

**Public Draw for Crown Land
Recreational Cottage Lots
Salmonier Cottage Area**

2018

**Septic Site Evaluation
Lots 8 & 13**

Note:

This document provides evaluations on the capability of each site for installation of on-site septic systems.

The attached reports in this document are not system designs. Any person intending to install on-site septic systems must submit a design that has been prepared by an approved on-site system designer to the Department of Service NL for approval.

For a list of approved septic system designers please contact the Department of Service NL for approval at:

Mount Pearl: (709) 729-3699

Clarenville: (709) 466-4060

Harbour Grace: (709) 945-3107

Gander: (709) 256-1420

Grand Falls-Windsor: (709) 292-4206

(709) 292-4259

Springdale: (709) 673-4218

(or any other Service NL location)

Septic System Site Evaluation

Contract No. 001-10-E

Central Avalon Cottage Infill

35 Cottage Lots

Report Prepared for:

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Lands Branch
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July 2010

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1. Introduction

On June 11, 2010, the Department of Environment and Conservation – Lands Management Division issued a proposal call to perform septic system site evaluations for 35 cottage lots at various locations on the Avalon Peninsula, referred to as the Central Avalon Cottage Infill. Greg Smith Design submitted a proposal on June 17, 2010 and was notified on June 18, 2010, by telephone that the contract was awarded and work began on June 23, 2010. On July 16, 2010, an additional lot was added to the work scope as agreed upon between Greg Smith and John Kennedy.

2. Location

The 36 (35 + 1 added July 16) proposed cottage lots are located at several locations in the central Avalon region (maps attached *Appendix D "Terms of Reference"*). 19 sites are located at various locations on Salmonier Line, 1 on Mahers Road, 2 at Old Mans Pond and 14 at Goulds Pond Road.

3. Methodology

To evaluate and determine the suitability for operation of a sub-surface septic disposal system the following work was completed:

- 3.1 On June 23, met at Salmonier Line with John Kennedy and Keith O'Driscoll from Lands Management Division to discuss scope and evaluation expectations. Copy of lot size and dimensions provided by Keith O'Driscoll.
- 3.2 Obtained required permits from the Department of Natural Resources - Forestry Services Branch.
- 3.3 Performed site evaluation to determine lot suitability. This included assessing lot slopes, presence of water courses, adjacent well and septic systems and other physical features.
- 3.4 Trails cut to access lots, dug test holes and six foot profile pits using mini track excavator, observations recorded and back filled.
- 3.5 Percolation holes excavated, rates obtained and holes topped in with trees and debris.
- 3.6 Physical features limiting designs noted and brought to the attention of Lands Division (ie. private property signs).
- 3.7 Upon completion of field activity and data collection a preliminary report (*See Appendix C "Preliminary Report"*) was compiled and forwarded to Lands Division.
- 3.8 Completed site walk over of Goulds Pond lots with Government Services Lands inspector, Paul Noseworthy, of the Harbour Grace office on July 16 and his comments will be forwarded directly to Lands Division. Multiple attempts were made to contact the inspector for Salmonier Line area without success. On July 19, made contact with inspector, Rosalie Lydiate, and was informed that the file had been given to the wrong inspector. Requested a site walk over on July 23 but this was not possible due to prior commitments. Once the inspector is available a walk over will occur and her comments will be sent directly to Lands Division.

4. Site Evaluations

4.1. Dimensions/Area (Measurements are approximate pending survey)

This information was supplied by Lands Division (See *Appendix E "Correspondence"*)

Lot #	Land Area (Acres)	Frontage (metres)	Average width (metres)	Average Depth (metres)
1	1.729 Acres	25 M+45 M+25 M	60 M	110 M
2	1.322 Acres	58 M	48 M	108 M
3	1.310 Acres	45 M	45 M	110 M
4	1.518 Acres	45 M	45 M	120 M
5	0.991 Acres	86 M	46 M	75 M
6	1.042 Acres	46.5 M	46 M	60 M
7	0.962 Acres	41.5 M + 33.5 M	Not Suitable	Not Suitable
8	1.006 Acres	43.5 M	44 M	90 M
9	0.977 Acres	43 M	44 M	92 M
10	1.094 Acres	45 M	70 M	65 M
11	1.040 Acres	102 M	42 M	98 M
12	1.111 Acres	45 M	51 M	87 M
13	1.096 Acres	43 M	51 M	88 M
14	1.057 Acres	42.5 M	45 M	104 M
15	1.042 Acres	43 M	45 M	96 M
16	1.041 Acres	48 M	41 M	103 M
17	1.146 Acres	55 M	42 M	115 M
18	1.053 Acres	47 M	48 M	90 M
19	0.972 Acres	44.5 M	45 M	88 M
20	0.924 Acres	45 M	45 M	93 M
21	0.957 Acres	40 M	40 M	98 M
22	0.837 Acres	41 M	39 M	89 M
23	1.105 Acres	50 M	48 M	105 M
24	1.027 Acres	50 M	46 M	95 M
25	1.072 Acres	50 M	50 M	90 M
26	1.034 Acres	26 M	50 M	90 M
27	1.016 Acres	45 M	46 M	95 M
28	1.134 Acres	50 M	46 M	95 M
29	1.083 Acres	43 M	46 M	97 M
30	1.114 Acres	50 M	46 M	95 M
31	1.062 Acres	50 M	46 M	105 M
32	1.162 Acres	45 M	52 M	103 M
33	1.204 Acres	47 M	55 M	105 M
34	1.229 Acres	50 M	52 M	103 M
35	1.280 Acres	50 M	55 M	105 M
36	1.073 Acres	50 M	45 M	90 M

4.2. Slope of Land

No lots had issue with too great of a slope. For individual lot slopes refer to *Appendix A "Site Details"*.

4.3. Physical Features

Lot #	Type of Cover	Water Courses/ Wells	Adjacent Developments			
			North	South	East	West
1	Heavy mature trees	No water issues	Undeveloped land	Crown Land Grant	Trail	Salmonier Line
2	Heavy mature trees	No water issues	Crown Land Grant	Bog	Trail	Salmonier Line
3	Completely cleared and excavated pit	No water issues	Bog	Lot # 4	Trail	Salmonier Line
4	Completely cleared and excavated pit	No water issues	Lot # 3	Bog	Trail	Salmonier Line
5	Heavy mature trees	No water issues	Undeveloped land	Marshland Trail	Miami Dolphin Drive	Marshland Trail
6	Small trees and scrub to W, heavy mature trees to E	Lot is wet on west, dug well and septic to NE corner on adjoining lot	cottage	Lot # 7	Pond	Road
7	Lot not suitable for septic system	Lot not suitable due to water issues	Lot # 6	Pond	Pond	Dug well
8	New growth, some large trees, previously cut over	No water issues	Lot # 9	Undeveloped land	Undeveloped land	Road
9	New growth, some large trees, previously cut over	No water issues	Undeveloped land	Lot # 8	Undeveloped land	Road
10	Large trees	No water issues	Undeveloped land	Vineland Road	Undeveloped land	Pond
11	Large mature trees	No water issues	Undeveloped land	Vineland Road	Undeveloped land	# 4 Pond
12	Medium size very tall trees, many dead trees	Wet boggy area on NE	Road	# 3 Pond	Bog	Lot # 13
13	Medium size very tall trees, many dead trees	No water issues	Road	Undeveloped land	Lot # 12	Lot # 14
14	Large mature trees	No water issues	Road	Undeveloped land	Lot # 13	Lot # 15
15	Large mature trees	No water issues	Road	Undeveloped land	Lot # 14	Lot # 16
16	Large mature trees	No water issues	Road	Undeveloped land	Lot # 15	Lot # 17
17	Large mature trees	No water issues	Road	Undeveloped land	Lot # 16	Lot # 18
18	Large mature trees	Drilled well 25M+ west approx 30M from road, Septic field at front centre of west property	Road	Undeveloped land	Lot # 17	Developed Cottage lot with drilled well & septic

Lot #	Type of Cover	Water Courses/ Wells	Adjacent Developments			
			North	South	East	West
19	Tall mainly dead medium sized trees	Wet on SW and drops off to boggy area	Undeveloped land	Developed lot with old cabin	Gullivers Pond	Undeveloped land / proposed new road
20	Medium size trees, abandoned construction	Lot is wet on west and drops off to boggy area, drilled well to N, dug well to S	Cottage with drilled well and septic	Cottage with dug well - septic unknown	Mahers Road	Undeveloped land
21	Medium to large mature trees	Lot is wet on west, no sign of adjoining wells or septic	Cottage	Cottage	Road	Undeveloped land
22	Large mature trees	No water issues	Cabin with dug well and septic	Cabin with dug well and septic	Road	Undeveloped land
23	Large mature trees	No water issues	Road	Lot # 24	Undeveloped land	Road
24	Large mature trees	No water issues	Lot # 23	Lot # 25	Undeveloped land	Road
25	Medium sized trees in front, smaller trees in back	Water issues, very wet and boggy toward back	Lot #24	Lot # 26	Undeveloped land	Road
26	Medium sized trees and scrub	Water issues, very wet and boggy	Lot # 25	Lot # 27	Undeveloped land	Road
27	Medium sized trees throughout	Water issues, very wet and boggy toward back	Road	Undeveloped land	Lot # 26	Lot # 28
28	Medium sized trees throughout	Water issues, very wet and boggy toward back	Road	Undeveloped land	Lot # 27	Lot # 30
29	Large mature trees	Wet on road side but dry towards pond	Pond	Road	Cottage with dug well and septic	Cottage with dug well and septic
30	Medium sized trees throughout	Water issues, very wet and boggy in front	Road	Undeveloped land	Lot # 28	Undeveloped land
31	Large mature trees	No water issues	Undeveloped land	Lot # 32	Undeveloped land	Road
32	Large mature trees	No water issues	Lot # 31	Lot # 33	Undeveloped land	Road
33	Mature medium trees	No water issues	Road	Pole line	Lot # 32	Pole line
34	Large mature trees, previously cut over	No water issues	Undeveloped land	Lot # 35	Undeveloped land	Road
35	Large mature trees, previously cut over	No water issues	Lot # 34	Lot # 36	Undeveloped land	Road
36	Large mature trees, previously cut over	No water issues	Lot # 35	Undeveloped land	Undeveloped land	Road

4.4. Soil Strata

In general, most lots had approximately 6-8" of grubbing, 12-36" of topsoil and 3-5' of grey loams mixed with small rock and gravel and some indication of silt at most sites. See *Appendix B "Site Photos"* for typical soil strata.

Lots 3 & 4 had no topsoil or grubbing as they are located at the old Whiskey Pit on Salmonier Line.

Lots 25, 26, 27, 28 & 30 had bog issues but also had areas of good soil.

Lots 26 & 30 are of particular concern as much of the area is very wet and would require extensive upgrades in order to accommodate an on site well and septic system.

4.5. Soil Percolation Rates

In order to determine the soil percolation rates of individual lots, test holes were dug using a mini tracked excavator. Once the excavator dug down to just below the topsoil layer a 12" diameter hole was dug by hand to a depth of approximately 12". The 12" deep hole was then filled with water and drainage time recorded.

In general, all sites tested proved suitable and percolation rates of between 3 – 18 minutes per one inch drop were recorded. *For specific site rates refer to Appendix A "Site Details"*

5. Conclusion

The overall quality of the proposed properties is very good and most are suitable for development with the following exceptions and considerations:

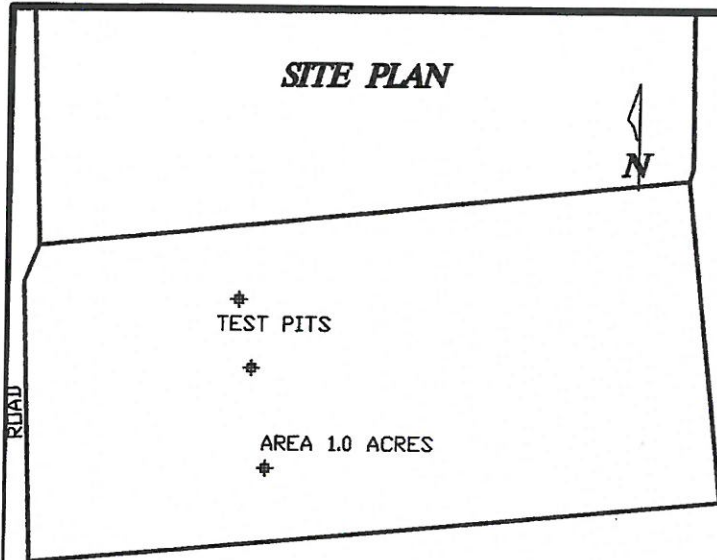
- i. Lot # 7 was determined to be unsuitable due to its proximity to a water body and 2 adjoining development wells.
- ii. Lots # 21, 25, 27 & 28 can be upgraded to suitable sites by ditching the two side boundaries and importing quality fill for the septic system area. The total amount of fill required will be dependent on the size of the dwelling erected (number of bedrooms). Estimated cost to upgrade these sites is \$7500.00 per lot.
- iii. Lots # 26 and 30 were determined suitable but only with extensive upgrading of the entire site. Due to considerable bog issues lot 26 & 30 would need to be completely cleared and require full ditching of front and side boundaries, as well as, importing fill for road and septic system and blasted rock for construction of the cottage footprint. This fill would need to have percolation rates of less than 10 minutes per one inch drop as determined at source of fill. Fill would need to settle for a minimum of 3 months and total quantities would depend on dwelling location and number of bedrooms. The estimated cost to upgrade lots 26 and 30 is between \$20,000 – \$ 25,000 per lot. These lots, although technically suitable, are very wet and would be very challenging to upgrade. In addition, clearing these lots would not suit the other developments located in this area.

The scope of this contract was to determine site suitability only and should not be mistaken for a complete septic system design. Complete system designs will be the responsibility of the property owner or grant holder and must be completed by an approved designer. The individual designs will be more detailed and will factor in the specifics of the proposed development.

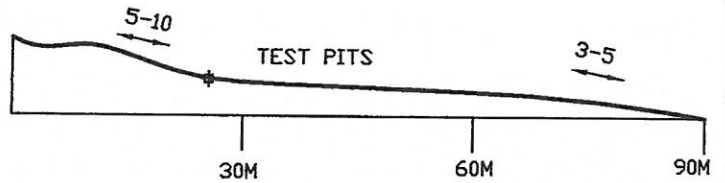
Appendix A

Site Details

SITE PLAN



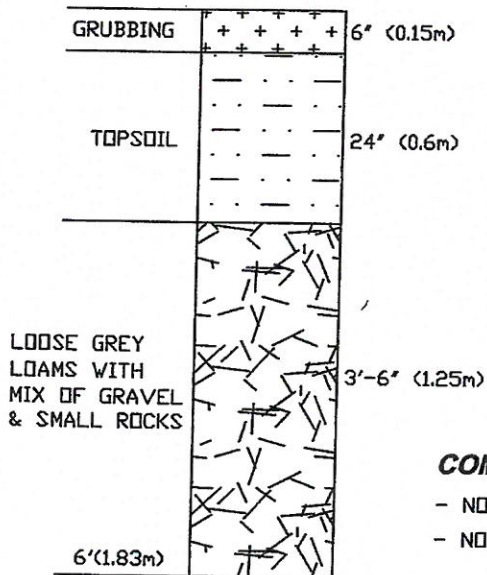
SITE PROFILE/SLOPES



PHYSICAL FEATURES

- NEW GROWTH SOME LARGE TREES, PREVIOUSLY CUT OVER.
- NO WATER ISSUES.
- NO CONFLICT WITH ADJACENT WELLS, ETC.
- ROAD ACCESS TO WEST.
- REAR SLOPING AND VERY PRIVATE SETTING.
- APPROXIMATE AREA 1.0 ACRES.
- AVERAGE WIDTH 44M.
- AVERAGE DEPT 92M.
- LOT SIZE AND DIMENSIONS MAY CHANGE, PENDING SURVEY.

SOIL STRATA/PROFILE PIT



COMMENTS:

- NO BEDROCK.
- NO WATER.

PERCOLATION RATES:

- PIT NUMBER 1 RATE OF 7 MINUTES PER 1" DROP.
- PIT NUMBER 2 RATE OF 5 MINUTES PER 1" DROP.
- PIT NUMBER 3 RATE OF 7 MINUTES PER 1" DROP.
- RESULTANT 3 HOLE AVERAGE OF 6 MINUTES PER INCH.

FIELD ACTIVITY:

- ALL FIELD WORK COMPLETED JUNE 23 - JULY 8, 2010
- TRAIL CUT FOR EXCAVATOR ACCESS.
- ONE SIX FOOT PROFILE PIT DUG AND FILLED IN.
- PERCOLATION PITS DUG BELOW TOPSOIL LAYER.
- PERCOLATION RATES TAKEN AND HOLES TOPPED IN.
- COMPLETE SYSTEM DESIGNS AVAILABLE.

**SEPTIC SYSTEM EVALUATION
CENTRAL AVALON COTTAGE INFILL
CONTRACT NUMBER: 001-10-E**

LOT NUMBER: 8

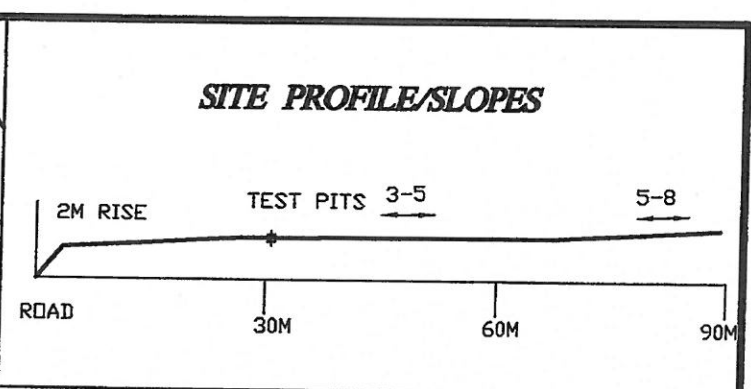
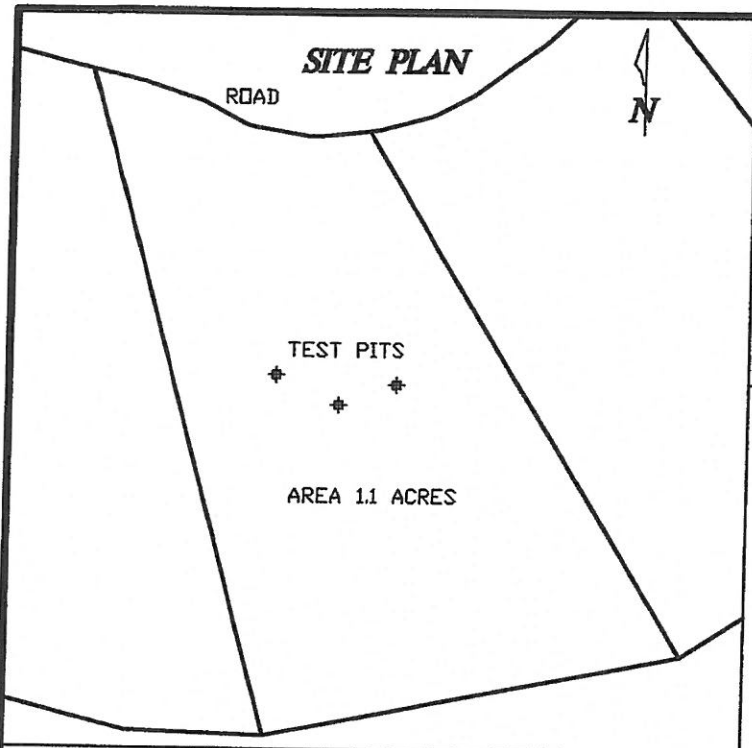
SITE LOCATION: NO. 1 POND RD, SALMONIER LINE

GREG SMITH DESIGN

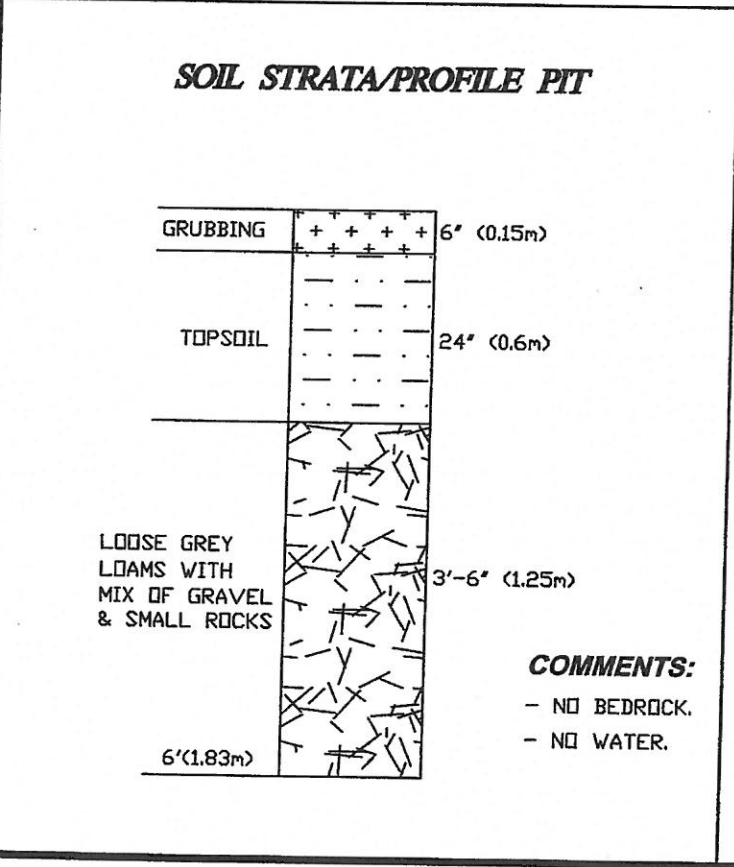
REGISTRATION NUMBER: AD200210354000

ADDRESS: BOX 78 DILDO, NL, A0B 1P0

**PHONE NUMBER: (709) 582-3435, CELL 685-9443
EMAIL: gregnfd@yahoo.com**



- ### PHYSICAL FEATURES
- MEDIUM SIZE VERY TALL TREES, ALOT OF DEAD TREES.
 - NO WATER ISSUES.
 - NO CONFLICT WITH ADJACENT WELLS, ETC.
 - ROAD ACCESS TO NORTH.
 - LOT SLOPES BACK TO FRONT & WEST TO EAST.
 - APPROXIMATE AREA 1.1 ACRES.
 - AVERAGE WIDTH 51M.
 - AVERAGE DEPT 88M.
 - LOT SIZE AND DIMENSIONS MAY CHANGE, PENDING SURVEY.



- ### PERCOLATION RATES:
- PIT NUMBER 1 RATE OF 8 MINUTES PER 1" DROP.
 - PIT NUMBER 2 RATE OF 8 MINUTES PER 1" DROP.
 - PIT NUMBER 3 RATE OF 6 MINUTES PER 1" DROP.
 - RESULTANT 3 HOLE AVERAGE OF 7 MINUTES PER INCH.
- ### FIELD ACTIVITY:
- ALL FIELD WORK COMPLETED JUNE 23 - JULY 8, 2010
 - TRAIL CUT FOR EXCAVATOR ACCESS.
 - ONE SIX FOOT PROFILE PIT DUG AND FILLED IN.
 - PERCOLATION PITS DUG BELOW TOPSOIL LAYER.
 - PERCOLATION RATES TAKEN AND HOLES TOPPED IN.
 - COMPLETE SYSTEM DESIGNS AVAILABLE.

SEPTIC SYSTEM EVALUATION
CENTRAL AVALON COTTAGE INFILL
CONTRACT NUMBER: 001-10-E

LOT NUMBER: 13

SITE LOCATION: DAWES POND RD, SALMONIER LINE

GREG SMITH DESIGN

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