TOTAL STORAGE DRAINAGE AREA VI
1:100–YEAR: 414.51 cu.m.
1:5–YEAR: 248.42 cu.m.

STORMWATER DETENTION AREA C
BOTTOM AREA: 490 sq.m.
BOTTOM LENGTH: 30.0m
BOTTOM WIDTH: 16.3m
3:1 SIDE SLOPES
TOP AREA (AT 77.24): 584 sq.m.
1:100–YEAR:
PONDING ELEVATION: 77.24
STORAGE VOLUME: 255.35 cu.m.
1:5–YEAR:
PONDING ELEVATION: 77.14
STORAGE VOLUME: 193.25 cu.m.

STORMWATER STORAGE ON GRANULAR SURFACE
AREA (AT 77.24): 1309 sq.m.
1:100–YEAR:
PONDING ELEVATION: 77.24
STORAGE VOLUME: 159.16 cu.m.
1:5–YEAR:
PONDING ELEVATION: 77.14
STORAGE VOLUME: 55.18 cu.m.

OIL/GRIT SEPARATOR MANHOLE OGS MH–3 SHALL BE A AQUASWIRL CONCENTRATOR AS–4 BYP CW STD OR APPROVED EQUAL. THE TOP OF THE INTERIOR WEIR SHALL BE A MINIMUM 0.65m ABOVE THE PIPE INVERT.

5.6m–300mm CULVERT ICD IN CULVERT INLET (8.99 l/s @ 0.57m ±75mm IN DIAM. ORIFICE LOCATED AT BOTTOM OF PLUG)

REGIONAL ROAD 41 ALSO KNOWN AS BOUNDARY ROAD

RIP RAP 62 sq.m. (3–8m x 8m)

STORMWATER DETENTION AREA C OVERFLOW WEIR

1.0m–300mm CULVERT

OGS MH–3
INV 76.61(NE)
INV 76.61(SW)

STORMWATER DETENTION AREA C

LAMP STANDARD (TYPICAL)

1:5–YEAR PONDING ELEVATION: 77.14

1:100–YEAR PONDING ELEVATION: 77.24

REMOVE EXISTING CULVERT

GARBAGE ENCLOSURE

ABANDON WELL @ FOOTWALL

PROPANE TANK

GENERATOR

HYDRO

ROOF DRAIN OUTLET (REFER TO MECHANICAL): LOCATE 0.60m ABOVE GRADE – TURN END OF PIPE DOWN ONTO SPLASH PAD

OFFICE SPACE

PROPOSED SINGLE–STOREY BUILDING

FFL = 78.90

THE EXISTING WELL SHALL REMAIN. ANY REQUIRED ALTERATIONS TO THE EXISTING WELL SHALL BE PERFORMED BY A LICENSED WELL CONTRACTOR. THE REQUIREMENTS OF O.REG. 903 SHALL BE SATISFIED. THE WELL AND WELL HEAD SHALL BE PROTECTED THROUGHOUT THE DURATION OF CONSTRUCTION. INSTALL A PROTECTIVE FENCE AROUND THE WELL. ENSURE THAT GRADES AROUND THE WELL ARE AT AN ELEVATION HIGHER THAN THE IMMEDIATELY SURROUNDING AREA AND ENSURE THAT THE AREA AROUND THE WELL IS GRADED SUCH THAT SURFACE DRAINAGE WILL NOT POND IN THE VICINITY OF THE WELL. ENSURE THAT THE WATERTIGHT STEEL WELL CASING EXTENDS A MINIMUM 400mm ABOVE THE HIGHEST POINT ON THE GROUND SURFACE WITHIN 3m RADIALLY FROM THE OUTSIDE OF THE CASING. ALL CONNECTIONS (WATERLINE AND ELECTRICAL)THROUGH THE WELL CASING SHALL BE WATERTIGHT.

SITE BENCHMARK NAIL & WASHER N 5021911.806 E 388067.960 ELEV 77.68

PRE–CAST CONCRETE CURBS

WATER LINE

EXISTING WELL

AREA OF FILL

OIL/GRIT SEPARATOR MANHOLE OGS MH–2 SHALL BE A AQUASWIRL CONCENTRATOR AS–4 BYP CW STD OR APPROVED EQUAL. THE TOP OF THE INTERIOR WEIR SHALL BE A MINIMUM 0.65m ABOVE THE PIPE INVERT.

27.5m–300mm CULVERT

RIP RAP 41 sq.m. (2–5m x 9m)

1.0m–300mm CULVERT

OGS MH–2
INV 76.66(E)
INV 76.66(W)

STORMWATER DETENTION AREA B1 OVERFLOW WEIR

3.0m–300mm CULVERT ICD IN CULVERT INLET (67.04 l/s @ 0.46m ±218mm IN DIAM. ORIFICE LOCATED AT BOTTOM OF PLUG)

TOTAL STORAGE DRAINAGE AREA V
1:100–YEAR: 274.52 cu.m.
1:5–YEAR: 115.55 cu.m.

STORMWATER DETENTION AREA B1
BOTTOM AREA: 113 sq.m.
BOTTOM LENGTH: 30.0m
BOTTOM WIDTH: 0.3m TO 7.2m
3:1 SIDE SLOPES
TOP AREA (AT 77.24): 214 sq.m.
1:100–YEAR:
PONDING ELEVATION: 77.24
STORAGE VOLUME: 78.72 cu.m.
1:5–YEAR:
PONDING ELEVATION: 77.11
STORAGE VOLUME: 52.87 cu.m.

STORMWATER DETENTION AREA B1

3.5m–450mm CULVERT IMBED 150mm

STORMWATER DETENTION AREA B2

STORMWATER DETENTION AREA B2
BOTTOM AREA: 94 sq.m.
BOTTOM LENGTH: 11.1m
BOTTOM WIDTH: 8.6m
3:1 SIDE SLOPES
TOP AREA (AT 77.24): 135 sq.m.
1:100–YEAR:
PONDING ELEVATION: 77.24
STORAGE VOLUME: 40.28 cu.m.
1:5–YEAR:
PONDING ELEVATION: 77.11
STORAGE VOLUME: 23.43 cu.m.

STORMWATER STORAGE ON GRANULAR SURFACE
AREA (AT 77.24): 1315 sq.m.
1:100–YEAR:
PONDING ELEVATIONS: 77.24
STORAGE VOLUME: 155.52 cu.m.
1:5–YEAR:
PONDING ELEVATIONS: 77.11
STORAGE VOLUME: 39.25 cu.m.

1:100–YEAR PONDING ELEVATION: 77.24

1:5–YEAR PONDING ELEVATION: 77.11

LAMP STANDARD (TYPICAL)

GARBAGE ENCLOSURE

REMOVE EXISTING CULVERT

REGIONAL ROAD 8 ALSO KNOWN AS MITCH OWENS ROAD

RIP RAP 60 sq.m. (7–10m x 8m)

STORMWATER DETENTION AREA A1 OVERFLOW WEIR

STORMWATER DETENTION AREA A1

STORMWATER DETENTION AREA A2

OGS MH–1
INV 76.62(N)
INV 76.62(S)

2.5m–300mm CULVERT ICD IN CULVERT INLET (32.94 l/s @ 0.53m ±146mm IN DIAM. ORIFICE LOCATED AT BOTTOM OF PLUG)

1.0m–300mm CULVERT

6m–450mm CULVERT IMBED 150mm

1:100–YEAR PONDING ELEVATION: 77.24

1:5–YEAR PONDING ELEVATION: 77.10

LAMP STANDARD (TYPICAL)

THE ROADSIDE DITCH ADJACENT TO MITCH OWENS ROAD IS A MUNICIPAL DRAIN. PRIOR TO ANY WORK ON THIS DITCH AND PRIOR TO THE INSTALLATION OF THE CULVERT MR. FRANKLIN OF ROBINSON CONSULTANTS SHALL BE CONTACTED.

TOTAL STORAGE DRAINAGE AREA IV
1:100–YEAR: 274.52 cu.m.
1:5–YEAR: 150.22 cu.m.

STORMWATER DETENTION AREA A1
BOTTOM AREA: 236 sq.m.
BOTTOM LENGTH: 27.7m
BOTTOM WIDTH: 8.0m TO 9.0m
3:1 SIDE SLOPES
TOP AREA (AT 77.24): 381 sq.m.
1:100–YEAR:
PONDING ELEVATION: 77.24
STORAGE VOLUME: 153.43 cu.m.
1:5–YEAR:
PONDING ELEVATION: 77.10
STORAGE VOLUME: 101.54 cu.m.

STORMWATER DETENTION AREA A2
BOTTOM AREA: 107 sq.m.
BOTTOM LENGTH: 11.2m
BOTTOM WIDTH: 9.6m
3:1 SIDE SLOPES
TOP AREA (AT 77.24): 172 sq.m.
1:100–YEAR:
PONDING ELEVATION: 77.24
STORAGE VOLUME: 50.08 cu.m.
1:5–YEAR:
PONDING ELEVATION: 77.10
STORAGE VOLUME: 27.19 cu.m.

STORMWATER STORAGE ON GRANULAR SURFACE
AREA (AT 77.24): 1114 sq.m.
1:100–YEAR:
PONDING ELEVATION: 77.24
STORAGE VOLUME: 134.03 cu.m.
1:5–YEAR:
PONDING ELEVATION: 77.10
STORAGE VOLUME: 22.49 cu.m.

OIL/GRIT SEPARATOR MANHOLES REQUIRE PERIODIC MAINTENANCE BY THE OWNER. THE OWNER SHALL HAVE THE ACCUMULATED SEDIMENT AND FLOATING MATERIAL REMOVED BY VACUUM TRUCK ON A ANNUAL BASIS AND AFTER ANY KNOWN SPILLS HAVE OCCURRED. REMOVED MATERIALS SHALL BE DISPOSED AT A FACILITY APPROVED FOR ACCEPTING SUCH MATERIALS. ON AN ANNUAL BASIS PRESSURE WASH THE INTERIOR OF THE UNIT INCLUDING DROP PIPES, BAFFLES AND FLOW DIVERTERS.

THE OWNER SHALL MAINTAIN THE STORMWATER DETENTION AREAS: THE GRASS SHALL BE MAINTAINED AT A MINIMUM 75mm HEIGHT AND ANNUALLY, IN THE SPRING (AND MORE FREQUENTLY IF NECESSARY), ANY ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE GRASS.

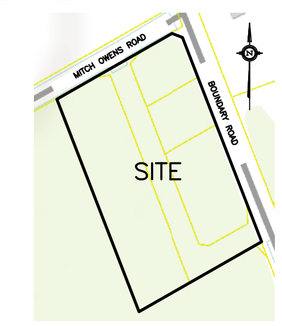
REFER TO NOTES & DETAILS ON DRAWINGS C–5 & C–6

0 5m 25m

DRAWING LEGEND

- CB — CATCH BASIN
- MH — MANHOLE
- CB/MH — CATCH BASIN/MANHOLE
- WS / WM — WATER SERVICE / WATERMAIN
- SAN — SANITARY SEWER
- ST — STORM SEWER
- FH — FIRE HYDRANT
- FDC — FIRE DEPARTMENT CONNECTION
- UP — UTILITY POLE
- 100.75 — EXISTING GRADE ELEVATION
- + 93.79 — PROPOSED GRADE ELEVATION
- CONCRETE
- GRANULAR SURFACE
- LIGHT DUTY PAVEMENT
- HEAVY DUTY PAVEMENT
- 0.5% — SLOPE OF GRADE
- 0.5% — EXISTING SLOPE OF GRADE
- EMERGENCY OVERLAND FLOW
- SWALE/DITCH (CENTERLINE)
- T.O.S. — TOP OF SLOPE
- B.O.S. — BOTTOM OF SLOPE
- D.C. — 150mm CURB / DEPRESSED CURB
- SILT FENCE BARRIER
- PROPERTY LINE
- FFL — FIRST FLOOR ELEVATION
- USF — UNDERSIDE OF FOOTING ELEVATION

KEY PLAN



No.	Date	REVISION
7	MAY 2–19	RE–ISSUED FOR APPROVAL
6	MAR 20–19	ISSUED FOR BUILDING PERMIT
5	MAR 5–19	RE–ISSUED FOR APPROVAL
4	FEB 22–19	RE–ISSUED TO OSSO FOR SEPTIC PERMIT
3	DEC 19–18	ISSUED FOR APPROVAL
2	DEC 13–18	ISSUED TO OSSO FOR SEPTIC PERMIT
1	JUN 9–18	ISSUED FOR CLIENT REVIEW

D. B. GRAY ENGINEERING INC.
Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermains
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Ottawa, Ontario K1T 4E9
Tel: 613–425–8044
dbgray@rogers.com

Project
PROPOSED CROSS DOCK FACILITY
MITCH OWENS ROAD / BOUNDARY ROAD
OTTAWA, ONTARIO

Drawing Title
GRADING PLAN

Engineer's Seal
LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
MAY 2–19
PROVINCE OF ONTARIO
NOT VALID UNLESS SIGNED & DATED

Drawn	D.B.G.
Hor. Scale	1:400
Vert. Scale	
Date	JUN 9–18
Job No.	18029

Drawing No.
C–1
of 8