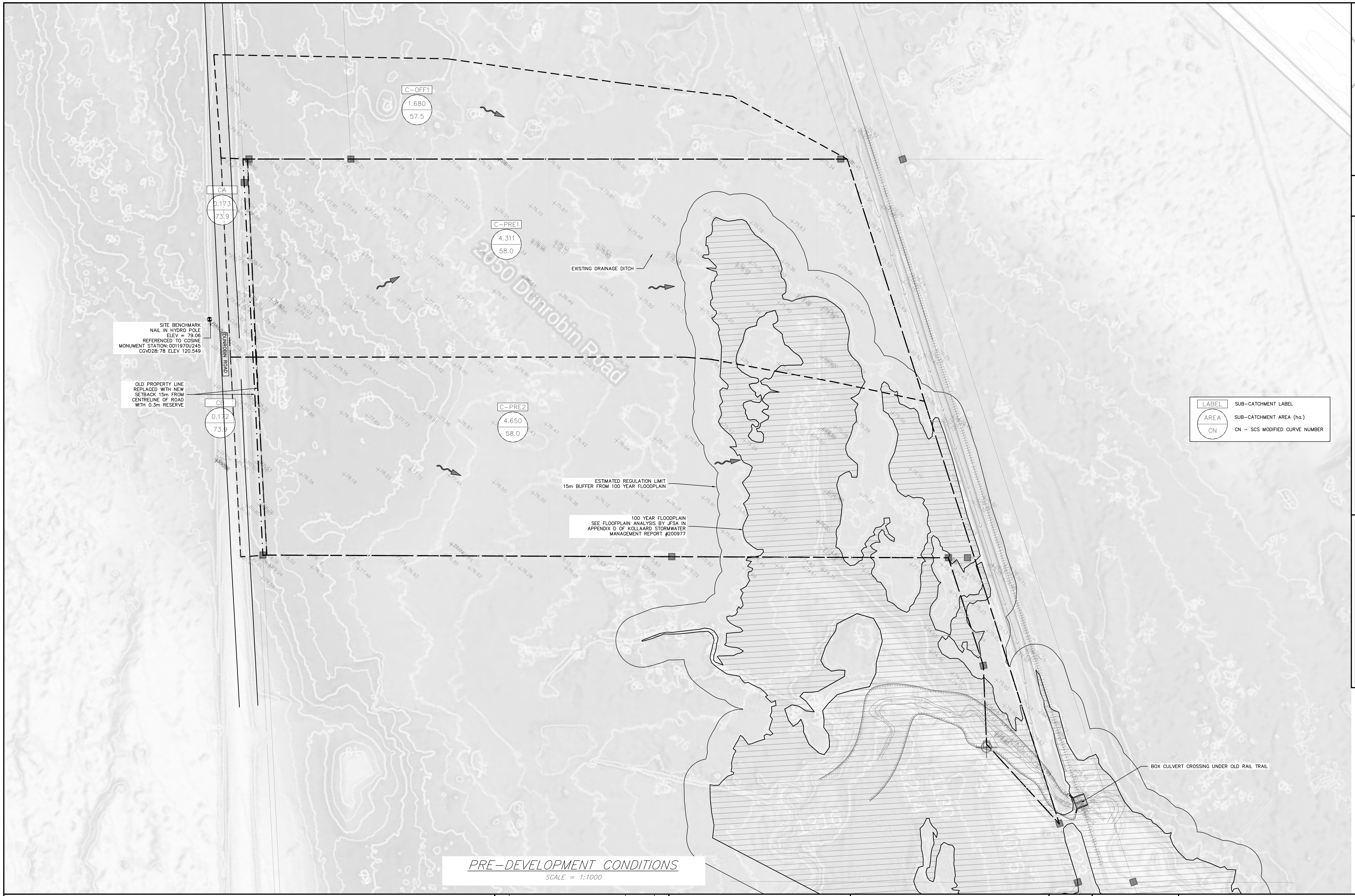
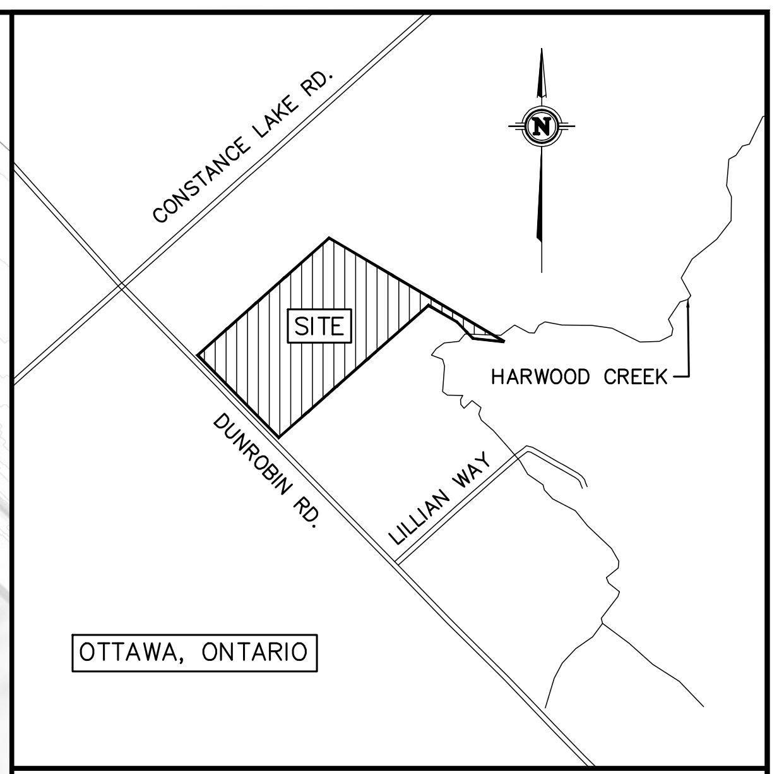


PRE–DEVELOPMENT CONDITIONS

SCALE = 1:1000

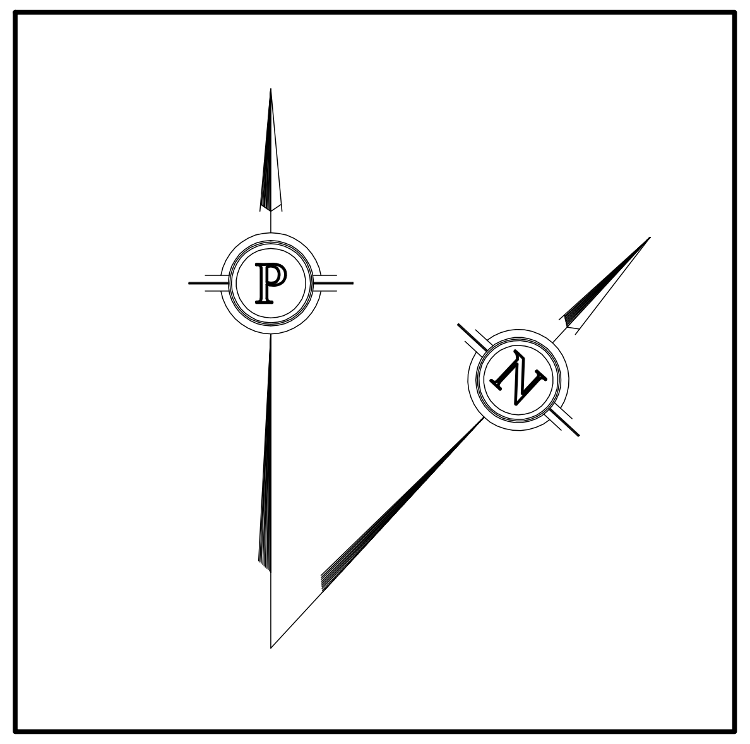


0 40 80

SCALE: 1:1000 METERS

LEGEND

??? / ???	PROPOSED ELEVATION (PROP/EX)
???	PROPOSED GRADE
??.?? / ??.?? INV	PROPOSED ELEVATION (PROP/INVERT)
	PROPERTY LINE
	TOP OF SLOPE
	CATCHMENT BOUNDRY
	OVERLAND FLOW DIRECTION
	SILT FENCE
LABEL / AREA / CN	CATCHMENT LABEL
	CONTROLLED AREA
	UN–CONTROLLED AREA
	BOTTOM OF SLOPE
W	PROPOSED WELL LOCATION
	STRAW BALE CHECK DAMN
100y MVCA	100YR MVCA FLOODPLAIN
100y SWM	100YR SWM FACILITY PONDING
100y FD	100YR FLOW DEPTH



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(613) 860–0923

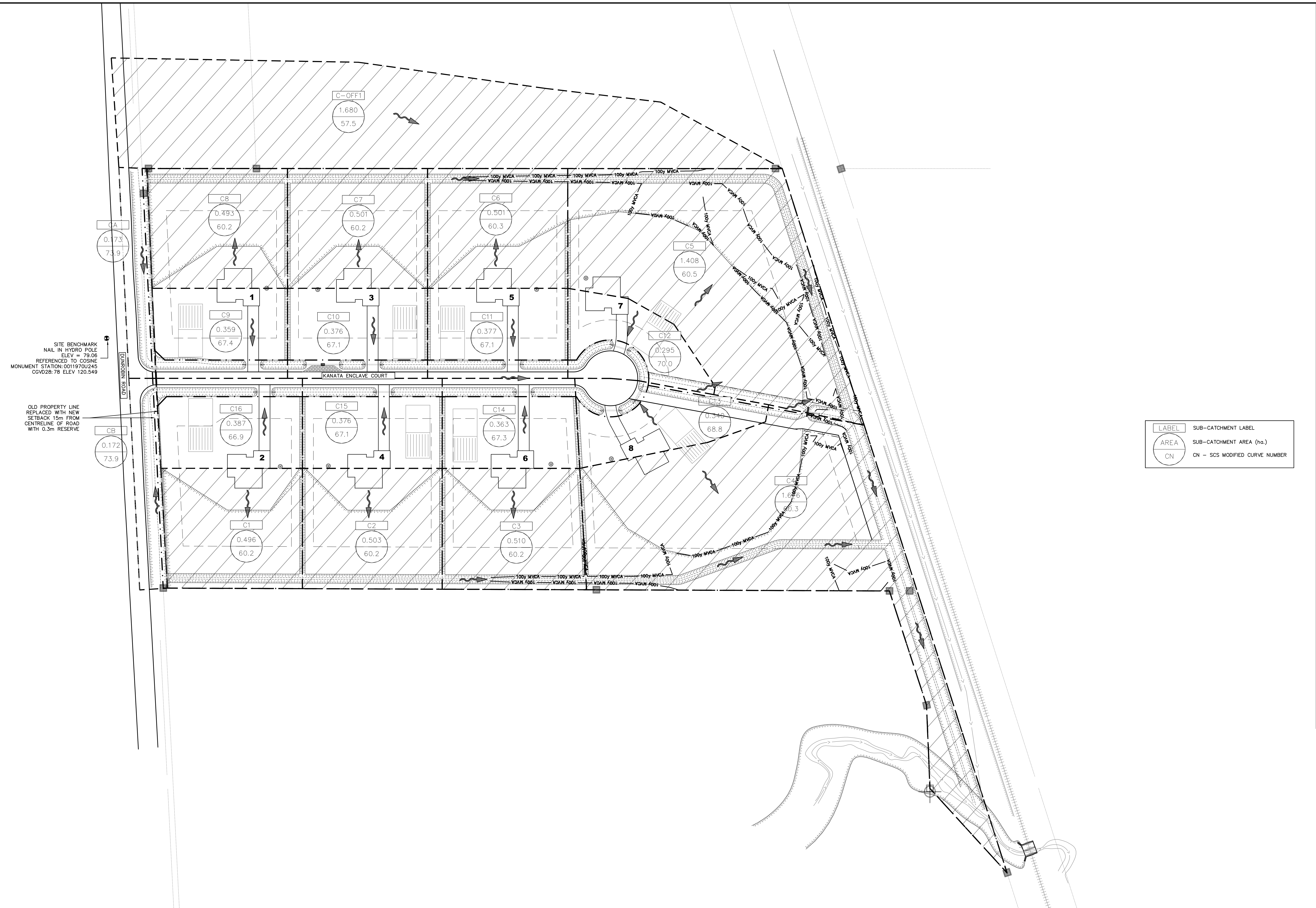
DESIGN	AJ/SD
DRAWN	AJ
CHECKED	SD
APPROVED	SD

STAMP
LICENSED PROFESSIONAL ENGINEER
MAY 5, 2023
S.E. deWit
100079612
PROVINCE OF ONTARIO

CLIENT NAME	ZBIGNIEW HAUDEROWICZ
PROJECT NAME	PROPOSED RESIDENTIAL SUBDIVISION
PROJECT LOCATION	2050 DUNROBIN ROAD OTTAWA, ONTARIO
DRAWING	PRE–DEVELOPMENT CONDITIONS

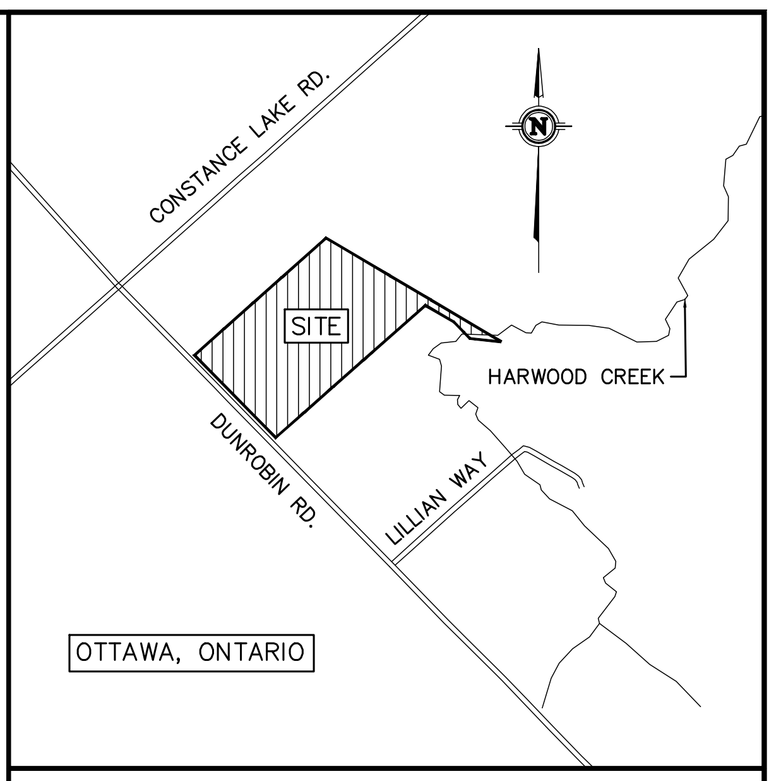
PROJECT No.	200977
DATE	2023/05/05
SCALE	1:1000
DRAWING No.	PRE

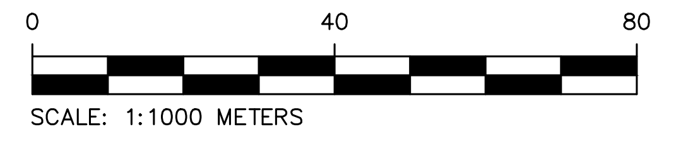
D02–02–22–0018



POST–DEVELOPMENT CONDITIONS

SCALE = 1:1000

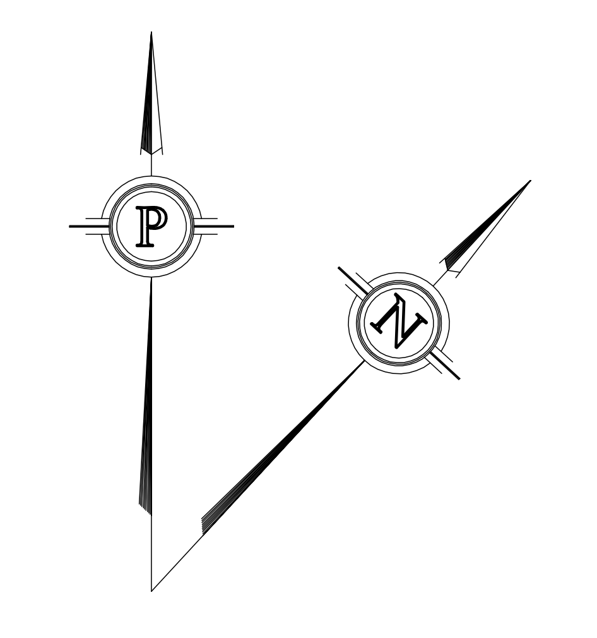




LABEL	SUB–CATCHMENT LABEL
AREA	SUB–CATCHMENT AREA (ha.)
CN	CN – SCS MODIFIED CURVE NUMBER

LEGEND

×??? / ???	PROPOSED ELEVATION (PROP/EX)
???→	PROPOSED GRADE
×??.?? / ??.?? INV	PROPOSED ELEVATION (PROP/INVERT)
–·–·–·–·–	PROPERTY LINE
┬┬┬┬┬┬┬┬	TOP OF SLOPE
– – – – – –	CATCHMENT BOUNDRY
∿➤	OVERLAND FLOW DIRECTION
~~	SILT FENCE
LABEL / AREA / CN	CATCHMENT LABEL
⬚	CONTROLLED AREA
▨	UN–CONTROLLED AREA
- - - - - - - -	BOTTOM OF SLOPE
Ⓦ	PROPOSED WELL LOCATION
▭	STRAW BALE CHECK DAMN
—— 100y MVCA ——	100YR MVCA FLOODPLAIN
—— 100y SWM ——	100YR SWM FACILITY PONDING
—— 100y FD ——	100YR FLOW DEPTH



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DESIGN AJ/SD	STAMP LICENSED PROFESSIONAL ENGINEER MAY 5, 2023 S.E. deWit 100079612 PROVINCE OF ONTARIO	CLIENT NAME ZBIGNIEW HAUDEROWICZ	PROJECT No. 200977
DRAWN AJ		PROJECT NAME PROPOSED RESIDENTIAL SUBDIVISION	DATE 2023/05/05
CHECKED SD		PROJECT LOCATION 2050 DUNROBIN ROAD OTTAWA, ONTARIO	SCALE 1:1000
APPROVED SD		DRAWING POST–DEVELOPMENT CONDITIONS	DRAWING No. POST

D02–02–22–0018

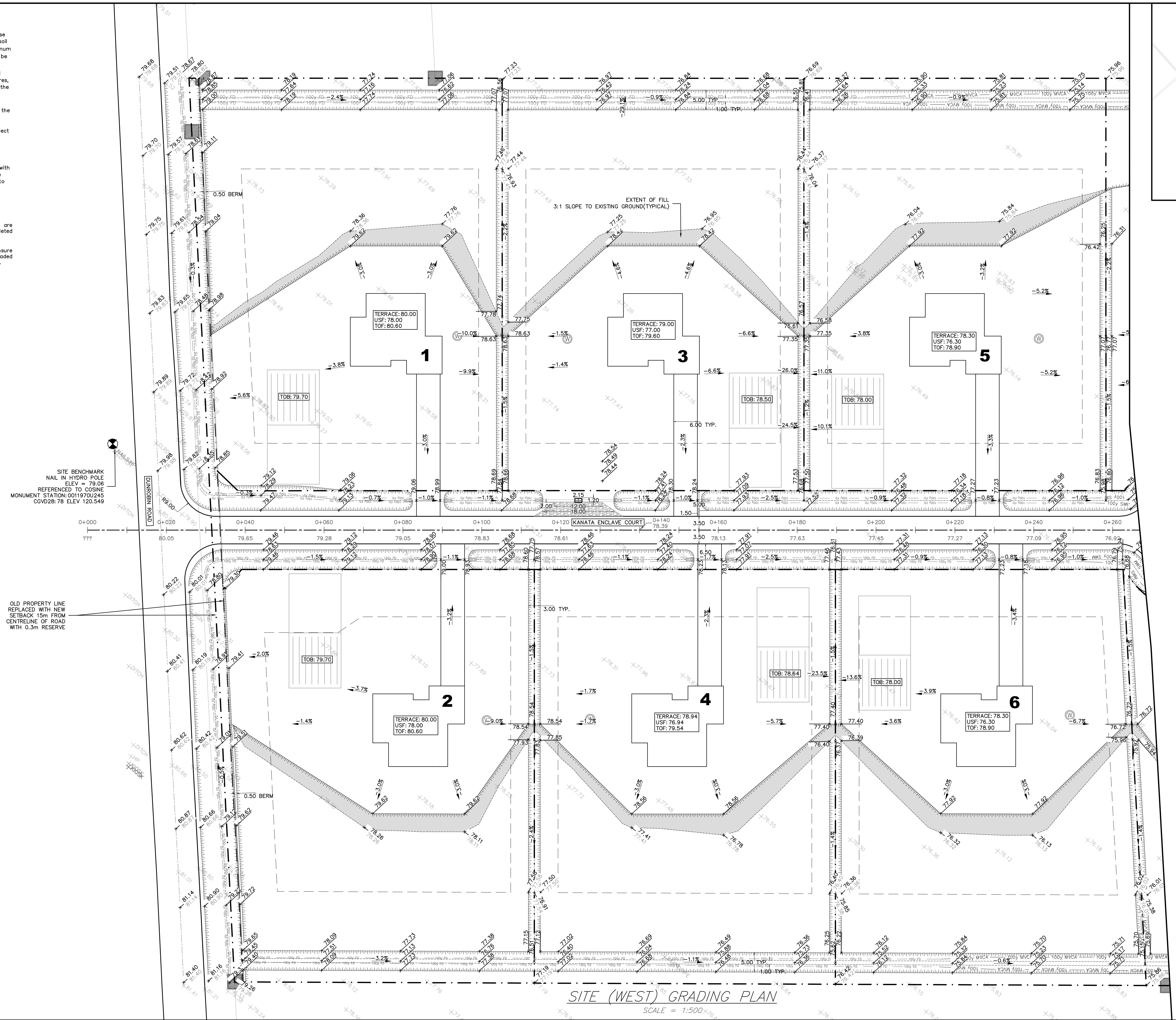
Tree planting Guidelines

1. Where silty clay soils are encountered at a proposed building location, small and medium sized trees can be planted as close as 4.5 metres from the proposed dwelling provided sufficient soil volume is available around the proposed tree location (a minimum of 25 m^3 for small trees and 30 m^3 for medium trees must be available in the upper 1.5 metres below finished grade).
2. Where silty clay is present at a proposed building location and where the thickness of the silty clay deposit exceeds 0.4 metres, large trees should be planted no closer than 15 metres from the proposed building.
3. Excluding the areas where the silty clay deposits exceed 0.4 metres, the remainder of the subsurface soils encountered at the site are not considered particularly sensitive to depletion of moisture by trees. There are no planting restrictions from a geotechnical perspective for small and medium trees with respect to planting distance from the proposed buildings. Large trees should be planted no closer than 10 metres from a proposed dwelling where no silty clay is present on the lot.
4. Tree planting guidelines provided by a landscape architect, arborist, urban forest manager or other qualified professional with respect to species, distance to building requirements, moisture requirements etc should be obtained and followed in addition to the geotechnical recommendations.

General Grading Notes:

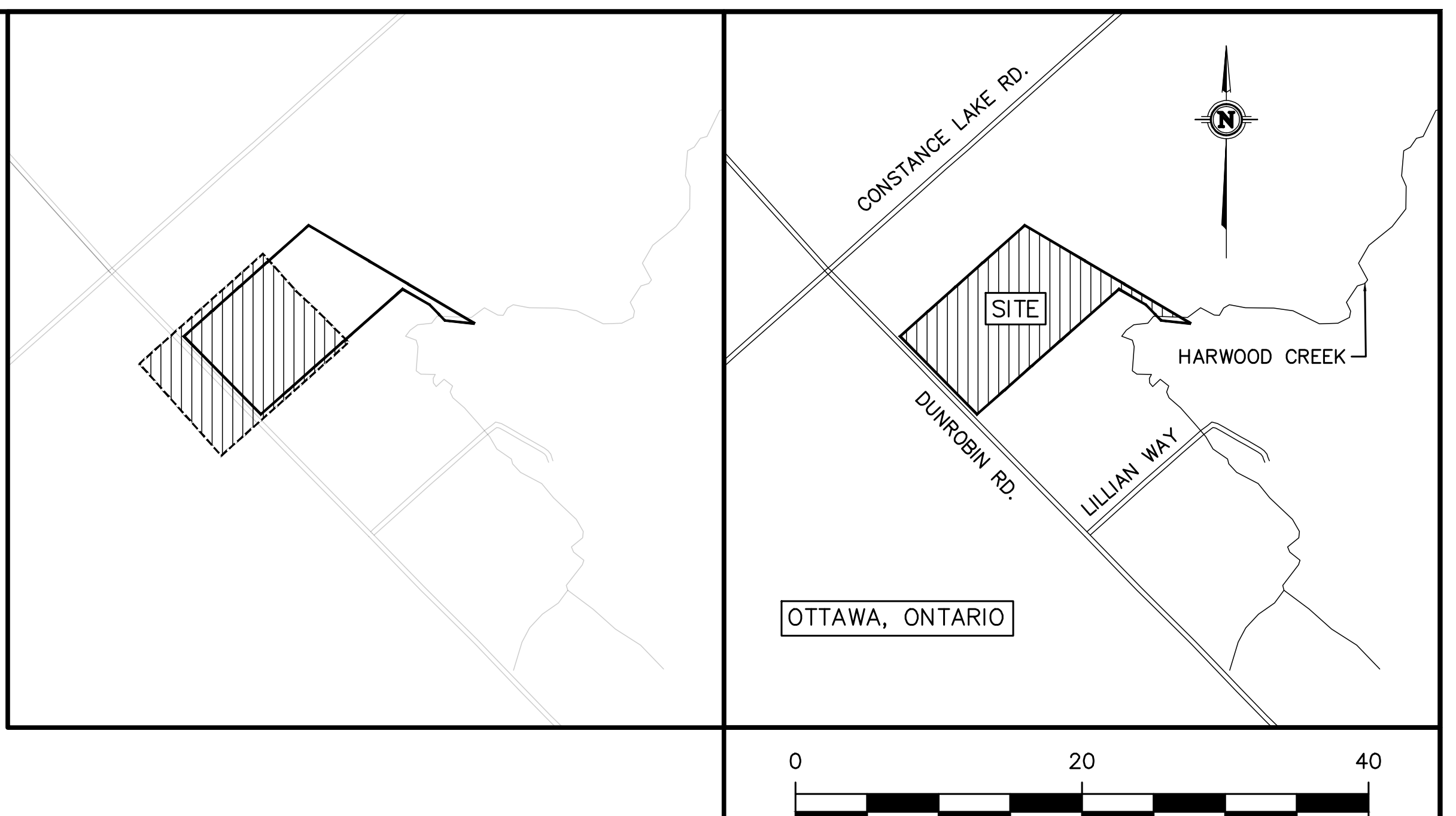
All grade elevations shown on softscaped or grassed surfaces are finished grades including topsoil. Rough grading is to be completed to allow for 100 mm of Topsoil on all disturbed areas.

During detailed grading of individual lots, the designer is to ensure that the area within 3 metres of the proposed drilled well is graded away from the well with a minimum ground surface slope of 2%.



SITE (WEST) GRADING PLAN

SCALE = 1:500



0 20 40

SCALE: 1:500 METERS

LEGEND

??? / ???	PROPOSED ELEVATION (PROP/EX)
???	PROPOSED GRADE
??.?? / ??.?? INV	PROPOSED ELEVATION (PROP/INVERT)
-·-·-·-	PROPERTY LINE
┬┬┬┬┬┬	TOP OF SLOPE
- - - - -	CATCHMENT BOUNDRY
➜	OVERLAND FLOW DIRECTION
∿∿∿∿	SILT FENCE
LABEL AREA CN	CATCHMENT LABEL
☐	CONTROLLED AREA
▨	UN-CONTROLLED AREA
- - - - -	BOTTOM OF SLOPE
Ⓦ	PROPOSED WELL LOCATION
▤	STRAW BALE CHECK DAMN
100y MVCA	100YR MVCA FLOODPLAIN
100y SWM	100YR SWM FACILITY PONDING
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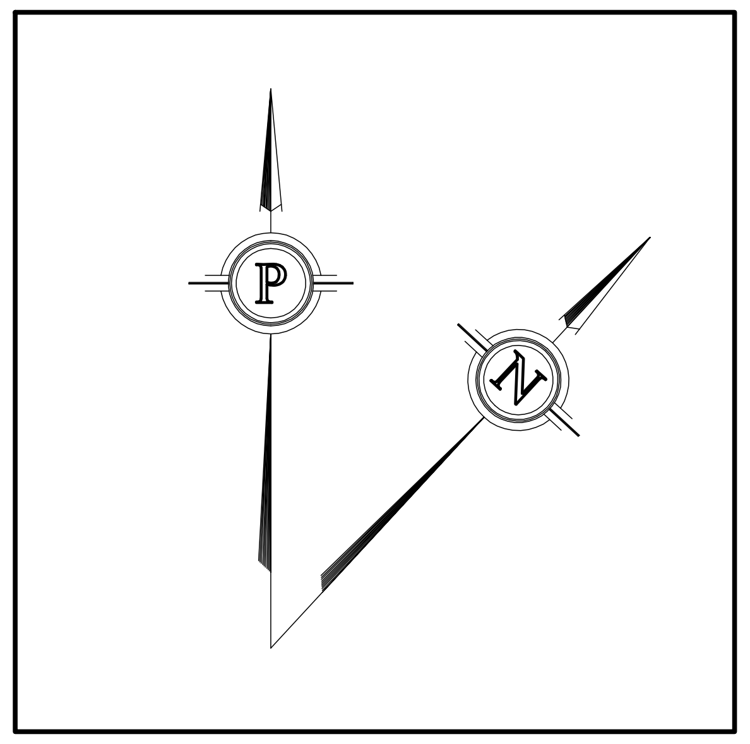

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DRAWN	AJ
CHECKED	SD
APPROVED	SD

STAMP
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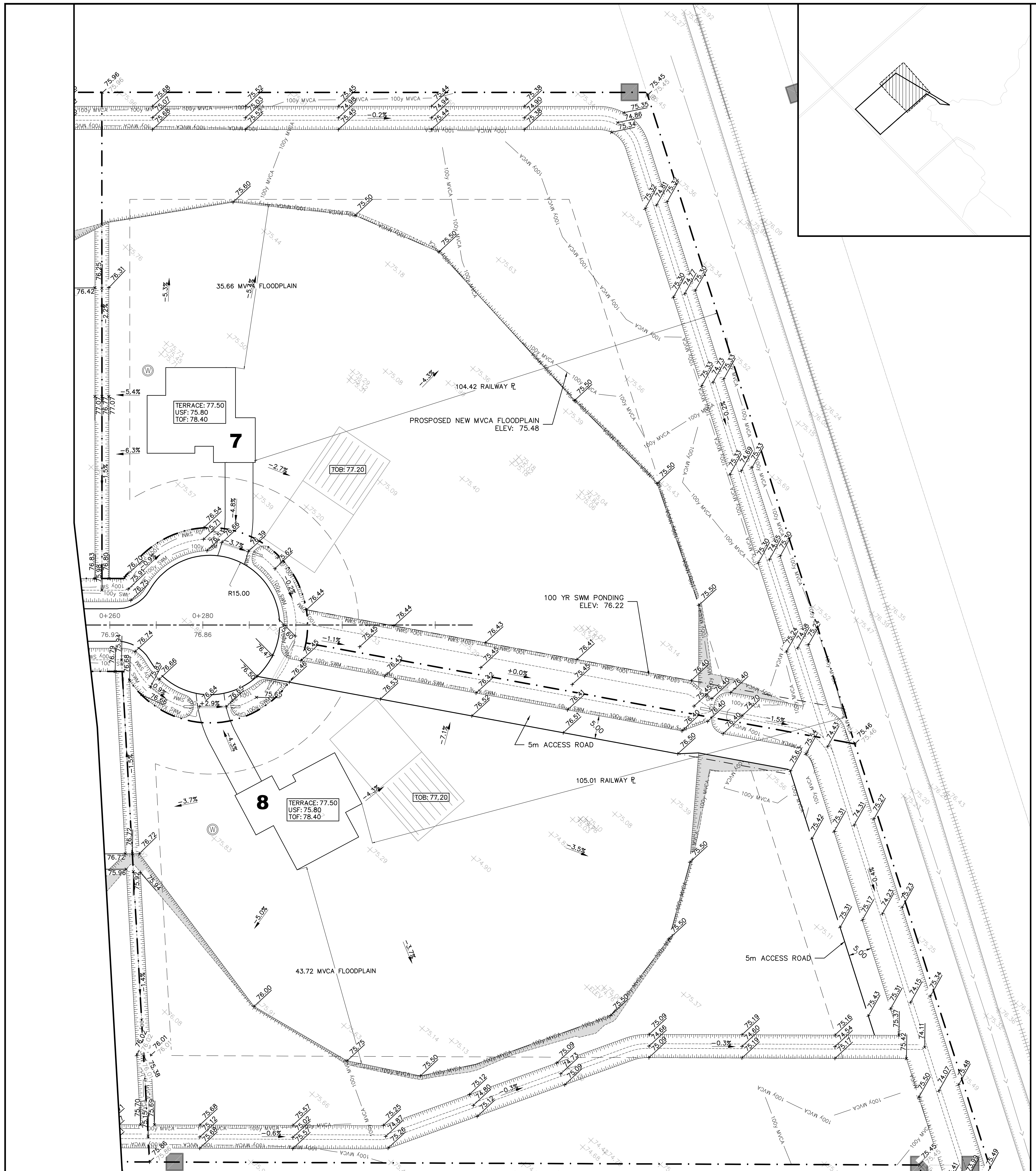
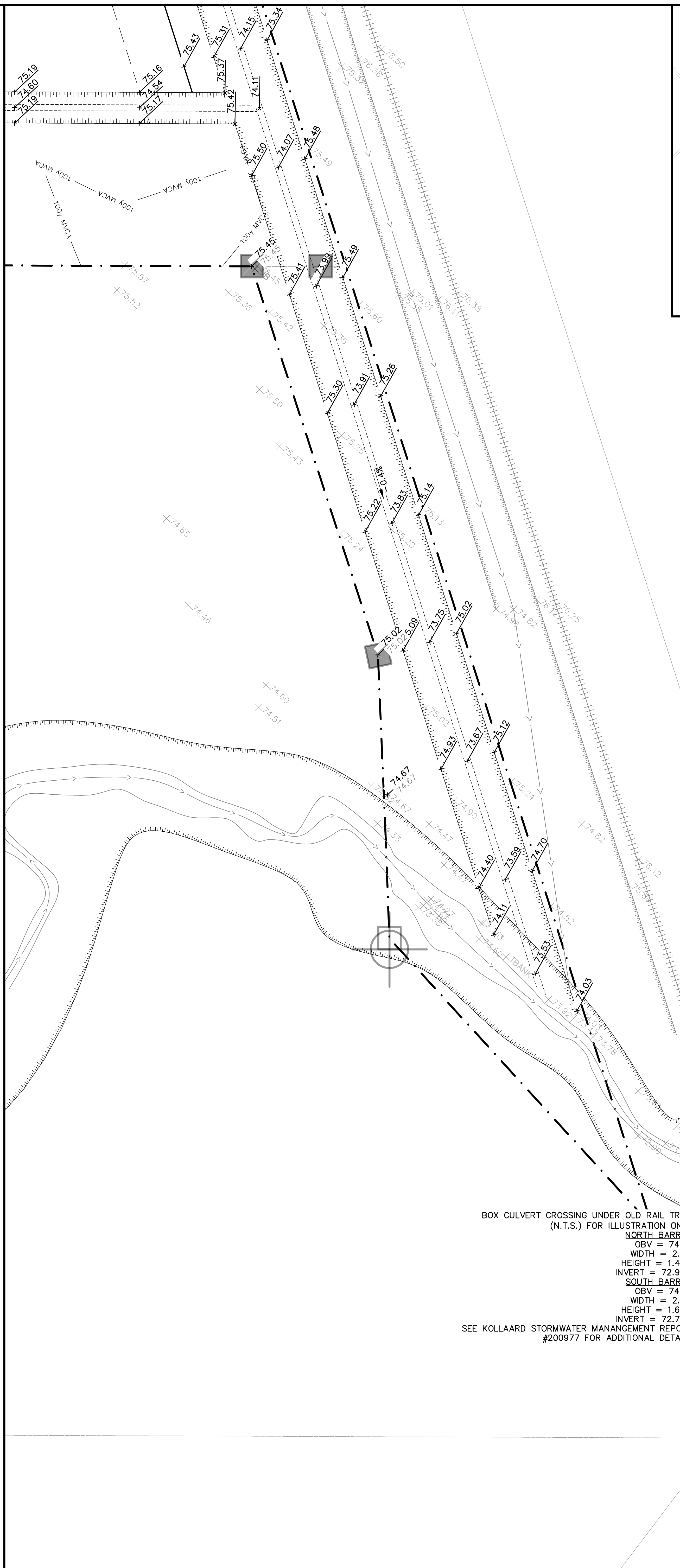
MAY 5, 2023
S.E. deWit
100079612
PROVINCE OF ONTARIO

CLIENT NAME	ZBIGNIEW HAUDEROWICZ	PROJECT No.	200977
PROJECT NAME	PROPOSED RESIDENTIAL SUBDIVISION	DATE	2023/05/05
PROJECT LOCATION	2050 DUNROBIN ROAD OTTAWA, ONTARIO	SCALE	1:500
DRAWING	SITE (WEST) GRADING PLAN	DRAWING No.	GR-W

D02-02-22-0018

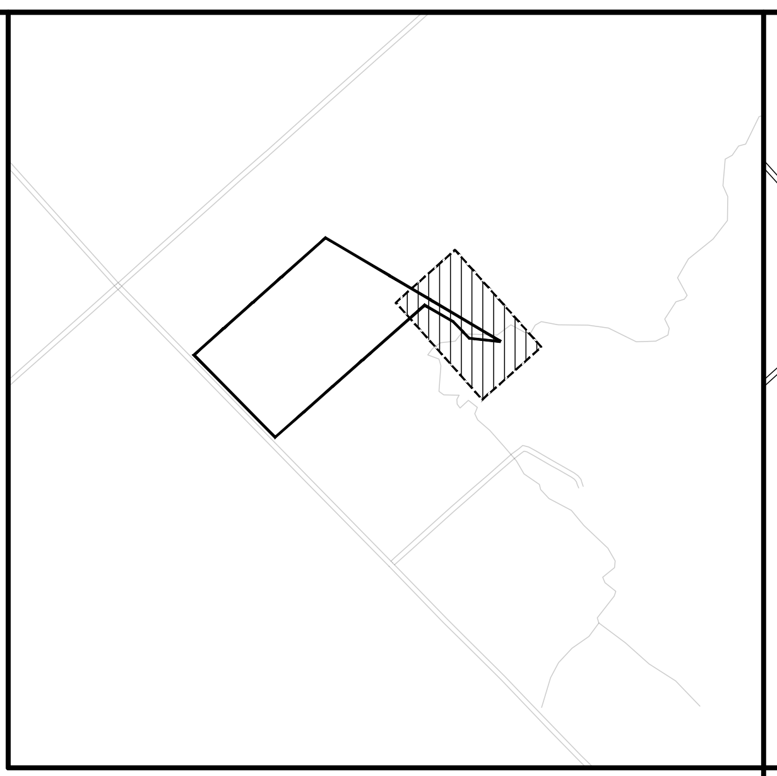


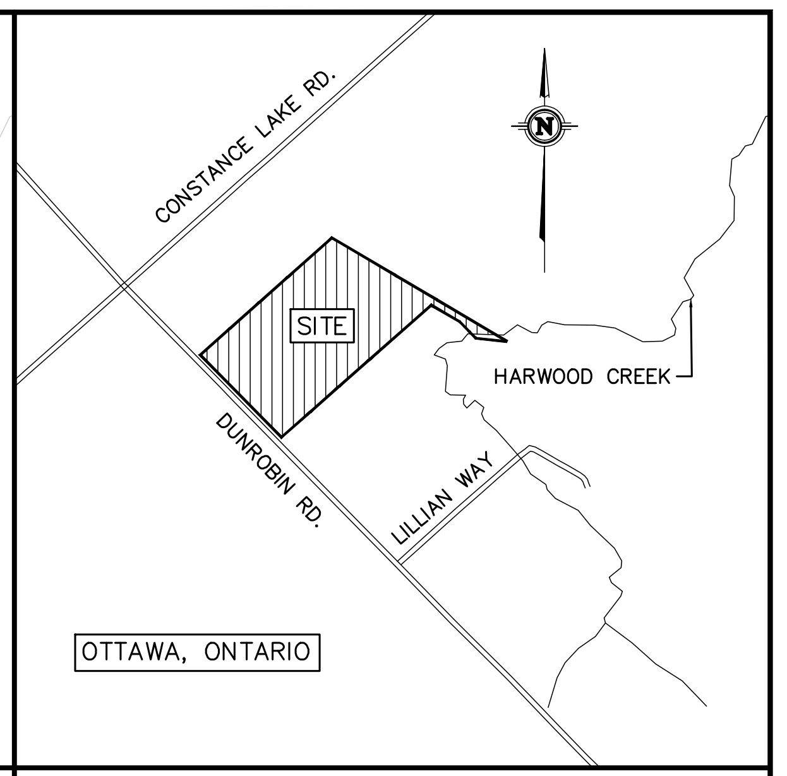
SITE (EAST) GRADING PLAN
SCALE = 1:500

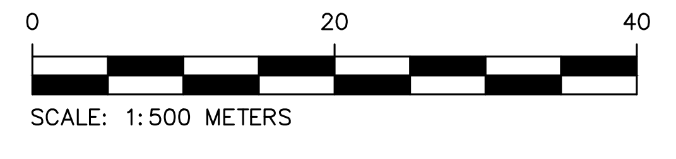


BOX CULVERT CROSSING UNDER OLD RAIL TRAIL
(N.T.S.) FOR ILLUSTRATION ONLY
NORTH BARREL:
OBV = 74.45
WIDTH = 2.9m
HEIGHT = 1.49m
INVERT = 72.96m
SOUTH BARREL:
OBV = 74.45
WIDTH = 2.8m
HEIGHT = 1.69m
INVERT = 72.76m
SEE KOLLAARD STORMWATER MANANGEMENT REPORT
#200977 FOR ADDITIONAL DETAILS

SITE (HARWOOD CREEK) GRADING PLAN
SCALE = 1:500







SCALE: 1:500 METERS

LEGEND

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??? →	PROPOSED GRADE
??.?? / ??.?? INV	PROPOSED ELEVATION (PROP/INVERT)
-·-·-·-	PROPERTY LINE
┬┬┬┬	TOP OF SLOPE
– – – –	CATCHMENT BOUNDRY
➜	OVERLAND FLOW DIRECTION
∿∿∿	SILT FENCE
LABEL AREA CN	CATCHMENT LABEL
☐	CONTROLLED AREA
▨	UN-CONTROLLED AREA
- - - - -	BOTTOM OF SLOPE
Ⓦ	PROPOSED WELL LOCATION
▭	STRAW BALE CHECK DAMN
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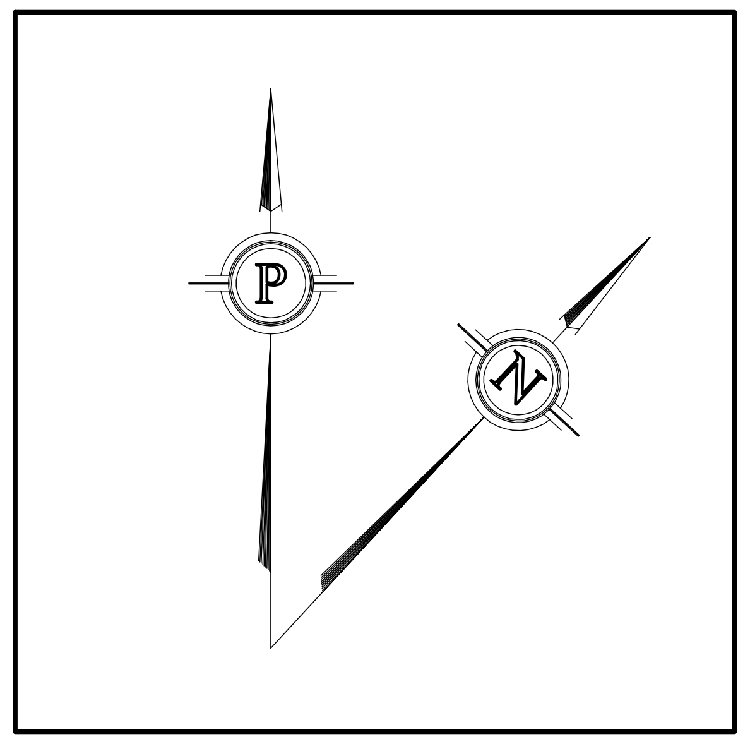
— 100y SWM —	100YR SWM FACILITY PONDING
— 100y FD —	100YR FLOW DEPTH



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APPROVED SD

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LICENSED PROFESSIONAL ENGINEER
MAY 5, 2023
S.E. deWit
100079612
PROVINCE OF ONTARIO

CLIENT NAME: ZBIGNIEW HAUDEROWICZ
PROJECT NAME: PROPOSED RESIDENTIAL SUBDIVISION
PROJECT LOCATION: 2050 DUNROBIN ROAD OTTAWA, ONTARIO
DRAWING: SITE (EAST) GRADING PLAN
PROJECT No.: 200977
DATE: 2023/05/05
SCALE: 1:500
DRAWING No.: GR–E

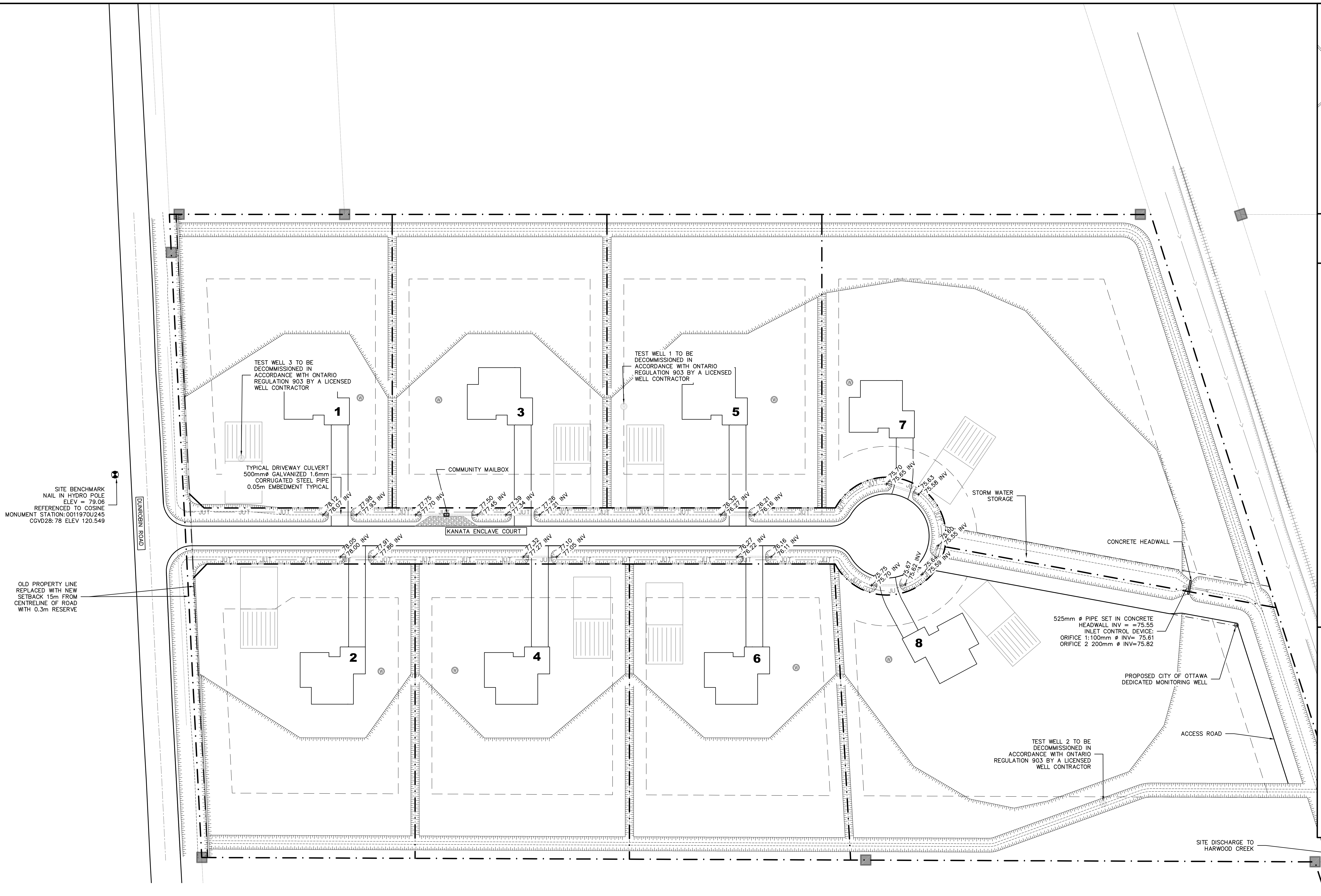
D02–02–22–0018

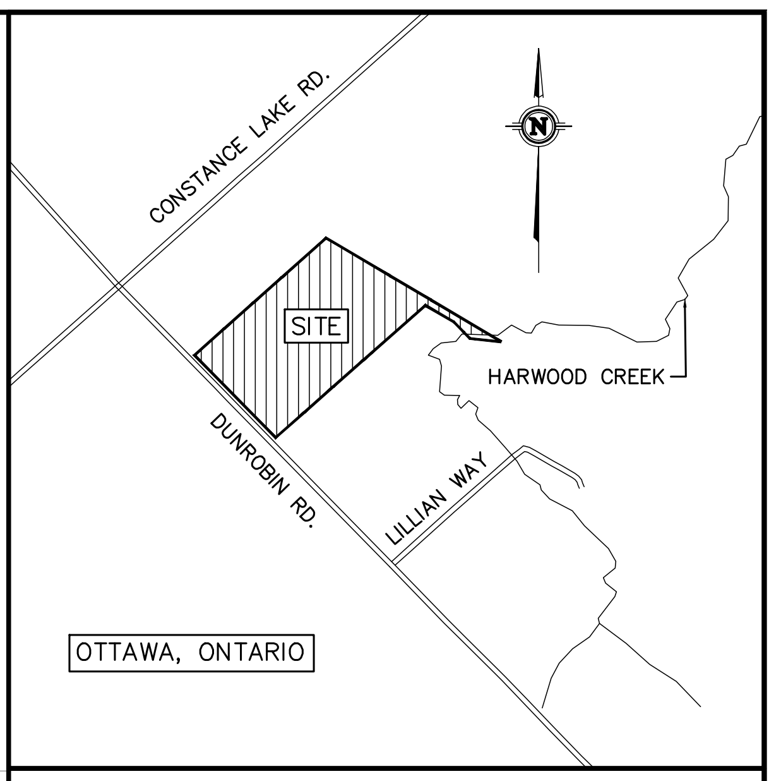
Well Construction

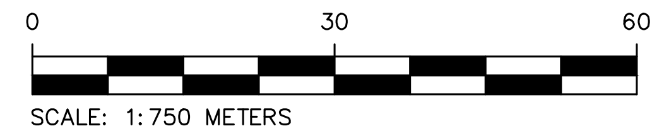
- Future wells drilled on the site should be constructed with a minimum 6.0 metres length of casing through the overburden and set at least 1 metre into the sound bedrock, whichever is greater.
- The steel casing placed in the boreholes should be pressure grouted or displacement grouted into place. The material used to seal the annular space could consist of either a cement grout or a commercially available bentonite grout product. Cement grout mixtures should be allowed to set for a minimum two day period for normal cement or twelve hours for a high early strength cement prior to advancing the well further into bedrock. If a bentonite grout product is used, drilling need only be suspended for a few hours depending on the product used. Bentonite grout has the additional advantage of remaining flexible when set and therefore will not crack or shrink thereby ensuring as well as possible that surface water or shallow groundwater will not migrate along the annular space and into the well bore.
- Once the casing has been sealed, the well should be advanced uncased in the bedrock until a water supply of sufficient quantity and quality is encountered. Wells should encounter sufficient water and be completed to depths of less than about 55 metres.
- The completed well should then be developed to maximize the yield.
- The well casings should be completed at least 400 millimetres above the highest point on the finished ground surface within three metres radially from the well after surface drainage is directed away from the well.
- The casing should be fitted with a pitless adapter at a minimum depth of 1.8 metres below the finished ground surface to facilitate below ground plumbing and electrical connections.

Well Decommissioning

- The existing test wells are poorly located with respect to the proposed development. These well are indicated to be decommissioned or abandoned in accordance with Ontario Regulation 903.
- This work should be carried out before any development or infilling of the backwater flood plain.
- Records of abandonment at to be provided to the Ministry of the Environment.







LEGEND

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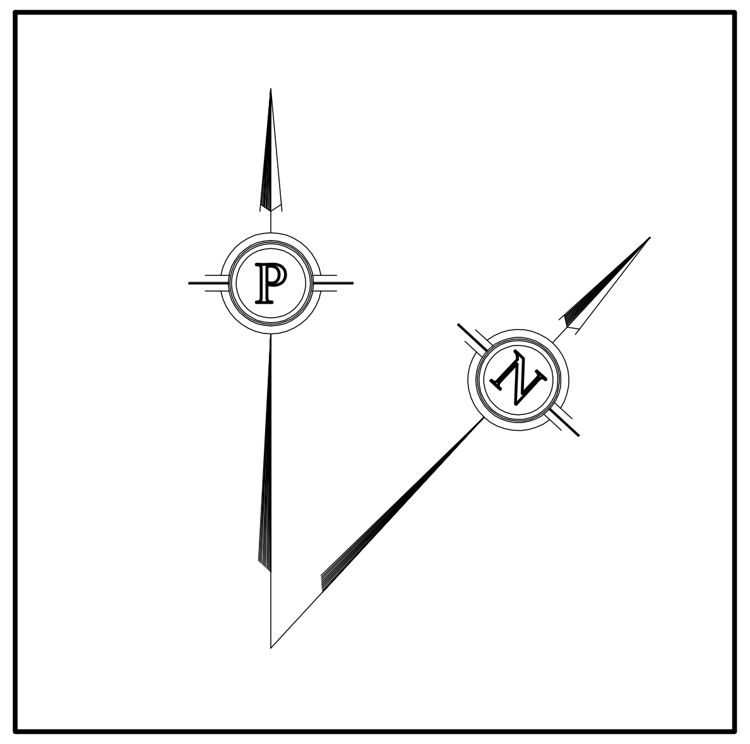

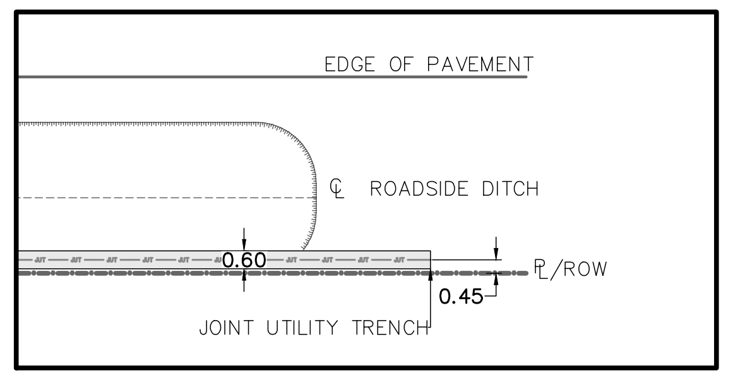

SITE SERVICING PLAN

SCALE = 1:750

JOINT UTILITY TRENCH

SCALE = 1:250

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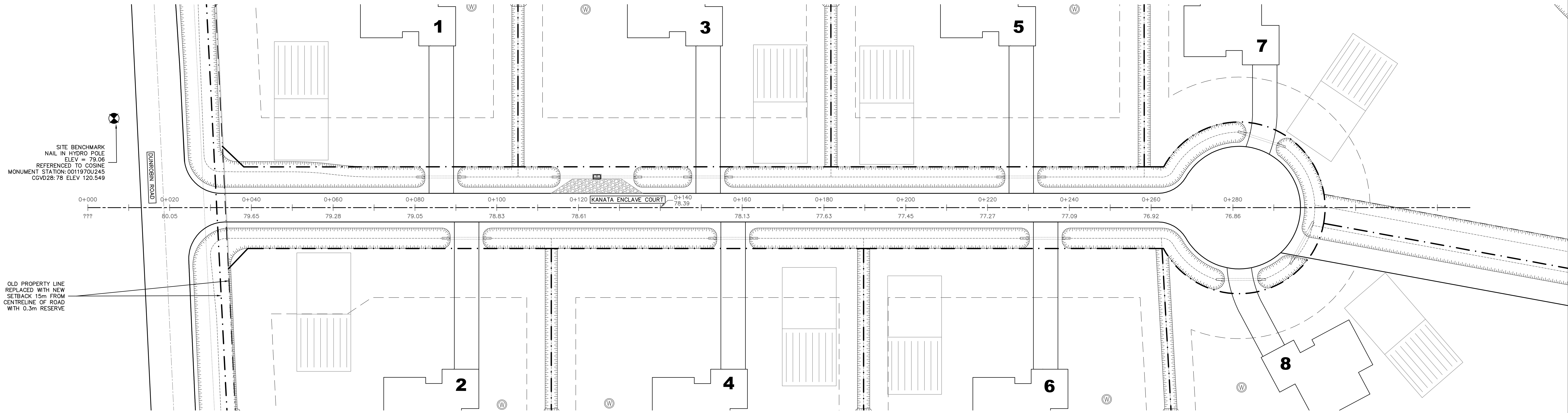
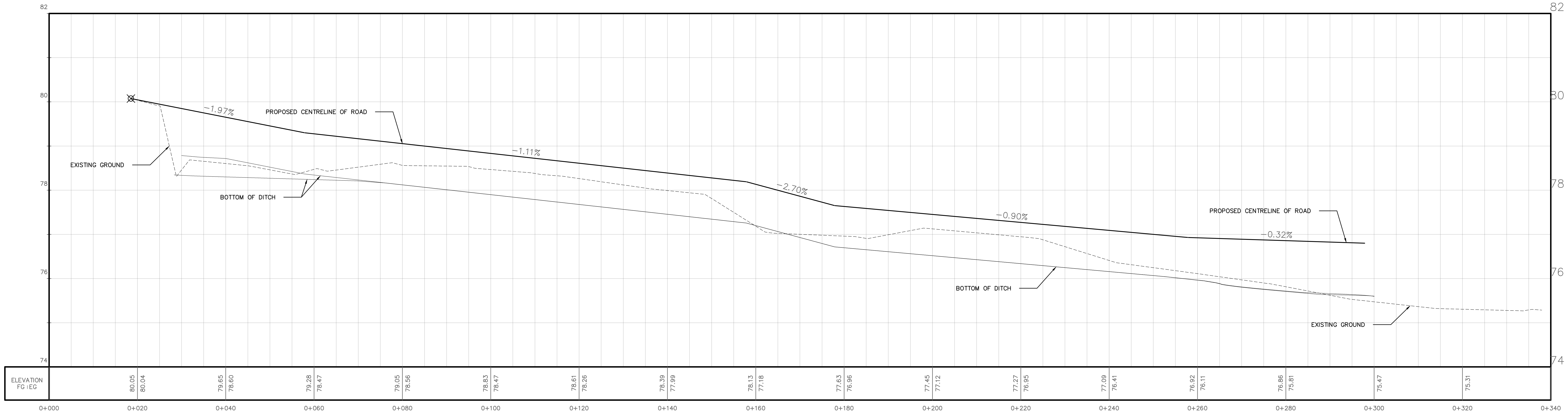
DATE 2023/05/05
SCALE 1:750
DRAWING No. SVC

D02-02-22-0018



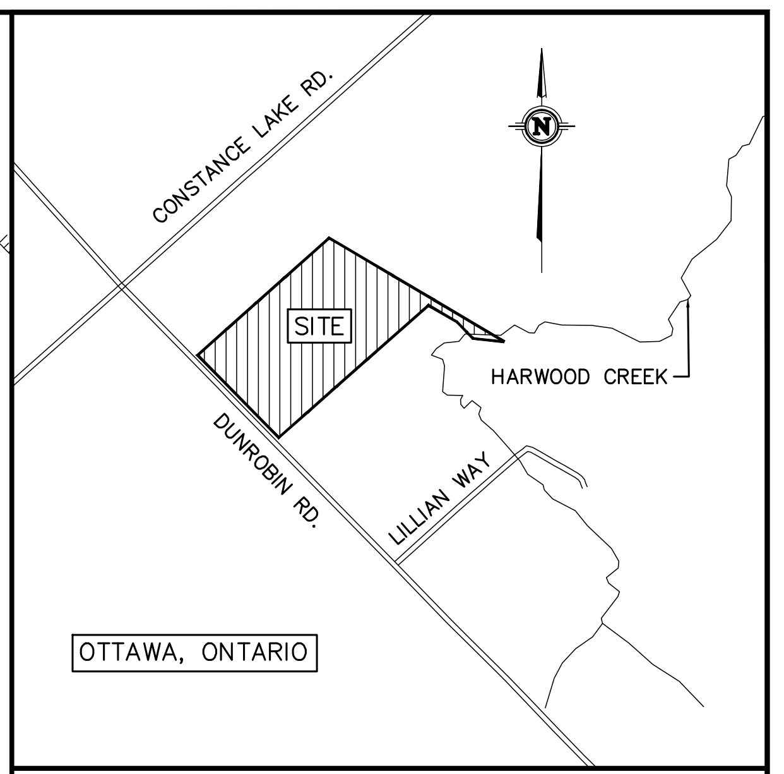
KANATA ENCLAVE COURT PLAN

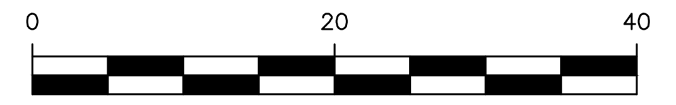
SCALE = 1:500(H) 1:50(V)



KANATA ENCLAVE COURT PROFILE

SCALE = 1:500(H) 1:50(V)

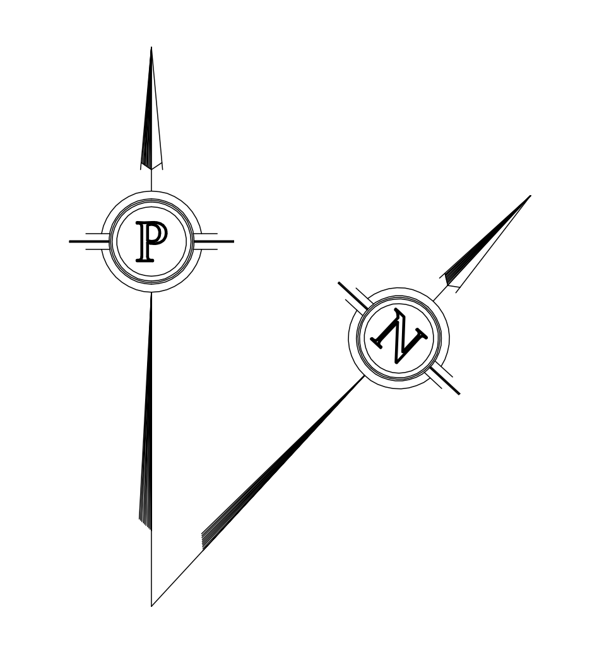




SCALE: 1:500 METERS

LEGEND

??? / ???	PROPOSED ELEVATION (PROP/EX)
??? →	PROPOSED GRADE
??.?? / ??.?? INV	PROPOSED ELEVATION (PROP/INVERT)
— · — · —	PROPERTY LINE
┬┬┬┬┬┬	TOP OF SLOPE
- - - - -	CATCHMENT BOUNDRY
∿➤	OVERLAND FLOW DIRECTION
︿︿︿︿	SILT FENCE
LABEL / AREA / CN	CATCHMENT LABEL
⬚	CONTROLLED AREA
▨	UN−CONTROLLED AREA
- - - - -	BOTTOM OF SLOPE
Ⓦ	PROPOSED WELL LOCATION
▤	STRAW BALE CHECK DAMN
— 100y MVCA —	100YR MVCA FLOODPLAIN
— 100y SWM —	100YR SWM FACILITY PONDING
— 100y FD —	100YR FLOW DEPTH



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No.	REVISION	DATE	BY

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(613) 860−0923

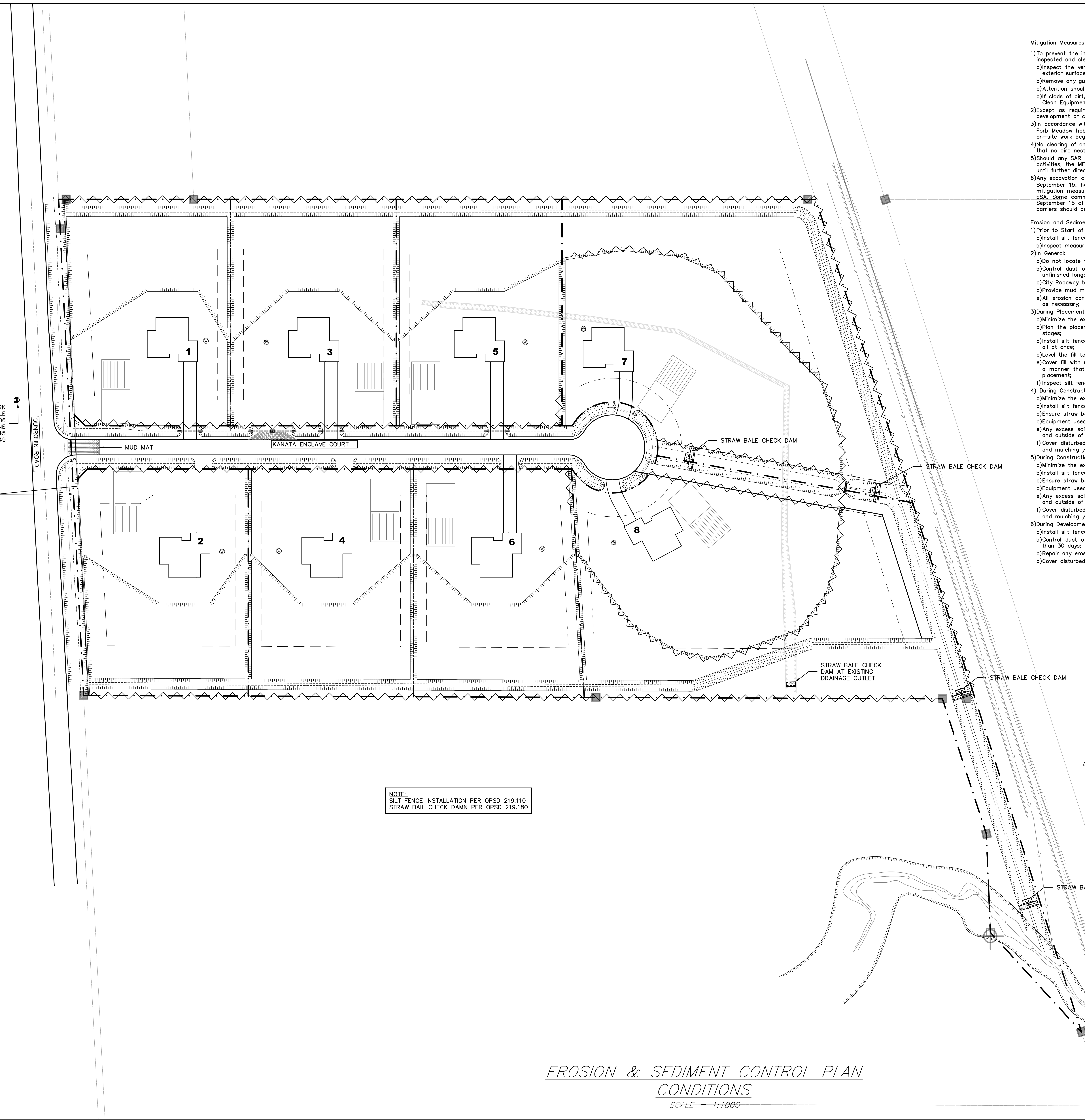
DESIGN: AJ/SD
DRAWN: AJ
CHECKED: SD
APPROVED: SD

STAMP
MAY 5, 2023
S.E. deWit
100079612

CLIENT NAME: ZBIGNIEW HAUDEROWICZ
PROJECT NAME: PROPOSED RESIDENTIAL SUBDIVISION
PROJECT LOCATION: 2050 DUNROBIN ROAD OTTAWA, ONTARIO
DRAWING: PLAN AND PROFILE

PROJECT No.: 200977
DATE: 2023/05/05
SCALE: 1:500
DRAWING No.: PP

D02−02−22−0018



NOTE:
SILT FENCE INSTALLATION PER OPSD 219.110
STRAW BAIL CHECK DAMN PER OPSD 219.180

EROSION & SEDIMENT CONTROL PLAN CONDITIONS

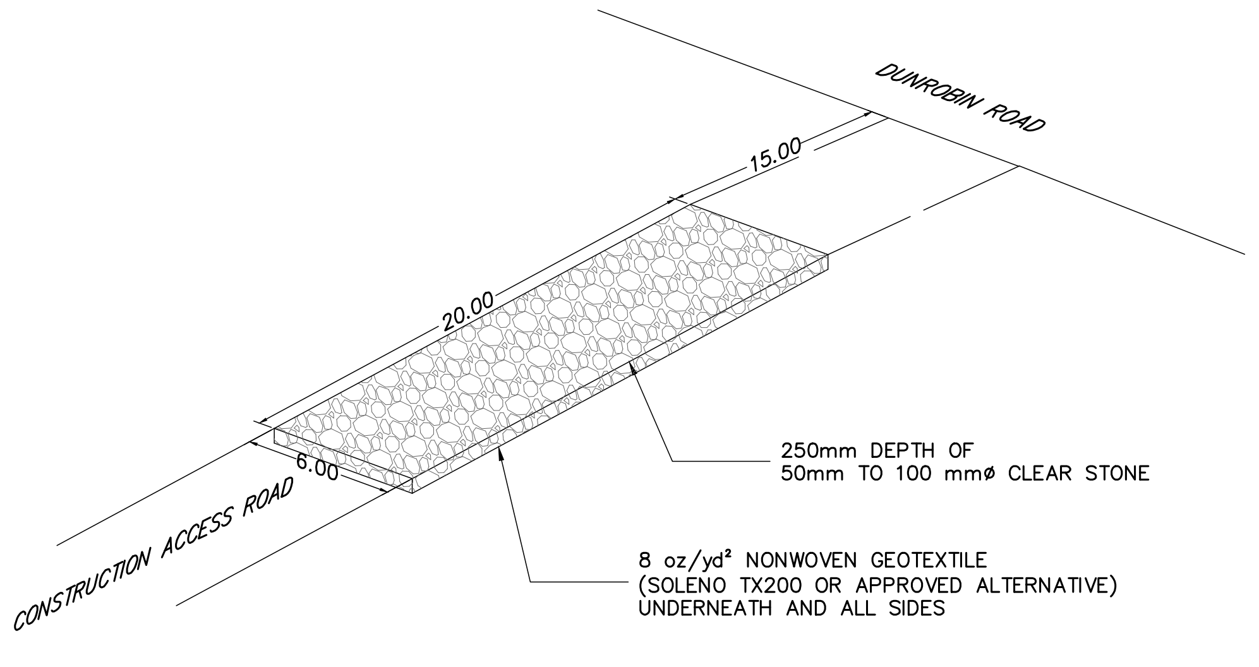
SCALE = 1:1000

Mitigation Measures for Construction and Development

1) To prevent the introduction and spread of invasive plant species into the study area, equipment utilized during construction should be inspected and cleaned in accordance with the Clean Equipment Protocol for Industry
   a) Inspect the vehicle thoroughly inside and out for where dirt, plant material and seeds may be lodged or adhering to interior and exterior surfaces prior to mobilizing equipment onto the site.
   b) Remove any guards, covers or plates that are easy to remove.
   c) Attention should be paid to the underside of the vehicle, radiators, spare tires, foot wells and bumper bars.
   d) If clods of dirt, seed or other plant material are found, removal should take place immediately, using the techniques outlined in the Clean Equipment Protocol For Industry.
2) Except as required to construct the outlet, a minimum of 30 m setback from Harwood Creek should be maintained where no development or clearing should occur.
3) In accordance with the City's of Ottawa's Protocol for Wildlife Protection during Construction to reduce potential wildlife usage of the Forb Meadow habitat by mowing/clearing outside of the breeding season (i.e., before April 15), then maintain as mowed grass until on–site work begins.
4) No clearing of any vegetation should occur between April 1 and September 15 of any year, unless a qualified biologist has determined that no bird nesting is occurring within five days of the vegetation clearing event.
5) Should any SAR be discovered during the project works, and/or should any SAR or their habitat be potentially impacted by on–site activities, the MECP shall be contacted immediately and operations modified to avoid any negative impacts to SAR or their habitat, until further direction is provided by the MECP;
6) Any excavation or heavy equipment use in the floodplain or near Harwood Creek within the study area, conducted between May 1 and September 15, has the potential to harm travelling Blanding's Turtles and other SAR turtles that utilize the watercourse. As such, mitigation measures should be employed to protect SAR and their habitat during construction and to maintain compliance with the ESA. Some common mitigations would include working outside the known timing window for active turtle movement from May 1 to September 15 of any year, unless the area has been cleared of turtles by a qualified biologist; as well as temporary turtle exclusion barriers should be installed by May 1, prior to the turtle nesting season surrounding the impacted watercourse or proposed works.

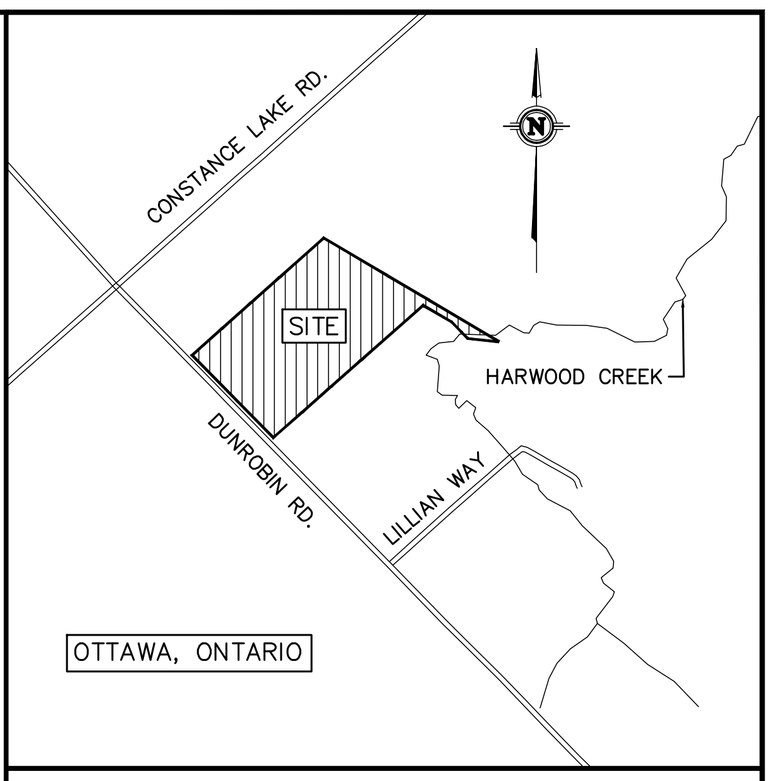
Erosion and Sediment Control

1) Prior to Start of Construction:
   a) Install silt fence, straw bale check dams and mud mat in location shown;
   b) Inspect measures immediately after installation.
2) In General:
   a) Do not locate topsoil piles or fill piles within 2.5 m from any paved or gravel surface area;
   b) Control dust off site by seeding topsoil and soil piles and other disturbed areas watering as necessary if they are to remain unfinished longer than 30 days;
   c) City Roadway to be cleaned of all sediment from vehicular tracking as required;
   d) Provide mud mat where ever vehicular traffic leaves the site from an unpaved egress point;
   e) All erosion control measures should be inspected within 24 hours of a storm event and should be cleaned / repaired / replaced as necessary;
3) During Placement of the Fill within the Flood Plain Area:
   a) Minimize the extend of the disturbed areas outside of the area immediately affected by the fill placement;
   b) Plan the placement of the fill to reduce the duration of exposure either by ensuring sufficient equipment or by placing the fill in stages;
   c) Install silt fence at the perimeter of the disturbed area or around the perimeter of each phase if not completing the fill placement all at once;
   d) Level the fill to finished grade immediately after placement;
   e) Cover fill with minimum 100 mm of topsoil then seed and mulch or hydro seed. The placement of the fill should be completed in a manner that will allow the placement of the topsoil and seeding and mulching / hydro seeding within 30 days of start of fill placement;
   f) Inspect silt fence within 24 hours of a storm event and clean / repair as necessary;
4) During Construction of the Storm water Management Facility.
   a) Minimize the extend of the disturbed areas outside of the area immediately affected by storm water management facility;
   b) Install silt fence at the perimeter of the disturbed area;
   c) Ensure straw bale check dams are in place downstream of the facility;
   d) Equipment used should be sufficient in size and quantity to ensure the construction time is minimized;
   e) Any excess soil material excavated during the construction should be stockpiled on the proposed lots outside of vulnerable areas and outside of the road allowance. The soil should be leveled to rough grade and should be stabilized by seeding;
   f) Cover disturbed areas with minimum 100 mm of topsoil then seed and mulch or hydro seed. The topsoil placement and seeding and mulching / hydro seeding should be completed within 30 days of start of the construction of the facilities;
5) During Construction of the Roadway:
   a) Minimize the extend of the disturbed areas outside of the area immediately affected by the road construction;
   b) Install silt fence at the perimeter of the disturbed area;
   c) Ensure straw bale check dams are in place at the discharge point from the Cul–de–Sac;
   d) Equipment used should be sufficient in size and quantity to ensure the construction time is minimized;
   e) Any excess soil material excavated during the construction should be stockpiled on the proposed lots outside of vulnerable areas and outside of the road allowance. The soil should be leveled to rough grade and should be stabilized by seeding;
   f) Cover disturbed areas with minimum 100 mm of topsoil then seed and mulch or hydro seed. The topsoil placement and seeding and mulching / hydro seeding should be completed within 30 days of start of the construction of the roadway;
6) During Development of Individual Lots
   a) Install silt fence at the perimeter of the disturbed area;
   b) Control dust off site by seeding topsoil and other disturbed areas watering as necessary if they are to remain unfinished longer than 30 days;
   c) Repair any erosion channels as they occur and redirect surface runoff with the use of berms to promote sheet flow;
   d) Cover disturbed areas with minimum 100 mm of topsoil then seed and mulch or hydro seed as soon as possible;



MUD MAT DETAIL

SCALE = N.T.S.



0 40 80

SCALE: 1:1000 METERS

LEGEND

??? / ???	PROPOSED ELEVATION (PROP/EX)
??? →	PROPOSED GRADE
??.?? / ??.?? INV	PROPOSED ELEVATION (PROP/INVERT)
— · — · —	PROPERTY LINE
┬┬┬┬┬┬	TOP OF SLOPE
- - - - -	CATCHMENT BOUNDRY
➜	OVERLAND FLOW DIRECTION
∿∿∿∿	SILT FENCE
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▨	UN–CONTROLLED AREA
- - - - - - - -	BOTTOM OF SLOPE
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— 100y MVCA —	100YR MVCA FLOODPLAIN
— 100y SWM —	100YR SWM FACILITY PONDING
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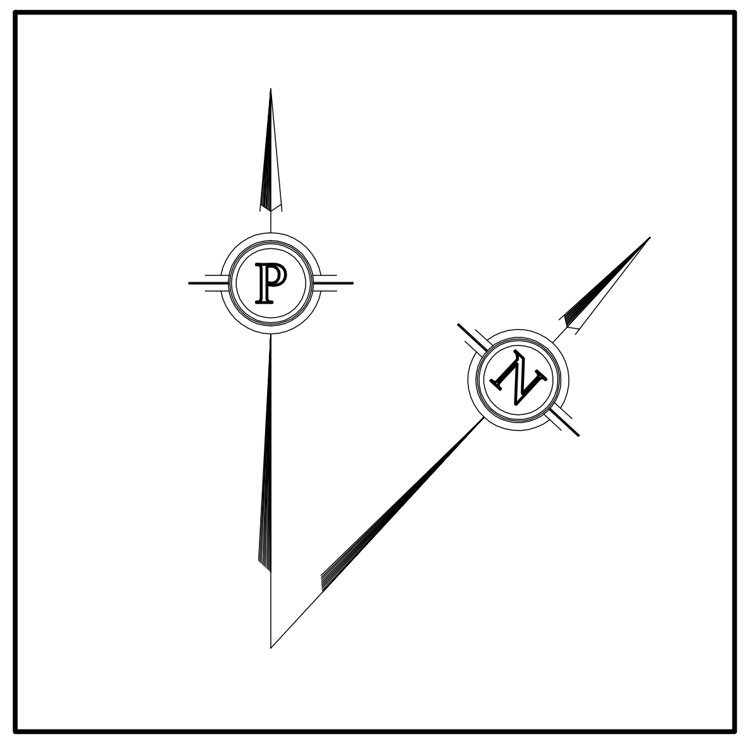

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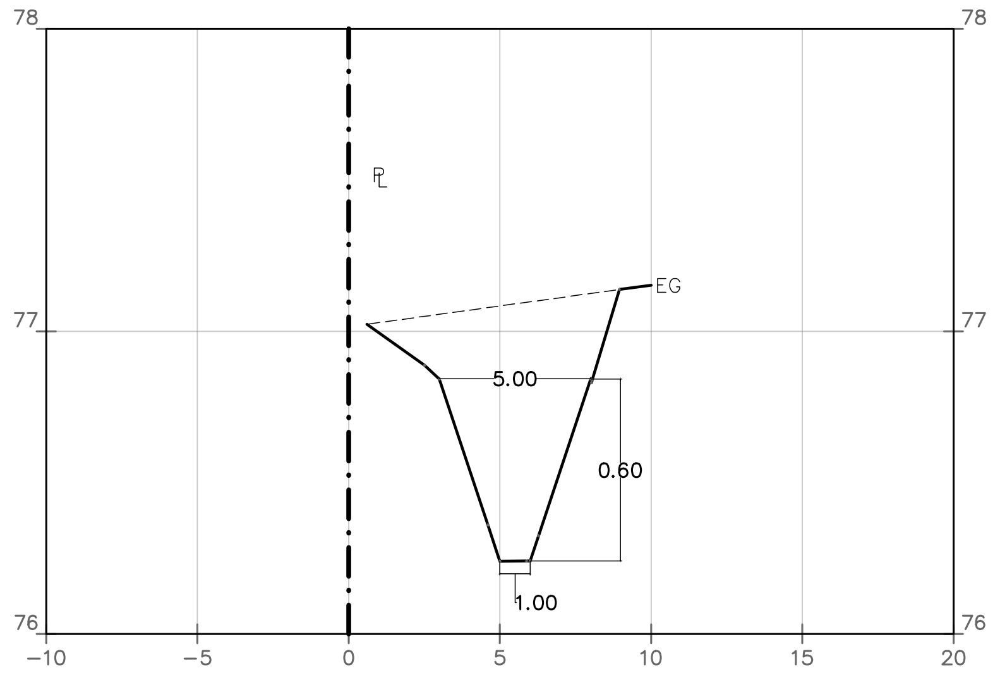
DESIGN	AJ/SD
DRAWN	AJ
CHECKED	SD
APPROVED	SD

STAMP
LICENSED PROFESSIONAL ENGINEER
MAY 5, 2023
S.E. deWit
100079612
PROVINCE OF ONTARIO

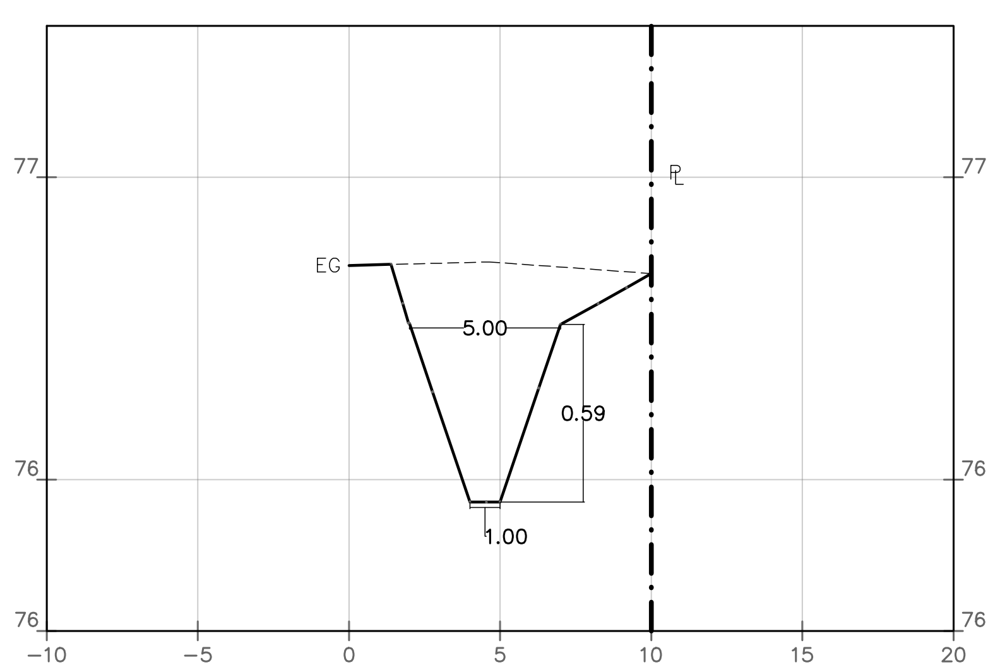
CLIENT NAME	ZBIGNIEW HAUDEROWICZ	PROJECT No.	200977
PROJECT NAME	PROPOSED RESIDENTIAL SUBDIVISION	DATE	2023/05/05
PROJECT LOCATION	2050 DUNROBIN ROAD OTTAWA, ONTARIO	SCALE	1:1000
DRAWING	EROSION & SEDIMENT CONTROL PLAN	DRAWING No.	ESC

D02–02–22–0018



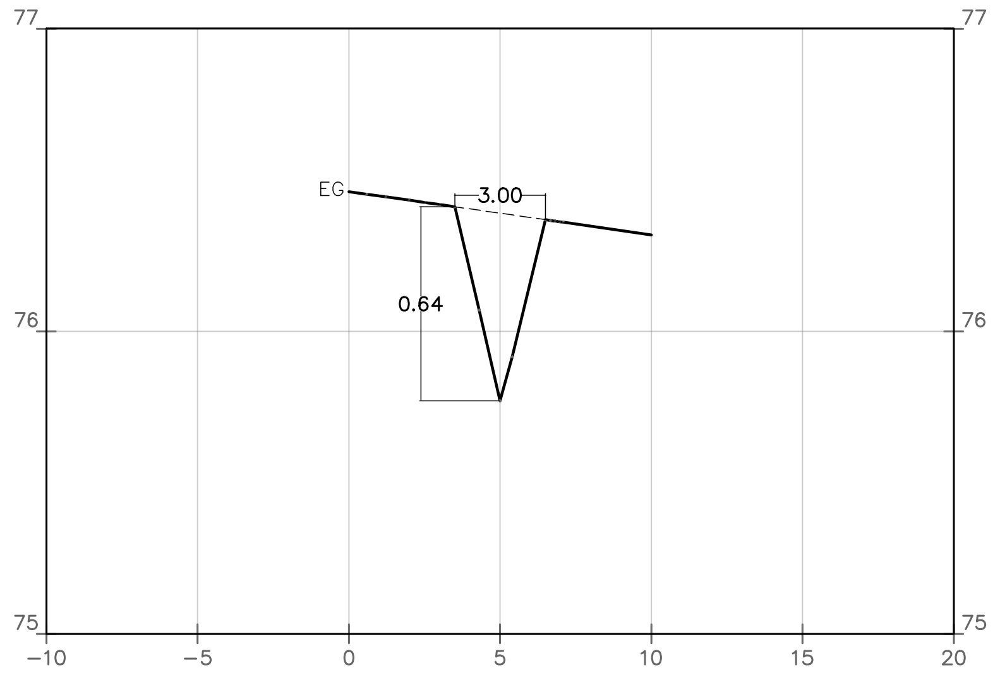
SECTION A–A (NORTH DITCH)

SCALE = 1:250(H) 1:25(V)



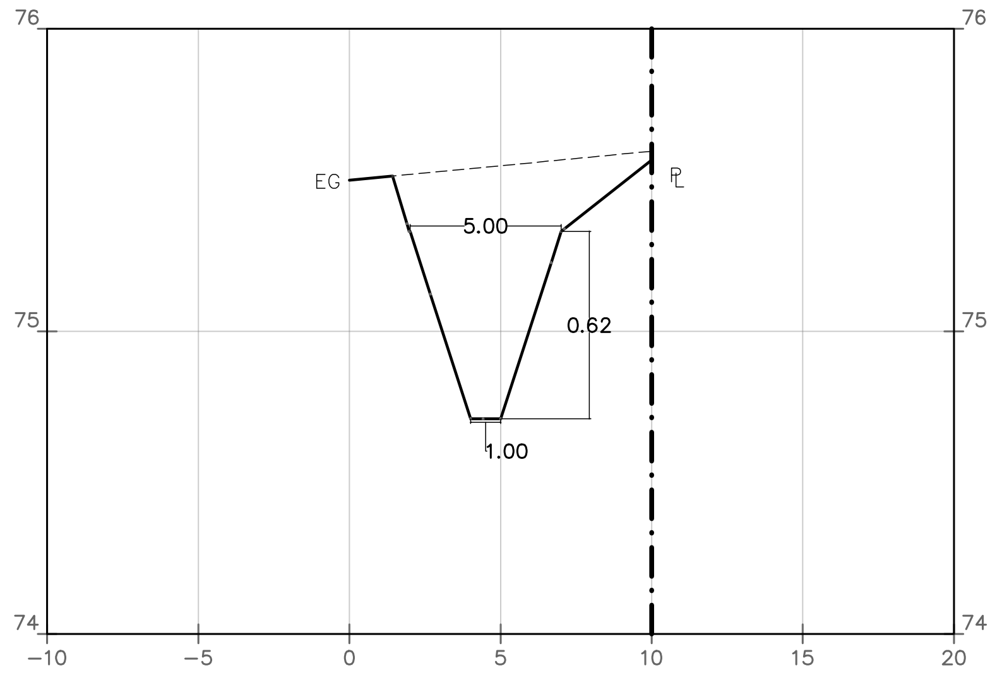
SECTION B–B (SOUTH DITCH)

SCALE = 1:250(H) 1:25(V)



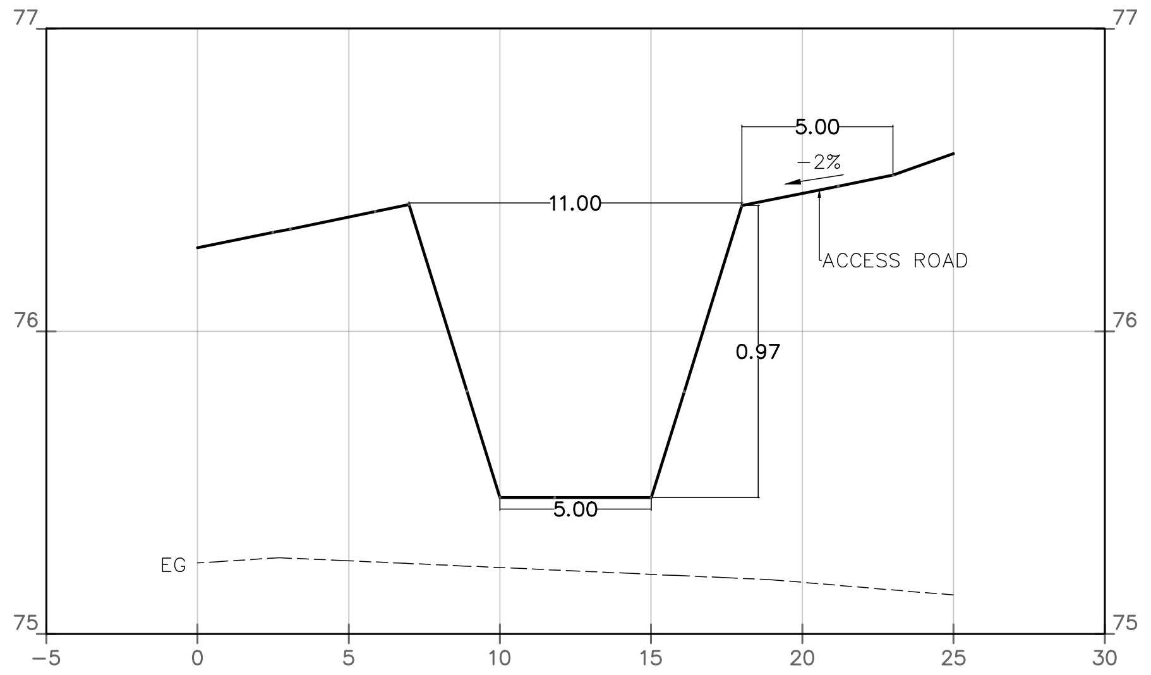
SECTION C–C (SOUTH REAR SIDE YARD)

SCALE = 1:250(H) 1:25(V)



SECTION D–D (NORTH DITCH)

SCALE = 1:250(H) 1:25(V)



SECTION G–G (STORAGE)

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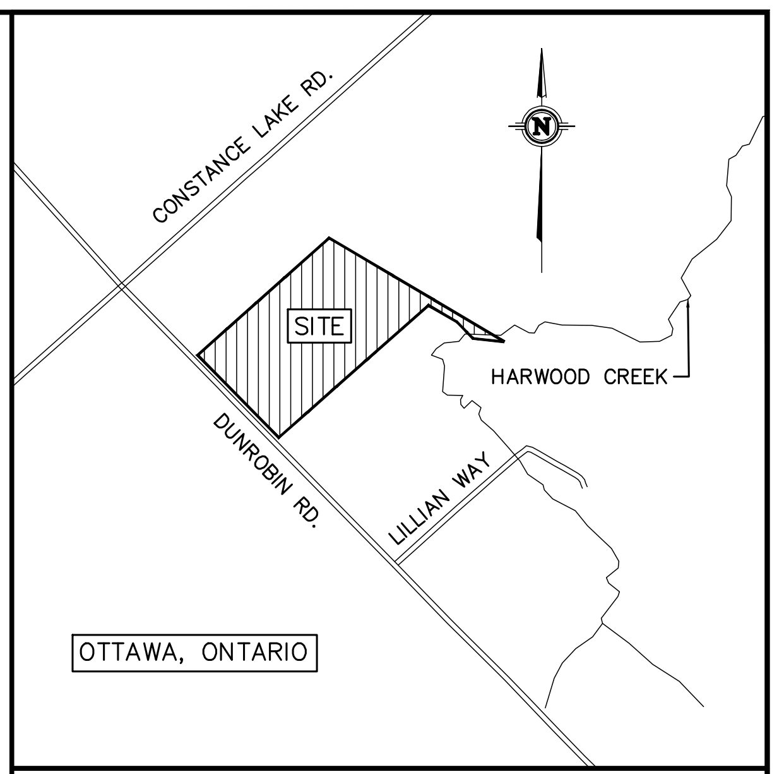
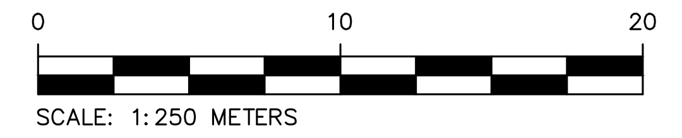
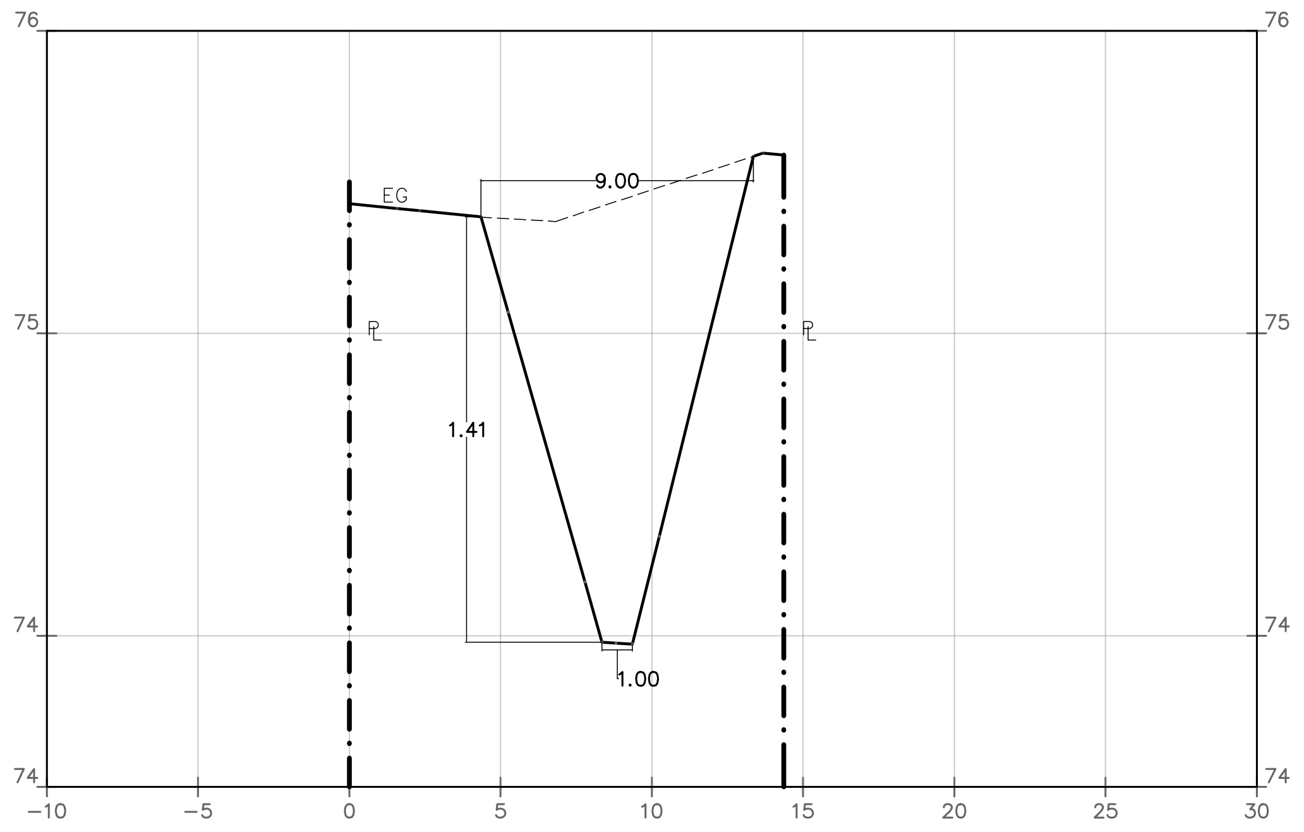




SCALE: 1:250 METERS

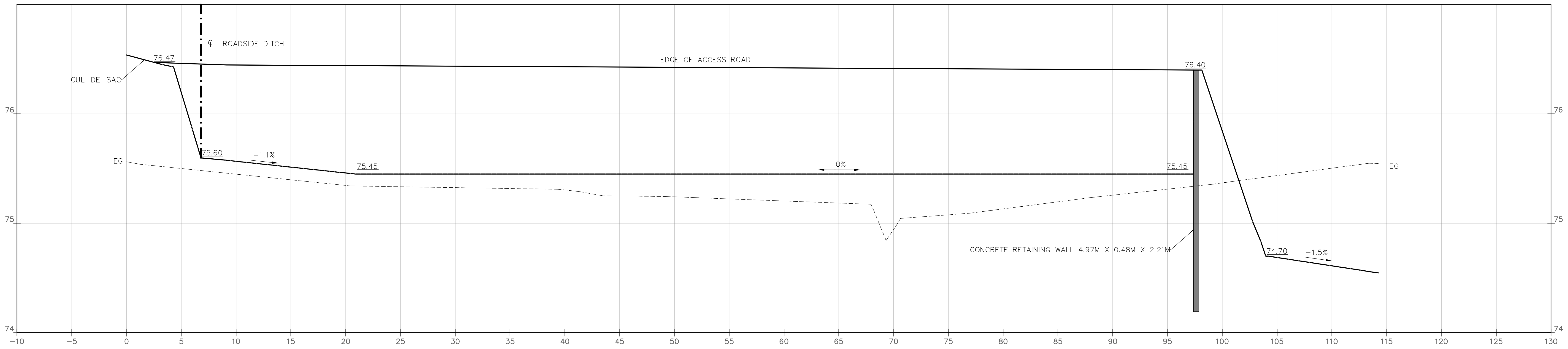
LEGEND

??? / ???	PROPOSED ELEVATION (PROP/EX)
??? →	PROPOSED GRADE
??.?? / ??.?? INV	PROPOSED ELEVATION (PROP/INVERT)
—·—·—·—	PROPERTY LINE
┬┬┬┬┬┬	TOP OF SLOPE
- - - - - -	CATCHMENT BOUNDRY
➜	OVERLAND FLOW DIRECTION
∿∿∿∿	SILT FENCE
LABEL / AREA / CN	CATCHMENT LABEL
▭	CONTROLLED AREA
▨	UN–CONTROLLED AREA
- - - - - - - -	BOTTOM OF SLOPE
Ⓦ	PROPOSED WELL LOCATION
▤	STRAW BALE CHECK DAMN
— 100y MVCA —	100YR MVCA FLOODPLAIN
— 100y SWM —	100YR SWM FACILITY PONDING
— 100y FD —	100YR FLOW DEPTH



SECTION E–E (OUTLET TO BARNES CREEK)

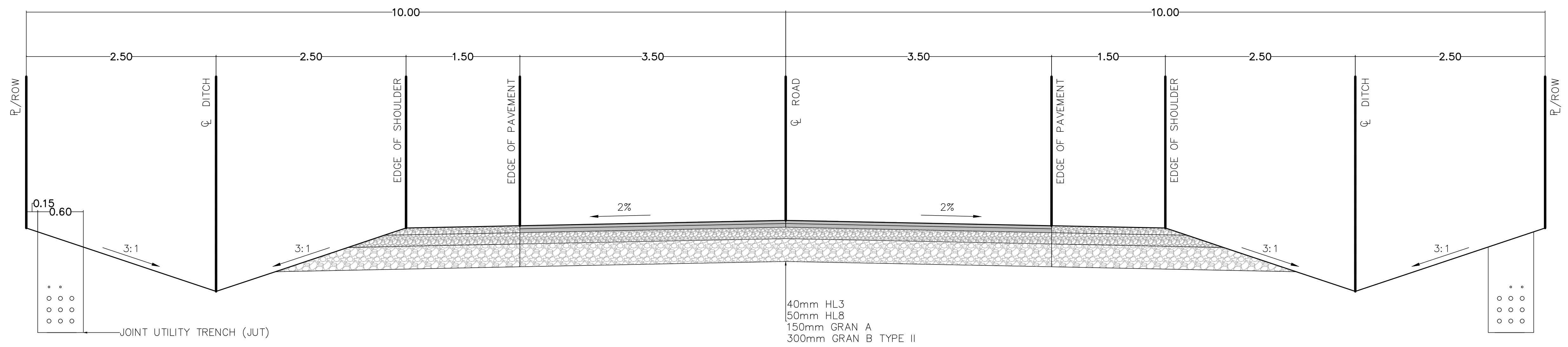
SCALE = 1:250(H) 1:25(V)



SECTION F–F (STORAGE)

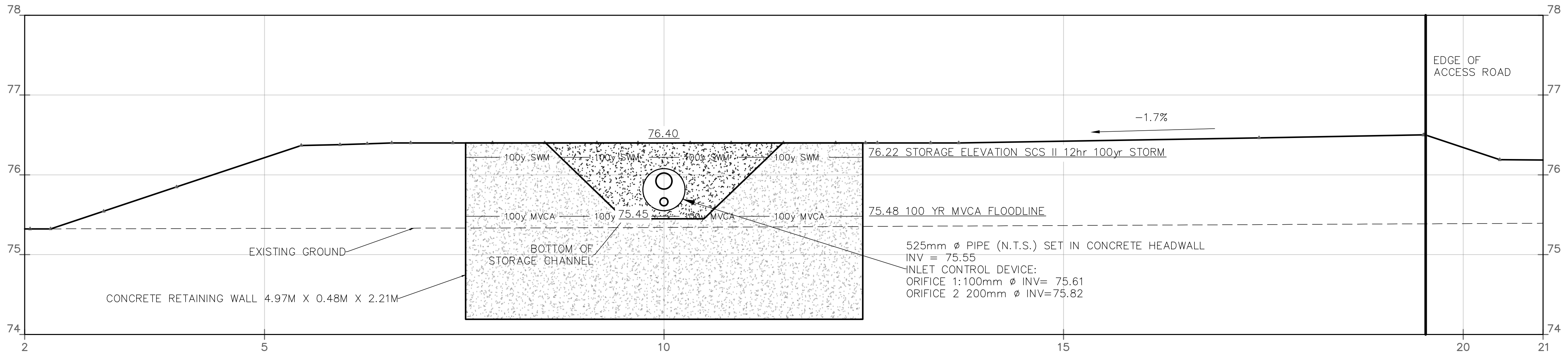
SCALE = 1:250(H) 1:25(V)

NOTE: All grade elevations shown on softscaped or grassed surfaces are finished grades including topsoil. Rough grading is to be completed to allow for 100 mm of Topsoil on all disturbed areas.



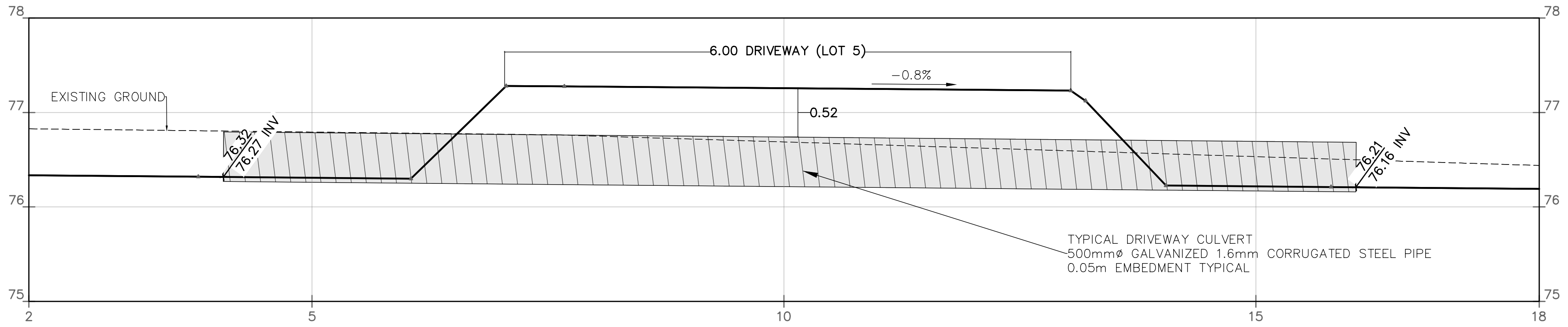
TYPICAL ROAD SECTION

SCALE = 1:50



SECTION H–H (HEADWALL)

SCALE = 1:50(H) 1:50(V)



SECTION I–I (TYPICAL DRIVEWAY CULVERT)

SCALE = 1:50(H) 1:50(V)

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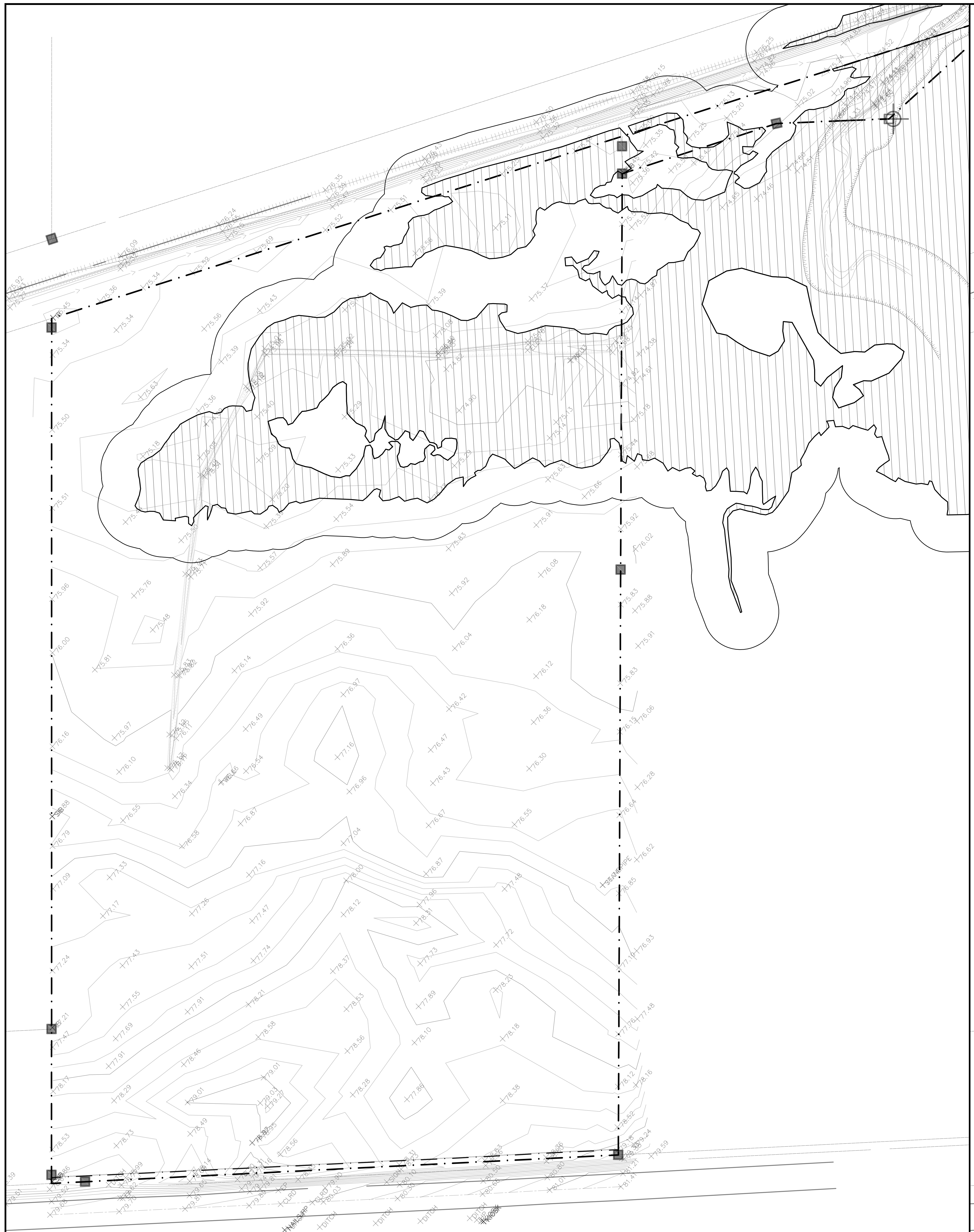
DESIGN: AJ/SD
DRAWN: AJ
CHECKED: SD
APPROVED: SD

STAMP: MAY 5, 2023
S.E. deWit
100079612

CLIENT NAME: ZBIGNIEW HAUDEROWICZ
PROJECT NAME: PROPOSED RESIDENTIAL SUBDIVISION
PROJECT LOCATION: 2050 DUNROBIN ROAD OTTAWA, ONTARIO
DRAWING: DETAILS

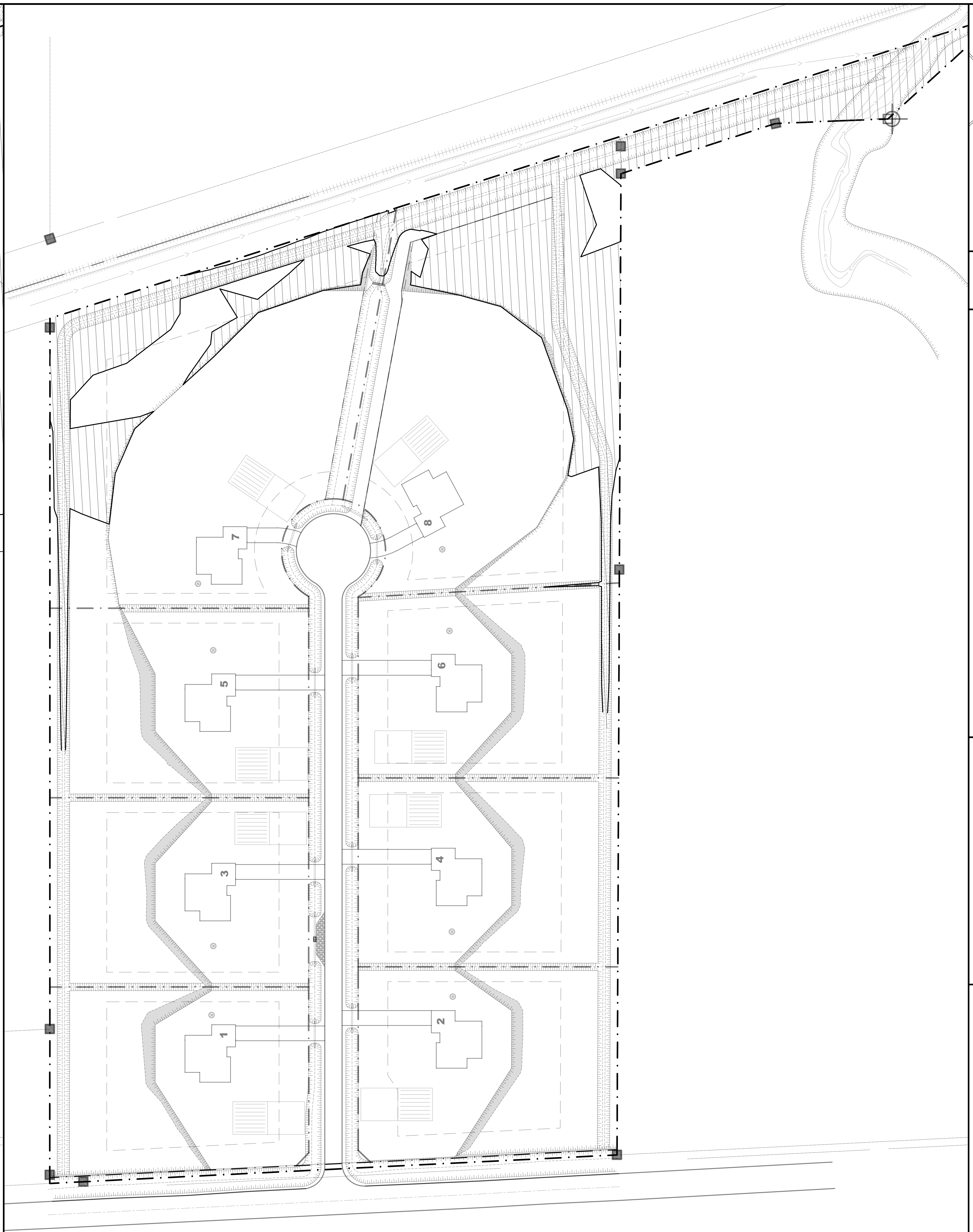
PROJECT No.: 200977
DATE: 2023/05/05
SCALE: AS NOTED
DRAWING No.: DET

D02–02–22–0018



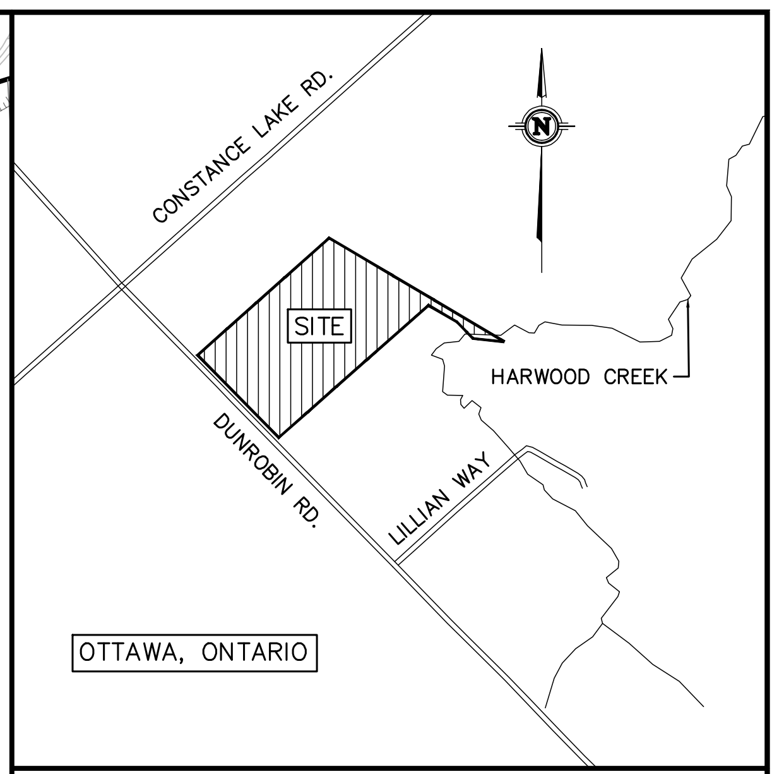
PRE-DEVELOPMENT 100YR FLOODPLAIN (JFSA)

SCALE = 1:1000



POST-DEVELOPMENT 100YR FLOODPLAIN

SCALE = 1:1000

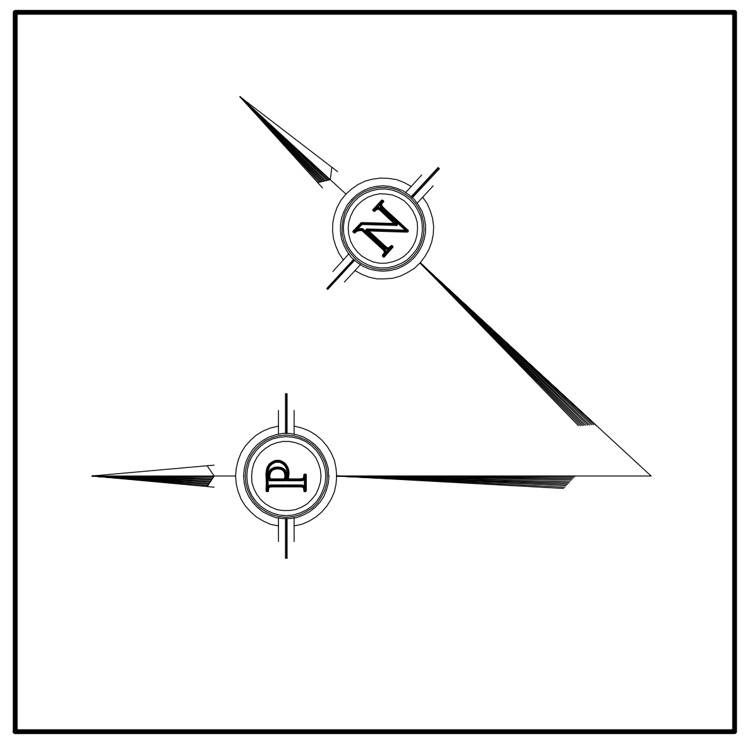


0 40 80

SCALE: 1:1000 METERS

LEGEND

??? / ???	PROPOSED ELEVATION (PROP/EX)
??? →	PROPOSED GRADE
??.?? / ??.?? INV	PROPOSED ELEVATION (PROP/INVERT)
-·-·-·-	PROPERTY LINE
┬┬┬┬┬	TOP OF SLOPE
- - - - -	CATCHMENT BOUNDRY
⟿	OVERLAND FLOW DIRECTION
﹏	SILT FENCE
LABEL AREA CN	CATCHMENT LABEL
⬚	CONTROLLED AREA
▨	UN-CONTROLLED AREA
-------	BOTTOM OF SLOPE
Ⓦ	PROPOSED WELL LOCATION
▤	STRAW BALE CHECK DAMN
100y MVCA	100YR MVCA FLOODPLAIN
100y SWM	100YR SWM FACILITY PONDING
100y FD	100YR FLOW DEPTH



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10. HYDRO SERVICE TO BE INSTALLED ACCORDING TO THE SPECIFICATIONS OF SERVICE PROVIDER AND THE MECHANICAL ENGINEER.
11. ALL MATERIALS AND CONSTRUCTION TO BE IN ACCORDANCE WITH MUNICIPAL STANDARDS AND ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS
12. ANY CHANGES MADE TO THIS PLAN MUST BE VERIFIED AND APPROVED BY KOLLAARD ASSOCIATES, INC.
13. THIS DRAWING IS PART OF KOLLAARD ASSOCIATES DESIGN REPORT #200977.

No.	REVISION	DATE	BY

CONSULTANTS

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CHECKED	SD
APPROVED	SD

STAMP

MAY 5, 2023
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100079612

CLIENT NAME	ZBIGNIEW HAUDEROWICZ
PROJECT NAME	PROPOSED RESIDENTIAL SUBDIVISION
PROJECT LOCATION	2050 DUNROBIN ROAD OTTAWA, ONTARIO
DRAWING	FLOODPLAIN COMPARISON

PROJECT No.	200977
DATE	2023/05/05
SCALE	1:1000
DRAWING No.	FP

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