Wedler Engineering LLP
201-9300 Nowell Street
Chilliwack, BC V2P 4V7

May 5, 2020

File Ref: C19-5621/A

Fraser Valley Regional District
45950 Cheam Avenue
Chilliwack, BC V2P 1N6

Attention: David Bennett, Planner

Reference: 52964 Yale Rd., Rosedale, B.C
Drainage Design Brief

Summary

The following outlines the proposed storm water management plan for the commercial development proposed at 52964 Yale Road. The existing development south of the proposed development constructed a storm sewer system that provided service to the subject lot. This included storm sewer, storm water treatment systems, and infiltration facilities.

1. **Existing Development**
    The existing development south of the proposed development was designed by MJL Engineering Ltd., Project No. 212012, dated October 12, 2012. The design was for a proposed gas station, roadway design, and future development for five different buildings. The design included water, sanitary, and storm services provided for each location, and labeled future if it was to be built at a later time. The proposed storm system at the time of development included storm sewers, catch basins, storm water treatment, and infiltration facilities.

2. **Water treatment**
    An oil/silt treatment facility is located on the development south of the project site and just before the infiltration facility.   This treatment facility appears to have been designed to treat all of the run-off entering the infiltration facility.

3. **Detention/Infiltration Design**
    The existing design from MJL Engineering's design proposed an infiltration rock pit. The rock pit was designed to include the proposed development, as well as other areas, at a runoff coefficient of 0.90. This information can be seen on the attached sheet SK01. Calculating the pervious and impervious area of the new commercial development, the weighted average run-off coefficient is as follows:

Pervious area (R=0.30):	369 sq. m
Impervious area (R=0.90):	3501 sq. m
Total area:	3870 sq. m
Weighted Run-off Coefficient:	(369x0.30) + (3501x0.90)/3870 = 0.84

The required infiltration system storage volume that is required for the proposed development, including the catchment areas originally planned for the existing infiltration system, is 219 m^3. Refer to the attached spreadsheets for calculations.

The infiltration storage volume provided by the existing infiltration system is 221 m^3. Therefore, there is adequate capacity in the existing infiltration system to handle the storm water run-off for the proposed development.

4. **Signature**

We trust that this information meets your expectations. Should you have any questions or concerns, please contact the undersigned at your convenience.

Yours truly,
Wedler Engineering LLP

Per: Reviewed by:

Patrick Mango

André Gagné, P. Eng.

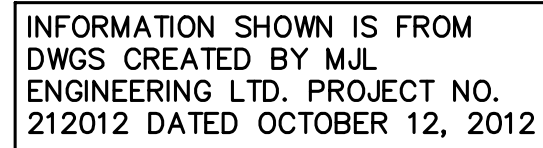Patrick Mango   Project Engineer
Civil Design Engineer   agagne@wedler.com

cc: Steven Cross, X Architecture
         Jay Lee, Rhee Ga Holdings

Enclosures:

- Wedler Drawing No. C19-5621/A-SK01: Storm Water Management Plan – Overall Design
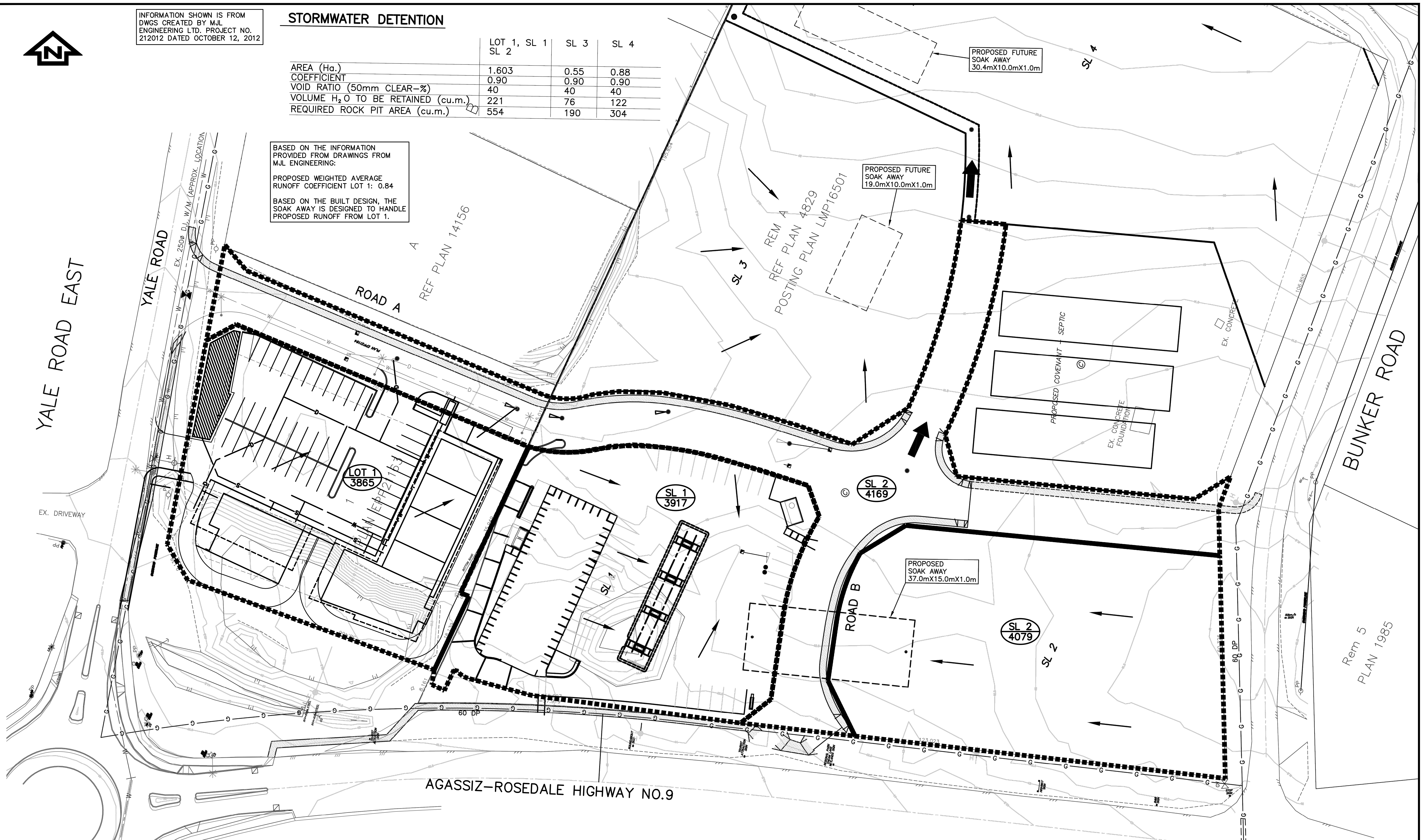- Wedler Engineering Soak-Away Sizing Calculation Sheet

STORMWATER DETENTION

	LOT 1, SL 1 SL 2	SL 3	SL 4
AREA (Ha.)	1.603	0.55	0.88
COEFFICIENT	0.90	0.90	0.90
VOID RATIO (50mm CLEAR—%)	40	40	40
VOLUME H_2O TO BE RETAINED (cu.m.)	221	76	122
REQUIRED ROCK PIT AREA (cu.m.)	554	190	304

BASED ON THE INFORMATION PROVIDED FROM DRAWINGS FROM MJL ENGINEERING:

PROPOSED WEIGHTED AVERAGE RUNOFF COEFFICIENT LOT 1: 0.84

BASED ON THE BUILT DESIGN, THE SOAK AWAY IS DESIGNED TO HANDLE PROPOSED RUNOFF FROM LOT 1.

PROPOSED FUTURE SOAK AWAY 30.4mX10.0mX1.0m

PROPOSED FUTURE SOAK AWAY 19.0mX10.0mX1.0m

PROPOSED SOAK AWAY 37.0mX15.0mX1.0m

SL 4

SL 3

REM A
REF PLAN 4829
POSTING PLAN LMP16501

PROPOSED COVENANT - SEPTIC

EX. CONCRETE FOUNDATION

EX. CONCRETE

Rem 5
PLAN 1985

60 DP

60 DP

YALE ROAD EAST

YALE ROAD

ROAD A

REF PLAN 14156

BUNKER ROAD

ROAD B

EX. DRIVEWAY

LOT 1
3865

SL 1
3917

SL 2
4169

SL 2
4079

SL 2

SL 1

PLAN EPP21153

AGASSIZ—ROSEDALE HIGHWAY NO.9

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LEGAL:		A	ISSUED FOR DEVELOPMENT PERMIT	2020-05-01	PJM						
BM/ TBM:											
	REV		DESCRIPTION	YYYY-MM-DD	BY	REV	DESCRIPTION	YYYY-MM-DD	BY		

PROJ. MGR.	ALG
DESIGN/DRAWN	PJM
PEER REVIEWED	---
HORIZ. SCALE	1:400
VERT. SCALE	

WEDLER ENGINEERING

RHEE GA 0808 HOLDINGSS LTD.

COMMERCIAL DEVELOPMENT

52964 YALE ROAD, ROSEDALE, BC

LOCAL GOVERNMENT FILE

STORM WATER MANAGEMENT PLAN
OVERALL DESIGN

DRAWING NO.	OF	1
C19-5621/A-SK01		
PHASE	REVISION	A

PROGRESS PRINT - NOT FOR CONSTRUCTION

SOAK-AWAY SIZING CALCULATION SHEET

Client:	**Rhee Ga Holdings**	Date Printed: **May 5, 2020**
Project:	**52964 Yale Rd. Commercial Development**	By: **PJM**
Project #:	**C19-5621/A**	
Soak-Away Desc:	**Existing Soak Away - Updated Design**	

	Area (m²)	Runoff Coefficient			
			Infiltration Rate Used	**144**	mm/hr
			Length	**37.00**	m
Lot 1 (Proposed)	**3870**	**0.84**	Width	**15.00**	m
Ex. SL1	**3917**	**0.9**	Depth	**1.00**	m
Fut. SL2	**8248**	**0.9**	Footprint	555	m²
Combined	**16035**	**0.89**	Perf. Pipe Size	**150**	mm
			Perf Pipe Storage	0.7	m³
			Storage Provided (40% void ratio)	222.4	m³
			Max. Storage Req'd	219.6	m³

Discharge Data

Allowable Offsite Release	0.0000 m³/s	**None**
Release rate from infiltration	0.0222 m³/s	

Time	Intensity	Q$_{in}$	Q$_{out}$	Vol.$_{in}$	Vol.$_{out}$	Vin-Vout
min	mm/hr	m³/s	m³/s	m³	m³	m³
0	0.00	0.0000	0.0000	0.00	0.00	0.00
5	64.16	0.2533	0.0222	75.98	6.66	69.32
10	45.56	0.1798	0.0222	107.90	13.32	94.58
15	37.29	0.1472	0.0222	132.47	19.98	112.49
30	26.48	0.1045	0.0222	188.13	39.96	148.17
60	18.80	0.0742	0.0222	267.16	79.92	187.24
120	13.35	0.0527	0.0222	379.40	159.84	219.56
360	7.76	0.0306	0.0222	661.48	479.52	181.96
720	5.51	0.0217	0.0222	939.37	959.04	-19.67
1440	3.91	0.0154	0.0222	1334.01	1918.08	-584.07