HALIFAX
REGIONAL MUNICIPALITY
PO Box 1749
Halifax, Nova Scotia
B3J 3A5

MEMORANDUM

To: Chair and Members of Halifax Watershed Advisory Board

From: Jillian MacLellan, Planner, Community Development

Date: June 29, 2011

Subject: **Case 16567: Application by Madeline and Harold Myers for a development agreement at 9331 St. Margaret's Bay Road, Queensland to allow for a 14-unit townhouse development**

Synopsis of Proposal:
A planning application has been received by Madeline and Harold Myers to enter into a development agreement to allow for a 14-unit townhouse development at 9331 St. Margaret's Bay Road. The 14 units will be divided into two buildings (one building of 8 units and one building of 6 units). Both buildings will utilize common driveway off of St. Margaret's Bay Road. It is anticipated that ownership will be through a condo corporation.

Site Features:
- Approximately 3.5 acres in size
- There are no watercourses or wetlands on the site, however, the property is adjacent to St. Margaret's Bay.
- Sewage will be treated through a sewage treatment plant located on the left (southwest) side of the property. Approval for this sewage treatment plant has already been granted by the Nova Scotia Department of Environment
- The property slopes towards St. Margaret's Bay.
- The property is currently vacant, but was formally developed as the Sea Breeze Inn.
- Surrounding uses appear to be mainly residential.

Planning Process:
The property is located in the Planning Districts 1 & 3 Planning Area on St. Margaret's Bay Road. The property is currently vacant, although there was a former motel (Sea Breeze Inn) on the property. The property is zoned MU-1 in the Planning Districts 1 & 3 Land Use Bylaw, which permits a variety of residential, commercial, resource and industrial uses. A multiple unit dwelling (3 or more units) is not a permitted use.

The property is designated Mixed Use A in the Planning Districts 1 & 3 Municipal Planning Strategy. Policy MU-4 allows a multiple unit dwelling to be considered in this designation through a Development Agreement.

A public information meeting was held December 8, 2010. The applicant is currently undergoing a Stage II Hydrogeological Assessment to determine if there is adequate groundwater for the development. Once all appropriate studies are complete a development agreement will be negotiated and staff will provide recommendation on the application to the Western Region Community Council.

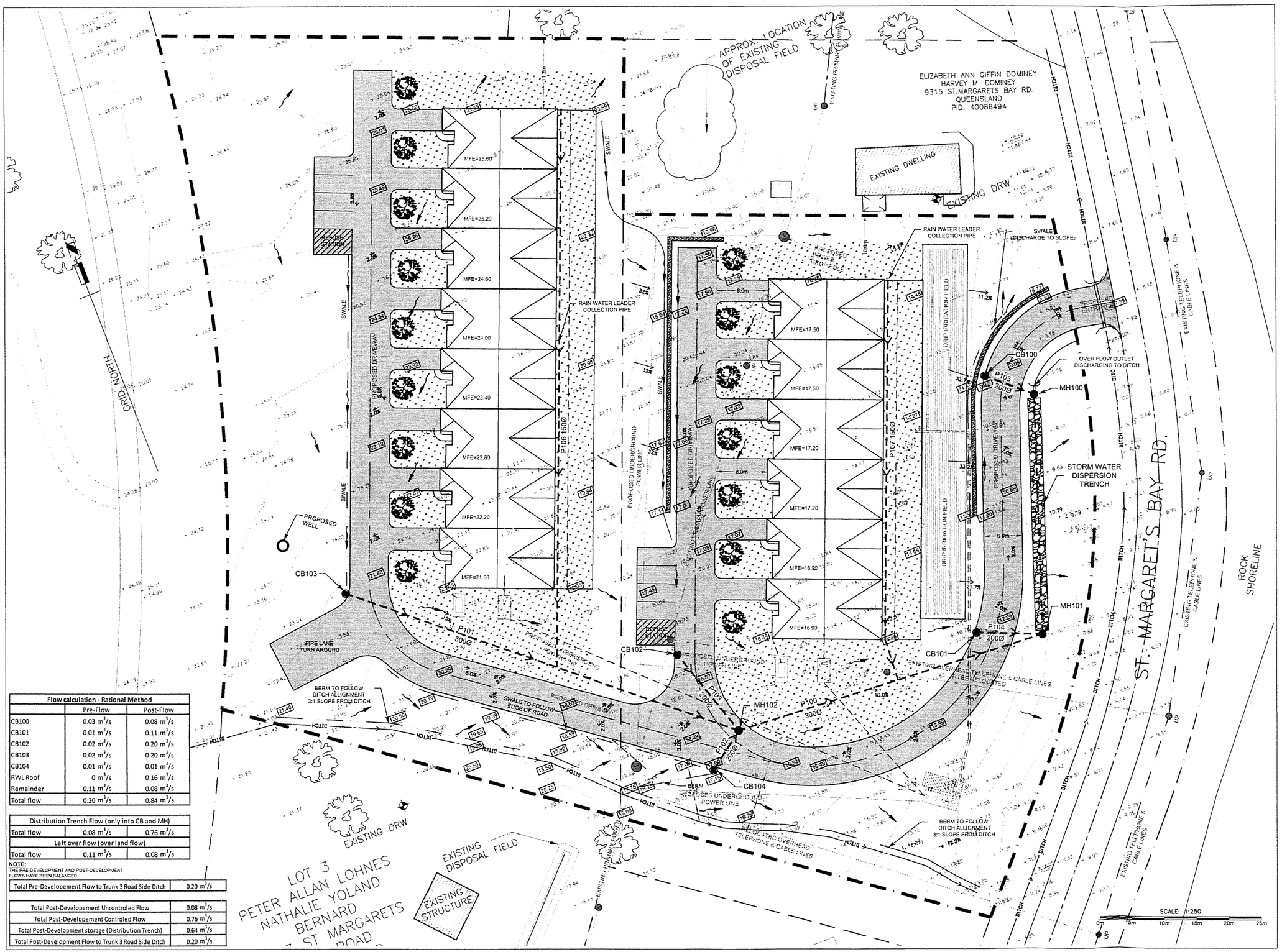
Input Sought from the Halifax Watershed Advisory Board:

As shown on the attached Storm Water Management Plan there are various catch basins on the property that will collect sheet flow storm water and pipe it to an underground storm water dispersion trench constructed mainly of rock. This trench is designed to retain peak storm flow and balance pre and post development flow rates. This trench will retain average storm flows to allow for maximum groundwater recharge. Excess storm water will discharge to the existing ditch along St. Margaret's Bay Road via a small overflow pipe.

Pursuant to the Board's terms of reference, the Board's input is being sought with respect to the potential impact of this development along this coastal inlet. HWAB's recommendation and specific comments will be included in the staff report to **Western Region Community Council**.

Attachments:

- Proposed Site/Stormwater Management Plan;
- Sewage Treatment System Design Report;
- Approval from Department of Environment to construct a Sewage Treatment Plant, dated July 22, 2010
- Air Photo



Flow calculation - Rational Method		
	Pre-Flow	Post-Flow
CB100	0.03 m^3/s	0.08 m^3/s
CB101	0.01 m^3/s	0.11 m^3/s
CB102	0.02 m^3/s	0.20 m^3/s
CB103	0.02 m^3/s	0.20 m^3/s
CB104	0.01 m^3/s	0.01 m^3/s
RWL Roof	0 m^3/s	0.16 m^3/s
Remainder	0.11 m^3/s	0.08 m^3/s
Total flow	0.20 m^3/s	0.84 m^3/s

Distribution Trench Flow (only into CB and MH)		
Total flow	0.08 m^3/s	0.76 m^3/s
Left over flow (over land flow)		
Total flow	0.11 m^3/s	0.08 m^3/s

NOTE:
THE PRE-DEVELOPMENT AND POST-DEVELOPMENT FLOWS HAVE BEEN BALANCED.

Total Pre-Developement Flow to Trunk 3 Road Side Ditch	0.20 m^3/s

Total Post-Developement Uncontroled Flow	0.08 m^3/s
Total Post-Developement Controled Flow	0.76 m^3/s
Total Post-Development storage (Distribution Trench)	0.64 m^3/s
Total Post-Development Flow to Trunk 3 Road Side Ditch	0.20 m^3/s

ABLE
ABLE ENGINEERING SERVICES INC.
50 QUEEN STREET
P.O. BOX 953
CHESTER, NOVA SCOTIA, B0J 1J0
TEL: 902-273-3250
FAX: 902-273-3272
engineering@ableinc.ca

LEGEND
- TREE - LARGE
- TREE CLUSTER (2 OR MORE)
- TREE - SMALL
- FDN — FOUND SURVEY MARKER SET (IRON BAR WITH CAP)
- UP — POWER POLE
- DRW — DRILLED WELL
- DGW — DUG WELL
- IRON PIPE (OR BAR)

CL DITCH.....CENTRE LINE OF DITCH
O.H.W.M.....ORDINARY HIGH WATER MARK
O.W.M.....ORDINARY WATER MARK
TBM.....TEMPORARY BENCH MARK

GENERAL NOTES:
- DRAWINGS UNITS ARE IN METRES.
- PROPERTY BOUNDARIES SHOWN HAVE BEEN DERIVED FROM DEED INFORMATION AND CONFIRMED AND STAKED ON SITE BY TY HUTCHINSON FIELD SURVEY SERVICES ON JANUARY 2007
- CONTOUR LINES SHOWN ARE PROPOSED AT 1.0m INTERVAL.
- SCALE IS 1:250 METRIC
- ALL RAIN WATER LEADERS TO CONNECT TO UNDER GROUND RAIN WATER LEADER COLLECTION PIPING

LEGEND
- PROPOSED FLOW DIRECTION
- PROPOSED MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED STORM PIPE

PRELIMINARY ONLY NOT FOR CONSTRUCTION

Project
MADELINE MYERS
9331 ST.MARGARETS BAY RD.
QUEENSLAND
PID. 40237166

Drawing
STORM WATER MANAGEMENT DESIGN PLAN

Designed	PJKK
Date	June 22, 2011
Drawn	GGH
Date	June 22, 2011
Approved	
Date	

Project Number
2007-05

Drawing no.
C306

ABLE Engineering Services Inc.

April 3, 2010

File: 090604-00

Nova Scotia Department of the Environment and Labour
Central Regional Office
Bedford, NS

Attention: Mr. Greg Decker, P.Eng.

Re: Design Report: Packed Bed Filter Sewage Treatment system, 9331 St. Margarets Bay Road

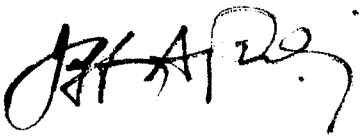
Dear Mr. Decker,

We are pleased to provide you with a copy of the design report on the above project for your information as part of the Approval Application and Facility Classification review.

This report addresses the design flow proposed, the design approach, presents the basic design, and illustrates the proposed layout of the system, for your information. It should be read in conjunction with the project drawings.

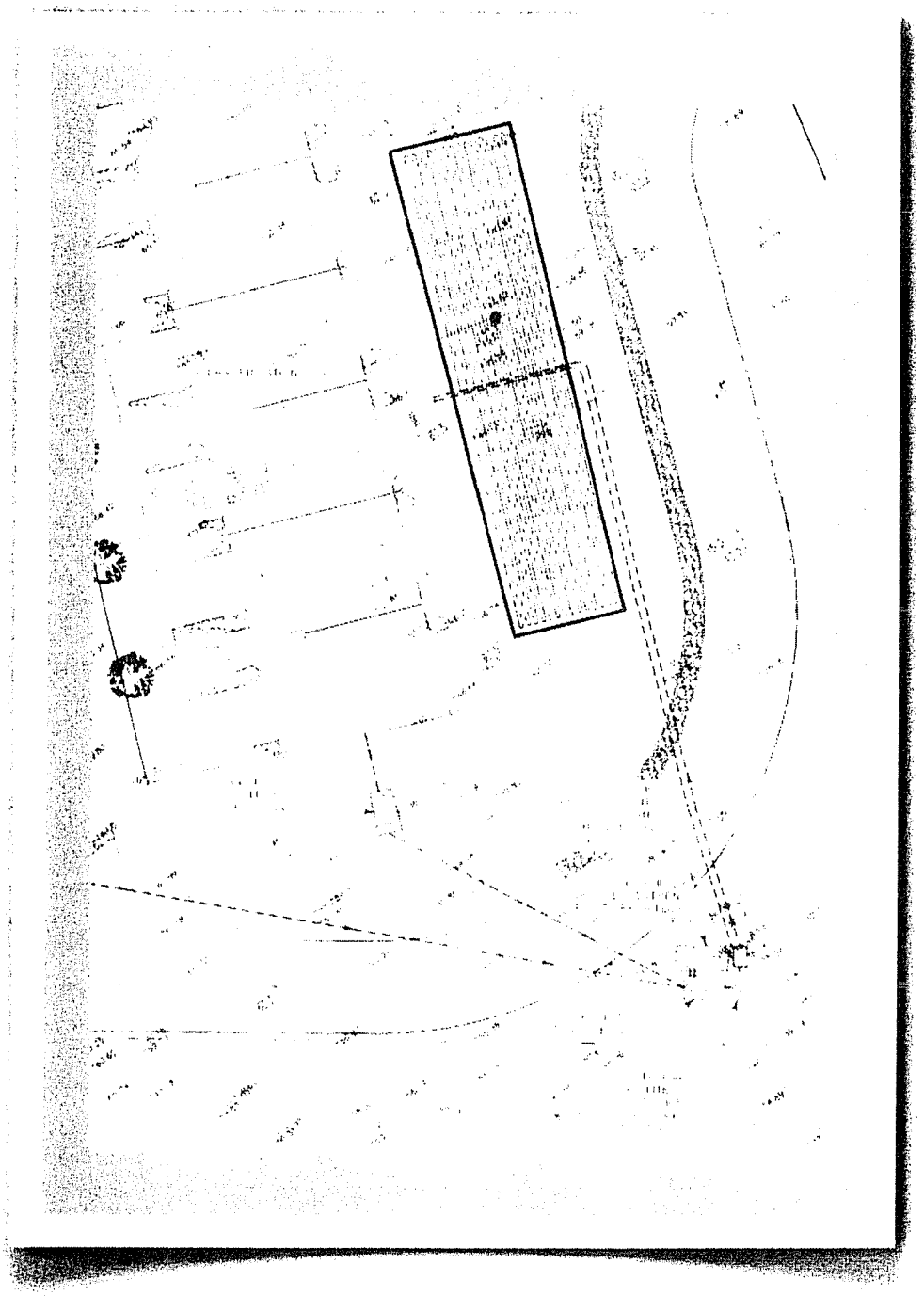
This report is intended to inform you and assist you in your review of the forthcoming application for approval. We trust it clearly presents the information intended. Should questions arise, please contact our office.

Sincerely,



Jeffrey A. Pinhey, M.A.Sc., P.Eng.

50 Queen Street, Chester, PO Box 959, B0J 1J0 *|* p. 902-273-3050 f. 902-273-3072



Prepared by: ABLE Engineering Services Inc.
50 Queen Street
Chester, NS
B0J 1J0

1.0 INTRODUCTION

The property is located in the Halifax Regional Municipality in the community of Queensland. The property is listed as PID #402357160 by the N.S. Land Information Centre. (see Appendix A) and is listed as owned by Madeline Myers.

The property is currently vacant,, as a former hotel, bar and rental cottages operation has been recently demolished.

There is no central sewer system within any reasonable distance from the site. Water is proposed to be provided from a drilled well or wells. Local groundwater has regularly met Public Heath requirements.

A new project, comprising two buildings of multiple residential units is proposed for the site. The site has been evaluated and found to not present enough capacity based on on-site sewage disposal designs, to support the design flows anticipated that would be produced by the fully occupied facility. Other means were reviewed to provide treatment of septic tank effluent such that it would be able to be meet a reasonable discharge permit for an outfall to the ocean (Saint Margaret's Bay) with swimming nearby. Although possible, this option has been rejected due to the proximity of swimming (despite the former occupation's long time discharge of almost untreated waste here) and a land based dispersal option is proposed. This creates a significant environmental improvement from the past use.

Water use for the proposed facility is developed based DEL Guidelines for multiple unit dwellings, plus a minor allowance for infiltration.

Sewage management will be provided via a small diameter septic tank effluent gravity collection system (STEG) wherein each unit has its own septic tank (13,600 L and 9,100 L) and the effluent from the tank is conveyed to a central point for treatment. A recirculating media, or packed bed filter sewage treatment system as manufactured by Waterloo Biofilter and supported locally by Marathon Equipment Limited is proposed for treating the sewage effluent from the facility. The treated effluent will subsequent be dispersed to a drip irrigation system (in ground) on lands reserved to be open, landscaped space in the development.

The design for the development is articulated on the drawings included in this submission .

2.0 DESIGN FLOWS

The design flow for the expansion of the facility were calculated as follows, using flow measurements collected by the Owner, and by Engineers for The Shaw Group. The results indicate that the average daily design flow will be in the order of 5,000 L/d with peaks to 10,000 L/d.

Using Table F in the On-site sewage disposal Guidelines results in the following design flow estimate.

Occupation	Details	Flows/person	Estimated Daily Flow (L)
Home units	14 - 2 bedroom	200 L/d	11,200

3.0 DESIGN CALCULATIONS

We propose to install a new Waterloo PE-5 double bio-filter that will provide a design flow capacity of 3500 usgpd (13,250 L/d) to treat the effluent to approximately a 20:20 BOD:TSS level.

This design is based on manufacturer's recommendations for design of the recirculating packed bed filter treatment technology, as provided by Waterloo Biofilter, Inc., and NSE Guidelines for septic tank design.

The Waterloo Biofilter Treatment System consists of four steps:

1. Septic Tank (Anaerobic Treatment):
   The septic tank treats raw sewage by fermentation (just like making wine or beer). As such, it is important not to kill the bacteria that carry on this process by using excessive disinfectant in the household.

2. Effluent Filter:
   An effluent filter on the septic tank outlet, pioneered by Waterloo Biofilter Systems Inc., screens out large particles ensuring effective treatment by the Biofilter.

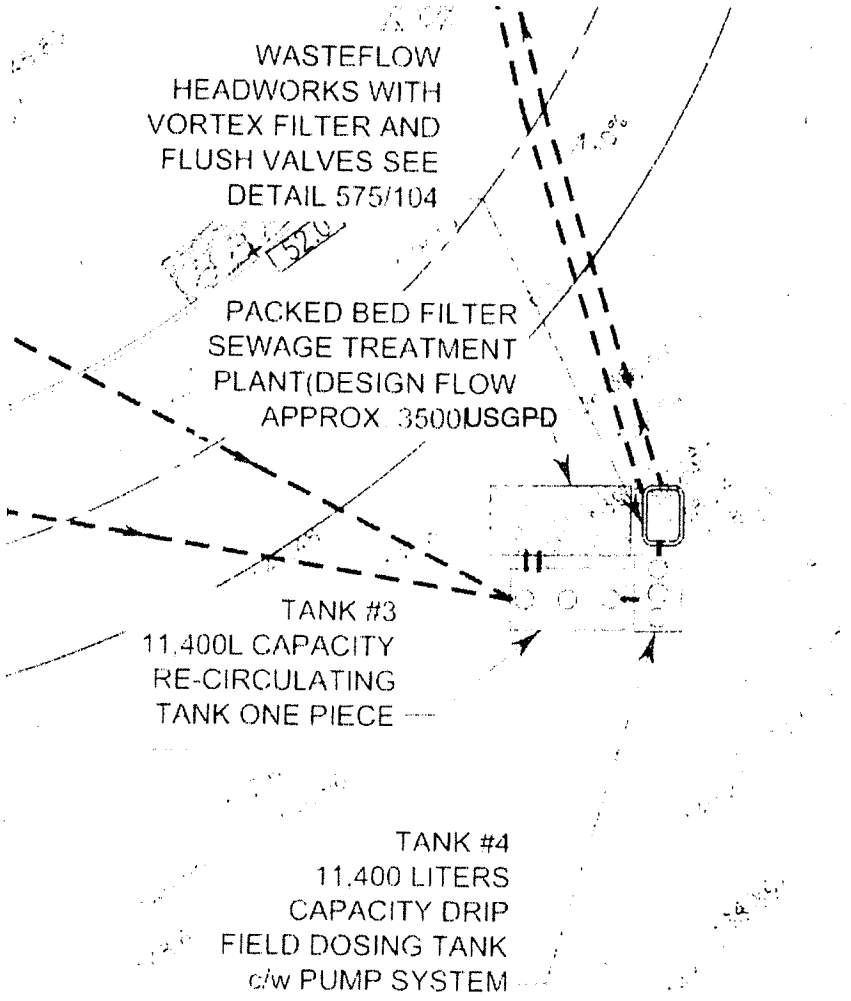
3. Waterloo Biofilter (Aerobic Treatment):
   The Biofilter consists of a patented absorbent filter medium, contained in a number of different ways and sized according to your daily water use. The Biofilter medium houses beneficial microbes that degrade and oxidize organic pollutants, coliform bacteria, ammonium and other contaminants in septic tank effluent.

4. Disposal or Re-use:
   Disposal of the treated water is to additional treatment of disinfection and discharge to the land.

3.1 Design Specifications

- The design average loading on the overall system is 11,200 L/day.

- The recirculating tank is sized to provide the daily flow, with some freeboard.
- Effluent quality for discharge to the outfall will be <20 ppm TSS and <20 ppm BOD.
- Disinfection is expected to be achieved 99% removal of fecal pathogens to numbers approximating <1000 count/100 mL by the use of UV disinfection of the treated effluent.



The proposed layout of the Sewage Treatment area is shown on the accompanying drawing.

Sampling will be possible prior to the discharge to the outfall line for process control use.

3.2 Septic Tank Design Specifications

Septic tanks provide adequate retention time. The capacity inherent in the reciriculation tank will help protect the biofilter from excess hydraulic flow washing solids to the filter.

3.3 Regulatory Aspects

The system has been located to meet regulatory clearance from wells that would apply to a sanitary sewage system. The system is enclosed in a building and is normally expected to be odour free.

Power outage storage is provided in the recirculation tank, the pump chamber, and in the septic tanks. The reality is that there will be very limited flow if the power is out, as the water supply well uses a pump, requiring power to provide water, and the restaurant will not be open for an extended period of time without power.

4.0 PROPOSED ORGANIZATION AND OPERATION

The treatment system is proposed to be managed and operated by the Owner, with operator services contracted by a highly qualified Sewage Treatment Plant Operator. The current operator of record is a Level 1.

Operation and maintenance duties will include inspecting and maintaining the dosing pump; inspecting and maintaining the disinfection system; and, if necessary, adjusting the process recirculation rates. Annual hours to perform this service are estimated to be approximately 45.

The equipment supplier will be obligated to provide training and technical support during commissioning, and start-up, as well as ongoing assistance during operation.

It is our understanding that one of the family members that own the resort intends to become Certified to operate this, and possibly other similar plants.

5.0 FACILITY CLASSIFICATION

Based on our interpretation of the Atlantic Canada Guidelines, and from work on similar systems, and due to the small design flow and simplicity of operation, this system rates at Class 1. The packed bed filter (recirculating media filter) process is now in the Guidelines via a Facility Classification Standard issued recently. Here is the rating breakdown.

Size - minimum - 1 pt
Design Flow - minimum - 1 pt
Variation - can occur ~ 200% - 4 pts
Pretreatment/Primary - septic tanks - 5 pts
Plant Pumping of main flow - 3 pts
Recirculating Packed Bed Filter - 3 pts
Solids gravity thickening, handling - off site - 2 pts
UV Disinfection - minimum - 5 pts
Lab control Off site - 0 pts
Effluent Discharge - outfall - 2 pts

Total points for Classification purposes - 26

Plant Classification = Class I (<30)

6.0 SUMMARY

The proposed system design has been developed using the principals as set forth in the Nova Scotia On-site Sewage Disposal Technical Guidelines and the Atlantic Canada Standards for Collection and Treatment of Sanitary Sewage.

Because of its size and because it is mostly a seasonal operation, we propose that any regulated sampling and reporting be kept to a minimum, to better compare it to an on-site sewage disposal system in terms of operating costs.

NOVA SCOTIA
Environment
Environmental Monitoring and Compliance

30 Damascus Road
Suite 215
Bedford, NS
Canada B4A 0C1

902 424 7773 T
902 424 0597 F
www.gov.ns.ca

Our File Number 94300-30-BED-072365

Mr. Jeffery Pinhey
Able Engineering Services Inc.
50 Queen St
PO Box 959
Chester, NS
B0J 1J0

Dear Mr. Pinhey:

RE: Approval to Construct and Operate - Sewage Treatment Plant
Approval No. 2010-072365
PID # 40237166

Enclosed please find Approval # 2010-072365 issued to Mrs. Madeline Myers to construct and operate the Sewage Treatment Plant at 9331 St Margarets Bay Rd, Queensland, Halifax Regional Municipality, Nova Scotia. Please ensure that you forward the original Approval to Mrs. Madeline Myers.

Strict adherence to the attached terms and conditions is imperative in order to validate this approval.

Despite the issuance of this Approval, the Approval Holder is still responsible for obtaining any other authorization which may be required to carry out the activity, including those which may be necessary under provincial, federal or municipal law.

Should you have any questions, please contact Gregory Decker, Central Region, Bedford Office at (902) 424-7773.

Yours Truly

Gregory Decker, P. Eng.
Regional Engineer

cc Steve Westhaver (NSE)
Elaine Marshall (NSE)

Eimas # 2010-072365

NOVA SCOTIA
Environment

APPROVAL

Province of Nova Scotia
Environment Act, S.N.S. 1994-95, c.1

APPROVAL HOLDER:	Madeline Myers
SITE PID:	40237166
APPROVAL NO:	2010-072365
EXPIRY DATE:	July 20, 2020

Pursuant to Part V of the *Environment Act*, S.N.S. 1994-95, c.1 as amended from time to time, approval is granted to the Approval Holder subject to the Terms and Conditions attached to and forming part of this Approval, for the following activity:

Construction and operation of a Sewage Treatment Plant, and associated works, at or near 9331 St Margarets Bay Rd, Queensland, Halifax Regional Municipality in the Province of Nova Scotia.

Administrator _____

Effective Date _____

TERMS AND CONDITIONS OF APPROVAL

Nova Scotia Environment

Approval Holder:	Madeline Myers
Project:	Sewage Treatment Plant
Site:	9331 St Margarets Bay Rd, Queensland, Halifax Regional Municipality PID # 40237166
Approval No:	2010-072365
File No:	94300-30-BED-072365

Reference Documents:

- Application dated May 18, 2010 and attachments.
- Correspondence from ABLE Engineering dated June 3, 2010, June 10, 2010, and July 7, 2010.

1. Definitions

a) "Act" means the *Environment Act* S.N.S. 1994-1995, c.1, and includes all regulations made pursuant to the Act.

b) "Composite Sample" means a representative sample which is taken from the combination of individual samples that are collected over a 24 hour period with at least one sample of 100 ml taken at two hour intervals.

c) "Department" means the Central Region, Bedford Office, of Nova Scotia Environment located at the following address:

Nova Scotia Environment
Environmental Monitoring and Compliance Division
Central Region, Bedford Office,
Suite 115, 30 Damascus Road,
Bedford, Nova Scotia, B4A 0C1.

Phone: (902) 424-7773
Fax: (902) 424-0597

d) "Facility" means the Sewage Treatment Plant and associated works.

e) "Grab sample" means an individual sample collected in less than 30 minutes and which is representative of the substance sampled.

f) "Minister" means the Minister of Nova Scotia Environment.

g) "NSE" means Nova Scotia Environment.

h) "Sewage Collection System" means the Facility and all auxiliaries for the collection, treatment, storage and discharge of sewage from the source of the sewage to the final discharge point.

2. Scope of Approval

a) This Approval (the "Approval") relates to the Approval Holder and their application and supporting documentation, as listed in the reference documents above, to construct and operate the Facility, situated at or near 9331 St Margarets Bay Rd, Queensland, Halifax Regional Municipality (the "Site").

b) The Facility shall be constructed and operated as outlined in the application for industrial approval dated May 18, 2010 and supporting documentation.

c) The Site shall not exceed the area as outlined in the application and supporting documentation.

d) This Approval is restricted to the installation and operation of the Facility only. No other alteration or infill of a watercourse or water resource is permitted by this Approval. Works associated with the alteration or infill of a watercourse or water resource will require separate approval from Nova Scotia Environment.

e) This Approval does not apply to the electrical, roadways, and structural components of the project.

f) Should the work authorized by this Approval not be commenced within a year, this Approval shall automatically be null and void, unless extended in writing by an Administrator.

3. General Terms and Conditions

a) The Approval Holder shall construct, operate and reclaim its Facility in accordance with provisions of the:

i) *Environment Act* S.N.S. 1994-1995, c.1, as amended from time to time;
ii) Regulations, as amended from time to time, pursuant to the above Act;

b) The Approval Holder is responsible for ensuring that they operate the Facility on lands which they own or have a lease or written agreement with the landowner or occupier. The Approval Holder shall be responsible for ensuring that the Department has, at all times, a copy of the most recent lease or written agreement with the landowner or occupier. Breach of this condition may result in cancellation or suspension of the Approval.

c) If there is a discrepancy between the reference documents and the terms and conditions of this Approval, the terms and conditions of this Approval shall apply.

d) Any request for renewal or extension of this Approval is to be made in writing, to the Department, at least ninety (90) days prior to the Approval expiry.

e) The Minister or Administrator may modify, amend or add conditions to this Approval at anytime pursuant to Section 58 of the Act.

f) This Approval is not transferable without the consent of the Minister or Administrator.

g) i) If the Minister or Administrator determines that there has been non-compliance with any or all of the terms and conditions contained in this Approval, the Minister or Administrator may cancel or suspend the Approval pursuant to subsections 58(2)(b) and 58(4) of the Act, until such time as the Minister or Administrator is satisfied that all terms and conditions have been met.

ii) Despite a cancellation or suspension of this Approval, the Approval Holder remains subject to the penalty provisions of the Act and regulations.

h) The Approval Holder shall notify the Department prior to any proposed extensions or modifications of the Facility, including process changes or waste disposal practices which are not granted under this Approval. Extensions or modifications to the Facility may be subject to the Environmental Assessment Regulations. An amendment to this Approval will be required before implementing any change.

i) Pursuant to Section 60 of the *Act*, the Approval Holder shall submit to the Administrator any new and relevant information respecting any adverse effect that actually results, or may potentially result, from any activity to which the Approval relates and that comes to the attention of the Approval Holder after the issuance of the Approval.

j) The Approval Holder shall immediately notify the Department of any incidents of non-compliance with this Approval.

k) The Approval Holder shall bear all expenses incurred in carrying out the environmental monitoring required under the terms and conditions of this Approval.

l) Unless specified otherwise in this Approval, all samples required to be collected by this Approval shall be collected, preserved and analysed, by qualified personnel, in accordance with recognized industry standards and procedures.

m) Unless written approval is received otherwise from the Administrator, all samples required by this Approval shall be analysed by a laboratory that meets the requirements of the Department's "Policy on Acceptable Certification of Laboratories" as amended from time to time.

n) The Approval Holder shall submit any monitoring results or reports required by this Approval to the Department. Unless specified otherwise in this Approval, all monitoring results shall be submitted within 30 days following the month of monitoring.

o) The Approval Holder shall ensure that this Approval, or a copy, is kept on Site at all times and that personnel directly involved in the Facility operation are made fully aware of the terms and conditions which pertain to this Approval.

4. Construction of Facility

a) Erosion and sedimentation controls are to be in place prior to construction at this facility. Additional controls shall be implemented if Site runoff exceeds the discharge limits contained herein.

b) Erosion and sedimentation controls are to be maintained and remain in place until the disturbed areas are stabilized.

c) The Approval Holder shall ensure that the following discharge limits are met for any water which is discharged from the Site to a watercourse or wetland:

Clear Flows (Normal Background Conditions):

i) Maximum increase of 25 mg/l from background levels for any short term exposure (24 hours or less)

ii) Maximum average increase of 5 mg/l from background levels for longer term exposure (inputs lasting between 24 hours and 30 days)

High Flow (Spring Freshets and Storm Events)

i) Maximum increase of 25 mg/l from background levels at any time when background levels are between 25 mg/l and 250 mg/l

ii) Shall not increase more than 10% over background levels when background is > 250 mg/l

d) Non-compliance of the effluent discharge limits noted in clause (c) shall be immediately reported to the Department.

e) i) The monitoring station(s) for the liquid effluent shall be the discharge from any location on Site, including the settling ponds.

ii) Monitoring station locations shall be constantly reviewed by the Approval Holder and the locations revised as construction progresses and as approved by the Department.

iii) The Department reserves the right to modify the monitoring locations, parameters and frequency, and to require remedial measures depending on the information obtained.

f) The Approval Holder shall submit a monthly report summarizing the above sampling results to the Department.

g) All areas exposed during construction and temporary diversion, or control structures such as berms, ditches, etc., shall be stabilized immediately.

h) If it becomes necessary to drain the Site, the wastewater shall be treated to meet the suspended solids limits outlined in this Approval.

i) Grubbings and excavated material shall be stored or disposed of in a manner that will not result in sedimentation of adjacent and downstream watercourses or water resources.

j) Chemical flocculants are to be approved by the Department prior to their use. Requests for approval must be submitted at least 15 days prior to the use of the flocculants.

k) All phases of construction shall be overseen by a qualified professional engineer, licensed to practice in the Province of Nova Scotia, or technologist who works under the supervision of an engineer.

l) i) Written certification by a professional engineer is required stating that all construction or installation has been conducted in accordance with and has met the minimum requirements of the approved drawings and specifications.

ii) This certification must be provided to the Regional Manager, within 6 weeks of project completion.

iii) The certification must include a complete set of as build drawings (if different than the approved drawings) and information on any major changes from the referenced drawings or specifications made during construction.

iv) The certification must confirm that all as-built drawings and any other relevant documentation have been turned over to the Approval Holder by the engineer.

v) The certification must include the result of the performance testing conducted on the sewage treatment plant during commissioning and the confirmation that the Facility meets the requirements of this Approval prior to placement in service.

vi) The Approval Holder must be complete the "Completion of the Approved Work" form and it shall be included with the certification submission.

m) It is an offence under Section 50(1) and (2) of the Act to proceed with construction or operation of the Facility in advance of receiving this Approval.

n) Signage including emergency telephone numbers and contacts is to be posted at the entrance to the Facility.

o) The use of used oil as a dust suppressant is strictly prohibited. The generation of dust from the Site shall be suppressed as required.

5. Spills or Releases

a) All spills or releases shall be reported in accordance with the *Act* (Part VI) and the *Emergency Spill Regulations*.

b) Spills or releases shall be cleaned up immediately in accordance with the *Act*.

c) A quantity of spill/release response material is to be maintained on Site at all times.

6. Sludge Disposal

a) All sludge generated at the Facility shall be treated and disposed of by a method approved by the Department.

7. Operation

a) The Approval Holder shall designate in writing, to the Department, a contact for this Approval, prior to the startup and operation of the Facility.

b) The Facility must be constructed, operated and maintained in a manner that will prevent erosion, chemical spills or any other incidents that may be detrimental to the environment and public health.

c) The Approval Holder should ensure that the system is operated, maintained and has appropriate backup facilities to protect against failures of the power supply, treatment process, equipment, or structure. Security measures should assure the safety of the sewage treatment processes, storage facilities, and the discharge system.

d) The Approval Holder shall ensure the development and implementation a contingency/emergency response plan for the Facility in accordance with the requirements of the Nova Scotia Environment "Contingency Planning Guidelines" as amended from time to time. A copy of the contingency/emergency response plan is to be maintained on Site at all times. The plan should include:

i) General procedures for routine (equipment break-down, upset conditions, maintenance, etc.) or major emergencies within the sewage works system; and

ii) A plan for equipment becoming inoperable in a major emergency.

iii) A plan for dealing with spills or releases.

e) The Approval Holder shall not establish nor maintain a bypass to divert sewage around the Facility or any feature of the Facility treatment process unless the bypass has been approved by the Department. When it is necessary to use an approved by-pass, the Approval Holder shall notify the Department.

f) The Approval Holder shall take immediate preventive or corrective action ,when results of an inspection or sampling results indicate conditions which are currently or may become a detriment to system operations, and/or result in adverse impact to the environment or public health.

g) The Facility has been classified as a **Class I wastewater treatment facility**. The day-to-day operations of the wastewater treatment plant shall be supervised directly by certified operators who hold the appropriate certification.

h) The Approval Holder shall establish and submit to NSE notification procedures to be used to contact the Medical Officer of Health, NSE, other relevant authorities and the general public in the case of an emergency situation.

i) The Approval Holder shall prepare a comprehensive operations manual within three months of commencement of operation of the Facility and keep it up to date. The manual shall be subject to review by NSE upon request.

j) A complete set of the drawings, incorporating any amendments made from time to time, shall be kept by the Approval Holder at the Facility for as long as the Facility is kept in operation.

k) The Approval Holder shall establish procedures for receiving and responding to complaints including a reporting system which records what steps were taken to determine the cause of complaint and the corrective measures taken to alleviate the cause and prevent its recurrence.

8. Performance And Limits

8.1 Treated Effluent

The Facility and associated sewage collection system shall be managed and operated in such a manner that the effluent being discharged to the receiving waters satisfies the following criteria:

a) Biological oxygen demand, BOD_5, shall not exceed 20 mg/l.

b) Suspended Solids, shall not exceed 20 mg/l

c) Fecal coliform shall not exceed 200/100 count/mls

d) Disinfection of the effluent from the Facility shall be continuous and if chlorine is utilized, the chorine residual in the discharge shall not exceed 0.0 mg/L.

e) pH - 6.5 to 9.

8.2 Odour Control

a) The Approval Holder shall operate the Facility in a manner which will not result in the generation of offensive or hazardous odours/vapours.

b) The Approval Holder shall be required to implement control measures if odour generation is deemed excessive by the Department.

9. Monitoring and Recording

a) The Approval Holder shall conduct all monitoring and analysis required in this section according to the latest edition of "Standard Methods for the Examination of Water and Waste Water".

b) All equipment must be installed, maintained and calibrated as specified by the manufacturer's instructions.

c) Following a review of any of the analytical results required by this Approval, NSE may alter the frequencies, location, and parameters for analyses required for this Approval.

TABLE 1		
PARAMETER	**MINIMUM FREQUENCY**	**LOCATION**
BOD_5	5/quarter	treated effluent discharge
Suspended Solids	5/quarter	treated effluent discharge
Fecal Coliform	5/quarter	treated effluent discharge
pH	5/quarter	treated effluent discharge
Plant Volumes	continuous	entering or leaving plant

* All samples shall be composite unless stated otherwise.

d). The Facility shall be considered in compliance with the effluent limitations if 80% of the sample test results, at the frequency and number specified in table 1 meet the specified limit in section 8.1. No single result can be greater than two times the limits in section 8.1.

10. Reporting

10.1 Quarterly Reporting

a) The Approval Holder shall prepare and submit to the Department on a quarterly basis, the results of the sampling conducted at the locations indicated in Table 1 above.

b) The Approval Holder shall prepare and submit to the Department, a quarterly performance report for the facility. The report shall contain the following information in a format acceptable to the Regional Manager.

i) a summary and discussion of the quantity of wastewater treated during the reporting period compared to the design values for the facility, including peak flow rates, maximum daily flows and monthly average daily flows;

ii) a summary and interpretation of analytical results obtained in accordance with Section 9 (monitoring and recording) of this Approval;

iii) a tabulation and description of any emergency or upset conditions which occurred during the period being reported upon and action taken to correct them;

iv) Any complaints that were received and the Approval Holders response.

10.2 Emergency Reporting on Operation

a) The Approval Holder shall notify the Department forthwith in the event that untreated wastewater is directed to the receiving waters.

b) The Approval Holder shall immediately notify the Department of any incidents of exceedence of the compliance requirement indicated in section 9.d).

11. Records

a) The Approval Holder shall keep the following records and wastewater effluent quality analyses:

i) BOD_5, Suspended Solids, and Bacteriological analyses shall be kept for five years;

ii) Flow meter readings shall be kept for 10 years.

b) The Approval Holder shall also retain the following information for a period of three years:

i) calibration and maintenance records;

ii) continuous monitoring data;

iii) records of any violations of the conditions of this Approval and actions taken by the Approval Holder to correct those violations.

c) A copy of this Approval, project reports, construction documents and drawings, inspection reports, shall be kept for the life of the facility.

NOVA SCOTIA
Environment

File No 94300-30-BED-072365

COMPLETION OF THE APPROVED WORK

A condition of this Approval requires that the Approval Holder notify Nova Scotia Environment that the work authorized is complete.

Please enter the information on this sheet and return it to Nova Scotia Environment at the following address:

Nova Scotia Environment
Environmental Monitoring and Compliance Division
Central Region, Bedford Office,
Suite 115, 30 Damascus Road,
Bedford, Nova Scotia, B4A 0C1.

Phone: (902) 424-7773
Fax: (902) 424-0597
NSE Contact: Gregory Decker

APPROVAL NUMBER: 2010-072365

NAME OF APPROVAL HOLDER: Madeline Myers

TYPE OF WORK: Sewage Treatment Plant

WORK AUTHORIZED: _____

NAME OF CONTRACTOR: _____

DATE WORK WAS COMPLETED: _____

COMMENTS: _____

_____

_____

_____

_____

_____

_____ _____

SIGNATURE Date


Dorey Lane
St Margarets Bay Rd
Colwell Dr