

RECEIVED
JUL 18 2023
CLATSOP CO. PUBLIC HEALTH

OPERATION & MAINTENANCE SERVICE PROVIDER AGREEMENT

This Service Contract has been agreed upon by Julie Holmes
Home Owner: Cameron H & Julie D Holmes
Address: 3419 E Gold Dust Ave Phoenix, Az 85028-3948 Phone: 602-793-7694
Email: julieholmes@cox.net
Property Address: 81060 Acadia road Arch Cape, Oregon 97102 Acres: 0.16
Permit #: OS406674 Account#: 2444 Taxlot Key: 41018BB01400

Contracted by: Ed's Septic Tank Cleaning Service LLC Paul McDonald
Oregon DEQ Maintenance Provider ID# RM 123
Address: 808 Glasgow Ave Astoria, Oregon 97103 Phone: 503-741-6484
on this 13th day of April 2018 **Renewal June 12, 2023**
With proper Documents, Install and Permit requirements, required by DEQ.

The Service Provider has agreed to provide 2 visits at 12 Month intervals to perform operation and Maintenance Services for the Owner's Septic System. This includes the completion of any required reports to maintain compliance with Oregon DEQ rules and permit requirements. The service activities will be provided and completed in accordance with the Terms and Conditions attached to this Agreement.

***Special Note:** Drain Field must be kept clear of all vegetation, IE: Blackberries, Shrubs, Gardens, etc. Tank Lids must be accessible and free of all Landscaping, Vegetation, Gardens, etc. Clearing of any of this will be paid extra at the rates provided under the Terms and Conditions. Specific activities are listed in the "12 Month Service Checklist" form and should also include the following:

- *Determine if the tank pumping is needed by measuring the sludge in the pre-treatment and treatment compartment.
- *Inspect the Tank and other components for water tight seals.
- *Inspect any floats/switches, controls, pumps, and electrical components in the system for correct operation and functionality.
- *Inspect and clean the filters(if applicable)
- *Inspect and flush the system piping.
- *Inspect pumps and valves for proper operation, pressure and/or flow (if applicable)
- *Inspect any additional system components which have been added.
- *Record pump cycles, flow, and all other relevant information or system problems which may require additional attention, document any corrections made and any recommendations you may see fit. Provide the Owner a copy of the paperwork.

The summarized report must include any repairs that must be made outside of the current visit and an estimate of the cost of the repairs and time of completion.

This Agreement shall last for the term of 24 Months Auto Renewable /show any changes _____
The fee for the Service provided under this Agreement shall be \$200. per year _____
The fee to file with the Clatsop County DEQ is \$62 per year or current fee do to any increase by DEQ

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JUL 18 2023

GLATSOP CO. PUBLIC HEALTH

Payment for 2 Years shall be made upon the signing of this Agreement.

Additional fees for any service, installations, or replacement parts shall be discussed and agreed upon before it is to be performed.

The Service Provider shall provide additional unscheduled services and materials upon notification of any condition that the Service Provider believes adversely affects the operation of the System.

The undersigned Owner acknowledges and agrees that the information above is correct and complete. The Owner also agrees to pay all charges under the agreement when done.

****Special Note:** Under this Agreement, as your Operation & Maintenance Service Provider, Under Penalty of Law, Paul McDonald is your **first point of contact** if service is needed, and the only one **authorized** to perform these services unless otherwise authorized by him. An Information Card will be provided.

Paul McDonald
Service Provider Printed Name 
Signature June 12, 2023
Date

Julie Holmes
Julie Holmes
System Owner 
Signature June 14, 2023
Date



Clatsop County
 Department of Public Health
 820 Exchange Street, Suite 100
 Astoria, Oregon 97103
 Phone 503 325-8500 Fax 503 325-8678

2022
 RECEIVED
 AUG 11 2023
 CLATSOP CO. PUBLIC HEALTH

Annual Operation and Maintenance Report Form – Fee ~~\$60.00~~ \$62.00

Property Information

Situs Address: 81060 Arcadia Rd Arch Cape, Oregon 97102 Business Name: Ocean Joy
 Township 4N Range 10W Section 18 BB Tax Lot 01400
 Owner:
 Name: Cameron & Julie Holmes Email: julieholmes@cox.net
 Mail Address: 3419 E Gold Dust Road City/State/Zip Phoenix, Arizona 85028-3948
 Phone: 602-793-7694 Phone: N/A
 Start-up Date: April 2006 System Model # 1500 Orence Pass through FiberGlass
 System Serial #: Sand Filter-Disposable Trenches Septic-Dosing Tank

Onsite Wastewater Treatment System Status:

- | | | |
|-------------------------------------|--------------------------|--|
| Yes | No | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Was maintenance performed as required by septic system rules (OAR 340-071) and the manufacturer? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Is the system operating in accordance with the agent-approved design specifications? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Is the system currently under a service contract with a certified maintenance provider? |

Is the system failing?

- | | | |
|--------------------------|-------------------------------------|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Discharge of sewage to the ground surface |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Discharge of sewage to drain tiles or surface waters |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Sewage backup into plumbing fixtures |
| <input type="checkbox"/> | <input type="checkbox"/> | If yes, was a repair permit obtained? If not, explain: |

Approved by
 Clatsop County
 Public Health
 Date SM 8/22/23

Maintenance Provider:

Business Name: Ed's Septic Tank Cleaning Service LLC Contact Name: Paul McDonald
 Mail Address: 808 Glasgow Ave City/State/Zip Astoria, Oregon 97103
 Phone: 503-458-6521 Email: eds_septic@yahoo.com
 Certification # RM 123 Expiration Date July 24, 2024

I certify that this report is complete and accurate to the best of my knowledge. I understand that falsification of this report is grounds for revocation of my certification and/or civil penalties.

Signature *Paul McDonald* Date 5-20-22

Note: Maintenance providers must maintain accurate records of their maintenance contracts customers, performance data and timelines for renewing the contracts. These records must be available for inspection upon request by the agent per OAR 340-071-0345(14).



Clatsop County

Department of Public Health

820 Exchange Street, Suite 100

Astoria, Oregon 97103

Phone 503 325-8500

Fax 503 325-8678

PD 3/18/22 = 862

2021

Annual Operation and Maintenance Report Form – Fee ~~\$60.00~~ #62.00

Property Information

Situs Address: 81060 Arcadia Rd Arch Cape, Oregon 97102 Business Name: Ocean Joy

Township 4N Range 10W Section -18 BB Tax Lot 01400

Owner:

Name: Cameron & Julie Holmes Email: julieholmes@cox.net

Mail Address: 3419 E Gold Dust Road City/State/Zip Phoenix, Arizona 85028-3948

Phone: 602-793-7694 Phone: N/A

Start-up Date: April 2006 System Model # 1500 Orence Pass through FiberGlass Septic-Dosing Tank

System Serial #: Sand Filter-Disposable Trenches

Onsite Wastewater Treatment System Status:

- | | | |
|-------------------------------------|--------------------------|--|
| Yes | No | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Was maintenance performed as required by septic system rules (OAR 340-071) and the manufacturer? |
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| <input type="checkbox"/> | <input type="checkbox"/> | If yes, was a repair permit obtained? If not, explain: |

Approved by
Clatsop County
Public Health
Date *LM 10/24/20*

Maintenance Provider:

Business Name: Ed's Septic Tank Cleaning Service LLC Contact Name: Paul McDonald

Mail Address: 808 Glasgow Ave City/State/Zip Astoria, Oregon 97103

Phone: 503-458-6521 Email: eds_septic@yahoo.com

Certification # RM 123 Expiration Date July 24, 2024

I certify that this report is complete and accurate to the best of my knowledge. I understand that falsification of this report is grounds for revocation of my certification and/or civil penalties.

Signature *Paul McDonald* Date *11/21/21*

Note: Maintenance providers must maintain accurate records of their maintenance contracts customers, performance data and timelines for renewing the contracts. These records must be available for inspection upon request by the agent per OAR 340-071-0345(14).

2

RECEIVED

APR 16 2018

CLATSOP CO. PUBLIC HEALTH

OPERATION & MAINTENANCE SERVICE PROVIDER AGREEMENT

#501003

This Service Contract has been agreed upon by Julie D Holmes
Home Owner: Cameron H /Julie D Holmes
Address: 3419 E Gold Dust Ave Phoenix, AZ 85028-3948 Phone: 602-793-7694

Property Address: 81060 Arcadia Road Arch Cape, Or 97102 Acres: 0.16
Permit #: 400634 Account#: 2444 Taxlot Key: 41018BB01400

Contracted by: McDonald's K & B Paul McDonald Oregon DEQ Maintenance Provider
ID# M 216

Address: 808 Glasgow Ave Astoria, Oregon 97103 Phone: 503-741-6484
on this 13 th day of April 2018

With proper Documents, Install and Permit requirements, required by DEQ.

The Service Provider has agreed to provide 2 visits at 12 Month intervals to perform operation and Maintenance Services for the Owner's Septic System. This includes the completion of any required reports to maintain compliance with Oregon DEQ rules and permit requirements. The service activities will be provided and completed in accordance with the Terms and Conditions attached to this Agreement.

***Special Note:** Drain Field must be kept clear of all vegetation, **IE:** Blackberries, Shrubs, Gardens, etc. Tank Lids must be accessible and free of all Landscaping, Vegetation, Gardens, etc. Clearing of any of this will be paid extra at the rates provided under the Terms and Conditions. Specific activities are listed in the "12 Month Service Checklist" form and should also include the following:

- *Determine if the tank pumping is needed by measuring the sludge in the pre-treatment and treatment compartment.
- *Inspect the Tank and other components for water tight seals.
- *Inspect any floats/switches, controls, pumps, and electrical components in the system for correct operation and functionality.
- *Inspect and clean the filters(if applicable)
- *Inspect and flush the system piping.
- *Inspect pumps and valves for proper operation, pressure and/or flow (if applicable)
- *Inspect any additional system components which have been added.
- *Record pump cycles, flow, and all other relevant information or system problems which may require additional attention, document any corrections made and any recommendations you may see fit. Provide the Owner a copy of the paperwork.

The summarized report must include any repairs that must be made outside of the current visit and an estimate of the cost of the repairs and time of completion.

This Agreement shall last for the term of 24 Months Auto Renewable /show any changes
The fee for the Service provided under this Agreement shall be \$200. per year
The fee to file with the Clatsop County DEQ is \$60 per year or current fee do to any increase by DEQ



RECEIVED

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CLATSOP CO. PUBLIC HEALTH

#501003

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The Service Provider shall provide additional unscheduled services and materials upon notification of any condition that the Service Provider believes adversely affects the operation of the System.

The undersigned Owner acknowledges and agrees that the information above is correct and complete. The Owner also agrees to pay all charges under the agreement when done.

****Special Note:** Under this Agreement, as your **Operation & Maintenance Service Provider**, Under Penalty of Law, **Paul McDonald** is your **first point of contact** if service is needed, and the only one **authorized** to perform these services unless otherwise authorized by him. An Information Card will be provided.

Paul McDonald
Service Provider Printed Name


Signature

April 13, 2018
Date

Julie D Holmes
System Owner


Signature

April 16, 2018
Date

Certificate of Compliance

PROPERTY INFORMATION

Property Owner: **Holmes Cameron H** Township **4**, Range **10**, Section **18 B B**
Property Location: **81060 ARCADIA RD, ARCH CAPE** Tax Lot **01200**
Facility Type:

SPECIFICATIONS AND REQUIREMENTS

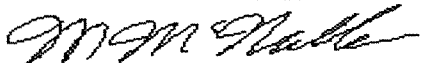
System type: **Sand Filter**
Design Flow: **300.00 gals/day** GWI also installed
Minimum Septic Tank Size: **1500.00 gals**
Distribution Type: **pressurized trenches**
Total Trench Length: **230.00 Linear feet**
Trench Spacing: **3.00 feet***
Media Type: **EZ Lay Drain**
Maximum Trench Depth: **16.00 inches**
Minimum Trench Depth: **14.00 inches**
Drain Media Total Depth:
Drain Media Below Pipe:
Drain Media Above Pipe:

*Minimum undisturbed soil between trenches

ADDITIONAL CONDITIONS

- 1 Clatsop County Public Health STRONGLY recommends that the drinking water supply be tested annually for bacteria and nitrates.
- 2 This system must operate in compliance with OAR Chapter 340, Division 071 and must not create a public health hazard or pollute public waters.
- 3 The area of the initial and the identified replacement area must not be subjected to activity that is likely to adversely affect the soil or the functioning of the system. Such activities may include, but are not limited to, vehicular traffic, livestock, covering the area with asphalt or concrete, filling, cutting, or other soil modification activities.
- 4 This system is designed to accommodate a maximum of 2 bedrooms and a peak sewage flow of 300 gallons per day
- 5 Issuance of this Certificate of Compliance does not constitute a warranty or guarantee that this onsite wastewater treatment system will function indefinitely without failure. Conditions imposed as permit requirements continue for the life of the system.
- 6 In accordance with Oregon Revised Statute 454.665, this Certificate of Compliance is issued as evidence that this septic system is operating within design parameters.

To be valid, this document must be signed by an "Agent" as defined in OAR 340-071-0100.



Authorized Agent:

Mike McNickle

Onsite Wastewater Specialist

Title:

5/24/2018

Date Issued:

Clatsop County Public Health
820 Exchange St Ste 100
Astoria, Oregon 97103
Phone: 503-325-8500
Fax: 503-325-9303



SEPTIC TANK CLEANING SERVICE LLC

Paul McDonald
808 Glasgow Ave.
Astoria, OR 97103

Cell- (503) 338-2291
Office- (503) 458-6521
eds_septic@yahoo.com

RECEIVED

APR 16 2018

CLATSOP CO. PUBLIC HEALTH

#501003

4-10-18BB-1200

Job Invoice

SOLD TO <i>Julie Holmes</i> <i>3419 E. Gold Dust Ave</i> <i>Phoenix AZ 85028-3948</i> <i>(602) 793-7694</i>		DATE ORDERED <i>4/12/18</i>	ORDER TAKEN BY Paul McDonald
		PHONE NO. (503) 741-6484	CUSTOMER ORDER #
		JOB LOCATION <i>81060 Arcadia Road</i>	JOB PHONE
		STARTING DATE <i>April 10th 2018</i>	TERMS <i>97110</i>

QTY.	MATERIAL	UNIT	AMOUNT	DESCRIPTION OF WORK
	<i>Pumped 1000 gal Concrete Septic Tank</i>		<i>282.00</i>	
	<i>Dup Fee</i>		<i>154.00</i>	
	<i>Pumped 1000 Gal Concrete Raising Tank</i>		<i>297.00</i>	
	<i>Dup Fee</i>		<i>154.00</i>	
	<i>Pulled Raising Chamber Pump, Bio Filter and Flats Clean and Reinstall</i>		<i>85.00</i>	
	<i>Cleaned Sump Valve</i>		<i>50.00</i>	
	<i>Pulled Sand Filter Pans and Flats, Pulled Drain Field Pump & Flats Clean and Reinstall</i>		<i>110.00</i>	
	<i>Flushed Pump Field & Sand Filter Lines</i>		<i>100.00</i>	
TOTAL MATERIALS			<i>1127.00</i>	
				TOTAL LABOR

WORK ORDERED	TOTAL LABOR	<i>1127.00</i>
DATE ORDERED	TOTAL MATERIALS	
DATE COMPLETED	TOTAL MISCELLANEOUS	
CUSTOMER APPROVAL SIGNATURE	SUBTOTAL	
AUTHORIZED SIGNATURE	TAX	
	GRAND TOTAL	<i>1127.00</i>

Handwritten notes:
Paid 4/16/18
OK #1489
\$1127.00
Balance due upon receipt

Certificate of Satisfactory Completion

Installation of this onsite wastewater treatment system has been determined to comply with the applicable requirements in Oregon Administrative Rules Chapter 340, Divisions 071 and 073 and the conditions of Permit OS406674 as follows:

PROPERTY INFORMATION

Property Owner: **Cameron Holmes And Julie Holmes Township 04N, Range 10W, Section 18 BB**
Property Location: **Arcadia Road, Arch Cape Tax Lot 1400**
Facility Type: **Single Family Dwelling Clatsop County**
2 Bedrooms

SPECIFICATIONS AND REQUIREMENTS

System type: Sand Filter: Conventional - Residential

Design Flow:	300 gals/day	GW I Trench Depth:	72 inches
Minimum Septic Tank Size:	1500 gals	GW I Media Depth:	72 inches
Minimum Dosing Tank Size:	1000 gals		
Distribution Type:	Pressurized		
Total Trench Length:	230 Linear feet		
Trench Spacing:	3 feet*		
Sand Filter:	312 SqFt		
Media Type:	EZ 1201P		
Maximum Trench Depth:	16 inches		
Minimum Trench Depth:	14 inches		

*Minimum undisturbed soil between trenches

ADDITIONAL CONDITIONS

- 1 In accordance with Oregon Revised Statute 454.665, this Certificate of Satisfactory Completion is issued as evidence of satisfactory completion of an onsite wastewater treatment system at the location identified above.
- 2 Issuance of this Certificate does not constitute a warranty or guarantee that this onsite wastewater treatment system will function indefinitely without failure. Conditions imposed as permit requirements continue for the life of the system.
- 3 The area of the initial and the identified replacement area must not be subjected to activity that is likely to adversely affect the soil or the functioning of the system. Such activities may include, but are not limited to, vehicular traffic, livestock, covering the area with asphalt or concrete, filling, cutting, or other soil modification activities.
- 4 This onsite wastewater treatment system must be connected to the facility referenced herein within 5 years of the issuance of this Certificate of Satisfactory Completion (CSC) or rules for authorization notices, alteration permits, or construction-installation permits as outlined in OAR 340-071-0160, 340-071-0205, or 340-071-0210 apply, including payment of an additional fee.

For Official Use Only/Date Received: [RECEIVED]

MAR 02 2009

Final Inspection Request and Notice - Onsite ID: 406674

Pursuant to the requirements within ORS 454.665, OAR 340-071-0170 and (OAR 340-071-0175, the system installer and/or the permittee must notify the Department of Environmental Quality (or its authorized Agent) when the construction, alteration or repair of a system for which a permit was issued is completed and prior to backfilling or covering the installation. The Department (or Agent) has 7 days to perform an inspection of the completed construction/installation following the official notice date, unless the Department (or Agent) elects to waive the inspection and authorizes the system to be backfilled. Receipt and acceptance of this completed form by the Department (or Agent) establishes the official notice date of your request for the pre-cover inspection. Faxed copies are acceptable for inspection request purposes only. Originals must be received before a Certificate of Satisfactory Completion is issued. Please complete sections 1 through 4 on the form and return it to the office that issued the permit. Forms that are determined to be incomplete will be returned.

SECTION 1: Owner/Permittee Information:

Township: 04N, Range 10W, Section 18 8B
 Clatsop County Tax Lot#: Tax Lot 1200

Name: Margaret Hasslen
 Property Arcadia Road, Arch Cape
 Address:

SECTION 2: System Component Specifications:

A. Tanks/Pumps		System Type: Sand Filter: Conventional - Residential			Water tight verification*
Tanks(1)	Volume: 1000	Compartments: 1	Manufacturer: WHITE	Date: 2/4/09	
Tanks(2)	Volume: 1000	Compartments: 1	Manufacturer: WHITE	Date: 2/4/09	
Pump(s)	HP: 1/2	Model/Manuf. FRANKLIN 50 gpm 5005	Float(s) Type(1): A	Model/Manuf. ORENCO	
			Float(s) Type(2):	Model/Manuf.:	

B. Piping		Yes	No	Diameter:	ASTM/Other:	Length:
Effluent Sewer (tank to drainfield)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	4"	ASTM 2661	8'
(TANK TO S.F.) Pressure Transport Pipe		<input checked="" type="checkbox"/>	<input type="checkbox"/>	1 1/4"	2241 PVC	20'

C. Secondary Treatment Unit:		Yes	No	Type:	Container Dimensions:
Sand Filter**		<input checked="" type="checkbox"/>	<input type="checkbox"/>	LINED	12 x 26
Underdrain pipe	Diameter: 4"			ASTM/Other: 3034	Length: 22'
Manifold piping	Diameter: 1 1/4"			ASTM/Other: 2241 (LATERALS 3/4")	Length: 10'
Internal Pump	HP: 1/2			Model/Manufacturer: FRANKLIN 30 gpm	
Floats(1)	Type: A/B/T			Model/Manufacturer: ART ORENCO	
Floats(2)	Type:			Model/Manufacturer:	
ATT	Yes	<input checked="" type="checkbox"/>	No	Model:	
Certified Maint.	Provider Name:				
Operation and Maint.	Contract Received?	Yes	No		

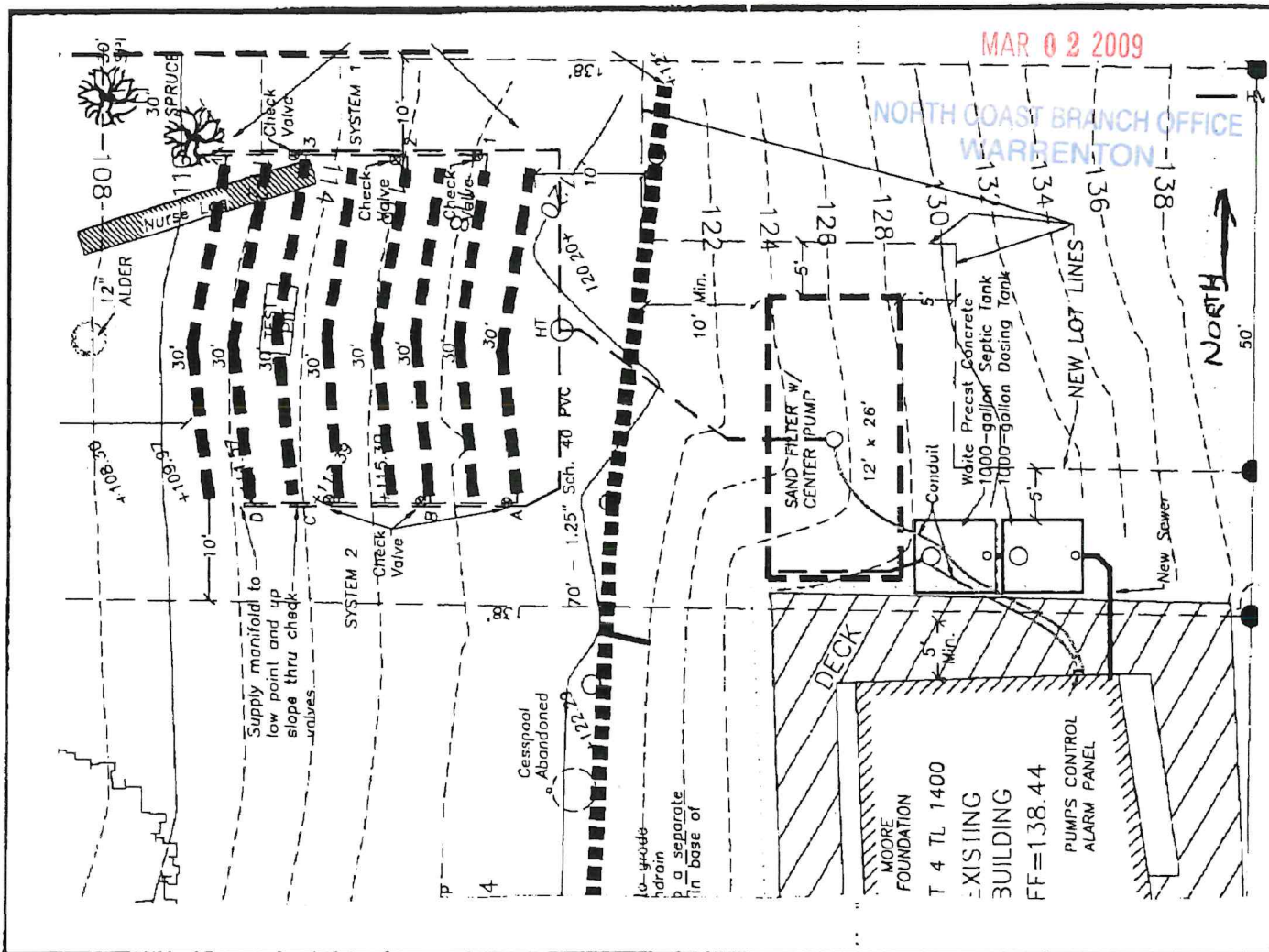
D. Drainfield Media		Type (Gravel, Pipe or alternative?)		
Distribution Box	Yes	No	EASY DRAIN	
Drop Box	Yes	No		
Distribution Pipe	Yes	<input checked="" type="checkbox"/>	No	Diameter: 1 1/2" ASTM/Other: 2241 Length: 240'
Comment	HEADER PIPE 1 1/2" φ			

*All Tanks(s) were tested for water tightness after installation and passed in accordance with OAR 340-073-0025(3)
 **Attach sieve analysis for Underdrain Media and Filter Sand

SECTION 3 - As Built Plan:

AS-BUILT PLAN OF THE CONSTRUCTED SYSTEM. Indicate the direction of NORTH. Show locations of all wells within 200 feet of the system. Show system setback distances from property lines, structures, wells, streams, etc.

DEPT OF ENVIRONMENTAL QUALITY
 RECEIVED



SECTION 4 - Construction was performed by (Signature Required)

I certify that the information provided on both pages of this document is correct and that the construction of this system was in accordance with the permit and the rules regulating the construction of onsite wastewater treatment systems (OAR Chapter 340, Divisions 71 and 73).

Owner/Permitter or Certified Installer w/Certification: Print Name: **MIKE MCEWAN**

Licensed Installer: Yes No License: **37079** Certification: **RI 83**

Owner/ Certified Installer: Signature: *Michael R McEwan* Date: **2/28/09** Phone: **503-440-0223**

SECTION 5 - Office Use Only:

Notice Accepted: Yes No Date: **3-4-09**

Installer/Owner (Permittee) Notified: Yes No Date: **3-4-09**

If No, Reason for Non Acceptance: _____

Comment: _____

DEPT. OF ENVIRONMENTAL QUALITY
RECEIVED

FEB 11 2009

CLACKAMAS COUNTY FILTER SAND
10/14/2008

NORTH COAST BRANCH OFFICE
WARRENTON

SIEVE	IND. WT. RETAINED	IND. % RETAINED	ACC. % RETAINED	ACC. % PASSING
#4	26.1	2.97%	2.97%	97.03%
#8	101.8	11.54%	14.51%	85.49%
#16	253.4	28.79%	43.30%	56.70%
#30	197.5	22.44%	65.74%	34.26%
#50	174.6	19.84%	85.58%	14.42%
#100	112.4	12.77%	98.35%	1.65%
#200	10.5	1.19%	99.55%	0.45%
PAN	1.6	0.18%	99.73%	0.27%
	880.1	F.M.	3.10	

DRY WEIGHT BEFORE WASH - 880.1

DRY WEIGHT AFTER WASH - 877.7

ASTM TEST MEHTODS #C-117 AND #C-136 IN USE FOR ANALYSIS

COMPANY NAME: GLACIER NORTHWEST, INC.
COLMUMBIA RIVER SAND

CERTIFIED TECH: LYNN RINGHEIM ODOT# 41361

APPROVED
Connie M. Schrandt
Connie M. Schrandt, W. W.S.
Lic. No. EH-W-760756
2-12-09

DEPT. OF ENVIRONMENTAL QUALITY
RECEIVED

OCT 15 2008

MOHLER SAND & GRAVEL, LLC

36435 HWY. 101 N
NEHALEM, OR 97131
503-368-5157 Plant
503-368-5158 Fax

NORTH COAST BRANCH OFFICE
WARRENTON

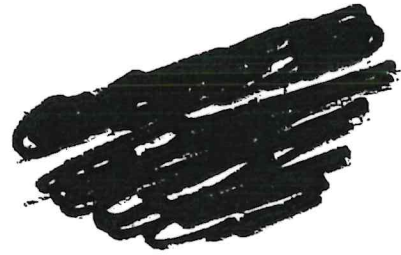
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FEB 11 2009

NORTH COAST BRANCH OFFICE
WARRENTON

PEA GRAVEL SPECIFICATIONS ANALYSIS DATE 06/15/08

SIEVE SIZE	WEIGHT RETAINED	% RETAINED	% PASSING	DEQ SPEC'S
1/2	0			
1/4	2317	3109	57	18-100
4	4169	1257	23	5-75
10	5386	40	1	< 24
16	5405	21.0	.04	< 2
100	5418	8	.02	< 1
PAN	5426			



APPROVED
Connie M. Schrandt
Connie M. Schrandt, W.W.S.
Lic. No. EH-W-760756
2-12-09

Permit Transfer - without Field Visit

This Permit Transfer - without Field Visit Permit OS406674 authorizes the property owner to construct an onsite wastewater system as follows:

PROPERTY INFORMATION

Property Owner: **Cameron Holmes And Julie Holmes** **Clatsop County**
Property Location: **Arcadia Road, Arch Cape** **Township 04N, Range 10W, Section 18 BB**
Facility Type: **Single Family Dwelling** **Tax Lot 1400**
 2 Bedrooms

SPECIFICATIONS AND REQUIREMENTS

System Type: Sand Filter: Conventional - Residential

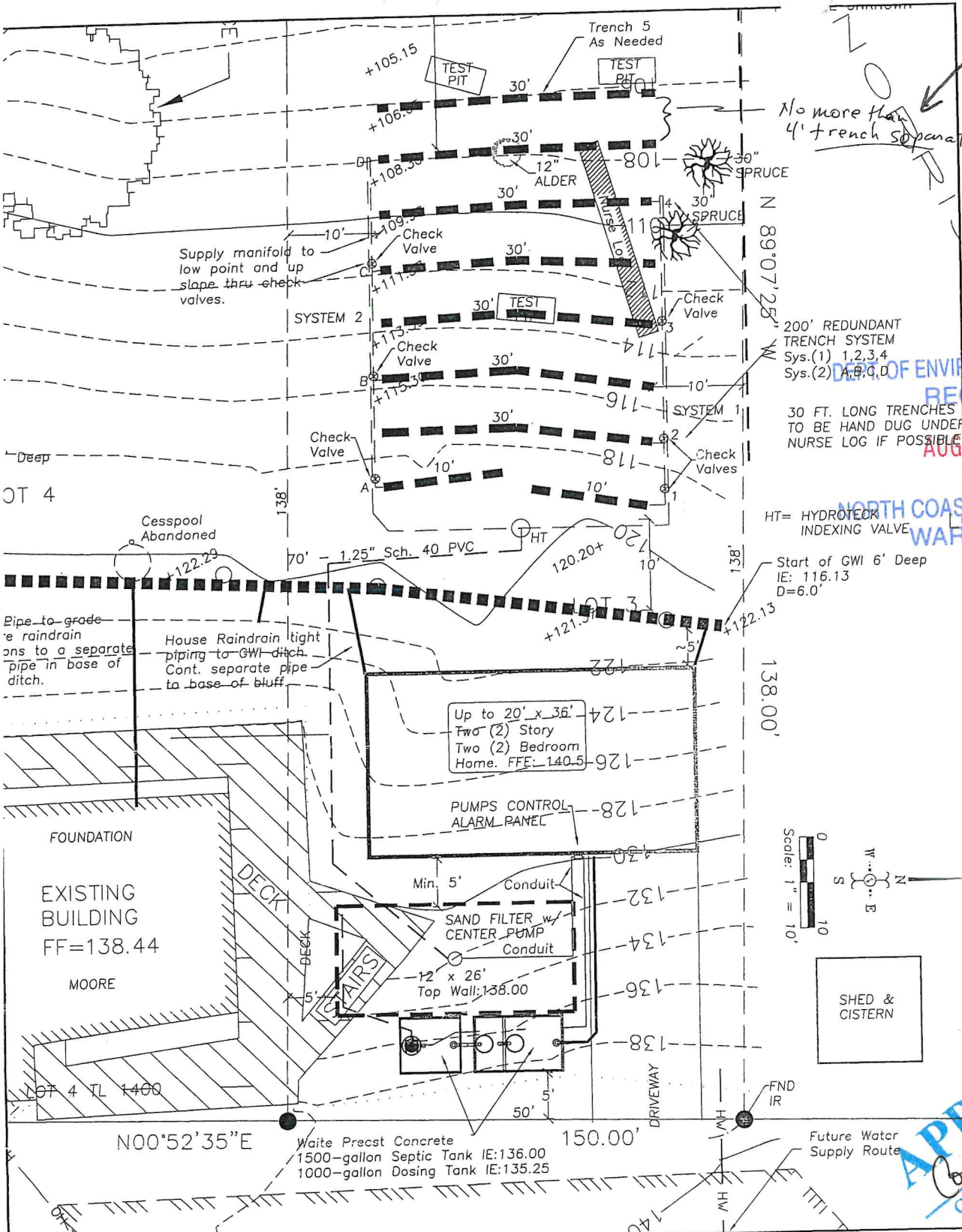
Dry soil installation required between: Jun 1 2009 And Oct 1 2009.

Design Flow:	300 gals/day	GWI Trench Depth:	72 inches
Minimum Septic Tank Size:	1500 gals	GWI Media Depth:	72 inches
Minimum Dosing Tank Size:	1000 gals		
Distribution Type:	Pressurized		
Total Trench Length:	230 Linear feet		
Trench Spacing:	3 feet*		
Sand Filter:	312 SqFt		
Media Type:	EZ 1201P		
Maximum Trench Depth:	16 inches		
Minimum Trench Depth:	14 inches		

*Minimum undisturbed soil between trenches

ADDITIONAL CONDITIONS

- 1 IMPORTANT:** Current sieve analyses for particle size distribution of the sand filter media and the underdrain media, tested in accordance with ASTM C-117 and ASTM C-136 must be submitted to the DEQ for review & approval prior to installing media into sand filter.
- 2 IMPORTANT:** Plans for the sand filter concrete structure stamped by an Oregon Registered Professional Engineer are required for review & approval prior to construction, in accordance with the last sentence in the 4th paragraph of Exhibit B - Construction Narrative, WQ-SS-Variance Approval dated August 19, 2008.
- 3** Specific Ezflow product approved for this system is the 2001-P 10" LPP System with 4-6" backfill as shown on Exhibit A-9, WQ-SS-Variance Approval dated August 19, 2008.
- 4** The alarm and pump must be on separate circuits in the control panel.
- 5** The system must be installed by the property owner or a licensed sewage disposal business (installer).
- 6** The system must be installed in accordance with the plan approved by the agent, including any changes made by the agent.



Please note that these diagrams are modified by the Approval to 4' trench separation

DEPT OF ENVIRONMENTAL QUALITY
 RECEIVED
 AUG 28 2008
 NORTH COAST BRANCH OFFICE
 WARRENTON

9-5-08
 Checked
 Stakeout
 CMS

APPROVED
 Connie M. Schrandt, W.W.S.
 Lic. No. EH-W-760756
 9/10/08



Site Plan @ 1" = 10'
 Holmes - Hasslen Site
 --- Ocean Street
 T.4N., R.10W., Sec. 18BB TL 1200
 Clatsop County

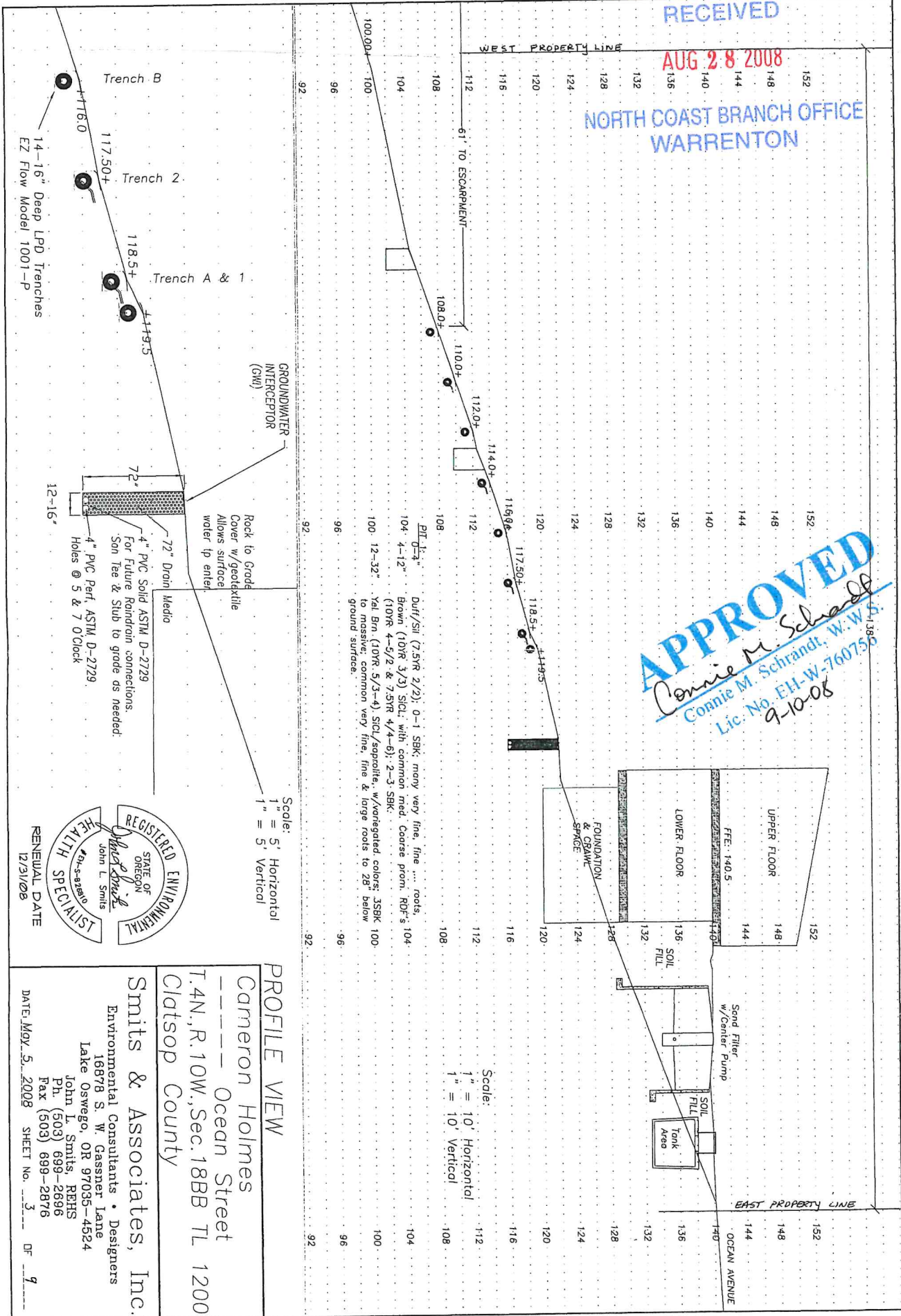
Smits & Associates, Inc.
 Environmental Consultants • Designers
 16878 S. W. Gassner Lane
 Lake Oswego, OR 97035-4524
 John L. Smits, REHS
 Ph. (503) 699-2696
 Fax (503) 699-2876
 Email: jlsmits@aol.com

DATE: May 5, 2008 SHEET No. 2 OF 9

EXHIBIT A-2

AUG 28 2008

NORTH COAST BRANCH OFFICE
WARRENTON



APPROVED
Connie M. Schrandt
 Connie M. Schrandt, W.W.S.
 Lic. No. EH-W-760750
 9-10-08

Scale:
 1" = 5' Horizontal
 1" = 5' Vertical

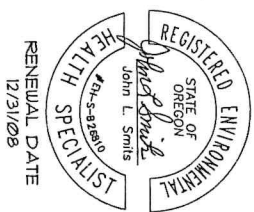
Scale:
 1" = 10' Horizontal
 1" = 10' Vertical

PROFILE VIEW

Carneron Holmes
 Ocean Street
 T.4N., R.10W., Sec.18BB TL 1200
 Clatsop County

Smits & Associates, Inc.

Environmental Consultants • Designers
 16878 S. W. Gassner Lane
 Lake Oswego, OR 97035-4524
 John L. Smits, REHS
 Ph. (503) 699-2696
 Fax (503) 699-2876
 DATE: May 5, 2008 SHEET No. 3 OF 9

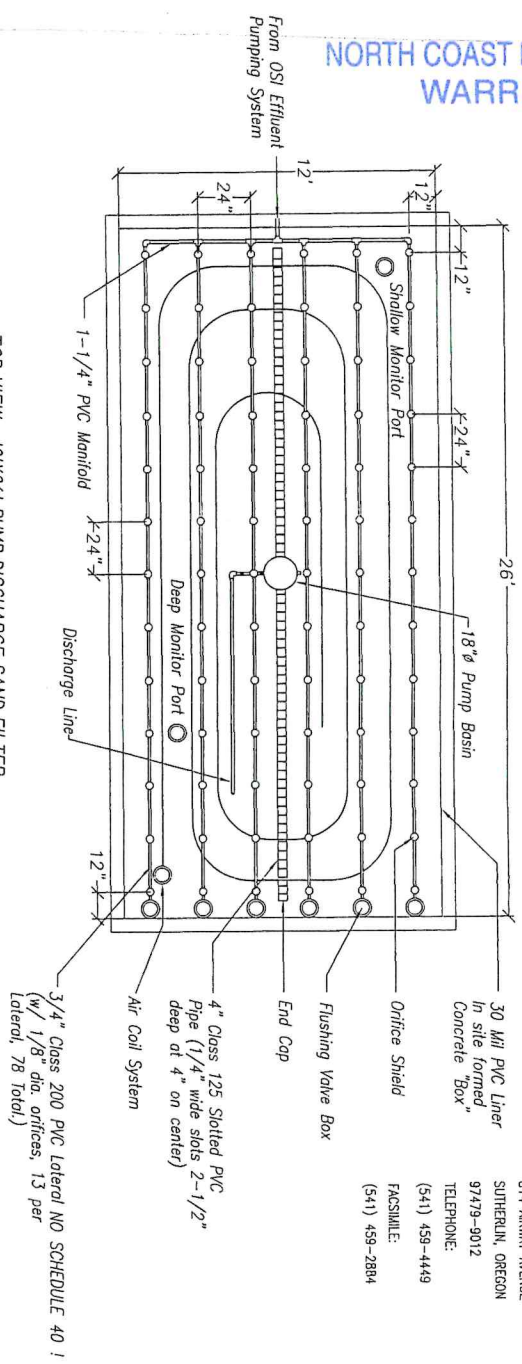


AUG 28 2008

NORTH COAST BRANCH OFFICE
WARRENTON

12'x26' Intermittent Sand Filter* with Pump Discharge

Configured for loading rates up to 1.25 GPD/FT Follow appropriate intermittent sand filter design criteria.

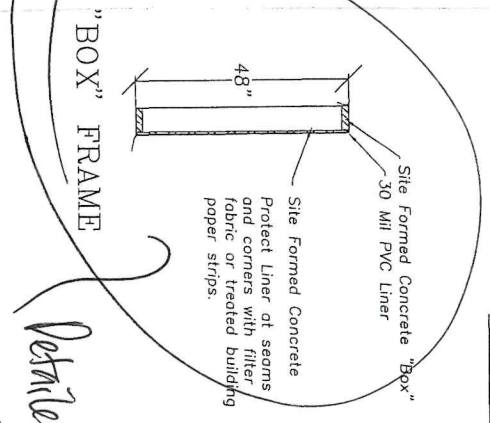


TOP VIEW - 12'x26' PUMP DISCHARGE SAND FILTER

SCALE: DIMENSIONAL

Materials supplied by DSI (1-800-348-9843) Fax: (541) 459-2884

QTY	Product ID	DESCRIPTION
78	OS075	3/4" Orifice Shields
1	L2447	30 Mil PVC Liner, 22' x 36' (12' x 26' CSF)
2	LB125	30 Mil PVC Boot Kit; 1.25"
1	LFF1226	Filter Fabric
1	SFM1226P-1	12 x 26 lft Manifold Kit, Pump Discharge (see plan view)
24	SFCD	Sand Filter Collection Drain; 4"
1	SFAC	Air Coil Kit for 12 x 26' Sand filter
1	SB4	Splice Box w/4 cord grips.
1	HV125BC	1.25" Hose & Valve Discharge Assembly w/Ball & Check Valves.
1	PBSF1880FI	Sand Filter Pump Basin, 18" Dia. w/Flow Inducer
1	PF300511	HIGH HEAD EFFLUENT PUMP, 1/2 HP, 115 Volt, 12.0 FLA
1	PAWARRANTY	Mfg 5 Year Warranty for PE Series Pumps



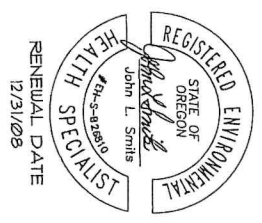
"BOX" FRAME

Detailed plan stamped by PE required for RWI approval prior to construction of sand filter structure

Oreco Systems®
Incorporated
814 AIRWAY AVENUE
SUTHERLIN, OREGON
97479-9012
TELEPHONE:
(541) 459-4449
FACSIMILE:
(541) 459-2884



APPROVED
Connie M. Schrandt
Connie M. Schrandt, W.W.S.
Lic. No. EH-W-760756
8/29/08



RENEWAL DATE
12/31/08

SAND FILTER PLAN VIEW
Cameron Holmes
Ocean Street
T.4N., R. 10W., Sec. 18BB TL 1200
Clatsop County

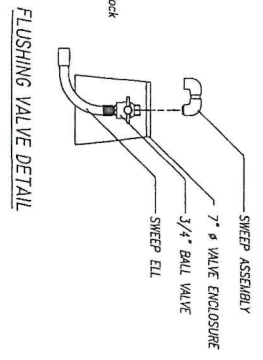
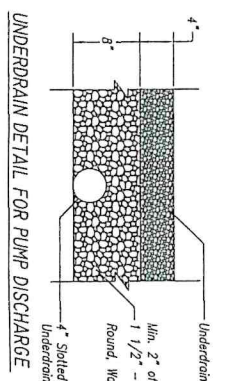
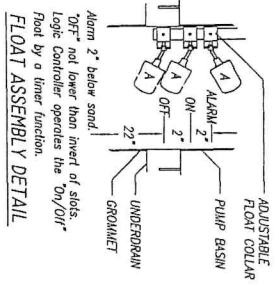
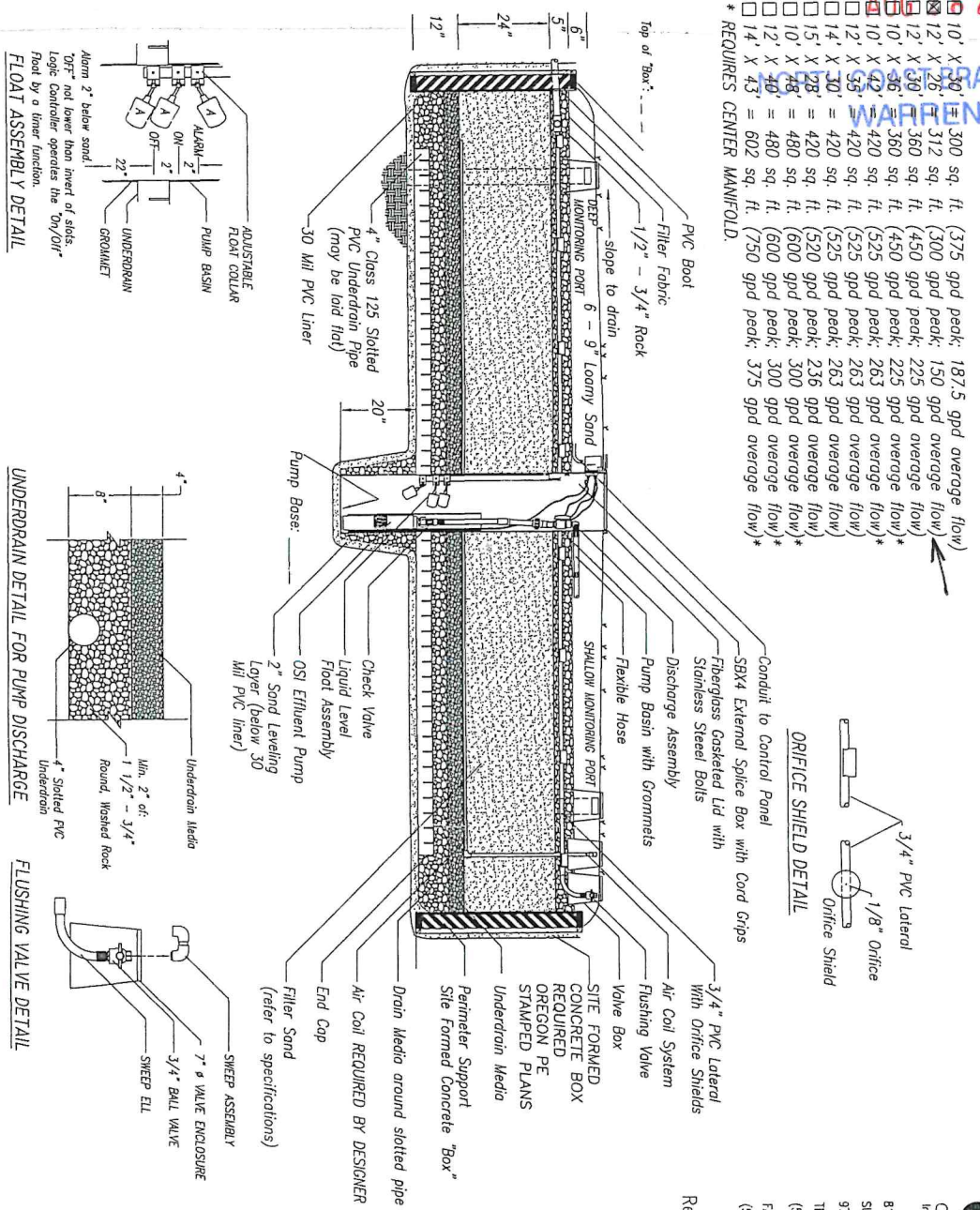
Smits & Associates, Inc.
Environmental Consultants • Designers
16878 S. W. Gaesser Lane
Lake Oswego, OR 97035-4524
John L. Smits, REHS
Ph. (503) 699-2696
Fax (503) 699-2876
DATE: May 5, 2008 SHEET NO. 6 OF 2

TYPICAL INTERMITTENT SAND FILTER W/PUMP DISCHARGE (SIDE VIEW)

SIDE VIEW OF SAND FILTERS (N/S)

- 10' X 30' = 300 sq. ft. (375 gpd peak; 187.5 gpd average flow)
- 12' X 36' = 432 sq. ft. (540 gpd peak; 270 gpd average flow)
- 12' X 30' = 360 sq. ft. (450 gpd peak; 225 gpd average flow)
- 10' X 24' = 240 sq. ft. (300 gpd peak; 150 gpd average flow)
- 10' X 20' = 200 sq. ft. (250 gpd peak; 125 gpd average flow)
- 12' X 20' = 240 sq. ft. (300 gpd peak; 150 gpd average flow)
- 14' X 20' = 280 sq. ft. (350 gpd peak; 175 gpd average flow)
- 15' X 28' = 420 sq. ft. (525 gpd peak; 263 gpd average flow)
- 10' X 28' = 280 sq. ft. (350 gpd peak; 175 gpd average flow)
- 12' X 40' = 480 sq. ft. (600 gpd peak; 300 gpd average flow)
- 14' X 43' = 602 sq. ft. (750 gpd peak; 375 gpd average flow)

* REQUIRES CENTER MANFOLD.



Oranco Systems®
Incorporated
814 ARMY AVENUE
SUNBERLIN, OREGON
97479-9012
TELEPHONE:
(541) 459-4449
FACSIMILE:
(541) 459-2884
EDW-ISF-S-2
Rev. 1.0 (2/98)

APPROVED
Connie M. Schrandt
Connie M. Schrandt, W.W.S.
Lic. No. EH-W-760756
8/10/08



RENEWAL DATE
12/31/08

SAND FILTER SECTION VIEW
Cameron Holmes
Ocean Street
T.4N., R.10W., Sec. 18BB TL 1200
Clatsop County

Smits & Associates, Inc.
Environmental Consultants • Designers
16878 S. W. Gassner Lane
Lake Oswego, OR 97035-4524
John L. Smits, REHS
Ph. (503) 699-2696
Fax (503) 699-2876
DATE: May 5, 2008 SHEET No. 7 OF 9

RECEIVED

ENVIRONMENTAL OFFICE
WARRENTON, OR

SAND:

Use medium sand meeting OAR 340-071-0295-(3)(e). Sieve analysis of the medium sand to be loaded into the filter may be required to be made by a qualified party and a report provided to the Regulatory Authority prior to sand placement. Analysis to comply with ASTM C136, Standard Methods for Sieve Analysis of Fine and Coarse Aggregate and in conjunction and accordance with ASTM C-117, Standard Test Method for Materials Finer than No. 200 Sieve in Mineral Aggregates by Washing.

Sieve #	% Passing
3/8"	100%
#4	95-100%
#8	80-100%
#16	45-85%
#30	15-60%
#50	3-15%
#100	4% or less

Sand filter media analysis may be conducted by such laboratories as:

Carlson Testing (503) 684-3460 Fax: 684-0954
P. O. Box 23184
8430 SW Hunziker Suite 100
Tigard, OR 97281

(Medium sand sources usually approved include: Glacier Northwest (503) 289-4141)

THE CONTRACTOR IS REQUIRED TO COLLECT A SAMPLE OF THE SAND AND PROVIDE ANALYSIS SHOWING COMPLIANCE WITH SAND SPECIFICATIONS PRIOR TO LOADING INTO THE FILTER. THE INSTALLER SHOULD MAKE A JAR TEST OF THE SAND MEDIA BY FILLING A QUART JAR 1/2 FULL OF SAND, ADDING WATER UNTIL THE JAR IS 2/3 FULL. SHAKE THE CONTENTS FOR 3 TO 5 MINUTES. THEN LET THE JAR SIT FOR 30 MINUTES. IF MORE THAN 1/16" OF SILT SETTLES ON THE SAND SURFACE, IT IS VERY PROBABLE THAT THE SAND DOES NOT MEET THE REQUIRED SPECIFICATIONS.

TYPICAL DRAINROCK AKA: DRAIN MEDIA MEANS:
Clean, washed gravel, or clean crushed rock having a minimum size of 3/4" and a maximum size of 2 1/2". As specified in OAR 340-071-0100 (47).

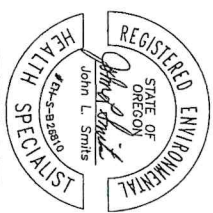
FILTER FABRIC MEANS:
A woven or spun-bonded sheet material used to impede or prevent the movement of sand, silt and clay size particles into the filter media.

As specified in OAR 340-073-0041. Approved products: CEREX 25 or DUPOUNT 3201.

UNDERDRAIN MEDIA SPECIFICATION:

It shall be clean, washed pea gravel as specified in OAR 340-071-0100 (157) with: 100% passing the 1/2" sieve, 18 to 100% passing the 1/4" mesh sieve, 5 to 75% passing the No. 4 sieve, 24% or less passing the No. 10 sieve, 2% or less passing the No. 16 sieve, and 1% or less passing the No. 100 sieve.

APPROVED
Connie M. Schrandt, W.W.S.
Lic. No. EH-W-760756
8/01/16



RENEWAL DATE
12/31/08

SAND FILTER SPECIFICATIONS

Cameron Holmes
Ocean Street
T.4N., R.10W., Sec. 18BB TL 1200
Clatsop County

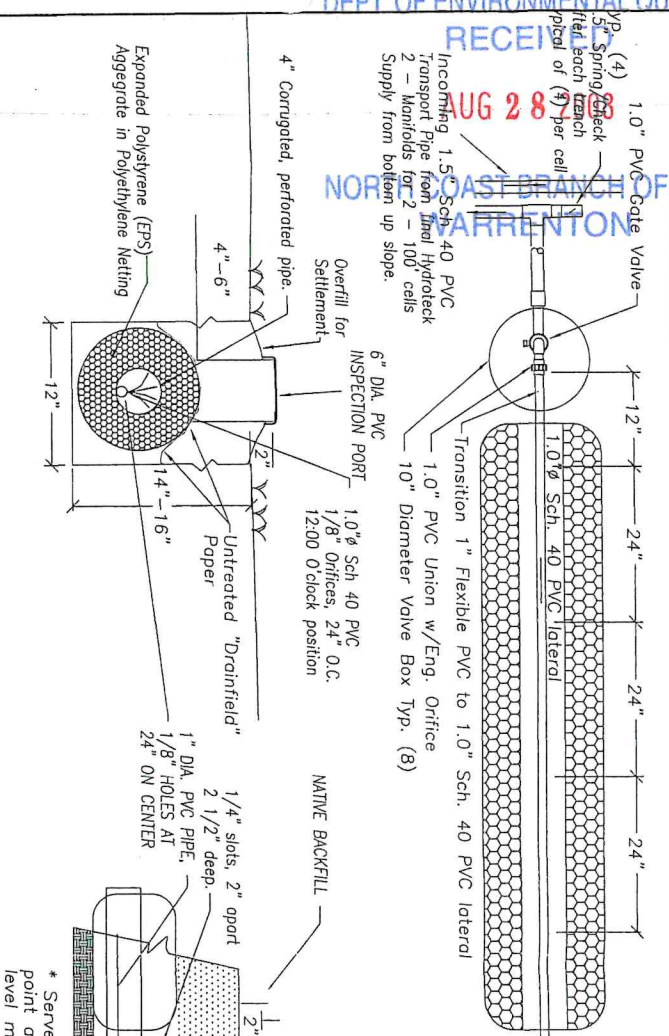
Smits & Associates, Inc.
Environmental Consultants • Designers
16878 S. W. Gassner Lane
Lake Oswego, OR 97035-4524
John L. Smits, REHS
Ph. (503) 699-2696
Fax (503) 699-2876
DATE: May 5, 2008 SHEET No. 2 OF 2

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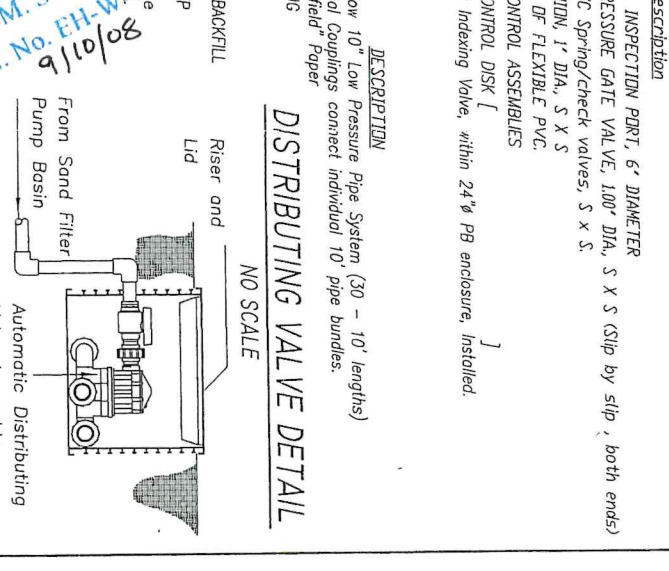
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E-Z DRAW 2001-P 10" LPP SYSTEM
DIMENSIONAL

ORIFICES 24" APART, 15" FROM CENTER FEED
AND FROM THE END OF EACH LATERAL



QTY	Product ID	Description
8	IP0616-C	CUSTOM, INSPECTION PORT, 6" DIAMETER
8	VG1000S	HIGH PRESSURE GATE VALVE, 100" DIA, S X S (Ship by slip, both ends)
8	KSC1500S	15 ^{7/8} PVC Spring/Check valves, S X S
8	U1000S	PVC UNION, 1" DIA, S X S
12	1" FLEX PVC	4 FEET OF FLEXIBLE PVC, FLOW CONTROL ASSEMBLIES
8	FC0100	FLOW CONTROL DISK [
8	FCD D100 U	2 Outlet Indexing Valve, within 24" PG enclosure, installed.
1	V4602A	



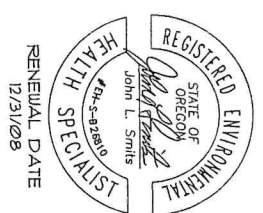
LPP TRENCH HYDRAULICS

LATERAL	ELEV./SQUIRT	# of Orifices	GPM PER LATERAL	HL THRU LATERAL	FLOW CONTROL DISKS
A - 10'	119.5 - 3.0'	5 x 0.34 gpm	1.70 gpm	0.01'	NONE
1 - 10'	118.5 - 3.0'	5 x 0.34 gpm	1.70 gpm	0.01'	NONE
B - 30'	116.0 - 6.5'	15 x 0.34 gpm	5.10 gpm	0.26'	td
2 - 30'	117.5 - 4.0'	15 x 0.34 gpm	5.10 gpm	0.26'	td
C - 30'	112.0 - 9.5'	15 x 0.34 gpm	5.10 gpm	0.26'	td
3 - 30'	113.0 - 8.5'	15 x 0.34 gpm	5.10 gpm	0.26'	td
D - 30'	108.0 - 14.5'	15 x 0.34 gpm	5.10 gpm	0.26'	td
4 - 30'	110.0 - 11.5'	15 x 0.34 gpm	5.10 gpm	0.26'	td

TOTAL FLOW RATE "letters" 12.00 gpm
TOTAL FLOW RATE "Numbers" 12.00 gpm

HEADLOSS THRU DISCHARGE ASSEMBLY: 1.22'
HEADLOSS THRU TRANSPORT PIPE: 2.75'
HEADLOSS THRU MANIFOLD: 2.75'
HEADLOSS THRU HYDROCHECK: 10.5'
RESIDUAL HEAD 3.00'
TOTAL HEADLOSSES 24.83'
STATIC LIFT 5.80'
TOTAL DYNAMIC HEAD (TMD) 30.63'

FINAL CALCS WITH FINAL PLANS



APPROVED
Connie M. Schrandt
Lic. No. EH-W-0076

LOW PRESSURE TRENCHES
Cameron Holmes
Ocean Street
T. 4N., R. 10W., Sec. 18BB TL 1200
Clatsop County

Smits & Associates, Inc.
Environmental Consultants • Designers
16878 S. W. Gassner Lane
Lake Oswego, OR 97035-4524
John L. Smith, REHS
Ph. (503) 699-2696
Fax (503) 699-2876

DATE: May 5, 2008 SHEET No. 9 OF 9

Exhibit B-1

Smits & Associates, Inc.

DEPT. OF ENVIRONMENTAL QUALITY
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16878 SW Gassner Lane
Lake Oswego, OR 97035-4524
(503) 699-2696 Fax (503) 699-2876
e-mail: jlsmits@aol.com

AUG 28 2008

May 8, 2008

NORTH COAST BRANCH OFFICE
WARRENTON

CONSTRUCTION NARRATIVE

Cameron Holmes
T.4N.,R.10W.,Sec.18BB, Tax Lot 1200 (50' x 138')

Clatsop County

SITE LOCATION:

Off Hwy. 101, off Grand Avenue, at Mile Post 33, south of the Arcadia Beach Wayside
Just south of 81064 Ocean Street (Street sign says Arcadia Road)
T.4N.,R.10W.,Sec.18BB Tax Lot 1200 (50' x 138')
Norrison Park By the Sea Lot 3 Block 1
Clatsop County

APPROVED
Connie M. Schrandt
Connie M. Schrandt, W.W.S.
Lic. No. EH-W-760756
9/10/08

If the requested variances are granted, the preliminary plans and specifications for the system will be adjusted as necessary and submitted as construction grade plans to the Warrenton DEQ office along with an application for a Construction Installation Permit.

The spruce trees growing just north of a nurse log in the north center edge of the dispersal trench area will be saved. The nurse log is the reason that the plan calls for only 30' pipes in this area. If these LPD trench segments cannot be hand dug in the area south of the nurse log to sufficient depth for the planned 30' lengths on the affected rows, an additional 30' row of dispersal trench will be added to the west end of the drainfield. This will bring the total setback distance to the bluff down from about 61' to about 55', still in excess of 50' separation required to an escarpment that intersects a layer that limits the effective soil depth.

It is essential that any installation work be done during the dry summer months only.

The 12' x 26' conventional sand filter with center pump basin will be built as a poured in place, concrete box to hold a 30 mil PVC liner and the treatment materials. The plans for the concrete structure will include the stamp of an Oregon Registered Professional Engineer.

Following construction of the filter box and placement of the liner and center pump basin within a 20" deep center sump, the bottom of the "box" will receive 12" of underdrain media followed by 24" of settled sand filter media that meets the specific sieve requirements of the DEQ rules. Next, not less than 5" of underdrain media will be placed and leveled on the sand surface followed by the pressure manifold and lateral network as shown on the plans with lateral spacing not to exceed 30" and not over 12 inches from the sides of the filter. The 3/4" pressure laterals will be provided with 1/8 inch diameter orifices at a 12:00 o'clock position at a spacing of 24". Following a pressure test to be observed by the Clatsop County DEQ representative, the 3/4" laterals will be covered with orifice shields and gravel no higher than the top of the shields. Then the gravel will in turn be covered with filter fabric. After that, the laterals and fabric will be covered with not less than 6" of loamy sand at the box edges and 9" at the filter center capable of supporting growth of lawn grass. The sand filter soil cover will be crowned slightly to promote runoff once a sod cover is established.

A Waite Precast Concrete Products, 1,500-gallon 2-compartment, concrete septic tank and a Waite 1,000-gallon, precast concrete dosing tank will be installed according to the manufacturer's recommendations. The septic tank will discharge through a 4" Biotube outlet filter. The effluent pumping system equipment will be supplied by Orenco Systems, Inc., (OSI). The pump vault will be the Biotube™ cartridge type with external 4-inch flow inducer. The flow inducer in the pump basin will hold the discharge pump that will connect to the

AUG 28 2008

Holmes Variance - Construction Narrative Cont.
Smits & Associates, Inc., May 8, 2008

NORTH COAST BRANCH OFFICE
SEASIDE, OREGON

manifold of the sand filter and associated transport pipe, manifold, and laterals of the sand filter. Doses to the sand filter will be controlled by a timer in an MVP SSF1-PTRO/ control panel. The effluent will be pumped through 1.25" schedule 40 PVC transport pipe to the manifold of the sand filter and low pressure, lateral network. The panel will be placed on an adjacent building wall away from a sleeping area. Once the sand filter pump is field calibrated, the timer will be set to discharge 24 – 6+ gallon doses per day.

The pump within the sand filter center basin will operate by three (3) floats with the lower, pump-off float set not lower than the underdrain pipe slots, the pump-on float 2" above the pump-off float and the high level alarm float 2" higher, and 2" below the medium sand underdrain media interface. A high level condition in the sand filter will prevent the sand filter dosing pump from operating until the cause of the high level in the sand filter is corrected. The length of the dose to the LPD drainfield will be set through the Orenco programmable logic unit in the control panel. The length of the dose will be sufficient to fully pressurize the trench laterals, but to the extent possible the volume of the doses will equate to 1/24th of the daily projected flow volume.

The disposal trench system will use, depending on the final hydraulic calculations, ¾ or 1" diameter PVC perforated pipe placed within 10" diameter EZ Flow, extruded polystyrene, alternate to stone aggregate product. The disposal trenches will be dug to a depth of not more than 14" as measured on the down slope edge of the 12" wide trench. Eight (8) trenches will be built in a 2 cell redundant fashion to serve as the initial system and alternate replacement trench system as shown on the preliminary plans. The pressure manifold will discharge through individual headers including orifice control assemblies and gate valves to field adjust the jet height and balance discharge to operating trenches on this sloping site. The ends of the laterals in the trenches will terminate in ¾ or 1" flush valves extending to the finished grade that can also serve as water level monitoring ports to aid in the operation of the system.

The system will be calibrated and the dosing timer mechanisms set. Following that, as-built records and a brief operation and maintenance manual will be prepared for the owner or his designated operator.

APPROVED
Connie M. Schrandt
Connie M. Schrandt, W.W.S.
Lic. No. EH-W-760756
7/10/08

DEPT. OF ENVIRONMENTAL QUALITY

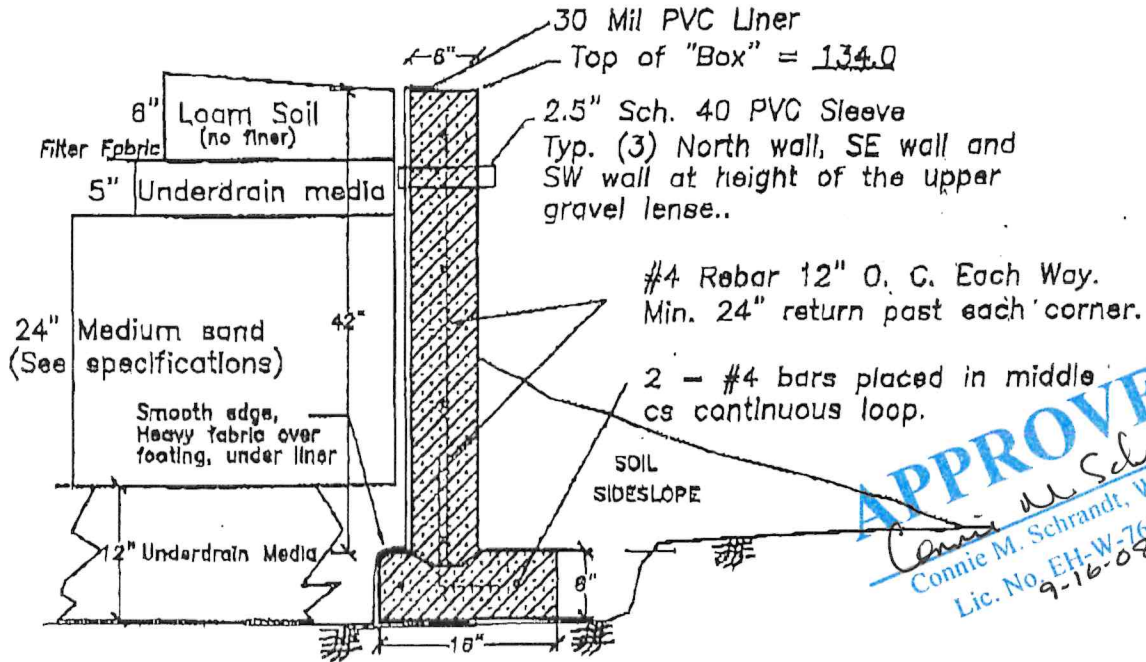
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SEP 12 2008

NORTH COAST BRANCH OFFICE
WARRENTON

CONCRETE WALL SECTION

300 SQ. FT. PLUS
(IE: 12' X 26')
(INSIDE DIMENSION)



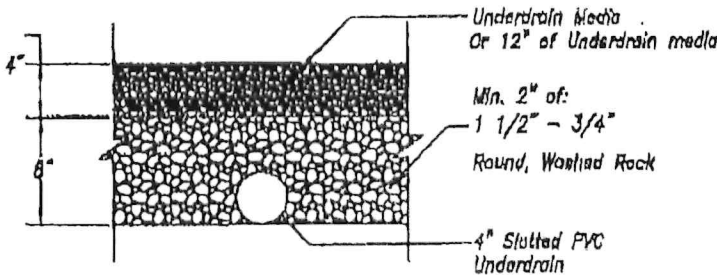
APPROVED
Connie M. Schrandt
Lic. No. EH-W-760756
9-16-08

* NOTE: CONCRETE SHALL BE READY-MIX WITH CEMENT CONFORMING TO ASTM 0150, TYPE II, AND HAVE A CEMENT CONTENT OF NOT LESS THAN SIX (6) SACKS PER CUBIC YARD AND MAXIMUM AGGREGATE SIZE OF 3/4". THE CONCRETE SHALL ACHIEVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI IN 28 DAYS. ALL REBARS TO BE A MIN. OF #4 IN SIZE.

** Owner/contractor to obtain building permit for concrete "box" if required by Clatsop County Building Official.



Renewal 12/31/2008



John L. Smits, REHS
Smits & Associates, Inc.
September 8, 2008

UNDERDRAIN DETAIL FOR PUMP DISCHARGE

CAMERON & JULIE HOLMES PROPERTY
T.4N.,10W.,SEC. 188B TAX LOT: 1200
OCEAN STREET, CLATSOP COUNTY

SAND FILTER BOX

SCALE: 1" = 8'

Smits & Associates, Inc.

Environmental Consultants & Designers
10878 S. W. Gammor Lane
Lake Oswego, OR 97030-4884
John L. Smits, REHS
P.O. (503) 680-8000
Fax (503) 680-8078

DRAWN BY: J. L. SMITS

DATE: 09/08/08 SHEET No. OF



Application for Onsite Sewage Treatment System

Department of Environmental Quality
65 N Highway 101, Suite G
Warrenton, OR 97146

Phone/TTY: (503) 861-3280
Fax: (503) 861-3259

Date Stamp: RECEIVED FEB 03 2009 NORTH COAST BRANCH OFFICE WARRENTON	For DEQ Use Only:
	Date Received <u>2/3/09</u> Fee Paid <u>155⁰⁰</u> Receipt Number <u>136198</u> Application Number <u>408125</u> Date of 1st Response <u>2-4-09</u> Date of 2nd Response _____ Date of Final Response _____ Date of Completion <u>2-4-09</u> Scanned Data Entry

A. Property Owner Information

Name CAMERON & JULIE HOLMES Mailing Address (Street or PO Box, City, State, Zip Code) 3419 E Gold Dust Phoenix, AZ 85029 Phone Number 602-996-8813

B. Legal Property Description

Township 4N Range 10W Section 18BB Tax Lot 1200 Tax Account Number 2443 Acreage or Lot Size 50' x 138'
 County CLATSOP Subdivision Name NORRISTAN PARK Lot 3 Block _____
 Property Address: 81060 ARCADIA RD. City CANNON BEACH State OR Zip Code 97110

Directions to Property: SOUTH ON 101 TO MILE POST 3.3 - TURN RT. THEN LEFT ON ARCADIA

C. Existing Facility / Proposed Facility / Water Information

Existing Facility: <input checked="" type="checkbox"/> Single Family Residence <u>2</u> Number of Bedrooms <input type="checkbox"/> Other _____	Proposed Facility: <input type="checkbox"/> Single Family Residence _____ Number of Bedrooms <input type="checkbox"/> Other _____	Water Supply: <input type="checkbox"/> Public _____ Name _____ <input checked="" type="checkbox"/> Private <u>SPRING</u> Well, Spring, Shared
--	--	--

D. Type of Application

<input type="checkbox"/> Site Evaluation <input type="checkbox"/> Construction Permit <input type="checkbox"/> Repair Permit <input type="checkbox"/> Major <input type="checkbox"/> Minor <input type="checkbox"/> Alteration Permit <input type="checkbox"/> Major <input type="checkbox"/> Minor	<input type="checkbox"/> Renewal Permit <input type="checkbox"/> Existing System Evaluation <input checked="" type="checkbox"/> Permit Transfer <input type="checkbox"/> Permit Reinstatement	<input type="checkbox"/> Authorization Notice for: <input type="checkbox"/> Connecting to an Existing System Not in Use <input type="checkbox"/> Replacing a Mobile Home or House with Another Mobile Home or House <input type="checkbox"/> The Addition of One or More Bedrooms <input type="checkbox"/> Personal Hardship <input type="checkbox"/> Temporary Housing <input type="checkbox"/> Other - Please Specify _____
--	--	---

If the required fee and attachments are not included with this application, it will be returned to you as incomplete. Post a flag or sign with your name and address at the entrance to the property. Flag and number the test holes.

By my signature, I certify that the information I have furnished is correct, and hereby grant the Department of Environmental Quality and it's authorized agents permission to enter onto the above described property for the sole purpose of this application.

Signature Christopher L.P. Rose Date 2-3-09
 Applicant's Name - Please Print Legibly CHRISTOPHER L.P. ROSE Applicant's Phone Number 503-440-0764 Applicant's E-mail Address _____
 Applicant's Mailing Address 930 13TH AVE SEASIDE, OR 97138

Applicant is the Owner Authorized Representative Licensed Septic Installer
 Authorization Attached
 Installer's Name _____



Oregon Department of Environmental Quality
 Warrenton Office
 65 N Highway 101, Suite G
 Warrenton, OR 97146

Receipt Number: 136198

DEPT. OF ENVIRONMENTAL QUALITY
 RECEIVED
 FEB 03 2009
 NORTH COAST BRANCH OFFICE

Date Received 2/3/2009

Received From **Christopher Rose**
 (Check Name): **Cameron Holmes**
930 13th Ave.
Seaside, OR 97138

For **T04N R10W S18 BB**
 Property **TaxLot 1200**
 At: **Clatsop County**
Arcadia Road
Arch Cape, OR 97102
Lot 3, Block 1 Norriston By The Sea

Current Payment

Amount Paid	Payment Type	Check # Money Order # Purchase Order #	Bank Number	Amount Applied
155.00	Check	1001	24-7038	155.00

Total Amount Applied: \$155.00

Onsite Fees

Base Fee: **95.00**
 Surcharge Fee: **60.00**
 Plan Review Flow Fee:
 Pump Evaluation Fee:
 Flow Fee:
 Reinspection Fee:

Total Fee: \$155.00

Application Description

Application ID: **408125**
 Application Type: **Permit Transfer**
without Field Visit

 System Type: **Sand Filter: Conventional - Residential**
 Pump Evaluation: **No**
 Flow: **450** gallons/day

Payments

Previous Payments: **0.00**
 Current Payment: **155.00**
 Over Payment: **0.00**

Total Payments: \$155.00

Receipt Amount: \$155.00

Received By:

Vicky Schiele

Date of Entry:

2/3/2009

JAN 28 2009

NORTH COAST BRANCH OFFICE
WARRENTON



DATE OF PLOT: 12-11-00
DRAWING NAME: 8-078

PROPERTY LINE ADJUSTMENT SURVEY

IN THE NW 1/4 OF SECTION 18, T4N, R10W, W.M. CLATSOP COUNTY, OREGON

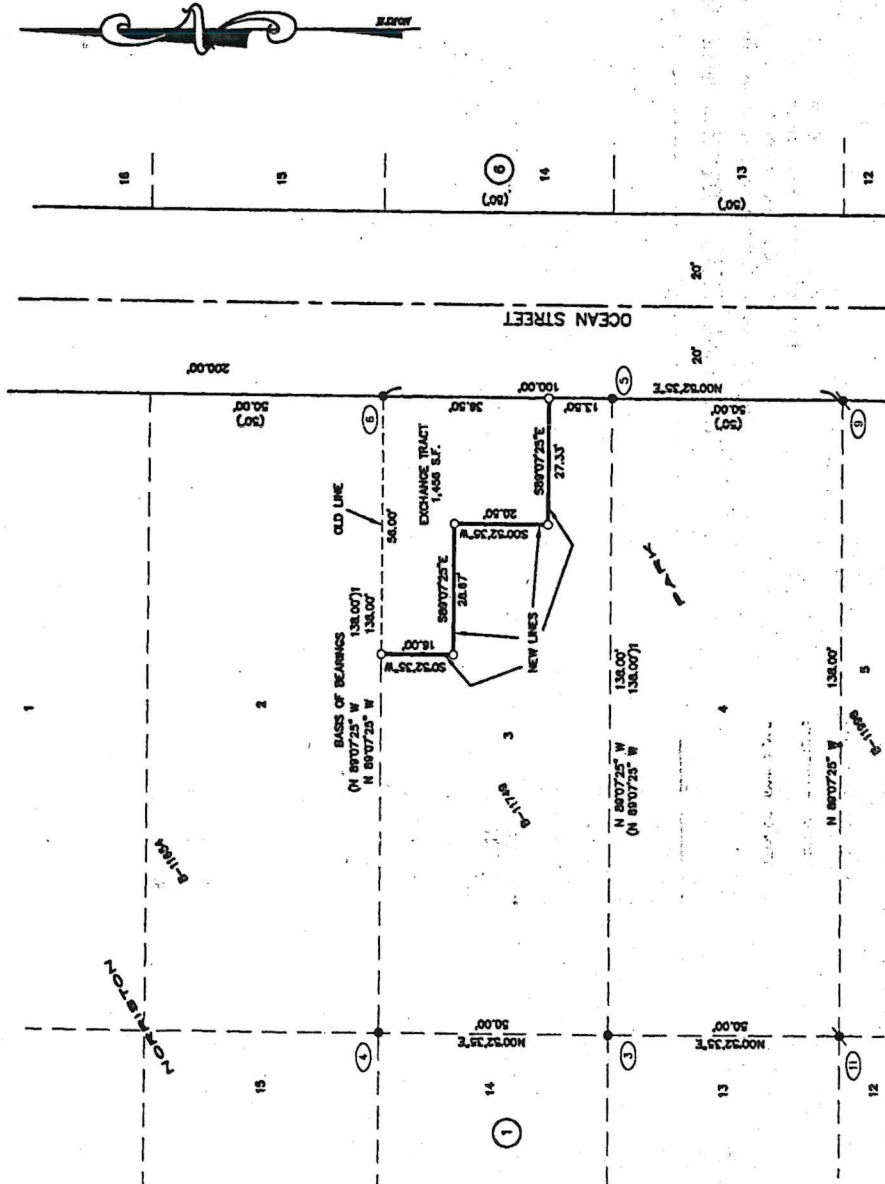
DATE: DECEMBER 8, 2008 SCALE 1" = 20'
Reduced

MONUMENT NOTES

- ① FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP MARKED "4LB & ASSOC INC.", HELD, SEE MAP 8-1174A.
- ② FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP MARKED "4LB & ASSOC INC.", HELD, SEE MAP 8-1186A.
- ③ FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP MARKED "4LB & ASSOC INC.", HELD, SEE MAP 8-1174A.
- ④ FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP MARKED "4LB & ASSOC INC.", HELD, SEE MAP 8-1186A.

- LEGEND**
- FOUND MONUMENT AS SHOWN HEREON
 - ⊙ FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "CG INC PLS 2025" HELD, PER MAP 8-1186A.
 - SET 5/8" BY 30" IRON ROD WITH YELLOW PLASTIC CAP MARKED "CG INC PLS 2025"
 - () RECORD VALUE PER PLAT OF HORRSTON PARK
 - () RECORD VALUE PER MAP 8-1174A
 - Ⓢ MONUMENT NUMBER

NARRATIVE
THE PURPOSE OF THIS SURVEY IS TO MONUMENT AN EXISTING PROPERTY LINE BETWEEN LOTS 2 & 3 BLOCK 1, HORRSTON PARK.
BEARINGS ARE BASED ON A LINE BETWEEN MONUMENTS 6 & 7, PER MAP 8-1174A SURVEY RECORDS, CLATSOP COUNTY, OREGON.
THE BOUNDARIES OF LOTS 2 & 3 WERE LAD OUT PER THE FOUND MONUMENTS PER MAP 8-1174A.
THE PROPERTY LINE ADJUSTMENT IS NOT FINAL UNTIL PROPER DEEDS OF CONVEYANCE HAVE BEEN RECORDED WITH THE CLATSOP COUNTY CLERK'S OFFICE.



REGISTERED PROFESSIONAL LAND SURVEYOR
CAMERON HOLMES
OREGON
JUNE 24, 1987
SCOTT 2029
RENEWS 12/31/09

SURVEY FOR: CAMERON HOLMES

SURVEY BY: CKI, INC.
P.O. BOX 309
SEASIDE, OR 97138
503 738 4320 PHONE
503 738 7854 FAX



P.O. Box 309, Seaside, Oregon 97138

Ph: 503 738 4320 Fax: 503 738 7854

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EXHIBIT "A"
Legal Description
of
**Exchange Tract
Lot 3 to Lot 2**
December 11, 2008

A tract of land being a portion of that property described as Lot 3, Block 1, Norriston Park, Plat Records, Clatsop County, Oregon, situated in the NW 1/4 of Section 18, Township 4 North, Range 10 West, Willamette Meridian, Clatsop County, Oregon, being further described as follows:

Beginning at a 5/8" iron rod with yellow plastic cap stamped "HLB & ASSOC INC." marking the Northeast corner of Lot 3, Norriston Park;

Thence along the North line of said Lot 3, North 89°07'25" West 56.00 feet to a 5/8" iron rod with yellow plastic cap stamped "CKI INC PLS 2829";

Thence parallel to the East line of said Lot 3, South 0°52'35" West 16.00 feet a 5/8" iron rod with yellow plastic cap stamped "CKI INC PLS 2829";

Thence parallel to the North line of said Lot 3, South 89°07'25" East 28.67 feet a 5/8" iron rod with yellow plastic cap stamped "CKI INC PLS 2829";

Thence parallel to the East line of said Lot 3, South 0°52'35" West 20.50 feet a 5/8" iron rod with yellow plastic cap stamped "CKI INC PLS 2829";

Thence parallel to the North line of said Lot 3, South 89°07'25" East 27.33 feet a 5/8" iron rod with yellow plastic cap stamped "CKI INC PLS 2829" on the East line of said Lot 3;

Thence along the East line of said Lot 3, North 00°52'35" East 36.50 feet to the **Point of Beginning** containing 1,456 Square feet.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JUNE 30, 1987
SCOTT S. COOTER
2829
RENEWS 12/31/09

1.82' x 1.75'

LOT 4

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NORTH COAST BRANCH OFFICE
WARRENTON

N00°52'35"E

EXISTING BUILDING
FF=138.44

DECK

STAIRS

TANK

TANK

SAND FILTER

36.5'

27.73'

83.1

136

134

132

130

128

126

138.00'

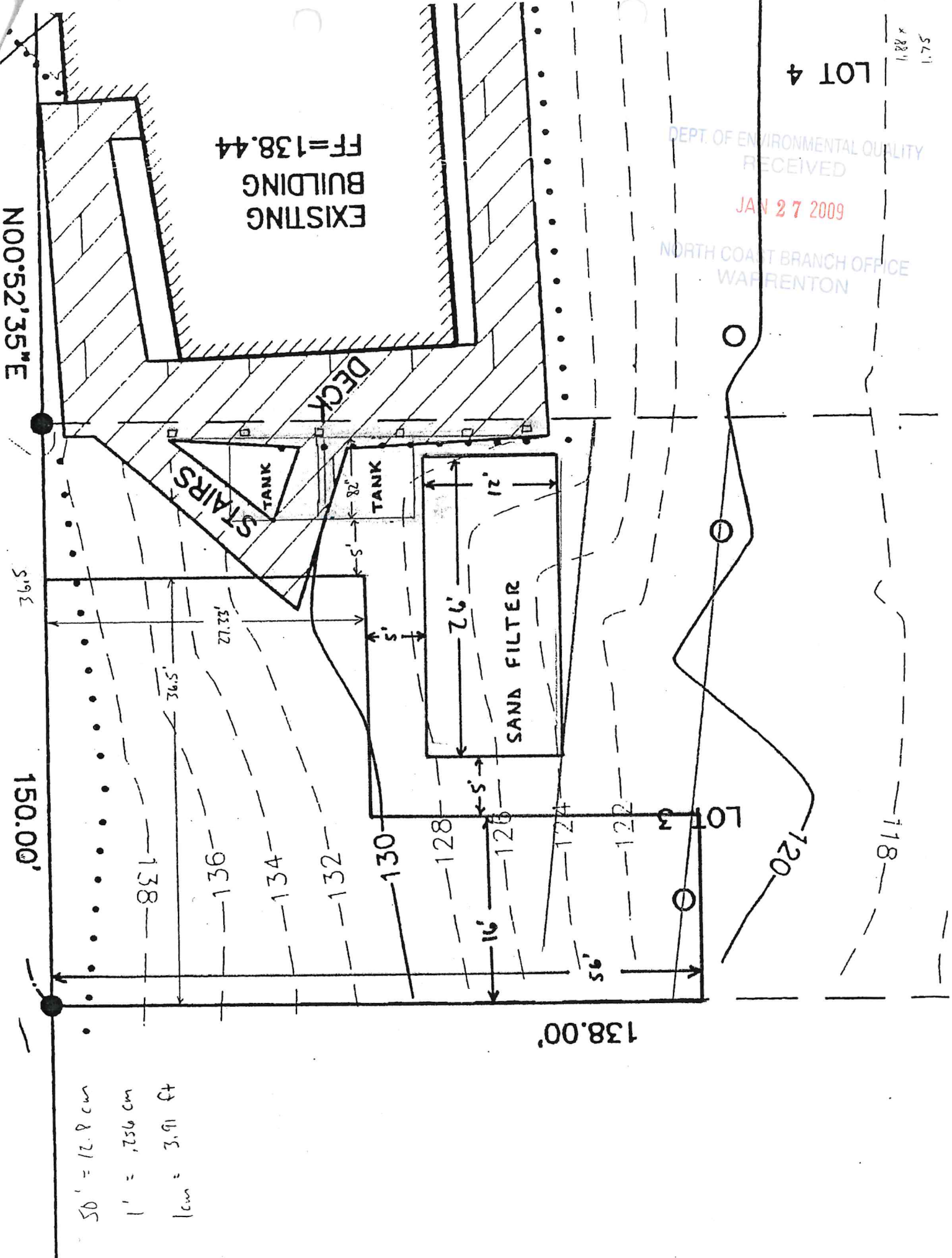
150.00'

LOT 3

120

118

50' = 12.8 cm
1' = 25.6 cm
1 cm = 3.91 ft





State of Oregon
Department of
Environmental
Quality

Application for Onsite Sewage Treatment System

Department of Environmental Quality
65 N Highway 101, Suite G
Warrenton, OR 97146

Phone/TTY: (503) 861-3280
Fax: (503) 861-3259

Date Stamp:
DEPT. OF ENVIRONMENTAL QUALITY
RECEIVED
AUG 28 2008
NORTH COAST BRANCH OFFICE
WARRENTON

For DEQ Use Only:
Date Received 8/28/08
Fee Paid 1010.00
Receipt Number 136104
Application Number 407558
Date of 1st Response _____
Date of 2nd Response _____
Date of Final Response _____
Date of Completion _____
Scanned _____ Data Entry _____

A. Property Owner Information

Margaret Haslen
by Cameron Holmes 3419 E. Gold Dust, Phoenix, AZ 85028 602 996-8813
Name Mailing Address (Street or PO Box, City, State, Zip Code) Phone Number

B. Legal Property Description

4N 10W 18BB 1200 2443 50' X 138'
Township Range Section Tax Lot Tax Account Number Acreage or Lot Size
Clatsop Norrison by the Sea 3 1
County Subdivision Name Lot Block

Property Address: south of 81064 Arcadia Road (Ocean) Arch Cape OR 97102
Address City State Zip Code

Directions to Property: west on Grand Ave. from US Hwy 101 at Mile Post 33, one block, then south on
Arcadia (GIS calls this Ocean). Lot is second lot on west side of street.

C. Existing Facility / Proposed Facility / Water Information

Existing Facility: Single Family Residence Other _____
Number of Bedrooms _____

Proposed Facility: Single Family Residence Other _____
Number of Bedrooms 2

Water Supply: Public _____ Name _____
 Private surface stream
Well, Spring, Shared

D. Type of Application

Site Evaluation Renewal Permit Authorization Notice for:
 Construction Permit Existing System Evaluation Connecting to an Existing System Not in Use
 Repair Permit Permit Transfer Replacing a Mobile Home or House with Another Mobile Home or House
 Major Minor Permit Reinstatement The Addition of One or More Bedrooms
 Alteration Permit Personal Hardship
 Major Minor Temporary Housing
 Other - Please Specify _____

If the required fee and attachments are not included with this application, it will be returned to you as incomplete. Post a flag or sign with your name and address at the entrance to the property. Flag and number the test holes.

By my signature, I certify that the information I have furnished is correct, and hereby grant the Department of Environmental Quality and it's authorized agents permission to enter onto the above described property for the sole purpose of this application.

Cameron Holmes 8/24/08
Signature Date

Cameron Holmes 602 542-8482 cameron.holmes@azag.gov
Applicant's Name - Please Print Legibly Applicant's Phone Number Applicant's E-mail Address

3419 E. Gold Dust, Phoenix, AZ 85028
Applicant's Mailing Address

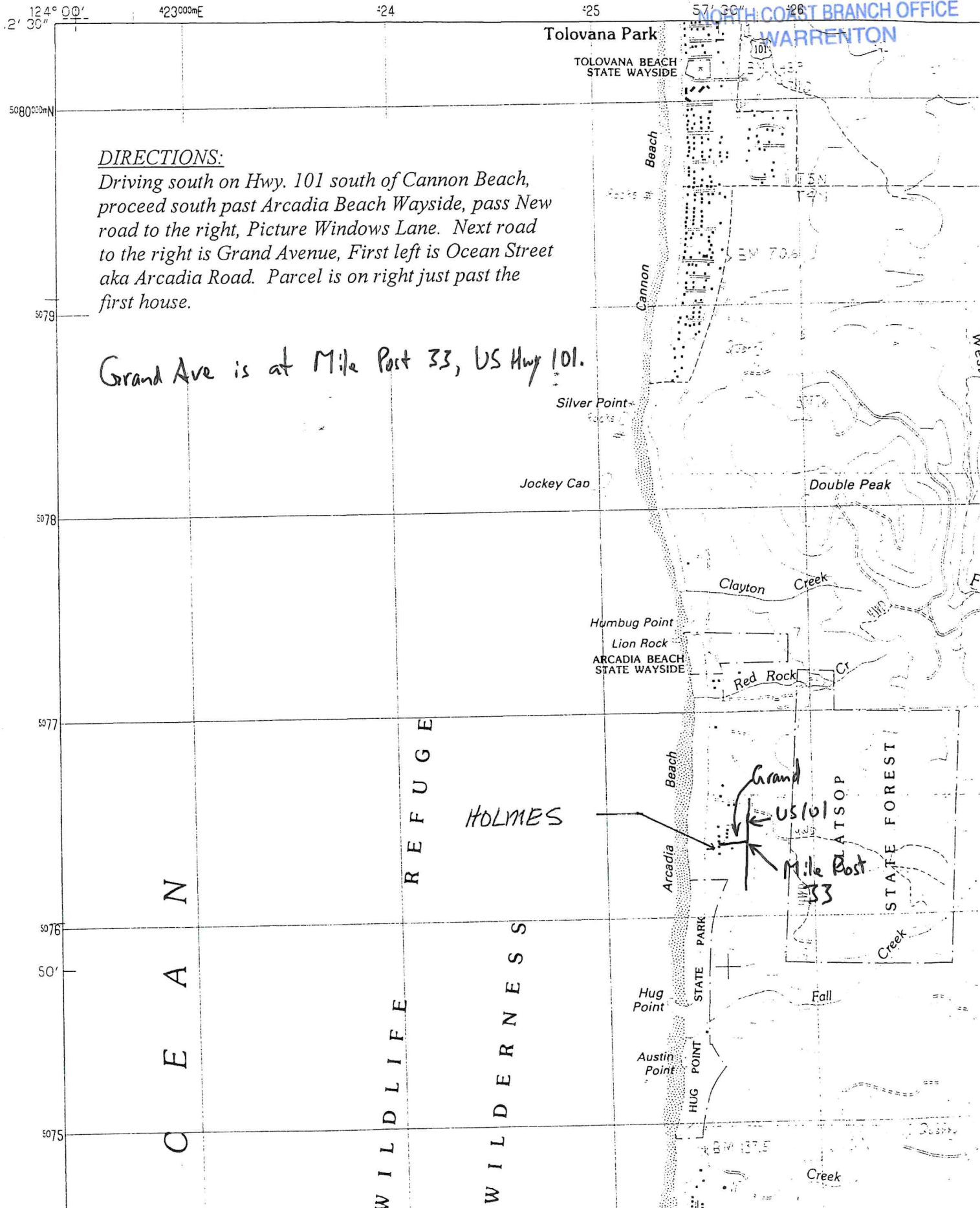
Applicant is the Owner Authorized Representative Licensed Septic Installer
 Authorization Attached Mike McEwan/ Bob McEwan Construction
Installer's Name

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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AUG 28 2008

NORTH COAST BRANCH OFFICE
WARRENTON



DIRECTIONS:

Driving south on Hwy. 101 south of Cannon Beach, proceed south past Arcadia Beach Wayside, pass New road to the right, Picture Windows Lane. Next road to the right is Grand Avenue, First left is Ocean Street aka Arcadia Road. Parcel is on right just past the first house.

Grand Ave is at Mile Post 33, US Hwy 101.

HOLMES

Grand
US 101
Mile Post
33

C
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AUG 28 2008

Department of Environmental Quality LAND USE COMPATIBILITY STATEMENT (LUCS)

NORTH COAST BRANCH OFFICE WARRENTON



DEQ State of Oregon Department of Environmental Quality

WHAT IS A LUCS? The Land Use Compatibility Statement is the process used by the DEQ to determine whether DEQ permits and other approvals affecting land use are consistent with local government comprehensive plans.

WHY IS A LUCS REQUIRED? Oregon law requires state agency activities that impact land use be consistent with local comprehensive plans. DEQ Oregon Administrative Rules (OAR) Chapter 340, Division 18 identifies agency activities or programs that significantly affect land use and must have a process for determining local plan consistency.

WHEN IS A LUCS REQUIRED? A LUCS is required for nearly all DEQ permits and certain approvals of plans or related activities that affect land use. These permits and activities are listed on p. 2 of this form. A single LUCS can be used if more than one DEQ permit/approval is being applied for concurrently.

A permit modification requires a LUCS when any of the following applies:

- 1. Physical expansion on the property or proposed use of additional land;
2. A significant increase in discharges to water;
3. A relocation of an outfall outside of the source property; or
4. Any physical change or change of operation of an air pollutant source that results in a net significant emission rate increase as defined in OAR 340-200-0020.

A permit renewal requires a LUCS if one has not previously been submitted, or if any of the above modification factors apply.

HOW TO COMPLETE A LUCS:

Table with 3 columns: Step, Who Does It, What Happens. Row 1: Applicant completes Section 1. Row 2: City or County Planning Office completes Section 2. Row 3: Applicant includes completed LUCS with findings of fact.

WHERE TO GET HELP: For questions about the LUCS process, contact the DEQ staff responsible for processing the permit/approval. Headquarters and regional staff may be reached using DEQ's toll-free telephone number 1-800-452-4011.

CULTURAL RESOURCES PROTECTION LAWS: Applicants involved in ground-disturbing activities should be aware of federal and state cultural resources protection laws. ORS 358.920 prohibits the excavation, injury, destruction, or alteration of an archeological site or object...



A. Applicant Name: Margaret Hasslen (seller) Cameron Holmes (buyer) c/o Smith & Associates, Inc. Project Name: on-site wastewater treatment system. Physical Address: one lot south of 81064 Arcadia (GIS calls it Dec). City, State, Zip: Arch Cape, OR. Tax Lot No.: 1200. Township: 4 N Range: 10 W Section: 18 BB. Latitude: 45.8381 N Longitude: 123.9598 W

For latitude/longitude, use the DEQ Location Finder at http://deq12.deq.state.or.us/website/findloc.

C. Describe the type of business or facility and services or products provided:

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SECTION 1 - TO BE COMPLETED BY APPLICANT (Continued)

Applicant Name: Margaret Haslam (seller) Cameron Holmes (buyer)

NORTH COAST BRANCH OFFICE
WARRENTON

Project Name: on-site wastewater treatment system

D. Check the type of DEQ permit(s) or approval(s) being applied for at this time.

<input type="checkbox"/> Air Notice of Construction	<input type="checkbox"/> Pollution Control Bond Request
<input type="checkbox"/> Air Discharge Permit (excludes portable facility permits)	<input type="checkbox"/> Hazardous Waste Treatment, Storage, or Disposal Permit
<input type="checkbox"/> Title V Air Permit	<input type="checkbox"/> Clean Water State Revolving Fund Loan Request
<input type="checkbox"/> Parking/Traffic Circulation Plan	<input checked="" type="checkbox"/> Wastewater/Sewer Construction Plan/Specifications (includes review of plan changes that require use of new land)
<input type="checkbox"/> Air Indirect Source Permit	<input type="checkbox"/> Water Quality NPDES Individual Permit
<input type="checkbox"/> Solid Waste Disposal Permit	<input type="checkbox"/> Water Quality WPCF Individual Permit (for onsite construction-installation permits use DEQ's Onsite LUCS form)
<input type="checkbox"/> Solid Waste Treatment Permit	<input type="checkbox"/> Water Quality NPDES Stormwater General Permit (1200-A, 1200-C, 1200-CA, 1200-COLS, and 1200-Z)
<input type="checkbox"/> Solid Waste Compost Registration or Permit	<input type="checkbox"/> Water Quality General Permit (all general permits, except 600, 700-PM, 1700-A, and 1700-B when they are mobile.)
<input type="checkbox"/> Solid Waste Letter Authorization Permit	<input type="checkbox"/> Water Quality 401 Certification for federal permit
<input type="checkbox"/> Solid Waste Material Recovery Facility Permit	
<input type="checkbox"/> Solid Waste Transfer Station Permit	
<input type="checkbox"/> Solid Waste Tire Storage Permit	

E. This application is for: permit renewal new permit permit modification other: _____

SECTION 2 - TO BE COMPLETED BY CITY OR COUNTY PLANNING OFFICIAL

Please Note: A LUCS approval cannot be accepted by DEQ until all local requirements have been met. Written findings of fact for all local decisions addressed under Item C below are required. Written findings for an activity or use addressed by the acknowledged comprehensive plan in accordance with OAR 660-031-0020 may simply reference the specific plan policies, criteria, or standards that were relied upon in rendering the decision and indicate why the decision is justified based on the plan policies, criteria, or standards.

A. The facility proposal is located: inside city limits inside UGB outside UGB

B. Name of the city or county that has land use jurisdiction (the legal entity responsible for land use decisions for the subject property or land use): _____

C. Does the activity or use comply with all applicable local land use requirements (as required by OAR Chapter 660, Division 31)?
 YES, you must complete below or attach findings to support the affirmative compliance decision

i) Relevant specific plan policies, criteria, or standards:
CR-Zone, zoned rural lands - Zoning section 3.14D

ii) Provide the reasons for the decision:
Site is zoned for residential use. Site may not support septic drain due to size of lot.

NO, you must complete below or attach findings for noncompliance, and identify requirements the applicant must comply with before LUCS compatibility can be determined.

i) Relevant specific plan policies, criteria, or standards: _____
ii) Provide the reasons for the decision: _____

D. Planning Official Signature: [Signature] Title: Planner
Print Name: John Kuntz Telephone No.: 503 325 8111 Date: 1/07/08

E. If necessary, depending upon city/county agreement on jurisdiction outside city limits but within UGB:
Planning Official Signature: _____ Title: _____
Print Name: _____ Telephone No.: _____ Date: _____



Oregon Department of Environmental Quality
Warrenton Office
65 N Highway 101, Suite G
Warrenton, OR 97146

Receipt Number: 136104

AUG 28 2008

NORTH COAST BRANCH OFFICE
WARRENTON

Date Received 8/28/2008

Received From **Cameron Holmes**
(Check Name): **3419 E. Gold Dust Ave.**
Phoenix, AZ 85028

For **T04N R10W S18**
Property **TaxLot 1200**
At: **Clatsop County**
Arcadia Road
Arch Cape, OR 97102
Lot 3, Norriston By The Sea

Current Payment

Amount Paid	Payment Type	Check # Money Order # Purchase Order #	Bank Number	Amount Applied
1,010.00	Check	6679	91-170	1,010.00

Total Amount Applied: \$1,010.00

Onsite Fees

Base Fee: **950.00**
Surcharge Fee: **60.00**
Plan Review Flow Fee:
Pump Evaluation Fee:
Flow Fee:
Reinspection Fee:
Total Fee: \$1,010.00

Application Description

Application ID: **407558**
Application Type: **Construction-Installation Permit**
Single Family Dwelling

System Type: **Sand Filter: Conventional - Residential**
Pump Evaluation: **No**
Flow: **450** gallons/day

Payments

Previous Payments: **0.00**
Current Payment: **1,010.00**
Over Payment: **0.00**
Total Payments: \$1,010.00

Receipt Amount: \$1,010.00

Received By:

Date of Entry:

Vicky Schiele

8/28/2008



Oregon

Theodore Kulongoski, Governor

Department of Environmental Quality

Western Region Grants Pass Office

302 SE "H" Street

Grants Pass, OR 97526

DEPT. OF ENVIRONMENTAL QUALITY (541) 471-2850

RECEIVED FAX (541) 479-2764

August 19, 2008

AUG 22 2008

Cameron Holmes
3419 East Gold Dust
Phoenix, AZ 85028

NORTH COAST BRANCH OFFICE
WARRENTON

RE: WQ-SS-Variance APPROVAL
Township 4N, Range 10W, Section 18BB Tax Lot # 1200
Clatsop County

COPY

Dear Mr. Holmes

In response to your variance application submitted to this Department, I visited your property south of and adjacent to 81064 Ocean/Arcadia Street north of Arch Cape in Clatsop County, Oregon on June 19, 2008. Immediately following my visit, I held an information gathering hearing at the property. The purpose of my visit and the information gathering hearing was to provide a forum for the presentation of supportive facts to show that strict compliance with certain rules regulating on-site sewage disposal are inappropriate, or that special physical conditions at the site render strict compliance to be unreasonable, burdensome or impractical.

In June of 2005, a Department of Environmental Quality (DEQ) representative from the NW Regional Onsite office evaluated this lot for suitability for the installation of an onsite sewage treatment (septic) system. It was determined that site conditions on this lot did not meet the criteria established in Oregon Administrative Rule (OAR) for installation of a standard or alternative system. A variance to the rules cited in the denial report was applied for and subsequently denied in March of 2006. The variance denial was based on a geohazard report from a Certified Engineering Geologist which cited concerns and issues relating to land stability. This report is in response to a second variance request where additional information and data that relates to the potential geologic hazards affecting the lot was presented.

During my visit I examined your lot and the test pits you provided in the proposed drainfield area. Drain lines were staked out on a 28 to 30% slope over the test pits on a linear, west facing landscape position. The soils were a silty clay loam over silty clay loam/saprolite soil beginning at about 20 inches and continuing to the pit bottoms of 35 to 54 inches. Roots and pores were noted to depths of 20 to 33 inches. Soil colors indicate a temporary water table, however a recently installed curtain drain and winter time observations appear to have eliminated the water table as a concern for a septic system. The lot is steep with 23 to 35% slopes from Ocean Dr. toward the Pacific Ocean where an escarpment is encountered about 160 feet from Ocean Dr. The slopes down this escarpment toward the beach begin at about 50% for a distance of about 30 to 50 feet and is vegetated with several fairly large Spruce trees, the largest having diameters of 10 to 12 inches. After the first 50 feet, the escarpment becomes steeper as you go toward the ocean beach which is about 80 feet below the bluff line at the top of the escarpment.

You propose to install a 1500 gallon, two compartment concrete septic tank and a 1000 gallon concrete dosing tank that pumps to a 12 by 26 foot sand filter which contains a pump to dose the drainfields. Timed dosing to the sand filter and low pressure distribution to the drain fields are proposed to minimize surge flows to the drainfield. The proposed drainfield is located down



AUG 22 2008
Holmes variance
08/19/08Page 3 of 5
NORTH COAST BRANCH OFFICE
WARRENTON

As the variance officer, it is my duty to determine if, in my professional judgment, the system proposed for variance consideration is adequate to safeguard the public's health and environmental interests when waiving standards that were specifically developed for that same purpose. I believe a redundant system is a reasonable choice for this lot and brings the advantages of using a drainfield over twice as big as needed which allows wastewater disbursement over a larger area, enhancing treatment and minimizing affects on land stability. I believe the variance requests cited above that related to trench depths, widths, spacing and depth of cover are reasonable. The applicants proposed trench construction details are all allowed in the "Gravelless Absorption" Rule except a 12 inch wide trench is required. The DEQ has approved the use of 10" diameter EZ flow bundles but in 12 inch wide trenches and on slopes of 12% or less. The proposal does not involve a capping fill therefore I don't believe the 12% slope restriction is warranted. The letter of approval for EZ flow requires the trenches to be covered by at least 6 inches of backfill material. The applicants proposal for a 4 to 6 inch cover is reasonable since the sewage is timed dosed in low volumes to two equal sized cells, alternatively, and to over twice the minimum sized drainfield. The temporary ground water cited in the original Site Evaluation appears by direct observation by Professional Geotechnical Engineer, Cynthia Hovind to be well below the 18 inch Rule requirement. Test pits excavated from 4 to 7 feet in depth and two borings 12 feet deep encountered no water on January 30 of 2007. My own experience would lead me to believe that the 6 foot deep interceptor drain will work well on this lot given the slope and landscape position. I find that reducing the sand filter sizing from 360 square feet to 300 square feet to be reasonable given the fact that a 2 bedroom dwelling will be the largest dwelling allowed on the property.

The land stability issue is the most difficult to resolve due to the complex geologic issues involved. I believe the applicant has made an effective case that the lot is stable and meets the Rule requirement cited above. Two reports prepared in 2007 by different Professional Engineers, Horning and Hovind both state that the lot is stable and will not adversely affect the operation of a septic system. A considerable amount of study, including field examinations of test pits and borings to depths of 12 feet were evaluated by both parties. Studies of aerial photographs and maps showing the lot from 1939 to present were evaluated and led these professionals to conclude that the lot has remained essentially with the same landscape since the lot was created in 1894. The plat map for the subdivision shows the vegetation line adjacent to the beach is in essentially the same location as it is today. On March 15, 2006, Rodney Weick, a Certified Engineering Geologist for the DEQ, issued a report reviewing the first geohazard reports prepared by Horning. The first Horning report of 2005 identified some concerns with the stability and Weick concluded that additional information was necessary to declare the lot in question stable. Weick specifically asked for a determination that the lot could meet a Factor of Safety (FS) of 1.5 for static FS and 1.2 for seismic FS. The Hovind report indicate the static FS is 2.1 and a seismic FS 1.4 & 1.5 for the most common seismic event and FS of 0.9 for the most cataclysmic level of earthquake. I don't think it is reasonable to deny an application based on an event that could destroy a significant amount of coastline. The worry about bluff retreat has been calculated to be, at a worst case scenario, of 0.3 feet per year but more likely on the order of 0.1 feet per year. If the retreat of the bluff is 0.3 ft/yr, the bluff line will be at the 50 foot setback to the drainfields in 36 yrs and at 0.1 ft/yr of retreat, it would take 110 years for the bluff to reach the 50 foot setback. This is based on the Smit's plan where the last drain line is 61 feet from the existing bluff line. The drainlines are proposed to have a 5 foot separation between trenches. The gravelless absorption method allows a 3 foot trench

Holmes variance
AUG 22 2008
08/19/08

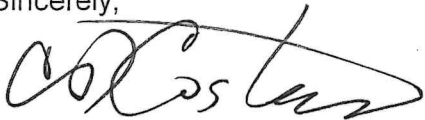
Page 5 of 5

NORTH COAST BRANCH OFFICE
WARRENTON

Staff with the Northwest Region DEQ is authorized to issue a construction-installation permit, subject to all of the conditions cited in this approval and the exhibits, upon their receipt of a complete application. The application must include a favorable land use compatibility statement from the Clatsop County Planning Department, as well as detailed plans and specifications for the on-site sewage treatment system and the appropriate application fee.

Please feel free to contact me if you have any questions concerning this decision. My telephone number is (541) 471-2850 extension 224 or toll free at 1-800-452-4011.

Sincerely,



Charles D. Costanzo, REHS
Variance Officer/Natural Resource Specialist

cc: Connie Schrandt, NW regional Onsite Specialist/plans
John Chaney, adjacent property owner
Phillip Muir, attorney for adjacent property owner/plans
Roberta Raymond, representative for adjacent property owner
Tom Horning, CEG
Cinthia Hovind, P.E. G.E
John Smits, Consultant



Oregon

Theodore Kulongoski, Governor

Department of Environmental Quality
Western Region Eugene Office
1102 Lincoln Street, Suite 210
Eugene, OR 97401
(541) 686-7838
FAX (541) 686-7551
TTY (541) 687-5603

RECEIVED
JUN 09 2006
NORTH COAST BRANCH OFFICE
WARRENTON

June 6, 2006

Cameron Holmes
3419 E. Gold Dust Ave.
Phoenix, AZ 85028

RE: Request for a Reconsideration of the Order not Approving the Margaret Hasslen Variance
Township 04N, Range 10W, Section 18BB
Tax Lot # 1200
Clatsop County

Dear Mr. Holmes,

I received your letter dated May 10, 2006 regarding the Margaret Hasslen property on Ocean Street in Norriston Park by the Sea. You stated in your discussion of Measure 37, that you are still acting as Ms. Hasslen's attorney in fact. In the letter you have made a Request for Reconsideration of the March 16, 2006 Department order not approving variance from the rules regulating the siting, construction and operation of onsite waste water treatment systems in Oregon. In accordance with Oregon Administrative Rule (OAR) 137-004-0080 and Oregon Revised Statute (ORS) 183.484 (2), the Department is exercising its discretion not to approve your Request for Reconsideration.

You have offered several arguments to support your request and I will briefly address these arguments.

1) You are now addressing the factual issues through professional assistance. You state that you have engaged the services of a new geologist with experience in assessing and improving Oregon ocean front slope stability.

I am pleased that you are pursuing additional assessment of the geologic hazards associated with this site. However ample opportunity was provided before and during the information gathering hearing to present facts supporting your variance. Upon learning that additional information might be required to assess the geological stability of this site, I advised your consultant on 1/21/2006 that additional geological hazard analysis based on subsurface data might be needed. That concern was again expressed on 2/1/2006 to your consultant with the advice that you might want to consider withdrawing the variance application or to consider holding the hearing open to allow more time to collect that data. The offer was declined. The offer to hold the hearing open was again made during the information gathering hearing held on 2/9/2006 and declined by you.

2) You state that the March 15, 2006 memo from Rod Weick is based on inferences and not fact.



JUN 09 2006

NORTH COAST BRANCH OFFICE
WARRIEN, OREGON

assessment of risk. The burden to demonstrate why variance from the rules is appropriate was yours.

6) The effect of Measure 37 should be considered.

Measure 37 issues do not apply in this situation.

7) You express concern that you were unable to review the 2/8/2006 email from Rod Weick to me regarding his review of the Horning Geological Hazard report. You state that you were unable to closely review this email and that it became the only DEQ geological evidence in the record other than the Horning report.

As previously noted, this email was not entered as "evidence". This email was provided to me from a Department professional qualified to review the geological hazard report prepared by Mr. Horning and submitted by you as part of your application. Mr. Weick reviewed the Horning report at my request. During the hearing I wanted to provide assurance that review of the Horning report had been conducted by the appropriate professional and so noted the existence of Mr. Weick's email to me. I attempted on several occasions to provide you with ample time to address our concerns related to stability issues. Those offers were declined by you and the information gathering hearing was then closed.

Oregon Administrative Rule 340-071-0430(3) requires that the burden of presenting supportive facts is the responsibility of the applicant. Oregon Revised Statute 454.657 requires the variance officer to grant a variance only where the variance officer finds that strict compliance with the rule or standard is inappropriate or because special physical conditions render strict compliance unreasonable, burdensome or impractical. As a variance officer I am obligated to follow these rules and statutes. Based on the site visit and information gathering hearing, I did not find that strict compliance with the rules or standards to be inappropriate or that special physical conditions rendered strict compliance unreasonable, burdensome or impractical. As a result the variance request was not approved. Based on the information available at the time of the decision, my opinion was that the site limitations could not be overcome and the system if constructed would be exposed to conditions resulting in failure of the system and exposure of the public to a health hazard and harm to the environment.

As noted in the Order not approving the variance, you had 60 days to appeal the decision to the Marion County Circuit Court pursuant to ORS 183.484. You may have another 60 days from the date of this letter to appeal the order not approving the variance. You may wish to consult ORS 183.484 and OAR 137-004-0080.

State of Oregon
Department of Environmental Quality

Memorandum

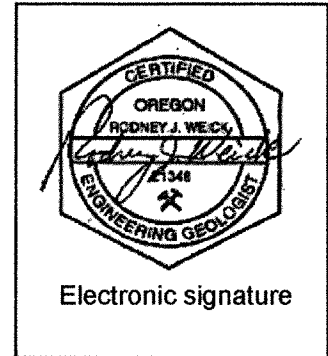
Electronic Submittal (Adobe Acrobat pdf file)

Date: March 15, 2006

To: Gary Artman, DEQ

From: Rodney Weick, DEQ, CEG E1348

Subject: Engineering geologic site stability review,
Tax lot 1200, Map 4N 10W 18BB,
Lot 3, Block 1, Noriston Park, Arcadia Beach
Clatsop County, Oregon



Reference materials:

1. Horming Gesciences, July 25, 2005, Geologic Hazard Report; Map 4N 10W 18BB; Tax Lot 1200; Lot 3, Block 1, Noriston Park; Arcadia Beach, Clatsop County
2. Affidavits of Cameron Holmes, Nos. 1, 2, 3, 4, 5, 6
3. Facsimile transmittal of easement agreement for groundwater interceptor (GWI) drain
4. DEQ e-mail by Rodney Weick to Gary Artman dated February 8, 2006; Review comments of the Geologic Hazard Report; Map 4N 10W 18BB; Tax Lot 1200; Lot 3, Block 1, Noriston Park; Arcadia Beach, Clatsop County
5. Aerial Photographs:
 - o Stereoscopic pairs:
 - ODOT 1975 CLB-28 1-1, 1-2 (Scale 1"=500')
 - ODOT 1975 CLB-31 1-3, 1-4
 - ODOT 10-2-75 OC-21 7-8, 7-9
 - ODOT 7-25-73 OC-17 18-8, 18-9
 - ODOT 7-21-71 OC-13 21-8, 21-9
 - ODOT 1975 CLB-30 1-1, 1-2 (Scale 1"=250')
 - ODOT 3-3-84 OC-23 7-9, 7-10
 - ODOT 1-13-84 OC-23 7-8, 7-9

Rule citation: OAR340-071-0220(1)(g) – The site is not on an unstable landform that might adversely affect operation of the system.

Attachments:

- Figure 1. Enlargement of ODOT aerial photograph
Figure 2. Enlargement of ODOT aerial photograph and
interpretation of geomorphic landforms

Post-it® Fax Note 7671		Date of 2-25-06	# of pages 8
To John Smits	From Connie Schwandt	Co.	
Co./Dept.	Phone #	Phone #	
Phone #	Fax # 699-7876	Fax #	

Background:

The Department of Environmental Quality (DEQ) received a copy of the Horning Geosciences geologic hazard report (Reference 1). The report was reviewed by DEQ's certified engineering geologist. DEQ's review comments are provided in an email submitted to Gary Artman, DEQ Variance Officer, on February 8, 2006 (Reference 4).

A variance hearing was held at the subject lot on February 9, 2006. Affidavits (Reference 2) to counter the findings in the geohazard report were submitted to Mr. Artman during the variance hearing. Copies of these affidavits were provided to and reviewed by DEQ's certified engineering geologist. In addition, DEQ obtained from the Oregon Department of Transportation (ODOT) stereoscopic pairs of aerial photographs (Reference 5) to review geomorphic features of landslides. The analysis of the aerial photographs was conducted by DEQ's certified engineering geologist.

Geohazard report and email of summary of findings:

The geohazard report (Reference 1) was prepared by an Oregon licensed certified engineering geologist familiar with coastal Oregon geology and geologic hazards. The report identifies several potential geologic hazards that may affect site stability. Chief factors identified are:

- Recent and/or active landslides present on adjacent properties;
- Evidence of bluff retreat that is encroaching upon the property;
- Professional opinion that infers slump failures to occur within the proposed drainfield area of the subject property.

The report does not specifically state there are landslide features on the subject lot.

The report addresses the risk of bluff retreat, that would adversely affect stability of the subject lot as follows:

- Moderate risk: 20 years, ± 10 years;
- High risk: 50 years, ± 25 years;
- Extreme risk: 100 years, ± 50 years.

Expected life expectancy for a residential structure is generally 50 or more years.

DEQ's staff Oregon certified engineering geologist reviewed the geohazard report. DEQ concurred with the findings and conclusions provided in the report. DEQ further concluded that additional geotechnical investigation to verify the findings in the report should be performed before proceeding further with the domestic on-site wastewater treatment system approval.

Affidavits prepared by Mr. Cameron Holmes:

Several affidavits prepared by Mr. Cameron Holmes (Reference 2), prospective buyer of the property, were submitted to the DEQ variance officer at the variance hearing on

February 9, 2006. DEQ's variance officer requested a review of the documents by DEQ's certified engineering geologist.

The affidavits provide Mr. Holmes' opinion, based on his personal review of aerial photographs and site visits, and opinions by individuals other than registered geologists certified engineering geologists or geotechnical engineers that the site is stable. The affidavits provide the following:

- Mr. Holmes' opinion that significant bluff retreat has not occurred based on a measurement comparison of features shown on several aerial photograph images taken between 1967 and 2000;
- Information that:
 - Groundwater was not encountered in shallow test pits excavated on the site;
 - Precipitation did not result in standing water in the test pits; and
 - The information indicates groundwater level did not rise to the bottom of the test pits during the two-month period the precipitation measurements were made;
- Presence of a recently installed groundwater interceptor trench excavated in the eastern portion of the site; and
- The opinion that:
 - The slope has not moved since it was platted in 1894; and
 - The specific lot has remained stable for at least 80 years.

Review comments:

1. Review of Stereoscopic pairs of aerial photographs.

DEQ's certified engineering geologist reviewed stereoscopic pairs of the aerial photographs listed in Reference 5. Stereoscopic pairs of aerial photographs provide a "3-D" representation of geomorphic features indicative of landslides, such as major and minor scarps, grabens, lobate toe-of-slope, vegetation lineaments, realigned drainages, fresh/youthful scarp features, subdued or older scarps features affected by weathering and mass wasting processes, and arcuate lineaments, color/tonal variations and other features indicative of landslide morphology. Applying indicator parameters of landslide morphology, DEQ's certified engineering geologist observed such features in the aerial photographs reviewed. Using ODOT aerial photographs CLB-31 1-3 and 1-4 stereoscopic pair as an example, DEQ provides the following discussion of observed geomorphic features:

- Figure 1 represents an enlargement of ODOT aerial photograph CLB-31 1-3 taken in 1975.
- Figure 2 represents geomorphic features that indicate the adjoining properties are likely underlain by unstable landforms and, at a minimum, a portion of the subject lot may also be underlain by an unstable landform. The approximate location of the subject lot is shown on the enlarged image. Applying indicator parameters for recognition of landslide geomorphology, the following was observed:

- Landslides are well defined on the adjacent properties to the south, west and north;
- Older (subdued) landslide features are observed east of the property;
- The entire Noriston Park subdivision lies within an old complex landslide, which extends east of US Highway 101;
- Multiple arcuate morphologic features (indicative of smaller landslides) were observed within the larger complex landslide. The subject lot lies within the southern lateral margin of one of these features;
- Several "stepped" breaks in the slope were observed between the beach and the top of slope west of the subject lot and west of the adjacent lots. These breaks appear to represent landslide slump blocks that individually have a limited lateral displacement, but cumulatively can represent a large lateral displacement. The initiated failure mechanism is likely wave action erosion in combination with other factors such as groundwater elevation and/or degree of soil saturation. Typically, the lowest block fails, reducing resisting force for the next block, which then fails. The process continues until the overall slide complex self-stabilizes, i.e. resisting forces become equal to driving forces Factor of Safety (FS) equals 1. The geomorphic indicators observed in the stereoscopic pairs of aerial photographs support the stepped mass wasting landslide process.
- An arcuate break in slope transects the lot to the south and the western portion of the subject lot. The break in slope is most likely less than a few feet in vertical height. The west side appears down-dropped relative to the east side. This feature is consistent with observed scarps associated with landslides on adjacent properties. It is also consistent with approximate location of the inferred easternmost failure surface shown on the geologic cross-section in the geohazard report. However, other explanations for this feature may be possible such as a cut made during past logging practices in the area; and
- The bluff retreat slumps appear to occur as rotational slumps with limited horizontal displacement.

2. Review of Affidavits

The affidavits can be grouped into three categories, a) bluff retreat, b) site stability, and c) precipitation data and analysis. DEQ's comments are provided below.

- Bluff retreat: Bluff retreat rate is an average based on multiple factors. Key among these is the displacement history determined from aerial photographs. Mr. Holmes' measurements are based on the vegetation line observed in 1967 and 2000 aerial photographs. While this measurement process may indicate little retreat at the toe of slope, it does not address the mass wasting process occurring upslope since the last lateral displacement of the lowermost slide block. It also does not address the formation of new scarps upslope as the stepped failures migrate upslope encroaching into the subject lot. The bluff retreat analysis provided by Mr. Holmes, fails to address the geomorphic features indicative of a landslide scarp within the area of the proposed drainfield.

- **Site stability:** OAR 340-071-0220(1)(g) prohibits the placement of an on-site system on an unstable landform. The regulation does not state the unstable landform must be active. The regulation encompasses older landslides. Standard geotechnical practices consider a landform stable if the static FS is 1.5 and the seismic FS is at least 1.2, i.e. resisting forces are 1.5 and 1.2 times greater than driving forces, respectively. There is sufficient geomorphic evidence to indicate that, at a minimum, the western portion of the subject lot may be underlain by an unstable landform. The FS for the subject lot is in question at this time.
- **Data and analysis:** The use of the rainfall data provides information on the amount of precipitation the site and Arcadia Beach area receives. Because groundwater levels were not observed in the open shallow trenches excavated as part of the site evaluation for an on-site wastewater treatment system, does not mean that:
 - Precipitation is not affecting groundwater elevation underlying the site; or
 - Groundwater is not a factor for site stability.

The information provided in the affidavit indicates:

- The site receives a significant amount of rainfall;
- Standing water was not observed in the test pits; and
- (inferred) Groundwater is lower than the bottom of the test pits, i.e. deeper than 33 inches below ground surface.

The information does not address the following:

- Effectiveness of the groundwater interceptor trench excavated upslope of the test pits;
- The actual depth to groundwater or seasonal fluctuation; or
- The effect of groundwater elevation on site stability.

The affidavit only indicates that groundwater is more than 33 inches below ground surface at the site. Therefore, it can be used as an upper limit for a stability analysis. Likewise the depth of the groundwater interceptor can be used to establish an upper bounding limit for the phreatic surface in a stability analysis. The information provided by itself is insufficient to determine site stability.

Conclusion:

It is DEQ's conclusion that sufficient evidence is present to indicate the site or a portion of the site may be underlain by an unstable landform based on the evidence provided by the geohazard report and review of stereoscopic pairs of aerial photographs. DEQ recognizes that alternative explanations may be provided to explain the geomorphic features observed on the aerial photographs. However, the geomorphic features meet most of the indicators for landslide landforms. The affidavits provide insufficient

information to draw conclusions that the site is stable. However, the affidavits provide some information useful in the process to determine site stability.

Based on the review of the aerial photographs, the geohazard report and affidavits, it is DEQ's opinion that further investigation is warranted to demonstrate:

- The site or portion of the site is or is not underlain by an unstable landform. If it is underlain by an unstable landform, the groundwater interceptor trench effectively lowers the water table such that the site has a static FS of 1.5 and seismic FS of 1.2;
- There is a sufficient setback for bluff retreat to protect the on-site system, disposal area and reserve disposal area from bluff retreat for the expected life of the residential structure.

ATTACHMENTS: Figures 1 and 2.

ATTACHMENT 1: ODOT Air Photo CLB-31 1-3

Lot 1200, Boundary
approximate



Figure 1. Enlargement of ODOT aerial photograph CLB-31 1-3, 1975.

ATTACHMENT 2: ODOT Air Photo CLB-31 1-3

Lot 1200, boundary approximate

Scarp like feature with apparent small vertical offset

Possible scarp

Area of Multiple Slumps (Bluff retreat)

Fill failure

Area of Multiple Slumps

Area of Multiple Slumps

Figure 2. Interpreted geomorphic features indicative of unstable landforms (CLB-31 1-3, 1975).





Oregon

Theodore Kulongoski, Governor

Department of Environmental Quality
Western Region Eugene Office
1102 Lincoln Street, Suite 210
Eugene, OR 97401
(541) 686-7838
FAX (541) 686-7551
TTY (541) 687-5603

RECEIVED
MAR 20 2006
NORTH COAST BRANCH OFFICE
WARRENTON

March 16, 2006

Margaret Hasslen
16020 Rock Creek Road
Sheridan, OR 97378

RE: WQ/O-Variance Denial: Township 04N; Range 10W, Section 18BB; Tax Lot 1200;
Clatsop County

Dear Ms. Hasslen,

In response to your variance application submitted to the Department, I visited your property on Ocean St in Norriston Park by the Sea in Clatsop County on February 9, 2006. Following my site visit, I held an information gathering hearing at 81087 Arcadia Rd. The purpose of my visit and the information gathering hearing was to provide a forum for the presentation of supportive facts to show that strict compliance with certain rules regulating onsite sewage disposal are inappropriate, or that special physical conditions at the site render strict compliance to be unreasonable, burdensome or impractical.

This parcel was previously evaluated by Connie Schrandt a Natural Resource Specialist with the North Coast Branch office of the Oregon Department of Environmental Quality and found not to meet the minimum requirements for an onsite sewage treatment and disposal system. The parcel was denied on June 1, 2005 because of the following conditions:

- Redoximorphic features seen in the soil indicating temporary groundwater occurring in the soil to within 4 to 8 inches of the ground surface
- An escarpment occurring down slope of the proposed system that was closer than the required minimum setback of 50 feet to the disposal trenches when the escarpment intersects the effective soil depth.
- A spring located less than 50 feet upslope of the proposed disposal trenches.
- Because of the setback issues noted, there was insufficient suitable area to construct an approved system.

The denial letter noted that the applicant had 30 days to apply for a site evaluation report review, and that the applicant could pursue a variance. The denial letter also noted that the effectiveness of any groundwater interceptor needed to be demonstrated, and that it might be feasible to pursue an easement on another property to secure the additional disposal area needed. Finally, the denial noted that there was some evidence of potential geological hazards associated with the property and a geological hazard assessment was advised.

MAR 20 2006

Margaret Hasslen
March 16, 2006
Page 3

NORTH COAST BRANCH OFFICE
WARRENTON

5. **OAR 340-071-220 (7)(a)(A)** requires a minimum disposal trench bottom width of 24 inches. The applicant proposes a disposal trench bottom width of 10 to 12 inches.
6. **OAR 340-071-0290 (6)(a)(A)** requires that half sections of 12" PIP be used in 12-inch wide trenches when choosing this method following a sand filter. The applicant proposes to substitute the 10 inch EZ Flow 1001-P product.
7. **OAR 340-071-0220 (7)(a)(B)** requires a minimum disposal trench depth of 18 inches when using equal distribution. The applicant proposes to construct disposal trenches with a minimum depth of 14 to 16 inches using equal distribution.
8. **OAR 340-071-0220 (7)(a)(E)** requires a minimum of 8 feet of undisturbed earth between disposal trenches. The applicant proposes to construct disposal trenches with an arrangement similar to redundant disposal trenches but using not less than 5 feet of undisturbed earth between trenches placed approximately 6 feet apart on centers. Trenches receiving treatment system effluent concurrently will be approximately 12 feet apart on centers using this arrangement.
9. **OAR 340-071-220 (8)(b)** requires a minimum of 6 inches of soil backfill to be used when using equal distribution. The applicant proposes to place not less than 4 inches of backfill over the disposal trenches using equal distribution.
10. **OAR 340-071-0290 (2)(a)(ii)** requires that temporary groundwater be 18 inches or more below the ground surface on slope of 12% or more when using equal distribution techniques. The applicant has constructed a groundwater interceptor to intercept and lower the temporary ground water, however the Department has not yet determined that this has effectively lowered the groundwater table.

Standards found in Oregon Administrative Rules (OAR) Chapter 340, Divisions 71 and 73 have been developed to protect public health and the environment in Oregon. The variance officer's duty is to determine if the system proposed for this variance is adequate to safeguard the public's health and the environment. The variance officer's finding is that this proposal does not fully address the development limitations at this site. These include unresolved questions related to site stability as a whole, and the close proximity of the proposed absorption facility to the bluff.

The proposed system may be capable of producing a high quality effluent and has been designed to mitigate most of the spatial restrictions associated with this parcel. However, the Geological Hazard Report prepared by Horning Geosciences and submitted with the variance application raises stability issues that appear to require additional data collection and evaluation before these issues can be resolved. Constructing an onsite wastewater treatment system on a potentially unstable landform where it may be exposed to events resulting in broken pipes or other damage to the system would result in the release of sewage onto the ground surface or into public waters. Such a release would threaten public health and the environment. Granting a variance from OAR 340-071-150 (4)(a)(B) is not appropriate. OAR 340-071-0220 (1)(g) prohibits the construction of an onsite wastewater treatment system on an unstable landform that might adversely affect the operation of the system.

The disposal trench system proposed for this site does not meet the minimum setback distance of 50 feet from the escarpment (bluff) based on the effective soil depth. This problem may be

SCHRANDT Connie

From: ARTMAN Gary
Sent: Thursday, March 16, 2006 4:26 PM
To: SCHRANDT Connie
Subject: Hasslen/Holmes variance

Connie,

This variance has been denied. Tough decision and tough on Mr. Holmes, but I could not approve a system located on what his own geologist suggests as an unstable landform. All explained in the denial which of course is on the way to you.

I gave Holmes and Smites an email heads up that the denial was coming. As expected, Mr. Holmes called and did the interrogation thing again. The main reason for this email is to let you know that he was really grilling on what would happen if they proceeded with the repair proposal that you know something about. He was wanting to know if the south property would be granted a repair permit etc... My response was the agent must make a determination as to what a reasonable repair is and that having been exposed to the information presented for the Holmes lot would probably not be ignored. BUT, I was not going to make any commitments, or "pre-determinations" for field staff that would be involved in the work. He kept on of course.

Bottom line is that WE cannot advise him how to proceed. There may be several avenues to pursue, and all of them will take varying amounts of cash. We will proceed on the basis of the application received, the site conditions, and what we deem appropriate in the determination of permit issuance or denial. I told him that yes, if the Department believed that a permit was issued in error, it could be revoked. If the Department felt that a permit was denied in error, the denial could be reviewed. Etc...

I fully expect you to receive inquiries. This man cannot let go of this property. I did suggest to him he may want to consider outcome of the current project in making any decisions to proceed with neighboring properties.

Wew!

SCHRANDT Connie

From: WEICK Rodney J
Sent: Wednesday, February 08, 2006 3:54 PM
To: ARTMAN Gary
Cc: SCHRANDT Connie
Subject: Noriston Park-Arcadia Beach Variance

Gary,
 Here are my comments regarding slope stability at the Noriston/Arcadia Beach site.

- Property Location: Lot 3, Block 1, Tax Lot 1200, Noriston Park, Arcadia Beach, Clatsop County, Oregon
- Site Visited on January 20, 2006.
- Report Reviewed: Horning Geosciences, July 25, 2005, "Geologic Hazard Report; Map 4N 10W 18BB; Tax Lot 1200; Lot 3, Block 1, Noriston Park, Arcadia beach, Clatsop County, Oregon"

Air Photo Reviewed: TerraServer.Com image coverage of the site.

Review Comments:

- The geologic hazard report identifies landslides encroaching upslope to Tax Lot 1200. The report cites that the site is the next likely area to experience landslide slippage and estimates the following risks with 50 percent error margin:
 - Moderate: 20 years ± 10 years
 - High: 50 years ± 25 years
 - Extreme: 100 years ± 50 years
- Expected life of a residential structure is 75 to 100 years. This places the proposed drainfield to serve the structure within the High to Extreme category as indicated in the geologic hazard report.
- The geologic hazard report indicated the potential of rotational slumps (base circle to toe circle failure) with scarps forming under the proposed drainfield area and within the overlying "colluvial" deposits. However, the report states that the failure on Tax Lot 1400 (immediately south of Tax Lot 1200) is a translational failure. Translational failure allows movement of mass in more discrete or less disturbed blocks. Some rotation can be expected with a translational failure. Review of Oregon Department of Geology and Mineral Industries Bulletin 74 (1972) Engineering Hazard Map and the Engineering Geologic Map of the Cannon Beach Quadrangle indicates the site lies within a large active landslide.
- Figures 7 and 8 of the geologic hazard report identifies the active landslide areas surrounding Tax Lot 1200. Figure 9 provides a schematic cross-section indicating inferred subsurface information and known surficial information. Figures 7 and 8 clearly illustrate Tax Lot 1200 is surrounded by active landslides and a reported slump encroached onto the tax lot within the proposed drainfield area.
- No subsurface geotechnical exploration information was provided and probably was not conducted at this time.
- OAR 340-071-0100(174) defines an unstable landform as areas "...showing evidence of mass downslope movement such as debris flow, landslides, rockfalls, and hummock hill slopes with undrained depressions upslope..." The site lies within a large older complex landslide (which may be active). More recent active smaller landslides are present on adjacent properties. Active landslides, i.e. bluff retreat, are present immediately downslope of Tax Lot 1200. These downslope slides are most likely initiated by wave action erosion. Continued upslope migration will encroach into the proposed drainfield area.
- Removal of supporting (stabilizing) material by wave action at the toe of the larger landslide can result in reactivation of landsliding within Tax Lot 1200. Please keep in mind that Tax Lot 1200 lies within a large complex landslide mass. It is common for smaller portions of such large landslide masses to reactivate as equilibrium conditions change, such as removing stabilizing material by wave erosion.

2/9/2006

- OAR 340-017-0220(1)(g) state, "The site is not on an unstable land form that might adversely affect operation of the system."
- Based on review of published literature, an air photo image of the site, a site reconnaissance on January 20, 2006, and the information provided in the geologic hazard report submitted with the variance application, it is my opinion that within the life expectancy of the structure, the performance of the proposed on-site system might be adversely affected by landsliding.
- At this time, data provided is insufficient to fully address the stability of the site. A more in-depth geotechnical investigation to address existing and future slope stability at this site is warranted.
 - The investigation should include an assessment of the effect of the larger active landslide as identified in the DOGAMI Bulletin 74 on Tax Lot 1200. In the event of a magnitude 9.0 earthquake, it is reasonable that the site will move by landsliding. However, lesser earthquakes may be sufficient to initiate active landsliding within Tax Lot 1200. The geotechnical report should address stability with respect to lesser magnitude earthquakes.
 - An interceptor drain has been constructed upslope of the proposed drainfield with the intent to increase site stability. The geotechnical report should evaluate the effectiveness of the interceptor drain to increase site-specific stability, including but not limited to, adequacy of its constructed depth with respect to subsurface geologic structures upon which landslide movement is likely to occur over the risk interval identified in the geologic hazard report, i.e. over the next 100 years.
 - If the larger landslide is actively moving, albeit Tax Lot 1200 may be in a more "undisturbed: slump block within the large landslide, the geotechnical report should address stability within the context of OAR 340-071-0220(1)(g) where the entire property may be within an unstable landform.
 - The report should include detailed geologic cross-sections and stability calculations to support the findings and conclusions. It should be signed by both a Certified Engineering Geologist (CEG) and Professional Geotechnical Engineer (PGE) licensed in Oregon.

Should you have any questions regarding these comments, please call me at 503-229-5886.

Regards,
Rodney Weick, CEG E-1348



Rodney Weick
Hydrogeologist
DEQ-NWR
2020 SW 4th Ave., Suite 400
Portland, OR 97201
503-229-5886
Fax: 503-229-6957
weick.rodney.j@deq.state.or.us

2/9/2006



Oregon

Theodore Kulongoski, Governor

Department of Environmental Quality

DEPT. OF ENVIRONMENTAL QUALITY
RECEIVED
JAN 24 2006
NORTH COAST BRANCH OFFICE
WARRENTON

Western Region Eugene Office
1102 Lincoln Street, Suite 210
Eugene, OR 97401
(541) 686-7838
FAX (541) 686-7551
TTY (541) 687-5603

January 18, 2006

Margaret Hasslen
16020 SW Rock Creek Rd.
Sheridan, OR. 97378

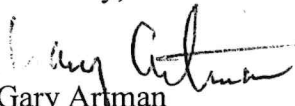
RE: WQ/O-Variance Assignment
Township 04N, Range 10W, Section 18BB
Tax Lot # 1200
Clatsop County

Your application for a variance to Oregon Administrative Rules (OAR) regulating onsite wastewater treatment systems has been assigned to me for further action. I plan to visit your property on Ocean Street in Norriston Park by the Sea in Clatsop County at approximately 10:00 AM on Thursday, February 9, 2006. At that time I will evaluate the soil, topographic features and other information relevant to your proposed variance. Please be sure to stake out all of the proposed system components and proposed buildings and provide at least two test pits in the disposal facility area that are five feet deep, two feet wide and four feet long with a 45 degree entrance or steps. Please assure that the test pits have been drained of water and are safe to enter.

After my evaluation I will conduct an information gathering hearing pursuant to OAR 340-071-0430. The hearing will take place at your property on Ocean Road in Norriston Park by the Sea. You or anyone you desire may attend the hearing. Adjacent property owners and Department of Environmental Quality (DEQ) staff will also have the opportunity to attend. The hearing will provide an opportunity for you to offer additional facts or reasons which would allow a finding that strict compliance to the rules regulating on-site sewage disposal are inappropriate for cause, or to indicate why physical conditions render strict compliance to be unreasonable, burdensome or impractical.

Program staff with DEQ has been made aware of this pending variance action and will have an opportunity to provide comments on your proposal. If you have any questions concerning the variance process or hearing arrangements, please contact me at (541) 687-7426; toll free in Oregon at 1-800-844-8467, or by email (<mailto:artman.gary@deq.state.or.us>)

Sincerely,


Gary Artman
Variance Officer
Natural Resource Specialist



JAN 24 2006

**Application for Variance from Oregon Administrative Rules
Regulating On-Site Sewage Disposal Systems**

Department of Environmental Quality

Please complete this application form and submit the \$1340 application fee* (\$1300 + \$40 Surcharge) and required attachments to the appropriate regional office. The map on the reverse side of this page identifies the counties within each of the 3 DEQ regions.

WARRENTON OFFICE

Western Region:

WR Water Quality
On-Site Sewage Variance Program
725 SE Main Street
Roseburg, OR 97470
(541) 440-3338

Eastern Region:

ER Water Quality
On-Site Sewage Variance Program
2146 NE Fourth, Suite 104
Bend, OR 97701
(541) 388-6146

Northwest Region:

NWR Water Quality
On-Site Sewage Variance Program
2020 SW Fourth Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263

REFERENCE INFORMATION—Please Print

<u>Holmes</u> (Last Name of Owner)	<u>Cameron</u> (First Name)	<u>4 North</u> (Township)	<u>10 West</u> (Range)	<u>18BB</u> (Section)
<u>3419 East Gold Dust Avenue</u> (Mailing Address)		<u>1200</u> (Tax Lot or Tax Account Number)	<u>50' x 138'</u> (Parcel Size)	
<u>Phoenix</u> (City)	<u>AZ 85028</u> (State) (Zip)	<u>Clatsop</u> (County)	<u>Lot 3 Block 1</u> (Lot and Block Number)	
<u>(602) 542-5482</u> (Daytime Phone)	<u>(603) 996-8813</u> (Home Phone)	<u>Norrington Park by the Sea</u> (Subdivision Name)		

Provide the Following Attachments:

1. A locator map showing accurate directions to the property. List the property's street address if known.
2. **Two (2) copies** of the parcel's legal description (metes and bounds, warranty deed, sales contract, or approved subdivision plat). Include copies of the protective covenants, deed restrictions and easements applicable to the property.
3. **Two (2) copies** of the assessor's tax lot map showing the property or a surveyor's plat map.
4. **Two (2) copies** of a land use compatibility statement from the appropriate land use authority that your proposed land use is compatible with the LCDC acknowledged comprehensive plan or statewide planning goals.
5. **One Copy** of the DEQ (or Agent) site evaluation report, field notes, and other correspondence relating to past evaluations for septic tank-drainfield development.
6. **Two (2) copies** of a narrative description for your variance proposal, including system construction specifications and the step-by-step procedures you propose to follow when installing the system. You must clearly describe how your proposal will overcome the limitations cited by the DEQ/County in the original denial.
7. On a plot plan draw to a defined scale not smaller than one-inch equals thirty feet, show the location and dimensions of all components of the proposed system, including the replacement absorption facility. Indicate separation distances between disposal trenches, springs, water courses, agricultural drainage tile, ditches, drainage ways, water lines, buildings, roads, embankments, and other identifying features which help demonstrate parcel to drainfield relationships. Locate all wells within 200 feet of the proposed system and replacement. **Provide two (2) copies.**
8. The names and mailing addresses of all adjacent property owners and other known interested persons, for hearing notice.
9. The variance officer may request additional items be provided if found necessary for the variance. The application will be incomplete until the requested items are provided.

Hardship variances may be considered in cases of extreme and unusual hardship. The following factors may be considered: Advanced age or bad health of applicant; need of applicant to care for aged, incapacitated or disabled relative; and relative insignificance of the environmental impact of granting a variance. Documentation of hardship must be provided. **MARK THIS BOX FOR HARDSHIP CONSIDERATION. | |**

A minimum of two test pits must be provided within the specific area where the actual variance system is being proposed. The pits should be approximately two feet wide, four feet long, and excavated to either bedrock or to a depth of five feet. Similar pits must be provided in the area of the repair system. The Variance Officer may require the proposed drainfield and the future replacement drainfield be staked out.

By my (our) signature(s), I (we) request the Department of Environmental Quality act on this application and hereby grant permission to enter onto the above described property.

[Signature] _____ 11/02/05 _____
(Signature of Owner) (Date) (Signature of Owner) (Date)

NOTE: All owners must sign this application form. If there are more than two (2) owners, attach additional duplicate applications.

* Pursuant to ORS 454.662, the applicant is not required to submit the application fee if, at the time of filing the application, the applicant is 65 years of age or older, is a resident of the State of Oregon, and has an annual household income, as defined in ORS 310.630, of \$15,000 or less. Appropriate documentation must be submitted with the application.

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LEGAL DESCRIPTION

Lots 3 and 5, Block 1, NORRISTON PARK BY THE SEA, in the County of Clatsop, State of Oregon.

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NORTH COAST BRANCH OFFICE
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630 Bond St.
P.O. Box 780
Astoria OR 97103
Phone: (503) 325-2144
Fax: (503) 325-0369



November 9, 2004

Ticor Title
550 S. Roosevelt Dr.
P.O. Box 30
Seaside, OR 97138

Escrow Contact: Suzanne Harris
Contact Phone: (503) 738-8433
Contact Fax: (503) 738-8434
Buyer/Borrower: Holmes
Seller: Margaret Hasslen
Conservatorship

PRELIMINARY REPORT NO. 44-14074

Standard Owner's Policy [REDACTED] Premium: \$ [REDACTED]

This report shall become null and void unless a policy is issued.

We are prepared to issue an ALTA policy (10/17/92) as written by Ticor Title Insurance Company, in the form and amount shown above insuring the title to the following described land:

See 'Legal Description' attached hereto and by reference made a part hereof.

Situs Address:

VESTED IN:

Edgar S. Hasslen and Margaret I. Hasslen, as tenants by the entirety

Dated as of November 3, 2004, at 8:00 a.m.

Subject to the exceptions, exclusions, conditions and stipulations which are part of said policy, and to exceptions as shown herein.

TICOR TITLE INSURANCE COMPANY

By: Kenneth A. Johnson, District Manager

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Schedule B of the policy(ies) to be issued will contain the following general and special exceptions unless removed prior to issuance:

GENERAL EXCEPTIONS

1. a. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
- b. Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. a. Easements, liens, encumbrances, interests or claims thereof which are not shown by the public records;
- b. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.
3. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
4. a. Unpatented mining claims;
- b. Reservations or exceptions in patents or in Acts authorizing the issuance thereof;
- c. Water rights, claims or title to water;
- whether or not the matters excepted under (a), (b), or (c) are shown by the public records.
5. Any lien or right to a lien, for services, labor or materials heretofore or hereafter furnished, imposed by law and not shown by the public records.

SPECIAL EXCEPTIONS

NOTE: Taxes for the fiscal year 2004-2005, paid in full.

Total Amount: \$129.75
Account No: 1012 41018BB 01200 ACCT ID# 2443

NOTE: Taxes for the fiscal year 2004-2005, paid in full.

Total Amount: \$111.01
Account No: 1012 41018BB 01500 ACCT ID# 2445

6. The premises herein described lie within and are subject to the statutory powers, including the power of assessment of Arch Cape Service.
7. Rights of the public in and to that portion lying within Ocean Street.

JAN 24 2006

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WARRENTON

END OF EXCEPTIONS

NOTE: As of the date hereof, there are no matters against Cameron H. Holmes and Julie D. Holmes which would appear as exceptions to coverage in a title insurance product.

NOTE: Clatsop County recording charges are \$26.00 for the first page, plus \$5.00 each additional page. Additional fees will be assessed by the County Clerk if a document fails to meet the requirements for recording imposed by ORS Chapter 205.

DOCUMENTS IN WHICH REAL PROPERTY IS TRANSFERRED OR CONVEYED MUST HAVE NOTED ON SAID DOCUMENTS THE CLATSOP COUNTY ASSESSOR'S ACCOUNT NUMBER, I.D. NUMBER AND SITUS ADDRESS OF THE SUBJECT PROPERTY. FAILURE TO COMPLY WILL INCUR AN ADDITIONAL \$20.00 RECORDING FEE.

This report is written only for the benefit of the principals to this transaction. No liability is assumed under this report until such time as it is converted to a title insurance policy.

T4N R10W S2-18BB WM
CLATSOP COUNTY

Scale 1:1200



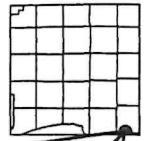
NAD 1983 B1 HARN StatePlane Oregon North FIPS 3601 Unit:Foot

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January 13, 2003

4.10.18BB



This map was prepared for the purpose of providing information to the public and is not intended to be used for any other purpose. The Oregon Department of Environmental Quality is not responsible for any errors or omissions on this map. The Oregon Department of Environmental Quality is not responsible for any actions taken based on this map.



SEE MAP 4 10/7CC

GAPB

O.R.S. 390.710

LIME

VEGETATION

BEACH

ARCADIA

OCEAN

PACIFIC

SEE MAP 4 10

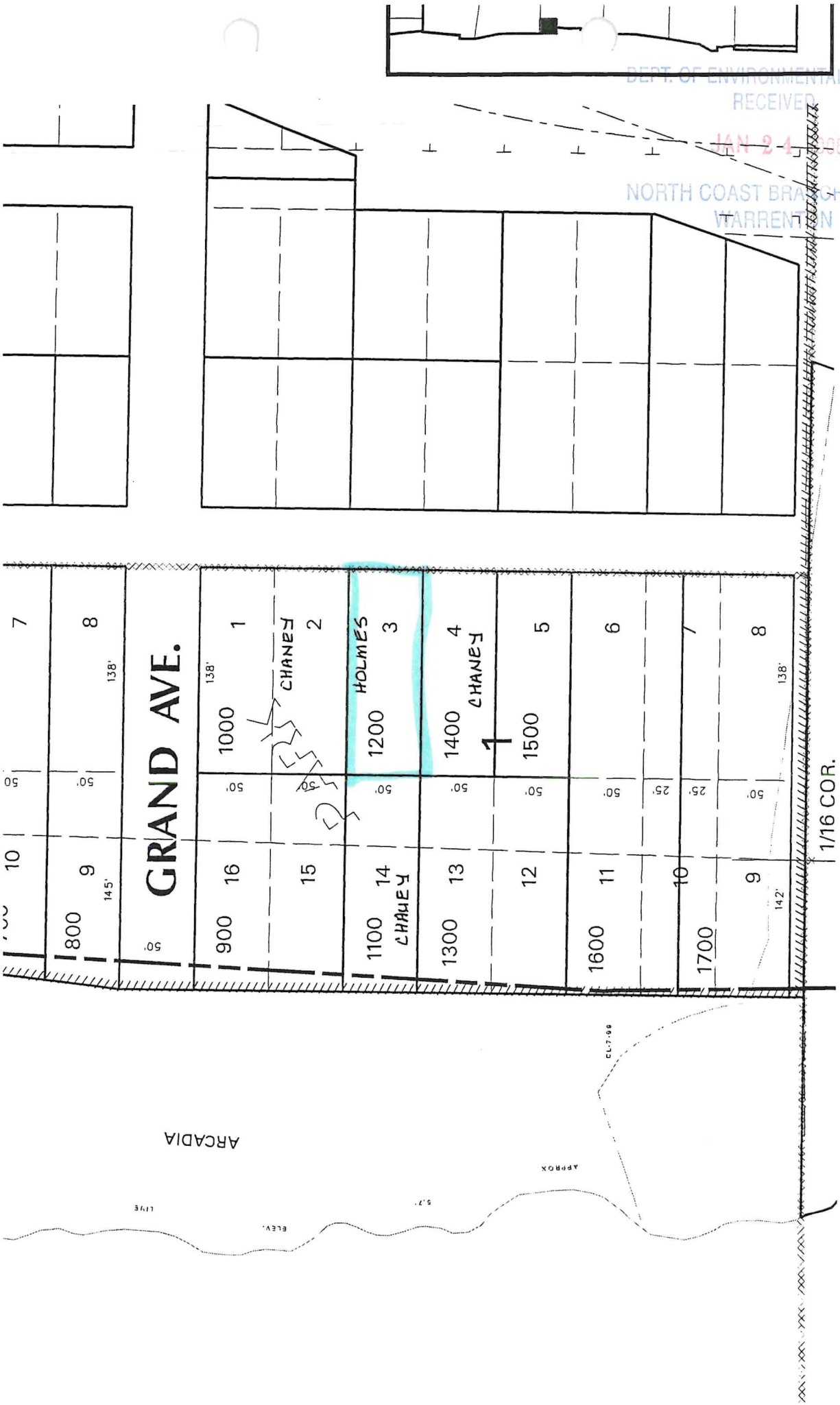
1/16 COR.

PACIFIC AVE.

GRAND AVE.

SEE MAP 4 0 18AA

10-12



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 NORTH COAST BRANCH OFFICE
 WARRENTON

ARCADIA

ELEV.

APPROX

CL 7.96

5.7'

175'

7
8
9
10

138'
145'

GRAND AVE.

138'

1000
1
CHANEY
2

1200
3
HOLMES

1400
4
CHANEY

1500
5

1600
6

1700
7

1800
8
138'

1/16 COR.

142'

50'

25'

25'

50'

50'

50'

50'

50'

50'

50'

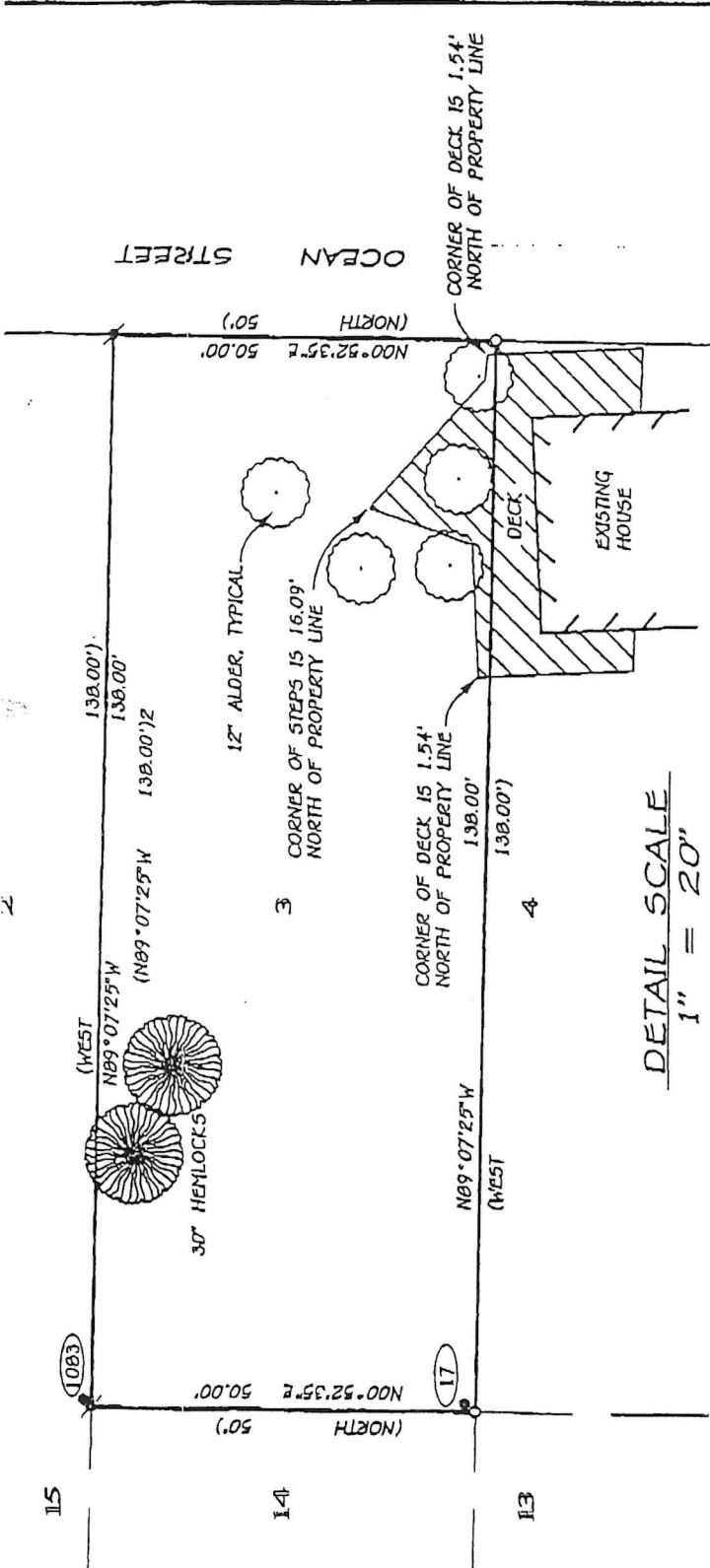
50'

50'

50'

JAN 24 2006

NORTH COAST BRANCH OFFICE
WARRENTON



SURVEY FOR:

**CAMERON H. &
JULIE D. HOLMES**

LOT 3, BLOCK 1
NORRISTON PARK BY THE SEA
NW 1/4 SECTION 18, T4N, R10W, W.M.
CLATSOP COUNTY, OR

SURVEY BY:

**HLB & Associates
INCORPORATED**
Surveying • Civil Engineering • Planning • Water Rights • Wetlands Consulting
WWW.HLBINC.COM

CLATSOP COUNTY	PACIFIC COUNTY	TILLAMOOK COUNTY
253-A HWY 101 N WARRENTON, OR 97130 (503) 758-3425 FX: (503) 758-7455	1715-B N PACIFIC AVE LONG BEACH, WA 96631 (360) 642-4151 FX: (360) 642-4094	160 LANEDA AVE MAYZANIA, OR 97130 (503) 368-3394 FX: (503) 868-5817

EQUIPMENT	FIELD	DRAWN	CHECKED
TC1100/RECON	DJY/RJN	RJN	DLW

JAN 24 2006

SECTION 1 - TO BE FILLED OUT BY APPLICANT (may be filled in electronically using Tab key to move to each field)

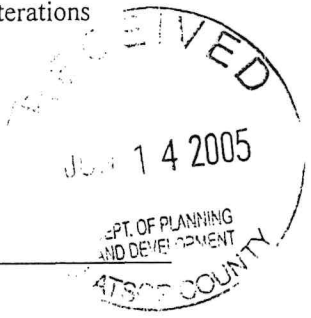
WARRENTON

1. Applicant Name/Property Owner: Margaret Hasslen (Seller) Cameron Holmes (Buyer) c/o Smits & Associates, Inc.
Mailing Address: 16878 SW Gassner Lane Telephone: (503) 699-2696
City: Lake Oswego State: OR Zip: 97035-4524

2. Property Information:
County: Clatsop Tax Lot Number: 1200
Township: 4 North Range: 10 West Section: 18BB
Property Address: Adjacent (south of) 81064 Ocean Street (Street sign says: Arcadia)
Block: 1 Lot: 3 Subdivision Name (if applicable): Norriston Park by the S

3. This proposed facility is for:
 An individual, single-family dwelling.
 Other. Describe the type of development, business, or facility and the provided services or products:
Making application to DEQ for a variance to the On-site Sewage Disposal Rules. Construction
installation permit will later be applied for if the variances are granted and the site approved.

4. Permit or approval being requested:
 On-site construction-installation permit for: New construction Repairs Alterations
 Non-water-carried facility requests (for example, pit privy/vault toilet for camp grounds).
 On-site Authorization Notices for: Replacement of dwelling Bedroom addition
 Other changes in land use involving potential sewer flow increases



SECTION 2 - TO BE FILLED OUT BY CITY OR COUNTY PLANNING OFFICIAL

5. The proposed facility is located: inside city limits inside UGB outside UGB
If inside the UGB, the proposed facility is subject to:
 City jurisdiction County jurisdiction Shared city/county jurisdiction

6. Property Zoning: CR Zoning Minimum Parcel Size: 20,000 SQ FT

7. Is a public notice and hearing required? Yes No Hearing Date: _____

8. Does the proposed facility comply with all applicable local land use requirements: Yes No
Comments: _____

9. Planning Official Signature: Chris Hoth
Print Name: CHRIS HOTH Title: PLANNING TECH
Telephone No.: 325-8611 Date: 6-22-2005

* Planning Official Signature: _____
Print Name: _____ Title: _____
Telephone No.: _____ Date: _____

* Both city and county planning officials may need to sign if use is within a UGB.

APR 12 2005



Horning Geosciences

808 26th Avenue, Seaside, OR 97138

Ph./FAX: (503)738-3738

Email: horning@pacifier.com

March 30, 2005

Mr. Cameron Holmes
3419 E. Gold Dust
Phoenix, AZ 85028

RE: Geologic Advisory Letter; Map 4N 10W 18BB; Tax Lots 1200; Lots 3 & 5, Block 1, Norriston Park; Arcadia Beach, Clatsop County, Oregon

Dear Cameron:

This advisory letter summarizes the geology of the above-referenced property, which I visited on March 8, 2005, and again on March 25 to examine a zone of saturated soil. I understand that you are interested in buying the property for the purpose of developing a single-family residence. All told, I have spent about 1.5 hours on the site and along nearby beaches, examining slopes, vegetation, soils, bedrock, shoreline erosion features, and landslide features along the length of the beach.

A geologic advisory letter is an abbreviated geologic hazard report that is intended to assist participants in real estate transactions in making informed decisions. An advisory letter contains limited documentation and brief discussions to expedite report completion. Due to the limitations of investigation and writing, this advisory letter is not suitable for obtaining building permits. Further work is required to meet County standards for geologic hazard reports.

Geologic Background

Norriston Park neighborhood lies above the Pacific Beach and along the lower slopes of several steep hills. Much of the neighborhood is underlain by interbedded clay, gravel, peat, sand, and buried forest roots that are interbedded and interfingered with landslide debris that has come down from the hills. The terrace sediments accumulated on the east side of a bay that was probably protected from the ocean by a large sand spit that extended north from Cape Falcon during last inter-glacial high stand of the ocean, approximately 83,000 years ago. Subsequently, sea level dropped as continental ice caps spread across the Northern Hemisphere. The stranded bay sediments were slowly covered by stream gravels and periodic landslide slurries, triggered perhaps by earthquakes, storms, or after forest fire burn-offs. Approximately 18,000 years ago, sea level was nearly 400 ft lower than present and the shoreline was located nearly 20 miles to the west. As the glaciers melted back and ocean levels rose, the shoreline advanced eastward. Water surface elevations equilibrated about 5000 years ago at approximately 25

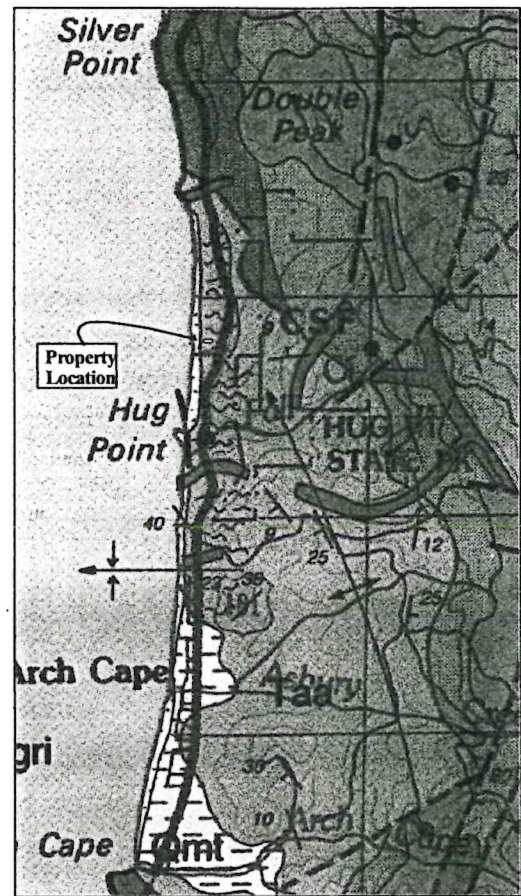


Figure 1: Property location shown on the regional geologic map for the Arcadia Beach area; after Niem and Niem (1985). The subject area is underlain by coarse-grained sandstone of the Angora Peak sandstone member (Taa) of the Miocene Astoria Formation. The lot lies on a thin band of Pleistocene shoreline terrace, similar to the marine terrace (Qmt) in Arch Cape. Dikes of Grande Ronde basalt (red) cut the marine sandstone and other sedimentary rocks.

ft below its present elevation then rose slowly. The soft marine terrace materials and forest of the 20 mile wide coastal plain were eroded at a rate of about 10 ft per year prior to 5000 years ago, and at rates of 1 to 5 ft per year since then, on average. Present average erosion rates are estimated to be 0.2 to 1.5 ft per year for the Norriston Park beachfront. Shoreline retreat occurs sporadically, often in large surges.

Bedrock consists of coarse sandstone that has been intruded by basaltic dikes and sills. These rocks are strong and massive, and generally they resist shoreline erosion. Based on findings from water well drilling nearby, it appears that a buried sea cliff is located approximately under Ocean Street, although it is not expressed topographically. Terrace sediments are perhaps 90 ft thick west of the buried sea cliff. East of the road, perhaps 25 ft of landslide/ forest slope debris covers bedrock. Numerous boulders of sandstone and basalt are exposed in the upper part of the beach, just below this property, confirming the presence of these rock types beneath the neighborhood.

According to Schlicker and others (1972), the Arcadia Beach vicinity is host to several large landslides that are nested within each other. The highest slide escarpment on the hillside is considered by these authors to be older than the younger slides, which are closer to the ocean. The age of these slides is uncertain. Some nearest the beach may move intermittently. The older slides may be relicts from very wet weather of the most recent Ice Age and may move only during earthquakes. There is evidence along the shoreline suggesting that terrace sediments have slid across beaches in the past, indicating periodic reactivation of the slides.

Site Observations

Tax Lot 1200 lies on the west side of Ocean (Arcadia) Drive, in the Norriston Park subdivision, west of Highway 101 and just above Arcadia Beach. The lot is 50 ft wide and about 140 ft long. It slopes toward the west at about 27 percent and undulates topographically a small amount. About 30 ft west of the lot, the upper edge of a steep, partly forested sea cliff drops to the beach, forming an average slope of 50 percent, with a fall of 36 ft, or so. There are several ~60 yr old Sitka spruce trees above the upper edge of the sea cliff, and a much older tree lies along the bluff edge farther to the south, near the common corner of Lots 4, 5, 12, and 13. A couple of trees grow on the steeper slope. Based on the growth habits of the trees, the upper edge of the sea cliff has been free of significant instability for the last 6 decades.

Landslide movements are common along the sea cliffs of Arcadia Beach. For properties north of Norriston Park, rotational slumps are common, with headwalls set back about 100 ft from the toe of the slope and standing about 35 ft above the beach. Within Norriston Park and just to its south, slumping becomes more translational with distance to the south. A 40-yr old translational slump extends from the beach to the right of way of Arcadia Road. This is illustrated in Figure 2. The slump has not moved appreciably since about 1960, based on the age of trees growing on it. The reason for the change in style of failure is uncertain, but suggests that bedrock may be shallow beneath the southern part of the subdivision. Based on my work in the area and the results of water well drilling nearby, it appears that there is a buried sea cliff beneath the neighborhood and that it shifts eastward with distance to the north, until it lies beneath Highway 101 near the Arcadia Beach Wayside.

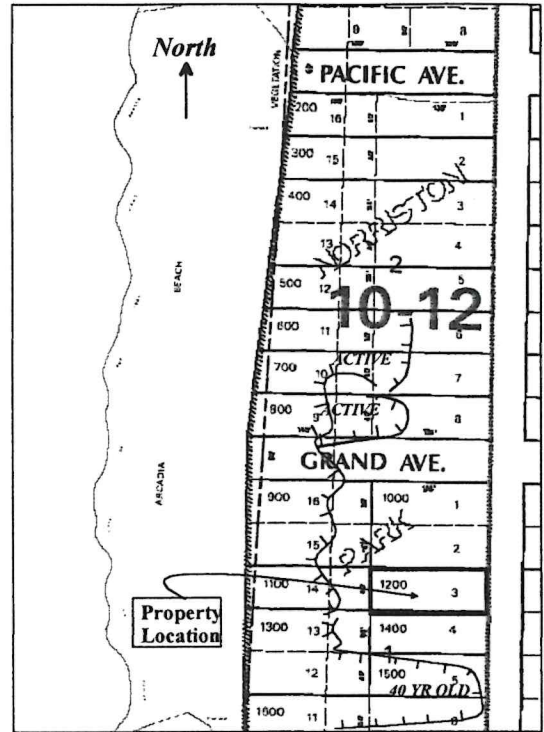


Figure 2: Norriston Park assessor's map, with Tax Lot 1200 shown. The approximate positions of active and past landslides are shown.

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STATE OF OREGON

Active translational gliding with minor rotation is presently occurring just north of the right-of-way of Grand Avenue. The area of active movement has enlarged recently, based on my studies of this neighborhood over the past 10 years.

Three test pits were open and exposed at the time of the visits. Soils exposed in these consist of clayey silt with less than 3 to 5 percent pebble-sized rock fragments. A small area of saturated soils is present just up slope from the easternmost test pit. The source of the water is most likely a seasonal spring where a perched water table rises to the surface after heavy rains. There does not appear to be a buried stream course higher on the hill to account for the water flow.

Discussion

Tax Lot 1200 and the bluff edge of the sea cliff immediately to its west are presently geologically stable. However, it is obvious that the bluff has slumped to the beach in the past. In fact, there are several smaller active slumps along the lower part of the bluff, where wave erosion has undercut the soils and initiated movement. At some point in the future, sufficient erosion will take place to cause the upper edge to fail. Thus, the bluff edge will become geologically unstable in the future. To what degree and by what mechanism the bluff will fail is difficult to predict. Most likely, it will fail by translational gliding, much like the active slump to the north and the 1960 slump to the south. The distance up the hill this future movement will propagate is uncertain. It may depend on the amount of rainfall or snowmelt that initiates the movement. It is unlikely that drainfield saturation will cause failure to occur, based on its small contribution as compared to rainfall, but this is difficult to confirm. I make this statement based mostly on field experience and observation of ongoing and past failures. By comparison with the adjacent failures to the north and south, future sliding may extend as much as 40 ft into TL 1200. When this will occur is uncertain. I would estimate that the risk of failure is moderate within the next 20 years, high within the next 50, and extreme within the next 100. You should understand that future failure might propagate to at least Arcadia Road, possibly engulfing the house. Obtaining permission to install protective riprap along this pristine beachfront may be impossible or very difficult.

The house should be placed as far east on the property as possible. At least two cut-off drains should be installed to intercept ground water moving downslope from the hills above. By limiting the amount of water in the shallow subsoil, you can reduce the rate of slumping and shoreline retreat of the bluff. One cut off should be placed along the east property boundary. A second should be installed just up-hill from the septic field. All runoff from eaves troughs and foundation drains should be piped to the beach for disposal.

This property will probably fail during a subduction zone earthquake. The next quake has a 15 to 50 percent probability of occurring in the next 30 years. The east end of the lot will be above the worst-case tsunami, but saturation of the bank by the seismic sea wave will undoubtedly accelerate slumping and erosion. Co-seismic subsidence of about 3 ft is expected and will cause long-term accelerated shoreline erosion with will most likely lead to significant destruction of beachfront properties along Arcadia Beach.

Please feel free to call or email if you have questions.

Thomas S. Horning

Thomas S. Horning, CEG
Horning Geosciences
Cc: John Smits, RS



APR 12 2005

References Cited

Niem, A. R., and Niem, W. A., 1985, Oil and Gas Investigation of the Astoria Basin, Clatsop and Northernmost Tillamook Counties, Northwest Oregon: OGI-14, State of Oregon, Department of Geology and Mineral Industries.

Schlicker, H. G., Deacon, R. J., Beaulieu, J. D., and Olcott, G. W., 1972, Environmental Geology of the Coastal Region of Tillamook and Clatsop Counties, Oregon: Bulletin 74, State of Oregon, Department of Geology and Mineral Industries; 164 p. with plates

T4N R10W SEC 18BB WM
CLATSOP COUNTY

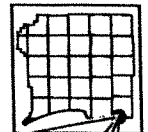
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VANCOUVER



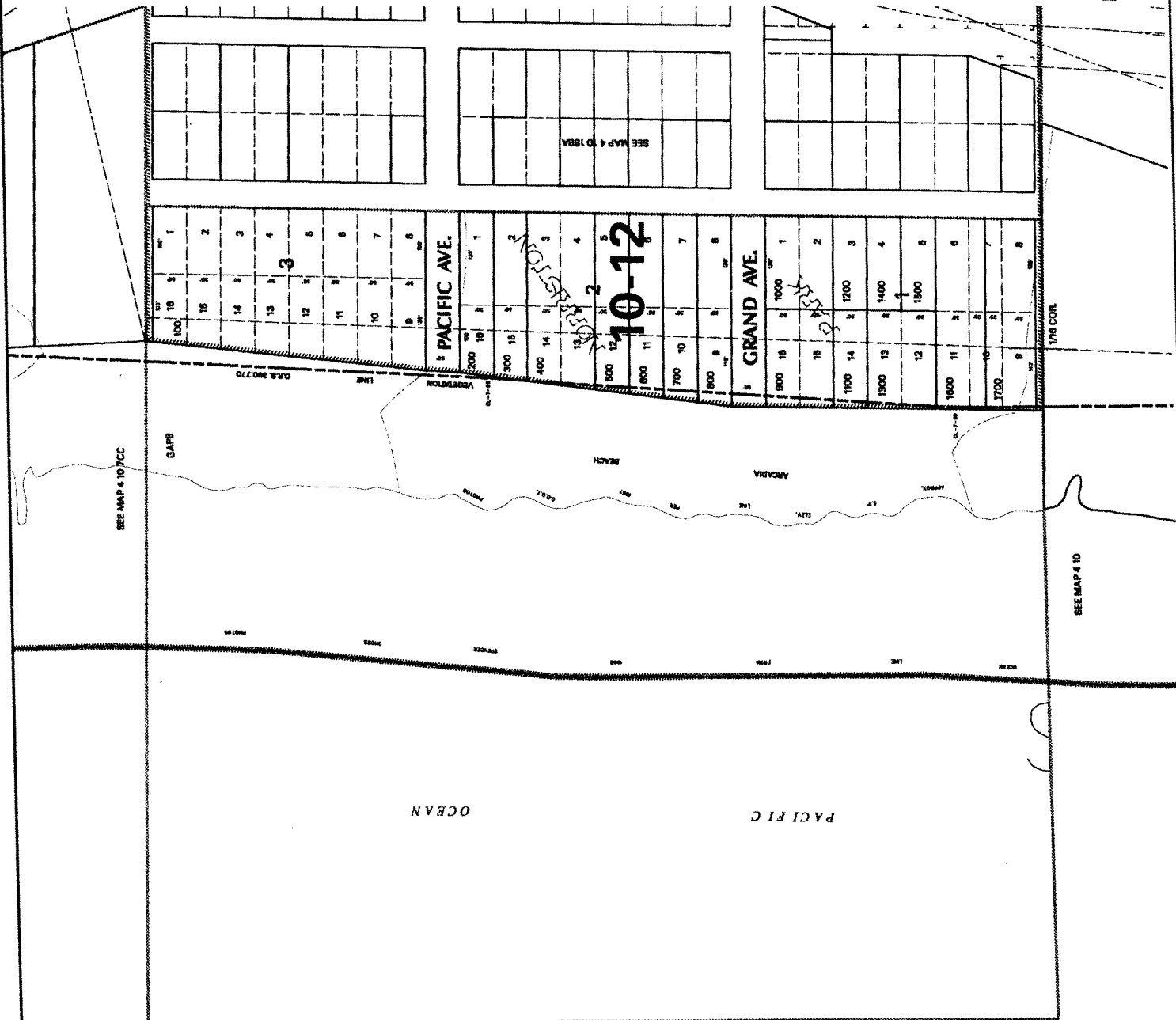
June 04, 2004

4.10.18BB

This map was prepared for the
City of Vancouver by the
Clatsop County Planning Department.
The City of Vancouver is not responsible for
the accuracy of the information shown
on this map.

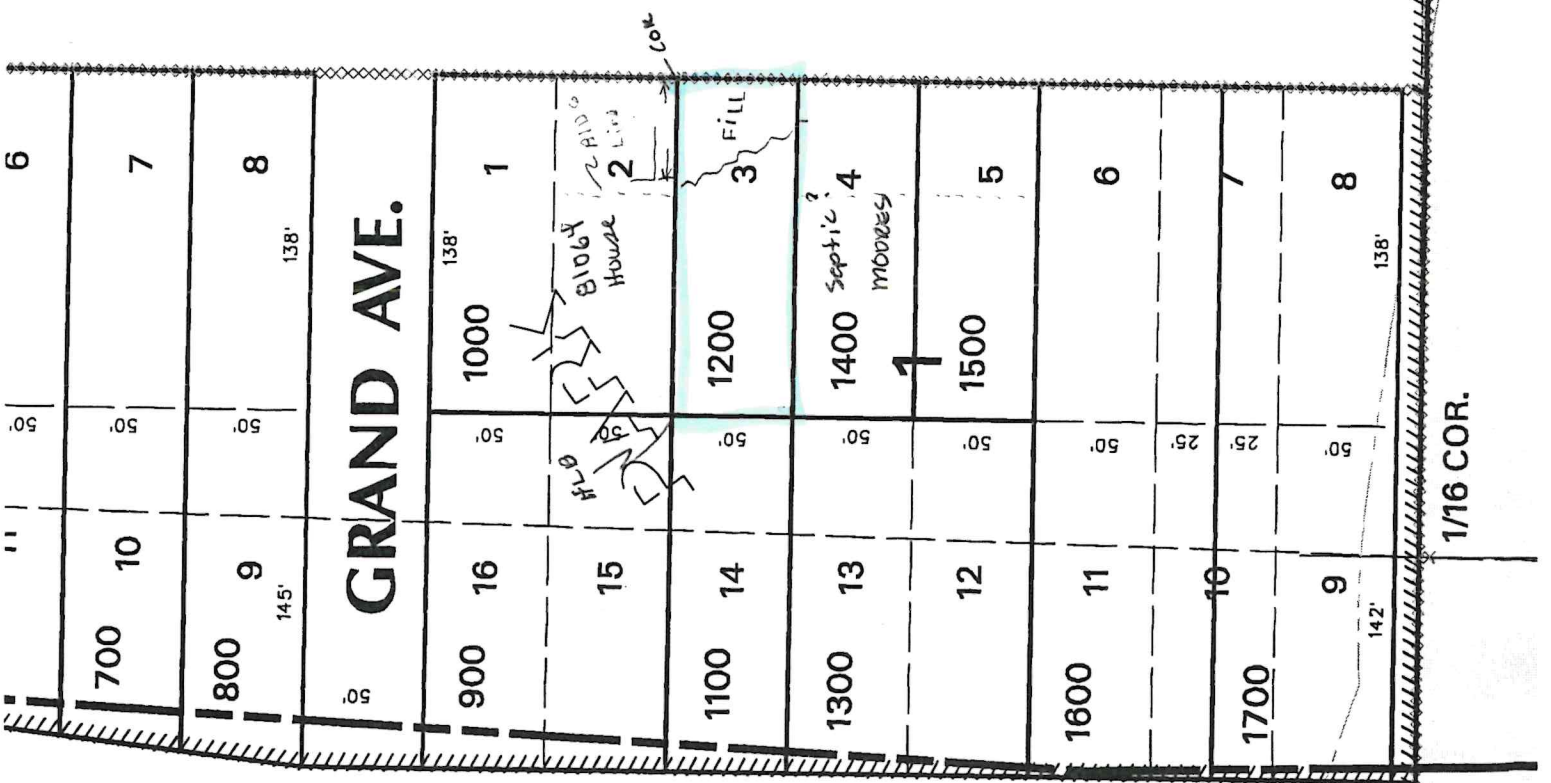


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APR 12 2005

NORTH COAST BRANCH OFFICE
WARRENTON



ARCADIA

APPROX.

CL-7-00

1/16 COR.