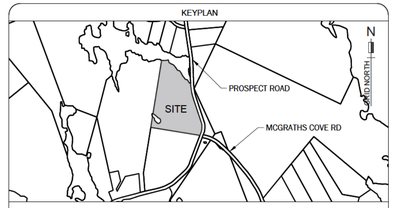

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3. WETLAND AND WATER COURSE INFORMATION HAS BEEN PROVIDED BY STRUM CONSULTING PLAN DATED 04/30/2024

No.	MM/DD/YYYY	Revision Description	By
1	05/23/2024	ISSUED FOR REV EW	MV

ABLE ENGINEERING | LAND SURVEYING

Seal

REGISTERED PROFESSIONAL ENGINEER
DATE 05/23/2024
M. R. Visentin
12358
PROVINCE OF NOVA SCOTIA

SCALE : 1:750
0m 10m 20m 30m 40m 50m

Horizontal	Vertical	Plot
1:750		ARCH D (24"x36")

Project

5933 PROSPECT ROAD

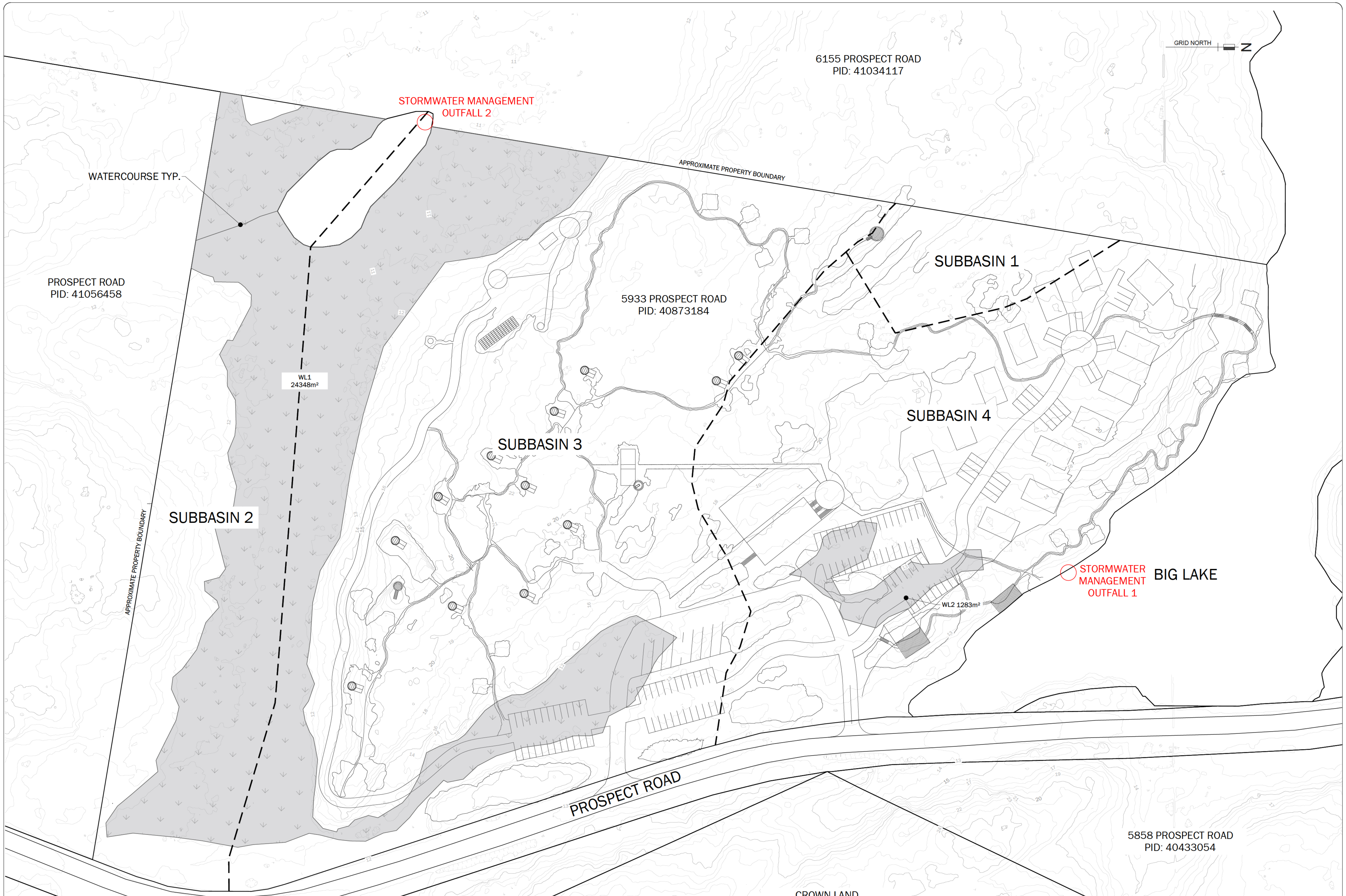
PROSPECT, NS
PID: 40873184

Title

EXISTING DRAINAGE CONDITIONS

Project No.	Drawn	Sheet
240418-62	S HALL	1 of 3
Ref.	Engineer	Plan No.
	M.VISENTIN	C101
Date	Check	
MAY 3 2024	J MACLEOD	

SHEET PLOTTED: 5/23/2024 1:17 PM | LAST SAVED BY: S HALL



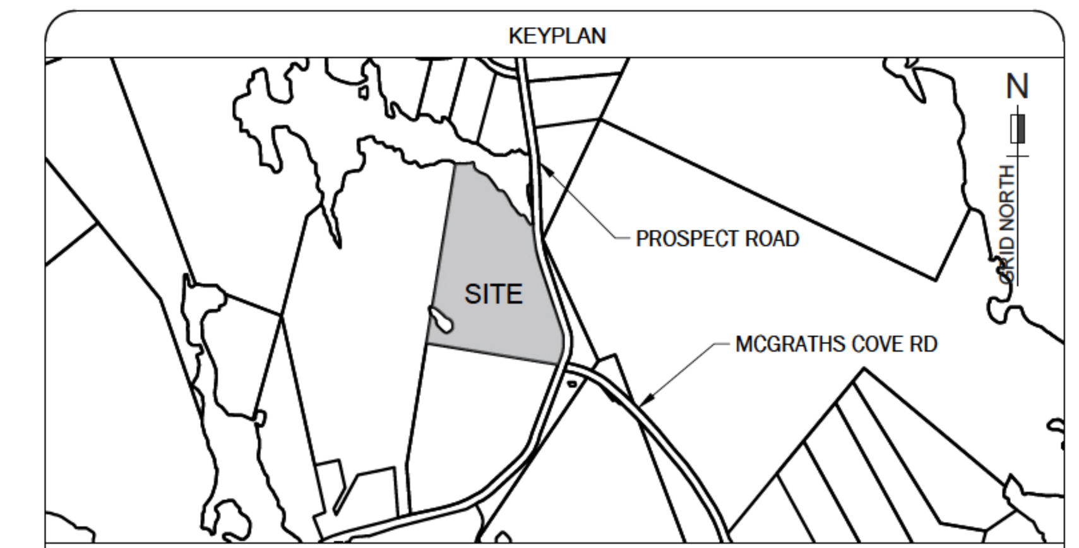
THE PROPOSED STORMWATER MANAGEMENT CONTROLS WILL BE DESIGNED IN ACCORDANCE WITH THE HALIFAX REGIONAL MUNICIPALITY STORMWATER POLICY AND IN ACCORDANCE WITH THE HALIFAX REGIONAL WATER COMMISSION SPECIFICATIONS.

STORMWATER WILL BE CONTROLLED TO BALANCE THE PROPOSED CONDITION PEAK RUNOFF TO MATCH THE EXISTING NATURAL CONDITIONS OF THE SITE. WE WILL DESIGN STORMWATER MANAGEMENT CONTROLS TO RETAIN ON-SITE STORMWATER RUNOFF GENERATED FROM THE FIRST 10mm DEPTH OF A RAINFALL EVENT AND STORMWATER RUNOFF GENERATED AFTER THE FIRST 10mm OF AN EVENT WILL BE BALANCED TO ENSURE MATCHING OF PRE AND POST-DEVELOPMENT RUNOFF CONDITIONS FOR THE 1:5 AND 1:100-YEAR DESIGN STORM.

THE FUTURE DETAILED DESIGN WILL FOCUS ON A LOW IMPACT DEVELOPMENT APPROACH TO STORMWATER MANAGEMENT. THE LID APPROACH WILL INCLUDE CONSIDERATION OF WATER BALANCE CRITERIA TO HELP MAINTAIN THE NATURAL WATER BALANCE OF THE SITE. STORMWATER WILL BE COLLECTED FROM IMPERVIOUS AREAS, CONVEYED THROUGH VEGETATIVE SWALES AND DIRECTED TO QUALITY AND QUANTITY CONTROL INFRASTRUCTURE, SUCH AS BIOSWALES, RAIN GARDENS, AND OTHER FORMS OF INFILTRATION GALLERIES. THE STORMWATER CONTROLS WILL BE INSTALLED AS CLOSE TO THEIR SOURCE AS POSSIBLE.

STORMWATER MANAGEMENT METHODS	
OUTFALL 1	STORMWATER MAY BE COLLECTED IN A SERIES OF GRASS LINED AND VEGETATIVE SWALES AND DIRECTED TO A LINEAR INFILTRATION GALLERY, INSTALLED ALONG A CONTOUR ABOVE THE EXISTING WETLAND, ALLOWING FOR THE WATER TO SOAK INTO THE GROUND BEFORE ENTERING THE WETLAND FLOW REGIME.
OUTFALL 2	STORMWATER MAY BE COLLECTED IN A SERIES OF GRASS LINED AND VEGETATIVE SWALES, DIRECTED TO INFILTRATION CONTROLS. DEPENDING ON DEVELOPMENT PHASING, SINGULAR, OR A SERIES OF OUTFALL LOCATIONS MAY BE CONSIDERED. STORMWATER GENERATED FROM THE BUILDINGS AND PARKING AREAS MAY EITHER BE DIRECTED TO THE MAIN STORMWATER MANAGEMENT CONTROLS, OR HAVE THEIR OWN SMALLER CONTROLS, SUCH AS RAIN GARDENS INSTALLED CLOSER TO THE BUILDINGS AND/OR PARKING AREAS.

KEYPLAN



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ENGINEERING | LAND SURVEYING

Seal

REGISTERED PROFESSIONAL ENGINEER
DATE 05/23/2024
[redacted]
M. A. Visentin
12358
PROVINCE OF NOVA SCOTIA

SCALE : 1:750
0m 10m 20m 30m 40m 50m

Horizontal 1:750	Vertical	Plot ARCH D (24"x36")

Project

5933 PROSPECT ROAD

PROSPECT, NS
PID: 40873184

Title

STORMWATER MANAGEMENT PLAN - PROPOSED CONDITION

Project No. 240418-62	Drawn S HALL	Sheet 2 of 3
Ref.	Engineer M.VISENTIN	Plan No. C102
Date MAY 3 2024	Check J MACLEOD	

SHEET PRODUCED 5/23/2024 4:13 PM LAST SAVED BY S.HALL

EXISTING 5 YEAR STORM SUBBASIN

SN	Element ID	Area	Drainage Node ID	Weighted Curve Number	Rain Gage ID	Peak Rate Factor	Total Precipitation	Total Runoff	Peak Runoff	Time of Concentration
		(ha)					(mm)	(mm)	(cms)	(days hh:mm:ss)
1	Sub-01	0.35	Out-01	73.00	Rain Gage-01	484	111.15	45.77	0.01359	0 01:34:03
2	Sub-02	1.95	Out-02	73.00	Rain Gage-01	484	111.15	45.77	0.06117	0 02:20:22
3	Sub-03	5.33	Out-02	73.00	Rain Gage-01	484	111.15	45.80	0.16282	0 02:27:42
4	Sub-04	3.02	Out-01	73.00	Rain Gage-01	484	111.15	45.77	0.11072	0 01:44:24
								EX FLOW OUT-01	0.12431	
								EX FLOW OUT-02	0.22399	

EXISTING 10 YEAR STORM SUBBASIN

SN	Element ID	Area	Drainage Node ID	Weighted Curve Number	Rain Gage ID	Peak Rate Factor	Total Precipitation	Total Runoff	Peak Runoff	Time of Concentration
		(ha)					(mm)	(mm)	(cms)	(days hh:mm:ss)
1	Sub-01	0.35	Out-01	73.00	Rain Gage-01	484	140.28	68.50	0.02067	0 01:34:03
2	Sub-02	1.95	Out-02	73.00	Rain Gage-01	484	140.28	68.50	0.09345	0 02:20:22
3	Sub-03	5.33	Out-02	73.00	Rain Gage-01	484	140.28	68.50	0.24834	0 02:27:42
4	Sub-04	3.02	Out-01	73.00	Rain Gage-01	484	140.28	68.50	0.16877	0 01:44:24
								EX FLOW OUT-01	0.18944	
								EX FLOW OUT-02	0.34179	

EXISTING 25 YEAR STORM SUBBASIN

SN	Element ID	Area	Drainage Node ID	Weighted Curve Number	Rain Gage ID	Peak Rate Factor	Total Precipitation	Total Runoff	Peak Runoff	Time of Concentration
		(ha)					(mm)	(mm)	(lps)	(days hh:mm:ss)
1	Sub-01	0.35	Out-01	73.00	Rain Gage-01	484	177.16	99.39	0.03030	0 01:34:03
2	Sub-02	1.95	Out-02	73.00	Rain Gage-01	484	177.16	99.39	0.13677	0 02:20:22
3	Sub-03	5.33	Out-02	73.00	Rain Gage-01	484	177.16	99.39	0.36444	0 02:27:42
4	Sub-04	3.02	Out-01	73.00	Rain Gage-01	484	177.16	99.39	0.24749	0 01:44:24
								EX FLOW OUT-01	0.27779	
								EX FLOW OUT-02	0.50121	

EXISTING 50 YEAR STORM SUBBASIN

SN	Element ID	Area	Drainage Node ID	Weighted Curve Number	Rain Gage ID	Peak Rate Factor	Total Precipitation	Total Runoff	Peak Runoff	Time of Concentration
		(ha)					(mm)	(mm)	(cms)	(days hh:mm:ss)
1	Sub-01	0.35	Out-01	73.00	Rain Gage-01	484	204.70	123.50	0.03756	0 01:34:03
2	Sub-02	1.95	Out-02	73.00	Rain Gage-01	484	204.70	123.50	0.17047	0 02:20:22
3	Sub-03	5.33	Out-02	73.00	Rain Gage-01	484	204.70	123.50	0.45392	0 02:27:42
4	Sub-04	3.02	Out-01	73.00	Rain Gage-01	484	204.70	123.50	0.30837	0 01:44:24
								EX FLOW OUT-01	0.34603	
								EX FLOW OUT-02	0.62439	

EXISTING 100 YEAR STORM SUBBASIN

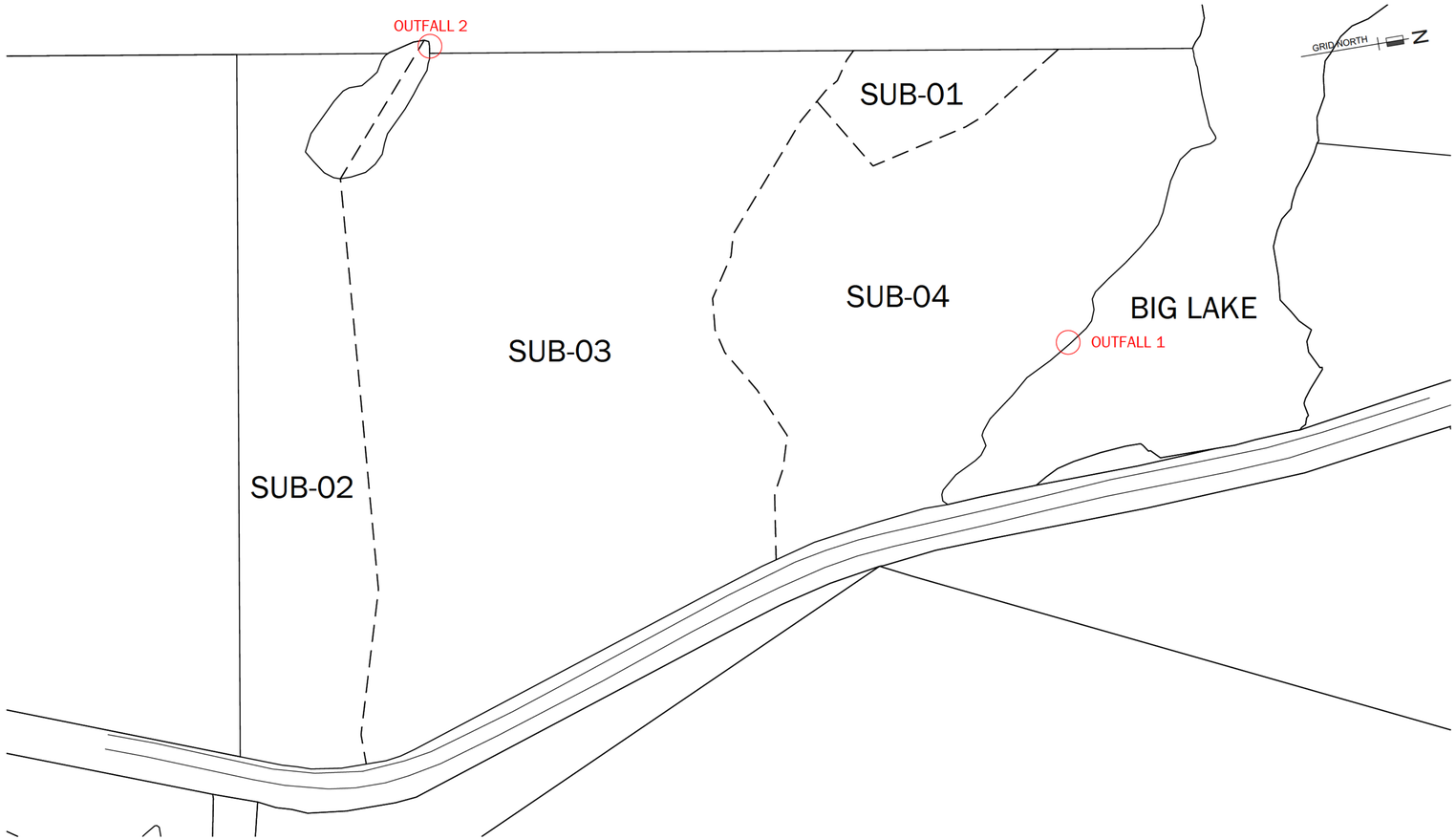
SN	Element ID	Area	Drainage Node ID	Weighted Curve Number	Rain Gage ID	Peak Rate Factor	Total Precipitation	Total Runoff	Peak Runoff	Time of Concentration
		(ha)					(mm)	(mm)	(cms)	(days hh:mm:ss)
1	Sub-01	0.35	Out-01	73.00	Rain Gage-01	484	231.54	147.57	0.04531	0 01:34:03
2	Sub-02	1.95	Out-02	73.00	Rain Gage-01	484	231.54	147.57	0.20445	0 02:20:22
3	Sub-03	5.33	Out-02	73.00	Rain Gage-01	484	231.54	147.57	0.54397	0 02:27:42
4	Sub-04	3.02	Out-01	73.00	Rain Gage-01	484	231.54	147.57	0.36997	0 01:44:24
								EX FLOW OUT-01	0.41428	
								EX FLOW OUT-02	0.74842	

PROPOSED 5 YEAR STORM

SN	Element ID	Area	Drainage Node ID	Weighted Curve Number	Rain Gage ID	Peak Rate Factor	Total Precipitation	Total Runoff	Peak Runoff	Time of Concentration
		(ha)					(mm)	(mm)	(cms)	(days hh:mm:ss)
1	Sub-01	0.35	Out-01	74.40	Rain Gage-01	484	111.15	48.44	0.01784	0 00:54:01
2	Sub-02	1.95	Out-02	73.00	Rain Gage 01	484	111.15	45.77	0.06117	0 02:20:22
3	Sub-03	5.33	Out-02	75.70	Rain Gage-01	484	111.15	51.00	0.24268	0 01:24:50
4	Sub-04	3.02	Out-01	79.50	Rain Gage-01	484	111.15	58.78	0.18095	0 00:59:57
								PR FLOW OUT-01	0.19879	
								PR FLOW OUT-02	0.30385	

PROPOSED 10 YEAR STORM

SN	Element ID	Area	Drainage Node ID	Weighted Curve Number	Rain Gage ID	Peak Rate Factor	Total Precipitation	Total Runoff	Peak Runoff	Time of Concentration
		(ha)					(mm)	(mm)	(cms)	(days hh:mm:ss)
1	Sub-01	0.35	Out-01	74.40	Rain Gage-01	484	140.28	71.73	0.02662	0 00:54:01
2	Sub-02	1.95	Out-02	73.00	Rain Gage-01	484	140.28	68.50	0.09345	0 02:20:22
3	Sub-03	5.33	Out-02	75.70	Rain Gage-01	484	140.28	74.78	0.36019	0 01:24:50
4	Sub-04	3.02	Out-01	79.50	Rain Gage-01	484	140.28	83.95	0.25967	0 00:59:57
								PR FLOW OUT-01	0.28629	
								PR FLOW OUT-02	0.45364	



PROPOSED 25 YEAR STORM

SN	Element ID	Area	Drainage Node ID	Weighted Curve Number	Rain Gage ID	Peak Rate Factor	Total Precipitation	Total Runoff	Peak Runoff	Time of Concentration
		(ha)					(mm)	(mm)	(cms)	(days hh:mm:ss)
1	Sub-01	0.35	Out-01	74.40	Rain Gage-01	484	177.16	103.18	0.03851	0 00:54:01
2	Sub-02	1.95	Out-02	73.00	Rain Gage-01	484	177.16	99.39	0.13677	0 02:20:22
3	Sub-03	5.33	Out-02	75.70	Rain Gage-01	484	177.16	106.73	0.51679	0 01:24:50
4	Sub-04	3.02	Out-01	79.50	Rain Gage-01	484	177.16	117.25	0.36189	0 00:59:57
								PR FLOW OUT-01	0.40040	
								PR FLOW OUT-02	0.65356	

PROPOSED 50 YEAR STORM

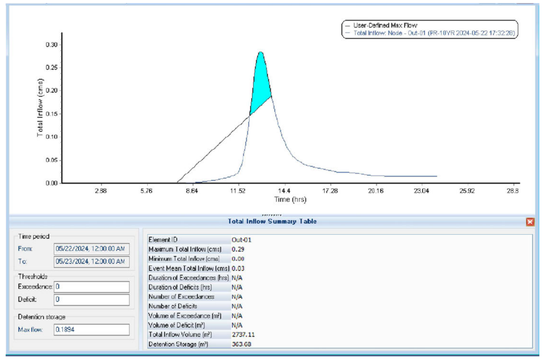
SN	Element ID	Area	Drainage Node ID	Weighted Curve Number	Rain Gage ID	Peak Rate Factor	Total Precipitation	Total Runoff	Peak Runoff	Time of Concentration
		(ha)					(mm)	(mm)	(cms)	(days hh:mm:ss)
1	Sub-01	0.35	Out-01	74.40	Rain Gage-01	484	204.70	127.61	0.04757	0 00:54:01
2	Sub-02	1.95	Out-02	73.00	Rain Gage-01	484	204.70	123.50	0.17047	0 02:20:22
3	Sub-03	5.33	Out-02	75.70	Rain Gage-01	484	204.70	131.47	0.63685	0 01:24:50
4	Sub-04	3.02	Out-01	79.50	Rain Gage-01	484	204.70	142.77	0.43976	0 00:59:57
								PR FLOW OUT-01	0.48733	
								PR FLOW OUT-02	0.80732	

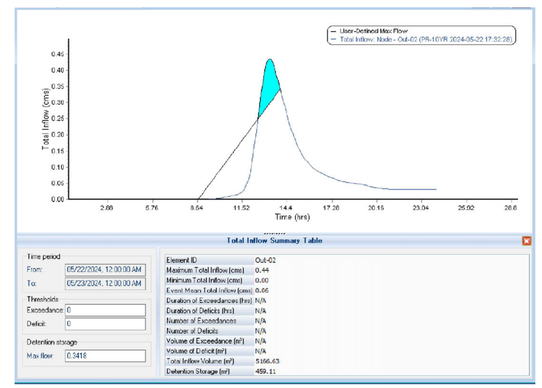
PROPOSED 100 YEAR STORM

SN	Element ID	Area	Drainage Node ID	Weighted Curve Number	Rain Gage ID	Peak Rate Factor	Total Precipitation	Total Runoff	Peak Runoff	Time of Concentration
		(ha)					(mm)	(mm)	(cms)	(days hh:mm:ss)
1	Sub-01	0.35	Out-01	74.40	Rain Gage-01	484	231.54	151.99	0.05635	0 00:54:01
2	Sub-02	1.95	Out-02	73.00	Rain Gage-01	484	231.54	147.57	0.20445	0 02:20:22
3	Sub-03	5.33	Out-02	75.70	Rain Gage-01	484	231.54	156.11	0.75437	0 01:24:50
4	Sub-04	3.02	Out-01	79.50	Rain Gage-01	484	231.54	168.05	0.51565	0 00:59:57
								PR FLOW OUT-01	0.57200	
								PR FLOW OUT-02	0.95882	

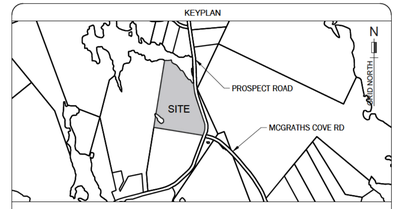
THE STORM WATER RUNOFF FOR THE 1:5, 1:10, 1:25, 1:50, 1:100 YEAR STORM EVENTS WAS ESTIMATED USING STORM & SANITARY ANALYSIS 2020 (SSA) FROM AUTOCAD CIVIL 3D.

THE STORM WATER CALCULATIONS WERE BASED ON THE SOIL CONSERVATION SERVICE METHOD (SCS TR-55) RUNOFF METHODOLOGY USING THE SYNTHETIC DESIGN STORM EVENT COMMONLY REFERRED TO AS THE CHICAGO STORM. THE RAIN FALL AMOUNTS USED IN THE ANALYSIS & MODELING ARE AS FOLLOWS & WERE OBTAINED FROM ENVIRONMENT CANADA RAIN FALL DATABASE.
1:5 = 111.8mm OF RAIN FALL OVER 24HR PERIOD
1:10 =141.1mm OF RAIN FALL OVER 24HR PERIOD
1:25 = 178.2mm OF RAIN FALL OVER 24HR PERIOD
1:50 = 205.9mm OF RAIN FALL OVER 24HR PERIOD
1:100 = 232.9mm OF RAIN FALL OVER 24HR PERIOD





KEYPLAN



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Horizontal	Vertical	Plot
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Project

5933 PROSPECT ROAD

PROSPECT, NS
PID: 40873184

Title

STORMWATER ANALYSIS

Project No.	Drawn	Sheet
240418-62	S HALL	3 of 3
Ref.	Engineer	Plan No.
	M.VISENTIN	C103
Date	Check	
MAY 3 2024	J MACLEOD	

SHEET PROCESSED: 5/23/2024 4:19 PM LAST SAVED BY S.HALL