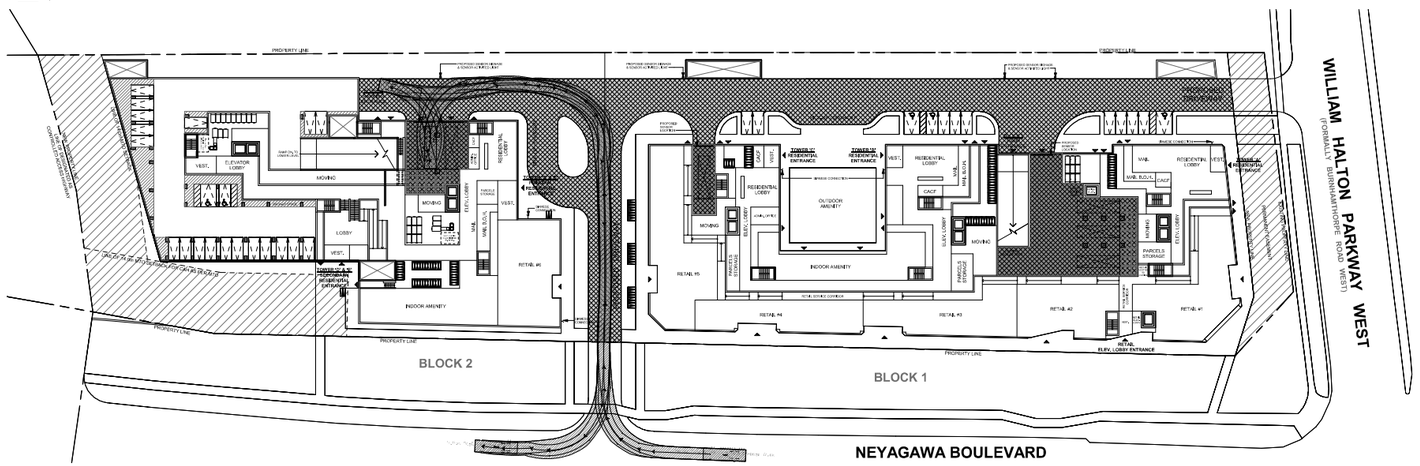
Scale:
1 : 500
Drawn by:
G.H.
Checked by:
D.S.
Project No.:
23-144
Date:
August 21, 2025
Drawing No.:
dA1.08



1 | Waste Collection Vehicle Movement Diagram - Tower 'C' - Residential



2 | Waste Collection Vehicle Movement Diagram - Tower 'D' - Residential



3 | Waste Collection Vehicle Movement Diagram - Tower 'E' - Residential

Authorities Having Jurisdiction

August 21, 2025

KIRKOR
ARCHITECTS AND PLANNERS

Revisions:

No.:	Revision:	Date:
1.	Rezoning	xx
No.:	Issued For:	Date:

Client:
Sky Property Group Inc.

Neyagawa Boulevard &
William Halton Parkway West
Oakville, ON.
Proposed Residential Development.

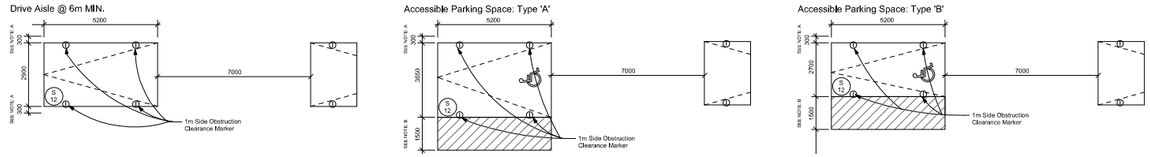
Drawing Title:
Waste Management Plans

Scale: 1 : 500
Drawn by: G.H.
Checked by: D.S.
Project No.: 23-144
Date: August 21, 2025
Drawing No.:

dA1.09

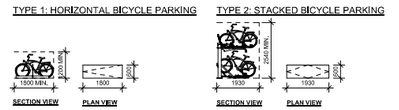
Ref. Dwgs: 3500-00 to 3506 Plots: Autodesk Docs://23144 KIRKOR/23144R1 - Sky - Oakville - Revised 4 - 25_AR25Revit

TYPICAL PARKING SPACE:



NOTES:
A. PROVIDE AN ADDITIONAL 300mm FOR PARKING SPACE WIDTH WHEN OBSTRUCTIONS OCCUR BETWEEN THE FRONT AND REAR 1000mm.
B. PROVIDE A 1500mm WALKWAY ON AT LEAST ONE SIDE OF AN ACCESSIBLE PARKING STALL. THIS WALKWAY MAY BE SHARED WITH ADJOINING ACCESSIBLE SPACE.

1 | Parking Space Legend



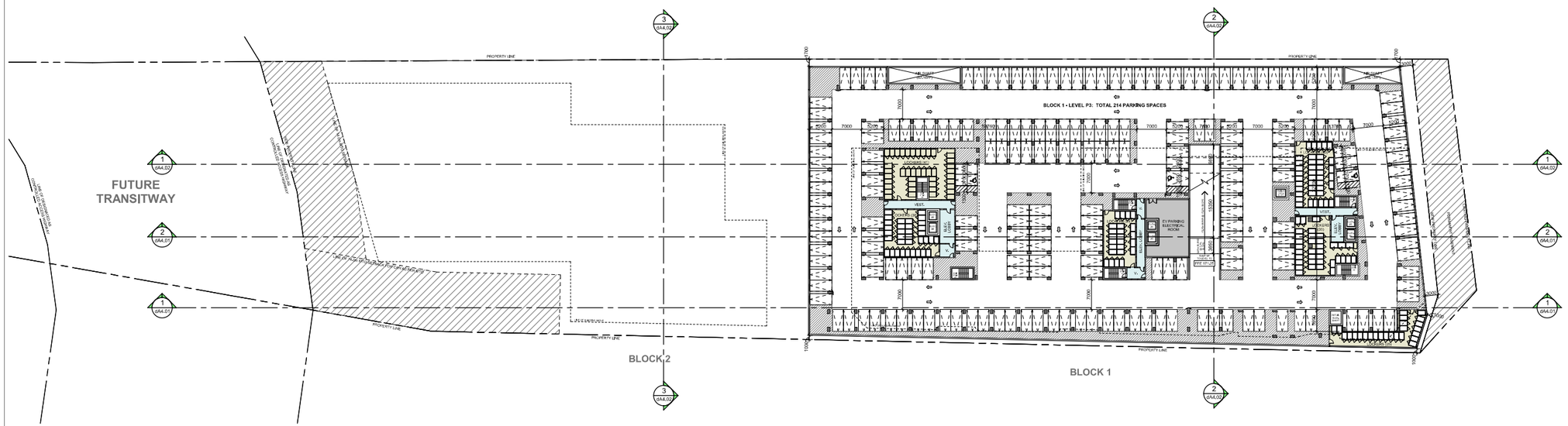
2 | Bicycle Parking Space Legend

CONVEX MIRROR:

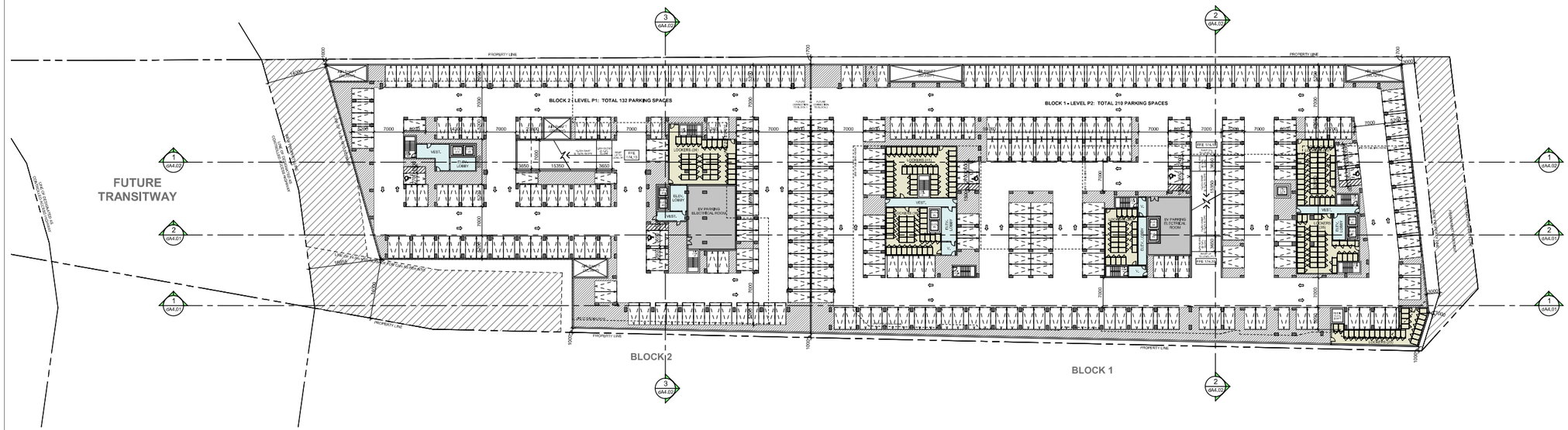
GRATES POROSITY:

MAXIMUM POROSITY OF VENTILATION GRATES IS 20mm X 20mm.

3 | Legend



3 | Floor Plan - Level P3
1 : 400



4 | Floor Plan - Level P2
1 : 400

Authorities Having Jurisdiction

August 21, 2025

KIRKOR
ARCHITECTS AND PLANNERS

No.	Revision:	Date:
		Revisions:
1.	Rezoning	xx
No.	Issued For:	Date:

Client:
Sky Property Group Inc.

Neyagawa Boulevard & William Halton Parkway West Oakville, ON.
Proposed Residential Development

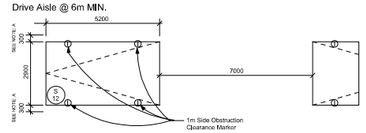
Drawing Title:
Floor Plans - Level P2 & P3

Scale: As indicated
Drawn by: G.H.
Checked by: D.S.
Project No.: 23-144
Date: August 21, 2025
Drawing No.:

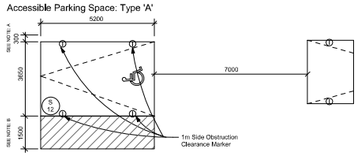
dA2.01

TYPICAL PARKING SPACE:

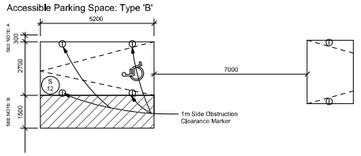
Drive Aisle @ 6m MIN.



Accessible Parking Space: Type 'A'



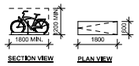
Accessible Parking Space: Type 'B'



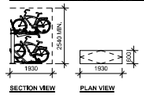
NOTES:
A. PROVIDE AN ADDITIONAL 300mm FOR PARKING SPACE WIDTH WHEN OBSTRUCTIONS OCCUR BETWEEN THE FRONT AND REAR 1000mm.
B. PROVIDE A 1500mm WALKWAY ON AT LEAST ONE SIDE OF AN ACCESSIBLE PARKING STALL. THIS WALKWAY MAY BE SHARED WITH ADJOINING ACCESSIBLE SPACE.

1 | Parking Space Legend

TYPE 1: HORIZONTAL BICYCLE PARKING



TYPE 2: STACKED BICYCLE PARKING



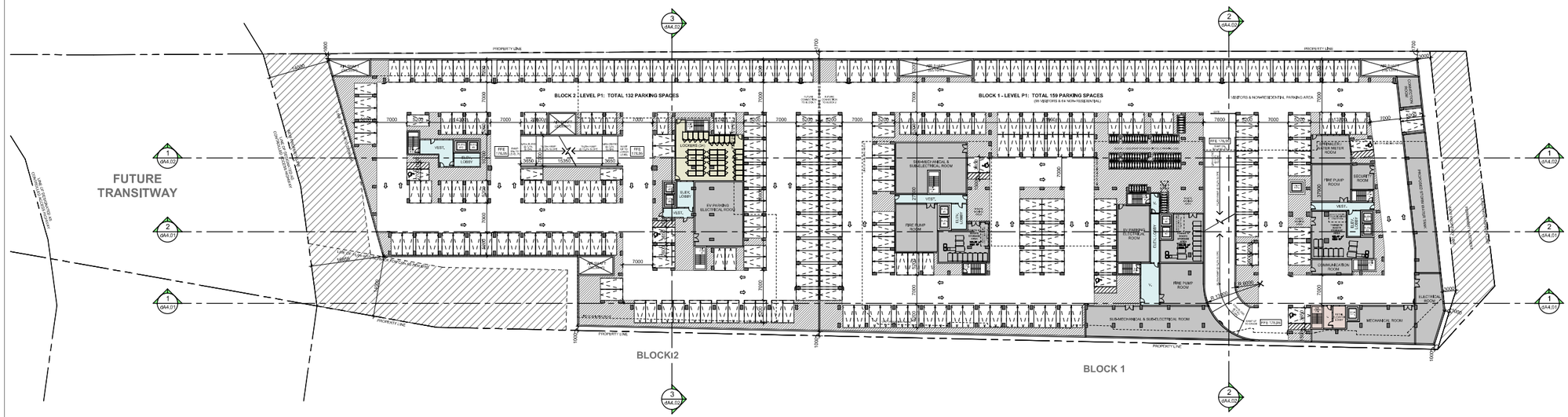
2 | Bicycle Parking Space Legend

CONVEX MIRROR:

GRATES POROSITY:

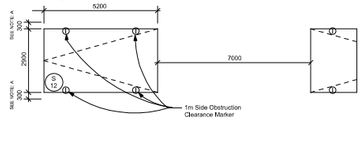
MAXIMUM POROSITY OF VENTILATION GRATES IS 20mm X 20mm.

3 | Legend

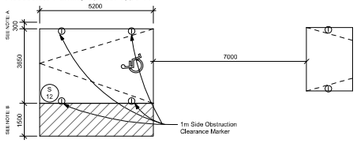


TYPICAL PARKING SPACE:

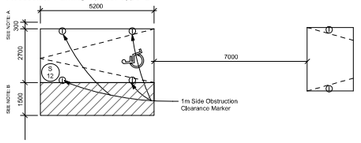
Drive Aisle @ 6m MIN.



Accessible Parking Space: Type 'A'



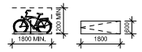
Accessible Parking Space: Type 'B'



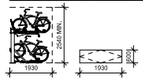
NOTES:
A. PROVIDE AN ADDITIONAL 300mm FOR PARKING SPACE WIDTH WHEN OBSTRUCTIONS OCCUR BETWEEN THE FRONT AND REAR 1000mm.
B. PROVIDE A 1500mm WALKWAY ON AT LEAST ONE SIDE OF AN ACCESSIBLE PARKING STALL. THIS WALKWAY MAY BE SHARED WITH ADJOINING ACCESSIBLE SPACE.

1 | Parking Space Legend

TYPE 1: HORIZONTAL BICYCLE PARKING



TYPE 2: STACKED BICYCLE PARKING



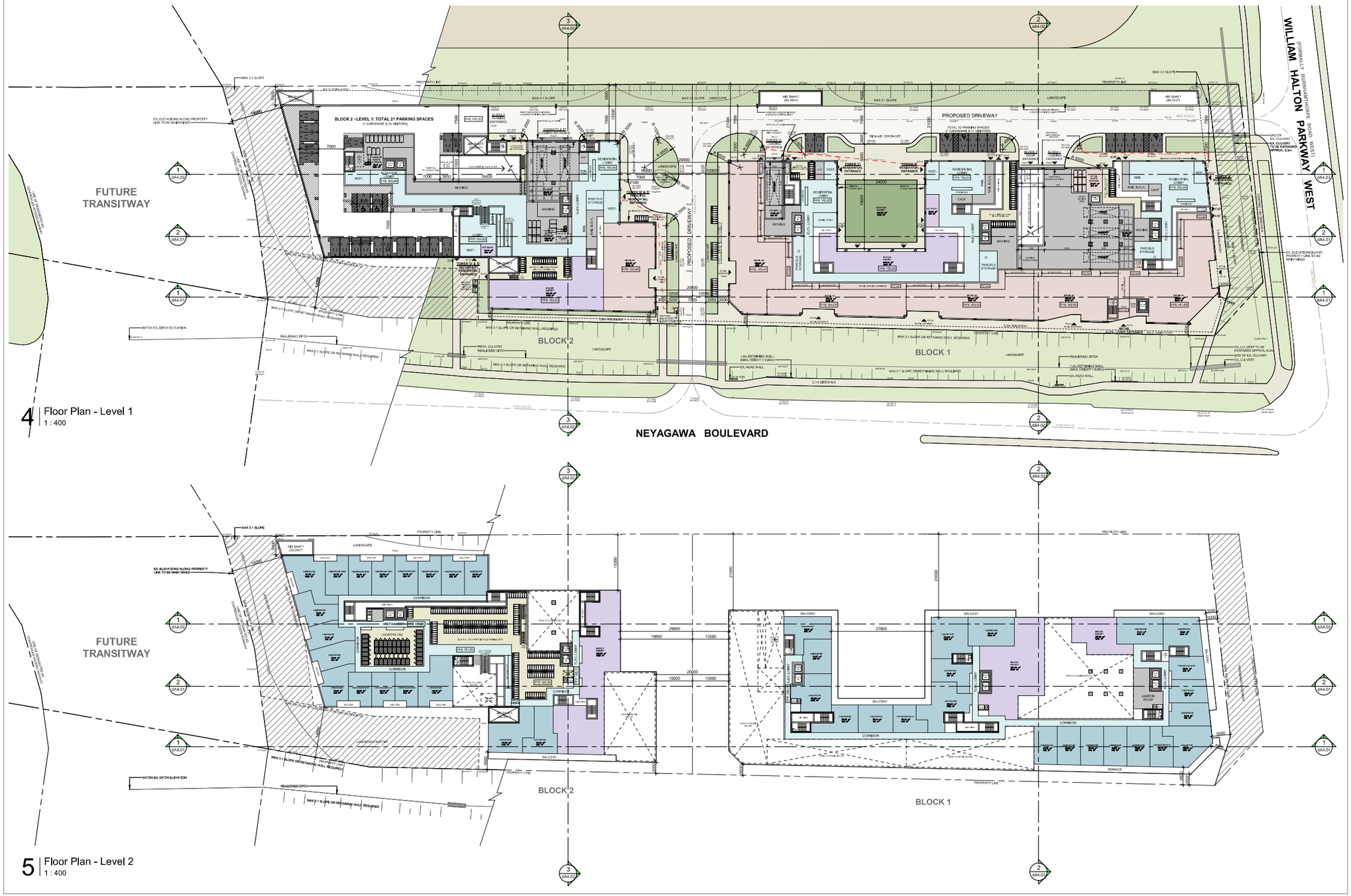
2 | Bicycle Parking Space Legend

CONVEX MIRROR:

GRATES POROSITY:

MAXIMUM POROSITY OF VENTILATION GRATES IS 20mm X 20mm.

3 | Legend



4 | Floor Plan - Level 1
1 : 400

5 | Floor Plan - Level 2
1 : 400

Authorities Having Jurisdiction

August 21, 2025

KIRKOR
ARCHITECTS AND PLANNERS

No.	Revision:	Date:

No.	Issued For:	Date:
1.	Rezoning	xx.

Client:
Sky Property Group Inc.

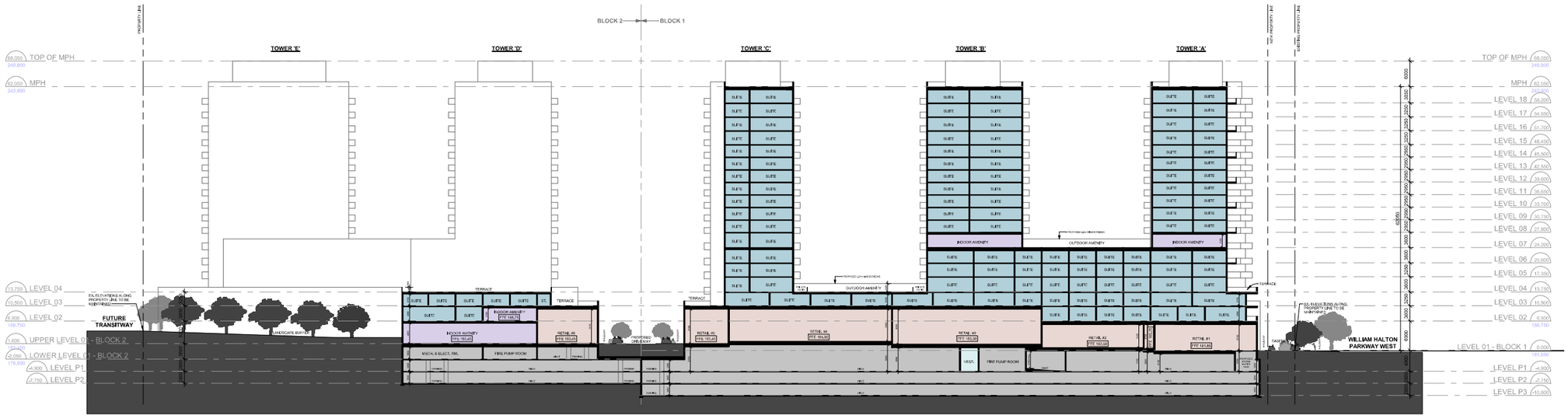
Neyagawa Boulevard & William Halton Parkway West Oakville, ON.
Proposed Residential Development

Drawing Title:
Floor Plans - Level 1 & 2

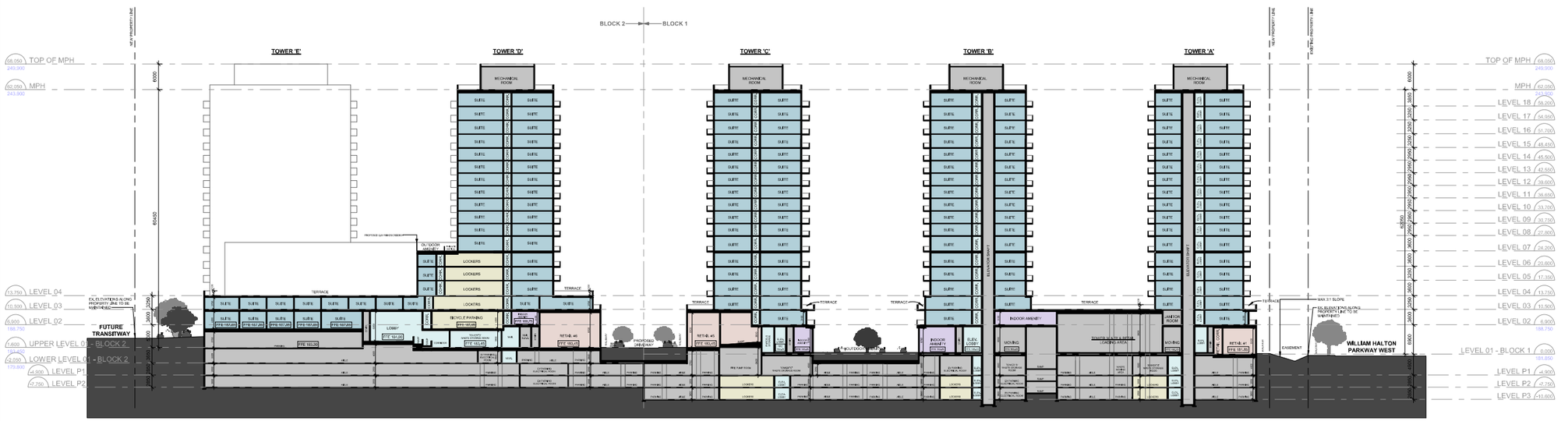
Scale: As indicated
Drawn by: G.H.
Checked by: D.S.
Project No.: 23-144
Date: August 21, 2025
Drawing No.:

dA2.03

File Name: 2023-09-29 2:38:11 PM by Parker, Kenneth Steve - C:\Revit\Projects\23-144_Neyagawa & WHP_CENTRAL_kparker.rvt



1 | Building Section 'A'
1 : 400



2 | Building Section 'B'
1 : 400

Authorities Having Jurisdiction

KIRKOR
ARCHITECTS AND PLANNERS

No.	Revision:	Date:
1	Revision 1	Date 1

No.	Issued For:	Date:
1.	Rezoning	xx

Client:
Sky Property Group Inc.

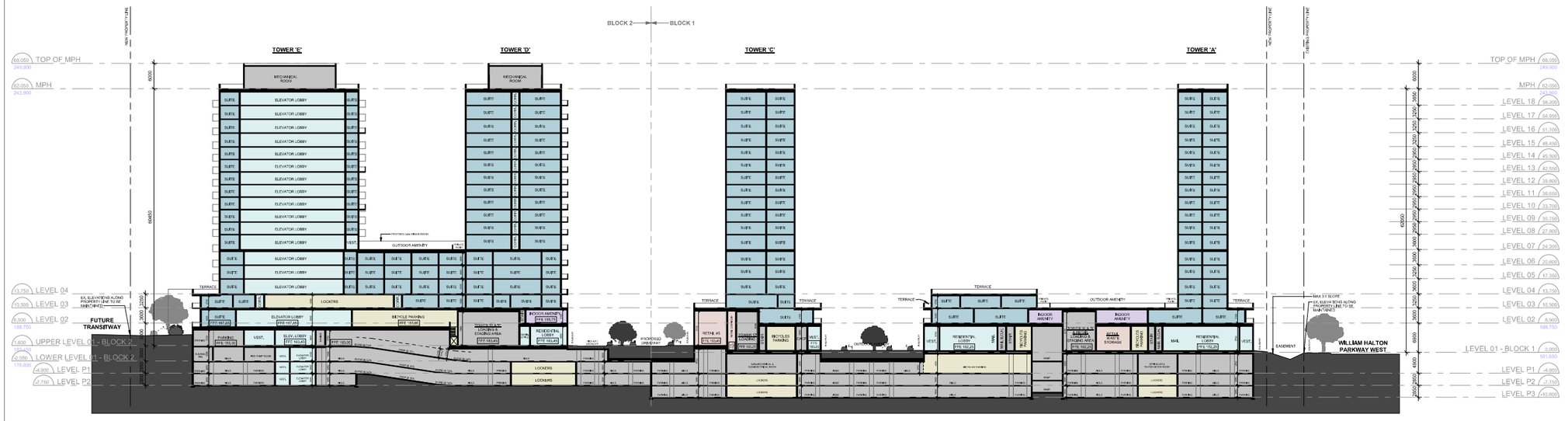
Neyagawa Boulevard & William Halton Parkway West
Oakville, ON.
Proposed Residential Development

Drawing Title:
Building Sections

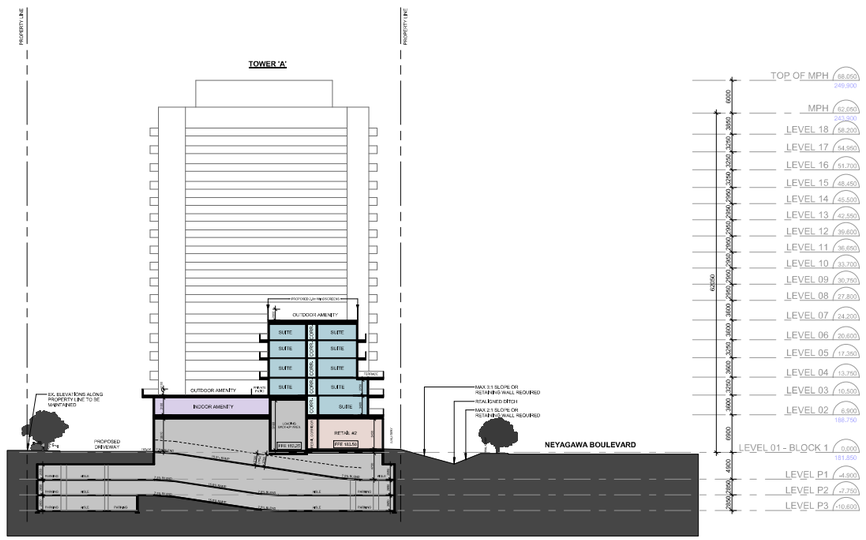
Scale: 1 : 400
Drawn by: G.H.
Checked by: D.S.
Project No.: 23-144
Date: August 21, 2025
Drawing No.:

dA4.01

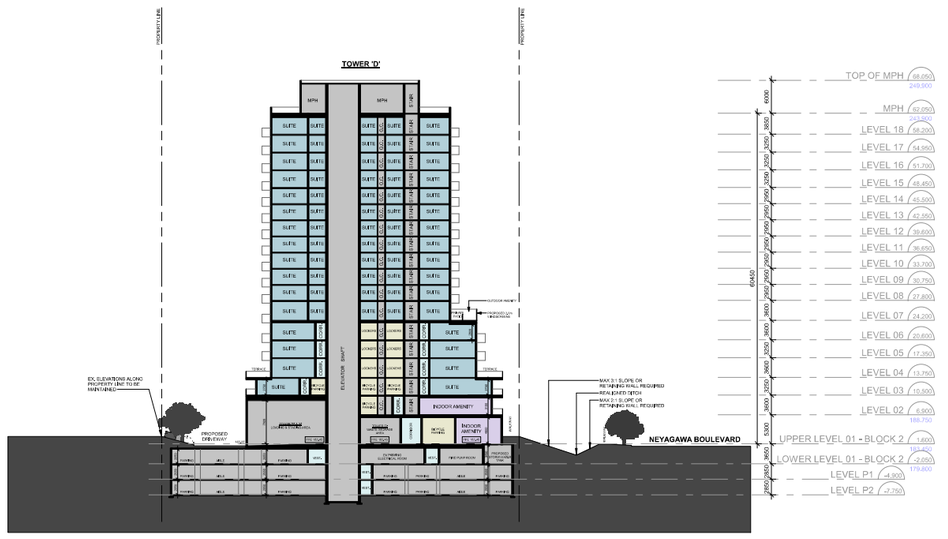
File Name: 2023-08-30 3 3838 Palla Path, Autodesk Docs://23-144 Oakville - Sky - Neyagawa & WHP_R23_ACTIVE.rvt



1 | Building Section 'C'
1 : 400



2 | Building Section 'D'
1 : 400



3 | Building Section 'E'
1 : 400

Authorities Having Jurisdiction

KIRKOR
ARCHITECTS AND PLANNERS

(416) 364-1001

No.	Revision:	Date:
		Revisions:

No.	Issued For:	Date:
1.	Rezoning	xx

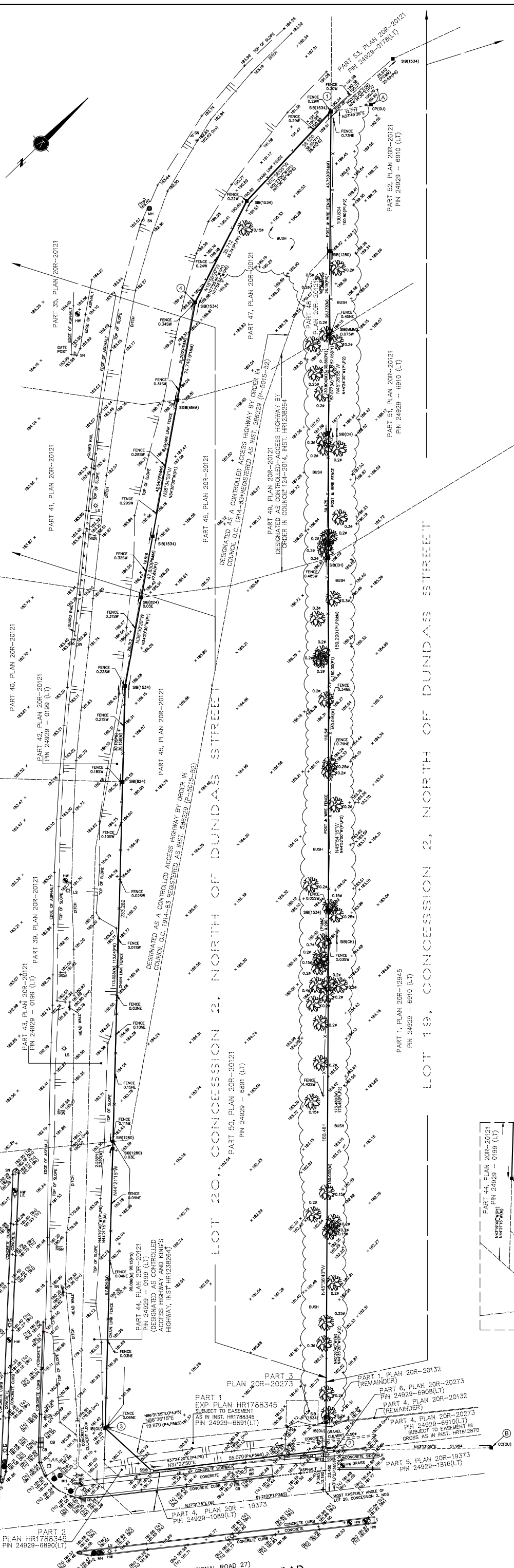
Client:
Sky Property Group Inc.

Neyagawa Boulevard &
William Halton Parkway West
Oakville, ON.
Proposed Residential Development

Drawing Title:
Building Sections

Scale: 1 : 400
Drawn by: G.H.
Checked by: D.S.
Project No.: 23-144
Date: August 21, 2025
Drawing No.:

dA4.02



PLAN OF SURVEY
SHOWING TOPOGRAPHICAL INFORMATION OF

PART OF LOT 20
CONCESSION 2
NORTH OF DUNDAS STREET
GEOGRAPHIC TOWNSHIP OF TRAFALGAR

TOWN OF OAKVILLE
REGIONAL MUNICIPALITY OF HALTON

SCALE 1:500

10 0 10 20 30 40 50m

KRCMAR SURVEYORS LTD. 2023

METRIC: DISTANCES AND COORDINATES SHOWN HEREON ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

BEARING

BEARINGS SHOWN HEREON ARE GRID DERIVED FROM GPS OBSERVATIONS OF OBSERVED REFERENCE POINTS 'A' AND 'B' USING THE LEICA SMARTNET RTK NETWORK AND ARE REFERRED TO THE 6° UTM COORDINATE SYSTEM, ZONE 17, CENTRAL MERIDIAN 81°00' WEST LONGITUDE.
(NAD 83 (CSRS)(2010)).

DISTANCES SHOWN HEREON ARE GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.9997215.

INTEGRATION DATA

6° UTM ZONE 17 COORDINATES

NAD 83 (CSRS)(2010) (CENTRAL MERIDIAN 81°00' WEST LONGITUDE)
THE UTM COORDINATES LISTED BELOW ARE TO URBAN ACCURACY AND COMPLY WITH SUBSECTION 14(2) OF ONTARIO REGULATION 216/10 FILED UNDER THE SURVEYORS ACT.

OBSERVED REFERENCE POINTS		
MONUMENT ID.	NORTHING	EASTING
(A) CP(OU)	4 815 333.381	599 940.941
(B) CC(OU)	4 815 066.881	600 270.284

REFERENCE POINTS		
POINT	NORTHING	EASTING
1	4 815 322.76	599 933.82
2	4 815 028.99	600 234.68
3	4 814 984.07	600 181.42
4	4 815 250.52	599 947.16

COORDINATE VALUES SHOWN ARE FOR GEOGRAPHIC INFORMATION SYSTEM INTEGRATION ONLY. COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.

ELEVATION

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE RELATED TO THE TOWN OF OAKVILLE BENCHMARK No. 263, HAVING AN ELEVATION OF 158.460 METRES. (VERTICAL DATUM: CGVD28:PRE78)

LEGEND

■	DENOTES SURVEY MONUMENT FOUND
□	DENOTES SURVEY MONUMENT PLANTED
SIB	DENOTES STANDARD IRON BAR
SSIB	DENOTES SHORT STANDARD IRON BAR
IB	DENOTES IRON BAR
CP	DENOTES CONCRETE PIN
CC	DENOTES CUT CROSS
(M)	DENOTES MEASURED
(S)	DENOTES SET
(OU)	DENOTES ORIGIN UNKNOWN
(WIT)	DENOTES WITNESS
(P1)	DENOTES PLAN 20R-16345
(P2)	DENOTES PLAN 20R-11833
(P3)	DENOTES PLAN 20R-19373
(P4)	DENOTES PLAN 20R-20273
(P5)	DENOTES EXPROPRIATION PLAN HR1788345
(P6)	DENOTES PLAN 20R-20121
(1370)	DENOTES KRCMAR SURVEYORS LTD. O.L.S.
(CH)	DENOTES CARTER & HORWOOD, LIMITED, O.L.S.
(1534)	DENOTES D. E. HUNT, O.L.S.
(1280)	DENOTES A. KIKAS, O.L.S.
(MMM)	DENOTES MMM GEOMATICS ONTARIO LIMITED, O.L.S.
EXP.	DENOTES EXPROPRIATION
NDS	DENOTES NORTH OF DUNDAS STREET
(Tc)	DENOTES TOP OF CURB
(Bc)	DENOTES BOTTOM OF CURB
AR WP	DENOTES ANCHOR_WOOD POST
x123.45	DENOTES EXISTING GRADE ELEVATION
BPED	DENOTES BELL PEDESTAL
CB	DENOTES CATCH BASIN
0.01ø	DENOTES DECIDUOUS TREE WITH TRUNK DIAMETER
	DENOTES DOWN GUY ANCHOR
HW	DENOTES HYDRO HAND WELL
LS	DENOTES LAMP STANDARD
MH	DENOTES MANHOLE
SN	DENOTES SIGN
TL	DENOTES TRAFFIC LIGHT
TL/LS	DENOTES TRAFFIC LIGHT WITH LAMP STANDARD

SURVEY REPORT

1. THE RE-ESTABLISHMENT OF THE SUBJECT PROPERTY BOUNDARIES IS BASED ON INFORMATION CONTAINED IN THE RELEVANT TITLE DOCUMENTS, REGISTERED PLANS AND ON THE EVIDENCE OF PRIOR SURVEYS FOUND DURING THE COURSE OF PREPARING THE SUBJECT SURVEY.
2. THE TYPE AND LOCATION OF THE EXISTING BUILDINGS AND OTHER IMPROVEMENTS, FENCES ETC., ON OR NEAR THE SUBJECT PROPERTY ARE AS SHOWN ON THE SURVEY PLAN.
3. COMPLIANCE WITH MUNICIPAL ZONING REQUIREMENTS IS NOT CERTIFIED BY THIS REPORT.
4. THE LAND COMPRISES ALL OF PIN 24929-6891(LT)
5. THE PROPERTY SUBJECT TO EASEMENT AS IN INST. HR1788345 (PART 1, EXPROPRIATION PLAN HR1788345)

TOTAL SITE AREA = 2.4050 ha

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 THE 31st DAY OF OCTOBER, 2023

DATE NOVEMBER 2 , 2023

STUART M. MOORE
ONTARIO LAND SURVEYOR

THIS PLAN OF SURVEY RELATES TO AOLS PLAN SUBMISSION FORM NUMBER V-60195

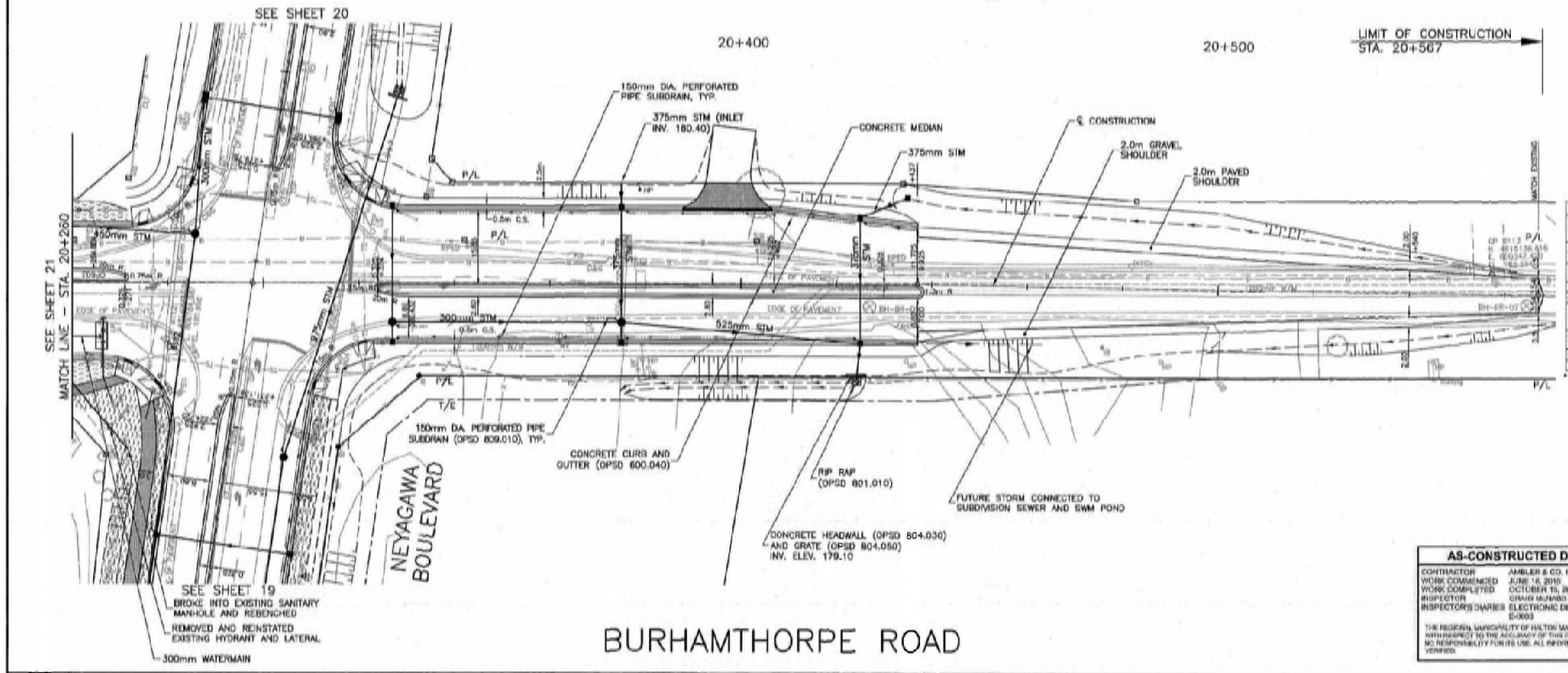
MUNICIPAL ADDRESS: Burnhamthorpe Rd. West & Neyagawa Blvd., Oakville

FIELD:	D.L.	DRAWN:	J.M.	CHECKED:	S.M.M.	JOB NO:	23-155
DWG NAME:	23-155BT01	PLOT INFO:	15:23 02/Nov/2023	WORK ORDER NO:	38807		

1137 Centre Street Thornhill ON L4J 3M6 905.738.0053 F 905.738.9221 www.krcmar.ca

PLAN AVAILABLE AT www.ProtectYourBoundaries.ca

KRCMAR



STORM SEWER DATA

MH	STATION	CONTROLLING CONSTRUCTION OFFSET *	MH STD DWG	INVERTS INLET	INVERTS OUTLET	FRAME & COVER STD	T/G ELEVATION
CB175	20+327	12.453RT	705.010		N.179.74	400.082	181.37
CB176	20+327	16.164LT	705.010		S.179.66	400.082	181.30
MHS127	20+327	8.175RT	701.010	N.179.68 S.179.60	E.179.57	401.010	181.39
CB128	20+375	12.453RT	705.010		N.179.67	400.082	181.61
CBMH129	20+375	15.953LT	701.010	N.179.67	S.179.58	400.082	181.56
MHS130	20+375	8.175RT	701.010	N.179.53 S.179.79 W.179.39	E.179.34	401.010	181.55
CBMH132	20+425	12.453RT	701.011	N.179.20 W.179.22	S.179.22	400.082	181.88
CBMH133	20+426	13.841LT	701.010	NE.179.31	E.179.29	400.082	181.86
DIT34	20+435	18.000LT	705.040		W.176.43	403.010	180.33

* OFFSET TO CENTRE OF FRAME AND GRATE / COVER

NOTES
1. ALL STORM SEWER LATERAL PIPES ARE 300mm DIA. UNLESS OTHERWISE SHOWN.

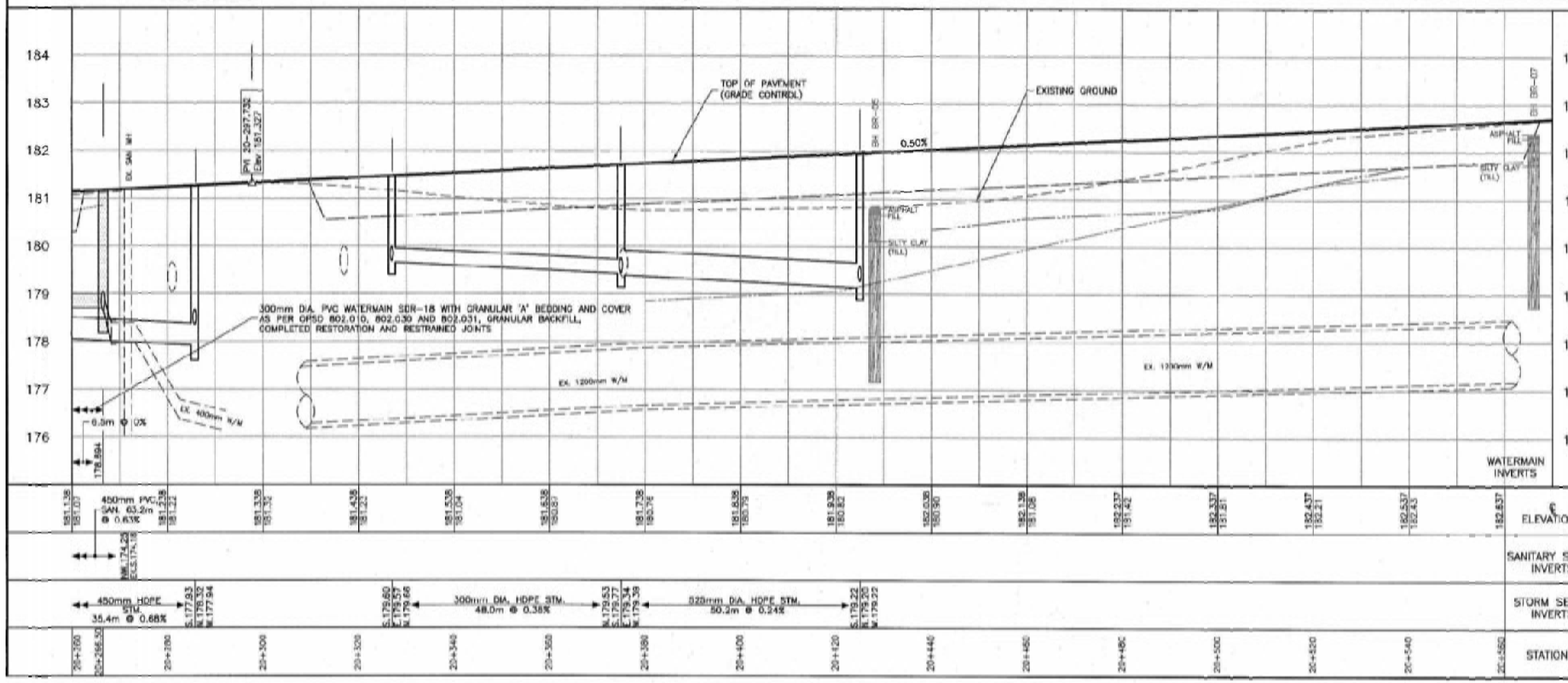
AS-CONSTRUCTED DRAWING

CONTRACTOR	AMBLER & CO. INC.
WORK COMMENCED	JUNE 16, 2015
WORK COMPLETED	OCTOBER 15, 2018
INSPECTOR	CRAIG MUNRO (MMM GROUP)
INSPECTORS DIARIES	ELECTRONIC DIARY (MMM GROUP) D-0003

THE REGIONAL MUNICIPALITY OF HALTON MAKES NO WARRANTIES WITH RESPECT TO THE ACCURACY OF THIS DRAWING AND ASSUMES NO RESPONSIBILITY FOR ITS USE. ALL INFORMATION SHOULD BE VERIFIED.

THE LOCATION OF UTILITIES IS APPROXIMATE ONLY AND THE EXACT LOCATION SHOULD BE DETERMINED BY CONSULTING THE MUNICIPAL AUTHORITIES AND UTILITY COMPANIES CONCERNED. THE CONTRACTOR SHALL PROVE THE LOCATION OF UTILITIES AND SHALL BE RESPONSIBLE FOR ADEQUATE PROTECTION FROM DAMAGE.

THESE DESIGN DOCUMENTS ARE PREPARED SOLELY FOR THE USE BY THE PARTY WITH WHOM THE DESIGN PROFESSIONAL HAS ENTERED INTO A CONTRACT AND THERE ATE NO REPRESENTATIONS OF ANY KIND MADE BY THE DESIGN PROFESSIONAL TO ANY PARTY WITH WHOM THE DESIGN PROFESSIONAL HAS NOT ENTERED INTO A CONTRACT.



NO	Date	By	REVISIONS	MANU CAD
1	01/16/17	J.F.B.	AS CONSTRUCTED (MMM GROUP)	X
2	11/24/15	D.S.W.	MOVED MH111 TO CBMH119 N. CURBLINE	A.S.
3	09/06/15	D.S.W.	ADDED REINSTATE HYDRANT	S.J.
4	07/21/15	D.S.W.	MOVED 300mm WATERMAIN & WVC1	S.J.
	04/14/15		ISSUED FOR CONSTRUCTION	
	02/24/15		ISSUED FOR TENDER	

Design	D.S.W.	Ch'kd	R.I.R.	Date JANUARY, 2017
Drawn	S.J.	Ch'kd	R.I.R.	

Scale 1:500 Horiz. 1:50 Vert.

Regional

References

Field Notes

ACCEPTED FOR CONSTRUCTION OF REGIONAL INFRASTRUCTURE
Reviewed For Compliance With Regional Standards Only.
Director
Manager

Stamp

MMM GROUP

Halton REGION

TITLE
ROAD RECONSTRUCTION
BURNHAMTHORPE ROAD (REG. RD. 27)
FROM 40m WEST OF NEYAGAWA BOULEVARD TO 270m EAST OF NEYAGAWA BOULEVARD
IN THE TOWN OF OAKVILLE

Consultant File No. k **O-21877**

CONTRACT No. R-2388B-15

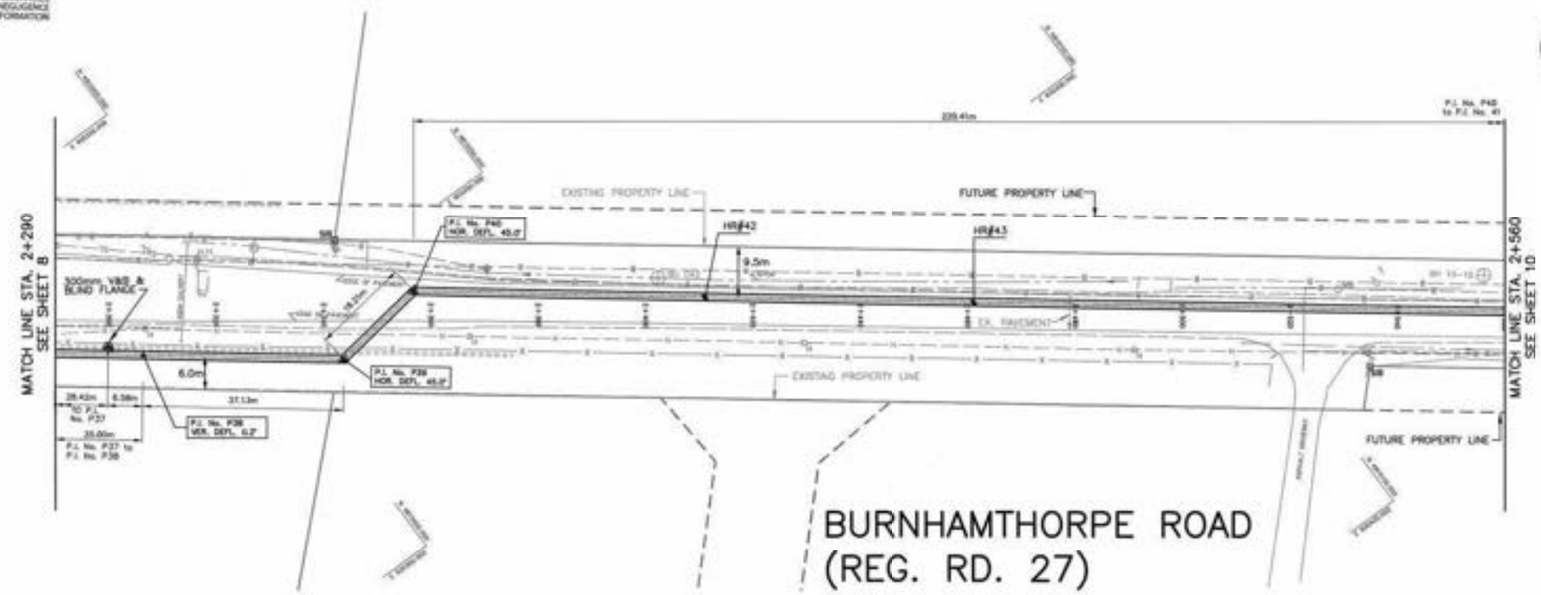
Drawing No. SHEET 22 OF 58

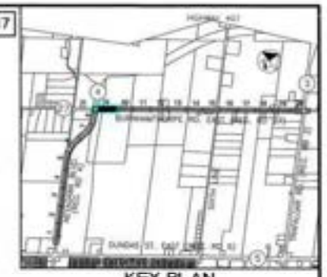
R-2388B-15 22 of 58

DRAWING: S:\22 2201\DWG\PLS\VS-BUILTS-30C-7-2016\MUNICIPAL\22 2201-400-12 TO 23-PLAN AND PROFILE.DWG
LAYOUT TAB: PSF 22
DRAWN BY:
REVISED BY:
LAST SAVED: 05/31/2017 Time: 09:09:01 AM

REGIONAL MUNICIPALITY OF HALTON, ITS EMPLOYEES, OFFICERS AND AGENTS ARE NOT RESPONSIBLE FOR ANY ERRORS, OMISSIONS OR INACCURACIES, WHETHER DUE TO THEIR NEGLIGENCE OR OTHERWISE. ALL INFORMATION SHOULD BE VERIFIED.

UTM NAD 83, ZONE 17





NOTE:

1. SEE INDEX SHEET FOR GENERAL NOTES.

AS CONSTRUCTED WATERMAIN DATA

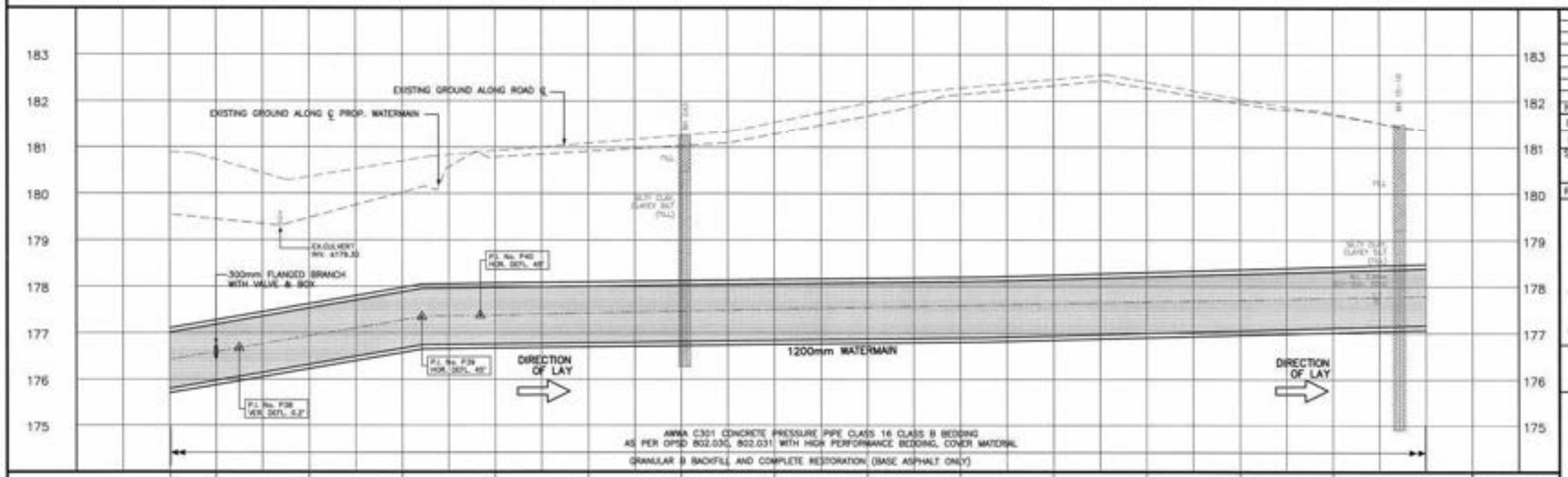
Pt No.	EASTING	NORTHING	DESCRIPTION
P38	600239.29	4814977.57	VERT. DEFL. 0.2
P39	600262.81	4815008.34	HOR. DEFL. 45°
P40	600260.39	4815026.35	HOR. DEFL. 45°

HORIZONTAL REFERENCE POINTS C/L WM

HR#	EASTING	NORTHING	DESCRIPTION
42	600293.51	4815069.50	TOP OF PIPE
43	600323.93	4815109.23	TOP OF PIPE

ELEVATIONS AND DIMENSIONS ARE FOR REFERENCE ONLY AND MUST BE CONFIRMED PRIOR TO USE FOR DESIGN, LAY-OUT OR CONSTRUCTION PURPOSES.

AS-CONSTRUCTED INFORMATION SUPPLIED BY CON-KER CONSTRUCTION CORPORATION DATED APRIL 24, 2012



EX. ROAD ELEVATIONS	180.89	180.73	180.36	180.70	180.92	181.09	181.25	181.54	181.96	182.28	182.47	182.42	182.04	181.70	181.36			
AS CONSTRUCTED WATERMAIN INVERTS	175.80	150m @ 1.50%	176.03	39.0m @ 1.82%	176.74	18.5m @ 0.20%	176.77	104.0m @ 0.13%							176.90	119.0m @ 0.27%		
STATIONS	2+290	2+300	2+320	2+340	2+360	2+380	2+400	2+420	2+440	2+460	2+480	2+500	2+520	2+540	2+560			

NO	Date	By	REVISIONS		MMM CAD
1	MAR 2014	P.B.	AS CONSTRUCTED		
Design	WYC		Ch'kd	J.S.	Date FEBRUARY 2011
Drawn	10-12		Ch'kd	WYC	
Scale 1:500 Horiz. 1:50 Vert.					References
Regional					Field Notes REGION BOOK

ACCEPTED FOR CONSTRUCTION OF REGIONAL INFRASTRUCTURE

Reviewed For Compliance With Regional Standards Only.

Director

Manager

Stamp: M.S. RUPNI, 31-10-14

MMM GROUP

Halton REGION

WATERMAIN INSTALLATION ON NEYAGAWA BLVD. & BURNHAMTHORPE ROAD
BURNHAMTHORPE ROAD
FROM 50m EAST OF NEYAGAWA BLVD.
TO 320m EAST OF NEYAGAWA BLVD.
STA 2+290 TO STA 2+560
TOWN OF OAKVILLE

Consultant File NO 10-08093

Region O-20022

CONTRACT NO W-2631-11

Drawing NO SHEET 9 OF 31

W-2631-11 9 of 31

Drawing C:\USERS\SHAWN.LOGSDAIL\DESKTOP\LOGSDAIL_2014\CAD-PROJS\W_2631-11-WM\W2631-11-P-SS.DWG
Layout Tab: P9
Date: 01/23/2015 Time: 11:39:31 AM

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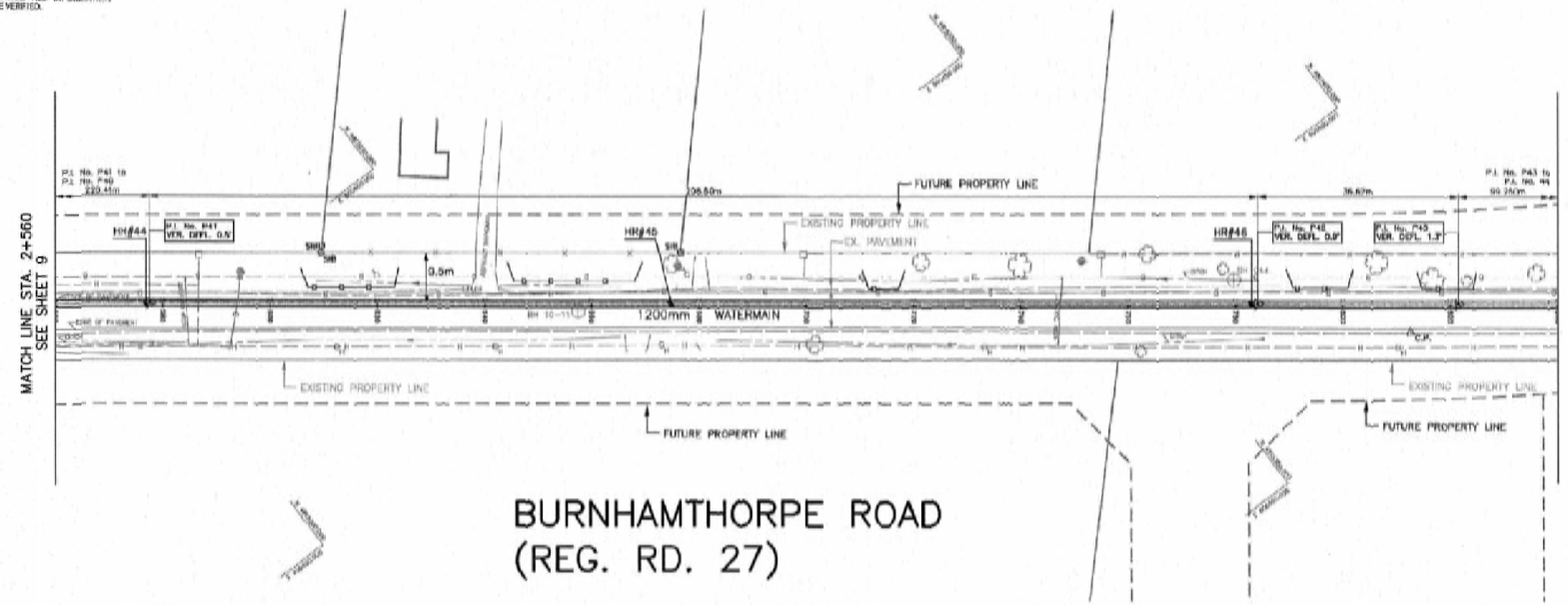
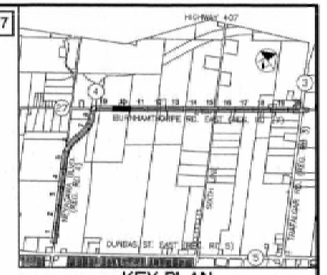
UTM NAD 83, ZONE 17



BURNHAMTHORPE ROAD
(REG. RD. 27)



KEY PLAN
n.t.s.

NOTE:

1. SEE INDEX SHEET FOR GENERAL NOTES.

AS CONSTRUCTED WATERMAIN DATA

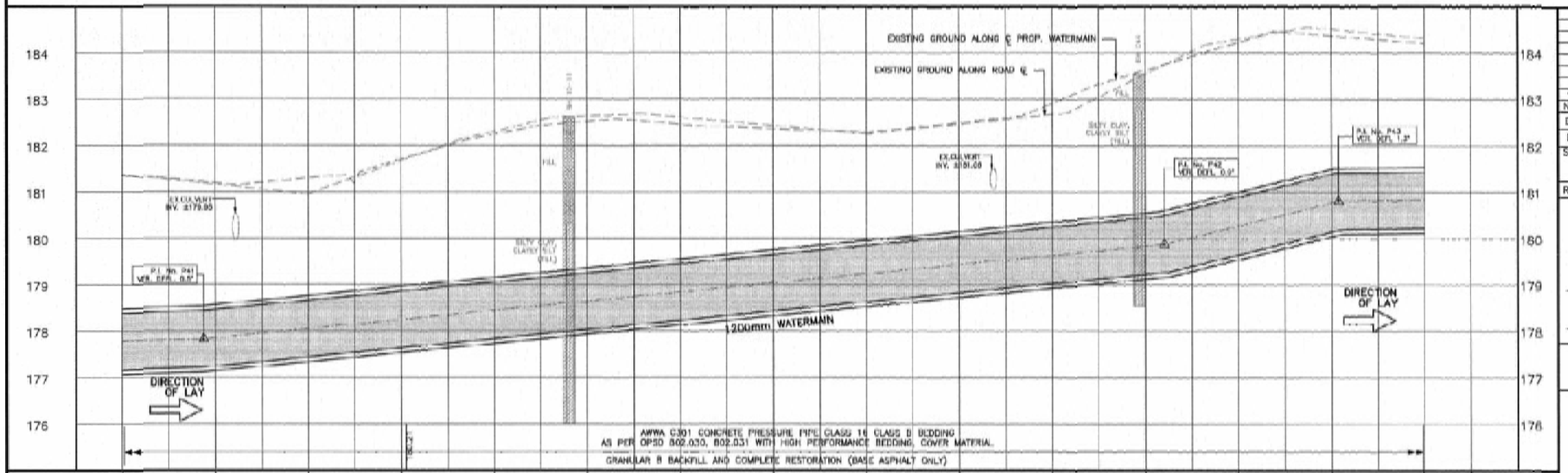
Pt No.	EASTING	NORTHING	DESCRIPTION
P41	600394.57	4815201.66	VERT. DEFL. 0.5°
P42	600520.04	4815365.80	VERT. DEFL. 0.9°
P43	600542.77	4815395.50	VERT. DEFL. 1.3°

HORIZONTAL REFERENCE POINTS C/L WM

HR#	EASTING	NORTHING	DESCRIPTION
44	600394.16	4815201.11	TOP OF PIPE
45	600453.66	4815278.93	TOP OF PIPE
46	600519.36	4815364.92	TOP OF PIPE

ELEVATIONS AND DIMENSIONS ARE FOR REFERENCE ONLY AND MUST BE CONFIRMED PRIOR TO USE FOR DESIGN, LAY-OUT OR CONSTRUCTION PURPOSES.

AS CONSTRUCTED INFORMATION SUPPLIED BY CON-KER CONSTRUCTION CORPORATION DATED APRIL 24, 2012



NO	Date	By	REVISIONS	MANU CAD
1	MAR 2014	P.B.	AS CONSTRUCTED	

Design	WYC	Ch'kd	J.S.	Date FEBRUARY 2011
Drawn	10-12	Ch'kd	WYC	

Scale 1:500 Horiz. (10 5 0 10) 1:50 Vert. (0.5 0 1)

References

Regional

Field Notes: REGION BOOK

ACCEPTED FOR CONSTRUCTION OF REGIONAL INFRASTRUCTURE

Reviewed For Compliance With Regional Standards Only.

Director

Manager

Stamp: LICENSED PROFESSIONAL ENGINEER M.S. RUPANI PROVINCE OF ONTARIO

MMM GROUP

Halton REGION

WATERMAIN INSTALLATION ON NEYAGAWA BLVD. & BURNHAMTHORPE ROAD
BURNHAMTHORPE ROAD
FROM 320m EAST OF NEYAGAWA BLVD.
TO 600m EAST OF NEYAGAWA BLVD.
STA 2+560 TO STA 2+840
TOWN OF OAKVILLE

Consultant File NO 10-08093

Re O-20023

CONTRACT NO W-2631-11

Drawing NO SHEET 10 OF 31

W-2631-11 10 of 31

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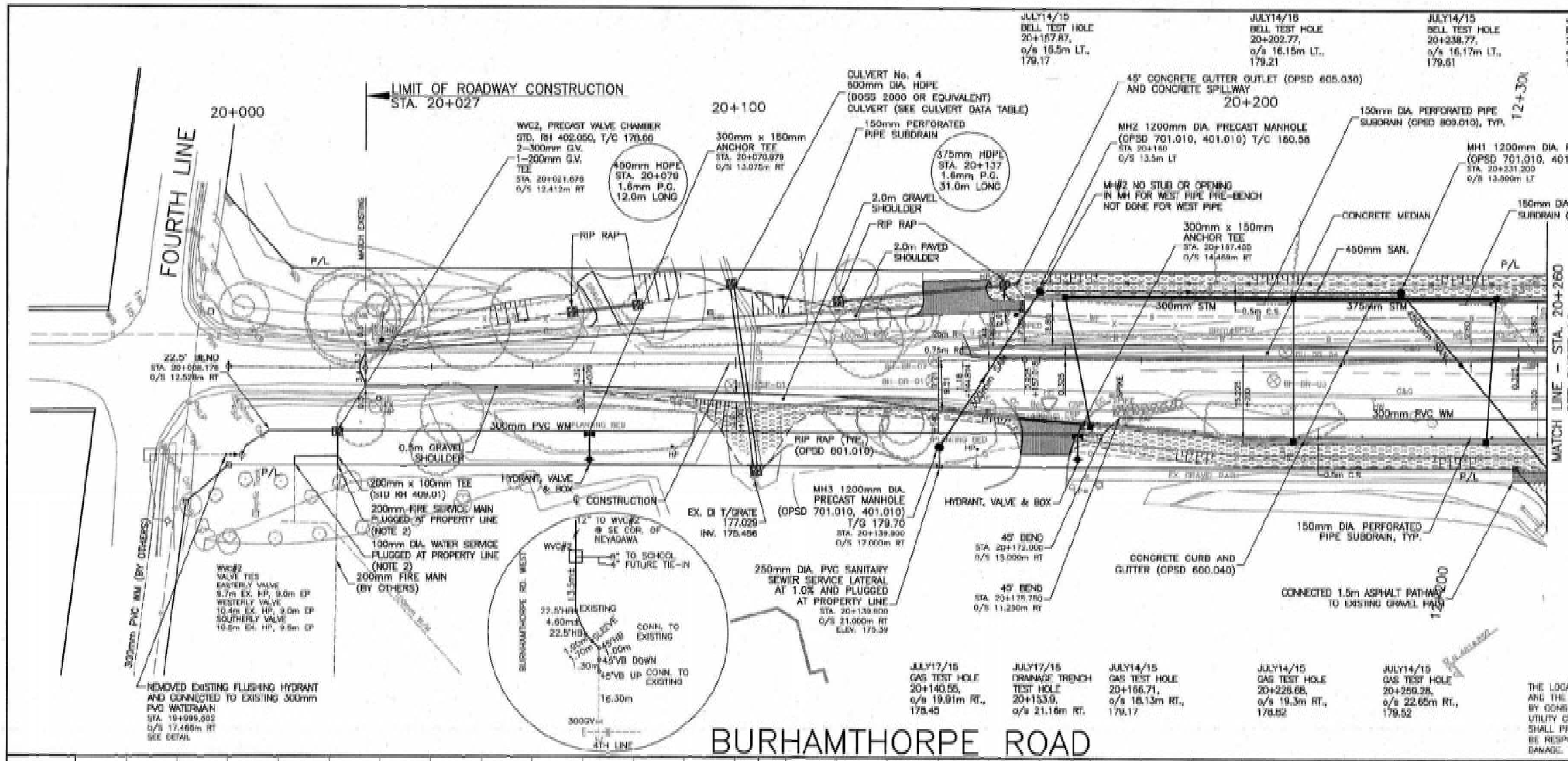

BURHAMTHORPE ROAD

STORM SEWER DATA							
MH	STATION	CENTRELINE CONSTRUCTION OFFSET *	MH STD. DWG	INVERTS		FRAME & COVER STD.	T/F ELEVATION
				INLET	OUTLET		
CBMH119	20+165	12.433LT	701.010	S.178.65	E.178.60	400.082	180.54
CB120	20+170	13.214RT	705.010		N.179.00	400.082	180.54
CBMH121	20+210	12.433LT	701.010	S.178.66 W.178.40	E.178.36	400.082	180.77
CB122	20+210	15.833RT	705.010		N.179.16	400.082	180.87
CBMH123	20+250	12.433LT	701.010	S.179.02 W.178.21	E.178.18	400.082	181.00
CB124	20+248	15.833RT	705.010		N.179.50	400.082	180.90

* OFFSET TO CENTRE OF FRAME AND GRATE / COVER

CULVERT DATA									
CULVERT NO.	DIA. (mm)	LENGTH (m)	INVERTS			OUTLET			REMARKS
			STATION	C/L CONST. OFFSET	INV. ELEV.	STATION	C/L CONST. OFFSET	INV. ELEV.	
4	600	35.100	20+099.6	14.600LT	178.200	20+103.6	20.300RT	177.190	HDPE

NOTES
1. ALL STORM SEWER LATERAL PIPES ARE 300mm DIA. UNLESS OTHERWISE SHOWN.
2. THE CONTRACTOR PLUGGED THE SERVICES AT THE PROPERTY LINE.

AS-CONSTRUCTED DRAWING

CONTRACTOR AMBLER & CO. INC.
WORK COMMENCED JUNE 16, 2015
WORK COMPLETED OCTOBER 15, 2016
INSPECTOR CRAIG McNABB (MMM GROUP)
INSPECTOR'S DIARIES ELECTRONIC DIARY (MMM GROUP) E.0003

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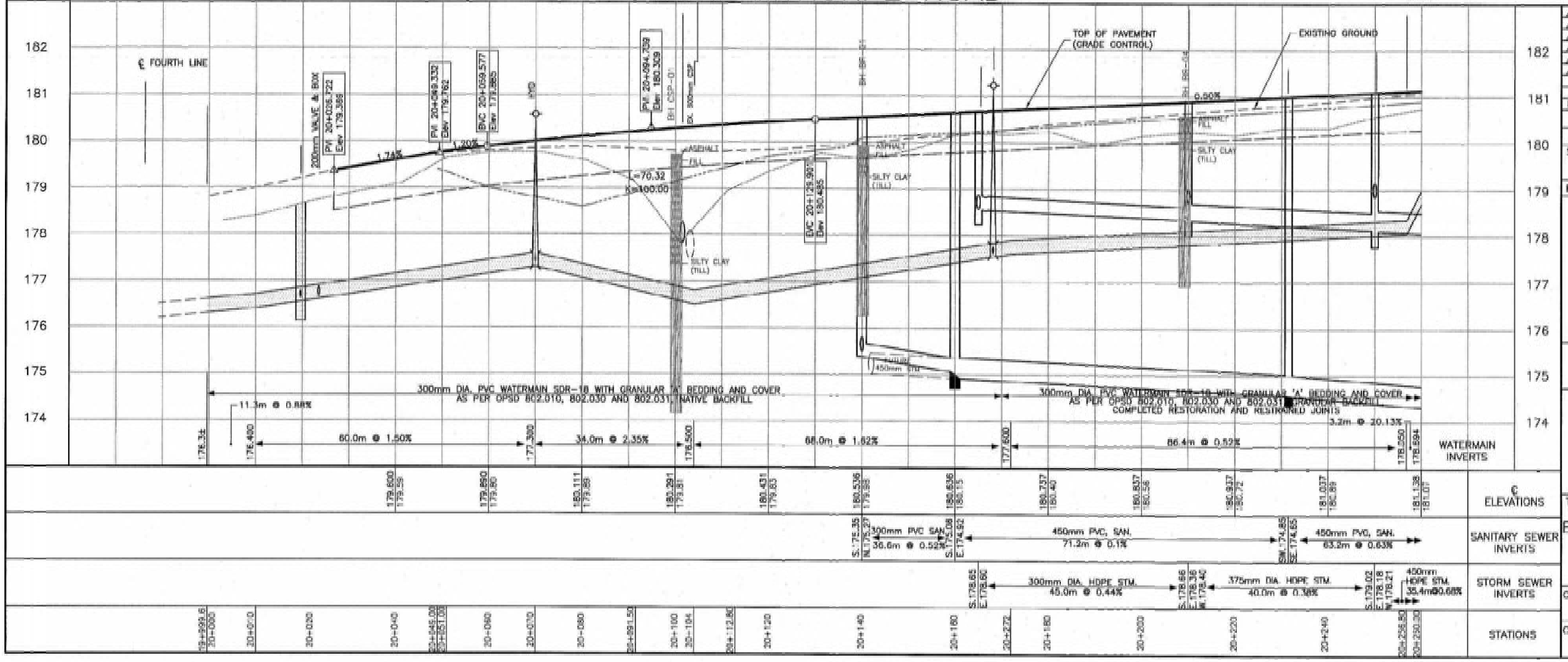
THESE DESIGN DOCUMENTS ARE PREPARED SOLELY FOR THE USE BY THE PARTY WITH WHOM THE DESIGN PROFESSIONAL HAS ENTERED INTO A CONTRACT AND THERE ARE NO REPRESENTATIONS OF ANY KIND MADE BY THE DESIGN PROFESSIONAL TO ANY PARTY WITH WHOM THE DESIGN PROFESSIONAL HAS NOT ENTERED INTO A CONTRACT.



NO	Date	By	REVISIONS	MANI	CAD
	01/18/17	J.F.B.	AS CONSTRUCTED (MMM GROUP)		X
	11/24/15	D.S.W.	MOVED MH5113 TO CBMH119 N. CURBLINE		A.S.
	08/06/15	D.S.W.	WVC & SERVICE PER RH 409.01		S.J.
	08/06/15	D.S.W.	MH3 & 250mm SAN. LATERAL		S.J.
	07/21/15	D.S.W.	MH1 RELOCATION		S.J.
	07/21/15	D.S.W.	300mm WATERMAIN ALIGNMENT		S.J.
	04/14/15		ISSUED FOR CONSTRUCTION		
	02/24/15		ISSUED FOR TENDER		

Design	D.S.W.	Ch'kd	R.I.R.	Date JANUARY, 2017
Drawn	S.J.	Ch'kd	R.I.R.	

Scale
1:500 Horiz.
1:50 Vert.

References

Regional

ACCEPTED FOR CONSTRUCTION OF REGIONAL INFRASTRUCTURE

Reviewed For Compliance With Regional Standards Only.

Director

Manager

Field Notes

Stamp

MMM GROUP

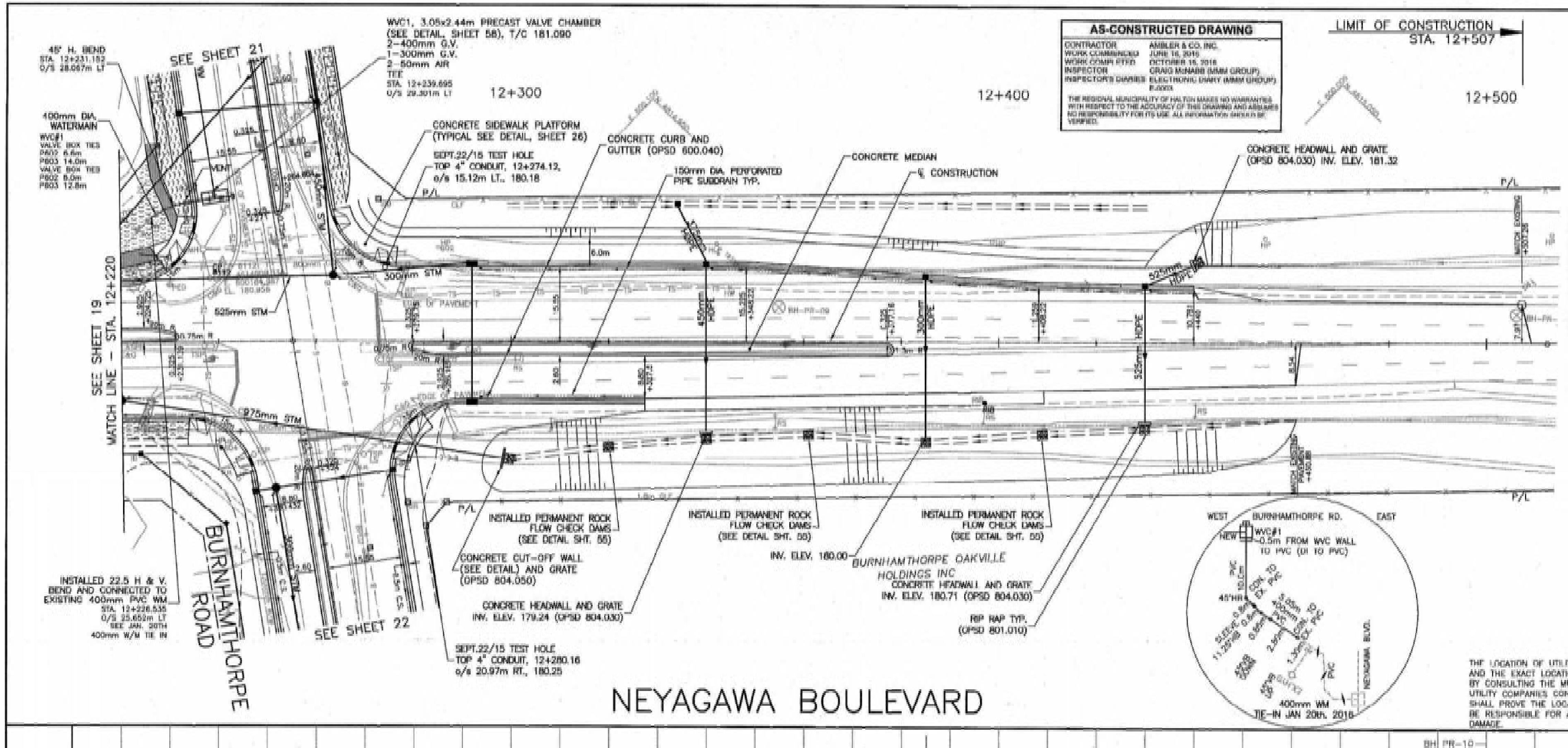
Halton REGION

TITLE **ROAD RECONSTRUCTION**
BURNHAMTHORPE ROAD (REG. RD. 27)
IN THE TOWN OF OAKVILLE
FROM 40m EAST OF FOURTH LINE TO
40m WEST OF NEYAGAWA BOULEVARD

Consultant File NO **O-21876**

CONTRACT NO R-2388B-15

Drawing NO SHEET 21 OF 58



AS-CONSTRUCTED DRAWING

CONTRACTOR	AMBLER & CO. INC.
WORK COMMENCED	JUNE 16, 2016
WORK COMPLETED	OCTOBER 15, 2016
INSPECTOR	CRAIG McNABB (MMM GROUP)
INSPECTOR'S DIARIES	ELECTRONIC DIARY (MMM GROUP) P-0000

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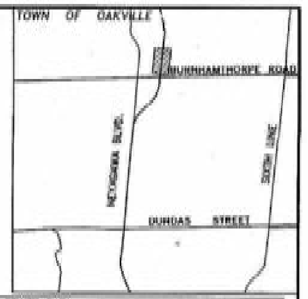


STORM SEWER DATA

MH	STATION	CENTRELINE CONSTRUCTION OFFSET *	MH STD. DWG	INVERTS		FRAME & COVER STD.	T/F ELEVATION
				INLET	OUTLET		
MH5113	12+263.5	13.500LT	701.010	N.178.32 W.177.94	S.177.93	401.010	181.13
DCB114	12+295	12.433RT	705.020		W.178.43	400.082 (2)	181.06
DCBMH115	12+292	15.933LT	701.011	E.178.88	S.178.87	400.082 (2)	180.95
DI116	12+335	27.500LT	705.040		E.179.92	403.010	181.42
CBMH117	12+340	15.933LT	701.010	E.179.53	W.179.62	400.082	181.27
CB118	12+385	13.503LT	705.010		E.180.54	400.082	182.19
CBMH135	12+430	11.639LT	701.011	NW.181.18	E.181.18	400.082	182.87

* OFFSET TO CENTRE OF FRAME AND GRATE / COVER

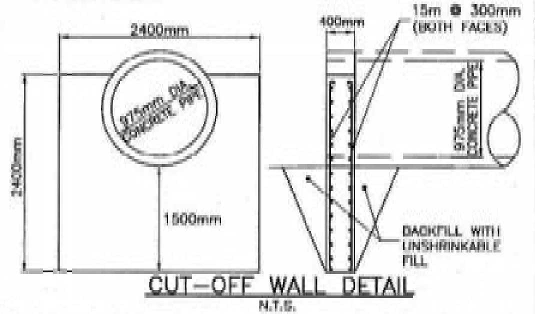
STORM SEWER DATA

MH	STATION	CENTRELINE CONSTRUCTION OFFSET *	MH STD. DWG	INVERTS		FRAME & COVER STD.	T/F ELEVATION
				INLET	OUTLET		
MH5112	12+220	11.720RT	701.012	N.177.79	S.177.71	401.010	180.80

* OFFSET TO CENTRE OF FRAME AND GRATE / COVER

NOTES

1. ALL STORM SEWER LATERAL PIPES ARE 300mm DIA. UNLESS OTHERWISE SHOWN.



CUT–OFF WALL DETAIL

N.T.S.

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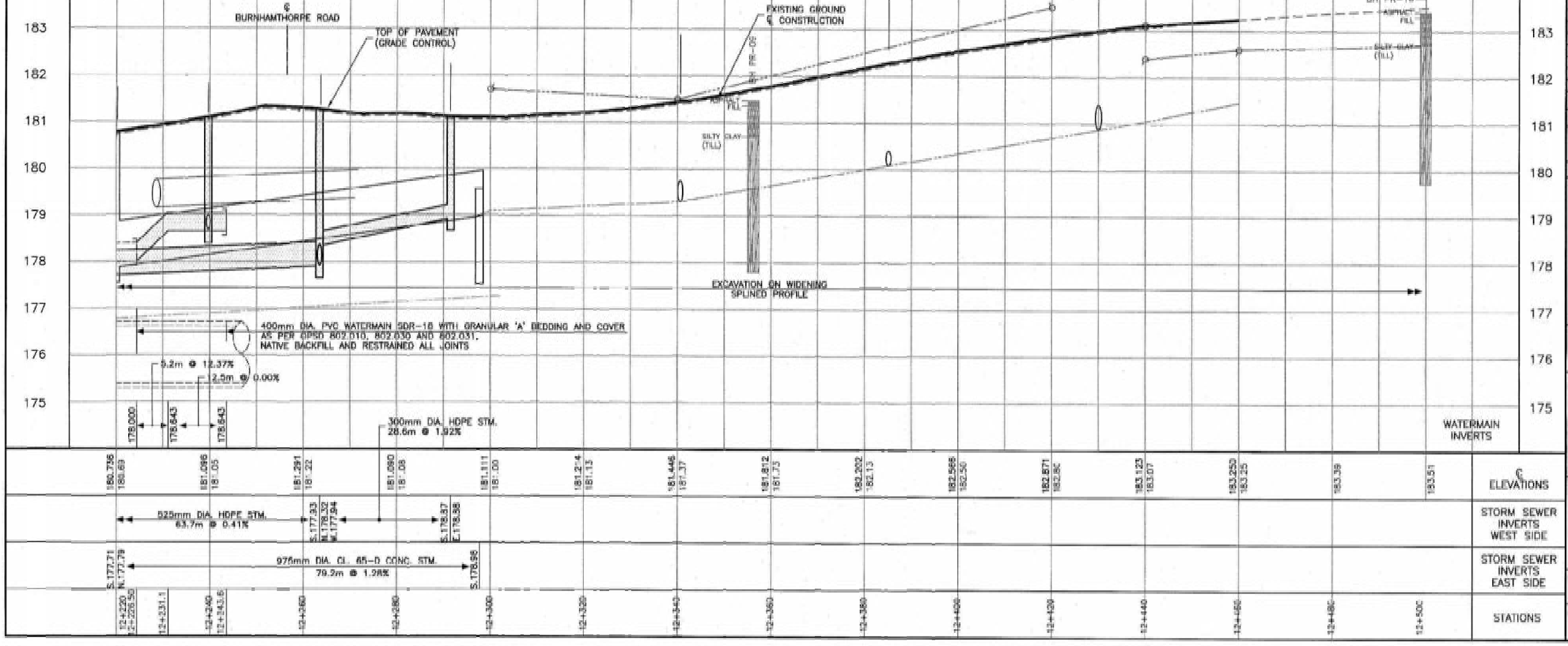


NO	Date	By	REVISIONS	MANU	CAD
△	01/16/17	J.F.B.	AS CONSTRUCTED (MMM GROUP)		X
△	11/24/15	D.S.W.	MOVED MH5113 TO CBMH119 N. CURBLINE		A.S.
△	07/21/15	D.S.W.	400mm WATERMAIN & WVC1		S.J.
	04/14/15		ISSUED FOR CONSTRUCTION		

Design	D.S.W.	Ch'kd	R.I.R.	Date JANUARY, 2017
Drawn	S.J.	Ch'kd	R.I.R.	

Scale
1:500 Horiz.
1:50 Vert.

References

Regional

ACCEPTED FOR CONSTRUCTION OF REGIONAL INFRASTRUCTURE

Reviewed For Compliance With Regional Standards Only.

Director,

Manager,

Field Notes

Stamp

MMM GROUP

Halton REGION

TITLE **ROAD RECONSTRUCTION**

NEYAGAWA BOULEVARD (REG. RD. 4)
FROM 40m SOUTH OF BURNHAMTHORPE ROAD
TO 240m NORTH OF BURNHAMTHORPE ROAD
IN THE TOWN OF OAKVILLE

Consultant File No

R# O-21875

CONTRACT No R-2388B-15

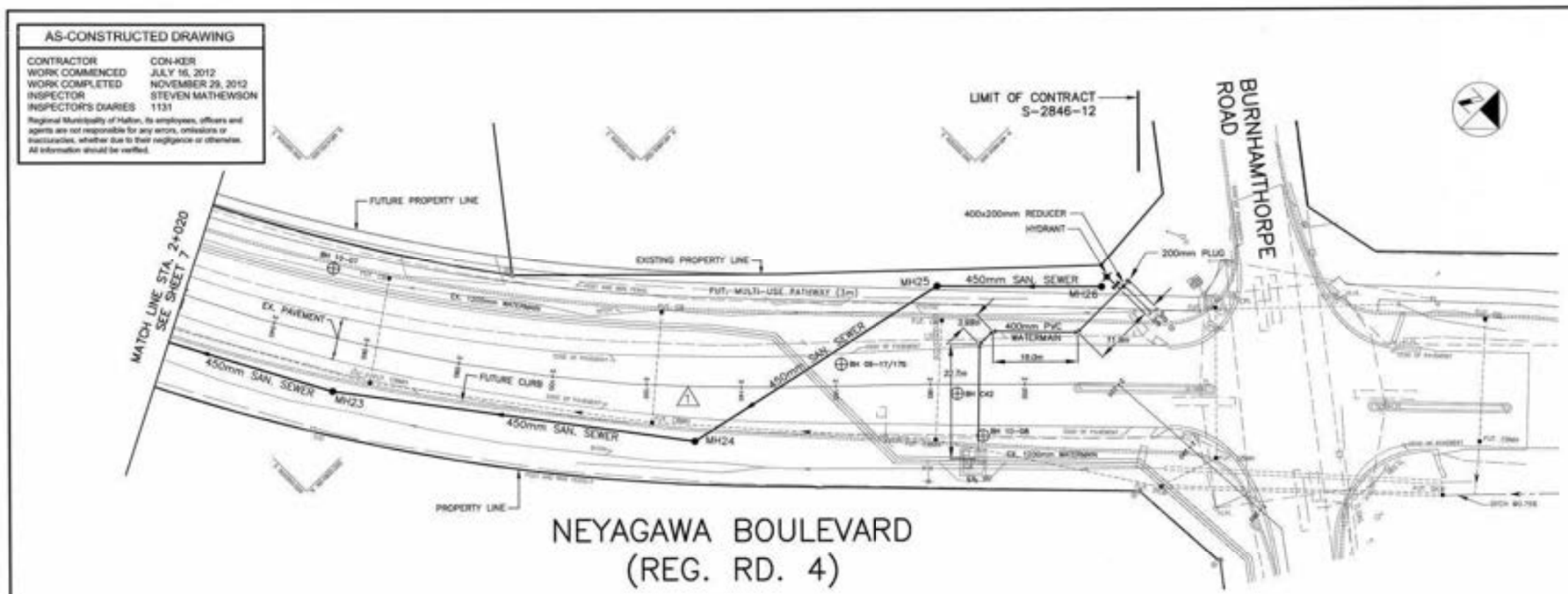
Drawing No SHEET 20 OF 58

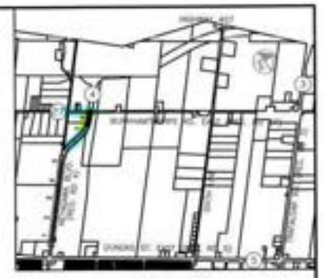
R-2388B-15 20 of 58

AS-CONSTRUCTED DRAWING

CONTRACTOR	CON-KER
WORK COMMENCED	JULY 16, 2012
WORK COMPLETED	NOVEMBER 29, 2012
INSPECTOR	STEVEN MATHEWSON
INSPECTOR'S DIARIES	1131

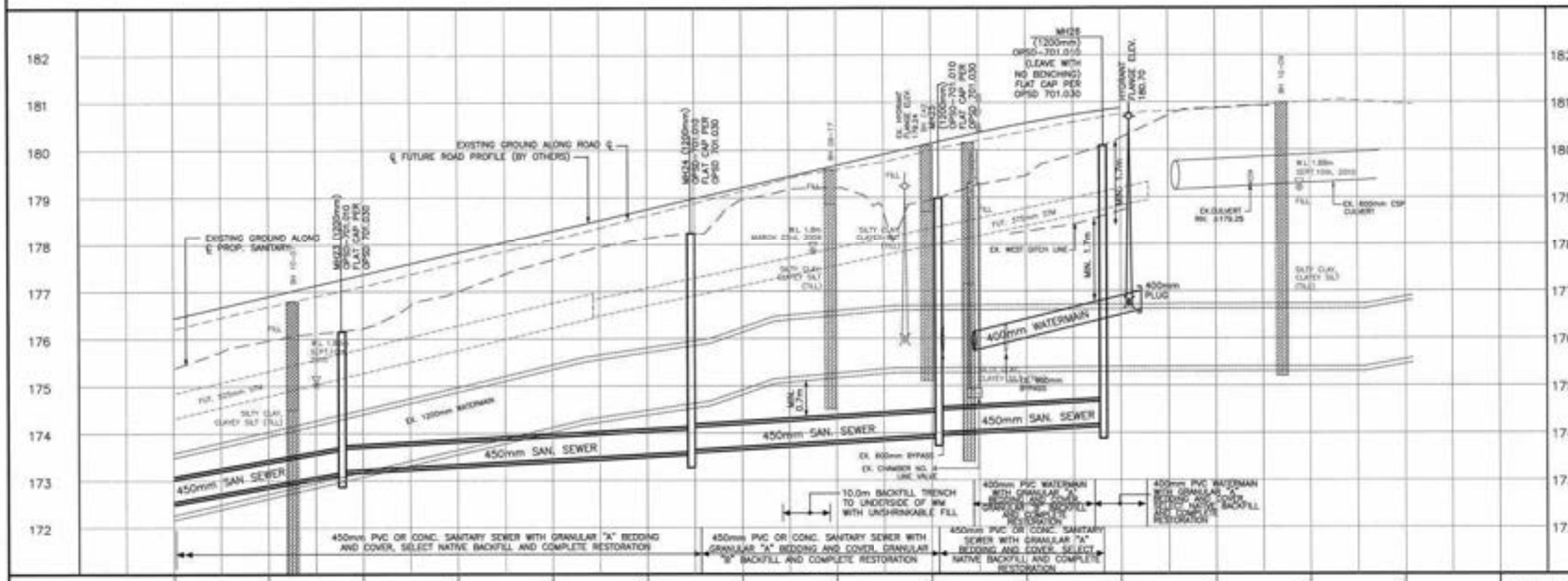
Regional Municipality of Halton, its employees, officers and agents are not responsible for any errors, omissions or inaccuracies, whether due to their negligence or otherwise. All information should be verified.





KEY PLAN
N.T.S.

NOTE:
1. SEE INDEX SHEET FOR GENERAL NOTES.



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NO	Date	By	REVISIONS	MANU CAD
2	JAN 13 2013	DMS	AS CONSTRUCTED	K
1	JUN 21/12	M.R.	ISSUED FOR CONSTRUCTION	

Design	WYC	Ch'kd	M.R.	Date MARCH 2012
Drawn	10-12	Ch'kd	WYC	

Scale 1:500 Horiz. 1:50 Vert.

References

Regional

ACCEPTED FOR CONSTRUCTION OF REGIONAL INFRASTRUCTURE

Released For Compliance With Regional Standards Only.

Director of Wastewater Services

Manager of Wastewater Design & Construction

Field Notes: REGION BOOK

Stamp: M.S. RUPANI

MMM GROUP

100 Commerce Valley Dr. West, Thornhill, ON Canada L3T 0A1
T. 905.882.1100 F. 905.882.0055 www.mmm.ca

Halton REGION

SANITARY SEWER INSTALLATION ON NEYAGAWA BOULEVARD TOWN OF OAKVILLE

0m TO 230m SOUTH OF BURNHAMTHORPE ROAD

Consultant File NO 10-08093	Regional Drawing NO O-19049
CONTRACT NO S-2846-12	Drawing no. SHEET 8 OF 10

S-2846-12 8 of 10

DORHAM HOLDINGS
JOHNSTON WILLA
DORHAM HOLDINGS
WESTERKIRK DEVELOPMENT
SUM PETER
ASHOE HIGH SPEED SOLUTIONS INC.
EX. 400ø STUB
EX. 1200mm CPP WM
WILLIAM HALTON PARKWAY
FUT. WM
EX. 1200mm CPP WM (Zone 4)
300mm PVC WM
EX. WM MHs
EX. WM VALVES
BURNHAMTHORPE ROAD
EX. WM HYD.
EX. 400mm PVC WM
CONNECT TO EX. 300mm STUB
CONNECT TO PLUG
CONNECT TO EX. 300ø STUB
HALTON REGION CHRISTIAN
EX. WM CHAMBER
COMMERCIAL
BLOCK APARTMENTS
HIGH DENSITY BLOCK
STREET A (CARDING MILL TRAIL)
STREET C
STREET E
ZONE 250
ZONE 223
FUTURE DEVELOPMENT
NEYAGAWA BOULEVARD
STREET D
STREET F
STREET B
STREET G
SHERBORNE LODGE DEVELOPMENTS
ENO INVESTMENTS LIMITED
ELEMENTARY SCHOOL
NEIGHBOURHOOD PARK
ANKARA HOLDINGS LIMITED
DOCASA GROUP LIMITED
200mm PVC WM
150mm PVC WM
DAVIS-MINARDI HOME CORPORATION
EX. 300mm WATERMAIN
CONNECT TO EXISTING WATERMAIN
STREET A
STREET I
STREET H
STREET K
STREET L
STREET J
STREET M
VILLAGE SQUARE
SWM POND 9
CORE 5
MATTAMY HOMES (PENDENT DEVELOPMENTS LIMITED)
MATTAMY HOMES (LOWER FOURTH LIMITED)
HIGHWAY 407
REGIONAL ROAD 25
KEY PLAN

NOTES:

1. INTERNAL SUBDIVISION WATERMAIN SIZING TO BE CONFIRMED AT DETAILED DESIGN.
2. MINIMUM WATERMAIN SIZE IS 200mm.
3. LOCAL WATERMAINS ARE REQUIRED ALONG BURNHAMTHORPE ROAD TO SERVICE UNITS FRONTING.

LEGEND:

- SUBJECT LANDS
- CORE AREA
- PROVINCIALLY SIGNIFICANT WETLAND (PSW)
- NON PARTICIPATING LANDOWNERS (FUTURE DEVELOPMENT)
- EXISTING WATERMAIN (ZONE 250)
- PROPOSED 300mm WATERMAIN
- PROPOSED 200mm WATERMAIN
- PROPOSED 150mm WATERMAIN
- FUTURE WATERMAIN BY OTHERS (ZONE 223)
- FUTURE WATERMAIN ZONE BOUNDARY

Stonybrook Consulting Inc.
LGL Limited
Bird and Hale Limited
GEO Morphix Ltd.
R.J. Burnside & Associates Limited
Urbantech Consulting

EAST 16 MILE CREEK
SUBCATCHMENT ES6 EAST EIR/FSS

DRAWING 9.3R

WATER SERVICING

PROJECT No.	DATE:	SCALE:
18-599	JUN. 2024	1:2000

REGIONAL MUNICIPALITY OF HALTON
Department of Public Works

SANITARY OPERATING MAPS

TOWN OF OAKVILLE

Sewer Types
- Treated Discharge Sewer
- Untreated Discharge Sewer
- ForceMain
- Proposed ForceMain
- Gravity Sewer (In Service)
- Gravity Sewer (Out of Service)
- Proposed Gravity Sewer

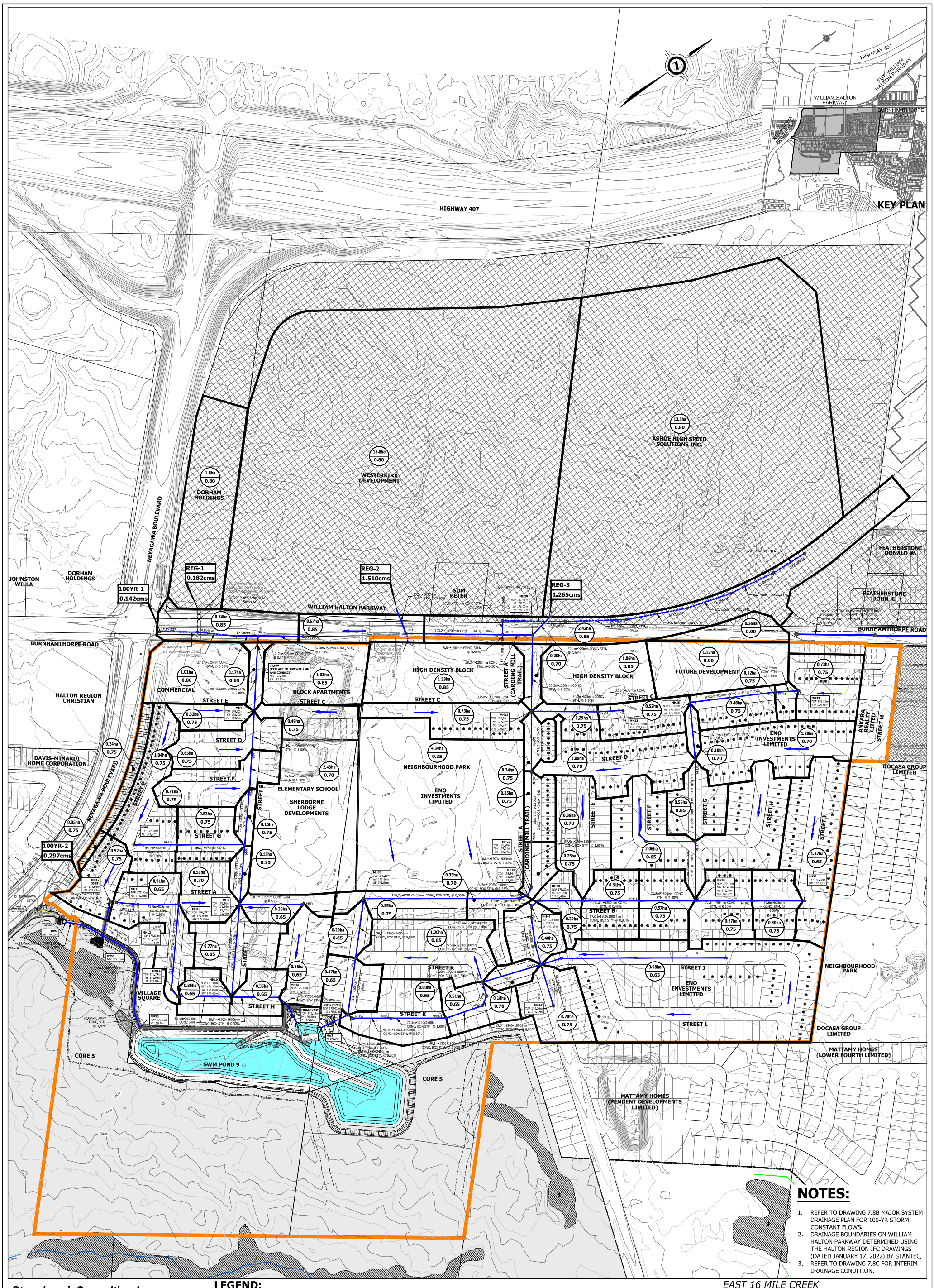
Maintenance Hole Types
- Maintenance Hole
- Chamber

Major System Facilities
- Wastewater Storage Tank
- Wastewater Treatment Plant
- Pumping Station
- Municipal Boundary

Meters
0 25 50 100 150 200

Map Index

Grid Number: 150C
Print Date: Dec 10, 2021



NOTES:

1. REFER TO DRAWING 7.8B MAJOR SYSTEM DRAINAGE PLAN FOR 100-YR STORM CONSTANT FLOWS.
2. DRAINAGE BOUNDARIES ON WILLIAM HALTON PARKWAY DETERMINED USING THE HALTON REGION IFC DRAWINGS (DATED JANUARY 17, 2022) BY STANTEC.
3. REFER TO DRAWING 7.8C FOR INTERIM DRAINAGE CONDITION.

Stonybrook Consulting Inc.
LGL Limited
Bird and Hale Limited
GEO Morphix Ltd.
R.J. Burnside & Associates Ltd.
Urbantech Consulting

LEGEND:

- SUBJECT LANDS
- EXISTING CONTOUR
- CORE AREA
- PROVINCIALLY SIGNIFICANT WETLAND (PSW)
- NON PARTICIPATING LANDOWNERS (FUTURE DEVELOPMENT)
- MINOR SYSTEM STORM DRAINAGE AREA BOUNDARY
- 2.50ha / 0.65 — MINOR SYSTEM STORM DRAINAGE AREA (ha) / RUNOFF COEFFICIENT
- STORM SEWER, MANHOLE AND FLOW DIRECTION
- LOCAL STORM SEWER FLOW DIRECTION
- MH 23 / TOP 256.53m / SW 255.72m / NW 255.72m — STORM MH ID / PROPOSED GROUND ELEVATION / PROPOSED SEWER INVERTS
- 100YR-6 / 3.885cms — MAJOR SYSTEM CAPTURE LOCATION ID (REFER TO DRAWING 7.9) / CONSTANT FLOW (m^3/s) CAPTURED IN PIPE AT LOW POINT (Q100-Q5)
- UNCONTROLLED FLOWS TO NEYAGAWA BLVD.
- SUMP PUMP REQUIRED

EAST 16 MILE CREEK
SUBCATCHMENT ES6 EAST EIR/FSS

DRAWING 7.8A-R

MINOR SYSTEM DRAINAGE PLAN

PROJECT No.	DATE:	SCALE:
18-599	JUN. 2024	1:2000

Stonybrook Consulting Inc.
LGL Limited
Bird and Hale Limited
GEO Morphix Ltd.
R.J. Burnside & Associates Ltd.
Urbantech Consulting

LEGEND:

- SUBJECT LANDS
- CORE AREA
- PROVINCIALLY SIGNIFICANT WETLAND (PSW)
- NON PARTICIPATING LANDOWNERS (FUTURE DEVELOPMENT)
- SANITARY DRAINAGE BOUNDARY
- DRAINAGE AREA (ha)
- POPULATION
- POPULATION PER Ha (P/Ha)
- PROPOSED SANITARY SEWER & DIRECTION
- SAN MH ID
- PROPOSED GROUND ELEVATION
- PROPOSED SEWER INVERT
- LOCAL SAN SEWER FLOW DIRECTION
- EXISTING SANITARY SEWER & DIRECTION
- FUTURE SANITARY SEWER & DIRECTION (BY OTHERS)
- LOT REQUIRING SAN SERVICE CROSSING BENEATH LARGE STORM SEWER
- AREA SERVICING PLAN (ASP) DRAINAGE BOUNDARY

EAST 16 MILE CREEK
SUBCATCHMENT ES6 EAST EIR/FSS

DRAWING 9.2R

WASTEWATER SERVICING

PROJECT No.	DATE:	SCALE:
18-599	JUN. 2024	1:2000

Appendix B – Water Calculations and Background Documents

Domestic Water Demand Calculations
Block 1

PROJECT: **Neyagawa & Hwy 407**
PROJECT No: **ALL-23012713-A0**
CREATED BY: **WK**
CHECKED BY **SP**
DATE: **3-Sep-25**

Average Day

Halton Water Wastewater Linear Design Manual
Per Capita Demand 275 L/caps/d 0.00318287 L/cap/s

2022 Development Charges Background Study

Type of Development	**Population Density**	
Residential	2	person/unit
Retail	90	person/ha

Site Stats taken from Kirkor Architects and Planners

	Type	*Area (ha)*	*Unit*	*Population (persons)*	
	Apartment		529.00	1058	
	Retail	0.16		14	
	Total	0.16	529.00	1072	
	Average Day Demand - Apartment			3.37	L/s
	Average Day Demand - Retail			0.05	L/s
1	**Total Average Day Demand**			**3.41**	L/s

Halton Water Wastewater Linear Design Manual - November 2024, page 7
Maximum Daily Demand Peaking Factor 4.00

2	**Max Daily Demand**	**13.65**	**L/s**

Domestic Water Demand Calculations
Block 2

PROJECT: **Neyagawa & Hwy 407**
PROJECT No: **ALL-23012713-A0**
CREATED BY: **WK**
CHECKED BY **SP**
DATE: **3-Sep-25**

Average Day

Halton Water Wastewater Linear Design Manual

Per Capita Demand	275	L/caps/d	0.00318287 L/cap/s

2022 Development Charges Background Study

Type of Development	**Population Density**	
Residential	2	person/unit
Retail	90	person/ha

Site Stats taken from Kirkor Architects and Planners

	Type	*Area (ha)*	*Unit*	*Population (persons)*	
	Apartment		369.00	738	
	Retail	0.03		3	
	Total	0.03	898.00	741	
	Average Day Demand - Apartment			2.35	L/s
	Average Day Demand - Retail			0.01	L/s
1	**Total Average Day Demand**			**2.36**	L/s

Halton Water Wastewater Linear Design Manual - November 2024, page 7

	Maximum Daily Demand Peaking Factor	4.00	
2	**Max Daily Demand**	**9.43**	**L/s**

Fire Flow Calculation
Block 1

PROJECT: **Neyagawa & Hwy 407**
PROJECT No: **ALL-23012713-A0**
CREATED BY: **MY**
CHECKED BY **SP**
DATE: **28-Aug-25**

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 Type of Construction: C = 0.8
Type II Noncombustible Construction

Total Floor Area: A = 4,805 m²
largest floor plate + 25% of each of the two immediately adjoining floors
3556.85m²+0.25x1995.31m²+0.25x2998.20m²

Therefore F = 220 x **0.8** x (A)½ =	**12,200**	**L/min**
Rounded Fire Demand (Nearest 1,000 L/min) as per FUS	**12,000**	**L/min**

Fire Underwriters Survey 2020 Water Supply for Public Fire Protection - Page 24

2 **Reduction for fire hazard content**

Limited Combustible Contents	0%	
(1) - 0% =	**12,000**	**L/min**

3 **Reduction for Sprinkler protection**

Sprinkler Conforming to NFPA 13	30%	
(2) - 30% =	**3,600**	**L/min**

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

North (10.1 to 20m)	15%	
South (Greater than 30m)	0%	
East (Greater than 30m)	0%	
West (Greater than 30m)	0%	
	15%	
	1,800	**L/min**

5 **Total Estimated Fire flow**

(2) - (3) + (4) =	**10,200**	**L/min**

Estimated Fire Flow (Nearest 1000 L/min) =	**10,000**	**L/min**
	167	**L/s**

Fire Flow Calculation
Block 2

PROJECT: **Neyagawa & Hwy 407**
PROJECT No: **ALL-23012713-A0**
CREATED BY: **MY**
CHECKED BY **SP**
DATE: **28-Aug-25**

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 Type of Construction: C = 0.8
Type II Noncombustible Construction

Total Floor Area: A = 5,157 m²
largest floor plate + 25% of each of the two immediately adjoining floors
3744.59m²+0.25x3251.16m²+0.25x2399.89m²

Therefore F = 220 x **0.8** x (A)½ =	**12,639**	**L/min**
Rounded Fire Demand (Nearest 1,000 L/min) as per FUS	**13,000**	**L/min**

Fire Underwriters Survey 2020 Water Supply for Public Fire Protection - Page 24

2 **Reduction for fire hazard content**

Limited Combustible Contents	0%	
(1) - 0% =	**13,000**	**L/min**

3 **Reduction for Sprinkler protection**

Sprinkler Conforming to NFPA 13	30%	
(2) - 30% =	**3,900**	**L/min**

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

North (Greater than 30m)	0%	
South (10.1 to 20m)	15%	
East (Greater than 30m)	0%	
West (Greater than 30m)	0%	
	15%	
	1,950	**L/min**

5 **Total Estimated Fire flow**

(2) - (3) + (4) =	**11,050**	**L/min**

Estimated Fire Flow (Nearest 1000 L/min) =	**11,000**	**L/min**
	183	**L/s**

Appendix C – Sanitary Calculations and Background Documents

Sanitary Flow Calculations
Block 1

PROJECT: **Neyagawa & Hwy 407**
PROJECT No: **ALL-23012713-A0**
CREATED BY: **WK**
CHECKED BY **SP**
DATE: **3-Sep-25**

Average Day

Halton Water Wastewater Linear Design Manual
Per Capita Demand 275 L/caps/d 0.00318 L/cap/s

2022 Development Charges Background Study

Type of Development	**Population Density**	
Residential	2	person/unit
Retail	90	person/ha

Site Stats taken from Kirkor Architects and Planners

Type	*Area (ha)*	*Unit*	*Population (persons)*
Apartment		529.00	1058
Retail	0.16		14
Total	0.16	898.00	1072

1	**Average Day Demand**	**3.41**	**L/s**

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

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

Halton Water Wastewater Linear Design Manual
Infiltration allowance 0.26 L/s/ha
Total Area 0.93 ha

3	**Infiltration**	**0.242**	**L/s**

Halton Water Wastewater Linear Design Manual - November 2024
Design Flow = average flow x peaking factor + infiltration allowance

4	**Design Flow =**	**13.89**	**L/s**

Sanitary Flow Calculations
Block 2

PROJECT: **Neyagawa & Hwy 407**
PROJECT No: **ALL-23012713-A0**
CREATED BY: **WK**
CHECKED BY **SP**
DATE: **3-Sep-25**

Average Day

Halton Water Wastewater Linear Design Manual
Per Capita Demand 275 L/caps/d 0.00318 L/cap/s

2022 Development Charges Background Study

Type of Development	**Population Density**	
Residential	2	person/unit
Retail	90	person/ha

Site Stats taken from Kirkor Architects and Planners

Type	*Area (ha)*	*Unit*	*Population (persons)*
Apartment		369.00	738
Retail	0.03		3
Total	0.03	898.00	741

1	**Average Day Demand**	**2.36**	**L/s**

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

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

Halton Water Wastewater Linear Design Manual
Infiltration allowance 0.26 L/s/ha
Total Area 0.62 ha

3	**Infiltration**	**0.161**	**L/s**

Halton Water Wastewater Linear Design Manual - November 2024
Design Flow = average flow x peaking factor + infiltration allowance

4	**Design Flow =**	**9.60**	**L/s**

Appendix D – Groundwater Documents

r_e = Equivalent perimeter (m)

a = Length of the excavation area (m)

b = Width of the excavation area (m)

It is expected that the initial dewatering rate will be higher to remove groundwater from within the overburden formation. The dewatering rates are expected to decrease once the target water level is achieved in the excavation footprint as groundwater will have been removed, primarily from storage, resulting in lower seepage rates into the excavation.

4.2 Cooper-Jacob's Radius of Influence

The radius of influence (Rcj) for the construction dewatering was calculated based on Cooper-Jacob's equation. This equation is used to predict the distance at which the drawdown resulting from pumping is negligible.

The estimated radius of influence due to pumping is based on Cooper-Jacob's formula as follows:

$$R_{cj} = \sqrt{2.25KDt/s}$$

Where:

Ro = Estimated radius of influence (m)

D = Aquifer thickness (original saturated thickness) (m)

K = Hydraulic conductivity (m/s)

S = Storage coefficient

t = Duration of pumping (s)

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 25 mm precipitation event was utilized for estimating the stormwater volume. The calculation of the stormwater volume is included in Appendix E.

The estimate of the stormwater volume only accounts for direct precipitation into the excavation. The dimensions of the excavation are considered in the dewatering calculations. Runoff which originated outside of the excavation's footprint is excluded and it should be directed away from the excavation.

During precipitation events greater than 25 mm (ex: 100-year storm), measures should be taken by the contractor to retain stormwater onsite in a safe manner to not exceed the allowable water taking and discharge limits, as necessary. A two (2) and a one hundred (100) year storm event over a 24-hour period are 57.5 and 125.5 mm (refer to Appendix E).

4.4 Results of Dewatering Rate Estimates

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.

Pits (elevator, sump pits) are assumed to have the same excavation depth and dewatering target as the main excavation; deeper pits may require localized dewatering and revised dewatering estimates.

Based on the assumptions provided in this report, the results of the dewatering rate estimate can be summarized as follows:

Table 4-2 Summary of Construction Dewatering Rate

Peak Dewatering Flow Rate Including Rain Collection Volume	
Description	**With 3 Levels of Underground Parking (L/day)**
Total Volume (L/day) Short Term Discharge of Groundwater (Construction dewatering) with Safety Factor (including precipitation)	1,331,00

The peak dewatering flow rates does not account for flow from utility beddings and variations in hydrogeological properties beyond those encountered during this investigation.

There are artesian conditions observed in the southern portion of the site which may cause basal heave if not depressurized during excavation. As such, effective control of the groundwater utilizing a suitable positive dewatering system designed, installed and operated by an experienced dewatering contractor is required.

Local dewatering may be required for pits (elevator pits, sump pits), if these extend deeper than the dewatering target. Local dewatering is not considered to be part of this assessment. Dewatering estimates should be reviewed once the pit dimensions are available. In areas where artesian groundwater conditions are encountered, groundwater depressurization will be required to lower the groundwater levels to the dewatering target/s.

Local dewatering may be required for pits (elevator pits, sump pits, raft) and for localized areas with permeable, soft, or wet soil conditions. Local dewatering is not considered to be part of this assessment, but contractor should be ready to install additional system to manage such conditions. Dewatering estimates should be reviewed once the pit dimensions are available.

All grading around the perimeter of the excavation should be graded away from the shoring the systems and ramp/site access to redirect runoff away from excavation.

The dewatering assumptions are based on using shoring system without open cuts and sloped excavations.

The contractor is responsible for the design of the dewatering systems (depth of wells, screen length, number of wells, spacing sand pack around screens, prevent soil loss etc.) to ensure that dry conditions are always maintained within the excavation at all costs.

Dewatering should be monitored using dedicated monitoring wells within and around the perimeter of the excavation, and these wells should be monitored using manual measurements and with electronic data loggers; records should be maintained on site to track dewatering progress. Discharge rates should be monitored using calibrated flow meters and records of dewatering progress, and daily precipitation as per MECP requirements should be maintained.

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.

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.

Based on the assumptions provided in this report, the estimated sub-drain discharge volumes are summarized in Appendix E. 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.

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

Long-Term Dewatering Flow Rate	With 3 Levels of Underground Parking (L/day)
Total Volume (L/day) Long-Term Drainage of groundwater (from foundation drainage, weeping tiles, sub slab drainage) with Safety Factor Included	237,000
Long-Term Dewatering Rate without Safety Factor	158,000

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.

Town of Oakville/Halton Region may not allow any long-term dewatering in which case the underground structures can be designed as watertight structures to avoid the long-term flow shown in Table 4-3 above.

4.5 MECP Water Taking Permits

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 is more than 50,000 L/day but less than 400,000 L/day, then an online registration in the Environmental Activity and Sector Registry (EASR) with the

End of Document