TRAFALGAR ENGINEERING

FUNCTIONAL SERVICING REPORT

Water, Sanitary, and Stormwater Management

ZONING BYLAW AMENDMENT FOR LINBROOK SCHOOL EXPANSION

1059, 1079, 1087, 1095 LINBROOK ROAD
TOWN OF OAKVILLE

OUR FILE: 1914

PREPARED FOR LINBROOK SCHOOL

JULY 2026

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REVISION HISTORY

DATE	REVISION	SUBMISSION
2026-07-07	0	Issued for Zoning Bylaw Amendment (ZBA)

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1.0 INTRODUCTION

1.1 Scope of Functional Servicing Report

The report has been prepared in support of the Zoning Bylaw Amendment (ZBA) for the properties municipally known as 1059, 1079, 1087, 1095 Linbrook Road in the Town of Oakville, Region of Halton, herein referred to as the "subject lands". The proposed Linbrook School expansion includes a two-storey addition at the west side of the existing school building and a one-storey addition at the rear (north side) of the existing school building. The two-storey addition will accommodate specialized educational and student support spaces, including new French, science, art, and music classrooms, individual music practice rooms, a student centre, teacher's lounge, cafeteria and kitchen, offices, and a new gymnasium. The one-storey addition will accommodate four new student classrooms. The purpose of this report is to demonstrate that the existing municipal infrastructure (water, wastewater, and stormwater) is adequate to service the proposed expansion and zoning amendment.

This report may be updated and refined as the project moves through the planning process to support Site Plan Application and Building Permit stages. A copy of the preliminary site plan from Gren Weis Design Studio (2026) is included in Appendix 'A' for reference.

For the purpose of this report, Linbrook Road runs in an east-west direction.

1.2 Site Location and Description

The subject lands have a total area of 2.81 ha and comprise properties municipally known as 1059, 1079, 1087, and 1095 Linbrook Road. The existing Linbrook Private school is located at 1079 Linbrook Road while the adjacent properties at 1059, 1087, and 1095 Linbrook Road each currently contain detached residential dwellings.

The existing residential properties generally consist of single-family homes located centrally on their respective lots, with paved driveways fronting Linbrook Road, landscaped rear yards, and outdoor amenities. The existing school property contains the main school building, a driveway access from Linbrook Road, an asphalt playground and parking areas at the rear, landscaped open space, and athletic field areas. A wooded area and Linbrook Park occupy the northern portion of the property, extending to the north property boundary.

The site is bounded by David Avenue to the east, Linbrook Road to the south, existing single-family houses to the west and the north. The existing Linbrook Park has pedestrian entrances from David Avenue and Melvin Avenue.

Linbrook Road has a standard curb and gutter, and sidewalk with a boulevard, while David Avenue consists of a rural cross-section with no sidewalks or curbs.

It is our understanding that there were works completed to the existing school, including a new courtyard and additional entrance opening at the front. The associated grading design prepared by Setchell & MacKinnon Ltd. (2014) has been reviewed as part of this design and is included in Appendix 'A' for reference.

1.3 Proposed School Expansion

The proposed expansions will be connected to the existing school and the existing finished floor elevation is to be maintained. A partial basement level is proposed within the gymnasium addition. Additional surface-level parking areas are proposed on the west and east sides of the subject lands. Vehicle access remains from Linbrook Road; however, access points will be relocated to the east and west of their current locations. The proposed driveway configuration supports site circulation, student drop-off and pick-ups, access to both parking areas, and fire route requirements.

2.0 MUNICIPAL WATER AND WASTEWATER

The location of existing services was determined through the review of record drawings provided by the Town of Oakville, Region of Halton, and three available topographic surveys of the subject lands.

Topographic surveys for the existing school property at 1079 Linbrook Road and the residential property at 1059 Linbrook Road were completed by J.H. Gelbloom Surveying Limited in September 2013 and December 2018, respectively. Topographic surveys for the residential properties at 1087 and 1095 Linbrook Road were completed by Cunningham MacConnell Limited in March 2024. All three topographic surveys are provided in Appendix 'A' for reference purposes.

All proposed services must be in accordance with the Ontario Building Code, Town of Oakville, and Region of Halton standards and requirements. A copy of the proposed servicing plan is included and should be read in conjunction with this report. Existing and proposed servicing is discussed in further detail in the following sections.

2.1 Municipal Water

2.1.1 Existing Linear Infrastructure

Plans obtained from the Region of Halton and the Town of Oakville indicate there is an existing 300 mm diameter watermain on Linbrook Road. There is also an existing 150 mm diameter watermain on David Ave.

The site plan prepared by Setchell & MacKinnon Ltd. (2014) indicates that the existing school property is serviced by a 200 mm fire service and domestic connections located at the front of the school, which connects to the existing 300 mm diameter watermain on Linbrook Road. An existing private fire hydrant and valve are located near the property frontage. There are also appropriately spaced hydrants on Linbrook Road. Refer to the Preliminary Grading and Servicing Plan included in Appendix 'E'.

2.1.2 Estimated Demands

Water demands are estimated for the existing condition, using the population density given in Table 2-4 of the Region of Halton's 2025 Water and Wastewater Linear Design Manual (LDM) for single-family homes of 95 persons/ha, and an institutional use of 50 employees/hectare. The equivalent population is estimated to be 171 persons. The domestic water demand is estimated

using 190 L/cap/d for institutional and 230 L/cap/day for residential (Section 2.3.1 of Region of Halton's LDM 2025 Manual).

Water demands are estimated for the proposed condition. Using the population density for institutional use (50 employees/hectare), the equivalent population is estimated to be 141 persons. The domestic water demand is estimated using 190 L/cap/d for institutional.

The fire flow was estimated for demand purposes only using the Fire Underwriters Survey methodology. Fire flows should be confirmed at the building permit stage by the sprinkler consultant.

A fire flow test request was initiated to confirm adequate firefighting flows; results will be provided once available.

Table 1 below summarizes the results (see Appendix 'B' for supporting calculations).

Table 1: Estimated Water Demands (L/min)

	Existing	Proposed
Average Daily Demand	24	19
Minimum Hourly Demand	24	19
Maximum Hourly Demand	73	56
Maximum Daily Demand	46	35
Estimated Fire Demand (FUS 1999)	6000	8000
Maximum Daily Plus Fire Demand	6046	8035

2.1.3 Proposed Connection

The proposed building additions will be serviced by a new 50 mm diameter domestic water service and a new 150 mm diameter fire service connected to the existing 300 mm diameter watermain on Linbrook Road. The proposed service connections will enter the building at the east side of the gymnasium addition. Refer to the Preliminary Grading and Servicing Plan included in Appendix 'E'.

The existing water service connections to service the existing school building will be abandoned. Upon completion of the proposed works, the existing school building will be supplied through the new water service connections via internal connections within the gymnasium addition.

2.2 Municipal Wastewater

2.2.1 Existing Linear Infrastructure

Record drawings indicate that there are two sanitary sewers on Linbrook Road each draining in opposite directions. There is a 250 mm diameter sanitary sewer draining east to west on the north side of Linbrook Road. This sewer terminates at a manhole in front of 1059 Linbrook Road. There is a second 200 mm diameter sanitary sewer on Linbrook Road, terminating at a manhole south of the dwelling at 1087 Linbrook Road flowing easterly. A 200 mm diameter sanitary sewer is

located on David Avenue, draining southward and connecting to the sanitary sewer on Linbrook Road.

The site grading plan prepared by Setchell & MacKinnon Ltd. (2014) indicates that the existing school building is serviced by an existing sanitary sewer connection extending beneath the existing driveway to the basement mechanical room located on the east side of the existing building.

In addition, a review of available record drawings and field investigations identified a secondary 100 mm diameter sanitary collection system. An existing sanitary manhole located within the asphalt playground area at the rear of the school collects sanitary flows from portions of the existing building. The sanitary sewer then conveys flows westward around the building before draining southerly to a sanitary property line manhole located at the southwest corner of the existing school property.

2.2.2 Estimated Flows

Flows are estimated for the existing condition, using the equivalent population density given in Table 3-3 and Table 3-4 of the Region of Halton's Water and Wastewater LDM for single-family homes of 95 persons/ha, and an institutional use of 50 employees/ha. Based on these densities, the equivalent population is 171 persons. The existing sanitary flow is determined by using 185 L/cap/d for institutional uses and 215 L/cap/d for residential flow (Section 3.2.1 of Region of Halton's LDM 2025 Manual). Table 2 below summarizes the wastewater flows under existing conditions (See Appendix 'C' for supporting calculations).

Table 2: Estimated Existing Wastewater Flow (L/s)

Average Daily Dry Weather Flow	1.10
Residential Modified Harmon Peaking Factor	4.29
ICI Modified Harmon Peaking Factor	4.24
Infiltration Allowance (0.280L/s-ha)	0.61
Peak Daily Flow	2.5

Flows are estimated for the proposed condition, based on an institutional equivalent population of 141 persons (as determined in Section 2.1.2), and using flow rates of 185 L/cap/d for institutional use, the proposed sanitary flow is estimated in Table 3. Supporting calculations are provided in Appendix 'C'.

Table 3: Estimated Proposed Wastewater Flow (L/s)

Average Daily Dry Weather Flow	1.00
ICI Modified Harmon Peaking Factor	4.20
Infiltration Allowance (0.26L/s-ha)	0.61
Peak Daily Flow	1.80

As summarized in Table 2 and Table 3, the subject lands are expected to generate lower sanitary flows than the existing condition. Therefore, the proposed subject lands are not anticipated to adversely impact the capacity of the existing municipal sanitary sewer system.

2.2.3 Proposed Connection

The proposed gymnasium addition will be serviced by a proposed 150 mm diameter service lateral connecting to the existing 250 mm diameter sanitary sewer flowing west on Linbrook Road. The proposed classroom addition will be serviced internally through the gymnasium building and discharged through the same proposed service lateral connection. The existing sanitary sewer system at the back of the existing school building will be abandoned, and the existing sanitary flows are to be directed internally through the proposed gymnasium. Refer to the Preliminary Grading and Servicing Plan included in Appendix 'E'.

The existing 200 mm diameter service lateral at the front of the existing school is to remain. It is recommended that the condition of this existing sanitary lateral be inspected and CCTV'd before construction.

3.0 STORM DRAINAGE AND STORMWATER MANAGEMENT

3.1 Existing Storm Drainage

There is an existing 525 mm diameter storm sewer on Linbrook Road. This sewer drains from east to west and is approximately 1.5 m deep. The sewer system is tributary to Lower Morrison Creek. Adjacent to the east of the site, along David Avenue, there are flat roadside ditches on both sides of the road draining from north to south and discharging to a storm manhole that connects to the storm sewer system on Linbrook Road.

Based on a review of Oakville's Stormwater Master Plan (Drawing 7.3 and 7.4 – see Appendix 'A' for further detail), the storm sewer on Linbrook Road in the vicinity of the site is in the "yellow" performance rating, identified as unsurcharged during the 5-year event and sections of the sewer are in the "orange" performance rating, ½ surcharging depth and above the obvert. During the 100-year storm in the existing condition, sections of the sewer are in the "orange" performance rating, and other portions are in the "red" rating, surcharged above rim elevation.

The topographic survey and a review of LiDAR indicate the existing site generally slopes northeast to southwest with a majority of runoff from the wooded area sheet flowing towards the existing building and intercepted by existing catchbasins which ultimately discharge to the existing 525 mm diameter storm sewer on Linbrook Road. Runoff from the front of the existing school building and existing dwelling units sheets off southerly towards Linbrook Road.

Through analysis of the topographic survey, there is no meaningful external drainage through the site under existing conditions. David Avenue has a defined overland flow path draining from north to south, and Linbrook Road has an overland flow in the right of way from east to west. Based on the Town's Stormwater Master Plan (Drawing 7.7 – see Appendix 'A' for further detail), a portion of the overland route on Linbrook Road is in the "green" performance rating, identified as flow contained within the curb, and sections of the route are identified as "yellow", flow above curb but

contained within right of way during the 100-year storm event. Similarly, the overland route on David Avenue is in the “orange” category, identified as flow beyond right of way but less than 50% to the building.

3.2 Proposed Storm Drainage

As mentioned, the proposed expansions consist of two additional buildings, impervious parking surfaces with landscape strips around the west and east sides of the site. The majority of the pervious areas (woodlot and athletic field) north of the building remain as is. The existing hardscape basketball court is removed. Runoff from hardscape areas and roof drainage will be captured through roof drains on the building roof structure and catchbasins at the surface. Given the existing grading drainage patterns, it is not feasible to direct all impervious area runoff to a single stormwater management facility. Two stormwater management storage facilities are proposed to provide the required quantity control. The runoff from the facilities will discharge to the existing 525 mm diameter storm sewer along Linbrook Road through two 300 mm diameter storm connections.

Stormwater management requirements are discussed in further detail in Section 3.3. Refer to the Post-Development Drainage Plan provided in Appendix ‘D’ and the Preliminary Grading and Servicing Plan provided in Appendix ‘E’.

3.3 Stormwater Management

The stormwater management requirements for the subject lands are set out in the Town’s Development Engineering Guidelines and the Flood Mitigation Opportunities Study, Lower Morrison and Lower Wedgewood Creeks Study (2024).

The stormwater management criteria for the subject lands are:

1. **Stormwater Quantity Control**

   As the subject lands are located within the East Branch of the Lower Morrison Creek, the stormwater quantity controls must meet the stormwater unitary storage criteria set out in Table 5.31 of the Flood Mitigation Opportunities Study Lower Morrison and Lower Wedgewood Creeks Study (2024), as confirmed in the Town’s Pre-Consultation Preliminary comments. Per Table 5.31 below, the subject land's total target unitary storage rate is 370 m^3 per hectare of impervious area.

Table 5.31 Comparison of Storage Requirement

CREEK SYSTEM	BRANCH	NO DIVERSION				DIVERSION			
		EROSION	25 YR	100 YR	TOTAL	EROSION	25 YR	100 YR	TOTAL
Lower Morrison Creek	West Branch	160	150	180	340 (160+180)	0	0	0	0
	East Branch	160	170	210	370 (160+210)	160	170	210	370 (160+210)
Lower Wedgewood Creek	West Branch	160	185	205	365 (160+205)	160	185	205	365 (160+205)
	East Branch	160	200	230	390 (160+230)	160	200	230	390 (160+230)

2. **Stormwater Quality Control**

   Achieve Enhanced Level 1 Protection (80% long-term removal of TSS), as confirmed in the Town's Pre-Consultation Preliminary comments.

3. **Stormwater Runoff Volume Reduction (Water Balance)**

   Provide retention of 25 mm over the entire area of the subject lands in accordance with the Town's Stormwater Master Plan.

The following sections demonstrate how each of the above criteria is satisfied.

3.3.1 Stormwater Quantity Control

A total site impervious area of 1.04 ha results in a minimum of 385 m^3 of total storage required. Based on the proposed site drainage pattern, the site is split between the east and the west catchments as discussed in Section 3.2. Accordingly, the required per unitary rate of 370 m^3/imp.ha is applied to each catchment area and summarized in Table 4 below.

Table 4: Storage Volume Requirements

Catchment	Impervious Areas (ha)	Unitary Volume Rate (m^3/imp.ha)	Volume Required (m^3)
East Hardscaping Surface Drainage	0.52	370	192
West Hardscaping Surface Drainage	0.398		147
Classroom Building Addition Roof	0.0497		18
Gym Building Addition Roof	0.0747		28
Total	**1.04**		**385**

To address the stormwater management requirements for the subject lands, the proposed building additions are designed with roof controls to manage roof drainage and an underground stormwater management system to control surface drainage. Surface drainage outflows are

controlled by way of an orifice tube. The stormwater management system will consist of ACO Stormbrixx modules and will be located beneath the two proposed parking lots.

The post-development storm system was modeled in HydroCAD using the SCS Curve Number Method. The roof is entirely impervious with an SCS curve number of CN=98.

The east drainage area has a weighted SCS curve number of CN=84, calculated by taking the impervious areas as CN = 98 (paved parking) and the pervious areas as CN = 74 (>75% Grass Cover, HSG,C). Similarly, the west drainage area of the site has a weighted SCS curve number of CN = 82, calculated using the same methodology as above. The time of concentration was set to the Town of Oakville's minimum allowable of T_c = 10 minutes.

Refer to the HydroCAD results and Post-Development Storm Drainage Plan (Figure 1) in Appendix 'D' for further details.

Using the SCS Runoff Method and the Town of Oakville IDF data, storage provided for the roof and surface storage systems is estimated and summarized in Table 5, Table 6, and Table 7 below.

Table 5: Rooftop Ponding Stormwater Volume – Proposed Classroom

Return	Volume Provided (m^3)	Depth of Ponding (mm)
5-yr	10.3	113
10-yr	12.7	121
25-yr	15.9	130
50-yr	18.3	137
100-yr	20.6	142

Table 6: Rooftop Ponding Stormwater Volume – Proposed Gymnasium

Return	Required Volume (m^3)	Depth of Ponding (mm)
5-yr	13.7	108
10-yr	17.0	116
25-yr	21.5	126
50-yr	24.8	132
100-yr	28.0	138

Table 7: Summary of Stormwater Volume Provided (m^3)

Return	Total Rooftop Volume	West Storage Volume	East Storage Volume	Total Provided Volume
5-yr	24.0	31.5	67.5	134.0
10-yr	29.7	58.1	105.2	206.8
25-yr	37.4	101.4	159.1	315.0
50-yr	43.1	133.7	193.4	382.5
100-yr	48.6	147.5	193.4	**388.0**

The classroom building addition will have a total of 2 roof drains spaced per NBC requirements, each providing 5 USGPM per inch of head (0.315 L/s per 0.0254 m). With 2 drains, the peak depth on the roof is 0.142 m, providing a total storage of 20.6 m^3 under the 100-year storm event. The gym building addition will have a total of 4 roof drains with the peak depth on the roof of 0.138 m, providing a total storage of 28.0 m^3. The roof drainage from the building additions will discharge to grade via building storm drains.

Other areas that drain to the surface will drain to the Stormbrixx units located in the underground beneath the proposed parking lots through proposed catchbasins and storm sewer conveyance system.

The west catchment runoff will be captured and stored in an ACO Stormbrixx 600HD unit with a plan area of 256.1 m^2, providing 147.5 m^3 of total storage. A 3.0 m, 250 mm diameter orifice tube with an outlet elevation of 94.10 m will be installed upstream of the property line manhole STM MH 1.

The east catchment runoff will be stored in a second ACO Stormbrixx 600HD unit with a plan area of 336.6 m^2, providing 193.9 m^3 total storage. A 3.0 m, 200 mm diameter orifice tube with an outlet elevation of 95.26 m will be installed upstream of the property line manhole STM MH 3. Refer to the Stormbrixx preliminary sizing reports provided in Appendix 'D'.

Emergency overflow from the ACO system for the west catchment will be by way of the catchbasin at the south end of the parking lot. Stormwater will overflow from the catchbasin and flow overland southerly to Linbrook Road. Emergency overflow from the ACO system for the east catchment will be by way of the double catchbasin manhole at the east end of the driveway entrance. Stormwater will overflow from the catchbasin and flow overland southerly to Linbrook Road.

3.3.2 Stormwater Quality Control

The Town of Oakville requires the development to meet MECP Enhanced protection (80% long-term removal of TSS).

Runoff from the rooftop is generally clean, and no additional water quality control is required. Hydrodome OGS units (or approved equivalent) are proposed to treat TSS-loaded areas from the parking lot. For the east catchment area, the units are proposed at the double catchbasin manhole (DCBMH5) at the southeast parking lot and at the catchbasin manhole (CBMH7) at the existing

rear parking lot, capturing most of the hardscaping runoff. For the west drainage area, a Hydrodome OGS unit is proposed at DCBMH2, capturing the majority of hardscaping runoff. Additionally, the proposed catchbasins in the parking lots will be installed with CB shields.

This process provides 80% long-term removal of TSS, meeting the MECP requirements for enhanced water quality and the Town of Oakville's water quality requirements. Refer to the Hydrodome OGS CA-ETV Certification in Appendix 'D' for more details.

3.3.3 Stormwater Runoff Volume Reduction (Water Balance)

As per the criteria given in Section 7.3.1 of the Town's Development Engineering Procedure & Guidelines Manual, it is recommended to infiltrate or re-use the first 25 mm of rainfall. This results in 702.5 m^3 of water to be reused on site. Considering majority of the site consists of pervious woodlot areas, a storage volume of 260.0 m^3 per 25 mm over the impervious area was used. The proposed infiltration galleries will be open bottom with a 0.3 m thick stone chamber to promote a total infiltration volume of 174.3 m^3 on a best-efforts approach.

4.0 EROSION AND SEDIMENT CONTROL

Erosion and sediment controls must be installed prior to the commencement of any construction. The erosion and sediment control devices should follow the Erosion and Sediment Control Guidelines for Urban Construction as set out by the Greater Golden Horseshoe Conservation Authority. Erosion and sediment control measures may be implemented as follows:

- Double Wrapped Catch basins: The proposed storm sewer catch basins and catch basin manholes located within the subject site and adjacent municipal roads shall be double wrapped in a woven geotextile material. Woven geotextile material is to be replaced periodically when accumulated sediments interfere with drainage. The abutting streets should be monitored and if required, swept to mitigate the accumulation of tracked material on the roads on a routine basis in keeping with good construction housekeeping practices.
- Gravel Access Pad: A gravel access mat is proposed to be installed at the entrance to the construction zone to prevent mud tracking from the site to the municipal roads.
- Silt Fencing: Silt fence is proposed to be installed along the property line to intercept sheet flow.

Refer to the Erosion and Sediment Control Plan provided in Appendix 'E'.

5.0 SUMMARY

The information presented in this Functional Servicing Report demonstrates that the subject lands can be serviced by the existing infrastructure for water, wastewater, and stormwater and can meet the Town of Oakville stormwater management criteria. The following is a summary of the report:

- The subject lands are currently occupied by the existing Linbrook Private School and three adjacent single-family residential dwellings, proposed to be redeveloped with a two-storey gymnasium addition, a classroom building addition, and associated surface parking areas.
- The proposed average daily domestic water demand is 19 L/min with an estimated fire demand of 8,000 L/min per the FUS methodology. The site will be serviced via a proposed 50 mm domestic water service and a proposed 150 mm fire service connection to the existing 300 mm diameter watermain on Linbrook Road.
- The proposed additions will be serviced through a proposed 150 m service lateral connecting to the 250 mm diameter municipal sanitary sewer on Linbrook Road. The estimated peak proposed sanitary flow is 1.80 L/s, a decrease in flow from the existing condition.
- The subject lands are located within the East Branch of the Lower Morrison Creek subwatershed with a total target unitary storage rate of 370 m³/imp.ha. Based on a total impervious area of 1.04 ha, a minimum storage volume of 385 m³ is required. Total storage provided is 388.0 m³ through a combination of rooftop ponding on the proposed building additions and two underground ACO Stormbrixx systems for the west and east catchments.
- Storm drainage will be conveyed via two 375 mm diameter connections to the existing 525 mm diameter storm sewer on Linbrook Road with orifice tube controls upstream of the proposed property line manholes.
- Water balance requirements are addressed on a best-efforts basis, with open-bottom infiltration galleries estimated to provide approximately 174 m³ of infiltration toward the 25 mm retention target.
- Enhanced Level 1 stormwater quality protection (80% TSS removal) is achieved through a proposed Hydrodome unit at key catchbasin manhole locations across both drainage areas and CB shields at the catchbasins upstream.

Based on the above, the existing municipal infrastructure addresses the servicing needs of the proposed school expansions in terms of water, wastewater, storm drainage, and stormwater management.

PREPARED BY TRAFALGAR ENGINEERING LTD.



Anna Duong,
Junior Designer

Paul Cifoni, P.Eng.
Consulting Engineer

Appendix 'A'

SURVEYOR'S REAL PROPERTY REPORT - PART 1

PLAN OF SURVEY AND TOPOGRAPHY OF

PART OF LOT 10, CONCESSION 3, S.D.S.

(GEOGRAPHIC TOWNSHIP OF TRAFALGAR)

AND ALL OF LOTS 15 AND 18 REGISTERED PLAN 781 CITY OF OAKVILLE

REGIONAL MUNICIPALITY OF HALTON

0 5 10 20 30 40m

SCALE 1 : 400

J. H. Gelbloom Surveying Limited
Ontario Land Surveyor

2013

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SURVEYOR'S REAL PROPERTY REPORT - PART 2

REGISTERED EASEMENTS AND/OR RIGHT-OF-WAY

None

NOTABLES

Note the location of the fences around the subject properties.
Note the location of the Bell pedestal at the easterly corner of the subject property shown as Pin 24805-0117.
Note the location of the shed at the southerly corner of the subject property shown as Pin 24805-0117.

LEGEND

■	Survey Monument Found
□	Survey Monument Set
SIB	Standard Iron Bar
SSIB	Short Standard Iron Bar
IB	Iron Bar
IP	Iron Pipe
(760)	McConnell, Maughan Ltd., O.L.S.
(OU)	Origin Unknown
(WIT)	Witness
P1	Registered Plan 781
P2	Registered Plan 1426
P3	Registered Plan 475
P4	Plan 20R-16650
P5	Plan by McConnell Maughan Ltd., O.L.S., dated September 13th, 1989.
P6	Plan by J.H. Gelbloom Surveying Ltd., O.L.S., dated August 4th, 2011.
P7	Plan by Sewell & Sewell, O.L.S., dated August 22nd, 1958.
PROD	Production Tie
PROP	Proportioned
CLF	Chain Link Fence
BF	Board Fence
EG	Established Grade
FF	Finished Floor Elevation
INV.	Invert Elevation
TW	Top of Wall Elevation
UP	Utility Pole
GW	Guy Wire
BOL.	Bollard
PED.	Pedestal
DEC.	Deciduous
CON.	Coniferous
TOS	Top of Slope
BOS	Bottom of Slope
CB	Catchbasin
MH	Manhole
HYD.	Hydrant
WV	Water Valve
TOC	Top of Curb
BOC	Bottom of Curb
FF	Finished Floor
NE	Northeast
NW	Northwest
SE	Southeast
SW	Southwest
⊄	0.06x0.06 Guard Post
x98.52	Elevation

BENCHMARK

Elevations are Referred to the Town of Oakville Benchmark No. 28, having an Elevation of 98.5739m.

NOTE

This REPORT can be updated by this office, however NO ADDITIONAL PRINTS of this ORIGINAL REPORT will be issued, subsequent to the DATE OF CERTIFICATION.
All building ties are perpendicular to property lines unless otherwise noted.

This REPORT was prepared for Amber Way and the undersigned accepts no responsibility for use by other parties.

NOTE

Distances shown on this plan are in metres and can be converted to feet by dividing by 0.3048.

BEARING NOTE

BEARINGS ARE UTM GRID, DERIVED FROM SPECIFIED CONTROL POINTS LISTED IN THE FOLLOWING TABLE, AND ARE REFERENCED TO THE CENTRAL MERIDIAN OF 6° UTM ZONE 17 (81° WEST LONGITUDE) NAD83 (ORIG).

SPECIFIED CONTROL POINTS: UTM ZONE 17, NAD83 (ORIG).
COORDINATES TO URBAN ACCURACY PER SEC. 14(2) OF O.REG. 216/10

POINT ID	NORTHING	EASTING
045/99100G4	4 814 278.597	609 201.301
045/99100G6	4 812 799.246	609 426.602
008/9830507	4 812 448.026	606 736.355

COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.

Bearings on Plans (P1) & (P6) must be rotated by 00° 55' 55" counterclockwise to make comparisons.
Bearings on Plans (P2) & (P5) must be rotated by 00° 53' 55" counterclockwise to make comparisons.
Bearings on Plans (P3) must be rotated by 00° 56' 55" counterclockwise to make comparisons.
Bearings on Plans (P4) must be rotated by 00° 42' 25" counterclockwise to make comparisons.

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 3rd day of September, 2013.

10 SEPT 2013
Date

Jaime Gelbloom, O.L.S.

Party Chief:	Drawn By:	Checked By:	Project:
D.L.	N.E.	J.G.	13-094

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
1880473

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

J. H. Gelbloom Surveying Limited
Ontario Land Surveyor
476 Morden Road, Unit 102, Oakville, Ont., L6K 3W4
office@jhgsurveying.ca
Phone:(905) 338-8210 Fax:(905) 338-9446

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
2061326

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

SURVEYOR'S REAL PROPERTY REPORT – PART 1

PLAN OF SURVEY AND TOPOGRAPHY OF

PART OF LOT 10, CONCESSION 3, S.D.S.

(GEOGRAPHIC TOWNSHIP OF TRAFALGAR)

TOWN OF OAKVILLE

REGIONAL MUNICIPALITY OF HALTON

0 5 10 15 20 M

SCALE 1 : 200

J. H. Gelbloom Surveying Limited
Ontario Land Surveyor

2018

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SURVEYOR'S REAL PROPERTY REPORT – PART 2

REGISTERED EASEMENTS AND/OR RIGHT-OF-WAY

None

NOTABLES

Note the location of the Fences around the subject Property.
Note the location of the Hydro Vault along the Southeasterly limit of the Subject Property.

LEGEND

■	Survey Monument Found	N	Denotes North
□	Survey Monument Set	S	Denotes South
SIB	Standard Iron Bar	E	Denotes East
IB	Iron Bar	W	Denotes West
IP	Iron Pipe		
PB	Plastic Bar		
(WIT)	Witness		
(OU)	Origin Unknown		
(760)	McConnell, Maughan Ltd., O.L.S.		
(1620)	Donald H. Brown Surveying Ltd., O.L.S.		
PI	Plan 20R-19751		
P2	Plan 20R-20424		
P3	Plan of survey by McConnell, Maughan Ltd., O.L.S., dated September 13, 1989		
P4	Plan of survey by Fred G. Cunningham Inc., O.L.S., dated May 28, 2001		
FF	Finished Floor		
EG	Established Grade		
BF	Board Fence		
UP	Utility Pole		
DEC.	Deciduous		
CON.	Coniferous		
TOS	Top of Slope		
BOS	Bottom of Slope		
CLF	Chain Link Fence		
CB	Catch Basin		
MH	Maintenance Hole		
WV	Water Valve		
WIF	Wrought Iron Fence		

BENCHMARK

Elevations are Referred to the Town of Oakville Benchmark No. 28, having an Elevation of 98.5739 m.

NOTE

This REPORT can be updated by this office, however NO ADDITIONAL PRINTS of this ORIGINAL REPORT will be issued, subsequent to the DATE OF CERTIFICATION.
All building ties are perpendicular to property lines unless otherwise noted.

This REPORT was prepared for Linbrook School and the undersigned accepts no responsibility for use by other parties.

NOTE

Distances shown on this plan are in metres and can be converted to feet by dividing by 0.3048.

BEARING NOTE

Bearings are Grid, and are Referred to the Northwesterly limit of Linbrook Road as shown on Plan 20R-19751, having a Bearing of N 37° 27' 35" E.

SURVEYOR'S CERTIFICATE

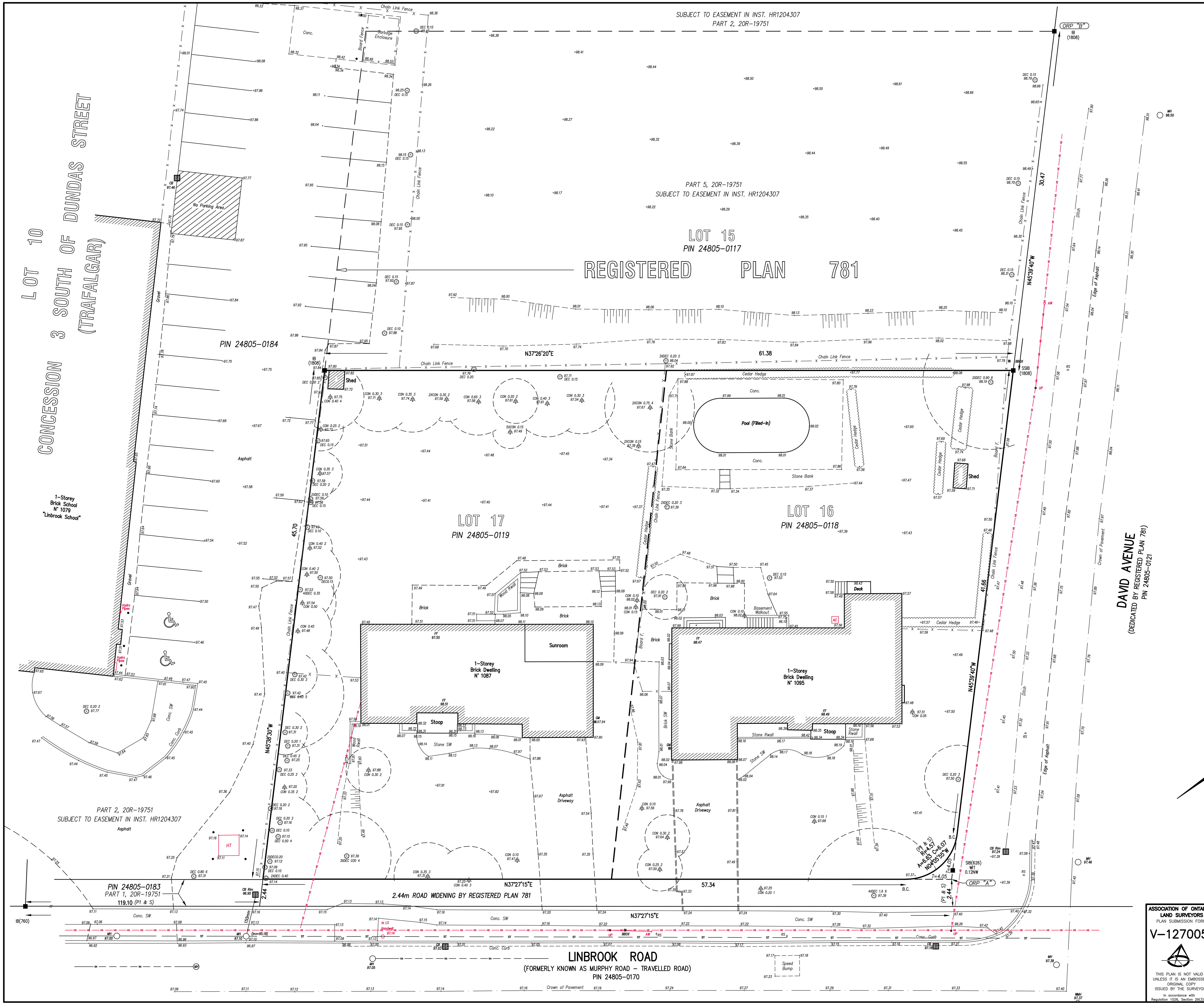
I certify that:
1: This survey and plan are correct and in accordance with the Surveys Act, the Surveyors Act, and the Regulations made under them.
2: The survey was completed on the 17th day of December, 2018.

Dec. 20, 2018
Date

A. Musil
Andrew Musil, O.L.S.

Party Chief:	Drawn By:	Checked By:	Project:
N.A.	M.A.	A.M.	18-229

J. H. Gelbloom Surveying Limited
Ontario Land Surveyor
476 Morden Road, Unit 102, Oakville, Ont, L6K 3W4
office@jhgsurveying.ca
Phone:(905) 338-8210 Fax:(905) 338-9446



TOPOGRAPHIC SURVEY OF

LOTS 15, 16 AND 17 REGISTERED PLAN 781

AND

PART OF LOT 10

CONCESSION 3 South of Dundas Street

(GEOGRAPHIC TOWNSHIP OF TRAFALGAR)

TOWN OF OAKVILLE

REGIONAL MUNICIPALITY OF HALTON

SCALE 1 : 150

3 0 3 6 9

GRAPHIC SCALE – METRES

INTEGRATION DATA

BEARINGS ARE UTM GRID, DERIVED FROM THE OBSERVED REFERENCE POINTS "A" AND "B" BY REAL TIME NETWORK (RTN) OBSERVATIONS, UTM ZONE 17, NAD83 (CSRS–2010.0)

OBSERVED REFERENCE POINTS (ORPs): UTM ZONE 17, NAD–83 (CSRS–2010.0).
CO–ORDINATES TO URBAN ACCURACY PER SEC. 14(2) OF O.REG. 216/10.

POINT N°	NORTHING	EASTING
"A"	4,813,325.82	607,815.97
"B"	4,813,379.05	607,761.50

CO–ORDINATES CAN NOT, IN THEMSELVES, BE USED TO RE–ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.

DISTANCE NOTE

DISTANCES SHOWN HEREON ARE GROUND DISTANCES AND CAN BE CONVERTED INTO GRID DISTANCES BY MULTIPLYING BY A SCALE FACTOR OF 0.99974298.

METRIC NOTE

ALL DISTANCES SHOWN HEREON ARE IN METRES AND CAN BE CONVERTED INTO FEET BY DIVIDING BY 0.3048.

ELEVATION NOTE

ALL ELEVATIONS SHOWN HEREON ARE GEODETIC AND WERE DERIVED FROM TOWN OF OAKVILLE BENCHMARK 0–28 HAVING AN ELEVATION 98.574m (CGVD–1928:PRE–1978).

LEGEND

■	DENOTES SURVEY MONUMENT FOUND
□	DENOTES SURVEY MONUMENT SET
SIB	DENOTES STANDARD IRON BAR
SSIB	DENOTES SHORT STANDARD IRON PIPE
IB	DENOTES IRON BAR
IP	DENOTES IRON PIPE
CC	DENOTES CUT CROSS
CP	DENOTES CONCRETE PIN
PB	DENOTES PLASTIC BAR
P.I.N.	DENOTES PROPERTY IDENTIFICATION NUMBER
(E1)	DENOTES ENCROACHMENT REFERENCE
(NI)	DENOTES NO IDENTIFICATION
(760)	DENOTES McCONNELL MAUGHAN LTD., O.L.S.
(950)	DENOTES CUNNINGHAM McCONNELL LIMITED
(1808)	DENOTES J.H. GELBLOOM SURVEYING LTD
(M) (S)	DENOTES MEASURED/SET
WIT	DENOTES WITNESS
P–1	DENOTES REGISTERED PLAN 781
P–2	DENOTES PLAN 20R–19751

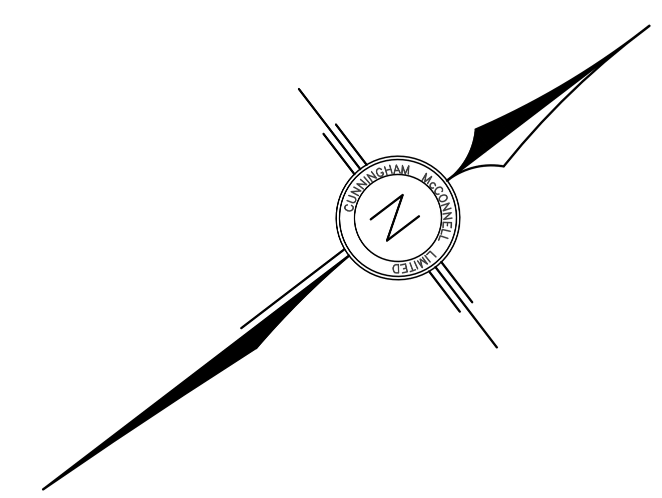
TOPOGRAPHIC LEGEND

AW	DENOTES ANCHOR WIRE(S)
BB	DENOTES BELL BOX
–B–	DENOTES U/G BELL CABLE
CON–0.20	DENOTES CONIFEROUS TREE 0.20 DIA
DEC–0.20	DENOTES DECIDUOUS TREE 0.20 DIA
FH	DENOTES FIRE HYDRANT
GM	DENOTES GAS METER
GV	DENOTES GAS VALVE
–G–	DENOTES U/G GAS MAIN
–H–	DENOTES U/G HYDRO CABLE
LS	DENOTES LIGHT STANDARD (LAMP)
MH	DENOTES MANHOLE
–OW–	DENOTES OVER HEAD WIRE(S)
–SAN–	DENOTES SANITARY SEWER
–STM–	DENOTES STORM SEWER
UP	DENOTES UTILITY POLE
UPLS	DENOTES UTILITY POLE/LIGHT STANDARD
WV	DENOTES WATER VALVE (KEY)
–W–	DENOTES U/G WATER MAIN

UNDERGROUND SERVICES NOTE

ONLY UNDERGROUND SERVICES VISIBLE ON THE GROUND WERE LOCATED FOR THIS PLAN.

THE USER OF THIS PLAN SHALL CONTACT THE LOCAL UTILITY COMPANIES FOR LOCATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION WORKS.



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 MAY 5, 2026.

DATE: MAY 6, 2026

JARO A. LEGAT, M.Sc.
ONTARIO LAND SURVEYOR

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM

V–127005

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

CUNNINGHAM McCONNELL LIMITED
ONTARIO LAND SURVEYORS

1200 SPEERS ROAD, UNIT 38
OAKVILLE, ONTARIO L6L 2X4
PHONE (905) 845–3497
FAX (905) 845–3519
infooak@cmlsurveyors.ca

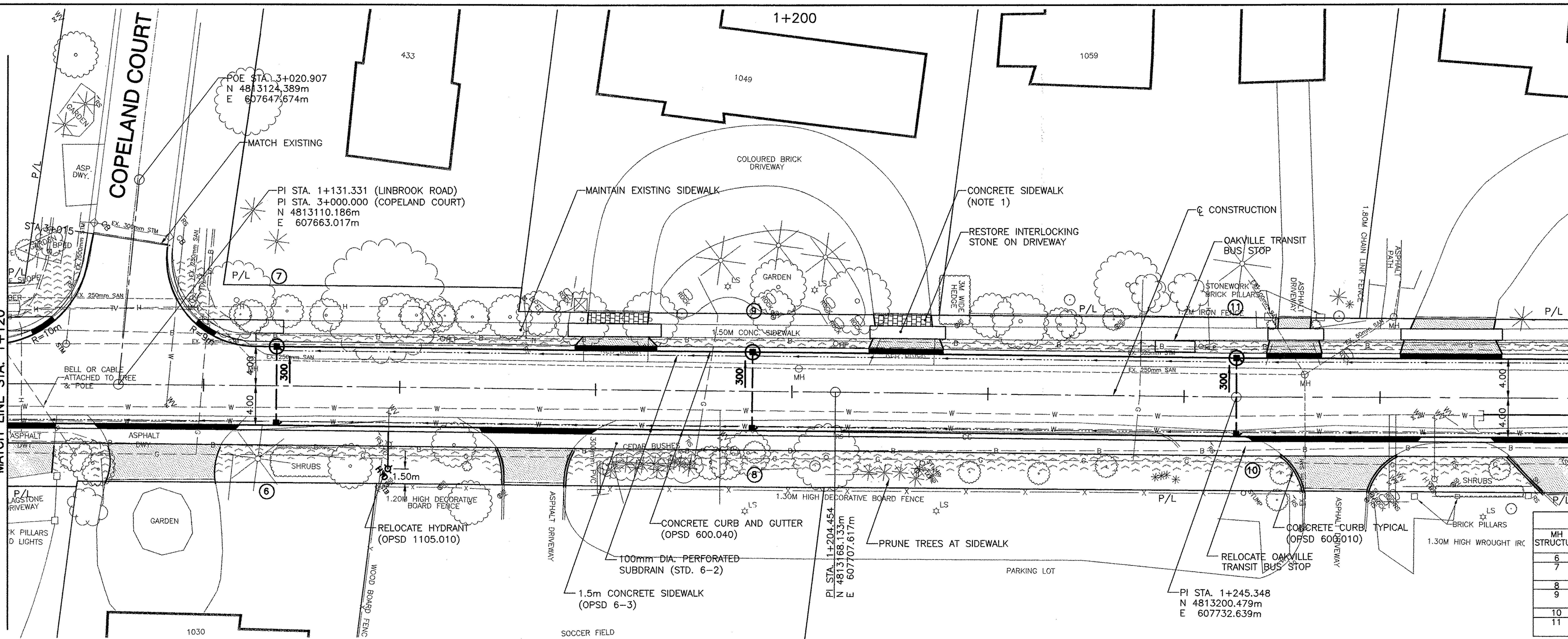
205 MAIN STREET
MILTON, ONTARIO L9T 1N7
PHONE (905) 878–7810
FAX (905) 878–6672
milton.office@cmlsurveyors.ca

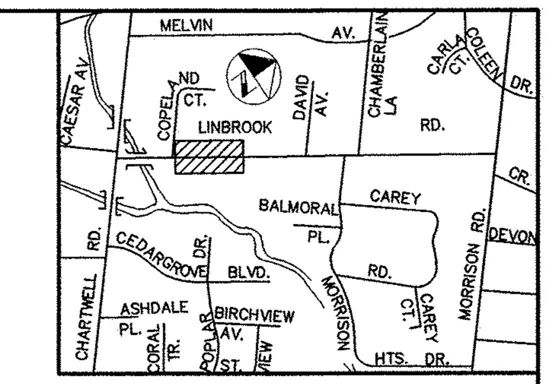
PLOT PAPER SIZE = 914mm BY 609mm

PLAN 25–26–1

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KEY PLAN

NOTE:

1. REPLACE EXISTING SIDEWALK AT ALL ENTRANCES, INTERSECTION APPROACHES, WHERE GRADE CHANGES REQUIRE SIDEWALK ADJUSTMENTS AND WHERE SLABS ARE BROKEN.

2. SUBDRAIN SHALL BE HDPE BOSS 2000 OR EQUAL.

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 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.

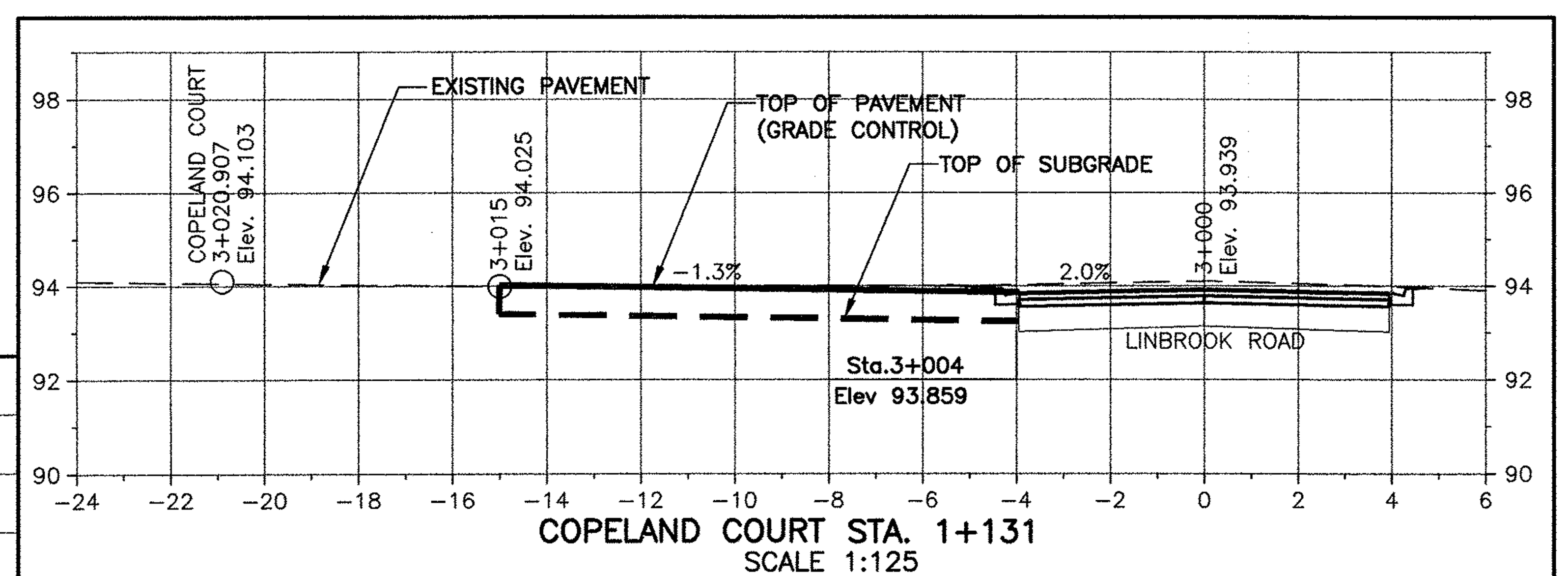
STORM SEWER TABLE

MH STRUCTURE	STATION	OFFSET	MH STD. DWG.	INVERTS INLET	INVERTS OUTLET	FRAME & COVER STD.	T/F ELEV.	NOTES
6	1+147.5	4.0 RT	705.010	--	N 92.97	400.110	94.11	(1)
7	1+147.5	4.0 LT	701.010	E 92.75± S 92.90	W 92.73±	400.110	94.19	(1)(4)
8	1+196	4.0 RT	705.010	--	N 93.88	400.110	95.25	(1)
9	1+196	4.0 LT	701.010	E 93.37± S 93.80	W 93.35±	400.110	95.33	(1)(4)
10	1+245	4.0 RT	705.010	--	N 94.90	400.110	96.34	(1)
11	1+245	4.0 LT	701.010	E 94.00± S 94.80	W 93.98±	400.110	96.42	(1)(4)

(1) CONTRACTOR TO CONFIRM ELEVATION OF EXISTING STORM SEWER.
(2) CATCHBASIN CONNECTION FOR RIGID MAIN PIPE SEWER (OPSD 708.010) REQUIRED TO PASS OVER PROPOSED WATERMIAN.
(3) CONTRACTOR TO CONFIRM ELEVATION OF EXISTING WATERMAIN PRIOR TO SEWER CONSTRUCTION.
(4) LOCATION OF 525mm DIA. SEWER TO BE FIELD REVIEWED TO CONFIRM IF MANHOLE OR CATCHBASIN WILL BE INSTALLED.

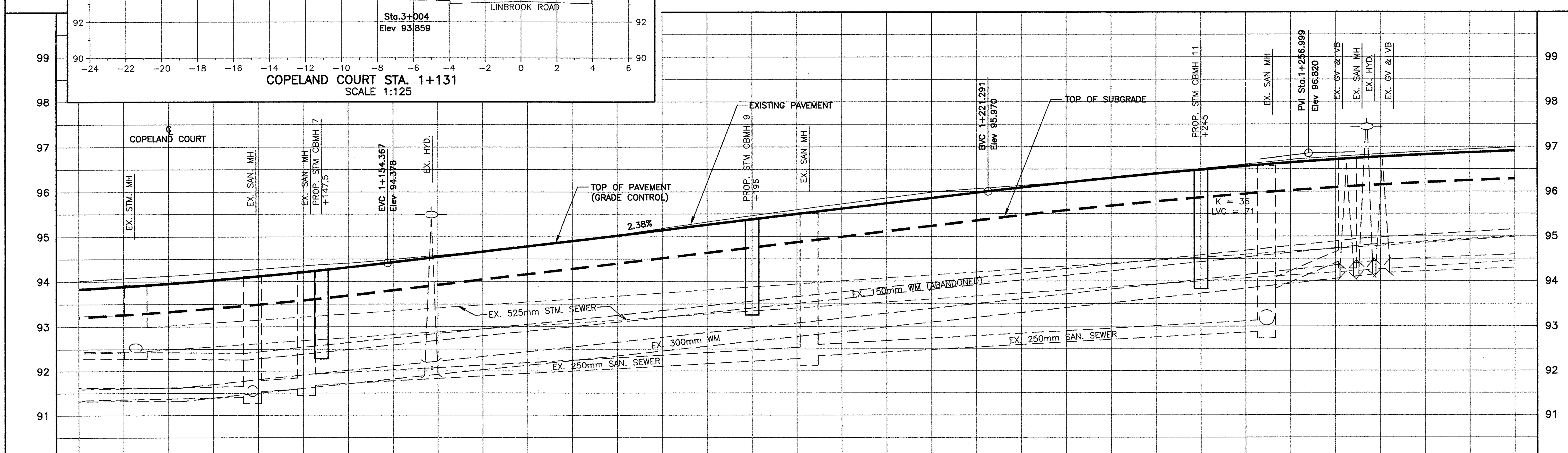
SOCCER FIELD

1080
SAINT MILDREDS LIGHTBOURN SCHOOL



COPELAND COURT STA. 1+131
SCALE 1:125

LINBROOK ROAD



	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280
℄ ELEVATION	93.980 93.797	94.234 94.078	94.548 94.512	95.004 94.988	95.560 95.464	96.032 95.940	96.385 96.365	96.739 96.677	96.951 96.875
STORM SEWER ELEVATION									
STATION	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280

FILE LOCATION–S:\7548\DWGFILES
DRAWING NAME: M7548–GRADING.DWG
DRAWN BY: A.B.
MODIFIED: 05/01/09
DATE PLOTTED:

McCORMICK RANKIN CORPORATION
A member of MMM GROUP

No.	Date	By	Revisions

Design P.C. Chk'd R.I.R.
Drawn A.B. Chk'd R.I.R.
Date JUNE 2009
Scale HORIZ. 1:250
VERT. 1:50
References
Approvals
Municipal
Field Notes
D. L. Lambert, C.E.T.
Director of Engineering and Construction
Bell ☐ Hydro ☐
Gas ☐ Cable ☐
Traf. ☐ Water ☐

Stamp: REGISTERED PROFESSIONAL ENGINEER, R.I. ROOK, PROVINCE OF ONTARIO, 7/7/09
Stamp

Municipality
OAKVILLE
Town of Oakville
Department of Engineering and Construction

Title
LINBROOK ROAD
From Chartwell Road to Morrison Road
Sta. 1+120 to Sta. 1+280

NEW CONSTRUCTION

Municipal Drawing No.
Digital File Name
Contract No. R-438-08
Sheet No. 7 of 18

Dimensions in millimeters unless otherwise noted.
metric.

SCHEDULE				
PART	LOT/BLOCK	REG'D PLAN/CONCESSION	PIN	AREA (m²)
1	PART OF LOT 10	CON. 3, S.D.S.	PART OF 24805-0120	181.56
2	PART OF LOT 10	CON. 3, S.D.S.	PART OF 24805-0120	8579.11
3	PART OF LOT 18	781	PART OF 24805-0120	5986.26
4	PART OF BLOCK A	475	ALL OF 24805-0052	280.39
5	ALL OF LOT 15	781	ALL OF 24805-0117	1857.44
6	PART OF LOT 10	CON. 3, S.D.S.	PART OF 24805-0120	2,598.89
7	PART OF LOT 18	781	PART OF 24805-0120	2367.57

PARTS 1, 2, 3, 6 & 7 COMPRISE ALL OF PIN 24805-0120

INFORMATION FOR THIS SITE PLAN FROM:
J.H. Gelbloom Surveying Limited
Ontario Land Surveyor
COMPLETED ON DATES : 15th day of November, 2013.
: 20th day of December, 2018.

PLAN OF SURVEY OF
PART OF LOT 10,
CONCESSION 3, S.D.S.
(GEOGRAPHIC TOWNSHIP OF TRAFALGAR)
AND
ALL OF LOTS 15 AND 18
REGISTERED PLAN 781
AND
PART OF BLOCK A
REGISTERED PLAN 475
TOWN OF OAKVILLE
REGIONAL MUNICIPALITY OF HALTON

AND
INFORMATION FOR THIS SITE PLAN FROM:
CUNNINGHAM McCONNELL LIMITED
Ontario Land Surveyors
COMPLETED ON DATE : 5th day of May, 2026.

TOPOGRAPHIC SURVEY OF
LOTS 15, 16 AND 17
REGISTERED PLAN 781
AND
PART OF LOT 10
CONCESSION 3 South of Dundas Street
(GEOGRAPHIC TOWNSHIP OF TRAFALGAR)
TOWN OF OAKVILLE
REGIONAL MUNICIPALITY OF HALTON

5 0 10 20 30 40 m

SITE STATISTICS

	LOT AREA			
No. 1059 (property to the West)	+/- 3,902.50 SM			
No. 1079 (Existing School Lot)	12,835.44 SM			
No. 1087 (property to the East)	+/- 1,403.60 SM			
No. 1095 (property to the East)	+/- 1,376.80 SM			
TOTAL LOT AREA	+/- 19,518.34 SM			
ZONING	CU sp:261			
OBC OCUPANCY	GROUP 'A' DIVISION 2 ASSEMBLY			
	EXISTING	PROPOSED	TOTAL	BY-LAW
FLOOR AREAS:				
EXISTING SCHOOL				
-BASEMENT FLOOR AREA	192.50 SM		192.50 SM	
-FIRST FLOOR AREA	1802.07 SM		1,802.07 SM	
-MEZZANINE AREA	17.00 SM		17.00 SM	
SENIOR CLASSROOM ADDITION				
-FIRST FLOOR AREA		497.00 SM	497.00 SM	
GYMNASIUM ADDITION				
-BASEMENT FLOOR AREA		650.00 SM	650.00 SM	
-FIRST FLOOR AREA		1,490.00 SM	1,490.00 SM	
-SECOND FLOOR AREA		608.00 SM	608.00 SM	
TOTAL FLOOR AREA	2011.57 SM	3,245.00 SM	5,256.57 SM	
			26.93%	
COVERAGE AREA:				
EXISTING SCHOOL	1,802.07 SM		1,802.07 SM	
SENIOR CLASSROOM ADDITION		497.0 SM	497.00 SM	
GYMNASIUM ADDITION		1,490.00 SM	1,490.00 SM	
ROOF COVERED AREA	54.40 SM	40.00 SM	94.40 SM	
2ND FLOOR OVERHANG AREA		18.00 SM	18.00 SM	
PROPOSED REFUSE STRUCTURE		21.60 SM	21.60 SM	
TOTAL COVERAGE AREA	1,856.47 SM	2,066.60 SM	3,923.07 SM	
			20.09%	
BUILDING HEIGHT	9.89 M		10.10 M	

PARKING SPACES
REQUIRED-1.5 PER CLASSROOM

15 EXISTING CLASSROOMS
11 PROPOSED CLASSROOM
TOTAL NUMBER OF CLASSROOMS 26

TOTAL REQUIRED PARKING SPACES
26 CLASSROOMS x 1.5 = 39 SPACES

PROPOSED PARKING SPACES TOTAL = 49 SPACES
(4 BARRIER FREE PARKING INCLUDED)
PROPOSED QUEUING SPACES = 22 SPACES

PAVED AREAS:
1. ASPHALT AREA 3,146.0 SQ.M.
2. CONCRETE WALKWAYS 1,189.0 SQ.M.
TOTAL PAVED AREA (27.33%) 5,335.0 SQ.M.

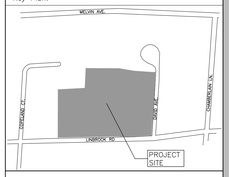
LANDSCAPING AREA:
A3 COURTYARD AREA 274.00 SQ.M.
A4 PLAY AREA 320.00 SQ.M.
A5 FRONT, SIDE, AND REAR YARD AREAS 2,875.27 SQ.M.
A6 ATHLETIC FIELD AREA 6,791.00 SQ.M.
TOTAL LANDSCAPING AREA(52.57%) 10,260.27 SQ.M.

FOR GRADING REFER TO GRADING AND SERVICING PLAN.
FOR SERVICES REFER TO GRADING AND SERVICING PLAN.
FOR SEDIMENT CONTROL REFER TO EROSION AND SEDIMENT CONTROL.
FOR LANDSCAPE REFER TO LANDSCAPE PLAN.
FOR TREE PROTECTION REFER TO TREE PROTECTION PLAN

LEGEND
- DENOTES EXISTING GRADE
- 97.94 DENOTES PROPOSED GRADE
- DENOTES PROPOSED WOOD PRIVACY FENCE
- DENOTES EXISTING TREE SEE ARBORIST REPORT AND TREE PROTECTION PLAN
- DENOTES EXISTING TREE TO BE REMOVED SEE ARBORIST REPORT AND TREE PROTECTION PLAN
- DENOTES PROPOSED CONIFEROUS TREE SEE LANDSCAPE PLAN
- DENOTES PROPOSED DECIDUOUS TREE SEE LANDSCAPE PLAN
- DENOTES PROPOSED HEDGES, SHRUBS, PLANTING BED SEE LANDSCAPE PLAN
- DENOTES SECOND FLOOR OVERHANG
- DENOTES PROPOSED ROOF OVERHANG
- DENOTES PROPOSED CONCRETE WALKWAY
- DENOTES PROPOSED CONCRETE PAVERS
- DENOTES PROPOSED BARRIER FREE PARKING SPACE
- DENOTES TREE PROTECTION ZONE SEE TREE PROTECTION PLAN

Project North: True North:

Key Plan:



No.	Date:	Issue/Revision	By:
1	2026.09.03	Issued for Z.B.A. Application	T.M.
Drawing Issues/Revisions:			

Note:
CONSTRUCTION MUST BE COMPLETED IN ACCORDANCE WITH THE LATEST ONTARIO BUILDING CODE STANDARDS.

ALL DIMENSIONS AND INFORMATION SHOWN ON THESE DRAWINGS MUST BE CHECKED AND VERIFIED ON SITE AND ANY DISCREPANCIES REPORTED TO THE ARCHITECT PRIOR TO CONSTRUCTION AND FABRICATION OF ITS COMPONENTS. SHOULD EXISTING CONDITIONS OR DIMENSIONS BE FOUND TO VARY FROM, NOT INDICATED ON THE DRAWINGS, THE ARCHITECT MUST BE NOTIFIED IMMEDIATELY.

FEATURES OF CONSTRUCTION NOT FULLY SHOWN ARE ASSUMED TO BE THE SAME CHARACTER AS THOSE NOTED FOR SIMILAR CONDITIONS.

UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS, NO PROVISION HAS BEEN MADE IN THE DESIGN FOR CONDITIONS OCCURRING DURING CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL NECESSARY BRACING, SHORINGS, SHEET PILING OR OTHER TEMPORARY SUPPORTS, TO SAFEGUARD ALL EXISTING OR ADJACENT STRUCTURES AFFECTED BY THIS WORK.

ALL DRAWINGS AND RELATED DOCUMENTS SHALL REMAIN THE PROPERTY AND COPYRIGHT OF GREN WEIS DESIGN STUDIO, USE LATEST REVISED DRAWINGS. DO NOT SCALE DRAWINGS.

ONTARIO ASSOCIATION OF ARCHITECTS — F. GRENVILLE WEIS — LICENCE 6506

Architect Consultant

GREN WEIS DESIGN STUDIO
341 Kerr Street, Suite 210
Oakville, Ontario L6K 3B7
Tel: (905) 842-1314

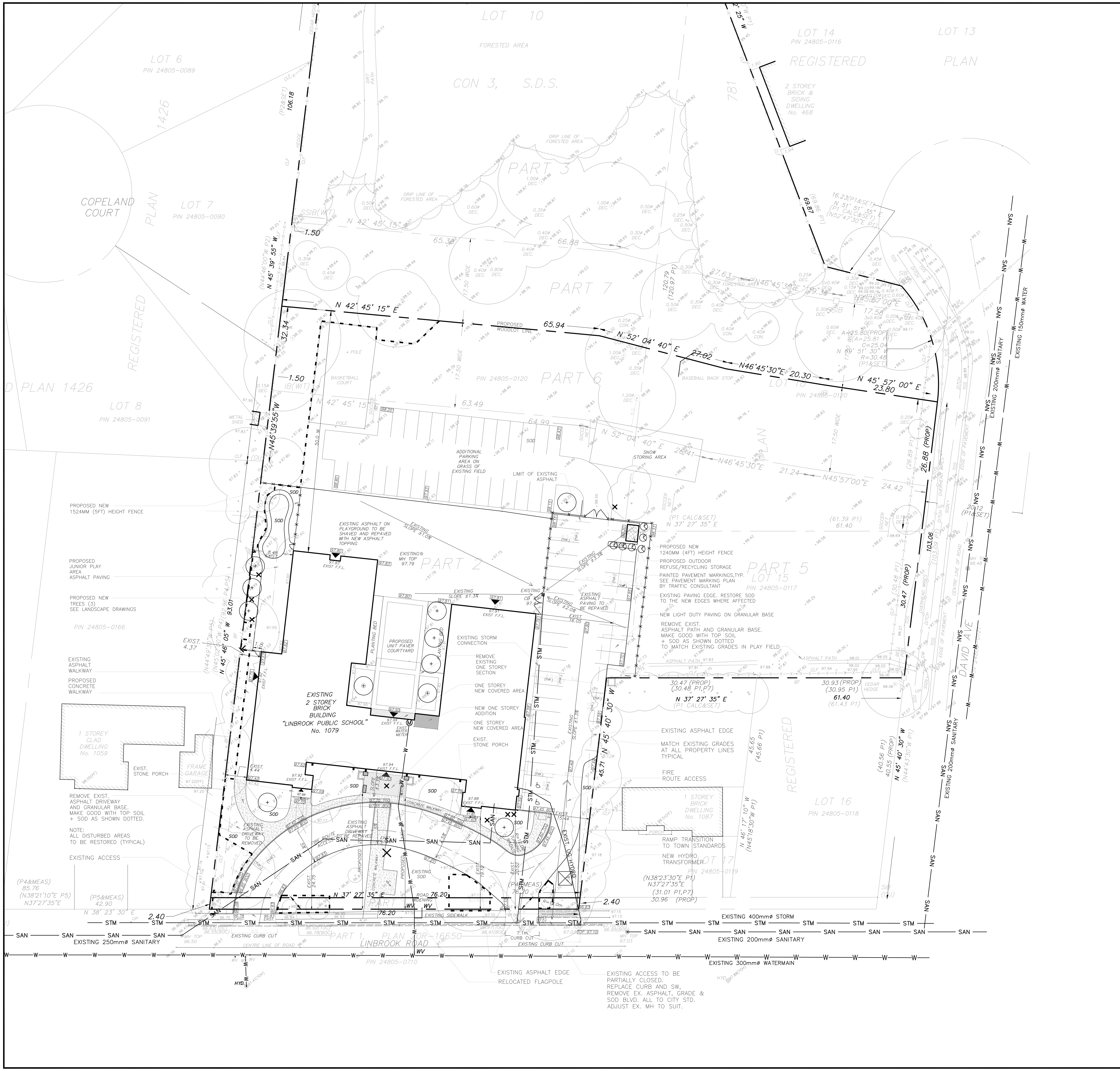
Project:
Linbrook School Additions
1059, 1079,1087, 1095 Linbrook Road
Oakville Ontario

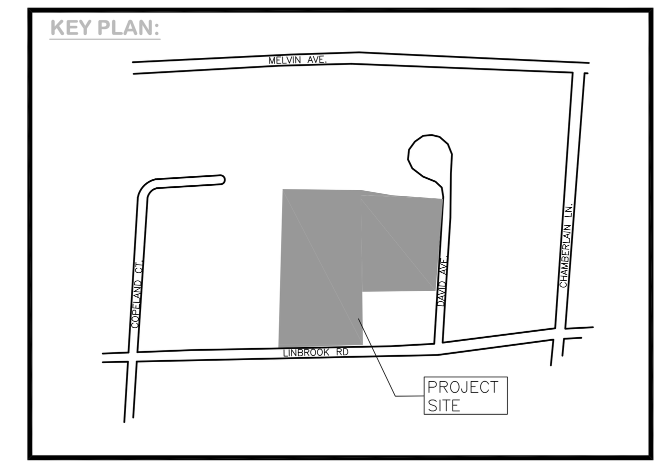
Sheet Title:
Proposed Site Plan

Design By:	Drawn By:	Approved By:
G.W.	P.K.	G.W.
Scale:	Drawing Start:	Project No.:
1:300	DEC.2025	23.18

Drawing No:
ASP-1
Of:

Print Date (For GWDS use only)
Printed on: 2026-09-03





NOTES:

SITE PLAN:

1. THE GENERAL CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND REPORT ALL ERRORS AND OMISSIONS IMMEDIATELY TO THE ENGINEER.
2. INFORMATION SHOWN HEREON REGARDING THE SIZE AND LOCATION OF EXISTING SERVICES AND/OR UTILITIES IS FURNISHED AS THE BEST AVAILABLE INFORMATION AND SHALL BE INTERPRETED AS THE CONTRACTOR SEES FIT WITH THE UNDERSTANDING THAT THE OWNER AND SETCHELL & McKINNON LTD. OR ITS AGENTS DISCLAIM ALL RESPONSIBILITY FOR ITS SUFFICIENCY AND/OR ACCURACY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AT ITS OWN EXPENSE, LOCATES OF ALL UTILITIES.
3. AT ALL ENTRANCES TO THE SITE THE MUNICIPAL CURB AND SIDEWALK WILL BE CONTINUOUS THROUGH THE DRIVEWAY. THE DRIVEWAY GRADE WILL BE COMPATIBLE WITH THE EXISTING SIDEWALK AND CURB DEPRESSION WILL BE PROVIDED FOR EACH ENTRANCE AS PER O.P.S.D. 310.030. SIDEWALK TO COMMERCIAL STANDARDS (200mm THICK) PER O.P.S.D. 310.050, ALL TO THE SATISFACTION OF THE TOWN OF OAKVILLE ENGINEERING & CONSTRUCTION DEPT.
4. TOPSOIL TO BE STRIPPED. CLEAN FILL TO BE PLACED AND COMPACTED TO 95% STD. PROCTOR DENSITY. GRANULAR MATERIAL TO BE COMPACTED TO 100% STD. PROCTOR DENSITY.
5. ALL GRADES TO BE WITHIN 1:4 MAX. SLOPE AT PROPERTY LINE AND WITHIN THE SITE.
6. ALL UNDERGROUND SERVICE MATERIALS AND INSTALLATIONS TO BE IN ACCORDANCE WITH THE LATEST O.B.C., MUNICIPAL, OCCUPATIONAL HEALTH, AND OTHER REGULATORY STANDARDS AND CODES.
7. ALL SURFACE DRAINAGE SHALL BE SELF CONTAINED, COLLECTED AND DISCHARGED AT A LOCATION TO BE APPROVED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.
8. CONTINUOUS CONCRETE CURB 0.15m HIGH, PER O.P.S.D. 600.110, TO BE PROVIDED BETWEEN LANDSCAPED AREAS AND ASPHALT PAVING WHERE INDICATED. (DEPRESSED CURB PER O.P.S.D. 600.110, NOTE #1 WHERE INDICATED.) CONCRETE SIDEWALK PER O.P.S.D. 310.010 WHERE ADJACENT TO LANDSCAPING OR PER O.P.S.D. 310.020 WHERE ADJACENT TO CURB.
9. ALL DISTURBED AREAS TO BE RESTORED TO THE SATISFACTION OF THE TOWN OF OAKVILLE, INCLUDING EXISTING CONCRETE CURB, TOPSOIL AND SODDED BOULEVARDS.

FOR ADDITONAL BOULEVARD RESTORATION DETAILS, REFER TO ARCHITECTURAL AND LANDSCAPE DRAWINGS.

FIRE DEPARTMENT:

1. FIRE ROUTE WILL BE DESIGNATED AS PER LOCAL BY LAW, AS AMENDED, PRIOR TO OCCUPANCY OF THE BUILDINGS.
2. ACCESS ROUTES TO BE DESIGNED TO SUPPORT A LOAD OF NOTE LESS THAN 11,363 KG PER AXLE AND HAVE A CHANGE IN GRADIENT OF NOT MORE THAN 1 IN 12.5 OVER A MINIMUM DISTANCE OF 15.0 M.
3. ALL 12.0 M TURNING RADII HAVE MIN. CLEARANCE OF 3.0 M BETWEEN THE CENTRE AND ANY CURB OR PART OF BUILDING.

STORM SEWERS:

1. ALL CONCRETE SEWER PIPES SHALL HAVE RUBBER GASKET JOINTS.
2. ALL SEWERS SHALL BE CONSTRUCTED WITH CLASS 'B' BEDDING IN ACCORDANCE WITH TOWN STANDARDS , UNLESS OTHERWISE NOTED.
3. ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT TOWN OF OAKVILLE STANDARDS AND SPECIFICATIONS.
4. SINGLE CATCHBASIN LEADS TO BE 200 MM UNLESS OTHERWISE NOTED. DOUBLE CATCHBASIN LEADS TO BE 250 MM UNLESS OTHERWISE NOTED. ALL CATCHBASIN LEADS TO BE C-14-ES MINIMUM.
5. ALL BACKFILL FOR SEWERS, WATERMAINS AND UTILITIES ON THE ROAD ALLOWANCE MUST BE MECHANICALLY COMPACTED TO 95% STANDARD PROCTOR DENSITY.
6. NO INFORMATION IS AVAILABLE ON EXISTING STORM LEAD FROM EXISTING BUILDING TO LAKESHORE RD. CONTRACTOR TO VERIFY INVERT OF EXISTING STORM CONNECTION AND ADVISE CONSULTING ENGINEERS PRIOR TO INSTALLATION OF RAIN STORAGE SYSTEM. CONTRACTOR TO CONNECT EXISTING STORM LEAD NEW STORM SEWER AND EXISTING STORM LEAD TO BE REMOVED/ABANDONED TO THE SATISFACTION OF THE TOWN ENGINEERING & CONSTRUCTION DEPARTMENT.

SANITARY SEWERS:

1. ALL SANITARY SEWER MATERIALS AND CONSTRUCTION METHODS MUST CORRESPOND TO CURRENT TOWN OF OAKVILLE STANDARDS AND SPECIFICATIONS.
2. SANITARY SEWERS AND CONNECTIONS 150mm DIA. AND SMALLER TO BE P.V.C. SDR-28 SANITARY SEWERS AND CONNECTIONS 200mm DIA. AND LARGER TO BE P.V.C. SDR-35, ASTM D3034-81, OR LATEST AMENDMENT, WITH TYPE 'B' BEDDING THROUGHOUT EXCEPT AT RISERS, UNLESS OTHERWISE NOTED.

WATERMAINS:

1. ALL WATERMAINS AND WATER SERVICE MATERIALS AND CONSTRUCTION METHODS MUST CORRESPOND TO CURRENT REGION, FIRE DEPARTMENT, AND BUILDING CODE STANDARDS AND SPECIFICATIONS.
2. WATERMAINS MUST HAVE A MIN. VERTICAL CLEARANCE OF 0.50m OVER AND 0.50m UNDER SEWERS AND ALL OTHER UTILITIES WHEN CROSSING.
3. WATERMAINS AND/OR WATER SERVICES ARE TO HAVE A MIN. COVER OF 1.7m AND A MIN. HORIZONTAL SPACING OF 1.2m FROM THEMSELVES AND OTHER UTILITIES.
4. WATERMAINS TO BE INSTALLED TO GRADE AS SHOWN ON APPROVED SITE PLAN, COPY OF GRADE SHEET MUST BE SUPPLIED TO INSPECTOR PRIOR TO COMMENCEMENT OF WORK WHERE REQUESTED BY THE INSPECTOR.
5. WATERMAIN AND WATER SERVICE MATERIALS FOR 100 mm DIAM. UP TO AND INCLUDING 300 mm DIAM. TO BE P.V.C. CLASS 150 WITH IRON PIPE O.D. MANUFACTURED TO AWWA SPEC C900-75.
6. SERVICES AND MAINS LESS THAN 100mm DIAMETER SHALL BE TYPE 'K' COPPER.
7. PROVISION FOR FLUSHING THE LINES PRIOR TO TESTING ETC. MUST BE PROVIDED WITH AT LEAST A 50 MM DIAM OUTLET ON 100 mm DIAM AND LARGER LINES. COPPER LINES ARE TO HAVE FLUSHING POINTS AT THE END THE SAME SIZE AS THE LINE. THEY MUST ALSO BE HOSED OR PIPED TO ALLOW THE WATER TO DRAIN ONTO A PARKING LOT OR DOWN A DRAIN. ON FIRE LINES, FLUSHING OUTLET TO BE 100 mm DIAM. OR A HYDRANT.
8. DUCTILE IRON WATERMAIN FITINGS TO BE CEMENT LINED TO AWWA SPEC C-110-77.
9. THRUST BLOCKS MUST BE INSTALLED ON ALL BENDS, TEES AND REDUCERS.
10. ALL CURB STOPS TO BE 1.5 m OFF THE FACE OF THE BUILDING UNLESS OTHERWISE NOTED.
11. HYDRANT AND VALVE SET TO LOCAL STANDARDS.
12. ALL HYDRANTS ARE TO HAVE PUMPER NOZZLE OUTLET.

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

SCALE 5 4 3 2 1 0 5 10 15

REVISIONS

#		DATE
1	ISSUED FOR PRELIMINARY SITE PLAN APPROVAL	24-MAR-14

LEGEND:

- EXISTING CURB
- PROPOSED CURB
- EXISTING EDGE OF ASPHALT
- PROPOSED EDGE OF ASPHALT
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING WATERMAIN
- PROPOSED WATERMAIN
- HYDRANT & VALVE
- 97.80 EXISTING ELEVATION
- 97.80 PROPOSED ELEVATION
- LS LIGHT STANDARD
- LS EXISTING LIGHT STANDARD
- HANDICAPPED PARKING (3.6m X 5.5m TYPICAL)
- PAINTED PARKING LINE
- TREE PROTECTION ZONE

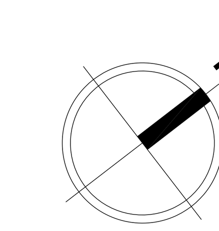
CAUTION, NOTE:

THESE DRAWINGS HAVE BEEN PREPARED FOR THE EXPRESSED AND SOLE USE OF THE OWNER. CONTRACTORS OR ANY OTHER THIRD PARTY ASSUME FULL RESPONSIBILITY FOR THE ACCURACY, SUFFICIENCY, AND SUITABILITY OF PURPOSE OF ANY AND ALL INFORMATION CONTAINED HEREIN.

THIS DRAWING IS NOT TO BE SCALED.

CONSTRUCTION MUST CONFORM TO ALL APPLICABLE CODES AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

ANY CONTRACTOR WORKING FROM DRAWINGS NOT SPECIFICALLY MARKED 'ISSUED FOR CONSTRUCTION' MUST ASSUME FULL RESPONSIBILITY AND BEAR ALL COSTS FOR ANY CORRECTIONS OR DAMAGES RESULTING FROM HIS WORK.



Designed By:

LICENSED PROFESSIONAL ENGINEER
M.U.J. Savoldelli
24-MAR-14
PROVINCE OF ONTARIO

Approved:

Setchell & McKinnon Ltd.
Consulting Engineers

185 Blake Avenue
Willowdale, ON, M2M 1B5
416-236-2341
info@edilesse.com

PROJECT

Linbrook School

1079 Linbrook Road
Oakville, Ontario

DRAWING

SITE GRADING PLAN

DATE 24 MAR 14	ARCHITECT'S PROJECT NO 12.68
DRAWN M.S.	DRAWING NO
CHECKED C.C. G.W.	P.K. SP-1 G.W.
SCALE 1:300	

Legend

- Network
- Parcels
- Streams
- Roads
- Outfalls

Minor System Performance

- Unsurcharged
- Below 1/2 Surcharging Depth and Above Obvert
- Above 1/2 Surcharging Depth and Below Rim Elevation
- Surcharged Above Rim Elevation

Stormwater Management Master Plan

Phase 2

Town of Oakville

5 Year Storm Event Urban and Hybrid Performance Assessment - Existing Condition

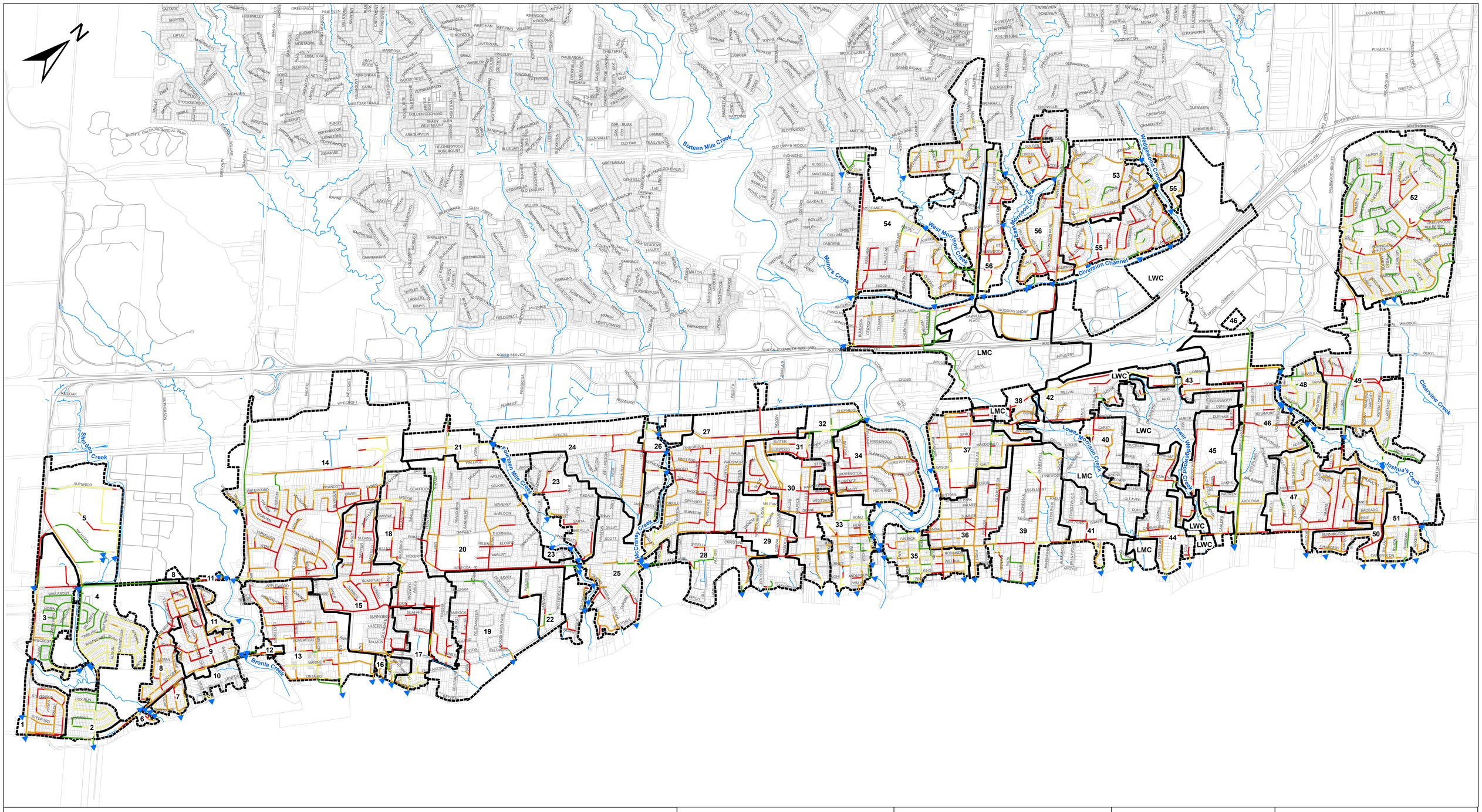
wood.

Scale **1:17,000**

0 250 500 1,000 1,500 Meters

Project No. **TP 115045**

Drawing No. **7.3**



Legend

- Network
- Parcels
- Streams
- Roads
- Outfalls

Minor System Performance

- Unsurcharged
- Below 1/2 Surcharging Depth and Above Obvert
- Above 1/2 Surcharging Depth and Below Rim Elevation
- Surcharged Above Rim Elevation

Stormwater Management Master Plan

Phase 2

Town of Oakville

100 Year Storm Event Minor System Performance - Existing Condition

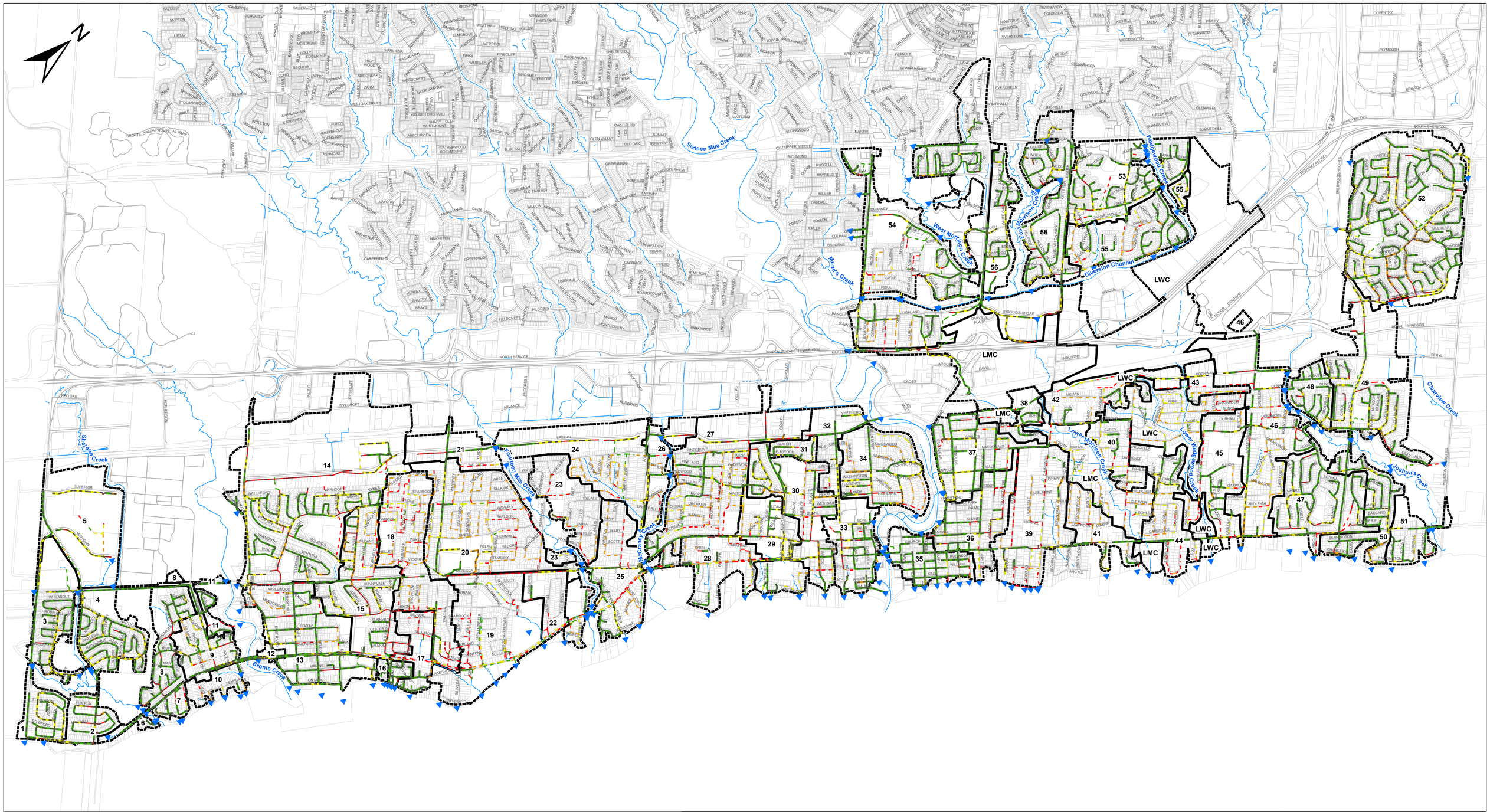
wood.

Scale **1:17,000**

0 250 500 1,000 1,500 Meters

Project No. **TP 115045**

Drawing No. **7.4**



Legend

- Network
- Parcels
- Roads
- Streams
- Culverts
- Outfalls

Major System Performance

- Flow Contained Within Ditch
- Flow Contained Within Curb
- Flow Above Ditch But Contained Within ROW
- Flow Above Curb But Contained Within ROW
- Flow Beyond ROW (Less Than 50% to Building) - Ditches
- Flow Beyond ROW (Less Than 50% to Building) - Curbed
- Flow Beyond ROW (Greater Than 50% to Building) - Ditches
- Flow Beyond ROW (Greater Than 50% to Building) - Curbed

Stormwater Management Master Plan

Phase 2

Town of Oakville

100 Year Storm Event Major System Performance Assessment - Existing Condition

wood.

Scale **1:17,000**

0 250 500 1,000 1,500 Meters

Project No. **TP 115045**

Drawing No. **7.7**

Appendix 'B'

TRAFALGAR ENGINEERING LTD.

ESTIMATED EXISTING WATER DEMAND

Project: Linbrook School Addition
Desc: ZBA Submission

Project No.: 1914
Prepared By: AD
Checked By: PC

	Occupancy Data					Peaking Factors			Demand Flow		
Land Use / Occupancy Type	Unit Count / Site Plan	Population Density (pers/unit)	Eq. Population (cap.)	Per Cap. Demand (L/cap. Day)	Average Daily Demand (L/min)	Min. Hour	Peak Hour	Max. Daily	Min. Hour Demand (L/min)	Max. Hour Demand (L/min)	Max. Daily Demand (L/min)
Existing School - Commercial	2.14	50.0	107	190	14	1.00	3.00	1.90	14	42	27
Existing Residential (1087, 1095 Linbr	0.278	95.0	26	230	4	1.00	3.00	1.90	4	13	8
Existing Residential (1059 Linbrook R	0.400	95.0	38	230	6	1.00	3.00	1.90	6	18	12
									0	0	0
*Per Cap. Demand based on O.B.C. Table 8.2.1.3.B. -- 5 L/1.0m^2 Stores											
TOTAL	**3**		**171**		**24**				**24**	**73**	**46**

Fire Flow
Using Fire Underwriters Survey Methodology:

Average Daily Demand: 24 (L/min)
Minimum Hourly Demand: 24 (L/min)
Maximum Hourly Demand: 73 (L/min)
Maximum Daily Demand: 46 (L/min)
Max. Daily Plus Fire: 6046 (L/min)

1. **An estimate of the fire flow is given by the formula** $F = 220C\sqrt{A}$

Where:
F = The required fire flow in litres per minute
C = Coefficient related to the type of construction
A = The total floor area in square metres (including all storeys but excluding basements at least 50% below grade)

Type of Construction: Non-Combustible Coefficient: 0.80 Total Floor Area: 1802 (m^2)

F = 7000 (L/min) Adequately Protected Vertical Openings: No

Area Note: For fire resistive buildings, consider the two largest adjoining floors plus 50% of the remaining floors up to eight, when openings are inadequately protected. For adequately protected vertical openings consider only the area of the largest floor plus 25% of each of the two immediately adjoining floors

2. **Adjust the value in No. 1 for occupancy surcharge/reduction**

Occupancy Contents: Combustible Factor: 0%

F = 7000 (L/min)

3. **Adjust the value in No. 2 for sprinkler**

NFPA 13 Sprinkler:	No	Reduction:	20%
Standard Water Supply:	Yes	Reduction:	10%
Fully Supervised:	No	Reduction:	10%
		Total Reduction:	**40%**
		Sprinkler Reduction:	**2800 (L/min)**

4. Adjust the value in No. 2 for exposure

	Separation (m)	Charge
North	127	0%
East	22	10%
South	54	0%
West	8	20%
Total Charge:		**30%**
Exposure Charge:		**2100 (L/min)**

5. **Estimated Fire Flow is value in No. 2 less *Sprinkler Reduction* plus *Exposure Charge* , rounded to the nearest 1000**

F = 6000 (L/min)

TRAFALGAR ENGINEERING LTD.

ESTIMATED PROPOSED WATER DEMAND

Project: Linbrook School Addition
Desc: ZBA Submission

Project No.: 1914
Prepared By: AD
Checked By: PC

	Occupancy Data					Peaking Factors			Demand Flow		
Land Use / Occupancy Type	Unit Count / GFA	Population Density (pers/unit)	Eq. Population (cap.)	Per Cap. Demand (L/cap. Day)	Average Daily Demand (L/min)	Min. Hour	Peak Hour	Max. Daily	Min. Hour Demand (L/min)	Max. Hour Demand (L/min)	Max. Daily Demand (L/min)
School - Commercial	2.81	50.0	141	190	19	1.00	3.00	1.90	19	56	35
*Per Cap. Demand based on O.B.C. Table 8.2.1.3.B. -- 5 L/1.0m^2 Stores											
TOTAL	**3**		**141**		**19**				**19**	**56**	**35**

Average Daily Demand: 19 (L/min)
Minimum Hourly Demand: 19 (L/min)
Maximum Hourly Demand: 56 (L/min)
Maximum Daily Demand: 35 (L/min)
Max. Daily Plus Fire: 8035 (L/min)

Fire Flow
Using Fire Underwriters Survey Methodology:

1. **An estimate of the fire flow is given by the formula** $F = 220C\sqrt{A}$

Where:
F = The required fire flow in litres per minute
C = Coefficient related to the type of construction
A = The total floor area in square metres (including all storeys but excluding basements at least 50% below grade)

Type of Construction: Non-Combustible Coefficient: 0.80 Total Floor Area: 3842.91 (m^2)

F = 11000 (L/min)

Adequately Protected Vertical Openings: Yes

Area Note: For fire resistive buildings, consider the two largest adjoining floors plus 50% of the remaining floors up to eight, when openings are inadequately protected. For adequately protected vertical openings consider only the area of the largest floor plus 25% of each of the two immediately adjoining floors

2. **Adjust the value in No. 1 for occupancy surcharge/reduction**

Occupancy Contents: Combustible Factor: 0%

F = 11000 (L/min)

3. **Adjust the value in No. 2 for sprinkler**

NFPA 13 Sprinkler:	No	Reduction:	20%
Standard Water Supply:	Yes	Reduction:	10%
Fully Supervised:	No	Reduction:	10%
		Total Reduction:	**40%**
		Sprinkler Reduction:	**4400 (L/min)**

4. Adjust the value in No. 2 for exposure

	Separation (m)	Charge
North	99	0%
East	100	0%
South	50	0%
West	24	10%
Total Charge:		**10%**
Exposure Charge:		**1100 (L/min)**

5. **Estimated Fire Flow is value in No. 2 less *Sprinkler Reduction* plus *Exposure Charge* , rounded to the nearest 1000**

F = 8000 (L/min)

Appendix 'C'

TRAFALGAR ENGINEERING LTD.

ESTIMATED SANITARY FLOW - EXISTING

Project: Linbrook School Addition
Desc: ZBA Submission

Project No.: 1914
Prepared By: AD
Checked By: PC

Residential

Land Use / Occupancy Type	Area (ha)	Population Density (pers/ha)	Eq. Population (cap.)	Per Cap. Demand (L/cap. Day)	Average Daily Dry Weather Flow (L/s)
Existing Residential (1087, 1095 Linbrook Rd)	0.278	95.0	26	215	0.1
Existing Residential (1059 Linbrook Rd)	0.400	95.0	38	215	0.1
TOTAL	**1**		**64**		**0.2**

Industrial / Commercial / Institutional

Land Use / Occupancy Type	GFA	Population Density (pers/ha)	Eq. Population (cap.)	Per Cap. Demand (L/Ha. Day)	Average Daily Dry Weather Flow (L/s)
Existing School - Commercial	2.14	50.0	107	185	0.2
TOTAL	**2**		**107**		**0.2**

Residential Peaking Factor:	4.29	
ICI Peaking Factor:	4.24	
Include ICI Peaking?	Yes	
Tributary Area:	2.81	(ha)
Infiltration Allowance:	0.28	(L/s ha)
Foundation Drain Allowance:	0.00	(L/s ha)
Residential Average Flow:	0.9	(L/s)
ICI Average Flow:	0.2	(L/s)
Groundwater Discharge:	0.0	(L/s)
Total Average Flow:	**1.1**	**(L/s)**
Residential Peak Flow:	1.5	(L/s)
ICI Peak Flow:	1.0	(L/s)
Groundwater Discharge:	0.0	(L/s)
Total Peak Flow:	**2.5**	**(L/s)**

TRAFALGAR ENGINEERING LTD.

ESTIMATED SANITARY FLOW - PROPOSED

Project: Linbrook School Addition
Desc: ZBA Submission

Project No.: 1914
Prepared By: AD
Checked By: PC

Residential

Land Use / Occupancy Type	Area (ha)	Population Density (pers/ha)	Eq. Population (cap.)	Per Cap. Demand (L/cap. Day)	Average Daily Dry Weather Flow (L/s)
TOTAL	**0**		**0**		**0.0**

Industrial / Commercial / Institutional

Land Use / Occupancy Type	GFA	Population Density (pers/ha)	Eq. Population (cap.)	Per Cap. Demand (L/Ha. Day)	Average Daily Dry Weather Flow (L/s)
Existing School - Commercial	2.81	50.0	141	185	0.2
TOTAL	**3**		**141**		**0.2**

Residential Peaking Factor:	4.50	
ICI Peaking Factor:	4.20	
Include ICI Peaking?	Yes	
Tributary Area:	2.81	(ha)
Infiltration Allowance:	0.28	(L/s ha)
Foundation Drain Allowance:	0.00	(L/s ha)
Residential Average Flow:	0.8	(L/s)
ICI Average Flow:	0.2	(L/s)
Groundwater Discharge:	0.0	(L/s)
Total Average Flow:	**1.0**	**(L/s)**
Residential Peak Flow:	0.8	(L/s)
ICI Peak Flow:	1.0	(L/s)
Groundwater Discharge:	0.0	(L/s)
Total Peak Flow:	**1.8**	**(L/s)**

Appendix 'D'

PROPERTY BOUNDARY

COPELAND COURT

BUILDING ADDITION

IMPERVIOUS AREAS USED IN STORMWATER QUANTITY CONTROL A=1.04ha

CB

1.53
34% 81

1.28
40% 84

CBMH7

U/G STORMWATER MANAGEMENT FACILITY

CBMH6

LINBROOK PUBLIC SCHOOL No. 1079

MH4

CB

CB

PROPERTY BOUNDARY

PROPERTY BOUNDARY

DAVID AVENUE

U/G STORMWATER MANAGEMENT FACILITY

DCBMH2

MH1

PROPERTY BOUNDARY

MH3

DCBMH5

EX. CBMH

EX. CBMH

EX. CBMH

EX. STM MH

EX. STM MH

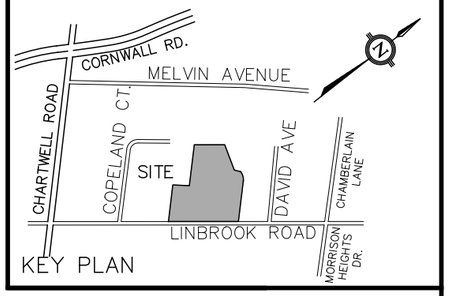
EX. CB

EX. CB

LINBROOK ROAD

CONSTRUCTION NORTH

KEY PLAN



LEGEND

XX.X
X.X X.X

- DRAINAGE AREA IN HECTARES
- SCS CURVE NUMBER
- PERCENT IMPERVIOUSNESS
- STORM DRAINAGE AREA BOUNDARY
- EXISTING OVERLAND FLOW DIRECTION
- POST-DEVELOPMENT OVERLAND FLOW DIRECTION
- PROPERTY LINE

PROJECT TITLE
LINBROOK SCHOOL ADDITIONS
1079 LINBROOK ROAD, OAKVILLE ON

DRAWING TITLE
POST-DEVELOPMENT STORM DRAINAGE AREA PLAN

TRAFALGAR ENGINEERING
#201-481 MORDEN ROAD, OAKVILLE, ON, L6K 3W6
www.trafalgareng.com

DESIGN BY	AD	SCALE	1:1000	DRAWING No.	F1
DRAWN BY	GRL	DATE	2026/06/23		

FILENAME: P:\1914 Linbrook School\04-CAD\03-Site Plan\1914GS1.dwg
PLOTDATE: Jun 29, 2026 - 4:54pm

Area Listing (all nodes)

Area (hectares)	CN	Description (subcatchment-numbers)
1.7726	74	>75% Grass cover, Good, HSG C (1S, 2S, 7S)
0.9183	98	Paved parking, HSG C (1S, 2S)
0.1244	98	Roofs, HSG C (5S, 6S)
2.8154	**83**	**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: West Drainage Runoff Area=13,024.0 m² 30.57% Impervious Runoff Depth>38 mm
Tc=10.0 min CN=81 Runoff=0.2853 m³/s 0.491 MI

Subcatchment 2S: East Drainage Runoff Area=12,016.1 m² 43.28% Impervious Runoff Depth>43 mm
Tc=10.0 min CN=84 Runoff=0.3058 m³/s 0.519 MI

Subcatchment 5S: New classroom Runoff Area=497.4 m² 100.00% Impervious Runoff Depth>76 mm
Tc=10.0 min CN=98 Runoff=0.0208 m³/s 0.038 MI

Subcatchment 6S: New gym Runoff Area=747.0 m² 100.00% Impervious Runoff Depth>76 mm
Tc=10.0 min CN=98 Runoff=0.0312 m³/s 0.057 MI

Subcatchment 7S: Uncontrolled Area Runoff Area=1,869.0 m² 0.00% Impervious Runoff Depth>27 mm
Tc=0.0 min CN=74 Runoff=0.0482 m³/s 0.050 MI

Pond 2P: Stormwater Management Peak Elev=96.062 m Storage=159.1 m³ Inflow=0.3058 m³/s 0.519 MI
Primary=0.0873 m³/s 0.518 MI Secondary=0.0000 m³/s 0.000 MI Outflow=0.0873 m³/s 0.518 MI

Pond 3P: Stormwater Management Peak Elev=94.730 m Storage=101.4 m³ Inflow=0.2853 m³/s 0.491 MI
Primary=0.1295 m³/s 0.491 MI Secondary=0.0000 m³/s 0.000 MI Outflow=0.1295 m³/s 0.491 MI

Pond 4P: Roof New Classroom Peak Elev=170.130 m Storage=15.9 m³ Inflow=0.0208 m³/s 0.038 MI
Outflow=0.0032 m³/s 0.038 MI

Pond 5P: Roof New gym Peak Elev=170.126 m Storage=21.5 m³ Inflow=0.0312 m³/s 0.057 MI
Outflow=0.0063 m³/s 0.057 MI

Link 4L: (new Link) Inflow=0.2255 m³/s 1.104 MI
Primary=0.2255 m³/s 1.104 MI

Total Runoff Area = 2.8154 ha Runoff Volume = 1.154 MI Average Runoff Depth = 41 mm
62.96% Pervious = 1.7726 ha 37.04% Impervious = 1.0428 ha

Summary for Subcatchment 1S: West Drainage

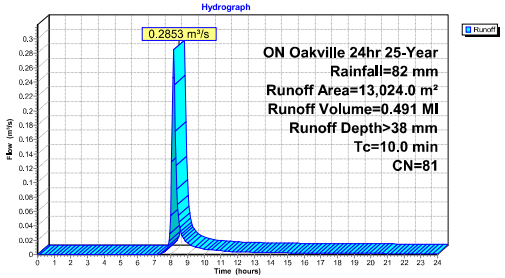
Runoff = 0.2853 m³/s @ 8.15 hrs, Volume= 0.491 MI, Depth> 38 mm
Routed to Pond 3P : Stormwater Management System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
ON Oakville 24hr 25-Year Rainfall=82 mm

Area (m²)	CN	Description
3,982.0	98	Paved parking, HSG C
9,042.0	74	>75% Grass cover, Good, HSG C
13,024.0	81	Weighted Average
9,042.0		69.43% Pervious Area
3,982.0		30.57% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					Direct Entry,

Subcatchment 1S: West Drainage



Summary for Subcatchment 2S: East Drainage

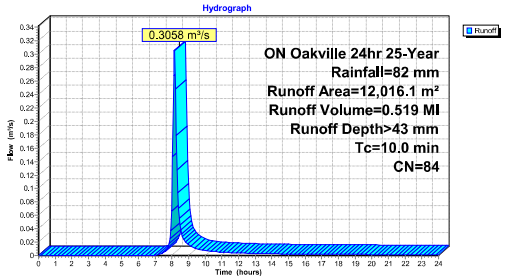
Runoff = 0.3058 m³/s @ 8.14 hrs, Volume= 0.519 MI, Depth> 43 mm
Routed to Pond 2P : Stormwater Management System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
ON Oakville 24hr 25-Year Rainfall=82 mm

Area (m²)	CN	Description
5,201.1	98	Paved parking, HSG C
6,815.0	74	>75% Grass cover, Good, HSG C
12,016.1	84	Weighted Average
6,815.0		56.72% Pervious Area
5,201.1		43.28% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					Direct Entry,

Subcatchment 2S: East Drainage



Summary for Subcatchment 5S: New classroom

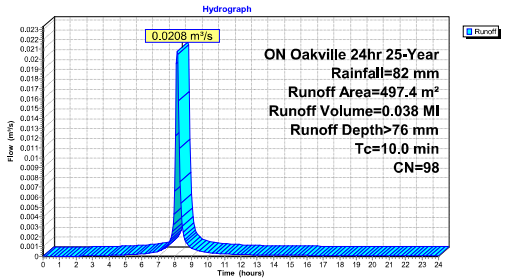
Runoff = 0.0208 m³/s @ 8.13 hrs, Volume= 0.038 MI, Depth> 76 mm
Routed to Pond 4P : Roof New Classroom

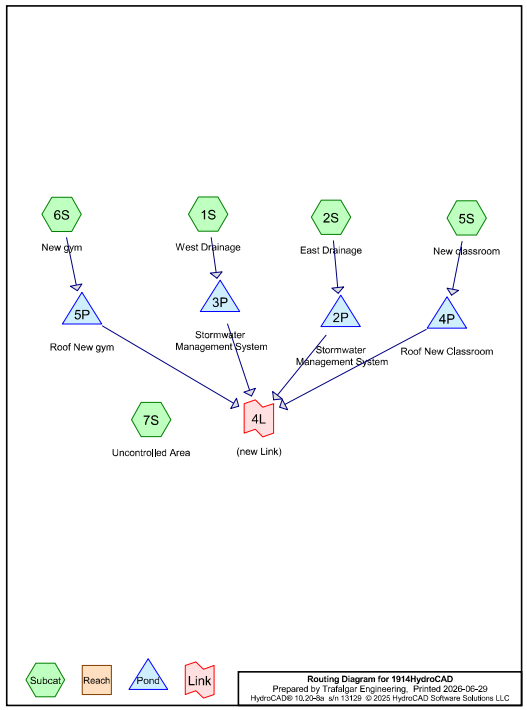
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
ON Oakville 24hr 25-Year Rainfall=82 mm

Area (m²)	CN	Description
497.4	98	Roofs, HSG C
497.4		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					Direct Entry,

Subcatchment 5S: New classroom





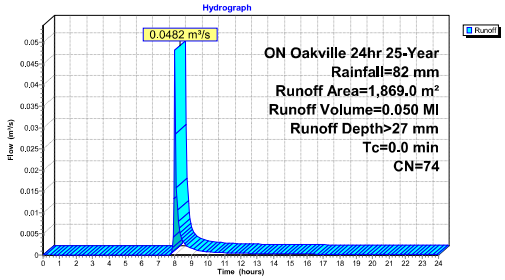
Summary for Subcatchment 7S: Uncontrolled Area

Runoff = 0.0482 m³/s @ 8.01 hrs, Volume= 0.050 Ml, Depth> 27 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
ON Oakville 24hr 25-Year Rainfall=82 mm

Area (m²)	CN	Description
1,869.0	74	>75% Grass cover, Good, HSG C
1,869.0		100.00% Pervious Area

Subcatchment 7S: Uncontrolled Area



Summary for Subcatchment 6S: New gym

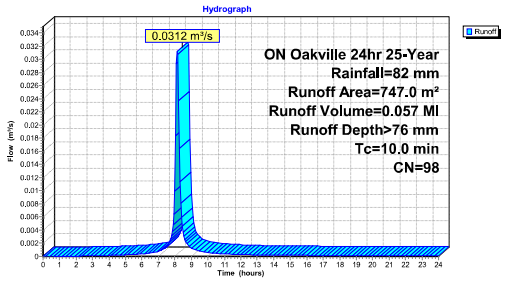
Runoff = 0.0312 m³/s @ 8.13 hrs, Volume= 0.057 Ml, Depth> 76 mm
Routed to Pond 5P : Roof New gym

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
ON Oakville 24hr 25-Year Rainfall=82 mm

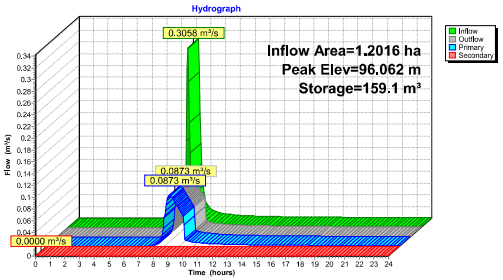
Area (m²)	CN	Description
747.0	98	Roofs, HSG C
747.0		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					Direct Entry,

Subcatchment 6S: New gym



Pond 2P: Stormwater Management System



Summary for Pond 2P: Stormwater Management System

Inflow Area = 1.2016 ha, 43.28% Impervious, Inflow Depth > 43 mm for 25-Year event
Inflow = 0.3058 m³/s @ 8.14 hrs, Volume= 0.519 Ml
Outflow = 0.0873 m³/s @ 8.37 hrs, Volume= 0.518 Ml, Atten= 71%, Lag= 13.3 min
Primary = 0.0873 m³/s @ 8.37 hrs, Volume= 0.518 Ml
Routed to Link 4L : (new Link)
Secondary = 0.0000 m³/s @ 0.00 hrs, Volume= 0.000 Ml

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 96.062 m @ 8.37 hrs Storage= 159.1 m³

Plug-Flow detention time= 14.1 min calculated for 0.517 Ml (100% of inflow)
Center-of-Mass det. time= 13.9 min (608.4 - 594.5)

Volume	Invert	Avail.Storage	Storage Description
#1	95.560 m	193.4 m³	**Custom Stage Data** Listed below

Elevation (meters)	Cum.Store (cubic-meters)
95.560	0.0
96.170	193.2
96.180	193.3
97.150	193.4

Device	Routing	Invert	Outlet Devices
#1	Primary	95.360 m	**Tube/Siphon/Float Valve** 200.00 mm Diameter, C= 0.800 3.00 m Long Tube, Hazen-Williams C= 130 Inlet / Outlet Elev. = 95.360 m / 95.340 m
#2	Secondary	97.000 m	**Special & User-Defined** Head (meters) 0.000 0.150 Disch. (m³/s) 0.00000 1.00000

Primary OutFlow Max=0.0872 m³/s @ 8.37 hrs HW=96.061 m (Free Discharge)
└**1=Tube/Siphon/Float Valve** (Tube Controls 0.0872 m³/s @ 2.77 m/s)

Secondary OutFlow Max=0.0000 m³/s @ 0.00 hrs HW=95.560 m (Free Discharge)
└**2=Special & User-Defined** (Controls 0.0000 m³/s)

Stage-Area-Storage for Pond 2P: Stormwater Management System

Elevation (meters)	Storage (cubic-meters)	Elevation (meters)	Storage (cubic-meters)
95.560	0.0	96.600	193.3
95.580	6.3	96.620	193.3
95.600	12.7	96.640	193.3
95.620	19.0	96.660	193.3
95.640	25.3	96.680	193.4
95.660	31.7	96.700	193.4
95.680	38.0	96.720	193.4
95.700	44.3	96.740	193.4
95.720	50.7	96.760	193.4
95.740	57.0	96.780	193.4
95.760	63.3	96.800	193.4
95.780	69.7	96.820	193.4
95.800	76.0	96.840	193.4
95.820	82.3	96.860	193.4
95.840	88.7	96.880	193.4
95.860	95.0	96.900	193.4
95.880	101.4	96.920	193.4
95.900	107.7	96.940	193.4
95.920	114.0	96.960	193.4
95.940	120.4	96.980	193.4
95.960	126.7	97.000	193.4
95.980	133.0	97.020	193.4
96.000	139.4	97.040	193.4
96.020	145.7	97.060	193.4
96.040	152.0	97.080	193.4
96.060	158.4	97.100	193.4
96.080	164.7	97.120	193.4
96.100	171.0	97.140	**193.4**
96.120	177.4		
96.140	183.7		
96.160	190.0		
96.180	193.3		
96.200	193.3		
96.220	193.3		
96.240	193.3		
96.260	193.3		
96.280	193.3		
96.300	193.3		
96.320	193.3		
96.340	193.3		
96.360	193.3		
96.380	193.3		
96.400	193.3		
96.420	193.3		
96.440	193.3		
96.460	193.3		
96.480	193.3		
96.500	193.3		
96.520	193.3		
96.540	193.3		
96.560	193.3		
96.580	193.3		

Stage-Discharge for Pond 2P: Stormwater Management System

Elevation (meters)	Discharge (m³/s)	Primary (m³/s)	Secondary (m³/s)	Elevation (meters)	Discharge (m³/s)	Primary (m³/s)	Secondary (m³/s)
95.560	0.0000	0.0000	0.0000	96.600	0.1156	0.1156	0.0000
95.580	0.0500	0.0500	0.0000	96.620	0.1165	0.1165	0.0000
95.600	0.0520	0.0520	0.0000	96.640	0.1175	0.1175	0.0000
95.620	0.0540	0.0540	0.0000	96.660	0.1184	0.1184	0.0000
95.640	0.0560	0.0560	0.0000	96.680	0.1193	0.1193	0.0000
95.660	0.0578	0.0578	0.0000	96.700	0.1202	0.1202	0.0000
95.680	0.0596	0.0596	0.0000	96.720	0.1211	0.1211	0.0000
95.700	0.0614	0.0614	0.0000	96.740	0.1219	0.1219	0.0000
95.720	0.0631	0.0631	0.0000	96.760	0.1228	0.1228	0.0000
95.740	0.0647	0.0647	0.0000	96.780	0.1237	0.1237	0.0000
95.760	0.0663	0.0663	0.0000	96.800	0.1245	0.1245	0.0000
95.780	0.0679	0.0679	0.0000	96.820	0.1254	0.1254	0.0000
95.800	0.0695	0.0695	0.0000	96.840	0.1263	0.1263	0.0000
95.820	0.0710	0.0710	0.0000	96.860	0.1271	0.1271	0.0000
95.840	0.0725	0.0725	0.0000	96.880	0.1280	0.1280	0.0000
95.860	0.0739	0.0739	0.0000	96.900	0.1288	0.1288	0.0000
95.880	0.0753	0.0753	0.0000	96.920	0.1296	0.1296	0.0000
95.900	0.0767	0.0767	0.0000	96.940	0.1304	0.1304	0.0000
95.920	0.0781	0.0781	0.0000	96.960	0.1313	0.1313	0.0000
95.940	0.0795	0.0795	0.0000	96.980	0.1321	0.1321	0.0000
95.960	0.0808	0.0808	0.0000	97.000	0.1329	0.1329	0.0000
95.980	0.0821	0.0821	0.0000	97.020	0.2670	0.1337	0.1333
96.000	0.0834	0.0834	0.0000	97.040	0.4012	0.1345	0.2667
96.020	0.0846	0.0846	0.0000	97.060	0.5353	0.1353	0.4000
96.040	0.0859	0.0859	0.0000	97.080	0.6694	0.1361	0.5333
96.060	0.0871	0.0871	0.0000	97.100	0.8035	0.1369	0.6667
96.080	0.0883	0.0883	0.0000	97.120	0.9377	0.1377	0.8000
96.100	0.0895	0.0895	0.0000	97.140	**1.0718**	**0.1384**	**0.9333**
96.120	0.0907	0.0907	0.0000				
96.140	0.0919	0.0919	0.0000				
96.160	0.0930	0.0930	0.0000				
96.180	0.0942	0.0942	0.0000				
96.200	0.0953	0.0953	0.0000				
96.220	0.0964	0.0964	0.0000				
96.240	0.0975	0.0975	0.0000				
96.260	0.0986	0.0986	0.0000				
96.280	0.0997	0.0997	0.0000				
96.300	0.1008	0.1008	0.0000				
96.320	0.1018	0.1018	0.0000				
96.340	0.1029	0.1029	0.0000				
96.360	0.1039	0.1039	0.0000				
96.380	0.1049	0.1049	0.0000				
96.400	0.1059	0.1059	0.0000				
96.420	0.1069	0.1069	0.0000				
96.440	0.1079	0.1079	0.0000				
96.460	0.1089	0.1089	0.0000				
96.480	0.1099	0.1099	0.0000				
96.500	0.1109	0.1109	0.0000				
96.520	0.1118	0.1118	0.0000				
96.540	0.1128	0.1128	0.0000				
96.560	0.1137	0.1137	0.0000				
96.580	0.1147	0.1147	0.0000				

Summary for Pond 3P: Stormwater Management System

Inflow Area = 1.3024 ha, 30.57% Impervious, Inflow Depth > 38 mm for 25-Year event
Inflow = 0.2853 m³/s @ 8.15 hrs, Volume= 0.491 Ml
Outflow = 0.1295 m³/s @ 8.30 hrs, Volume= 0.491 Ml, Atten= 55%, Lag= 9.0 min
Primary = 0.1295 m³/s @ 8.30 hrs, Volume= 0.491 Ml
Routed to Link 4L : (new Link)
Secondary = 0.0000 m³/s @ 0.00 hrs, Volume= 0.000 Ml

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 94.730 m @ 8.30 hrs Storage= 101.4 m³

Plug-Flow detention time= 5.9 min calculated for 0.490 Ml (100% of inflow)
Center-of-Mass det. time= 5.7 min (608.2 - 602.5)

Volume	Invert	Avail.Storage	Storage Description
#1	94.310 m	147.5 m³	**Custom Stage Data** Listed below

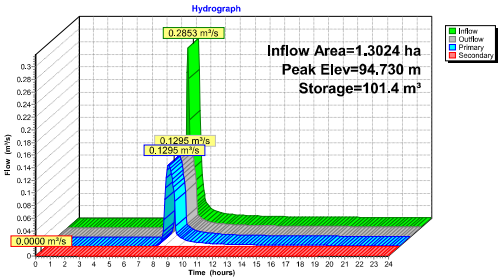
Elevation (meters)	Cum.Store (cubic-meters)
94.310	0.0
94.920	147.3
94.930	147.4
96.550	147.5

Device	Routing	Invert	Outlet Devices
#1	Primary	94.120 m	**Tube/Siphon/Float Valve** 250.00 mm Diameter, C= 0.800 3.00 m Long Tube, Hazen-Williams C= 130 Inlet / Outlet Elev. = 94.120 m / 94.100 m
#2	Secondary	96.500 m	**Special & User-Defined** Head (meters) 0.000 0.150 Disch. (m³/s) 0.00000 1.00000

Primary OutFlow Max=0.1294 m³/s @ 8.30 hrs HW=94.729 m (Free Discharge)
└**1=Tube/Siphon/Float Valve** (Tube Controls 0.1294 m³/s @ 2.64 m/s)

Secondary OutFlow Max=0.0000 m³/s @ 0.00 hrs HW=94.310 m (Free Discharge)
└**2=Special & User-Defined** (Controls 0.0000 m³/s)

Pond 3P: Stormwater Management System



Stage-Discharge for Pond 3P: Stormwater Management System

Elevation (meters)	Discharge (m³/s)	Primary (m³/s)	Secondary (m³/s)
94.310	0.0000	0.0000	0.0000
94.360	0.0796	0.0796	0.0000
94.410	0.0906	0.0906	0.0000
94.460	0.0977	0.0977	0.0000
94.510	0.1043	0.1043	0.0000
94.560	0.1105	0.1105	0.0000
94.610	0.1164	0.1164	0.0000
94.660	0.1220	0.1220	0.0000
94.710	0.1274	0.1274	0.0000
94.760	0.1326	0.1326	0.0000
94.810	0.1376	0.1376	0.0000
94.860	0.1424	0.1424	0.0000
94.910	0.1470	0.1470	0.0000
94.960	0.1515	0.1515	0.0000
95.010	0.1559	0.1559	0.0000
95.060	0.1602	0.1602	0.0000
95.110	0.1643	0.1643	0.0000
95.160	0.1684	0.1684	0.0000
95.210	0.1724	0.1724	0.0000
95.260	0.1762	0.1762	0.0000
95.310	0.1800	0.1800	0.0000
95.360	0.1837	0.1837	0.0000
95.410	0.1874	0.1874	0.0000
95.460	0.1909	0.1909	0.0000
95.510	0.1944	0.1944	0.0000
95.560	0.1979	0.1979	0.0000
95.610	0.2013	0.2013	0.0000
95.660	0.2046	0.2046	0.0000
95.710	0.2079	0.2079	0.0000
95.760	0.2111	0.2111	0.0000
95.810	0.2143	0.2143	0.0000
95.860	0.2174	0.2174	0.0000
95.910	0.2205	0.2205	0.0000
95.960	0.2236	0.2236	0.0000
96.010	0.2266	0.2266	0.0000
96.060	0.2296	0.2296	0.0000
96.110	0.2325	0.2325	0.0000
96.160	0.2354	0.2354	0.0000
96.210	0.2383	0.2383	0.0000
96.260	0.2411	0.2411	0.0000
96.310	0.2439	0.2439	0.0000
96.360	0.2467	0.2467	0.0000
96.410	0.2494	0.2494	0.0000
96.460	0.2521	0.2521	0.0000
96.510	0.3215	0.2548	0.0667
96.560	0.6574	0.2574	0.4000
96.610	**0.9934**	**0.2601**	**0.7333**

Stage-Area-Storage for Pond 3P: Stormwater Management System

Elevation (meters)	Storage (cubic-meters)	Elevation (meters)	Storage (cubic-meters)	Elevation (meters)	Storage (cubic-meters)
94.310	0.0	95.350	147.4	96.390	147.5
94.330	4.8	95.370	147.4	96.410	147.5
94.350	9.7	95.390	147.4	96.430	147.5
94.370	14.5	95.410	147.4	96.450	147.5
94.390	19.3	95.430	147.4	96.470	147.5
94.410	24.1	95.450	147.4	96.490	147.5
94.430	29.0	95.470	147.4	96.510	147.5
94.450	33.8	95.490	147.4	96.530	147.5
94.470	38.6	95.510	147.4	96.550	**147.5**
94.490	43.5	95.530	147.4	96.570	147.5
94.510	48.3	95.550	147.4	96.590	147.5
94.530	53.1	95.570	147.4	96.610	147.5
94.550	58.0	95.590	147.4	96.630	147.5
94.570	62.8	95.610	147.4	96.650	147.5
94.590	67.6	95.630	147.4		
94.610	72.4	95.650	147.4		
94.630	77.3	95.670	147.4		
94.650	82.1	95.690	147.4		
94.670	86.9	95.710	147.4		
94.690	91.8	95.730	147.4		
94.710	96.6	95.750	147.5		
94.730	101.4	95.770	147.5		
94.750	106.2	95.790	147.5		
94.770	111.1	95.810	147.5		
94.790	115.9	95.830	147.5		
94.810	120.7	95.850	147.5		
94.830	125.6	95.870	147.5		
94.850	130.4	95.890	147.5		
94.870	135.2	95.910	147.5		
94.890	140.1	95.930	147.5		
94.910	144.9	95.950	147.5		
94.930	147.4	95.970	147.5		
94.950	147.4	95.990	147.5		
94.970	147.4	96.010	147.5		
94.990	147.4	96.030	147.5		
95.010	147.4	96.050	147.5		
95.030	147.4	96.070	147.5		
95.050	147.4	96.090	147.5		
95.070	147.4	96.110	147.5		
95.090	147.4	96.130	147.5		
95.110	147.4	96.150	147.5		
95.130	147.4	96.170	147.5		
95.150	147.4	96.190	147.5		
95.170	147.4	96.210	147.5		
95.190	147.4	96.230	147.5		
95.210	147.4	96.250	147.5		
95.230	147.4	96.270	147.5		
95.250	147.4	96.290	147.5		
95.270	147.4	96.310	147.5		
95.290	147.4	96.330	147.5		
95.310	147.4	96.350	147.5		
95.330	147.4	96.370	147.5		

Summary for Pond 4P: Roof New Classroom

Inflow Area = 0.0497 ha, 100.00% Impervious, Inflow Depth > 76 mm for 25-Year event
Inflow = 0.0208 m³/s @ 8.13 hrs, Volume= 0.038 Ml
Outflow = 0.0032 m³/s @ 8.44 hrs, Volume= 0.038 Ml, Atten= 84%, Lag= 18.6 min
Primary = 0.0032 m³/s @ 8.44 hrs, Volume= 0.038 Ml
Routed to Link 4L : (new Link)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 170.130 m @ 8.44 hrs Surf.Area= 366.3 m² Storage= 15.9 m³

Plug-Flow detention time= 39.5 min calculated for 0.038 Ml (100% of inflow)
Center-of-Mass det. time= 39.4 min (584.9 - 545.5)

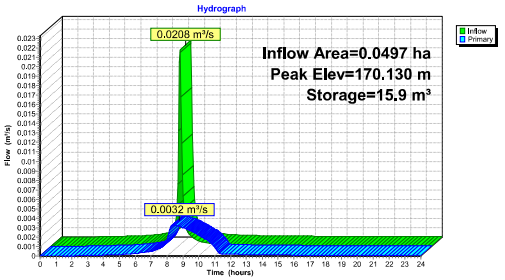
Volume	Invert	Avail.Storage	Storage Description
#1	170.000 m	49.1 m³	**Custom Stage Data (Pyramidal)** Listed below (Recalc)

Elevation (meters)	Surf.Area (sq-meters)	Inc.Store (cubic-meters)	Cum.Store (cubic-meters)	Wet.Area (sq-meters)
170.000	0.0	0.0	0.0	0.0
170.152	497.4	25.2	25.2	497.4
170.200	497.4	23.9	49.1	501.7

Device	Routing	Invert	Outlet Devices
#1	Primary	170.000 m	**Roof DRain RAting Curve X 2.00** Head (meters) 0.000 0.013 0.025 0.038 0.051 0.064 0.076 0.089 0.102 0.114 0.127 0.140 0.152 Disch. (m³/s) 0.00000 0.00016 0.00031 0.00047 0.00063 0.00079 0.00095 0.00110 0.00126 0.00142 0.00158 0.00174 0.00189
#2	Primary	170.152 m	**83.50 m long Sharp-Crested Rectangular Weir** 0 End Contraction(s)

Primary OutFlow Max=0.0032 m³/s @ 8.44 hrs HW=170.130 m (Free Discharge)
└**1=Roof DRain RAting Curve** (Custom Controls 0.0032 m³/s)
└**2=Sharp-Crested Rectangular Weir** (Controls 0.0000 m³/s)

Pond 4P: Roof New Classroom



Stage-Discharge for Pond 4P: Roof New Classroom

Elevation (meters)	Primary (m³/s)	Elevation (meters)	Primary (m³/s)	Elevation (meters)	Primary (m³/s)	Elevation (meters)	Primary (m³/s)
170.000	0.0000	170.052	0.0013	170.104	0.0026	170.156	0.0419
170.001	0.0000	170.053	0.0013	170.105	0.0026	170.157	0.0571
170.002	0.0000	170.054	0.0013	170.106	0.0026	170.158	0.0739
170.003	0.0001	170.055	0.0014	170.107	0.0027	170.159	0.0921
170.004	0.0001	170.056	0.0014	170.108	0.0027	170.160	0.1117
170.005	0.0001	170.057	0.0014	170.109	0.0027	170.161	0.1326
170.006	0.0001	170.058	0.0014	170.110	0.0027	170.162	0.1546
170.007	0.0002	170.059	0.0015	170.111	0.0028	170.163	0.1778
170.008	0.0002	170.060	0.0015	170.112	0.0028	170.164	0.2021
170.009	0.0002	170.061	0.0015	170.113	0.0028	170.165	0.2274
170.010	0.0002	170.062	0.0015	170.114	0.0028	170.166	0.2537
170.011	0.0003	170.063	0.0016	170.115	0.0029	170.167	0.2809
170.012	0.0003	170.064	0.0016	170.116	0.0029	170.168	0.3091
170.013	0.0003	170.065	0.0016	170.117	0.0029	170.169	0.3382
170.014	0.0003	170.066	0.0016	170.118	0.0029	170.170	0.3681
170.015	0.0004	170.067	0.0017	170.119	0.0030	170.171	0.3989
170.016	0.0004	170.068	0.0017	170.120	0.0030	170.172	0.4305
170.017	0.0004	170.069	0.0017	170.121	0.0030	170.173	0.4629
170.018	0.0004	170.070	0.0017	170.122	0.0030	170.174	0.4960
170.019	0.0005	170.071	0.0018	170.123	0.0031	170.175	0.5300
170.020	0.0005	170.072	0.0018	170.124	0.0031	170.176	0.5647
170.021	0.0005	170.073	0.0018	170.125	0.0031	170.177	0.6001
170.022	0.0005	170.074	0.0018	170.126	0.0031	170.178	0.6362
170.023	0.0006	170.075	0.0019	170.127	0.0032	170.179	0.6730
170.024	0.0006	170.076	0.0019	170.128	0.0032	170.180	0.7106
170.025	0.0006	170.077	0.0019	170.129	0.0032	170.181	0.7488
170.026	0.0006	170.078	0.0019	170.130	0.0032	170.182	0.7876
170.027	0.0007	170.079	0.0020	170.131	0.0033	170.183	0.8272
170.028	0.0007	170.080	0.0020	170.132	0.0033	170.184	0.8673
170.029	0.0007	170.081	0.0020	170.133	0.0033	170.185	0.9081
170.030	0.0007	170.082	0.0020	170.134	0.0033	170.186	0.9495
170.031	0.0008	170.083	0.0021	170.135	0.0034	170.187	0.9916
170.032	0.0008	170.084	0.0021	170.136	0.0034	170.188	1.0342
170.033	0.0008	170.085	0.0021	170.137	0.0034	170.189	1.0774
170.034	0.0008	170.086	0.0021	170.138	0.0034	170.190	1.1212
170.035	0.0009	170.087	0.0022	170.139	0.0035	170.191	1.1656
170.036	0.0009	170.088	0.0022	170.140	0.0035	170.192	1.2106
170.037	0.0009	170.089	0.0022	170.141	0.0035	170.193	1.2561
170.038	0.0009	170.090	0.0022	170.142	0.0035	170.194	1.3022
170.039	0.0010	170.091	0.0022	170.143	0.0036	170.195	1.3489
170.040	0.0010	170.092	0.0023	170.144	0.0036	170.196	1.3961
170.041	0.0010	170.093	0.0023	170.145	0.0036	170.197	1.4438
170.042	0.0010	170.094	0.0023	170.146	0.0036	170.198	1.4921
170.043	0.0011	170.095	0.0023	170.147	0.0037	170.199	1.5409
170.044	0.0011	170.096	0.0024	170.148	0.0037	170.200	**1.5902**
170.045	0.0011	170.097	0.0024	170.149	0.0037		
170.046	0.0011	170.098	0.0024	170.150	0.0037		
170.047	0.0012	170.099	0.0024	170.151	0.0038		
170.048	0.0012	170.100	0.0025	170.152	0.0038		
170.049	0.0012	170.101	0.0025	170.153	0.0086		
170.050	0.0012	170.102	0.0025	170.154	0.0173		
170.051	0.0013	170.103	0.0025	170.155	0.0286		

Stage-Area-Storage for Pond 4P: Roof New Classroom

Elevation (meters)	Surface (sq-meters)	Storage (cubic-meters)	Elevation (meters)	Surface (sq-meters)	Storage (cubic-meters)
170.000	0.0	0.0	170.104	232.9	8.1
170.002	0.1	0.0	170.106	241.9	8.5
170.004	0.3	0.0	170.108	251.1	9.0
170.006	0.8	0.0	170.110	260.5	9.6
170.008	1.4	0.0	170.112	270.1	10.1
170.010	2.2	0.0	170.114	279.8	10.6
170.012	3.1	0.0	170.116	289.7	11.2
170.014	4.2	0.0	170.118	299.8	11.8
170.016	5.5	0.0	170.120	310.0	12.4
170.018	7.0	0.0	170.122	320.4	13.0
170.020	8.6	0.1	170.124	331.0	13.7
170.022	10.4	0.1	170.126	341.8	14.4
170.024	12.4	0.1	170.128	352.7	15.0
170.026	14.6	0.1	170.130	363.8	15.8
170.028	16.9	0.2	170.132	375.1	16.5
170.030	19.4	0.2	170.134	386.6	17.3
170.032	22.0	0.2	170.136	398.2	18.1
170.034	24.9	0.3	170.138	410.0	18.9
170.036	27.9	0.3	170.140	422.0	19.7
170.038	31.1	0.4	170.142	434.1	20.5
170.040	34.4	0.5	170.144	446.4	21.4
170.042	38.0	0.5	170.146	458.9	22.3
170.044	41.7	0.6	170.148	471.6	23.3
170.046	45.6	0.7	170.150	484.4	24.2
170.048	49.6	0.8	170.152	**497.4**	25.2
170.050	53.8	0.9	170.154	497.4	26.2
170.052	58.2	1.0	170.156	497.4	27.2
170.054	62.8	1.1	170.158	497.4	28.2
170.056	67.5	1.3	170.160	497.4	29.2
170.058	72.4	1.4	170.162	497.4	30.2
170.060	77.5	1.6	170.164	497.4	31.2
170.062	82.8	1.7	170.166	497.4	32.2
170.064	88.2	1.9	170.168	497.4	33.2
170.066	93.8	2.1	170.170	497.4	34.2
170.068	99.5	2.3	170.172	497.4	35.1
170.070	105.5	2.5	170.174	497.4	36.1
170.072	111.6	2.7	170.176	497.4	37.1
170.074	117.9	2.9	170.178	497.4	38.1
170.076	124.3	3.2	170.180	497.4	39.1
170.078	131.0	3.4	170.182	497.4	40.1
170.080	137.8	3.7	170.184	497.4	41.1
170.082	144.8	4.0	170.186	497.4	42.1
170.084	151.9	4.3	170.188	497.4	43.1
170.086	159.2	4.6	170.190	497.4	44.1
170.088	166.7	4.9	170.192	497.4	45.1
170.090	174.4	5.2	170.194	497.4	46.1
170.092	182.2	5.6	170.196	497.4	47.1
170.094	190.2	6.0	170.198	497.4	48.1
170.096	198.4	6.3	170.200	497.4	**49.1**
170.098	206.8	6.8			
170.100	215.3	7.2			
170.102	224.0	7.6			

Summary for Pond 5P: Roof New gym

Inflow Area = 0.0747 ha,100.00% Impervious, Inflow Depth > 76 mm for 25-Year event
Inflow = 0.0312 m³/s @ 8.13 hrs, Volume= 0.057 Ml
Outflow = 0.0063 m³/s @ 8.40 hrs, Volume= 0.057 Ml, Atten= 80%, Lag= 15.8 min
Primary = 0.0063 m³/s @ 8.40 hrs, Volume= 0.057 Ml
Routed to Link 4L : (new Link)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 170.126 m @ 8.40 hrs Surf.Area= 511.7 m² Storage= 21.5 m³

Plug-Flow detention time= 26.4 min calculated for 0.057 Ml (100% of inflow)
Center-of-Mass det. time= 26.4 min (571.8 - 545.5)

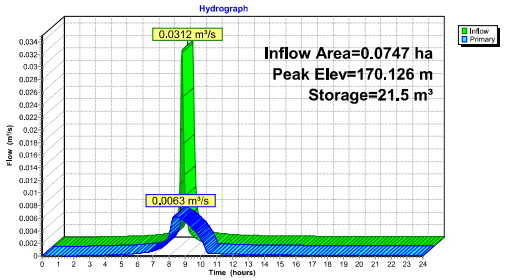
Volume	Invert	Avail.Storage	Storage Description
#1	170.000 m	73.7 m³	**Custom Stage Data (Pyramidal)** Listed below (Recalc)

Elevation (meters)	Surf.Area (sq-meters)	Inc.Store (cubic-meters)	Cum.Store (cubic-meters)	Wet.Area (sq-meters)
170.000	0.0	0.0	0.0	0.0
170.152	747.0	37.8	37.8	747.0
170.200	747.0	35.9	73.7	752.3

Device	Routing	Invert	Outlet Devices
#1	Primary	170.000 m	**Roof DRain RAting Curve X 4.00** Head (meters) 0.000 0.013 0.025 0.038 0.051 0.064 0.076 0.089 0.102 0.114 0.127 0.140 0.152 Disch. (m³/s) 0.00000 0.00016 0.00031 0.00047 0.00063 0.00079 0.00095 0.00110 0.00126 0.00142 0.00158 0.00174 0.00189
#2	Primary	170.152 m	**72.68 m long Sharp-Crested Rectangular Weir** 0 End Contraction(s)

Primary OutFlow Max=0.0063 m³/s @ 8.40 hrs HW=170.126 m (Free Discharge)
└**1=Roof DRain RAting Curve** (Custom Controls 0.0063 m³/s)
└**2=Sharp-Crested Rectangular Weir** (Controls 0.0000 m³/s)

Pond 5P: Roof New gym



Stage-Discharge for Pond 5P: Roof New gym

Elevation (meters)	Primary (m³/s)	Elevation (meters)	Primary (m³/s)	Elevation (meters)	Primary (m³/s)	Elevation (meters)	Primary (m³/s)
170.000	0.0000	170.052	0.0026	170.104	0.0051	170.156	0.0408
170.001	0.0000	170.053	0.0026	170.105	0.0052	170.157	0.0540
170.002	0.0001	170.054	0.0027	170.106	0.0053	170.158	0.0686
170.003	0.0001	170.055	0.0027	170.107	0.0053	170.159	0.0845
170.004	0.0002	170.056	0.0028	170.108	0.0054	170.160	0.1015
170.005	0.0002	170.057	0.0028	170.109	0.0054	170.161	0.1197
170.006	0.0003	170.058	0.0029	170.110	0.0055	170.162	0.1389
170.007	0.0003	170.059	0.0029	170.111	0.0055	170.163	0.1590
170.008	0.0004	170.060	0.0030	170.112	0.0056	170.164	0.1802
170.009	0.0004	170.061	0.0030	170.113	0.0056	170.165	0.2022
170.010	0.0005	170.062	0.0031	170.114	0.0057	170.166	0.2251
170.011	0.0005	170.063	0.0031	170.115	0.0057	170.167	0.2488
170.012	0.0006	170.064	0.0032	170.116	0.0058	170.168	0.2733
170.013	0.0006	170.065	0.0032	170.117	0.0058	170.169	0.2986
170.014	0.0007	170.066	0.0033	170.118	0.0059	170.170	0.3247
170.015	0.0007	170.067	0.0033	170.119	0.0059	170.171	0.3514
170.016	0.0008	170.068	0.0034	170.120	0.0060	170.172	0.3789
170.017	0.0008	170.069	0.0034	170.121	0.0060	170.173	0.4071
170.018	0.0009	170.070	0.0035	170.122	0.0061	170.174	0.4360
170.019	0.0009	170.071	0.0035	170.123	0.0061	170.175	0.4656
170.020	0.0010	170.072	0.0036	170.124	0.0062	170.176	0.4958
170.021	0.0010	170.073	0.0036	170.125	0.0062	170.177	0.5266
170.022	0.0011	170.074	0.0037	170.126	0.0063	170.178	0.5580
170.023	0.0011	170.075	0.0037	170.127	0.0063	170.179	0.5901
170.024	0.0012	170.076	0.0038	170.128	0.0064	170.180	0.6228
170.025	0.0012	170.077	0.0038	170.129	0.0064	170.181	0.6560
170.026	0.0013	170.078	0.0039	170.130	0.0065	170.182	0.6898
170.027	0.0013	170.079	0.0039	170.131	0.0065	170.183	0.7242
170.028	0.0014	170.080	0.0040	170.132	0.0066	170.184	0.7592
170.029	0.0014	170.081	0.0040	170.133	0.0066	170.185	0.7947
170.030	0.0015	170.082	0.0041	170.134	0.0067	170.186	0.8308
170.031	0.0015	170.083	0.0041	170.135	0.0067	170.187	0.8673
170.032	0.0016	170.084	0.0042	170.136	0.0068	170.188	0.9044
170.033	0.0016	170.085	0.0042	170.137	0.0068	170.189	0.9421
170.034	0.0017	170.086	0.0043	170.138	0.0069	170.190	0.9802
170.035	0.0017	170.087	0.0043	170.139	0.0069	170.191	1.0189
170.036	0.0018	170.088	0.0044	170.140	0.0070	170.192	1.0580
170.037	0.0018	170.089	0.0044	170.141	0.0070	170.193	1.0976
170.038	0.0019	170.090	0.0044	170.142	0.0071	170.194	1.1378
170.039	0.0019	170.091	0.0045	170.143	0.0071	170.195	1.1784
170.040	0.0020	170.092	0.0045	170.144	0.0072	170.196	1.2194
170.041	0.0020	170.093	0.0046	170.145	0.0072	170.197	1.2610
170.042	0.0021	170.094	0.0046	170.146	0.0073	170.198	1.3030
170.043	0.0021	170.095	0.0047	170.147	0.0073	170.199	1.3455
170.044	0.0022	170.096	0.0047	170.148	0.0074	170.200	**1.3884**
170.045	0.0022	170.097	0.0048	170.149	0.0074		
170.046	0.0023	170.098	0.0048	170.150	0.0075		
170.047	0.0023	170.099	0.0049	170.151	0.0075		
170.048	0.0024	170.100	0.0049	170.152	0.0076		
170.049	0.0024	170.101	0.0050	170.153	0.0117		
170.050	0.0025	170.102	0.0050	170.154	0.0193		
170.051	0.0025	170.103	0.0051	170.155	0.0291		

Stage-Area-Storage for Pond 5P: Roof New gym

Elevation (meters)	Surface (sq-meters)	Storage (cubic-meters)	Elevation (meters)	Surface (sq-meters)	Storage (cubic-meters)
170.000	0.0	0.0	170.104	349.7	12.1
170.002	0.1	0.0	170.106	363.3	12.8
170.004	0.5	0.0	170.108	377.1	13.6
170.006	1.2	0.0	170.110	391.2	14.3
170.008	2.1	0.0	170.112	405.6	15.1
170.010	3.2	0.0	170.114	420.2	16.0
170.012	4.7	0.0	170.116	435.1	16.8
170.014	6.3	0.0	170.118	450.2	17.7
170.016	8.3	0.0	170.120	465.6	18.6
170.018	10.5	0.1	170.122	481.2	19.6
170.020	12.9	0.1	170.124	497.1	20.5
170.022	15.6	0.1	170.126	513.3	21.6
170.024	18.6	0.1	170.128	529.7	22.6
170.026	21.9	0.2	170.130	546.4	23.7
170.028	25.3	0.2	170.132	563.4	24.8
170.030	29.1	0.3	170.134	580.6	25.9
170.032	33.1	0.4	170.136	598.0	27.1
170.034	37.4	0.4	170.138	615.7	28.3
170.036	41.9	0.5	170.140	633.7	29.6
170.038	46.7	0.6	170.142	651.9	30.9
170.040	51.7	0.7	170.144	670.4	32.2
170.042	57.0	0.8	170.146	689.2	33.5
170.044	62.6	0.9	170.148	708.2	34.9
170.046	68.4	1.0	170.150	727.5	36.4
170.048	74.5	1.2	170.152	**747.0**	37.8
170.050	80.8	1.3	170.154	747.0	39.3
170.052	87.4	1.5	170.156	747.0	40.8
170.054	94.3	1.7	170.158	747.0	42.3
170.056	101.4	1.9	170.160	747.0	43.8
170.058	108.8	2.1	170.162	747.0	45.3
170.060	116.4	2.3	170.164	747.0	46.8
170.062	124.3	2.6	170.166	747.0	48.3
170.064	132.4	2.8	170.168	747.0	49.8
170.066	140.8	3.1	170.170	747.0	51.3
170.068	149.5	3.4	170.172	747.0	52.8
170.070	158.4	3.7	170.174	747.0	54.3
170.072	167.6	4.0	170.176	747.0	55.8
170.074	177.1	4.4	170.178	747.0	57.3
170.076	186.8	4.7	170.180	747.0	58.8
170.078	196.7	5.1	170.182	747.0	60.3
170.080	206.9	5.5	170.184	747.0	61.8
170.082	217.4	5.9	170.186	747.0	63.2
170.084	228.1	6.4	170.188	747.0	64.7
170.086	239.1	6.9	170.190	747.0	66.2
170.088	250.4	7.3	170.192	747.0	67.7
170.090	261.9	7.9	170.194	747.0	69.2
170.092	273.7	8.4	170.196	747.0	70.7
170.094	285.7	9.0	170.198	747.0	72.2
170.096	298.0	9.5	170.200	747.0	**73.7**
170.098	310.5	10.1			
170.100	323.3	10.8			
170.102	336.4	11.4			

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: West Drainage Runoff Area=13,024.0 m² 30.57% Impervious Runoff Depth>50 mm
Tc=10.0 min CN=81 Runoff=0.4018 m³/s 0.656 MI

Subcatchment 2S: East Drainage Runoff Area=12,016.1 m² 43.28% Impervious Runoff Depth>57 mm
Tc=10.0 min CN=84 Runoff=0.4193 m³/s 0.679 MI

Subcatchment 5S: New classroom Runoff Area=497.4 m² 100.00% Impervious Runoff Depth>91 mm
Tc=10.0 min CN=98 Runoff=0.0258 m³/s 0.045 MI

Subcatchment 6S: New gym Runoff Area=747.0 m² 100.00% Impervious Runoff Depth>91 mm
Tc=10.0 min CN=98 Runoff=0.0388 m³/s 0.068 MI

Subcatchment 7S: Uncontrolled Area Runoff Area=1,869.0 m² 0.00% Impervious Runoff Depth>38 mm
Tc=0.0 min CN=74 Runoff=0.0737 m³/s 0.070 MI

Pond 2P: Stormwater Management Peak Elev=97.028 m Storage=193.4 m³ Inflow=0.4193 m³/s 0.679 MI
Primary=0.1340 m³/s 0.634 MI Secondary=0.1858 m³/s 0.044 MI Outflow=0.3199 m³/s 0.679 MI

Pond 3P: Stormwater Management Peak Elev=96.506 m Storage=147.5 m³ Inflow=0.4018 m³/s 0.656 MI
Primary=0.2546 m³/s 0.648 MI Secondary=0.0388 m³/s 0.007 MI Outflow=0.2934 m³/s 0.655 MI

Pond 4P: Roof New Classroom Peak Elev=170.142 m Storage=20.6 m³ Inflow=0.0258 m³/s 0.045 MI
Outflow=0.0035 m³/s 0.045 MI

Pond 5P: Roof New gym Peak Elev=170.138 m Storage=28.0 m³ Inflow=0.0388 m³/s 0.068 MI
Outflow=0.0068 m³/s 0.068 MI

Link 4L: (new Link) Inflow=0.3985 m³/s 1.397 MI
Primary=0.3985 m³/s 1.397 MI

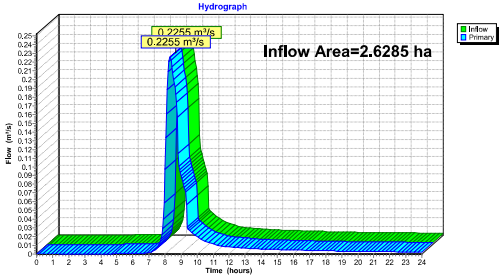
Total Runoff Area = 2.8154 ha Runoff Volume = 1.518 MI Average Runoff Depth = 54 mm
62.96% Pervious = 1.7726 ha 37.04% Impervious = 1.0428 ha

Summary for Link 4L: (new Link)

Inflow Area = 2.6285 ha, 39.67% Impervious, Inflow Depth > 42 mm for 25-Year event
Inflow = 0.2255 m³/s @ 8.32 hrs, Volume= 1.104 MI
Primary = 0.2255 m³/s @ 8.32 hrs, Volume= 1.104 MI, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 4L: (new Link)



Summary for Subcatchment 1S: West Drainage

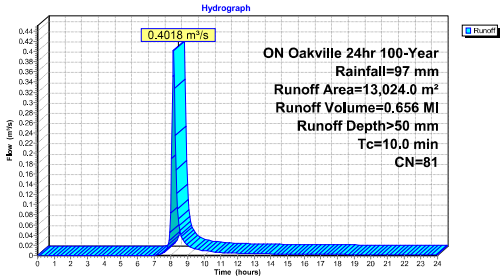
Runoff = 0.4018 m³/s @ 8.15 hrs, Volume= 0.656 MI, Depth> 50 mm
Routed to Pond 3P : Stormwater Management System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
ON Oakville 24hr 100-Year Rainfall=97 mm

Area (m²)	CN	Description
3,982.0	98	Paved parking, HSG C
9,042.0	74	>75% Grass cover, Good, HSG C
13,024.0	81	Weighted Average
9,042.0		69.43% Pervious Area
3,982.0		30.57% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					Direct Entry,

Subcatchment 1S: West Drainage



Summary for Subcatchment 2S: East Drainage

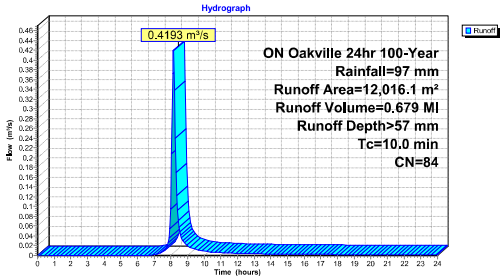
Runoff = 0.4193 m³/s @ 8.14 hrs, Volume= 0.679 MI, Depth> 57 mm
Routed to Pond 2P : Stormwater Management System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
ON Oakville 24hr 100-Year Rainfall=97 mm

Area (m²)	CN	Description
5,201.1	98	Paved parking, HSG C
6,815.0	74	>75% Grass cover, Good, HSG C
12,016.1	84	Weighted Average
6,815.0		56.72% Pervious Area
5,201.1		43.28% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					Direct Entry,

Subcatchment 2S: East Drainage



Summary for Subcatchment 5S: New classroom

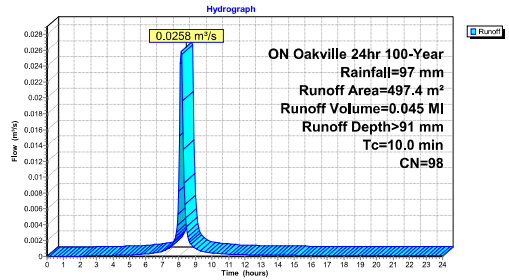
Runoff = 0.0258 m³/s @ 8.13 hrs, Volume= 0.045 MI, Depth> 91 mm
Routed to Pond 4P : Roof New Classroom

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
ON Oakville 24hr 100-Year Rainfall=97 mm

Area (m²)	CN	Description
497.4	98	Roofs, HSG C
497.4		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					Direct Entry,

Subcatchment 5S: New classroom



Summary for Subcatchment 6S: New gym

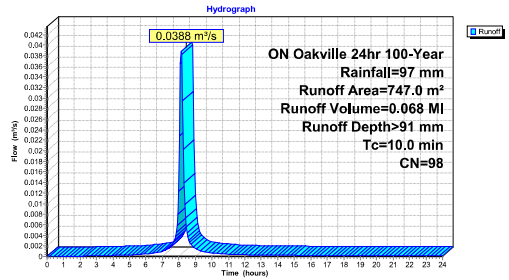
Runoff = 0.0388 m³/s @ 8.13 hrs, Volume= 0.068 MI, Depth> 91 mm
Routed to Pond 5P : Roof New gym

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
ON Oakville 24hr 100-Year Rainfall=97 mm

Area (m²)	CN	Description
747.0	98	Roofs, HSG C
747.0		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					Direct Entry,

Subcatchment 6S: New gym



Summary for Pond 2P: Stormwater Management System

Inflow Area = 1.2016 ha, 43.28% Impervious, Inflow Depth > 57 mm for 100-Year event
Inflow = 0.4193 m³/s @ 8.14 hrs, Volume= 0.679 Ml
Outflow = 0.3199 m³/s @ 8.25 hrs, Volume= 0.679 Ml, Atten= 24%, Lag= 6.4 min
Primary = 0.1340 m³/s @ 8.25 hrs, Volume= 0.634 Ml
Routed to Link 4L : (new Link)
Secondary = 0.1858 m³/s @ 8.25 hrs, Volume= 0.044 Ml

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 97.028 m @ 8.25 hrs Storage= 193.4 m³

Plug-Flow detention time= 15.0 min calculated for 0.677 Ml (100% of inflow)
Center-of-Mass det. time= 14.8 min (598.0 - 583.2)

Volume	Invert	Avail.Storage	Storage Description
#1	95.560 m	193.4 m³	**Custom Stage Data** Listed below

Elevation (meters)	Cum.Store (cubic-meters)
95.560	0.0
96.170	193.2
96.180	193.3
97.150	193.4

Device	Routing	Invert	Outlet Devices
#1	Primary	95.360 m	**Tube/Siphon/Float Valve** 200.00 mm Diameter, C= 0.800 3.00 m Long Tube, Hazen-Williams C= 130 Inlet / Outlet Elev. = 95.360 m / 95.340 m
#2	Secondary	97.000 m	**Special & User-Defined** Head (meters) 0.000 0.150 Disch. (m³/s) 0.00000 1.00000

Primary OutFlow Max=0.1340 m³/s @ 8.25 hrs HW=97.028 m (Free Discharge)
└**1=Tube/Siphon/Float Valve** (Tube Controls 0.1340 m³/s @ 4.27 m/s)

Secondary OutFlow Max=0.1858 m³/s @ 8.25 hrs HW=97.028 m (Free Discharge)
└**2=Special & User-Defined** (Custom Controls 0.1858 m³/s)

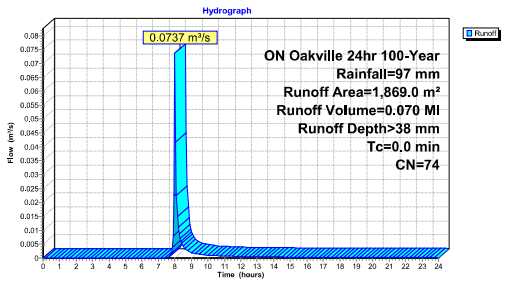
Summary for Subcatchment 7S: Uncontrolled Area

Runoff = 0.0737 m³/s @ 8.01 hrs, Volume= 0.070 Ml, Depth> 38 mm

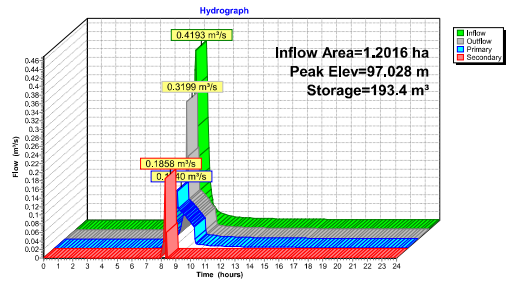
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
ON Oakville 24hr 100-Year Rainfall=97 mm

Area (m²)	CN	Description
1,869.0	74	>75% Grass cover, Good, HSG C
1,869.0		100.00% Pervious Area

Subcatchment 7S: Uncontrolled Area



Pond 2P: Stormwater Management System



Stage-Discharge for Pond 2P: Stormwater Management System

Elevation (meters)	Discharge (m³/s)	Primary (m³/s)	Secondary (m³/s)
95.560	0.0000	0.0000	0.0000
95.580	0.0500	0.0500	0.0000
95.600	0.0520	0.0520	0.0000
95.620	0.0540	0.0540	0.0000
95.640	0.0560	0.0560	0.0000
95.660	0.0578	0.0578	0.0000
95.680	0.0596	0.0596	0.0000
95.700	0.0614	0.0614	0.0000
95.720	0.0631	0.0631	0.0000
95.740	0.0647	0.0647	0.0000
95.760	0.0663	0.0663	0.0000
95.780	0.0679	0.0679	0.0000
95.800	0.0695	0.0695	0.0000
95.820	0.0710	0.0710	0.0000
95.840	0.0725	0.0725	0.0000
95.860	0.0739	0.0739	0.0000
95.880	0.0753	0.0753	0.0000
95.900	0.0767	0.0767	0.0000
95.920	0.0781	0.0781	0.0000
95.940	0.0795	0.0795	0.0000
95.960	0.0808	0.0808	0.0000
95.980	0.0821	0.0821	0.0000
96.000	0.0834	0.0834	0.0000
96.020	0.0846	0.0846	0.0000
96.040	0.0859	0.0859	0.0000
96.060	0.0871	0.0871	0.0000
96.080	0.0883	0.0883	0.0000
96.100	0.0895	0.0895	0.0000
96.120	0.0907	0.0907	0.0000
96.140	0.0919	0.0919	0.0000
96.160	0.0930	0.0930	0.0000
96.180	0.0942	0.0942	0.0000
96.200	0.0953	0.0953	0.0000
96.220	0.0964	0.0964	0.0000
96.240	0.0975	0.0975	0.0000
96.260	0.0986	0.0986	0.0000
96.280	0.0997	0.0997	0.0000
96.300	0.1008	0.1008	0.0000
96.320	0.1018	0.1018	0.0000
96.340	0.1029	0.1029	0.0000
96.360	0.1039	0.1039	0.0000
96.380	0.1049	0.1049	0.0000
96.400	0.1059	0.1059	0.0000
96.420	0.1069	0.1069	0.0000
96.440	0.1079	0.1079	0.0000
96.460	0.1089	0.1089	0.0000
96.480	0.1099	0.1099	0.0000
96.500	0.1109	0.1109	0.0000
96.520	0.1118	0.1118	0.0000
96.540	0.1128	0.1128	0.0000
96.560	0.1137	0.1137	0.0000
96.580	0.1147	0.1147	0.0000
96.600	0.1156	0.1156	0.0000
96.620	0.1165	0.1165	0.0000
96.640	0.1175	0.1175	0.0000
96.660	0.1184	0.1184	0.0000
96.680	0.1193	0.1193	0.0000
96.700	0.1202	0.1202	0.0000
96.720	0.1211	0.1211	0.0000
96.740	0.1219	0.1219	0.0000
96.760	0.1228	0.1228	0.0000
96.780	0.1237	0.1237	0.0000
96.800	0.1245	0.1245	0.0000
96.820	0.1254	0.1254	0.0000
96.840	0.1263	0.1263	0.0000
96.860	0.1271	0.1271	0.0000
96.880	0.1280	0.1280	0.0000
96.900	0.1288	0.1288	0.0000
96.920	0.1296	0.1296	0.0000
96.940	0.1304	0.1304	0.0000
96.960	0.1313	0.1313	0.0000
96.980	0.1321	0.1321	0.0000
97.000	0.1329	0.1329	0.0000
97.020	0.2670	0.1337	0.1333
97.040	0.4012	0.1345	0.2667
97.060	0.5353	0.1353	0.4000
97.080	0.8694	0.1361	0.5333
97.100	0.8035	0.1369	0.6667
97.120	0.9377	0.1377	0.8000
97.140	**1.0718**	**0.1384**	**0.9333**

Stage-Area-Storage for Pond 2P: Stormwater Management System

Elevation (meters)	Storage (cubic-meters)	Elevation (meters)	Storage (cubic-meters)
95.560	0.0	96.600	193.3
95.580	6.3	96.620	193.3
95.600	12.7	96.640	193.3
95.620	19.0	96.660	193.3
95.640	25.3	96.680	193.4
95.660	31.7	96.700	193.4
95.680	38.0	96.720	193.4
95.700	44.3	96.740	193.4
95.720	50.7	96.760	193.4
95.740	57.0	96.780	193.4
95.760	63.3	96.800	193.4
95.780	69.7	96.820	193.4
95.800	76.0	96.840	193.4
95.820	82.3	96.860	193.4
95.840	88.7	96.880	193.4
95.860	95.0	96.900	193.4
95.880	101.4	96.920	193.4
95.900	107.7	96.940	193.4
95.920	114.0	96.960	193.4
95.940	120.4	96.980	193.4
95.960	126.7	97.000	193.4
95.980	133.0	97.020	193.4
96.000	139.4	97.040	193.4
96.020	145.7	97.060	193.4
96.040	152.0	97.080	193.4
96.060	158.4	97.100	193.4
96.080	164.7	97.120	193.4
96.100	171.0	97.140	**193.4**
96.120	177.4		
96.140	183.7		
96.160	190.0		
96.180	193.3		
96.200	193.3		
96.220	193.3		
96.240	193.3		
96.260	193.3		
96.280	193.3		
96.300	193.3		
96.320	193.3		
96.340	193.3		
96.360	193.3		
96.380	193.3		
96.400	193.3		
96.420	193.3		
96.440	193.3		
96.460	193.3		
96.480	193.3		
96.500	193.3		
96.520	193.3		
96.540	193.3		
96.560	193.3		
96.580	193.3		

Summary for Pond 3P: Stormwater Management System

Inflow Area = 1.3024 ha, 30.57% Impervious, Inflow Depth > 50 mm for 100-Year event
Inflow = 0.4018 m³/s @ 8.15 hrs, Volume= 0.656 Ml
Outflow = 0.2934 m³/s @ 8.25 hrs, Volume= 0.655 Ml, Atten= 27%, Lag= 6.3 min
Primary = 0.2546 m³/s @ 8.25 hrs, Volume= 0.648 Ml
Routed to Link 4L : (new Link)
Secondary = 0.0388 m³/s @ 8.25 hrs, Volume= 0.007 Ml

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 96.506 m @ 8.25 hrs Storage= 147.5 m³

Plug-Flow detention time= 7.5 min calculated for 0.654 Ml (100% of inflow)
Center-of-Mass det. time= 7.3 min (597.3 - 590.0)

Volume	Invert	Avail.Storage	Storage Description
#1	94.310 m	147.5 m³	**Custom Stage Data** Listed below

Elevation (meters)	Cum.Store (cubic-meters)
94.310	0.0
94.920	147.3
94.930	147.4
96.550	147.5

Device	Routing	Invert	Outlet Devices
#1	Primary	94.120 m	**Tube/Siphon/Float Valve** 250.00 mm Diameter, C= 0.800 3.00 m Long Tube, Hazen-Williams C= 130 Inlet / Outlet Elev. = 94.120 m / 94.100 m
#2	Secondary	96.500 m	**Special & User-Defined** Head (meters) 0.000 0.150 Disch. (m³/s) 0.00000 1.00000

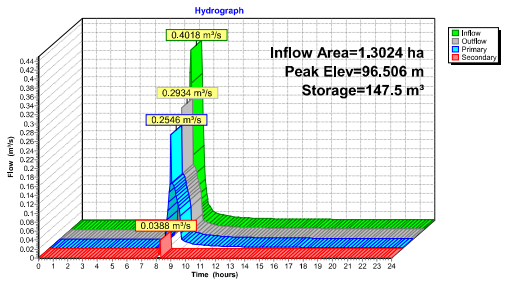
Primary OutFlow Max=0.2540 m³/s @ 8.25 hrs HW=96.495 m (Free Discharge)
└**1=Tube/Siphon/Float Valve** (Tube Controls 0.2540 m³/s @ 5.17 m/s)

Secondary OutFlow Max=0.0388 m³/s @ 8.25 hrs HW=96.506 m (Free Discharge)
└**2=Special & User-Defined** (Custom Controls 0.0388 m³/s)

Stage-Discharge for Pond 3P: Stormwater Management System

Elevation (meters)	Discharge (m³/s)	Primary (m³/s)	Secondary (m³/s)
94.310	0.0000	0.0000	0.0000
94.360	0.0796	0.0796	0.0000
94.410	0.0906	0.0906	0.0000
94.460	0.0977	0.0977	0.0000
94.510	0.1043	0.1043	0.0000
94.560	0.1105	0.1105	0.0000
94.610	0.1164	0.1164	0.0000
94.660	0.1220	0.1220	0.0000
94.710	0.1274	0.1274	0.0000
94.760	0.1326	0.1326	0.0000
94.810	0.1376	0.1376	0.0000
94.860	0.1424	0.1424	0.0000
94.910	0.1470	0.1470	0.0000
94.960	0.1515	0.1515	0.0000
95.010	0.1559	0.1559	0.0000
95.060	0.1602	0.1602	0.0000
95.110	0.1643	0.1643	0.0000
95.160	0.1684	0.1684	0.0000
95.210	0.1724	0.1724	0.0000
95.260	0.1762	0.1762	0.0000
95.310	0.1800	0.1800	0.0000
95.360	0.1837	0.1837	0.0000
95.410	0.1874	0.1874	0.0000
95.460	0.1909	0.1909	0.0000
95.510	0.1944	0.1944	0.0000
95.560	0.1979	0.1979	0.0000
95.610	0.2013	0.2013	0.0000
95.660	0.2046	0.2046	0.0000
95.710	0.2079	0.2079	0.0000
95.760	0.2111	0.2111	0.0000
95.810	0.2143	0.2143	0.0000
95.860	0.2174	0.2174	0.0000
95.910	0.2205	0.2205	0.0000
95.960	0.2236	0.2236	0.0000
96.010	0.2266	0.2266	0.0000
96.060	0.2296	0.2296	0.0000
96.110	0.2325	0.2325	0.0000
96.160	0.2354	0.2354	0.0000
96.210	0.2383	0.2383	0.0000
96.260	0.2411	0.2411	0.0000
96.310	0.2439	0.2439	0.0000
96.360	0.2467	0.2467	0.0000
96.410	0.2494	0.2494	0.0000
96.460	0.2521	0.2521	0.0000
96.510	0.3215	0.2548	0.0667
96.560	0.6574	0.2574	0.4000
96.610	**0.9934**	**0.2601**	**0.7333**

Pond 3P: Stormwater Management System



Stage-Area-Storage for Pond 3P: Stormwater Management System

Elevation (meters)	Storage (cubic-meters)	Elevation (meters)	Storage (cubic-meters)	Elevation (meters)	Storage (cubic-meters)
94.310	0.0	95.350	147.4	96.390	147.5
94.330	4.8	95.370	147.4	96.410	147.5
94.350	9.7	95.390	147.4	96.430	147.5
94.370	14.5	95.410	147.4	96.450	147.5
94.390	19.3	95.430	147.4	96.470	147.5
94.410	24.1	95.450	147.4	96.490	147.5
94.430	29.0	95.470	147.4	96.510	147.5
94.450	33.8	95.490	147.4	96.530	147.5
94.470	38.6	95.510	147.4	96.550	**147.5**
94.490	43.5	95.530	147.4	96.570	147.5
94.510	48.3	95.550	147.4	96.590	147.5
94.530	53.1	95.570	147.4	96.610	147.5
94.550	58.0	95.590	147.4	96.630	147.5
94.570	62.8	95.610	147.4	96.650	147.5
94.590	67.6	95.630	147.4		
94.610	72.4	95.650	147.4		
94.630	77.3	95.670	147.4		
94.650	82.1	95.690	147.4		
94.670	86.9	95.710	147.4		
94.690	91.8	95.730	147.4		
94.710	96.6	95.750	147.5		
94.730	101.4	95.770	147.5		
94.750	106.2	95.790	147.5		
94.770	111.1	95.810	147.5		
94.790	115.9	95.830	147.5		
94.810	120.7	95.850	147.5		
94.830	125.6	95.870	147.5		
94.850	130.4	95.890	147.5		
94.870	135.2	95.910	147.5		
94.890	140.1	95.930	147.5		
94.910	144.9	95.950	147.5		
94.930	147.4	95.970	147.5		
94.950	147.4	95.990	147.5		
94.970	147.4	96.010	147.5		
94.990	147.4	96.030	147.5		
95.010	147.4	96.050	147.5		
95.030	147.4	96.070	147.5		
95.050	147.4	96.090	147.5		
95.070	147.4	96.110	147.5		
95.090	147.4	96.130	147.5		
95.110	147.4	96.150	147.5		
95.130	147.4	96.170	147.5		
95.150	147.4	96.190	147.5		
95.170	147.4	96.210	147.5		
95.190	147.4	96.230	147.5		
95.210	147.4	96.250	147.5		
95.230	147.4	96.270	147.5		
95.250	147.4	96.290	147.5		
95.270	147.4	96.310	147.5		
95.290	147.4	96.330	147.5		
95.310	147.4	96.350	147.5		
95.330	147.4	96.370	147.5		

Summary for Pond 4P: Roof New Classroom

Inflow Area = 0.0497 ha,100.00% Impervious, Inflow Depth > 91 mm for 100-Year event
Inflow = 0.0258 m³/s @ 8.13 hrs, Volume= 0.045 Ml
Outflow = 0.0035 m³/s @ 8.46 hrs, Volume= 0.045 Ml, Atten= 86%, Lag= 19.9 min
Primary = 0.0035 m³/s @ 8.46 hrs, Volume= 0.045 Ml
Routed to Link 4L : (new Link)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 170.142 m @ 8.46 hrs Surf.Area= 435.1 m² Storage= 20.6 m³

Plug-Flow detention time= 48.3 min calculated for 0.045 Ml (100% of inflow)
Center-of-Mass det. time= 48.2 min (588.6 - 540.4)

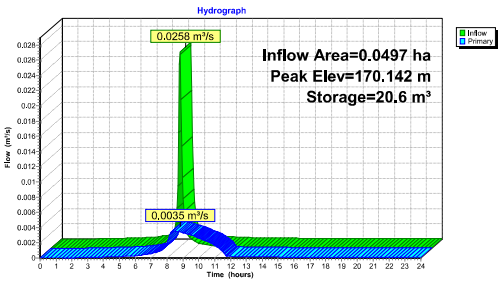
Volume	Invert	Avail.Storage	Storage Description
#1	170.000 m	49.1 m³	**Custom Stage Data (Pyramidal)** Listed below (Recalc)

Elevation (meters)	Surf.Area (sq-meters)	Inc.Store (cubic-meters)	Cum.Store (cubic-meters)	Wet.Area (sq-meters)
170.000	0.0	0.0	0.0	0.0
170.152	497.4	25.2	25.2	497.4
170.200	497.4	23.9	49.1	501.7

Device	Routing	Invert	Outlet Devices
#1	Primary	170.000 m	**Roof DRain RAting Curve X 2.00**
			Head (meters) 0.000 0.013 0.025 0.038 0.051 0.064 0.076 0.089 0.102 0.114 0.127 0.140 0.152
			Disch. (m³/s) 0.00000 0.00016 0.00031 0.00047 0.00063 0.00079 0.00095 0.00110 0.00126 0.00142 0.00158 0.00174 0.00189
#2	Primary	170.152 m	**83.50 m long Sharp-Crested Rectangular Weir** 0 End Contraction(s)

Primary OutFlow Max=0.0035 m³/s @ 8.46 hrs HW=170.142 m (Free Discharge)
↑**1=Roof DRain RAting Curve** (Custom Controls 0.0035 m³/s)
└**2=Sharp-Crested Rectangular Weir** (Controls 0.0000 m³/s)

Pond 4P: Roof New Classroom



Stage-Discharge for Pond 4P: Roof New Classroom

Elevation (meters)	Primary (m³/s)	Elevation (meters)	Primary (m³/s)	Elevation (meters)	Primary (m³/s)	Elevation (meters)	Primary (m³/s)
170.000	0.0000	170.052	0.0013	170.104	0.0026	170.156	0.0419
170.001	0.0000	170.053	0.0013	170.105	0.0026	170.157	0.0571
170.002	0.0000	170.054	0.0013	170.106	0.0026	170.158	0.0739
170.003	0.0001	170.055	0.0014	170.107	0.0027	170.159	0.0921
170.004	0.0001	170.056	0.0014	170.108	0.0027	170.160	0.1117
170.005	0.0001	170.057	0.0014	170.109	0.0027	170.161	0.1326
170.006	0.0001	170.058	0.0014	170.110	0.0027	170.162	0.1546
170.007	0.0002	170.059	0.0015	170.111	0.0028	170.163	0.1778
170.008	0.0002	170.060	0.0015	170.112	0.0028	170.164	0.2021
170.009	0.0002	170.061	0.0015	170.113	0.0028	170.165	0.2274
170.010	0.0002	170.062	0.0015	170.114	0.0028	170.166	0.2537
170.011	0.0003	170.063	0.0016	170.115	0.0029	170.167	0.2809
170.012	0.0003	170.064	0.0016	170.116	0.0029	170.168	0.3091
170.013	0.0003	170.065	0.0016	170.117	0.0029	170.169	0.3382
170.014	0.0003	170.066	0.0016	170.118	0.0029	170.170	0.3681
170.015	0.0004	170.067	0.0017	170.119	0.0030	170.171	0.3989
170.016	0.0004	170.068	0.0017	170.120	0.0030	170.172	0.4305
170.017	0.0004	170.069	0.0017	170.121	0.0030	170.173	0.4629
170.018	0.0004	170.070	0.0017	170.122	0.0030	170.174	0.4960
170.019	0.0005	170.071	0.0018	170.123	0.0031	170.175	0.5300
170.020	0.0005	170.072	0.0018	170.124	0.0031	170.176	0.5647
170.021	0.0005	170.073	0.0018	170.125	0.0031	170.177	0.6001
170.022	0.0005	170.074	0.0018	170.126	0.0031	170.178	0.6362
170.023	0.0006	170.075	0.0019	170.127	0.0032	170.179	0.6730
170.024	0.0006	170.076	0.0019	170.128	0.0032	170.180	0.7106
170.025	0.0006	170.077	0.0019	170.129	0.0032	170.181	0.7488
170.026	0.0006	170.078	0.0019	170.130	0.0032	170.182	0.7876
170.027	0.0007	170.079	0.0020	170.131	0.0033	170.183	0.8272
170.028	0.0007	170.080	0.0020	170.132	0.0033	170.184	0.8673
170.029	0.0007	170.081	0.0020	170.133	0.0033	170.185	0.9081
170.030	0.0007	170.082	0.0020	170.134	0.0033	170.186	0.9495
170.031	0.0008	170.083	0.0021	170.135	0.0034	170.187	0.9916
170.032	0.0008	170.084	0.0021	170.136	0.0034	170.188	1.0342
170.033	0.0008	170.085	0.0021	170.137	0.0034	170.189	1.0774
170.034	0.0008	170.086	0.0021	170.138	0.0034	170.190	1.1212
170.035	0.0009	170.087	0.0022	170.139	0.0035	170.191	1.1656
170.036	0.0009	170.088	0.0022	170.140	0.0035	170.192	1.2106
170.037	0.0009	170.089	0.0022	170.141	0.0035	170.193	1.2561
170.038	0.0009	170.090	0.0022	170.142	0.0035	170.194	1.3022
170.039	0.0010	170.091	0.0022	170.143	0.0036	170.195	1.3489
170.040	0.0010	170.092	0.0023	170.144	0.0036	170.196	1.3961
170.041	0.0010	170.093	0.0023	170.145	0.0036	170.197	1.4438
170.042	0.0010	170.094	0.0023	170.146	0.0036	170.198	1.4921
170.043	0.0011	170.095	0.0023	170.147	0.0037	170.199	1.5409
170.044	0.0011	170.096	0.0024	170.148	0.0037	170.200	**1.5902**
170.045	0.0011	170.097	0.0024	170.149	0.0037		
170.046	0.0011	170.098	0.0024	170.150	0.0037		
170.047	0.0012	170.099	0.0024	170.151	0.0038		
170.048	0.0012	170.100	0.0025	170.152	0.0038		
170.049	0.0012	170.101	0.0025	170.153	0.0086		
170.050	0.0012	170.102	0.0025	170.154	0.0173		
170.051	0.0013	170.103	0.0025	170.155	0.0286		

Summary for Pond 5P: Roof New gym

Inflow Area = 0.0747 ha, 100.00% Impervious, Inflow Depth > 91 mm for 100-Year event
Inflow = 0.0388 m³/s @ 8.13 hrs, Volume= 0.068 Ml
Outflow = 0.0068 m³/s @ 8.42 hrs, Volume= 0.068 Ml, Atten= 82%, Lag= 16.9 min
Primary = 0.0068 m³/s @ 8.42 hrs, Volume= 0.068 Ml
Routed to Link 4L : (new Link)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 170.138 m @ 8.42 hrs Surf.Area= 611.7 m² Storage= 28.0 m³

Plug-Flow detention time= 32.6 min calculated for 0.068 Ml (100% of inflow)
Center-of-Mass det. time= 32.5 min (572.9 - 540.4)

Volume	Invert	Avail.Storage	Storage Description
#1	170.000 m	73.7 m³	**Custom Stage Data (Pyramidal)** Listed below (Recalc)

Elevation (meters)	Surf.Area (sq-meters)	Inc.Store (cubic-meters)	Cum.Store (cubic-meters)	Wet.Area (sq-meters)
170.000	0.0	0.0	0.0	0.0
170.152	747.0	37.8	37.8	747.0
170.200	747.0	35.9	73.7	752.3

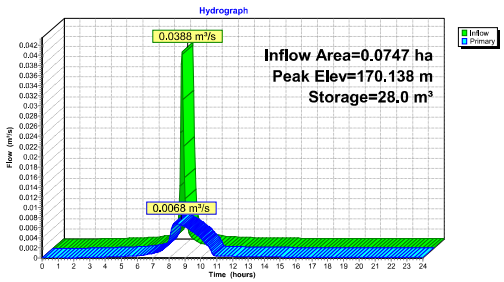
Device	Routing	Invert	Outlet Devices
#1	Primary	170.000 m	**Roof DRain RAting Curve X 4.00**
			Head (meters) 0.000 0.013 0.025 0.038 0.051 0.064 0.076 0.089 0.102 0.114 0.127 0.140 0.152
			Disch. (m³/s) 0.00000 0.00016 0.00031 0.00047 0.00063 0.00079 0.00095 0.00110 0.00126 0.00142 0.00158 0.00174 0.00189
#2	Primary	170.152 m	**72.68 m long Sharp-Crested Rectangular Weir** 0 End Contraction(s)

Primary OutFlow Max=0.0068 m³/s @ 8.42 hrs HW=170.137 m (Free Discharge)
└**1=Roof DRain RAting Curve** (Custom Controls 0.0068 m³/s)
└**2=Sharp-Crested Rectangular Weir** (Controls 0.0000 m³/s)

Stage-Area-Storage for Pond 4P: Roof New Classroom

Elevation (meters)	Surface (sq-meters)	Storage (cubic-meters)	Elevation (meters)	Surface (sq-meters)	Storage (cubic-meters)
170.000	0.0	0.0	170.104	232.9	8.1
170.002	0.1	0.0	170.106	241.9	8.5
170.004	0.3	0.0	170.108	251.1	9.0
170.006	0.8	0.0	170.110	260.5	9.6
170.008	1.4	0.0	170.112	270.1	10.1
170.010	2.2	0.0	170.114	279.8	10.6
170.012	3.1	0.0	170.116	289.7	11.2
170.014	4.2	0.0	170.118	299.8	11.8
170.016	5.5	0.0	170.120	310.0	12.4
170.018	7.0	0.0	170.122	320.4	13.0
170.020	8.6	0.1	170.124	331.0	13.7
170.022	10.4	0.1	170.126	341.8	14.4
170.024	12.4	0.1	170.128	352.7	15.0
170.026	14.6	0.1	170.130	363.8	15.8
170.028	16.9	0.2	170.132	375.1	16.5
170.030	19.4	0.2	170.134	386.6	17.3
170.032	22.0	0.2	170.136	398.2	18.1
170.034	24.9	0.3	170.138	410.0	18.9
170.036	27.9	0.3	170.140	422.0	19.7
170.038	31.1	0.4	170.142	434.1	20.5
170.040	34.4	0.5	170.144	446.4	21.4
170.042	38.0	0.5	170.146	458.9	22.3
170.044	41.7	0.6	170.148	471.6	23.3
170.046	45.6	0.7	170.150	484.4	24.2
170.048	49.6	0.8	170.152	**497.4**	25.2
170.050	53.8	0.9	170.154	497.4	26.2
170.052	58.2	1.0	170.156	497.4	27.2
170.054	62.8	1.1	170.158	497.4	28.2
170.056	67.5	1.3	170.160	497.4	29.2
170.058	72.4	1.4	170.162	497.4	30.2
170.060	77.5	1.6	170.164	497.4	31.2
170.062	82.8	1.7	170.166	497.4	32.2
170.064	88.2	1.9	170.168	497.4	33.2
170.066	93.8	2.1	170.170	497.4	34.2
170.068	99.5	2.3	170.172	497.4	35.1
170.070	105.5	2.5	170.174	497.4	36.1
170.072	111.6	2.7	170.176	497.4	37.1
170.074	117.9	2.9	170.178	497.4	38.1
170.076	124.3	3.2	170.180	497.4	39.1
170.078	131.0	3.4	170.182	497.4	40.1
170.080	137.8	3.7	170.184	497.4	41.1
170.082	144.8	4.0	170.186	497.4	42.1
170.084	151.9	4.3	170.188	497.4	43.1
170.086	159.2	4.6	170.190	497.4	44.1
170.088	166.7	4.9	170.192	497.4	45.1
170.090	174.4	5.2	170.194	497.4	46.1
170.092	182.2	5.6	170.196	497.4	47.1
170.094	190.2	6.0	170.198	497.4	48.1
170.096	198.4	6.3	170.200	497.4	**49.1**
170.098	206.8	6.8			
170.100	215.3	7.2			
170.102	224.0	7.6			

Pond 5P: Roof New gym



Stage-Discharge for Pond 5P: Roof New gym

Elevation (meters)	Primary (m³/s)	Elevation (meters)	Primary (m³/s)	Elevation (meters)	Primary (m³/s)	Elevation (meters)	Primary (m³/s)
170.000	0.0000	170.052	0.0026	170.104	0.0051	170.156	0.0408
170.001	0.0000	170.053	0.0026	170.105	0.0052	170.157	0.0540
170.002	0.0001	170.054	0.0027	170.106	0.0053	170.158	0.0686
170.003	0.0001	170.055	0.0027	170.107	0.0053	170.159	0.0845
170.004	0.0002	170.056	0.0028	170.108	0.0054	170.160	0.1015
170.005	0.0002	170.057	0.0028	170.109	0.0054	170.161	0.1197
170.006	0.0003	170.058	0.0029	170.110	0.0055	170.162	0.1389
170.007	0.0003	170.059	0.0029	170.111	0.0055	170.163	0.1590
170.008	0.0004	170.060	0.0030	170.112	0.0056	170.164	0.1802
170.009	0.0004	170.061	0.0030	170.113	0.0056	170.165	0.2022
170.010	0.0005	170.062	0.0031	170.114	0.0057	170.166	0.2251
170.011	0.0005	170.063	0.0031	170.115	0.0057	170.167	0.2488
170.012	0.0006	170.064	0.0032	170.116	0.0058	170.168	0.2733
170.013	0.0006	170.065	0.0032	170.117	0.0058	170.169	0.2986
170.014	0.0007	170.066	0.0033	170.118	0.0059	170.170	0.3247
170.015	0.0007	170.067	0.0033	170.119	0.0059	170.171	0.3514
170.016	0.0008	170.068	0.0034	170.120	0.0060	170.172	0.3789
170.017	0.0008	170.069	0.0034	170.121	0.0060	170.173	0.4071
170.018	0.0009	170.070	0.0035	170.122	0.0061	170.174	0.4360
170.019	0.0009	170.071	0.0035	170.123	0.0061	170.175	0.4656
170.020	0.0010	170.072	0.0036	170.124	0.0062	170.176	0.4958
170.021	0.0010	170.073	0.0036	170.125	0.0062	170.177	0.5266
170.022	0.0011	170.074	0.0037	170.126	0.0063	170.178	0.5580
170.023	0.0011	170.075	0.0037	170.127	0.0063	170.179	0.5901
170.024	0.0012	170.076	0.0038	170.128	0.0064	170.180	0.6228
170.025	0.0012	170.077	0.0038	170.129	0.0064	170.181	0.6560
170.026	0.0013	170.078	0.0039	170.130	0.0065	170.182	0.6898
170.027	0.0013	170.079	0.0039	170.131	0.0065	170.183	0.7242
170.028	0.0014	170.080	0.0040	170.132	0.0066	170.184	0.7592
170.029	0.0014	170.081	0.0040	170.133	0.0066	170.185	0.7947
170.030	0.0015	170.082	0.0041	170.134	0.0067	170.186	0.8308
170.031	0.0015	170.083	0.0041	170.135	0.0067	170.187	0.8673
170.032	0.0016	170.084	0.0042	170.136	0.0068	170.188	0.9044
170.033	0.0016	170.085	0.0042	170.137	0.0068	170.189	0.9421
170.034	0.0017	170.086	0.0043	170.138	0.0069	170.190	0.9802
170.035	0.0017	170.087	0.0043	170.139	0.0069	170.191	1.0189
170.036	0.0018	170.088	0.0044	170.140	0.0070	170.192	1.0580
170.037	0.0018	170.089	0.0044	170.141	0.0070	170.193	1.0976
170.038	0.0019	170.090	0.0044	170.142	0.0071	170.194	1.1378
170.039	0.0019	170.091	0.0045	170.143	0.0071	170.195	1.1784
170.040	0.0020	170.092	0.0045	170.144	0.0072	170.196	1.2194
170.041	0.0020	170.093	0.0046	170.145	0.0072	170.197	1.2610
170.042	0.0021	170.094	0.0046	170.146	0.0073	170.198	1.3030
170.043	0.0021	170.095	0.0047	170.147	0.0073	170.199	1.3455
170.044	0.0022	170.096	0.0047	170.148	0.0074	170.200	**1.3884**
170.045	0.0022	170.097	0.0048	170.149	0.0074		
170.046	0.0023	170.098	0.0048	170.150	0.0075		
170.047	0.0023	170.099	0.0049	170.151	0.0075		
170.048	0.0024	170.100	0.0049	170.152	0.0076		
170.049	0.0024	170.101	0.0050	170.153	0.0117		
170.050	0.0025	170.102	0.0050	170.154	0.0193		
170.051	0.0025	170.103	0.0051	170.155	0.0291		

Stage-Area-Storage for Pond 5P: Roof New gym

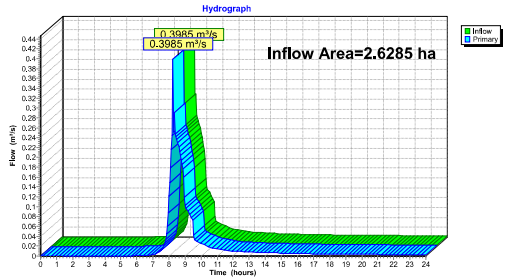
Elevation (meters)	Surface (sq-meters)	Storage (cubic-meters)	Elevation (meters)	Surface (sq-meters)	Storage (cubic-meters)
170.000	0.0	0.0	170.104	349.7	12.1
170.002	0.1	0.0	170.106	363.3	12.8
170.004	0.5	0.0	170.108	377.1	13.6
170.006	1.2	0.0	170.110	391.2	14.3
170.008	2.1	0.0	170.112	405.6	15.1
170.010	3.2	0.0	170.114	420.2	16.0
170.012	4.7	0.0	170.116	435.1	16.8
170.014	6.3	0.0	170.118	450.2	17.7
170.016	8.3	0.0	170.120	465.6	18.6
170.018	10.5	0.1	170.122	481.2	19.6
170.020	12.9	0.1	170.124	497.1	20.5
170.022	15.6	0.1	170.126	513.3	21.6
170.024	18.6	0.1	170.128	529.7	22.6
170.026	21.9	0.2	170.130	546.4	23.7
170.028	25.3	0.2	170.132	563.4	24.8
170.030	29.1	0.3	170.134	580.6	25.9
170.032	33.1	0.4	170.136	598.0	27.1
170.034	37.4	0.4	170.138	615.7	28.3
170.036	41.9	0.5	170.140	633.7	29.6
170.038	46.7	0.6	170.142	651.9	30.9
170.040	51.7	0.7	170.144	670.4	32.2
170.042	57.0	0.8	170.146	689.2	33.5
170.044	62.6	0.9	170.148	708.2	34.9
170.046	68.4	1.0	170.150	727.5	36.4
170.048	74.5	1.2	170.152	**747.0**	37.8
170.050	80.8	1.3	170.154	747.0	39.3
170.052	87.4	1.5	170.156	747.0	40.8
170.054	94.3	1.7	170.158	747.0	42.3
170.056	101.4	1.9	170.160	747.0	43.8
170.058	108.8	2.1	170.162	747.0	45.3
170.060	116.4	2.3	170.164	747.0	46.8
170.062	124.3	2.6	170.166	747.0	48.3
170.064	132.4	2.8	170.168	747.0	49.8
170.066	140.8	3.1	170.170	747.0	51.3
170.068	149.5	3.4	170.172	747.0	52.8
170.070	158.4	3.7	170.174	747.0	54.3
170.072	167.6	4.0	170.176	747.0	55.8
170.074	177.1	4.4	170.178	747.0	57.3
170.076	186.8	4.7	170.180	747.0	58.8
170.078	196.7	5.1	170.182	747.0	60.3
170.080	206.9	5.5	170.184	747.0	61.8
170.082	217.4	5.9	170.186	747.0	63.2
170.084	228.1	6.4	170.188	747.0	64.7
170.086	239.1	6.9	170.190	747.0	66.2
170.088	250.4	7.3	170.192	747.0	67.7
170.090	261.9	7.9	170.194	747.0	69.2
170.092	273.7	8.4	170.196	747.0	70.7
170.094	285.7	9.0	170.198	747.0	72.2
170.096	298.0	9.5	170.200	747.0	**73.7**
170.098	310.5	10.1			
170.100	323.3	10.8			
170.102	336.4	11.4			

Summary for Link 4L: (new Link)

Inflow Area = 2.6285 ha, 39.67% Impervious, Inflow Depth > 53 mm for 100-Year event
Inflow = 0.3985 m³/s @ 8.25 hrs, Volume= 1.397 Ml
Primary = 0.3985 m³/s @ 8.25 hrs, Volume= 1.397 Ml, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 4L: (new Link)



ACO StormBrixx®

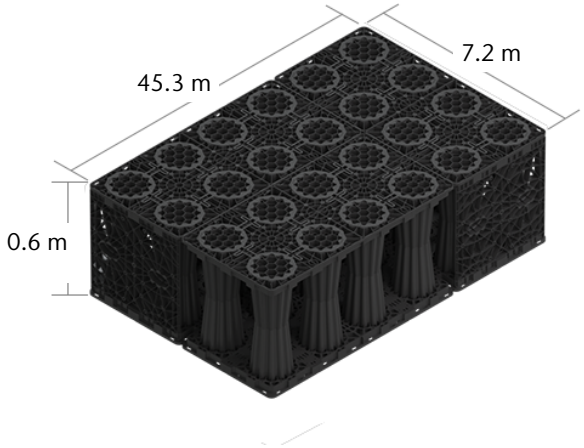
Online Project Configuration

Project Details
Description : 1914 - Linbrook School Additions
Date : 06-26-2026
City : Oakville
State : ON
Zip Code : L6K3W6
Country : CANADA

Customer Details
Contact : Anna Duong
Email : aduong@trafalgareng.com

Tank Configuration

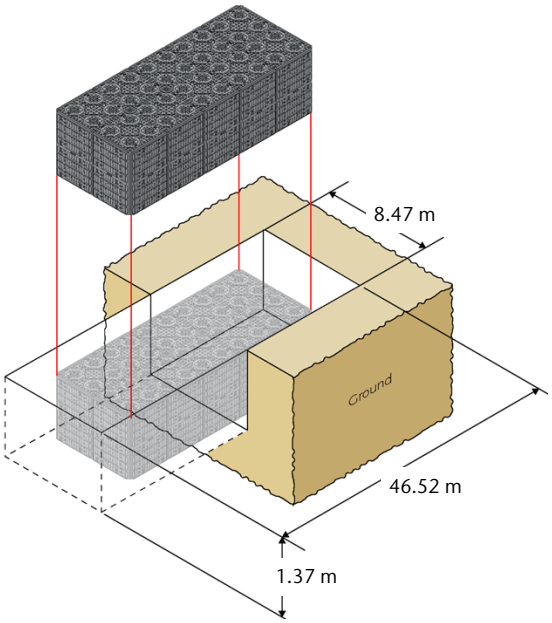
Tank Function	Detention/Retention
Product	Heavy Duty (600HD)
Number of Layers	1
Total Net Volume (m^3)	193.4 m^3
Total Gross Volume (m^3)	201.6 m^3
Length of Tank (m)	45.3 m
Width of Tank (m)	7.2 m
Depth of Tank (m)	0.6 m



Cavity & Excavation Details

Length of Cavity (m)	46.5 m
Width of Cavity (m)	8.5 m
Depth of Cavity (m)	1.4 m
Volume of Material to be Excavated (m^3)	538.2 m^3
*Membrane Quantity (m^2)	829.4 m^2
Cover Dimension (m)	0.6 m
**Backfill Material (m^3)	336.6 m^3

* Calculation includes a 15% overlap
** Pavement not accounted for



* Diagram shows cavity size rounded to nearest foot

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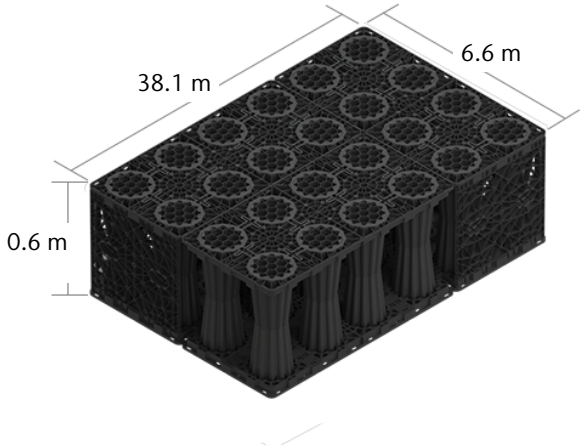
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Tank Configuration

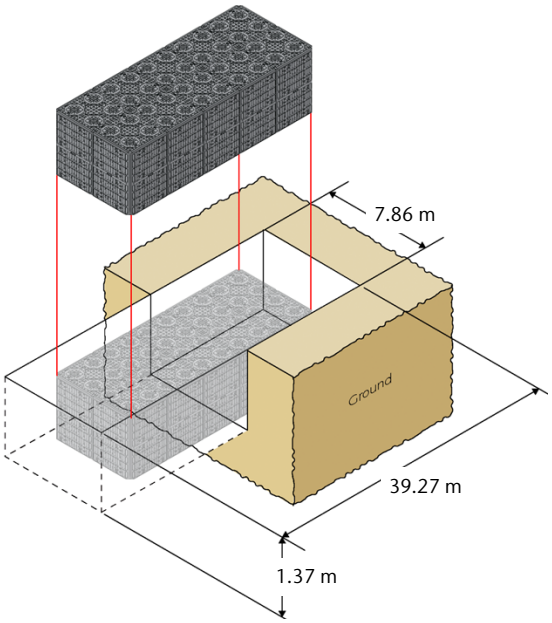
Tank Function	Detention/Retention
Product	Heavy Duty (600HD)
Number of Layers	1
Total Net Volume (m^3)	148.9 m^3
Total Gross Volume (m^3)	155.2 m^3
Length of Tank (m)	38.1 m
Width of Tank (m)	6.6 m
Depth of Tank (m)	0.6 m



Cavity & Excavation Details

Length of Cavity (m)	39.3 m
Width of Cavity (m)	7.9 m
Depth of Cavity (m)	1.4 m
Volume of Material to be Excavated (m^3)	421.9 m^3
*Membrane Quantity (m^2)	644.6 m^2
Cover Dimension (m)	0.6 m
**Backfill Material (m^3)	266.7 m^3

* Calculation includes a 15% overlap
** Pavement not accounted for



* Diagram shows cavity size rounded to nearest foot

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Verification Statement



Hydroworks HydroDome HD3 Oil-Grit Separator
Registration number: (V-2021-09-02)
Date of issue: 2021-October-04

Technology type	Oil-Grit Separator		
Application	Technology to remove oil, sediment, trash and debris from storm-water and snowmelt runoff as well as other pollutants that attach to sediment particles, such as nutrients and metals.		
Company	Hydroworks, LLC.		
Address	257 Cox St., Roselle, NJ 07203 USA	**Phone**	+1-888-290-7900
Website	https://hydroworks.com	**E-mail**	gbryant@hydroworks.com

Verified Performance Claims

The Hydroworks HydroDome HD3 Oil-Grit Separator (OGS) was tested by Alden Research Laboratory, Holden, Massachusetts, USA in 2021. The performance test results were verified by 'The Sir Sandford Fleming College of Applied Arts and Technology's Centre for Advancement of Water and Wastewater Technologies' (CAWT) following the requirements of ISO 14034:2016 and the VerifiGlobal Performance Verification Protocol. The following performance claims were verified:

Sediment removal test: The Hydroworks HydroDome HD3 OGS device, with a false floor set to 50% of the manufacturer's recommended maximum sediment storage depth and a constant influent test sediment concentration of 200 mg/L and particle size distribution of 1-1000 µm, removed 83.9, 77.6, 68.4, 66.9, 59.4, 52.4, and 46.0 percent of influent sediment by mass at surface loading rates of 40, 80, 200, 400, 600, 1000, and 1400 L/min/m^2 respectively.

Scour test: The Hydroworks HydroDome HD3 OGS device with 15.2 cm (6 inch) of test sediment preloaded onto a false floor reaching 50% of the manufacturer's recommended maximum sediment sump storage depth, generated corrected effluent sediment concentrations on average of 0.54, 0.70, 0.0, 0.0, and 0.11 mg/L at 5-min duration surface loading rates of 200, 800, 1400, 2000, and 2600 L/min/m^2, respectively.

Light liquid re-entrainment test: The Hydroworks HydroDome HD3 OGS with surrogate low-density polyethylene beads preloaded within the inner chamber, representing a floating light-liquid volume equal to a depth of 50.8 mm (2 inch) over the sedimentation area, retained 100, 100, 100, 100, and 99.7 percent of loaded beads by mass during the 5-minute duration surface loading rates of 200, 800, 1400, 2000, and 2600 L/min/m^2, respectively.

The above verified claims can be applied to other units smaller or larger than the tested unit, provided that the untested units meet the scaling rule specified in the Procedure for Laboratory Testing of Oil Grit Separators (Version 3.0, June 2014)

Technology Application

HydroDome is a hydrodynamic separator that provides benefits for both water quality and water quantity (i.e., flow control). HydroDome combines the function of separator, hood, and flow control with active storage to provide a multi-purpose stormwater management solution in one structure. HydroDome also functions as an oil separator due to the submerged inlet design and the fact that the design raises the water level with flow to maximize the distance between any floatables (oil, trash) and the discharge entrance to the HydroDome.

Technology Description

HydroDome comes complete and slides into the outlet pipe from a drainage structure and is secured to the wall with anchor bolts. It consists of a siphon with flow control, that regulates the water level in the structure and the flow rate in the outflow, and an optional high flow weir. A schematic of the Hydroworks HydroDone OGS is shown in Figure 1.

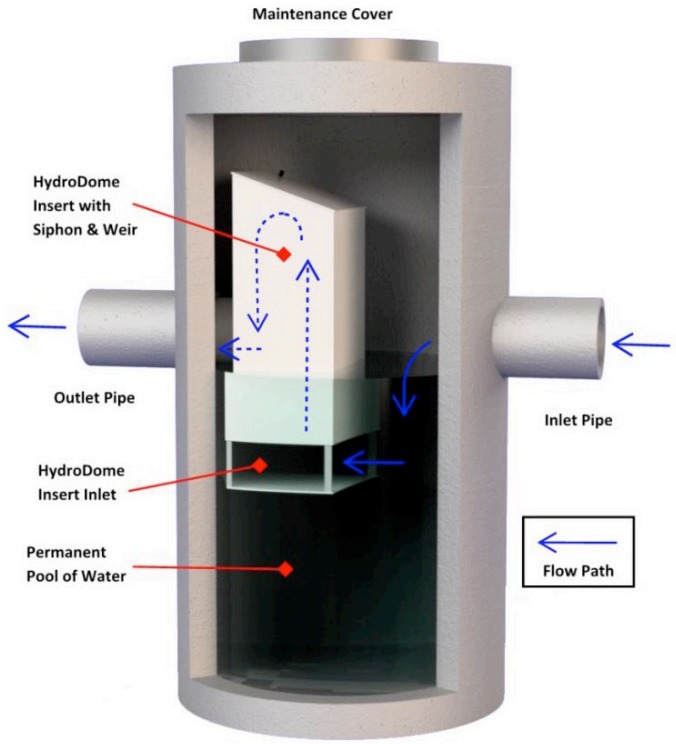


Figure 1: Schematic of the Hydroworks HydroDome Oil-Grit Separator

The siphon raises the water level to a pre-determined level without allowing water to exit the structure. The raised water level provides:
- Greater time for initial total suspended solids (TSS) removal and for floatables to prevent re-entrainment in the flow,
- Additional dilution to reduce effluent concentrations of any pollutants, and
- A greater volume, or buffer, of water to prevent scour of previously settled solids.

Water flows into the device through horizontal openings at the bottom of the HydroDome. Water then must travel upwards through the siphon. A foam filter is located at the entrance to the siphon inlet to provide secondary protection from its clogging (the outer housing of the HydroDome and submerged inlet provide primary protection). Once the water level reaches a pre-determined height, the siphon begins to engage, and water flows out of the structure downstream. The siphon flow is controlled by an orifice, whose size can be changed to provide the desired flow control. The water level continues to rise or begins to lower depending on the rate of flow from the orifice compared to the inflow of water to the structure.

An optional weir above the siphon provides a high flow path to prevent the system from surcharging. In cases where parking lot storage is desired, there would not be a high flow weir. A scour protection plate minimizes scour by preventing upward velocities/flow from the structure floor during periods of peak flow. Therefore, HydroDome combines the function of separator, hood, and flow control with active storage to provide a multi-purpose stormwater management solution in one structure.

Description of Test Procedure

For the purposes of this verification, a Hydroworks HydroDome 3-ft diameter (HD3) stormwater treatment unit was tested. The HD3 test unit was a full-scale 3 ft (0.91 m) diameter tank with an internal treatment hood that included a high flow weir. The test tank was fabricated from plastic and included 18-inch (457 mm) diameter inlet and outlet pipes, oriented along the center-line of the tank. The pipe inverts were located 48 inches (1.22 m) above the sump floor and were set with 1% slopes. The 100% and 50% sediment sump storage depths were 12 inches (0.305 m) and 6 inches (0.152 m), respectively. The effective treatment sedimentation area was 7.07 ft^2 (0.656 m^2).

The test data and results for this verification were obtained from independent testing conducted at Alden Research Laboratory in accordance with the *Procedure for Laboratory Testing of Oil-Grit Separators (Version 3.0, June 2014)*[1]. Use of this procedure is intended to ensure that technologies in this category are subjected to stringent requirements in generating verifiable performance test data.

The verification plan was followed with one minor variance from the *Procedure*. This variance includes the required minimum amount of test sediment to be fed into the test unit for each tested surface loading rate (SLR). Although the *Procedure* requires a minimum of 11.3 kg of test sediment, during the 40 L/min/m^2 SLR test, only 6.45 kg was fed into the unit, which is 4.85 kg less than the specified minimum. This variance to the *Procedure* was agreed to by Toronto and Region Conservation Authority (TRCA), the author of the *Procedure*, based on previous conversations with Alden Labs, noting that the length of time to conduct the test with 11.3 kg of sediment at 40 L/min/m^2 would be over 36 hours.

Verification Results

CAWT verified the performance test data and other information pertaining to the HydroDome HD3 Oil-Grit Separator. A Verification Plan was prepared to guide the verification process based on the requirements of ISO 14034:2016 and the VerifiGlobal Performance Verification Protocol.

The test sediment consisted of ground silica (1 – 1000 micron) with a specific gravity of 2.65, uniformly mixed to meet the particle size distribution specified in the testing procedure.

The "*Procedure for Laboratory Testing of Oil Grit Separators"* (TRCA, 2014) requires that the three-sample average of the test sediment particle size distribution (PSD) meet the specified PSD. The allowable tolerance of 6% variation from the specified PSD curve was met at each discrete particle size tested and the d50 was finer than 75 µm.

Comparison of the individual sample and average test sediment PSD to the specified PSD is shown in Figure 2. This figure indicates that the test sediment used for the removal and scour tests met the above-mentioned criteria. The median particle size was 64 µm.

Samples from test sediment batches used for each run met the specified PSD within the required tolerance thresholds.

The capacity of the HydroDome HD3 device to retain sediment was determined at seven surface loading rates using the modified mass balance method. This method involved measuring the mass and particle size distribution of the injected and retained sediment for each test run.

[1] The *Procedure for Laboratory Testing of Oil-Grit Separators (Version 3.0, June 2014)* was originally prepared by the Toronto and Region Conservation Authority (TRCA) in association with a 31 member advisory committee from various stakeholder groups.

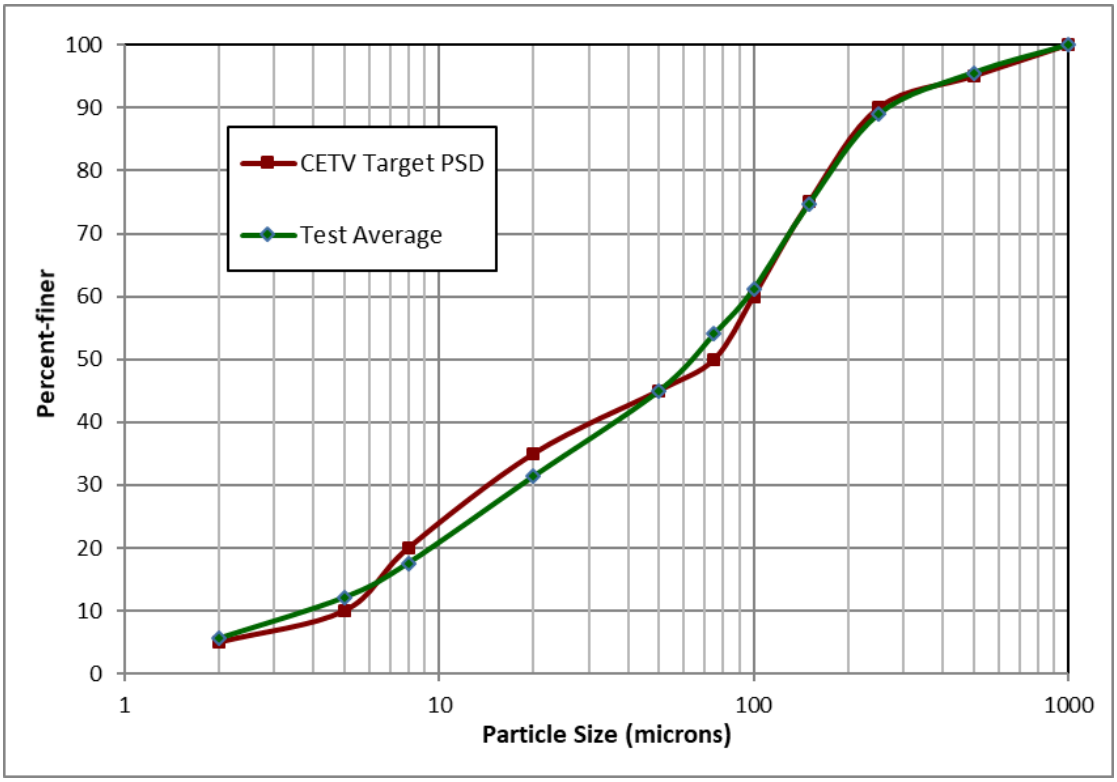


Figure 2 - Average particle size distribution (PSD) of the test sediment used for the sediment removal and scour test compared to the specified PSD

Performance was evaluated with a false floor simulating the technology filled to 50% of the manufacturer's recommended maximum sediment storage depth. The test was carried out with clean water that maintained a sediment concentration below 20 mg/L. Based on these conditions, removal efficiencies for individual particle size classes and for the test sediment, as a whole, were determined for each of the tested surface loading rates (Table 1).

In some instances, the removal efficiencies were above 100% for certain particle size fractions. These discrepancies are not unique to any one test laboratory and are attributed to errors relating to the blending of sediment, collection of representative samples for laboratory submission, and laboratory analysis of PSD. Due to these errors, caution should be exercised in applying the removal efficiencies by particle size fraction for the purposes of sizing the tested device (see Bulletin # CETV 2016-11-0001).

Particle Range (µm)	**40** L/min/m^2	**80** L/min/m^2	**200** L/min/m^2	**400** L/min/m^2	**600** L/min/m^2	**1000** L/min/m^2	**1400** L/min/m^2	**Average**
>500	100%	125%	140%	140%	200%	200%	180%	155%
250-500	114%	129%	150%	143%	143%	183%	217%	154%
150-250	150%	136%	157%	153%	179%	221%	220%	174%
100-150	116%	126%	129%	148%	157%	162%	139%	140%
75-100	136%	155%	178%	190%	180%	170%	133%	163%
50-75	91%	100%	128%	270%	126%	82%	75%	125%
20-50	111%	97%	93%	51%	58%	42%	73%	75%
8-20	75%	79%	38%	34%	29%	17%	26%	42%
5-8	53%	34%	16%	7%	0%	0%	23%	19%
2-5	37%	29%	14%	0%	0%	0%	1%	12%

Table 1 - Removal efficiencies (%) of the HydroDome HD3 Oil-Grit Separator for individual particle size classes at specified surface loading rates

Figure 3 compares the particle size distribution (PSD) of the three-sample average of the test sediment to the PSD of the sediment retained by the HydroDome HD3 OGS device at each of the tested surface loading rates. As expected, the capture efficiency for fine particles was generally found to decrease as surface loading rates increased, particularly in the 400 to 1400 L/min/m^2 range.

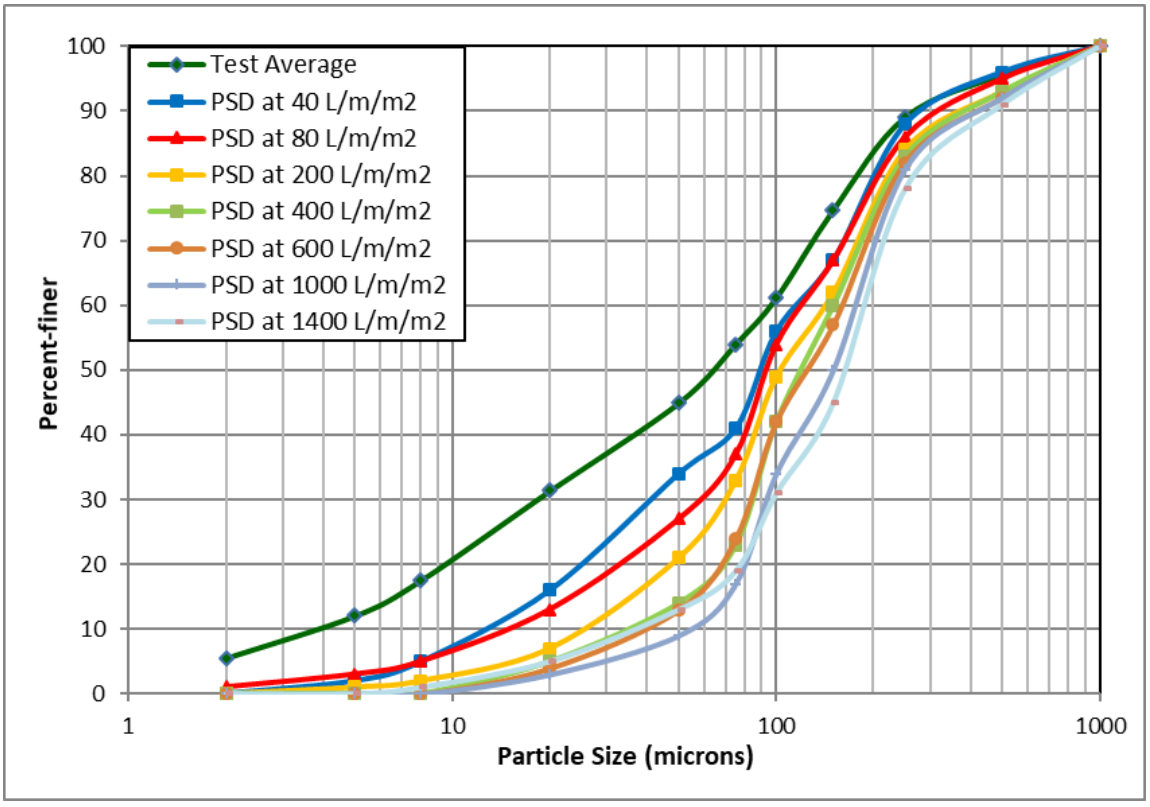


Figure 3 - Particle size distribution of sediment retained in the HydroDome HD3 Oil-Grit Separator in relation to the injected test sediment average

Table 2 shows the results of the sediment scour and re-suspension test for the HydroDome HD3 Oil-Grit Separator unit. The scour test involved preloading 15.2 cm (6 inches) of fresh test sediment into the sedimentation sump of the device. The sediment was placed on a false floor to mimic a device filled to 50% of the maximum recommended sediment storage depth.

Measured Concentration at Each surface Loading Rate					
Effluent Sample No.	200 L/min/m^2	800 L/min/m^2	1400 L/min/m^2	2000 L/min/m^2	2600 L/min/m^2
1	1.2	0.3	0.0	0.0	0.0
2	0.7	0.0	0.0	0.0	0.0
3	0.5	0.0	0.0	0.0	0.5
4	0.1	3.2	0.0	0.0	0.0
5	0.3	0.0	0.0	0.0	0.0
Average	**0.5**	**0.7**	**0.0**	**0.0**	**0.1**

Table 2 - Scour test adjusted effluent sediment concentration at each surface loading rate

Clean water was run through the device at five surface loading rates over a 30-minute period. Each flow rate was maintained for 5 minutes with a one-minute transition time between flow rates. Effluent samples were collected at one minute sampling intervals and analyzed for suspended solids concentration (SSC) and PSD by recognized methods. The effluent samples were subsequently adjusted based on the background concentration of the influent water.

Results showed average adjusted effluent sediment concentrations below 0.7 mg/L at all surface loading rates. The magnitude of scour is dependent on the internal flow patterns (velocity and turbulence) and water volume within the unit, which is related to the depth below the inlet and outlet. The HD3 possessed a large water volume in the sump and consequently, low velocity, which prevented incipient motion of the sediment of sufficient magnitude for scour to occur.

The average measured effluent scour sediment concentrations (adjusted for background) for each tested SLR were not adjusted for particle size based on the D5 of particles captured for the 40 L/min/m^2 removal efficiency test since there was negligible scour.

The capacity of the device to retain light liquid was determined at five surface loading rates in a range between 200 and 2600 L/min/m^2 using low-density polyethylene beads, Dow Chemical Dowlex^{tm} 2517, with a density of 0.917 g/cm^3. This material was specified as the acceptable surrogate to represent floating liquid for a qualitative assessment of liquid behaviour during operation.

Performance was evaluated with a total of 32.8 litres (18.94 kg) of pellets preloaded into the treatment vault by introducing them into the crown of the influent pipe, to a volume equal to a depth of 50.8 mm (2 inch) over the sedimentation area of 0.66 m^2. The effluent was collected in flow-designated nets to allow for quantification of any re-entrained pellets for each test SLR. The collected pellets were dried and the mass of collected pellets was quantified for each SLR, as well as the overall test.

The recorded average flow data, as well as quantified volume and mass of collected pellets for each target SLR and overall test, is shown in Table 3. The maximum re-entrainment of 0.3% occurred at 2600 L/min/m^2. The total retention rate was 99.7%.

Light-liquid Re-Suspension Data				**Starting Volume**	(Liters) **32.8**	**Starting Mass**	(grams) **18938**
Action	**Time Stamp** (minutes)	**Meter**	**Target Flow** (L/min/m^2)	**Recorded Flow** (L/min/m^2)	**COV**	**Collected Mass** (grams)	**Retained Mass**
Start D.A. Recording	0.0						
Flow set	1.0	4"	200	**207**	0.057	0	**100.0%**
Stop Collection	6.0			3.4%			
Flow set	7.0	4"	800	**826**	0.008	0	**100.0%**
Stop Collection	12.0			3.2%			
Flow set	13.0	6"	1400	**1407**	0.009	0	**100.0%**
Stop Collection	18.0			0.5%			
Flow set	19.0	6"	2000	**2022**	0.004	0.3	**100.0%**
Stop Collection	24.0			1.1%			
Flow set	25.0	6"	2600	**2599**	0.003	54.9	**99.7%**
Stop Collection	30.0			-0.1%			
Hydroworks HD 3				Interim Collection Net		1.3	
					Total	**56.5**	**99.7%**

Table 3 - Light-liquid recorded flow and re-entrainment data

Quality assurance

Performance testing and verification of the HydroDome HD3 Oil Grit Separator were performed in accordance with the requirements of ISO 14034:2016 and the VerifiGlobal Performance Verification Protocol. The verifier, CAWT, has confirmed that quality assurance requirements were addressed throughout the performance testing process and in the generation of performance test results. This includes reviewing all data sheets and data downloads, as well as overall management of the test system, quality control and data integrity.

In addition, QA/QC measures are documented in the *"Procedure for Laboratory Testing of Oil-Grit Separators"* (TRCA, 2014) to ensure results are accurate and precise, and that testing conducted by multiple vendors of the same category of technology are employing the same test method. The QA/QC measures include the use of certified laboratories, established test methods, calibration of equipment, tolerance limits for results variation, data checks during testing, and stringent documentation requirements.

Table 4 provides a summary of the acceptance criteria for particle size distribution, solids concentration in test water, water temperature, flow measurement equipment, flow rate variation, sediment feed, sediment moisture content, and sample analysis.

QC Parameter	Acceptance Criteria
Particle Size Distribution	Analyzed by a certified laboratory in accordance with ASTM D422-63(2007)e1. Percentages for size ranges vary by <6%, median < 75 um. PSD in water determined by ASTM D422-63(2007)e1 upon prior drying in designated pre-weighed nonferrous trays in compliance with ASTM D4959-07.
Solids concentration in test water	Suspended solids concentration (SSC) concentration of test water of less than 20 mg/L.
Water temperature	Temperature of water less than 25ºC.
Flow measurement equipment	Equipment calibration reports submitted to confirm that reported flow rate match actual flow rate. Flow rates from calibrated flow instruments recorded at no longer than 30 second intervals over the duration of the test.
Flow rate variation	Flow rates have COV < 0.04; maintained with ±10% of target flow rate.
Sediment feed	TSS concentration target = 200 mg/L with a tolerance limit of ±25 mg/L. Injection location is 5 pipe diameters upstream of the inlet to the device, as per the *Procedure*. Six calibration samples taken over duration of each test run. The allowed Coefficient of Variance (COV) for the measured samples was 0.10.
Sediment moisture content	Determined by ASTM D4959-07 "Standard Test Method for Determination of Water (Moisture) Content of Soil By Direct Heating".
Sample analysis	Conducted by qualified laboratories using standard methods and meeting the requirements of ISO.

Table 4. Validation of QA/QC procedures

Summary of Verification Results and Verified Performance Claim for Hydroworks HydroDome HD3 Oil-Grit Separator (OGS)

In summary, the HydroDome HD3 Oil Grit Separator is designed to remove oil, sediment, trash and debris from stormwater and snowmelt runoff as well as other pollutants that attach to sediment particles, such as nutrients and metals. Verification of performance claims for the Hydroworks HydroDome HD3 Oil Grit Separator was conducted by CAWT based on independent third-party performance test results provided by Alden Research Laboratory, as well as additional information provided by Hydroworks.

Table 5 summarizes the verification results in relation to the technology performance parameters that were identified to determine the efficacy of the HydroDome HD3 Oil Grit Separator. The claims stated in Table 5 were verified using the modified mass balance method for sediment removal by measuring the total mass of sediment entering the unit and retained by the unit at prescribed surface loading rates. Effluent sampling was conducted every minute over a 30-minute duration for the scour test, using approved sampling methods as per the verification procedure. The light liquid re-entrainment test was conducted using a mass balance methodology which accounted for all the beads input, captured, and scoured from the separator.

Parameters	Verified Claims	Accuracy
Sediment Removal	During the sediment removal test, the Hydroworks HydroDome HD3 OGS device, with a false floor set to 50% of the manufacturer's recommended maximum sediment storage depth and a constant influent test sediment concentration of 200 mg/L and particle size distribution of 1-1000 µm, removed 83.9, 77.6, 68.4, 66.9, 59.4, 52.4, and 46.0 percent of influent sediment by mass at surface loading rates of 40, 80, 200, 400, 600, 1000, and 1400 L/min/m^2 respectively	The sediment removal characteristics were quantified at various surface loading rates (SLRs), including particle size fractions, using a modified mass balance methodology. Performance results are presented as the true values.
Sediment Scour	During the scour test, the Hydroworks HydroDome HD3 OGS device with 15.2 cm (6 inch) of test sediment preloaded onto a false floor reaching 50% of the manufacturer's recommended maximum sediment sump storage depth, generated corrected effluent sediment concentrations on average of 0.54, 0.70, 0.0, 0.0, and 0.11 mg/L at 5-min duration surface loading rates of 200, 800, 1400, 2000, and 2600 L/min/m2, respectively.	5 samples analyzed for sediment (n=5) at each flow rate There was negligible scour once corrected for background concentrations.
Light Liquid Re-entrainment	During the light-liquid re-entrainment test, the Hydroworks HydroDome HD3 OGS with surrogate low-density polyethylene beads preloaded within the inner chamber, representing a floating light-liquid volume equal to a depth of 50.8 mm (2 inch) over the sedimentation area, retained 100, 100, 100, 100, and 99.7 percent of loaded beads by mass during the 5-minute duration surface loading rates of 200, 800, 1400, 2000, and 2600 L/min/m^2, respectively.	Performance results are presented as the true values. Under the "Procedure for Laboratory Testing of Oil-Grit Separators" (TRCA, 2014), the light-liquid re-entrainment test is also not amenable to statistical analysis as the tests were only conducted once at various flow rates following a mass balance procedure.

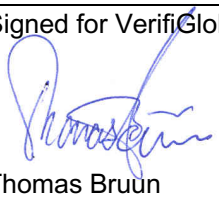
Table 5. Verified performance claims

What is ISO 14034?

The purpose of environmental technology verification is to provide a credible and impartial account of the performance of environmental technologies. Environmental technology verification is based on a number of principles to ensure that verifications are performed and reported accurately, clearly, unambiguously and objectively. The International Organization for Standardization (ISO) standard for environmental technology verification (ETV) is ISO 14034, which was published in November 2016.

Benefits of ETV

ETV contributes to protection and conservation of the environment by promoting and facilitating market uptake of innovative environmental technologies, especially those that perform better than relevant alternatives. ETV is particularly applicable to those environmental technologies whose innovative features or performance cannot be fully assessed using existing standards. Through the provision of objective evidence, ETV provides an independent and impartial confirmation of the performance of an environmental technology based on reliable test data. ETV aims to strengthen the credibility of new, innovative technologies by supporting informed decision-making among interested parties.

For more information on the HydroDome Oil Grit Separator, contact:	For more information on VerifiGlobal, contact:
Hydroworks LLC. 257 Cox St., Roselle, NJ 07203 USA T: +1-888-290-7900 E: gbryant@hydroworks.com W: https://hydroworks.com	VerifiGlobal c/o ETA-Danmark A/S Göteborg Plads 1, DK-2150 Nordhaven T: +45 7224 5900 E: info@verifiglobal.com W: www.verifiglobal.com
Signed for Hydroworks:  Graham Bryant Owner	Signed for VerifiGlobal:  Thomas Bruun Managing Director  John Neate Managing Director

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Appendix 'E'

GENERAL NOTES

1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS OF THE REGIONAL MUNICIPALITY OF HALTON, TOWN OF OAKVILLE AND THE ONTARIO BUILDING CODE (PART 7). ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND DRAWINGS (OPSS & OPSD) SHALL BE USED IN ABSENCE OF LOCAL STANDARDS.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL, MECHANICAL AND LANDSCAPE DRAWINGS.
3. ALL INFORMATION SHOWN REGARDING THE LOCATION AND SIZE OF EXISTING UTILITIES AND/OR SERVICES HAS NOT BEEN VERIFIED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATION OF UTILITIES PRIOR TO CONSTRUCTION AND PROTECTING AND MAINTAINING DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL CHECK AND VERIFY ALL GIVEN GRADES, DIMENSIONS, AND ELEVATIONS, PRIOR TO CONSTRUCTION AND ANY DISCREPANCIES FOUND PRIOR TO OR DURING CONSTRUCTION SHALL BE CLARIFIED WITH THE ENGINEER.
5. ALL GRADING CHANGES SHALL BE APPROVED BY THE ENGINEER AND TOWN OF OAKVILLE PRIOR TO IMPLEMENTATION. ALL DISTURBED AREAS WITHIN THE PUBLIC R.O.W. TO BE REINSTATED TO THE SATISFACTION OF THE ENGINEERING AND CONSTRUCTION DEPARTMENT. EXISITING SODDED AREAS TO BE REINSTATED WITH 200MM TOPSOIL AND SOD. SIDEWALKS AND PATHWAYS SHALL BE RESTORED WITH MATERIAL TO MATCH ORIGINAL UNLESS OTHERWISE NOTED.
6. CONTRACTOR TO REFER TO GEOTECHNICAL REPORT FOR PAVEMENT CONSTRUCTION AND SUBDRAINAGE DETAILS.
7. ALL WORKS WITHIN THE PUBLIC ROADWAY TO BE RESTORED TO THE SATISFACTION OF THE TOWN OF OAKVILLE ENGINEERING AND CONSTRUCTION DEPARTMENT.
8. RESTORE ROAD AS PER THE TOWN OF OAKVILLE ROAD CUT PERMIT.
9. ALL REMOVED OR DAMAGED CURBS, SIDEWALK, GRANULARS, ASPHALT, AND SOD RESULTING FROM SERVICE INSTALLATION SHALL BE REINSTATED BY SERVICING CONTRACTOR TO TOWN OF OAKVILLE STANDARDS.

SERVICING NOTES

1. ALL SERVICES SHALL BE BACKFILLED WITH GRANULAR BACKFILL COMPACTED TO 98% S.P.M.D.D. NATIVE BACKFILL MAY BE USED WITH THE PERMISSION OF THE GEOTECHNICAL CONSULTANT. BEDDING AND COVER MATERIAL SHALL BE PER THE GEOTECHNICAL CONSULTANT RECOMMENDATIONS.
2. BACKFILLING AND RESTORATION WITHIN THE PUBLIC ROW SHALL BE IN ACCORDANCE WITH THE TOWN OF OAKVILLE STANDARD AND TO THE SATISFACTION OF THE ENGINEERING & CONSTRUCTION DEPARTMENT.
3. SURROUND ALL MANHOLES WITH A MINIMUM OF 1.5m COMPACTED GRANULAR 'C' BACKFILL.
4. ALL ENDS OF SERVICE CONNECTIONS SHALL BE MARKED WITH 50x100 LUMBER PLACED FROM INVERT OF SERVICE TO 1.0m ABOVE GRADE. IF PROVIDING SERVICE CONNECTIONS UP TO THE PROPERTY LINE (IE. MUNICIPAL WORKS CONSTRUCTION).
5. ALL SEWERS SHALL BE FLUSHED AND CCTV INSPECTED AT COMPLETION.
6. ALL REMOVED OR DAMAGED CURBS, SIDEWALK, GRANULARS, ASPHALT, AND SOD RESULTING FROM SERVICE INSTALLATION SHALL BE REINSTATED BY THE CONTRACTOR TO THE SATISFACTION OF THE MUNICIPALITY.

WATERMAINS

1. WATER SERVICE CONNECTIONS TO BE AS PER O.P.S.D. 1104.01. AS AMENDED BY REGION OF HALTON PIPE FOR ALL SERVICE CONNECTIONS UP TO 50MM DIA. SHALL BE TYPE "K" SOFT COPPER TUBING MEETING AWWA C800 (LATEST EDITION).
2. A MIN. HORIZONTAL SEPARATION OF 2.5M MUST BE MAINTAINED BETWEEN WATERMAINS AND SANITARY OR STORM SEWERS, INCLUDING SERVICE LATERALS.
3. A MIN. VERTICAL SEPARATION OF 0.15M BETWEEN WATERMAINS AND SEWERS MUST BE MAINTAINED IF WATERMAIN CROSSES ABOVE SEWER OR 0.50M IF WATERMAIN CROSSES BELOW SEWER.
4. WATERMAIN BEDDING AND COVER TO BE SUITABLE GRANULAR BEDDING MATERIAL AS PER O.P.S.D. 802.010 AND O.P.S.S. 401.
5. ALL METALLIC WATERMAINS, FITTINGS, AND APPURTENANCES SHALL BE INSTALLED WITH A MINIMUM OF ONE ANODE PER LENGTH PER PIPE AND ONE ANODE PER ELECTRONICALLY ISOLATED APPURTENANCE AND INSTALLED IN ACCORDANCE WITH OPSS 442 AND OPSD 1109.010 AND 1109.011. ANODE INSTALLATION IS NOT REQUIRED WITHIN VALVE CHAMBERS, DRAIN CHAMBERS, AIR RELEASE CHAMBERS OR SWAB PORTS.
6. ALL SACRIFICIAL ANODES SHALL CONFORM TO A.S.T.M. B-418 TYPE II AND SHALL BE MADE OF HIGH GRADE ELECTROLYTIC ZINC, 99.99% PURE.
7. ALL WELD CONNECTIONS TO BE COATED WITH "TC MASTIC" OR APPROVED EQUIVALENT.
8. FOR ALL ANODES CONNECTED TO NEW PIPE, FITTINGS OR TO EXISTING METALLIC WATERMAINS, A CADWELDER AND CA-15 OR EQUIVALENT CARTRIDGE SHALL BE USED. ANODE INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
9. ALL VALVES TO OPEN LEFT (COUNTER-CLOCKWISE), BE OF THE APPROVED TYPE WITH NON-RISING STEM AND SHALL HAVE 50MM SQUARE STANDARD AWWA OPERATING NUT.
10. ALL PLUGS, CAPS, TEES, BENDS, AND OTHER APPURTENANCES SHALL BE MECHANICALLY RESTRAINED AS PER MANUFACTURER'S SPECIFICATIONS. MECHANICAL THRUST RESTRAINT DEVICES SHALL HAVE THIRD PARTY TESTING, APPROVALS FROM THE UNDERWRITERS LABORATORY (UL) AND FACTORY MUTUAL (FM), AND BE INCLUDED IN HALTON REGION'S APPROVED MANUFACTURER'S PRODUCT LIST FOR WATER SYSTEMS.

SANITARY SEWERS

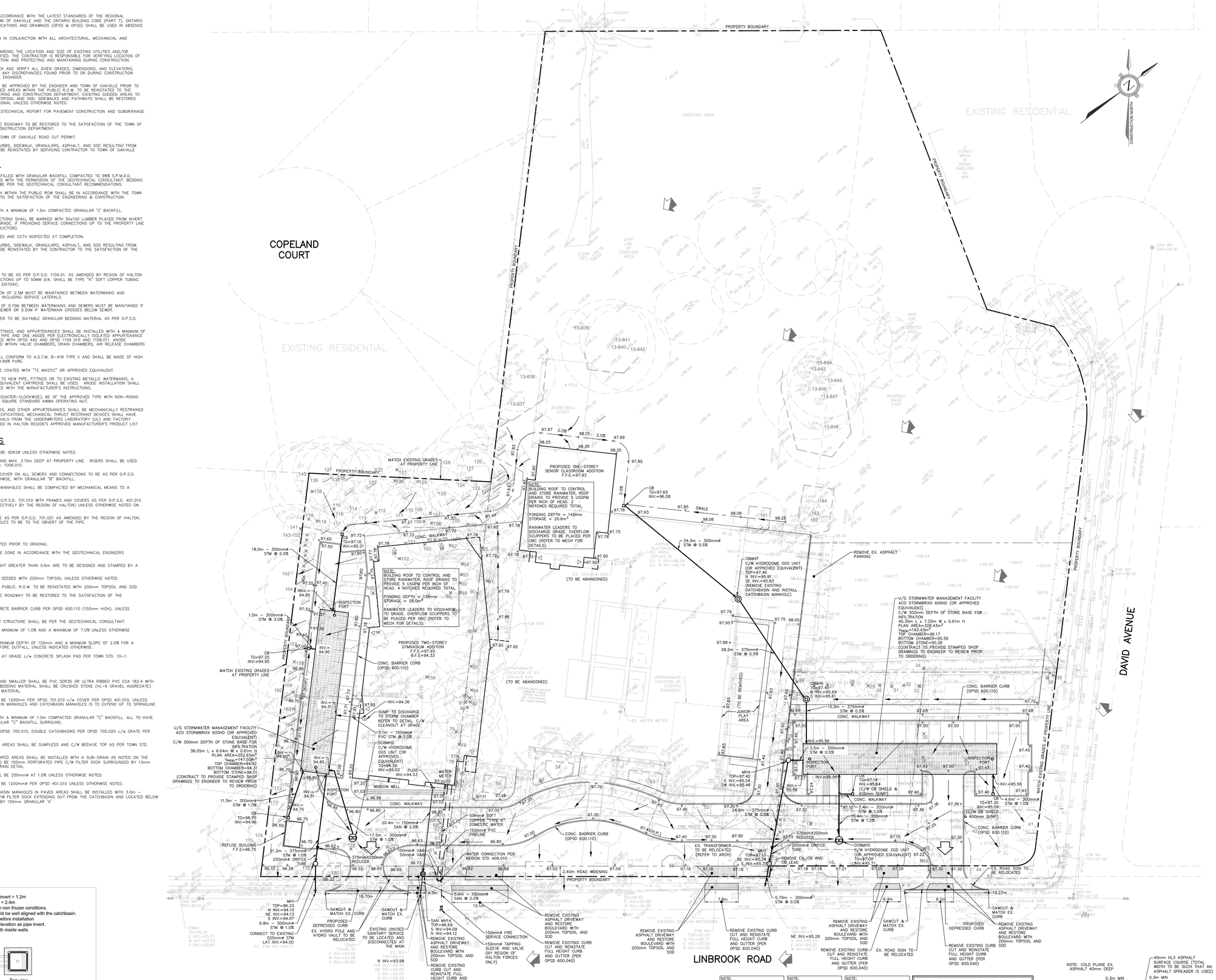
1. SANITARY SEWER PIPE SHALL BE SDR28 UNLESS OTHERWISE NOTED.
2. SERVICES TO BE MIN. 2.15m AND MAX. 3.15m DEEP AT PROPERTY LINE. RISERS SHALL BE USED WHERE NOTED AS PER O.P.S.D. 1006.010.
3. GRANULAR "A" BEDDING AND COVER ON ALL SEWERS AND CONNECTIONS TO BE AS PER O.P.S.D. 802.010 UNLESS NOTED OTHERWISE, WITH GRANULAR "B" BACKFILL.
4. GRANULAR BACKFILL AROUND MANHOLES SHALL BE COMPACTED BY MECHANICAL MEANS TO A MINIMUM OF 95% S.P.D.
5. SANITARY MANHOLES AS PER O.P.S.D. 701.010 WITH FRAMES AND COVERS AS PER O.P.S.D. 401.010 TYPE "A" (AS AMENDED RESPECTIVELY BY THE REGION OF HALTON) UNLESS OTHERWISE NOTED ON THE DRAWINGS.
6. BENCHING IN MANHOLES TO BE AS PER O.P.S.D. 701.021 AS AMENDED BY THE REGION OF HALTON. BENCHING IN SANITARY MANHOLES TO BE TO THE OBVERT OF THE PIPE.

GRADING NOTES

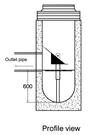
1. ALL TOPSOIL SHALL BE STRIPPED PRIOR TO GRADING.
2. ALL FILL PLACEMENT SHALL BE DONE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERS RECOMMENDATIONS.
3. RETAINING WALLS WITH A HEIGHT GREATER THAN 0.6m ARE TO BE DESIGNED AND STAMPED BY A PROFESSIONAL ENGINEER.
4. ALL DISTURBED AREAS TO BE SEEDED WITH 200mm TOPSOIL UNLESS OTHERWISE NOTED.
5. ALL DISTURBED AREAS WITHIN PUBLIC. R.O.W. TO BE REINSTATED WITH 200mm TOPSOIL AND SOD.
6. ALL WORKS WITHIN THE PUBLIC ROADWAY TO BE RESTORED TO THE SATISFACTION OF THE MUNICIPALITY.
7. ALL CURBING SHALL BE CONCRETE BARRIER CURB PER OPSD 600.110 (150mm HIGH), UNLESS OTHERWISE NOTED.
8. ASPHALT DRIVEWAY PAVEMENT STRUCTURE SHALL BE PER THE GEOTECHNICAL CONSULTANT.
9. DRIVEWAY SLOPE SHALL BE A MINIMUM OF 1.0% AND A MAXIMUM OF 7.0% UNLESS OTHERWISE INDICATED.
10. ALL SWALES SHALL HAVE A MINIMUM DEPTH OF 150mm AND A MINIMUM SLOPE OF 2.0% FOR A MAXIMUM LENGTH OF 60m BEFORE OUTFALL, UNLESS INDICATED OTHERWISE.
11. ALL DOWNSPOUTS TO SPLASH AT GRADE c/w CONCRETE SPLASH PAD PER TOWN STD. 10-1.

STORM SEWERS

1. ALL STORM SEWERS 600mm AND SMALLER SHALL BE PVC SDR35 OR ULTRA RIBBED PVC CSA 182.4 WITH BEDDING PER OPSD 802.010. BEDDING MATERIAL SHALL BE CRUSHED STONE (HL-6 GRAVEL AGGREGATE) AND A GRANULAR "C" COVER MATERIAL.
2. ALL STORM MANHOLES SHALL BE 1200mm PER OPSD 701.010 c/w COVER PER OPSD 401.010, UNLESS OTHERWISE NOTED. BENCHING IN MANHOLES AND CATCHBASIN MANHOLES IS TO EXTEND UP TO SPRINGLINE OF THE PIPE.
3. SURROUND ALL MANHOLES WITH A MINIMUM OF 1.0m COMPACTED GRANULAR "C" BACKFILL. ALL TO HAVE COMPLETE, COMPACTED GRANULAR "C" BACKFILL SURROUND.
4. CATCHBASINS SHALL BE PER OPSD 705.010, DOUBLE CATCHBASINS PER OPSD 705.020 c/w GRATE PER OPSD 400.020
5. CATCHBASINS IN LANDSCAPED AREAS SHALL BE SUMPLESS AND C/W BEEHIVE TOP AS PER TOWN STD. 5-2.
6. ALL CATCHBASINS IN LANDSCAPED AREAS SHALL BE INSTALLED WITH A SUB-DRAIN AS NOTED ON THE SERVICING PLAN. SUBDRAIN TO BE 100mm PERFORATED PIPE C/W FILTER SOCK SURROUNDED BY 13mm CLEAR STONE AS PER SUB-DRAIN DETAIL
7. ALL CATCHBASIN LEADS SHALL BE 250mm@ AT 1.0% UNLESS OTHERWISE NOTED.
8. ALL STORM MANHOLES SHALL BE 1200mm@ PER OPSD 401.010 UNLESS OTHERWISE NOTED.
9. ALL CATCHBASIN AND CATCHBASIN MANHOLES IN PAVED AREAS SHALL BE INSTALLED WITH 3.0m - 100mm@ PERFORATED PIPE C/W FILTER SOCK EXTENDING OUT FROM THE CATCHBASIN AND LOCATED BELOW THE SUBGRADE SURROUNDED BY 150mm GRANULAR 'A'



Notes
1 Recommended depth t/g - invert = 1.2m
Maximum depth t/g - invert = 2.4m
1. CB Shield to be installed in non frozen conditions.
2. The frame and cover should be well aligned with the catchbasin.
3. The sump must be clean before installation
4. The grate is at the same elevation as pipe invert.
5. Pipes must be cut flush with inside walls

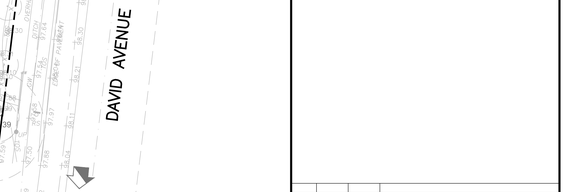


600 x 600 CB
CB Shield (600mm Sump)

TREE PROTECTION LEGEND

(REFER TO ARBORIST REPORT)

- TREE HOARDING
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- 141 EXISTING TREE NUMBER (PER ARBORIST REPORT)



KEY PLAN

LEGEND

- PROPOSED CATCHBASIN
- PROPOSED DOUBLE CATCHBASIN MANHOLE
- PROPOSED CATCHBASIN MANHOLE
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED VALVE & BOX
- PROPOSED PLUG
- PROPOSED SUMP PUMP DISCHARGE LOCATION
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATERMAIN
- PROPERTY BOUNDARY
- + 99.16 EXISTING ELEVATION
- + 99.16 EXISTING ELEVATION TO REMAIN
- + 99.16 PROPOSED FINISHED ELEVATION
- 2.0% PROPOSED DRAINAGE DIRECTION
- PROPOSED SWALE DRAINAGE DIRECTION
- PROPOSED OVERLAND FLOW DIRECTION
- EXISTING OVERLAND FLOW DIRECTION
- EXISTING STORM MANHOLE
- EXISTING SANITARY MANHOLE
- EXISTING CATCHBASIN MANHOLE
- EXISTING CATCHBASIN
- EXISTING DOUBLE CATCHBASIN
- EXISTING VALVE AND BOX
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- EXISTING FIRE HYDRANT

ISSUED FOR ZONING BYLAW AMENDMENT

NOT FOR CONSTRUCTION

NO.	DATE	BY/DRAWN	REVISIONS
1	26/01/07	AO/GL	ISSUED FOR ZBA

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BENCHMARK

ELEVATIONS ARE REFERRED TO THE TOWN OF OAKVILLE BENCHMARK NO. 28, HAVING AN ELEVATION OF 98.5739M.

NOTE

TOPOGRAPHIC INFORMATION SHOWN HEREON IS OBTAINED FROM PROJECT No. 13-094 (SEPTEMBER 3RD, 2013), AND PROJECT No. 18-229 (DECEMBER 17TH, 2018), PREPARED BY J.H. CELBLOOM SURVEYING LIMITED. TOPOGRAPHIC INFORMATION SHOWN HEREON IS OBTAINED FROM PROJECT No. 25-26-1 (MAY 5TH, 2026), PREPARED BY CUNNINGHAM MACCONNELL LIMITED).

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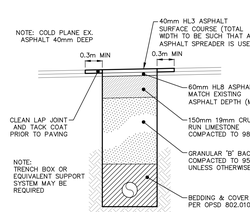
CONSULTANT
TRAFALGAR ENGINEERING
#201-481 MORDEN ROAD, OAKVILLE, ON, L6K 3W6
www.trafalgareng.com

PROJECT TITLE
LINBROOK SCHOOL ADDITIONS

LOCATION
1059, 1079, 1087, 1095 LINBROOK ROAD
OAKVILLE, ON

DRAWING TITLE
PRELIMINARY GRADING AND SERVICING PLAN

SCALE	1:300	DESIGN BY	AD
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DATE	2026/06/08	SHEET	1 OF 2
PROJECT No.	1914		
PLAN No.	GS1		



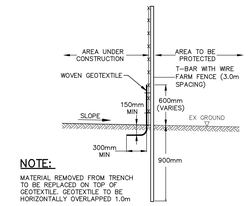
NOTE:
1. PLACE HL8 ASPHALT TO MATCH EX SURFACE.

TYPICAL TRENCH RESTORATION
N.T.S.

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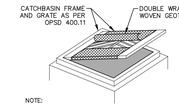
EROSION AND SEDIMENT CONTROL NOTES

1. EROSION AND SEDIMENTATION FACILITIES TO BE INSTALLED PRIOR TO ANY AREA GRADING OPERATION.
2. THE MEASURES AS PROPOSED MAY BE MODIFIED AT THE DISCRETION OF THE ENGINEER TO SUIT THE PROPOSED CONSTRUCTION PROGRAMS. THE GENERAL INTENT OF THE PROPOSED EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES.
3. DECOMMISSIONING OF ALL EROSION CONTROL MEASURES SHALL OCCUR ONLY ONCE VEGETATIVE COVER IS ESTABLISHED.
4. DESIGNATED ENTRANCE FOR ALL CONSTRUCTION TRAFFIC TO BE INSTALLED WITH MUD CONTROL DEVICE AS PER MUD MAT DETAIL. MUD CONTROL DEVICES TO BE INSTALLED PRIOR TO START OF CONSTRUCTION AND ARE TO BE MAINTAINED IN GOOD WORKING ORDER UNTIL GRADING WORKS ARE COMPLETED. MUD MAT MAY BE DELETED WITH THE APPROVAL OF THE TOWN OF OAKVILLE.
5. ANY DISTURBED AREA NOT SCHEDULED FOR FURTHER CONSTRUCTION WITHIN 30 DAYS SHALL BE PROVIDED WITH A TEMPORARY SEED.
6. INSTALL CATCHBASIN SEDIMENT CONTROL ON EXISTING CATCHBASINS PRIOR TO START OF CONSTRUCTION.
7. INSTALL CATCHBASIN SEDIMENT CONTROL ON NEW CATCHBASINS AT TIME OF INSTALLATION
8. ALL EROSION AND SEDIMENT CONTROLS ARE TO BE INSTALLED ACCORDING TO THE APPROVED PLANS PRIOR TO COMMENCEMENT OF ANY EARTH MOVING WORK ON THE SITE AND SHALL REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED WITH THE INTENDED GROUND COVER.
9. EROSION AND SEDIMENT CONTROLS SHALL BE INSPECTED BY THE BUILDER/DEVELOPER:
   - WEEKLY
   - BEFORE AND AFTER ANY PREDICTED RAINFALL EVENT
   - FOLLOWING AN UNPREDICTED RAINFALL EVENT
   - DAILY, DURING EXTENDED DURATION RAINFALL EVENTS
   - AFTER SIGNIFICANT SNOW MELT EVENTS
10. DEWATER EXISTING PONDS ONSITE AS REQUIRED WITH DEWATERING BAG ON WOOD PALLETS AND PUMP. DEWATERING BAG TO BE PLACED A MINIMUM OF 30M AWAY FROM PROPERTY LINE.
11. EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED IN PROPER WORKING ORDER AT ALL TIMES. DAMAGED OR CLOGGED DEVICES SHALL BE REPAIRED WITHIN 48 HOURS.
12. WHERE A SITE REQUIRES DEWATERING AND WHERE THE EXPELLED WATER CAN BE FREELY RELEASED TO A SUITABLE RECEIVER, THE EXPELLED WATER SHALL BE TREATED TO CAPTURE SUSPENDED PARTICLES GREATER THAN 40 MICRON IN SIZE. THE CAPTURED SEDIMENT SHALL BE DISPOSED OF PROPERLY PER MOECC GUIDELINES. THE CLEAN EXPELLED WATER SHALL FREELY RELEASE TO A SUITABLE RECEIVER THAT DOES NOT CREATE DOWNSTREAM ISSUES INCLUDING BUT NOT LIMITED TO EROSION, FLOODING –NUISANCE OR OTHERWISE, INTERFERENCE ISSUES, ETC.
13. EXISTING STORM SEWER AND DRAINAGE DITCHES ADJACENT TO THE WORKS SHALL BE PROTECTED AT ALL TIMES FROM THE ENTRY OF SEDIMENT/SILT THAT MAY MIGRATE FROM THE SITE. FOR STORM SEWERS: ALL INLETS (REAR LOT CATCHBASINS, ROAD CATCHBASINS, PIPE INLETS, ETC.) MUST BE SECURED/FITTED WITH SILTATION CONTROL MEASURES. FOR DRAINAGE DITCHES: THE INSTALLATION OF ROCK CHECK DAMS, SILTATION FENCE, SEDIMENT CONTAINMENT DEVICES MUST BE INSTALLED TO TRAP AND CONTAIN SEDIMENT. THESE SILTATION CONTROL DEVICES SHALL BE INSPECTED AND MAINTAINED PER ITEMS B AND C ABOVE.
14. IN THE EVENT OF A SPILL (RELEASE OF DELETERIOUS MATERIAL) ON OR EMANATING FROM THE SITE, THE OWNER OR OWNERS AGENT SHALL IMMEDIATELY NOTIFY THE MOECC AND FOLLOW ANY PRESCRIBED CLEAN UP PROCEDURE. THE OWNER OF OWNERS AGENT WILL ADDITIONALLY IMMEDIATELY NOTIFY THE TOWN.



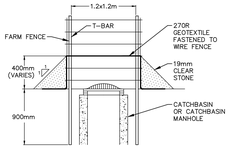
NOTE:
MATERIAL REMOVED FROM TRENCH TO BE REPLACED ON TOP OF GEOTEXTILE. GEOTEXTILE TO BE HORIZONTALLY OVERLAPPED 1.0m

SEDIMENT CONTROL FENCE
N.T.S.

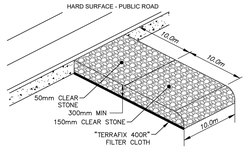


NOTE:
1. TO BE USED UNDER APPROPRIATE DRAINAGE CIRCUMSTANCES, BETWEEN APRIL AND DECEMBER
2. WOVEN GEOTEXTILE TO HAVE EQUIVALENT OPENING SIZE OF 0.15mm AND A MAXIMUM EQUIVALENT OPENING SIZE OF 0.25mm
3. WOVEN GEOTEXTILE TO BE REPLACED PERIODICALLY WHEN ACCUMULATED SEDIMENTS INTERFERES WITH DRAINAGE.

CATCHBASIN SEDIMENT CONTROL IN PAVED AREAS
N.T.S.



CATCHBASIN SEDIMENT CONTROL OFF ROAD AREAS
N.T.S.



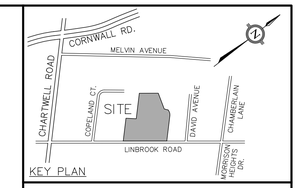
NOTE: LOCATION TO BE DETERMINED IN THE FIELD

GRAVEL ACCESS PAD (MUD MAT)
N.T.S.

EROSION AND SEDIMENT CONTROL LEGEND

- SEDIMENT CONTROL CB IN PAVED AREAS
- SEDIMENT CONTROL CB IN LANDSCAPED AREA
- T — SEDIMENT CONTROL FENCE
- SOLID CONSTRUCTION BARRIER
- MUD MAT
- FIBRE ROLL





KEY PLAN

LEGEND

- PROPOSED CATCHBASIN
- PROPOSED DOUBLE CATCHBASIN
- PROPOSED CATCHBASIN MANHOLE
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED VALVE & BOX
- PROPOSED CURB STOP
- RWL PROPOSED RAINWATER LEADER/DISCHARGE LOCATION
- SP PROPOSED SUMP PUMP DISCHARGE LOCATION
- AD PROPOSED AREA DRAIN
- PROPERTY BOUNDARY
- + 99.16 EXISTING ELEVATION
- + 99.16 EXISTING ELEVATION TO REMAIN
- + 99.16 PROPOSED FINISHED ELEVATION
- +[99.16] INTERPOLATED EXISTING GRADE
- 2.0% PROPOSED DRAINAGE DIRECTION
- PROPOSED SWALE DRAINAGE DIRECTION
- PROPOSED OVERLAND FLOW DIRECTION
- PROPOSED SLOPE
- EXISTING STORM MANHOLE
- EXISTING SANITARY MANHOLE
- EXISTING DOUBLE CATCHBASIN MANHOLE
- EXISTING CATCHBASIN
- EXISTING DOUBLE CATCHBASIN
- EXISTING VALVE AND BOX
- EXISTING FIRE HYDRANT

ISSUED FOR ZONING BYLAW AMENDMENT

NOT FOR CONSTRUCTION

NO.	DATE	BY/DRAWN	REVISIONS
1	26/07/07	AD/GL	ISSUED FOR ZBA

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BENCHMARK

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LICENSED PROFESSIONAL ENGINEER — P. CIPOLLA — PROVINCE OF ONTARIO

DESIGNED BY | APPROVED BY

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PROJECT TITLE
LINBROOK SCHOOL ADDITIONS

LOCATION
1059, 1079, 1087, 1095 LINBROOK ROAD
OAKVILLE, ON

DRAWING TITLE
EROSION AND SEDIMENT CONTROL

SCALE	1:300	DESIGN BY	AD
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DATE	2026/06/08	SHEET	2 OF 2
PROJECT No.	1914	PLAN No.	E1

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