

7 April 2026

Stellar Homes Inc.
125 Don Hillock Drive, Unit 8B
Aurora, ON L4G 0H8

Project No.: 22-3001

Attention: Mr. Vito Froio

**Reference: Wetland Water Balance Risk Evaluation – Hydrologic Screening
Stellar Estates Subdivision Phase 2
0 Mount Pleasant Road
Town of Caledon, Ontario**

Dear Sir:

Further to your request, a wetland water balance risk evaluation was undertaken in support of the proposed Stellar Estates Subdivision Phase 2 in the Town of Caledon.

OVERVIEW

Ecometrix Incorporated (Ecometrix), an Egis Group Company, was retained by Stellar Homes Inc. to provide a hydrologic assessment of existing and proposed conditions in support of the wetland water balance risk evaluation for the proposed Stellar Estates Subdivision Phase 2 located at 0 Mount Pleasant Road, in the Town of Caledon, Ontario.

The site is in the Palgrave Estates area of the Town of Caledon on Mulloy Court. Mulloy Court is west of Mount Pleasant Road between Old Church Road and Castleberg Side Road. The site is bounded by Mount Pleasant Road to the east, Mulloy Court and existing estate residential development to the north and west (Stellar Estates Subdivision herein denoted as Phase 1; Registered Plan 43M-1994), and agricultural land to the south. The legal description of the property is Part of Lot 18, Concession 8, former Township of Albion, Town of Caledon, Regional Municipality of Peel.

The Phase 2 site comprises approximately 4.10 hectares or 10.13 acres. It is proposed to develop the site with 5 estate residential lots using private septic systems for sewage disposal systems and municipal water. All 5 lots would front on to Mulloy Court. Mulloy Court was constructed in 2013/2014 with an urban road cross-section and comprises 10 estate residential lots serviced with

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private septic systems and municipal water. The Stellar Estates Subdivision Phase 1 (Registered Plan 43M-1994) has not been assumed as of the writing of this document. Currently, the 10 lots associated with the Stellar Estates Subdivision Phase 1 are either constructed with occupied dwellings or dwellings are under construction. Drainage and stormwater for the proposed Phase 2 site would be managed with existing infrastructure and application of Low Impact Development (LID) practices. The Stellar Estates Subdivision Phase 2 is shown on the Site Plan provided in Attachment A.

This document should be read in conjunction with the following:

- Environmental Impact Study, Stellar Homes Phase 2, Part of Lot 18, Concession 8, Town of Caledon prepared by Azimuth Environmental Consulting Inc., December 2025 Update;
- Preliminary Functional Servicing Report and Stormwater Management Report, Stellar Estates Subdivision Phase 2 prepared by Ecometrix Incorporated dated April 7, 2026;
- Grading Plan (for Stellar Estates Phase 2) prepared by Ecometrix Incorporated, Drawing 22-3001-07, Fourth Submission, Revision 3 dated April 7, 2026;
- Hydrogeological Assessment for Stellar Estates Phase 2, Town of Caledon, Ontario prepared by Ecometrix Incorporated dated January 17, 2025; and
- Geotechnical Investigation Report Proposed Residential Development Stellar Estates – Phase 2 Caledon, Ontario. Report prepared by GeoTerre Limited dated January 24, 2024.

The above-noted Grading Plan is provided in Attachment A.

The Wetland Water Balance Risk Evaluation was undertaken using the procedure outlined in the Toronto and Region's Conservation Authority's (TRCA) Wetland Water Balance Risk Evaluation Guideline dated November 2017. The evaluation included desktop review of existing and proposed conditions.

SITE DESCRIPTION

The land was historically cleared and farmed. Currently, portions of the lands are planted with agricultural crops. The remaining areas are either cultural meadows or wetland and hedgerow features. There are no existing buildings or structures on the property.

The site is located within the headwater reaches of Cold Creek, a tributary of Humber River Watershed. Surface flow on the site is typically via sheet flow to topographic lows. The site falls

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within the jurisdictional boundary of the Toronto and Region Conservation Authority and partially regulated based on review of available online mapping.

A geotechnical investigation was performed by GeoTerre Limited (2024) comprising 4 boreholes of which three boreholes were extended to a depth of approximately 6.6 metres and 1 borehole was extended to a depth of 15.7. It was reported that shallow overburden materials included 15 to 60 centimetres of topsoil and the sub-surface profile below the surface topsoil within the limits of the entire site appeared to consist primarily of a series of low plasticity silty clay materials interbedded with occasional thin layers of more silt rich soils.

As part of the Draft Plan of Subdivision application process, a hydrogeologic assessment was completed by Ecometrix Incorporated (2025). The hydrogeologic assessment focused on the nature of interaction between the groundwater system and the surface water system, identified hydrogeological characteristics of the site, including both groundwater flow and groundwater quality, and provided an assessment of potential impacts to groundwater as a result of the proposed development.

It was concluded by Ecometrix Incorporated (2025) that the shallow groundwater table is typically 2.5 to 4 metres below ground surface (mbgs) or less and inferred to flow in a generally southern direction across the site. The groundwater table reflects the topography and the shallow groundwater flow path follows local topography through the low permeability, predominantly silty clay, overburden. The shallow local groundwater flow system discharges to a natural wetland feature in the southern portion of the site during summer months, but this pattern may reverse during snowmelt or after rain events when surface water rises in the wetland feature. Groundwater flow in the deeper confined aquifer(s) and regional groundwater system is generally to the south and southwest towards the Humber River.

As part of the Draft Plan of Subdivision process, an Environmental Impact Study was completed by Azimuth Environmental Consulting Inc. (2025). The purpose of the Environmental Impact Study was to identify candidate Key Natural Heritage Features and Key Hydrologic Features present within the study area and address potential impacts to candidate features. A portion of the Mount Wolfe Wetland Complex, a Provincially Significant Wetland (PSW), exists on the property in the southwest corner. The respect feature on the property is shown on Figure 3 prepared by Azimuth Environmental Consulting Inc. in Attachment A. It is stated in the Environmental Impact Study that the proposed works are not expected to negatively impact ecological functions of the wetland (PSW).

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RISK EVALUATION

The wetland catchment area within the study area is estimated to be 3.47 hectares under existing conditions and 3.40 hectares under proposed conditions, with a 2% decrease in wetland catchment areas from existing to proposed conditions. As far as practical, efforts were made in the preliminary lot grading design under proposed conditions to maintain the existing wetland drainage area. Delineation of the wetland catchment area under existing conditions is provided on Map 5 (sub-basins 302a and 302b) and under proposed conditions on Map 6 (sub-basins 402a and 402b) in Attachment B. Drainage is to Node 4 in both existing and proposed conditions.

Summarized in Table 1 are wetland drainage area characteristics.

Table 1: Wetland Drainage Area Characteristics

DRAINAGE NODE	BASIN ID	DRAINAGE AREA (ha)	IMPERVIOUS AREA (ha)	TIMP (%)	COMMENT
Existing Condition					
4	302a	1.38	0.00	0%	external undeveloped
4	302b	2.09	0.00	0%	undeveloped agricultural field predominately
Proposed Condition					
4	402a	1.38	0.00	0%	external undeveloped
4	402b	2.02	0.10	5%	developed

Note:

1. Units: ha – hectares; % – percent.
2. TIMP – total impervious area in percent.
3. Refer to Figure 3 in Attachment A for wetland feature location.
4. Refer to Map 5 and Map 6 in Attachment B for drainage area delineation and basin locations.

The first step (Step 1) of the Risk Evaluation was to determine if there are wetlands that may be impacted by the proposed development. As previously noted, the PSW on the property is shown on Figure 3 prepared by Azimuth Environmental Consulting Inc. in Attachment A.

The next steps (Step 2 and Step 3) of the TRCA Wetland Water Balance Risk Evaluation taken were to collect and compile data for items listed in “Table 1” of the respective guideline and use the information to assess magnitude of the potential hydrologic change and the sensitivity of the wetland. Provided in Table 2 is the compiled data for “Table 1” associated with TRCA Wetland Water Balance Risk Evaluation.

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Table 2: TRCA Wetland Water Balance Risk Evaluation Criteria Review

Criteria: Magnitude of Potential Hydrological Change		
Data Item	Evaluation	Source
Wetland Feature Limits	Area of wetland feature within property limits = 0.566 hectares. Areas of wetland feature within catchment area = 0.566 hectares.	Environmental Impact Study prepared by Azimuth Environmental Consulting Inc. (2025)
Extent and size of pre-development catchment	Pre development catchment area to wetland = 3.47 hectare Post development catchment Area to wetland = 3.40 hectares	Preliminary Functional Servicing Report and Stormwater Management Report prepared by Ecometrix Incorporated (2026)
Total development area of catchment (Cdev)	Cdev (ex.) = 2.09 hectares	Preliminary Functional Servicing Report and Stormwater Management Report prepared by Ecometrix Incorporated (2026)
Percent of impervious cover planned within the proponent's holdings (IC)	IC (impervious/area to wetland) = 5%	Preliminary Functional Servicing Report and Stormwater Management Report prepared by Ecometrix Incorporated (2026) and engineering servicing drawings prepared by Ecometrix Incorporated dated April 7, 2026
Proposed extent and size of post-development catchment	Cdev (prop.) = 2.02 hectares	Preliminary Functional Servicing Report and Stormwater Management Report prepared by Ecometrix Incorporated (2026)
Anticipated magnitude and duration of water taking	N/A	N/A

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Location and extent of any locally significant recharge areas	The subject wetland area and associated catchment acts both as a local recharge and discharge area with function seasonally dependent	Hydrogeological Assessment for Stellar Estates Phase 2 prepared by Ecometrix Incorporated (2025)
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Note:

1. Units: ha – hectares.
2. Abbreviation: ex – existing; prop – proposed.

The information compiled in Table 2 above was applied to “Table 2” of the TRCA Wetland Water Balance Risk Evaluation Guideline to evaluate probability and magnitude of hydrological change: refer to Table 3.

Table 3: Criteria used to Evaluate Probability and Magnitude of Hydrological Change

Criteria	Evaluation
Impervious Cover Score (S) within catchment, as determined by Equation 1	S=2.9% Low Magnitude: <10%
Increase or decrease in catchment size	Decrease of 2% Low Magnitude: < 10%
Water Taking or discharge	Low Magnitude: no water taking
Impact to recharge areas	Low Magnitude: no impact, refer to Wetland Water Balance Assessment (this document)

A description of how the Impervious Cover Score was calculated and values used is provided in Attachment C. Based on the Risk Evaluation results in Table 3, the probability and magnitude of the hydrological change is considered overall low magnitude for the proposed development,

By integrating information from Table 2 and 3 and findings from the Environmental Impact Study (Azimuth Environmental Consulting Inc., 2025), the proposed Stellar Estates Phase 2 Subdivision was determined to be a low risk where it is unlikely the proposed activity will have a substantial impact on wetland hydrology.

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As outlined in the Figure 3 of the TRCA Risk Evaluation Guideline (November 2017), for a low-risk development project the following is identified:

- No monitoring is required;
- Water balance assessment using a non-continuous hydrological model (e.g., Thornwaite Mather) is required with output at a monthly or higher resolution; and
- a Design Mitigation Plan to maintain wetland water balance is required.

WETLAND WATER BALANCE ASSESSMENT

A wetland water balance assessment was completed on an annual basis using the methodology as outlined in the Stormwater Management Planning and Design Manual (Ministry of the Environment, 2003). The results of the wetland water balance assessment are provided in Table 4. As shown in Table 4, it is anticipated that the wetland water balance will be maintained and there will not be a net decrease in recharge. A slight increase in annual recharge to the local groundwater system is anticipated due to combination of change in land use cover from agricultural cropping to grass, re-grading of the rear yards to shallower slopes, elongation of flow paths to the wetland feature on the property, and incorporation of low impact development (LID) measures in the rear yard areas to encourage infiltration.

Table 4: Wetland Water Balance Assessment

Condition	Annual Infiltration and Percent of Existing
Existing	4,149 cubic metres (100%)
Proposed – no Infiltration BMP’s	4,266 cubic metres (102.8%)
Proposed - with infiltration BMP’s	4,494 cubic metres (108.3%)

Note:

1. Units: % - percent.
2. Abbreviation: BMP – Best Management Practice or Low Impact Development (LID) techniques.
3. Wetland water balance assessment completed using methodology as outlined in the Stormwater Management Planning and Design Manual (Ministry of the Environment, 2003).
4. Refer to Attachment C for supporting calculations.

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DESIGN MITIGATION PLAN

As part of the adaptive stormwater management strategy for the Stellar Estates Subdivision Phase 2, mitigation measures are proposed for maintenance of wetland water levels and water balance, and maintenance of wetland water quality. Recommended mitigation measures are as follows:

- An Erosion and Sediment Control Plan be established and implemented during the site servicing phase
- Erosion and Sediment Control Plans be established and implemented on a lot-by-lot basis during the home construction phase
- Lot grading be undertaken consistent with approved grading plans for the project to maintain wetland drainage area characteristics
- Low Impact Development (LID) techniques be implemented on the rear of the lots to achieve intent of the project's Stormwater Management Plan and encourage infiltration
- Sanitary servicing for the proposed subdivision will be by private on-site sewage disposal systems (i.e., septic systems) – in this regard, on-site sewage disposal systems incorporate tertiary treatment units to minimize risk to wetland water quality
- Further to the above, efforts be made at the Site Plan/Building Permit application stage during on-site sewage disposal system design to maximize horizontal separation between the septic system leaching/dispersal bed and wetland feature
- Continuous monitoring of groundwater levels in the wetland features on the project site be continued for two years post construction of site services using existing groundwater monitoring wells

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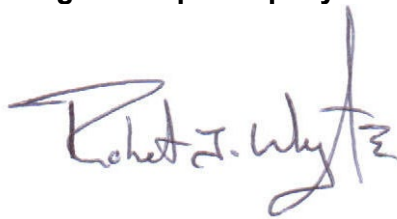
QUALIFICATIONS

The statements made herein are to the best of our knowledge, information, and belief as of this date. With respect to the information contained in this certification, any errors or omissions made are not reflected and may be adjusted for accordingly.

Should you have any questions on the information contained herein, please feel free to contact the undersigned at Robert.WHYTE@Egis-group.com or Maria.YUN-SANG@Egis-group.com.

Yours Sincerely,

**Ecometrix Incorporated,
an Egis Group Company**

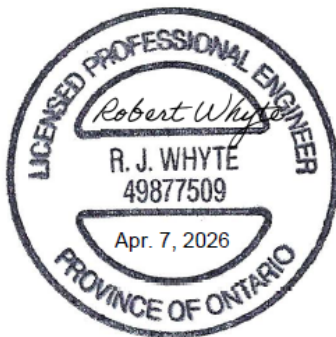


Robert Whyte, M.Sc., P.Eng.
Senior Consultant

**Ecometrix Incorporated,
an Egis Group Company**



Maria Yun Sang, P.Eng.
Senior Project Engineer



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REFERENCES

Azimuth Environmental Consulting Inc. 2025. Environmental Impact Study, Stellar Homes Phase 2, Part of Lot 18, Concession 8, Town of Caledon. December 2025 Update.

Ecometrix Incorporated. 2025. Hydrogeological Assessment for Stellar Estates Phase 2, Town of Caledon, Ontario. Report prepared for Stellar Homes Inc., January 17, 2025.

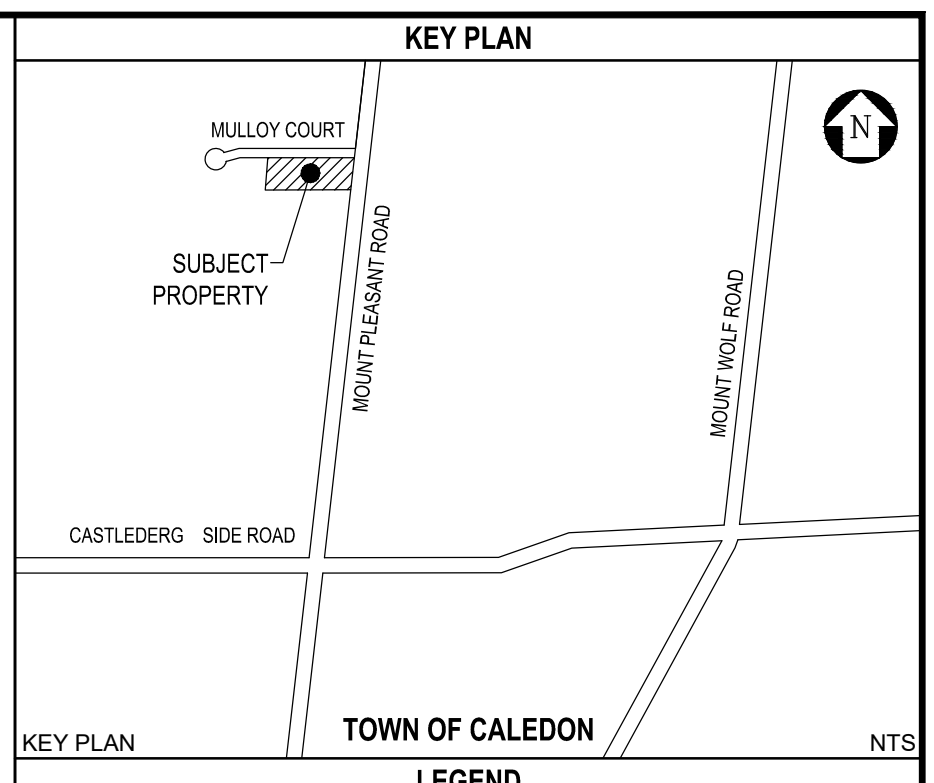
Ecometrix Incorporated. 2026. Preliminary Functional Servicing Report and Stormwater Management Report, Stellar Estates Subdivision Phase 2. Report prepared for Stellar Homes Inc., April 7, 2026.

Ministry of Environment. 2003. Stormwater Management Practices Planning and Design Manual. March 2003.

GeoTerre Limited. 2024. Geotechnical Investigation Report Proposed Residential Development Stellar Estates – Phase 2 Caledon, Ontario. Report prepared for Ecometrix Incorporated, January 24, 2024.

Toronto and Region Conservation Authority. 2017. Wetland and Water Balance Risk Evaluation, November 2017.

ATTACHMENT A



- LEGEND**
- PROPERTY LINES (PROPOSED)
 - PROPERTY LINES (EXISTING)
 - KEY NATURAL HERITAGE FEATURE
 - LIMIT OF PROP. STRUCTURE ENVELOPE
 - PROP. GRASSED SWALE
 - PROP. ENHANCED GRASS SWALE, MIN. 30.0m / LOT
 - MVPZ REHABILITATION PLANTINGS
 - LOT AREA OUTSIDE STRUCTURE ENVELOPE
 - STREETLIGHT POLE
 - ▲ HYDRO ONE TRANSFORMER
 - ◆ BH# 2007 BOREHOLES
 - ◆ BH22-# 2022 BOREHOLES
 - ① EX. STOP SIGN
 - ② EX. STREET SIGN
 - ③ EX. NO EXIT SIGN
 - MIN. 56 sq.m BACKYARD AMENITY AREA (CONCEPT PLAN)
- REFER TO GENERAL NOTES AND SPECIFICATIONS ON DWG 22-3001-10

LEGAL DESCRIPTION
 PART OF LOT 18, CONCESSION 8 AND BLOCK 15,
 PLAN 43M-1994 (GEOGRAPHIC TOWNSHIP OF ALBION)
 TOWN OF CALEDON
 REGIONAL MUNICIPALITY OF PEEL



DESIGNED BY		APPROVED BY	

N ^o	Date	Revisions	Dwt.	Dsg'd.	Chk'd.
③	07/APR/2026	FOURTH SUBMISSION	AAF	AAF	RJW
②	21/NOV/2025	THIRD SUBMISSION	AAF	AAF	RJW
①	17/JAN/2025	SECOND SUBMISSION	AAF	AAF	RJW
①	26/JAN/2024	DPA APPLICATION	AAF	AAF	RJW

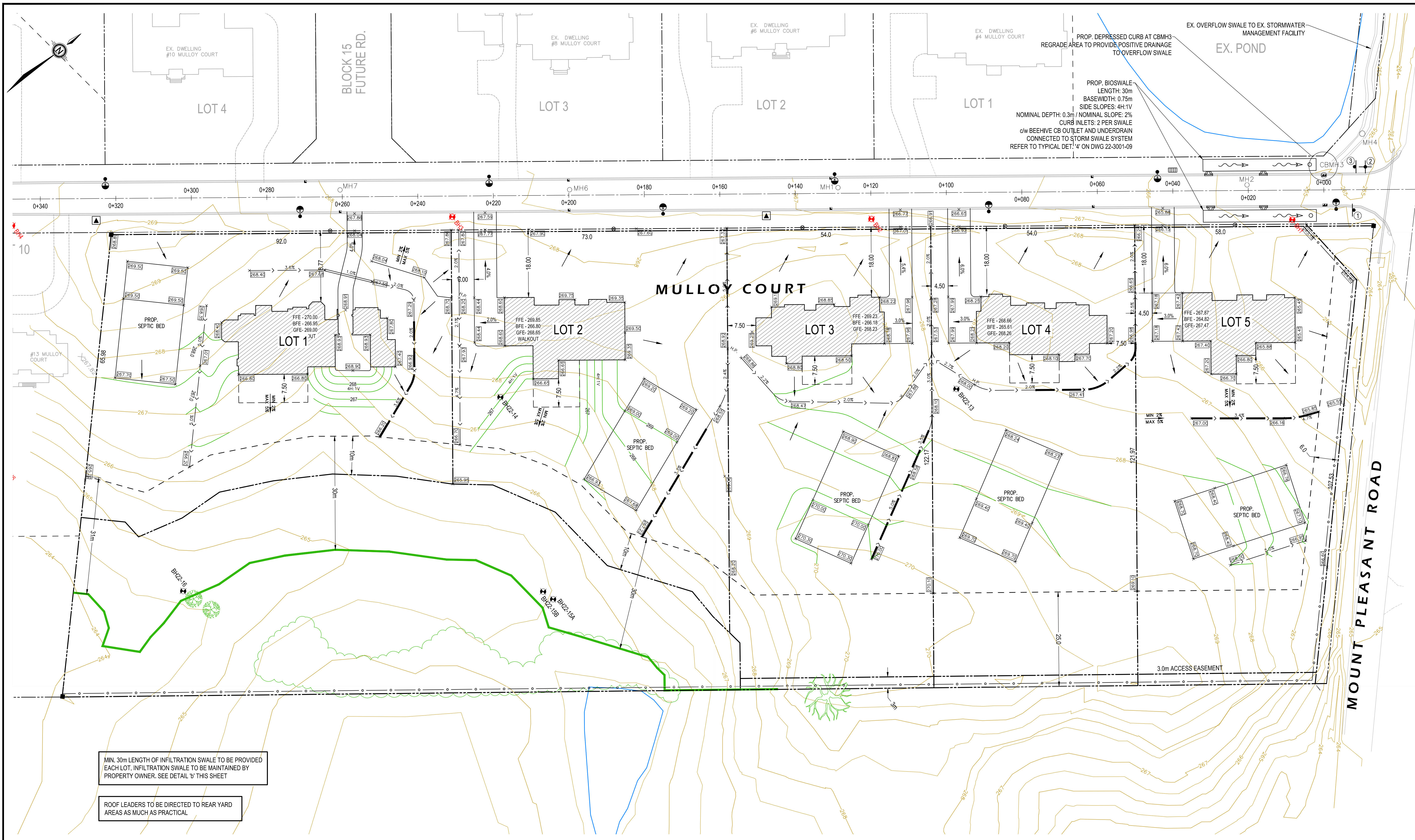
Client: **STELLAR HOMES INC.**

Project Name: **STELLAR ESTATES PHASE 2
MULLOY COURT, TOWN OF CALEDON**

Title Name: **SITE PLAN**

Drawing N^o: **22-3001-01** Sheet N^o: **1 OF 10** Rev. N^o: **3**
 Scale: **1:500**





KEY PLAN

LEGEND

- PROPERTY LINES (PROPOSED)
- PROPERTY LINES (EXISTING)
- EX. M.R. CONTOURS (EACH 1.0m)
- EX. M.R. CONTOURS (EACH 0.5m)
- PROP. GRADE CONTOURS
- KEY NATURAL HERITAGE FEATURE
- LIMIT OF STRUCTURE ENVELOPE (PROPOSED)
- PROP. GRASSED SWALE, DET. 1' SHEET 9
- PROP. ENHANCED GRASS SWALE, MIN. 30.0m / LOT DET '2' SHEET 9
- PROP. GRADE ELEVATIONS
- PROP. POST AND WIRE FENCE
- PROP. WATER BOX
- BH# 2007 BOREHOLES
- BH22-# 2022 BOREHOLES
- EX. STOP SIGN
- EX. STREET SIGN
- EX. NO EXIT SIGN

CONCEPTUAL DWELLINGS

LOT	HOUSE TYPE	WALKOUT	GFA (m ²)	GFA (ft ²)	REFERENCE
1	BUNGALOW	YES	568.5	6,119.3	8 MULLOY COURT
2	BUNGALOW	YES	501.6	5,399.2	10 MULLOY COURT
3	BUNGALOW	NO	432.5	4,655.4	6 MULLOY COURT
4	BUNGALOW	NO	432.5	4,655.4	6 MULLOY COURT
5	BUNGALOW	NO	435.6	4,688.8	10 MULLOY COURT

REFER TO GENERAL NOTES AND SPECIFICATIONS ON DWG 22-3001-10

LOCATION OF RESIDENTIAL UNITS AND SEPTIC FIELDS ARE CONCEPTUAL ONLY. FINAL LOCATIONS TO BE DETERMINED AT THE SITE PLAN APPROVAL / BUILDING PERMIT APPLICATION STAGE.



DESIGNED BY

APPROVED BY

N ^o	Date	Revisions	Dwn.	Dsg'd.	Chk'd.
③	07/APR/2026	FOURTH SUBMISSION	AAF	AAF	RJW
②	21/NOV/2025	THIRD SUBMISSION	AAF	AAF	RJW
①	17/JAN/2025	SECOND SUBMISSION	AAF	AAF	RJW
①	26/JAN/2024	DPA APPLICATION	AAF	AAF	RJW

STELLAR HOMES INC.

Project Name: **STELLAR ESTATES PHASE 2 MULLOY COURT, TOWN OF CALEDON**

Title Name: **GRADING PLAN**

Drawing N^o: **22-3001-07** Sheet N^o: **7 OF 10** Rev. N^o: **3**

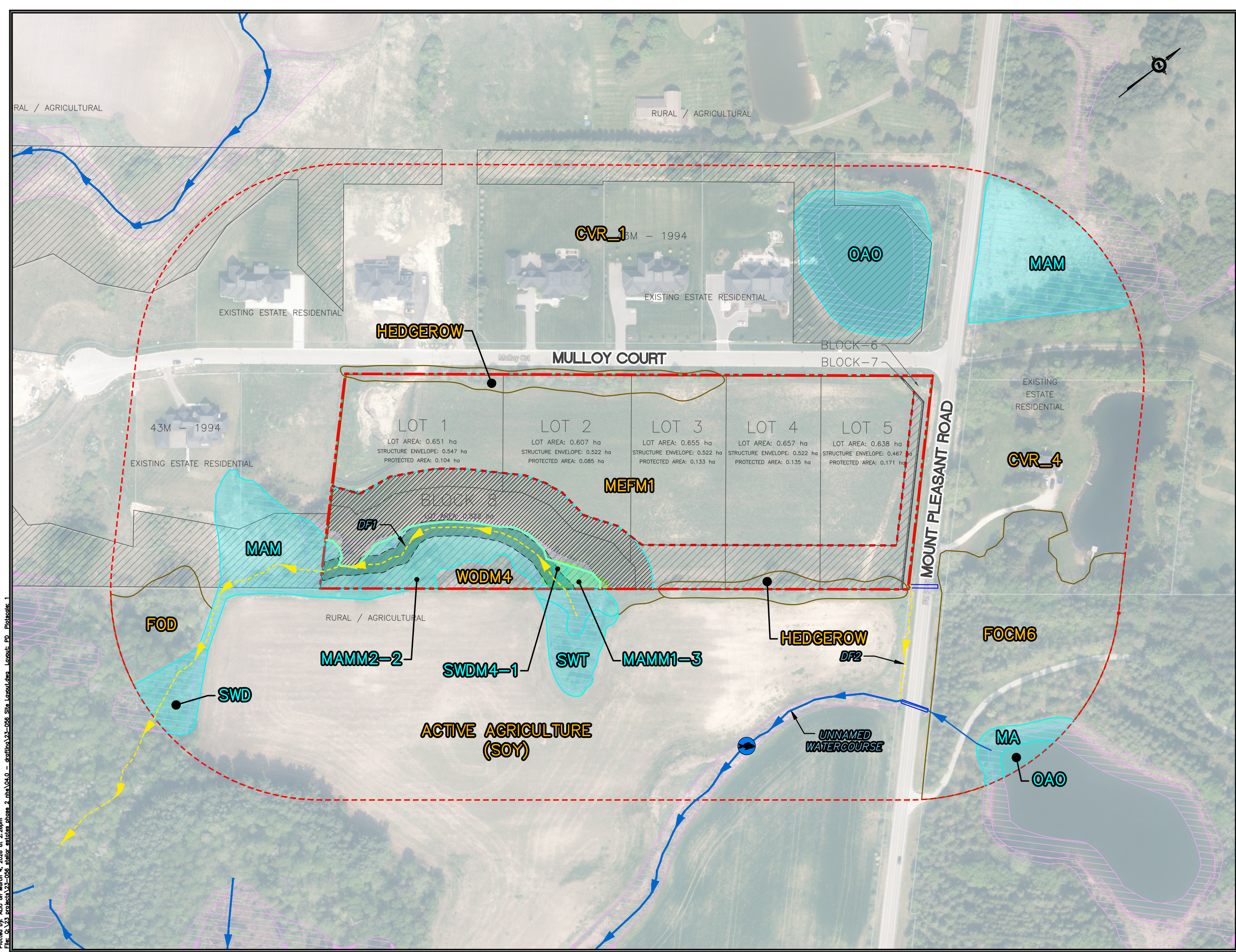
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MIN. 30m LENGTH OF INFILTRATION SWALE TO BE PROVIDED EACH LOT. INFILTRATION SWALE TO BE MAINTAINED BY PROPERTY OWNER. SEE DETAIL '3' THIS SHEET

ROOF LEADERS TO BE DIRECTED TO REAR YARD AREAS AS MUCH AS PRACTICAL

- GRADING NOTES**
1. DOWNSPOUTS TO DISCHARGE TO GROUND VIA SPLASH PADS.
 2. DRIVEWAY GRADES TO BE BETWEEN 2 AND 6%.
 3. ALL SLOPES ARE TO BE 4H:1V MAXIMUM, UNLESS OTHERWISE NOTED.
 4. A MINIMUM OF 1.5m CLEARANCE IS TO BE PROVIDED FROM THE LIMIT OF THE DRIVEWAY TO EXISTING UTILITY STRUCTURES WITHIN THE MUNICIPAL RIGHT-OF-WAY. IF THIS CLEARANCE IS NOT MAINTAINED THEY SHALL BE RELOCATED AT THE APPLICANT'S EXPENSE.
 5. DISTURBED BOULEVARD AREAS TO BE RESTORED WITH MINIMUM 300mm TOPSOIL AND SOD.
 6. DISTURBED SITE AREAS TO BE RESTORED WITH MINIMUM 100mm TOPSOIL AND EITHER SEED OR SOD.
 7. ALL GRADING TO BE IN GENERAL CONFORMANCE WITH THE TOWN OF CALEDON "DEVELOPMENT STANDARDS MANUAL" SECTION 1.12 RESIDENTIAL LOT DRAINAGE AND SODDING.

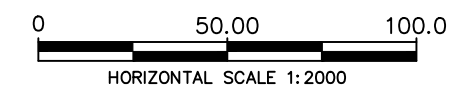




- LEGEND:**
- APPROX. PROPERTY BOUNDARY
 - STUDY AREA
 - MOUNT WOLFE WETLAND COMPLEX PROVINCIAL SIGNIFICANT WETLAND (PSW; MNRF, 2022)
 - WATERCOURSE
 - EPHEMERAL DRAINAGE FEATURE/ INDIRECT FISH HABITAT (DF)
 - COLDWATER THERMAL REGIME
 - HEADWATER DRAINAGE FEATURE – RECOMMENDED MGMT: PROTECTION

- ELC UPLAND COMMUNITIES:**
- CVR_1 LOW DENSITY RESIDENTIAL
 - CVR_4 RURAL PROPERTY
 - FOCM6 NATURALIZED CONIFEROUS PLANTATION
 - FOD DECIDUOUS FOREST
 - WODM4 DRY-FRESH DECIDUOUS WOODLAND
 - MEFM1 DRY-FRESH FORB MEADOW
- ELC WETLAND COMMUNITIES:**
- MA MARSH
 - MAM MEADOW MARSH
 - MAMM1-3 REED-CANARY GRASS GRAMINOID MINERAL MEADOW MARSH
 - MAMM2-2 PANICLED ASTER MINERAL MEADOW MARSH
 - OAO OPEN AQUATIC DECIDUOUS SWAMP
 - SWD WILLOW MINERAL DECIDUOUS SWAMP
 - SWDM4-1 THICKET SWAMP
 - SWT

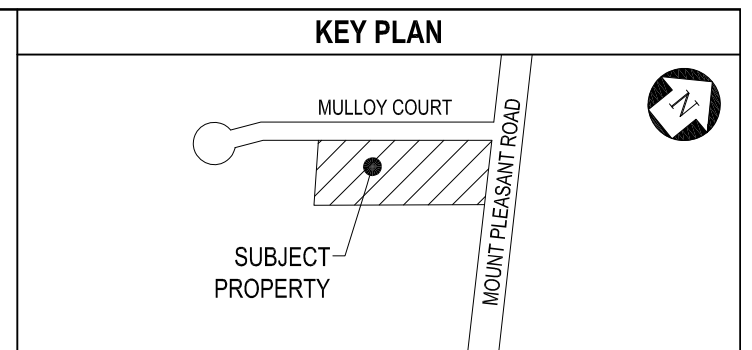
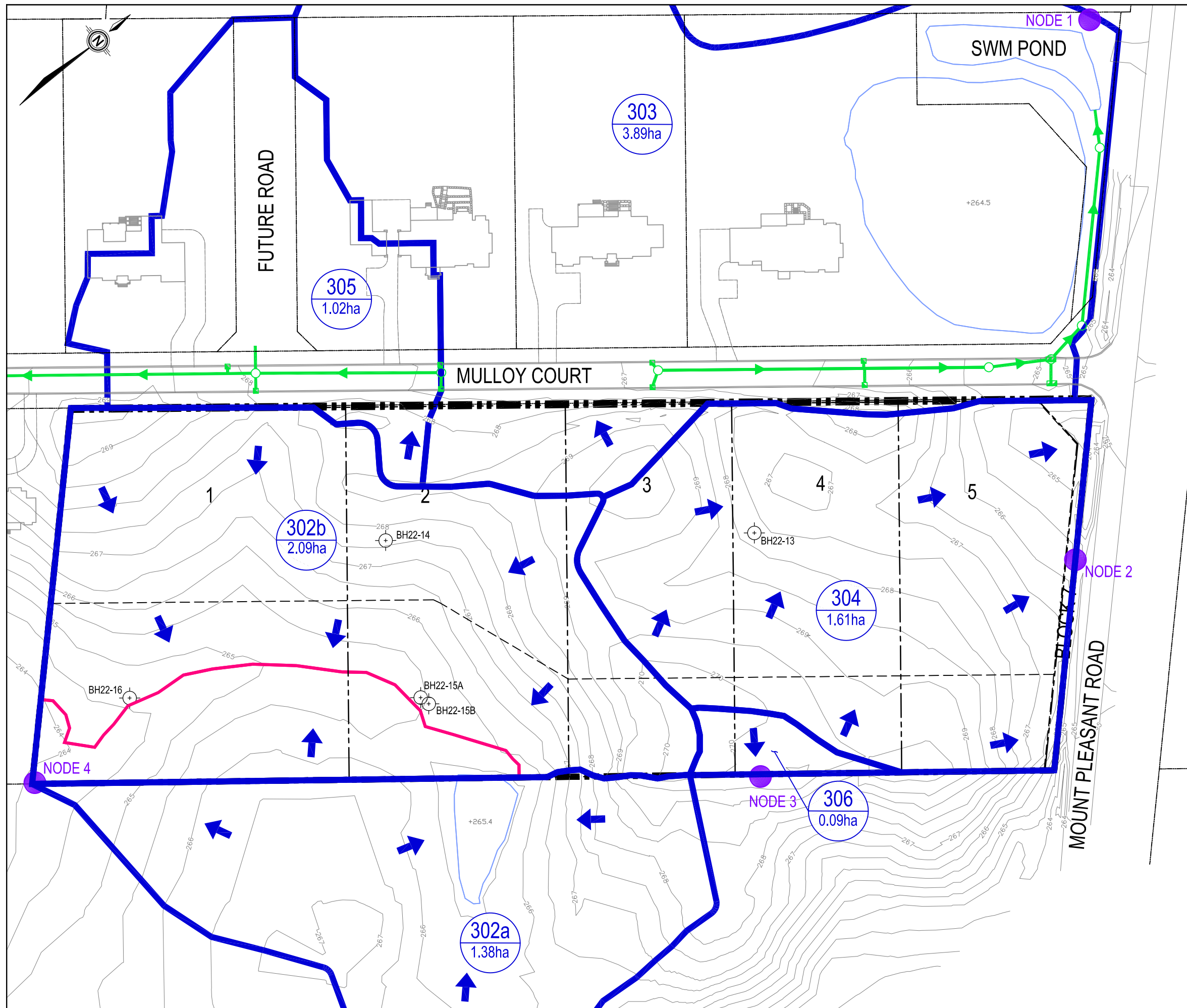
- WETLAND BOUNDARY STAKED AND APPROVED BY TRCA (OCT. 5, 2021)
- 30m MVPZ SETBACK
- LIMIT OF PROP. STRUCTURE ENVELOPE
- MVPZ RESTORATION PLANTING ZONE



PROPOSED DEVELOPMENT	
0 MULLOY COURT CALEDON, ON	
DATE ISSUED: DECEMBER 2025	Figure No.
CREATED BY: A.L.	3
PROJECT NO.: 23-056	
REFERENCE: TOWN OF CALEDON	

Plotted by: ALU on March 4, 2025 at 2:26pm
 File: C:\23-056\23-056_Hellier_estates_phase_2_nha\04.0 - draft\04.03-056_Site_Layout.dwg Layout: PD - Plotarea: 1

ATTACHMENT B



LEGEND

	SITE BOUNDARY
	ORMCP KEY NATURAL HERITAGE FEATURE
	WATER BODY
	CONTOUR (0.5m INTERVAL)
	MONITORING WELL LOCATION
	DRAINAGE BOUNDARY
	SUB-CATCHMENT ID SUB-CATCHMENT AREA (ha)
	EXISTING STORM SEWER AND FLOW DIRECTION
	MAJOR FLOW DIRECTION
	FLOW NODE
	E2Z AREAS

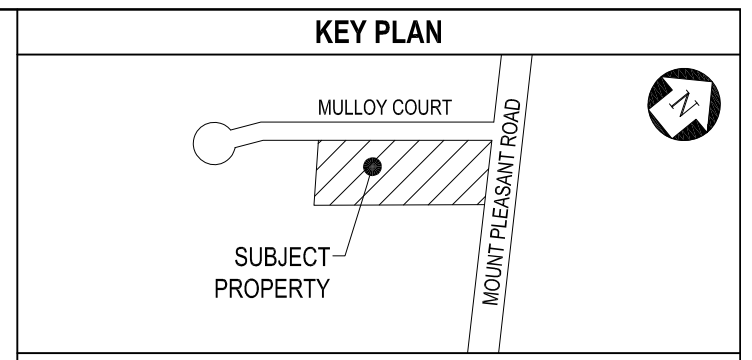
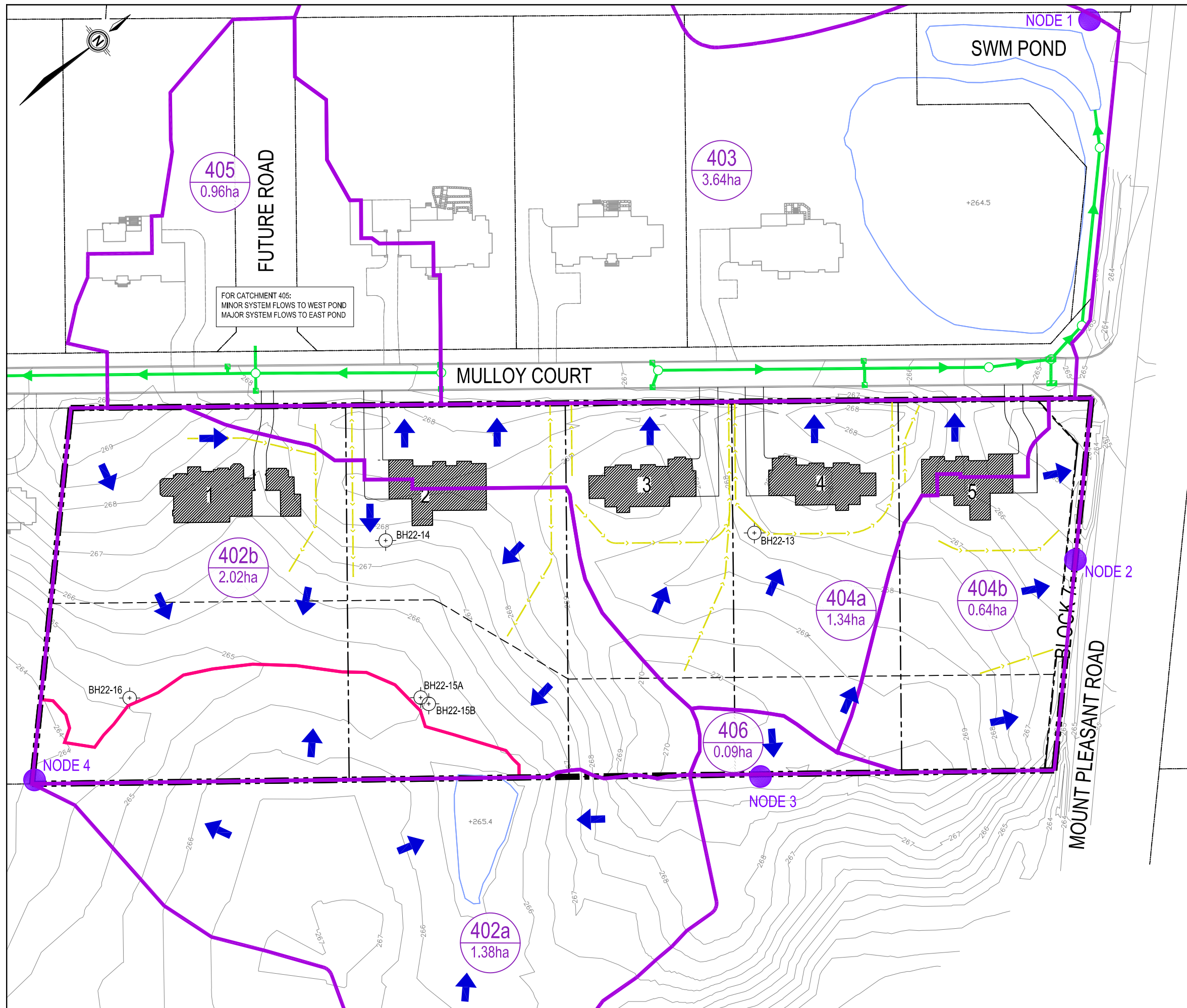
30m 0 30m 60m
SCALE 1:1250

- ### NOTES
1. CONTOURS WITHIN PROPERTY LIMITS GENERATED FROM SURVEYED ELEVATIONS BY ECOMETRIX INCORPORATED (2021). CONTOURS SOUTH OF PROPERTY LIMIT FROM FIRST BASE SOLUTIONS. ACTUAL ELEVATIONS MAY VARY FROM THOSE SHOWN.
 2. CONTOUR INTERVAL IS 0.5m.
 3. FEATURE LOCATIONS (e.g. TREELINES, BUILDINGS, ETC.) ARE APPROXIMATE.

Ecometrix | Environmental INTELLIGENCE
www.ecometrix.ca

STELLAR HOMES INC.
STELLAR ESTATES PHASE 2
PART OF LOT 18, CONCESSION 8 (ALBION)
TOWN OF CALEDON, REGION OF PEEL

MAP 5
SURFACE HYDROLOGY MAP



LEGEND

	SITE BOUNDARY
	ORMCP KEY NATURAL HERITAGE FEATURE
	WATER BODY
	CONTOUR (0.5m INTERVAL)
	MONITORING WELL LOCATION
	DRAINAGE BOUNDARY
	SUB-CATCHMENT ID SUB-CATCHMENT AREA (ha)
	EXISTING STORM SEWER AND FLOW DIRECTION
	MAJOR FLOW DIRECTION
	FLOW NODE
	E2Z AREAS
	PROPOSED GRASS SWALE

30m 0 30m 60m
SCALE 1:1250

- ### NOTES
1. CONTOURS WITHIN PROPERTY LIMITS GENERATED FROM SURVEYED ELEVATIONS BY ECOMETRIX INCORPORATED (2021). CONTOURS SOUTH OF PROPERTY LIMIT FROM FIRST BASE SOLUTIONS. ACTUAL ELEVATIONS MAY VARY FROM THOSE SHOWN.
 2. CONTOUR INTERVAL IS 0.5m.
 3. FEATURE LOCATIONS (e.g. TREELINES, BUILDINGS, ETC.) ARE APPROXIMATE.



STELLAR HOMES INC.
STELLAR ESTATES PHASE 2
PART OF LOT 18, CONCESSION 8 (ALBION)
TOWN OF CALEDON, REGION OF PEEL

MAP 6
PROPOSED DRAINAGE BOUNDARY MAP

ATTACHMENT C

Project: Stellar Estates Subdivision Phase 2, 0 Mount Pleasant Road, Town of Caledon Ontario

Wetland Water Balance Risk Evaluation - Hydrologic Screening.

Impervious Cover Score (S):

$$S = (IC \times C_{dev}) / C$$

Where:

- **S** = Impervious cover Score in %;
- **IC** = proportion of impervious cover (as a percentage between 1 to 100) proposed within the area of wetland catchment this is within the proponent's holding (in %);
- **C_{dev}** = is the total development area of the wetland catchment in hectares; and
- **C** = size of the wetland's catchment in hectares.

0 Mount Pleasant Road:

C_{dev} = 2.02 ha → area is approximate

C = 3.40 ha → estimated wetland drainage area.

IC :

Total site area owned by proponent= 2.02 ha → per proposed site plan

Proposed impervious area = 0.10 ha → per proposed site plan

IC = 4.95 % → represents proposed impervious area within proponents area draining to wetland catchment "C".

$$S = (IC \times C_{dev})/C \\ = (4.95 \times 2.02) / 3.40 = 2.94\%$$

S < 10%, therefore considered low magnitude

Determining IC that corresponds to threshold for Medium Magnitude:

$$IC = (S \times C) / C_{dev}$$

Medium magnitude threshold:

$$IC_{\text{medium threshold}} = (10 \times 3.40) / 2.02$$

$$IC_{\text{medium threshold}} = 16.83 \%$$

Since proposed IC = 4.95% and is less than medium magnitude threshold IC of 16.83%, then can assume proposed development can be considered low magnitude.

TABLE C.1
Site Water Balance Calculations (Annual)
Stellar Estates Subdivision Phase 2

Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H	Column I	Column J	Column K	Column L
Condition	Site Area (ha)	Water Balance Components	Pervious Area	Impervious Area Without Infiltration BMP's	Impervious Area With Infiltration BMP's	Precipitation (m ³)	Evapotranspiration (m ³)	TOTAL SITE VOLUMES			Percent of Existing Infiltration (%)
								Surplus (m ³)	Runoff (m ³)	Infiltration (m ³)	
Existing	2.09	Area (ha)	2.09	0.00	0.00						
		Infiltration Factor	0.50	0.00	0.55						
		Precipitation (mm)	940	940	940						
		Evapotranspiration (mm)	543	0	525	19,646	11,349	8,297	4,149	4,149	100.0
		Surplus (mm)	397	940	415						
		Infiltration (mm)	199	0	228						
		Runoff (mm)	199	940	187						
Proposed (No Infiltration BMP's)	2.02	Area (ha)	1.92	0.10	0.00						
		Infiltration Factor	0.55	0.00	0.55						
		Precipitation (mm)	940	940	940						
		Evapotranspiration (mm)	536	0	525	18,988	10,291	8,697	4,431	4,266	102.8
		Surplus (mm)	404	940	415						
		Infiltration (mm)	222	0	228						
		Runoff (mm)	182	940	187						
Proposed (With Roof and Driveway Infiltration BMP's)	2.02	Area (ha)	1.92	0.00	0.10						
		Infiltration Factor	0.55	0.00	0.55						
		Precipitation (mm)	940	940	940						
		Evapotranspiration (mm)	536	0	525	18,988	10,816	8,172	3,677	4,494	108.3
		Surplus (mm)	404	940	415						
		Infiltration (mm)	222	0	228						
		Runoff (mm)	182	940	187						

Notes:

1. Site water balance calculations based on methodology per *Stormwater Management Planning and Design Manual* (MOE, March 2003).

Site area represents area within development limits

Soil Type classified as silty loam - therefore used C values from Table 3.1 of BMP

Column C: Area (ha)= Represents pervious area
 Infiltration Factor (ex)= 0.2 (topo) + 0.2 (soils) + 0.1 (cover) -->Table 3.1 BMP 2003
 Infiltration Factor (proposed)= 0.2 (topo) + 0.2 (soils) + 0.15 (cover) -->Table 3.1 BMP 2003
 Precipitation (mm)= Table 3.1 BMP 2003
 Evapotranspiration (mm)= Table 3.1 BMP 2003
 Surplus (mm)= Precipitation - Evapotranspiration
 Infiltration (mm)= Area x infiltration factor
 Runoff (mm)= Surplus - Infiltration

Column G: Precipitation= (Precipitation x Pervious area) + (Precipitation x impervious area w/o Infiltration BMP) + (Precipitation x impervious area w Infiltration BMP)
Column H: Evapotranspiration= (Evapotranspiration x Pervious area) + (Evapotranspiration x impervious area w/o Infiltration BMP) + (Evapotranspiration x impervious area w Infiltration BMP)
Column I: Surplus= (Surplus x Pervious area) + (Surplus x impervious area w/o Infiltration BMP) + (Surplus x impervious area w Infiltration BMP)
Column J: Runoff= (Runoff x Pervious area) + (Runoff x impervious area w/o Infiltration BMP) + (Runoff x impervious area w Infiltration BMP)
Column K: Infiltration (Infiltration x Pervious area) + (Infiltration x impervious area w/o Infiltration BMP) + (Infiltration x impervious area w Infiltration BMP)

Column L: Percent of Existing Infiltration= (Infiltration vol./Existing infiltration vol.)/100