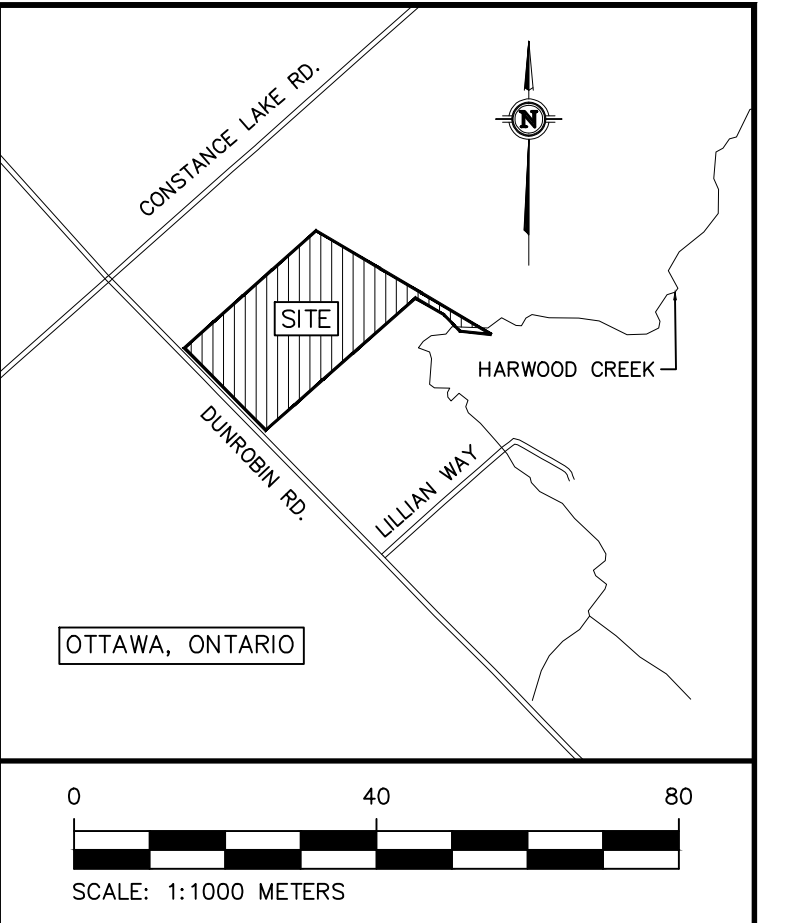


Mitigation Measures for Construction and Development

- 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.
 - 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.
 - Remove any spurs, covers or plates that are easy to remove.
 - Attention should be paid to the underside of the vehicle, radiators, spare tires, foot wells and bumper bars.
 - 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.
- 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.
- In accordance with the City 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.
- 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.
- 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 MECF shall be contacted immediately and operations modified to avoid any negative impacts to SAR or their habitat, until further direction is provided by the MECF.
- 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.

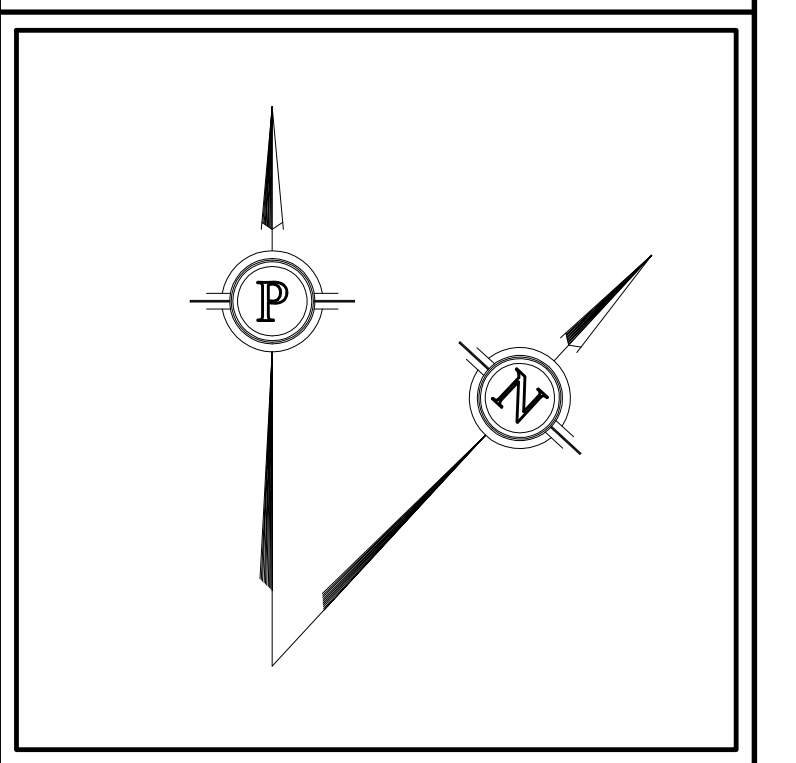
Erosion and Sediment Control

- Prior to Start of Construction:
 - Install silt fence, straw bale check dams and mud mat in location shown;
 - Inspect measures immediately after installation.
- In General:
 - Do not locate topsoil piles or fill piles within 2.5 m from any paved or gravel surface area;
 - 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;
 - City Roadway to be cleaned of all sediment from vehicular tracking as required;
 - Provide mud mat where ever vehicular traffic leaves the site from an unpaved egress point;
 - All erosion control measures should be inspected within 24 hours of a storm event and should be cleaned / repaired / replaced as necessary.
- During Placement of the Fill within the Flood Plain Area:
 - Minimize the extend of the disturbed areas outside of the area immediately affected by the fill placement;
 - Plan the placement of the fill to reduce the duration of exposure either by ensuring sufficient equipment or by placing the fill in stages;
 - 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;
 - Level the fill to finished grade immediately after placement;
 - 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;
 - Inspect silt fence within 24 hours of a storm event and clean / repair as necessary;
- During Construction of the Storm water Management Facility:
 - Minimize the extend of the disturbed areas outside of the area immediately affected by storm water management facility;
 - Install silt fence at the perimeter of the disturbed area;
 - Ensure straw bale check dams are in place downstream of the facility;
 - Equipment used should be sufficient in size and quantity to ensure the construction time is minimized;
 - 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;
 - 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;
- During Construction of the Roadway:
 - Minimize the extend of the disturbed areas outside of the area immediately affected by the road construction;
 - Install silt fence at the perimeter of the disturbed area;
 - Ensure straw bale check dams are in place at the discharge point from the Cul-de-Sac;
 - Equipment used should be sufficient in size and quantity to ensure the construction time is minimized;
 - 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;
 - 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;
- During Development of Individual Lots:
 - Install silt fence at the perimeter of the disturbed area;
 - Control dust off site by seeding topsoil and other disturbed areas watering as necessary if they are to remain unfinished longer than 30 days;
 - Repair any erosion channels as they occur and redirect surface runoff with the use of berms to promote sheet flow;
 - Cover disturbed areas with minimum 100 mm of topsoil then seed and mulch or hydro seed as soon as possible;



LEGEND

--- XXX	PROPOSED ELEVATION (PROP/EX)
--- ???	PROPOSED GRADE
--- XXX INV	PROPOSED ELEVATION (PROP/INVERT)
---	PROPERTY LINE
---	TOP OF SLOPE
---	CATCHMENT BOUNDARY
---	OVERLAND FLOW DIRECTION
---	SILT FENCE
---	CATCHMENT LABEL
---	CONTROLLED AREA
---	UN-CONTROLLED AREA
---	BOTTOM OF SLOPE
---	PROPOSED WELL LOCATION
---	STRAW BALE CHECK DAM
---	100YR MVCA FLOODPLAIN
---	100YR SWM FACILITY PONDING
---	100YR FLOW DEPTH



NOTE:
SILT FENCE INSTALLATION PER OPSD 219.110
STRAW BALE CHECK DAM PER OPSD 219.180

EROSION & SEDIMENT CONTROL PLAN
CONDITIONS
SCALE = 1:1000

NOTES: 1. ALL DIMENSIONS ARE IN METRES, UNLESS OTHERWISE SPECIFIED; ALL ELEVATIONS ARE IN METRES.
2. THIS IS NOT A LEGAL SURVEY.
3. EXISTING SERVICES INFORMATION SHOWN ARE BASED ON BEST CURRENT INFORMATION. CONTRACTOR TO VERIFY EXACT LOCATION AND REPORT ANY DISCREPANCIES TO KOLLAARD ASSOCIATES INC.
4. CLIENT IS RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS.
5. CONTRACTOR TO VERIFY THAT APPROPRIATE PERMITS HAVE BEEN ACQUIRED PRIOR TO ANY CONSTRUCTION.
6. CONTRACTOR IS RESPONSIBLE FOR LOCATION AND PROTECTION OF UTILITIES.
7. ALL DIMENSIONS TO BE VERIFIED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
8. THIS DRAWING IS NOT FOR CONSTRUCTION UNTIL ALL APPROVALS HAVE BEEN GRANTED.

9. INSPECTION OF ROUGH GRADE BY KOLLAARD ASSOCIATES INC. AND MUNICIPALITY MUST BE CONDUCTED PRIOR TO PLACEMENT OF TOPSOIL OR SOD.
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

Kollaard Associates
Engineers

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

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

CLIENT NAME: ZBIGNIEW HAUDEROWCZ
PROJECT NAME: PROPOSED RESIDENTIAL SUBDIVISION
PROJECT LOCATION: 2050 DUNROBIN ROAD OTTAWA, ONTARIO
DRAWING: EROSION & SEDIMENT CONTROL PLAN

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

D02-02-22-001R