#### ADDENDUM NO. 3

#### TO THE BID DOCUMENTS

#### **Tasmania Court Sewer Main Extension**

#### CITY OF HOMER, ALASKA

Addendum Issue Date: November 19, 2021

Bid Submittal Date: November 30, 2021

Previous Addenda Issued: 2

**Issued By:** Janette Keiser, PE

**Public Works Director** 

City of Homer

#### Notice to Bidders:

Bidders must **acknowledge receipt of this Addendum** by including the Addenda Acknowledgement Form with the bid.

Bidders are required to acknowledge each addenda separately on the Addenda Acknowledgement Form. Any bids received without acknowledgment of addenda may be rejected prior to evaluation.

The Bid Documents for the above project are amended as follows (all other terms and conditions remain unchanged):

- 1. On the Bid Form, all expenses for mobilization/demobilization, SWPPP implementation and traffic control have been moved to Scope A of the project.
- 2. Addendum #2 should be disregarded.
- 3. Addenda Acknowledgment Form is attached.
- 4. New Special Provisions are attached with language regarding invasive plant control.
- 5. Questions from Bidders.

Question #1: Do you know what type of material the septic tanks are made of and size?

**Answer #1:** Attached to this addendum are septic tank filings from ADEC records which show the size and material of the septic tanks to be replaced. The ADEC records did not

contain any filings for parcel # 17702040 however, it should be assumed that the septic tank for that property is steel unless otherwise notified. We do not know the size of the septic tank on parcel # 17702040

**Question #2:** DEC allows for septic demolition in place. Pumping, Removal of top, fill with some Lyme and clean gravel and grade over. Is demolition in place acceptable?

**Answer #2:** Yes, demolition in place is acceptable for this project.

#### ADDENDA ACKNOWLEDGMENT

Project Name:	n Extension Project	
I hereby acknowledge add	denda numbers:	
	<u> </u>	
	<del></del>	
N (F		
Name of Firm:		
Signature of Bidder:		
Data		
Date:		

This Acknowledgement must be included in the Bid/Proposal for the project if any Addenda are issued or the Bid/Proposal could be considered non-responsive.

#### **CONSOLIDATED BID FORM**

#### **Tasmania Court Water & Sewer Main Extension**

### **Scope A: Tasmania Ct. Water Main Extension.**

All of the following Bid Items are for the construction of the WATER MAIN & appurtenances.

ITEM NO.	SPEC NO.	BID ITEM DESCRIPTION – Water Main & Appurtenances	UNIT	QUAN TITY	UNIT BID PRICE	TOTAL BID PRICE
1	101	Mobilization/Demobilization (entire project)	LS	1		
2	602	Install 8" HDPE SDR11 Water Pipe	LF	940		
3	603	Furnish & Install 8" Gate Valve	EA	3		
4	604	Furnish & Install Single Pumper Hydrant	EA	3		
5	606	Furnish & Install 1" Water Service Connection	EA	11		
6	_	Excavate & Backfill Structural Trench Section for water line	LF	593		
7	207	Excavate & Backfill Non-Structural Trench Section for water line	LF	752		
8	102	Construction Survey (entire project)	LS	1		
9	221	SWPPP Implementation (entire project)	LS	1		
10	103	Traffic Control (entire project)	LS	1		
11	702	Furnish & Install Geotextile Fabric	SY	600		
12	602	Furnish and install 12" HDPE SDR11 Water Pipe	LF	562		
13	603	Furnish and install 12" Gate Valve	EA	1		
14	503	Furnish and Install ARV Manhole	EA	1		
15	603	Furnish and Install 2" ARV Assembly	EA	1		

Total Bid for Scope A - Water Main: \$\_\_\_\_\_

# Scope B-1: Tasmania Ct. Sanitary Sewer Main Extension

All of the following Bid Items are for the construction of the SEWER MAIN & appurtenances, but not including the installation of the E-One Grinder Pumps.

NO.	SPEC NO.	BID ITEM DESCRIPTION – Sewer Main & Appurtenances	UNIT	QUAN TITY	UNIT BID PRICE	TOTAL BID PRICE
1	502	Furnish & Install 8"DIP Class 50 Sewer Pipe	LF	1276		
2	518	Furnish & Install 16" HDPE SDR11 Casing	LF	49		
3	503	Furnish & Install Sewer Manhole	EA	2		
4	508	Furnish & Install Cleanout	EA	3		
5	510	Furnish & Install Sanitary Sewer Service Stub-out	EA	9		
6	518	Furnish & Install Pressurized Sewer Service Stub-out	EA	2		
7	207	Excavate & Backfill Structural Trench Section	LF	869		
8	207	Excavate & Backfill Non-Structural Trench Section	LF	723		
9	704	Furnish & Install 2" Thick Insulation	BOARD FOOT	48		

Total Bid for Scope B-1 - Sewer Main: \$\_\_\_\_\_

# **Scope B-2: Tasmania Ct. Sewer Main E-One Service Connections**

All of the following Bid Items are for the construction of the E-One Grinder Pumps on private property.

ITEM NO.	SPEC NO.	BID ITEM DESCRIPTION	UNIT	QUAN TITY	UNIT BID PRICE	TOTAL BID PRICE
1	712	Furnish & Install E-One DH071 Grinder Pump	EA	2		
2	502	Furnish & Install 1.25" HDPE SDR11 sewer service pipe	LF	300		
3	220	Excavate & Backfill Asphalt Pavement Trench Section	LF	20		
4	207	Excavate & Backfill Non-Structural Trench Section	LF	280		
5	516	Remove & Dispose of Existing Septic Tank	EA	7		

	Total Scope B-2 – E-1 Grinder Pumps on Private Property: \$	
	Consolidated Bid Amount – All Bid Items (Scope A + Scope B-1 + Scope B-2) : \$	
Note:	Basis of bid will be the Consolidated Bid Amount.	

Name of Bidding Company	
Address of Bidding Company	
Signature of Company Representative	Date
Printed Name of Company Representative	
Phone#/Email	

#### **SPECIAL PROVISIONS**

#### **Tasmania Court Sewer Main Extension**

The construction contract for this project will be administered in accordance with the General Provisions of the City's Standard Construction Specifications (2011).

#### **MODIFICATIONS TO GENERAL PROVISIONS**

#### SP - 1: Section 10.02 - Add New Article 2.6 - Anti-Discrimination

The contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The contractor shall carry out applicable requirements of 40 CFR part 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the contractor to carry out these requirements is a material breach of this contract which may result in the termination of this contract or other legally available remedies.

#### SP - 2: Section 10.04 - Add New Article 4.6 - Scope of Work

The Work included under this Contract consists of furnishing all labor, materials, equipment, supervision, and other facilities necessary to successfully complete the Work set forth in the drawings, specifications, and the terms of the Contract, including, but not limited to the following work:

- Excavation required to bury a new sewer main at the depth specified in the plans, including exposing an existing sewer main connection so that the new sewer main can be connected to it.
- Installation of 1276 feet of 8-inch DIP Class 50 sewer pipe.
- Installation of sewer service connections to 11 parcels, including 2 parcel connected through E-Ones Grinder Pumps.
- Installation of 2 manholes.
- Decommission 7 existing septic tanks.
- Excavation and backfill of structural and non-structural trench sections.
- All materials will be provided by the Contractor.
- Work required by the SWPPP
- Traffic control

#### SP - 3 Article 5.12 - Temporary Erosion Control During Construction

Add the following language:

"The City has prepared a Storm Water Pollution Prevention Plan (SWPPP), which will be included in an Addenda. The Contractor is required to implement the Best Management Practices in the SWPPP and otherwise comply with the terms of the SWPPP. Compensation will be paid under Bid Item #12 of Scope B-1, SWPPP Implementation."

#### SP - 4: Article 5.19 - Easement and Rights-of-way

Add the following language:

"The Contractor will be provided access to a laydown area for material storage, job shack, and other uses. The location of this area will be shown in the site map."

#### **SP - 5: Article 5.25 - Unusual Work Hours**

Add the following sentence:

"The noise level from work completed before 8:00 AM and after 8:00 PM cannot exceed 75 db at a distance of 50 feet."

#### MODIFICATIONS TO STANDARD SPECIFICATIONS

# DIVISION 100 GENERAL DIVISION SECTION 102 CONSTRUCTION SURVEYING BY THE CONTRACTOR

#### **SP - 7: 102.1 General**

Add the following paragraph:

"The Contractor shall submit all survey data with each pay application; Field Books with sketches, professionally scaled plan set redlines and electronic survey coordinates. These items shall be submitted in entirety within 10 days of the project completion. In addition, the as-built information shall also be in NAD 83 datum, the City of Homer will provide the coordinate system at the time of contract award. All files submitted must be in PDF format."

# DIVISION 200 EARTHWORK SECTION 208 COMPACTION CONTROL BY THE CONTRACTOR

#### SP - 8: Delete all text within section 208 and replace with:

"The City will provide field compaction testing for quality control."

#### SP- 9: New Section 220 - Excavate and Backfill Asphalt Pavement Trench Section

#### 220.1 General

The work under this section consists of performance of all operations pertaining to the trench excavation and backfill within areas containing asphalt concrete pavement in accordance with the limits shown on the drawings and as directed by the Engineer.

#### 220.2 Construction

The contractor shall excavate trenches within areas containing asphalt concrete pavement per HSCS Section 207. Bedding material shall be Class "C" per HSCS Section 211 and backfilled in conformance with HSCS Section 207. Classified Fill Type III and Leveling Course shall be installed in conformance with HSCS Sections 205 and 206, respectively. Asphalt Concrete shall be installed in conformance with HSCS Division 400.

#### 220.3 Method of Measurement

Excavate and Backfill Asphalt Pavement Trench Section shall be measured by the lineal foot (LF) with the dimensions shown on the drawings and these specifications. Payment for Excavate and Backfill Asphalt Pavement Trench Section includes all labor, materials, and incidentals for excavating, backfilling, and placing asphalt concrete surfacing.

#### 220.4 Basis of Payment

Payment shall be made under the following unit:

	ITEM	DESCRIPTION	UNIT
220		Excavate and Backfill Asphalt Pavement Trench Section	LF

#### SP- 10: New Section 221 - SWPPP Implementation

#### 221.1 General

Work under this section consists of all activities related to implementing the requirements of the SWPPP for this project.

#### 221.2 Construction

The contractor shall adhere to all terms and conditions and shall implement all BMPs as stated in the SWPPP.

#### 221.3 Method of Measurement

SWPPP Implementation shall be measured by lump sum.

#### 221.4 Basis of Payment

Payment shall be made under the following unit:

	ITEM	DESCRIPTION	UNIT
221		SWPPP Implementation	LS

#### SP - 11: Add New Section 222, Invasive Weed Control

All mineral materials, topsoil, and straw or hay erosion control products shall be certified as weed free under the state of Alaska's Division of Agriculture weed free certification program. All questions regarding the weed free certification program should be directed to the Homer Water and Soil Conservation District. They may be reached at (907) 205-0235.

#### **DIVISION 500 SEWER SYSTEMS**

#### SP-12: Add New Section 515 Connection to Existing Sewer Main

#### 515.1 General

There is an exsiting 8" sewer main running along the south side of South Slope Drive. The new 8" sewer main will be connected to this existing one. This item consists of furnishing all labor, equipment and materials necessary to expose the existing sewer main stub out, modify the end of the stub out as required and connect the new sewer main to the stub out.

#### 515.2 Construction

- A. Rinse all pipe, fittings, and couplings to be used in the connection with a 5% solution of sodium hypochlorite or calcium hypochlorite immediately prior to installation.
- B. Leave the entire reconnection assembly exposed to view until sewage is flowing through the connection and all joints have been examined for leaks.

#### SP-13: New Section 516 - Decommission Existing Septic Tanks and Biocycle Units

#### 516.1 General

The work under this section consists of performance of all operations pertaining to the removal, disposal, backfilling, and replacement and repair of landscaping as required to

decommission existing septic tanks and biocycle units on properties connecting to the City of Homer sanitary sewer system shown on the drawings and as directed by the Engineer.

The following table itemizes the location and type of septic tank to be decommissioned a spart of gravity sanitary sewer connection to the new sanitary sewer main:

Address	Tank Size and Material	Location Relative to Existing Cleanout
		Connection to New Service
786 W. Tasmania Court	1250 gallon, steel	10 feet +/- south of cleanout connection
814 W. Tasmania Court	1250 gallon, steel	20 feet +/- south of cleanout connection
825 W. Tasmania Court	1250 gallon, steel	30 feet +/- southwest of cleanout
842 W. Tasmania Court	1250 gallon, steel	30 feet +/- south of cleanout connection
4526 South Slope Drive	1000 gallon, steel	20 feet +/- south of cleanout connection

The following table itemizes the location and type of septic tank to be decommissioned and replaced with a pressurized sewer service connection:

Address	Tank Size and Material	Location Relative to Cleanout
		Connection to New Service
795 W. Tasmania Court	1250 gallon, steel &	6 feet +/- and 40 feet +/- west of
	1500 gallon, steel	cleanout connection
	(Biocycle Unit)	
907 E. Tasmania Court	1500 gallon, steel	10 feet +/- south of cleanout connection

#### 516.2 Construction

The contractor shall remove the wastewater from all compartments and dispose of wastewater per Alaska Department of Environmental Conservation (ADEC) regulations at an approved ADEC disposal site.

The septic tanks and biocycle units shall be removed and disposed of per ADEC regulations at an approved disposal site.

The resulting void after removal of the tanks and biocycle units shall be backfilled with Classified Fill Type IV, or material approved by the Engineer, per HSCS Section 205. The fill shall be compacted to 90% maximum relative density per HSCS Section 208 for every 10 cubic yards of fill placed. The final grade of the fill shall match the slope and grade of the surrounding existing ground but shall not allow surface water to be retained within the surface limits of the fill.

The surface shall be seeded with a lawn grass seed mix commercially available in South Central Alaska per the manufacturer's recommendations.

#### 516.3 Method of Measurement

Decommission Existing Septic Tanks and Biocycle Units shall be paid for each unit decommissioned (EA). Payment for Decommission Existing Septic Tanks and Biocycle Units includes all labor, materials, and incidentals for removing wastewater, removal and disposal of the septic tanks and biocycle units, backfill and compaction, and seeding the fill surface limits.

#### 516.4 Basis of Payment

Payment shall be made under the following unit:

	ITEM	DESCRIPTION	UNIT
516		Decommission Existing Septic Tanks and Biocycle Unit	EA

#### SP-14: New Section 517 - Furnish and Install 16" HDPE SDR 11 Casing

#### 517.1 General

The work under this section consists of providing all operations pertaining to the furnishing and installation of 16" high density polyethylene casing around ductile iron pipe, where shown on the plans.

#### 517.2 Construction

HDPE pipe material for casing shall be dimensioned for iron pipe sizing (IPS) and meet the maximum standard dimension ratio SDR of 11

#### 517.3 Method of Measurement

Furnish and Install 16" HDPE SDR 11 Casing shall be measured by the lineal foot (LF) with the dimensions shown on the drawings and these specifications. Payment for Furnish and Install 16" HDPE SDR 11 Casing includes all labor, materials, and incidentals for placing the casing around ductile iron pipe.

#### 517.4 Basis of Payment

Payment shall be made under the following unit:

LF

#### SP-15: NEW SECTION 518 - PRESSURE SEWER SERVICE CONNECTIONS

#### 518.1 General

517

The work under this section consists of providing all operations pertaining to the construction required for pressure sewer service connections.

#### 518.2 Materials

All pressure sanitary sewer service connections shall be constructed with ductile iron with "Tyton" joints except where a mechanical joint is used to attach the short body plug.

All services with less than five feet (5') of cover shall be insulated with sufficient two-inch (2") DOW Styrofoam "HI" to provide an equivalent of five feet (5') of soil cover. The insulation shall be two feet (2') in width and shall be placed no closer than six inches (6") above the pipe and no further than one foot (1') above the pipe, centered. IFCO 725-P saddle or equal shall be secured with a double strap or a single stainless steel band of two and one-half inches (2-1/2") inches or more in width.

#### 518.3 Construction

Excavation and backfill for sanitary sewer service connections shall be in accordance with HSCS Division 200, Standard Specifications for Earthwork, Section 207, Trench Excavation and Backfill, of these specifications.

The service connections shall be bedded with non-frost susceptible material, with a fine granular texture containing no material larger than one and one-half inches (1-1/2"). The bedding shall be laid the full extent of ditch and up to the spring line of the service connect. Piping may be bedded with native soils if approved in advance by the Engineer.

Saddles shall be placed over a hole sawed no larger than one-eighth inch (1/8") larger than the inside diameter of the service line. The strap(s) shall be tightened in accordance with the manufacturer's instructions and centered over the hole sawed in the pipe being tapped. The hole shall be made above the spring line of the main being tapped.

Sanitary sewer service connections, shall be installed to the edge of right-of-way or the edge of the permanent easement of the lot being served and shall be permanently marked by

means of a two by four (2" x 4") extending two feet (2') above grade, painted white and stenciled with the word "Sewer" in white, two-inch (2") high letters.

As-built measurements shall be the station of the service connection at the main plus a minimum of two (2) ties to prominent features and when possible ties to property corners. An as-built elevation of the stub end invert is required.

Minimum slopes for the 4" ductile iron pipe shall be 2.08%, (1/4" per foot) sloped down to the main

#### 518.4 Method of Measurement

Pressure Sewer Service Connections shall be measured as completed units in place. This item will include all materials, excavation, installation, compaction, and installation of Class "B" bedding. Imported backfill will be paid separately as a bid item or by letter of agreement.

#### 518.5 Basis of Payment

Payment shall not be made for any service which does not include the as-built stub end elevation and horizontal location as stipulated above.

Payment shall be made under the following unit:

	ITEM	<u>DESCRIPTION</u> U	<u>JNIT</u>
518		Pressure Sewer Service Connection	EA

#### **DIVISION 700 MISCELLANEOUS CONSTRUCTION**

#### SP-16: NEW SECTION 712 – FURNISH AND INSTALL E-ONE DH071 GRINDER PUMP

#### 712.1 General

This specification covers the installation of E-One Sewer System's E-One DH071 grinder pump as detailed and specified in the plans and these special provisions.

The contractor's attention is directed to the following E-One System's publications:

- 1. DH071/DR071 Drawings (Standard Details in PDF and Autocad format)
- 2. DH071/DR071 Installation Instructions (Manual in PDF format)

These publications are available at:

https://eone.com/sewer-systems/products/grinder-pump-systems/d/dh071

#### 712.2 Construction

The contractor shall install the E-One DH071 grinder pumps per the manufacturer's instructions and the construction notes shown in the plans.

The contractor shall locate all buried on-site utilities before any excavation work. Buried on-site utilities may include, gas, electric, telecommunications, boiler heat tubes between buildings, and sewer.

#### 712.3 Method of Measurement

Furnish and Install E-One DH071 Grinder Pump shall be paid for by each unit (EA).

#### 712.4 Basis of Payment

Payment for Furnish and Install E-One DH071 Grinder Pump includes all labor and incidentals for furnishing and installing the units, complete in place including all wiring and plumbing connections. Payment shall be made under the following unit:

	ITEM	DESCRIPTION	UNIT	
712		Furnish and Install E-One DH071 Grinder Pump		EA

Date Received RECEIVED

#### STATE OF ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION DOCUMENTATION OF CONSTRUCTION

FEB -9 2000

Environmental Conservation				
. GENERAL INFORMATION				· .
egal Description of the Location		Submitted	by: (Check one)	
Lot 5-A-1 Barnett S	outh Slave S/D		Certified Installer	
Lot 5-A-1 Barnett S Located W/in N 1/2 SE		Approved Homeown	ar.	
T65, R13W. Seward		×	Registered Engineer	<b>61</b>
Installer Name:	710101			
Troy Jones			stewater System Serve	·
_		X Singl	e Family. Number of	Bedrooms
Mailing Address		☐ Duple	ex. Number of Bedroo	oms
		☐ Small	Commercial Facility	With Estimated
		Desig	n Flow of less than 50	0 GPD.
II. WATER SUPPLY SYSTEM ( Source of Water and Containment (Check all that Apply)	SECTION II IS OPTIONAL)			
Well (Drilled or Driven) Surface (Id	Type of Water Supply System    Private   Priva	n	Treatment of Water (Check	
Roof Catchment			☐ None ☐	Chlorination Mineral Removal
Holding Tank Other (Ide	ntify) Public (Serves more that family)	t one	Other.	
Well Data  Is the height of the well casing more the 12" at	bove the ground?		☐ Yes	□ No
Is a sanitary seal or well cap installed on the w	ell casing?		☐ Yes	□ No
ls drainage directed away from or around the o	asing within a radius of 10 feet of the well	casing?	☐ Yes	□ No
Is well wire enclosed in conduit?			☐ Yes	□ No
Date Drilled Depth of Well (Feel) ?	Static Water Level (Feet) -	?	Yield (If available) 7	Pump Rate (If available)
Separation Distance from the Well Casing to each of the Follo	owing Sources of Contamination:	-	1	
Septic/Holding Tank on Lot	ewer Lines on Lot	۸ .	Absorption Area on Lot	190 Fee
Closest Septic/Holding Tank on Adjacent Lot	Tosest Sewer Lines on Adjacent Lot	O Fee	Closest Edge of an Absorp	
> 100 Feet Indicate separation distance from toxic materials including fu	el tanks naints lubricants and other	Fee	Adjacent Lot:	> 100 Fe
petroleum based materials, pesticides, fungicides or herbicide	s to well casing:		On Lot > 100 Fe	et On Adjacent Lot
Water Sample Taken by: (Name)			Sampler is:  Buyer	☐ Engineer
Address			☐ Banker	Government Official
Water Sample Results: Attach Copy   Satisfac	tory - Date	□ Unsa		Covernment Official
Comments/Recommendations:	tory Date	U Olisa	tisfactory - Date	
			-	<del></del>
certify that the above information, and that prov	rided in Section IV, is correct:			
Signature	yped/Printed Name	Title		Date
William I. traine	William F. Craine	Regis	tered Enginee	2/6/00
Note: I This parties should be stored by Court II		7	The state of the s	

section should be signed by a Certified installer, Professional Engineer, DEC staff, or Owner/Builder

<sup>2.</sup> All public water systems must receive ADEC plan approval prior to construction. See 18 AAC 80 State of Alaska Drinking Water

II. WASTEWATER DISPOSAL	Legal Description: J	+ = 1 1 8	44 6 11	a
Type of Wastewater System:		st 5-A-1 B	arnett South	Slope S/D
Septic Tank with Conventional Soil Abso	rption System	☐ Package Treats	ment Plant (requires engine	pered design)
*	Size in Gal	_		ered design)
☐ Other - Specify Type	Ole III Oli		Manufacturer:	
			ite (requires engineered des	ign)
☐ Small Commercial System (< 500 GPD)		astewater Flow of:	Gallons	Per Day (GPD)
Criteria Used to Estimate Daily Wastewa	ter Quantity:			
NEW SYSTEM ☐ REPAIR TO EXI	STING SYSTEM	Certified Installer Inc	stallation Notification Date	
Name of Installer: Tray Jones		Cerdired histarier his	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
		57		vember, 1998
	_		n by a Registered Engineer	See attached letter
By Approved Homeowner (attach copy of Septic Tank: Material: Manufactur			nstaller/Installer Number	
Steel Anchovage			Number of Compartmer	nts:
Type of Soil Absorption System:	☐ Deep Trench			
y.			h Seepage Pit	Bed
Soil Type: SP Soil Rating:	Mound	Other, Specify		
- John Maring	150 58 ft/ bedvm	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Absorption Area: 3@ 5'	x 50', 750 ft <sup>2</sup>
Grading/Size of Distribution Rock: 11/2"		Thickness/Depth of I	Distribution Rock: 1.8	ft
Percolation Test Results, Attach Copy of Report		PercolationTest Perfo	ormed by:	
Minutes per Inch	Sq. Ft. per Bedroom	percolation test results mu	st be sealed/signed by a registered	engineer
.imum Ground Cover Over: Septic Tank	: 4 / Absorption	Area: Y'	Sewer Pipes: 4'	
Cleanout Pipes/Caps Installed: Foundation	n Cleanout: Yes	Septic Tank: Tes	Monitor Tubes: Yes	
List Separation Distances From Septic Tank or	Absorption Area, Which	ever is Closest, to All	Nearby:	
Public Drinking Water Sources Within 200 feet:			ter Sources Within 100 feet	: 150ft
Nearest Water Bodies (see 18 AAC 72.020(b)):		ainege Ditel	) Lot Line:	150 ft
Separation Distance from Onlot Sewer Lines to:		king Water Sources:		rces: 150 ft
Separation Distance From Bottom of Distribution		501	> 1.1	/
		1	> 4 Bedrock:	> 6
Separation Distance from Absorption Area to SI Comments/Recommendations	ope exceeding 25%:	N/A		
See attached letter.				
I certify that the above information, and that pro	vided in Section IV is	orrect.		
Signature	Typed/Printed Name		g/Cert No., Inst. No.	Date
William F. Craine	William F. Cra	ine CF4	1950	2/1/10
NOTE: Must be signed by a Certified Installer. Professiona	l Engineer, DEC staff, or App	roved Homeowner. If engi	ineering seal dears printed name.	77.57.08
tration number, and is signed, those blocks need not be SEAL	completed for engineered sub	omittals.	Plane Maria	and New Dig
Registered Professional			William	1. tram

Engineer

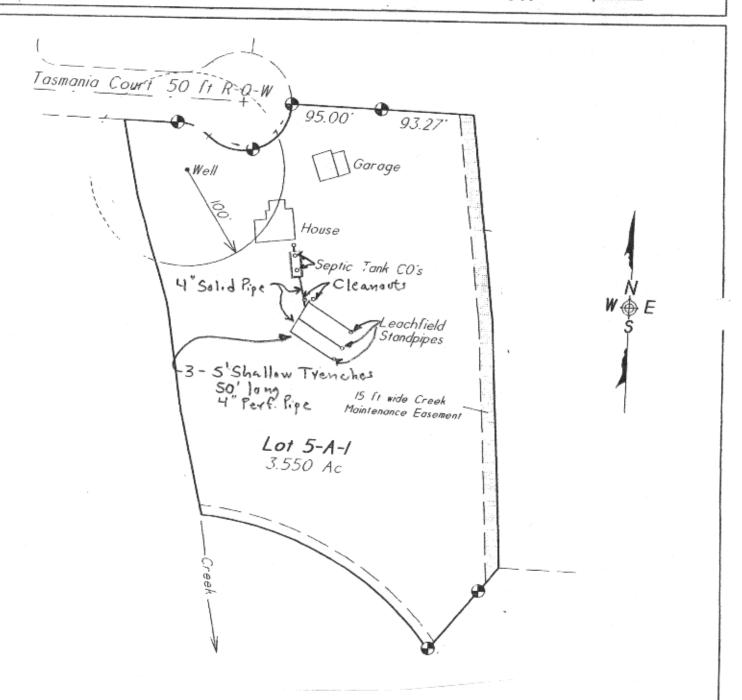
#### IV. DIAGRAM OF SYSTEM(S) INSTRUCTIONS FOR DIAGRAM

- 1. In a plan view, locate and identify each of the following:
  - a) Well

- b) All Structures
- e) Surface Water
- f) Sources of contamination
- c) Septic Tank g) Property Line
- d) Soil Absorption System

- h) Closest well on adjacent property
- j) Closest edge of an absorption field on adjacent property

- (Include dimensions)
- i) Closest septic tank on an adjacent property
- k) All cleanouts and monitor tubes
- Show distances between the well and each of the sources of contamination listed in 1.
- 3. Show distances between water bodies and each part of the onsite system listed in 1.
- 4. In a cross section view of the soil absorption area, identify each component and show the depth (thickness) of the following:
  - a) Soil Cover
- b) Absorption Material
- c) Water Table
- d) Bedrock
- c) Discharge pipes
- f) Insulation



	Date Rec	eived			
32		ia sayyi	58850156	250 - SES	C54

### STATE OF ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

### APPLICATION FOR ON-SITE WATER AND SEWER SYSTEM APPROVAL

	MATION	A North		
Legal Description of th	ne Location	AVRIGORALISMO SALES	71.5	
100	· · · ·			
1012	, BARNETT	S SOUTH SLOPE	SURD	
LOCA	TED WIT	TIME SECTION	TOUBD.	
2	· LD WITE	THE CIT	TOF HOI	MER, ALASKA
Applicant Name	WILLIAM STATE OF STAT	s, francisk is this kell begre		
JIM &	KAY JULI	A Named Son-year	Applicant is: (Check	one) Certified Installer No.
Address (Street or P. O. Bo	3X)	ERAL DELIVERY	Type of Residence	Total No. of Bodge
City, State and Zip Code HOMER, AK,		TVARBUSEA BEFORE SECTION	Telephone	Multi-Family 3
Send Approval to:	22602		235-	7284 (DM.GIER
Applicant Othe	er: (Give Name & Address)	D.M. GIER & CO. B	OX 3670 HO	MER, AK. 9960:
		Managers to progress of the	100 A 045 - NG 1 100 No. No.	1760.
II. WATER SUPPLY SY	/STEM	the party of the second of the second	- Abort mars in this is 18.	4 To 1 To
Source of Water and Contai	nment (Check all that App	ply) Type of Water Supply System	TOTAL Minus Circumstance	
Well (Drilled or Driven		with the teleser with much country of the	Treatment of Water (C	heck all that Apply)
☐ Roof Catchment	a donnace (Ident(Ify)	Private	None	Chlorination
- <u>建</u>	Other (Identify)	Public (Serves more than one	Filtration	DMinord B
Holding Tank		family)	Other:	Mineral Removal
Well Data		Translation on the same	Control of the National Control	The street of th
Is the Height o	f the Well Casing more tha	an 12" above the Ground?	0.450	
		and disputiti		
		CORRESPONDE DE L'ACTION DE L'A		☐ Yes ☐ No
Is a sanitary se	al installed on the well cas	sing?	A 1 1 2 2 1	Yes No
			<u> </u>	Yes No
		ing? If the casing within a radius of 10 feet o	f the well casing?	☐ Yes ☐ No
ls drainage dire		d the casing within a radius of 10 feet o		☐ Yes ☐ No ☐ Yes ☐ No
ls drainage dire	Depth of Well (Feet)	d the casing within a radius of 10 feet o	rield (If Available)	Yes No
Is drainage dire	Depth of Well (Feet)	d the casing within a radius of 10 feet o	rield (If Available)	Yes No  Yes No Pump Rate (If Available)
Is drainage dire	Depth of Well (Feet)	d the casing within a radius of 10 feet o	(ield (If Available) Gal/Min	Yes No Pump Rate (If Available) Gal/M
Is drainage dire Date Drilled Separation Distances from th Septic/Holding Tank on Lot	Depth of Well (Feet)	Static Water Level (Feet)	(ield (If Available) Gal/Min	Yes No  Yes No Pump Rate (If Available)
Is drainage dire Date Drilled Separation Distances from th Septic/Holding Tank on Lot	Depth of Well (Feet)	Static Water Level (Feet)  Static Water Level (Feet)  he Following Sources of Contamination Sewer Lines on Lot	Gal/Min	Yes No Pump Rate (If Available) Gal/M
Is drainage direct  Date Drilled  Separation Distances from the Septic/Holding Tank on Lot  Closest Septic/Holding Tank	Depth of Well (Fast)  e Well Casing to each of the control of Adjacent Lot	Static Water Level (Feet)  Static Water Level (Feet)  he Following Sources of Contamination Sewer Lines on Lot  Closest Sewer Lines on Adjacent Lot	Gal/Min  Gal/Min  Closest Edi	Yes No Pump Rate (If Available) Gal/M
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Is drainage direct Date Drilled Separation Distances from the Septic/Holding Tank on Lot Closest Septic/Holding Tank If toxic materials are stored of ased materials, pesticides, further stored of the second control of th	Depth of Well (Feet)  Be Well Casing to each of the Casing to each	Static Water Level (Feet)  Static Water Level (Feet)  he Following Sources of Contamination Sewer Lines on Lot  Closest Sewer Lines on Adjacent Lot	Gal/Min  Gal/Min  Closest Edi  Petroleum On Lot	Yes No  Yes No  Pump Rate (If Available)  Gal/M  Area on Lot  Ge of an AbsorptiomArea on Adjacent L  On Adjacent Lot
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Is drainage directly and the control of the control	Depth of Well (Feet)  Be Well Casing to each of the control on Adjacent Lot on the property, including ngloides or herbicides, indicate of the control of th	Static Water Level (Feet)  Static Water Level (Feet)  he Following Sources of Contamination Sewer Lines on Lot  Closest Sewer Lines on Adjacent Lot  fuel tanks, paints, lubricants and other licate distance from contaminants to we	Gal/Min  Gal/Min  Closest Ed  Closest Ed  Detroleum  Sampler Is:  Buy  Bani  Ctory - Date:	Yes No  Yes No  Pump Rate (If Available)  Gal/M  Area on Lot  Ge of an AbsorptiomArea on Adjacent L  On Adjacent Lot  Engineer

Septic Tank/Absorption S	- अस्ति जेव		The contract of		mental and a second			
Construction System			Package Treatment: (Specify Brand Name or Process)			August Co.		
Holding Tank - Capacity of Tank Specify:	Best files	Where W.	aste is Disposed	<b>j</b> ikusio kape	20 100	Freq	uency of Pump	adirection of
Septic Tank Outfall Discharged To:			Other	Specify):		1 :	THE EMPTY REPORTS	
New System	100 Common 100 Aug S		Outho	use, Incir	erator, etc.)		ा नामान्यको छहा छन्। एक राज्यको स्वकृत्यको	dia world
Name of Installer DUANE BEL	NAP	nes- sala a				Date	Installed	And Europe
Certified Installer No.	Other:		Type/Manufac	turer	C*	101	CEMBE	2198
Septic Tank Size (Gallons) Number o	f Compartments		Soil Type or R	ating	STE	<b>E L</b>		
ype Soil Absorption System	Z Dimension (n)		5W	(125	SQ.	FT. /E	BEDROOM	v)
DEEP TRENCH	Olmensions/Size (4 \(\lambda\) \(\times\) \(\times\)	400	SQ. FT.			antity Back on System	(GRAVEL)	
NOT REOD.	Percolation Test t		9)	27.		, HOUR !	CORN (PP)	
4.0 Feet	m Ground Cover over Si	eptic (	Cleanout Pipes. Septic Tank Yes	Caps Ins		Cleanou Absorp	ut Pipes/Caps Ir tion System	stalled on
eparation Water Supply Source on Lot istance to:	Nearest Water Supp	ly Source	on Adjacent		Body of Wa	iter Water T	Yes	No Lot Line
mments/Recommendations . ON SITE SOILS INVESTIG			Feet		. 1 60	ENCON	WINTER FOR	10
SVETERS STEERS	ALLONG WAL	DE AL	DGUST Z	25 , 1	J83.			
SYSTEM DESIGNED	IN ACCURDA	INCE	WITH	FP	A DE	14217	MAN	-
SECTION 7.2.2. AND	7770							
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ertify that the above information is corre	1 /12 /2	EE A	HJATTA	ED	D.M.G	ER &C	O. DRAY	RINCO)
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pertify that the above information is correctly that the above information is correctl	ect: Typed/Printed Name D.M.GIER	P.E.	Title,	Reg. /Cer	D.M.G	IER & C	O. DRAY	NING)
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nature Mark the above information is correctly that the above information is correctly	ect: Typed/Printed Name D.M.GIER	P.E.	Title,	Reg. /Cer	D.M. G	IER & C	Date 12-21	NING)
NOTE: Must be signed by a certified Existing System	Typed/Printed Name D.M.GIER Finstaller, professional en	P.E.	Title, P.E.	Reg. /Cer	D.M. G	No.	Date 12-21	NINC)
NOTE: Must be signed by a certified  Existing System me of Installer  Owner/Builder  Certified Installer No.	Typed/Printed Name D.M. GIER installer, professional en	P.E.	Title,	Reg. /Cer	D.M. G	No.	Date 12-21	NING)
NOTE: Must be signed by a certified  Existing System  ne of Installer  Owner/Builder  Certified Installer  No  Number	Typed/Printed Name D.M.GIER Finstaller, professional en	P.E.	Title, P.E.	Reg. /Cer	D.M. G	No.	Date 12-21	NINC)
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NOTE: Must be signed by a certified  Existing System  me of Installer  Owner/Builder  Tic Tank Size (Gallons)  Rumb  Ruacy Test Results:	Typed/Printed Name D.M. GIER installer, professional engineer of Compartments  Dimensions/Size Soi	P.E.  gineer or L  So  So  iii Absorpti	Title, P.E. DEC Staff.  ype/Manufactu pil Type or Rati	Reg. /Cer . CE	D.M. G  rt. No., Inst 5648  Type/Quan Absorption	Date Ins	Date 12-21 stalled	- 83 for Soil
ertify that the above information is corrected.  NOTE: Must be signed by a certified.  Existing System  The of Installer  Owner/Builder  Certified Installer  No  tic Tank Size (Gallons)  Numb  Soil Absorption System  Suacy Test Results:  Suacy Test Results:  Suacy Test Results:	Other:  Dimensions/Size Soi  Adequacy Test Perfor	P.E.  gineer or L  So  il Absorpti	Title, P.E. DEC Staff.  ype/Manufactu pil Type or Rati	Reg. /Cer . CE	D.M. G  rt. No., Inst 5648  Type/Quan Absorption	Date Ins	Date 12-21	- 83 for Soil
NOTE: Must be signed by a certified  Existing System  The control of the control	Typed/Printed Name D.M. GIER installer, professional engineer of Compartments  Dimensions/Size Soi	P.E.  gineer or L  So  il Absorpti  rmed By: (A	Title, P.E.  DEC Staff.  ype/Manufactu  pil Type or Ration System  Attach Copy of leanout Pipes/Captic Tank	Reg. /Cer. CE	Type/Quan Absorption Date Septic	No. Date Ins  tity Backfil System Tank Pum	Date 12-21 stalled.  Il Material used	- 83
NOTE: Must be signed by a certified  Existing System  The of Installer  Owner/Builder  Certified Installer  No.  To Tank Size (Gallons)  Rumb  Resoil Absorption System  Resoi	Other:  Dimensions/Size Soi  Adequacy Test Perfor	P.E.  gineer or L  Ty  So  iii Absorpti  rmed By:(A	Title, P.E.  DEC Staff.  ype/Manufactu  pil Type or Rati  cion System  Attach Copy of leanout Pipes/Captic Tank Yes	Reg. /Cer. CE	Type/Quan Absorption Date Septic	Date Ins  Date Ins  Tank Pum  Cleanout Absorptic	Date 12-21 stalled  If Material used  Pipes/Caps Inston System  as	for Soil
Retrify that the above information is corresponding to the second of the	Other:  Dimensions/Size Soil  Adequacy Test Perfor	P.E.  gineer or L  Ty  So  iii Absorpti  rmed By:(A	Title, P.E.  DEC Staff.  ype/Manufactu  pil Type or Rati  cion System  Attach Copy of leanout Pipes/Captic Tank Yes	Reg. /Cer. CE	Type/Quan Absorption Date Septic	Date Ins  Date Ins  Tank Pum  Cleanout Absorptic	Date 12-21 stalled  If Material used  Pipes/Caps Inston System  as	for Soil  alled on  No Lot Line
NOTE: Must be signed by a certified    Existing System	Dimensions/Size Soi  Adequacy Test Perfor  Ground Cover over Sept.  Nearest Water Supply Sidest	P.E.  gineer or L  Ty  So  iii Absorpti  rmed By:(A	Title, P.E.  DEC Staff.  ype/Manufactu  pil Type or Rati  cion System  Attach Copy of I  sanout Pipes/Captic Tank Yes	Reg. /Cer. CE	Type/Quan Absorption Date Septic	Date Ins  Date Ins  Tank Pum  Cleanout Absorptic	Date 12 - 21  stalled.  If Material used in Material used	for Soil
NOTE: Must be signed by a certified  Existing System  me of Installer  Owner/Builder   Certified Installer No.   Numb  Tic Tank Size (Gallons)   Numb  Tic Tan	Dimensions/Size Soi  Adequacy Test Perfor  Ground Cover over Sept.  Nearest Water Supply Sidest	P.E.  gineer or L  Ty  So  iii Absorpti  rmed By:(A	Title, P.E.  DEC Staff.  ype/Manufactu  pil Type or Ration System  Attach Copy of leanout Pipes/Captic Tank Yes   Adjacent   Adjacen	Reg. /Cer. CE	Type/Quan Absorption Date Septic	Date Ins  Date Ins  Tank Pum  Cleanout Absorptic	Date 12 - 21  stalled.  If Material used in Material used	for Soil  alled on  No Lot Line
NOTE: Must be signed by a certified  Existing System The of Installer  Owner/Builder  Certified Installer  No.  Number Soil Absorption System  Area  Feet  Water Supply Source on Lot and since to:  Tents/Recommendations  Tify that the above information is correct ture	Dimensions/Size Soi  Adequacy Test Perfor  Ground Cover over Sept  Nearest Water Supply So  Lot  Typed/Printed Name	P.E.  gineer or L  Ty  So  iii Absorpti  rmed By:(A	Title, P.E.  DEC Staff.  ype/Manufactu  pil Type or Ration System  Attach Copy of leanout Pipes/Captic Tank Yes   Adjacent   Adjacen	Reg. /Cer. CE	Type/Quan Absorption Date Septic	Date Ins  Date Ins  Tank Pum  Cleanout Absorptic	Date 12 - 21  stalled.  If Material used in Material used	for Soil  alled on  No Lot Line

Dennis M. Gier
SEAL 5648
Registered Professional
STATIONESSIONAL

#### INSTRUCTIONS FOR DIAGRAM

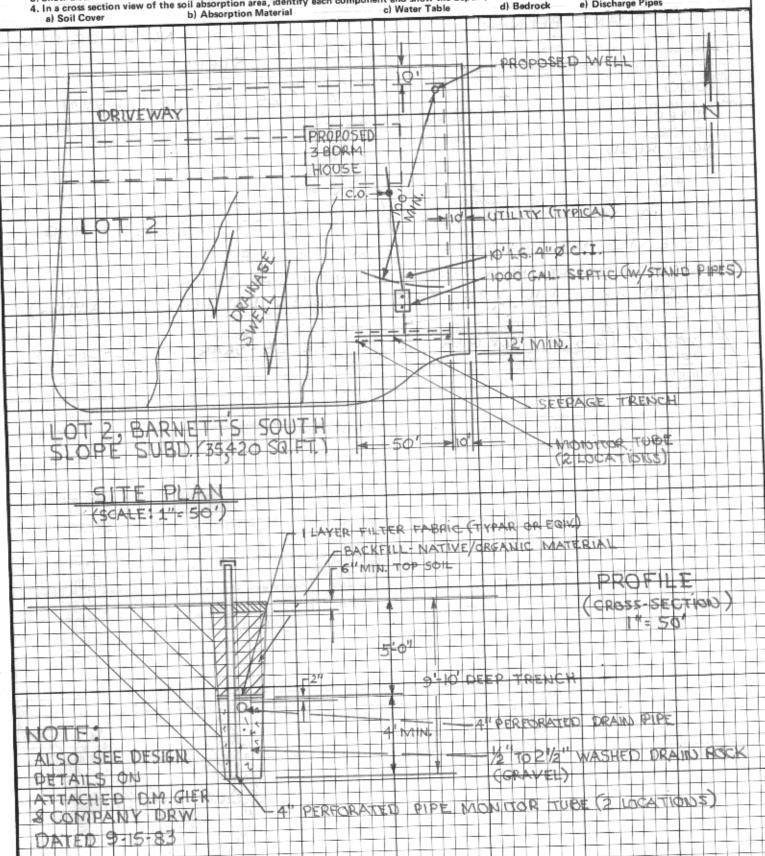
- In a plan view, locate and identify each of the following:
   a) Well
   b) All Structures
  - a) Well

- f) Sources of Contamination
- c) Septic Tank g) Property Line

i) Closest septic tank on an adjacent property

d) Soil Absorption System (Include Dimensions)

- e) Surface Water
- h) Closest well on an adjacent property
  j) Closest edge of an absorption field on an adjacent property
- 2. Show distances between the well and each of the other items listed in 1.
- 3. Show distances between water bodies and each of the other items listed in 1.
- 4. In a cross section view of the soil absorption area, identify each component and show the depth (thickness) of the following: e) Discharge Pipes b) Absorption Material



### RECEIVED

Date Received

OCT 2 0 2004

ADEC Kenai Area Office

# STATE OF ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION DOCUMENTATION OF CONSTRUCTION

I CENEDAL INFORMATION:	
I. GENERAL INFORMATION Legal Description of the Location	Submitted by: (Check one)
Barnett's South Slope Subdivision	Certified Installer
Block 1, Lot 16	- Approved Homeowner
<u> </u>	Registered Engineer
Installer Name:	Onsite Wastewater System Serves:
Arno Construction	Single Family. Number of Bedrooms
Mailing Address	☐ Duplex. Number of Bedrooms
P.O. BOX 1772	☐ Small Commercial Facility With Estimated
Homer, Al. 99603	Design Flow of less than 500 GPD.
II. WATER SUPPLY SYSTEM (SECTION II IS OPTIONAL)	
Source of Water and Containment (Check all that Apply)  Type of Water Supply Sys	tem Treatment of Water (Check all that Apply)
☐ Well (Drilled or Driven) ☐ Surface (Identify) ☐ SF/Duplex	None Chlorination  Filtration Mineral Removal
Roof Catchment Other (Identify) Public	Filtration
Well Data Is the height of the well casing more the 12" above the ground?	Yes No
Is a sanitary seal or well cap installed on the well casing?	Yes No
Is drainage directed away from or around the casing within a radius of 10 feet of the we	ell casing? Yes No
Is well wire enclosed in conduit?	☐ Yes ☐ No
Date Drilled Depth of Well (Feet) Static Water Level (Feet)	Yield (If available) Pump Rate (If available)
Separation Distance from the Well Casing to each of the Following Sources of Contamination:	
Septic/Holding Tank on Lot Sewer Lines on Lot	Absorption Area on Lot Feet Feet
Closest Septic/Holding Tank on Adjacent Lot  Closest Sewer Lines on Adjacent Lot Feet	Closest Edge of an Absorption Area on Feet Adjacent Lot: Feet
Indicate separation distance from toxic materials including fuel tanks, paints, lubricants and other	On Lot Feet On Adjacent Lot Feet
petroleum based materials, pesticides, fungicides or herbicides to well casing:  Water Somple Taken by: (Name)	
Water Sample Taken by: (Name)	Sampler is:  Buyer Engineer
Address	Banker Government Official
Water Sample Results:  Attach Copy  Satisfactory - Date	Unsatisfactory - Date
Attach Copy Satisfactory - Date  Comments/Recommendations:	Clisatistacióty - Date
, SS, MA, SA, SS, SS, SS, SS, SS, SS, SS, SS, S	
I certify that the above information, and that provided in Section IV, is correct:	<u> </u>
Signature Typed/Printed Name	Title Date
William F. Craine William F. Craine	Gred Engineer Oct. 16 '04

Note: 1. This section should be signed by a Certified Installer, Professional Engineer, DEC staff, or Owner/Bailder

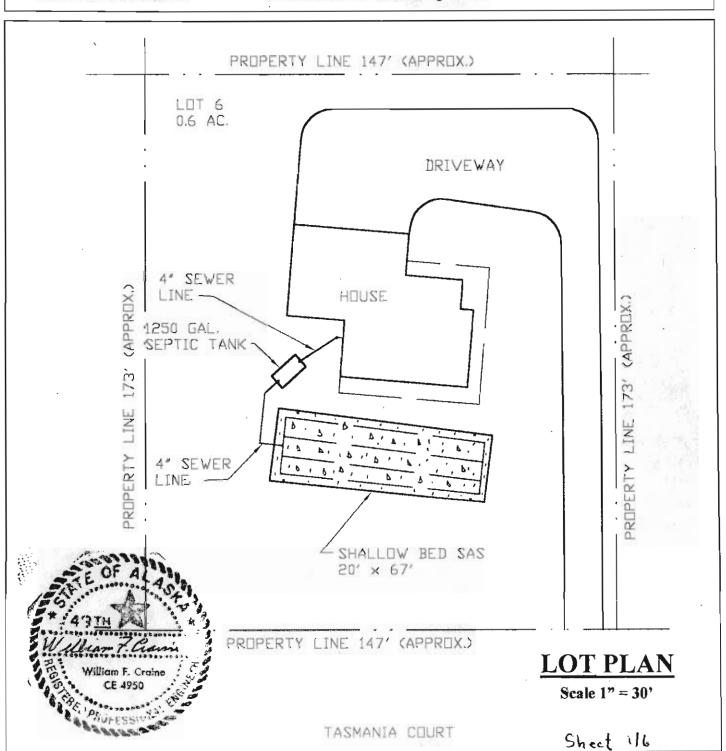
2. All public water systems must receive ADEC plan approval prior to construction. See 18 AAC 80 State of Alaska Drinking Water Regulations for specific requirements.

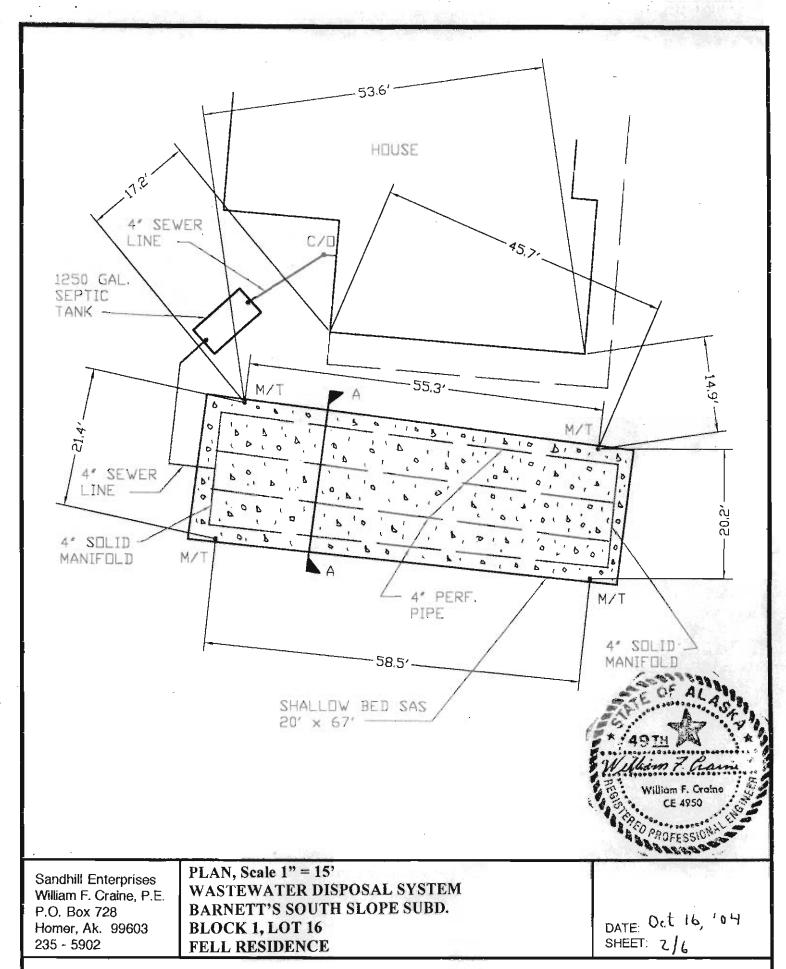
III. WASTEWATER DISPOSAL	Legal Description: 3	arnett's s	South Slape S	Subdivisi	ion
Type of Wastewater System:	B	lock 1, Lot 1	6		
Septic Tank with Conventional Soil Absorpti	on System	☐ Package Treatm	ent Plant (requires engine	ered design)	
Holding Tank: Material Type:	Size in Gallo	ons:	Manufacturer:		_
☐ Other - Specify Type		☐ Alternate Onsite	e (requires engineered des	ign)	
☐ Small Commercial System (< 500 GPD) Wit	h Estimated Daily Waste	water Flow of:	Gallons	Per Day (GPD)	
Criteria Used to Estimate Daily Wastewater	Quantity:				
				· .	
M NEW CYCERC	TO OVOTEN				
NEW SYSTEM   MODIFICATION		Certified Installer Insta	allation Notification Date:		2.5000
Name of Installer: Arno Construc			Date Installed: Sep	•	04
System Installed:   By a Registered I	_		by a Registered Engineer		
By Approved Homeowner (attach copy of app Septic Tank: Material: Manufactur			staller/Installer Number Number of Compartmen		<u>028</u>
Steel D& W	·		S S S S S S S S S S S S S S S S S S S	115.	
Type of Soil Absorption System:	☐ Deep Trench	☐ Shallow Trench	☐ Seepage Pit	<b>⊠</b> Bed	
	□ Mound	☐ Other, Specify			- <u>-</u>
Soil Classification: Leam Soil Rating	0,45 5Pd/ft2	Dimensions/Size of Al	bsorption Area: Zo'x 6	7' / 1340	ft
Grading/Size of Distribution Rock: 3/4 "- 1	/z **	Thickness/Depth of Di	istribution Rock: 12 1/	6" to Bat	tim
Percolation Test Results, Attach Copy of Report:		PercolationTest Perfor	med by:		
28.2 Minutes per Inch 333,3	Sq. ft. per bedroom	percolation test results must	med by: Cvarne P. E be sealed/signed by a registered	engineer	
List ground cover in feet over: Septic Tank	Z'+Z'T Absorption	Area 2't 2"I.	Sewer Pipes Z' + Z	<u>"I.</u>	
Cleanout Pipes/Caps Installed: Foundation	n Cleanout: Yes	Septic Tank: Yes	Monitor Tubes: Yes		
Indicate separation distances from septic tank or abs	sorption area, whichever	is closest, to all nearby	<i>'</i> :		
Public drinking water sources within 200 feet:	None	Private drinking water	sources within 100 feet:	None	
Nearest water bodies (see 18 AAC 72.020(b)):	None	Lot line: 40		_	
Separation Distance from Onlot Sewer Lines to:	Public Drink	ing Water Sources: A	Private Sour	rces: N/A	
Separation Distance From Bottom of Distribution R	ock to:	Groundwater Table:	Bedrock:	<u>د ′</u>	
Separation Distance from Absorption Area to Slope	exceeding 25%: N/	<b>.</b>			
Comments/Recommendations					
I"S + 1108'S <= IS +'S	nsula (ion				
I certify that the above information, and that provide	ed in Section IV, is correct				
Signature	Typed/Printed Name		. 1	Date	
William F. Eranis	William F. CYM	ne Civil E	ingineer/CE4950	Oct. 16	'04
NOTE: Must he signed by a Certified Installer, Professional Eng registration number, and is signed, those blocks need not be comp			seal bears printed name	200000	
SEAL			3.0	COS SALES	

Registered Professional Engineer



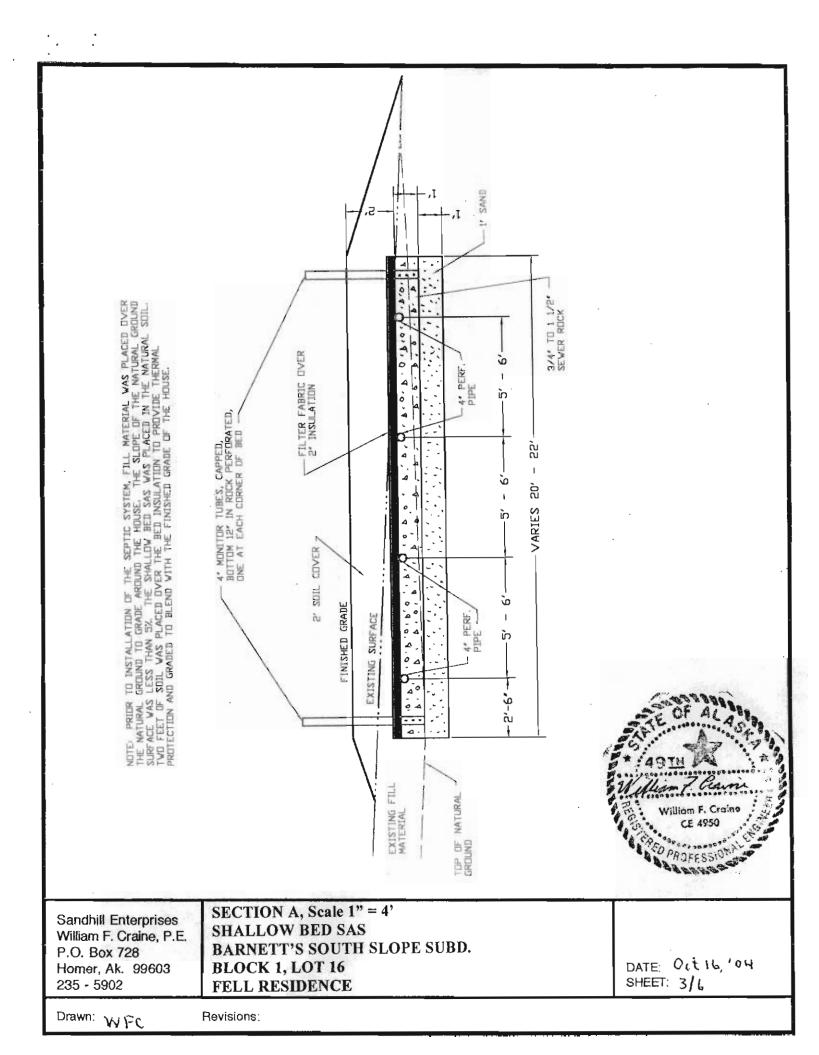
#### IV. DIAGRAM OF SYSTEM(S) INSTRUCTIONS FOR DIAGRAM 1. In a plan view, locate and identify each of the following: b) All Structures d) Soil Absorption System 🛩 a) Well Nanc c) Septic Tank g) Property Line (Include dimensions) i) Closest septic tank on an adjacent property? e) Surface Water None f) Sources of contamination h) Closest well on adjacent property Nine. j) Closest edge of an absorption field on adjacent property ? k) All cleanouts and monitor tubes 2. Show distances between the well and each of the sources of contamination listed in 1. 3. Show distances between water bodies and each part of the onsite system listed in 1. 4. In a cross section view of the soil absorption area, identify each component and show the depth (thickness) of the following: a) Soil Cover b) Absorption Material c) Water Table + d) Bedrock 6 + e) Discharge pipes f) Insulation

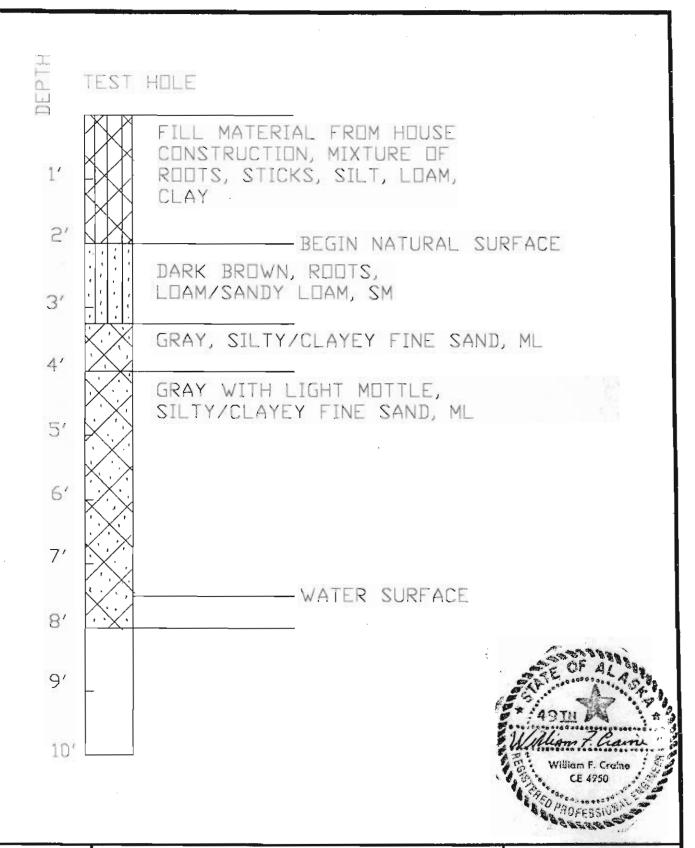




Drawn: W 5°C

Revisions:





Sandhill Enterprises William F. Craine, P.E. P.O. Box 728 Homer, Ak. 99603 235 - 5902 SOIL LOT – TEST HOLE BARNETT'S SOUTH SLOPE SUBD. BLOCK 1, LOT 16 FELL RESIDENCE

DATE: Sept 4, '04 SHEET: 4/1

Drawn: WFC Revisions:

#### PERCOLATION TEST RESULTS TEST #1

Barnett's South Slope Subdivision Block 1, Lot 16

September 4, 2004

By:

William F. Craine, P. E.

Method:

EPA Falling Head Percolation Test Procedure

Percolation Test, Depth = 1' 10"

Time	Time Change min.	Float Height inches	Float Height Change inches	Perc. Rate min/in
11:01	N/A	25.5625	N/A	<b>N</b> /A
11:31	30	24	1.5625	19.20
11:32	N/A	25.5	N/A	N/A
12:02	30	24.375	1.125	26.67
12:03	N/A	25.375	N/A	N/A
12:33	30	24.3125	1.0625	28.24

Percolation Rate = 28.2 minutes per inch

This test is in the natural soil, not in the fill from the house construction.



Sheet 5/6

#### PERCOLATION TEST RESULTS TEST #2

Barnett's South Slope Subdivision Block 1, Lot 16

September 4, 2004

By:

William F. Craine, P. E.

Method:

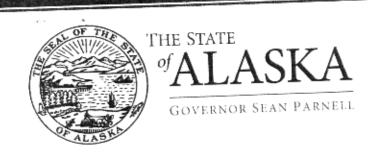
EPA Falling Head Percolation Test Procedure

Percolation Test, Depth = 3' 6"

Time	Time Change min.	Float Height inches	Float Height Change inches	Perc. Rate min/in
11:03	N/A	14.4375	N/A	N/A
11:33	30	14.125	0.3125	96.00
11:34	N/A	14.5	N/A	N/A
12:04	30	14.1875	0.3125	96.00
12:05	N/A	14.5	N/A	N/A
12:35	30	14.1875	0.3125	96.0 <b>0</b>

Percolation Rate = 96 minutes per inch





# Department of Environmental Conservation

DIVISION OF WATER Wastewater Discharge Authorization Program

> 43335 Kalifornsky Beach Road, Suite 11 Soldotna, Alaska 99669 Main: 907.262.5210 Fax: 907.262.2294

December 31, 2012

Mr. William J. Marley Jr., Owner C/o Gus Andress, P.E. Pegasus Engineering 4971 Thompson Drive Homer, AK 99669

Re:

Final Approval to Operate an Alternate Wastewater Treatment and Disposal

Legal: Barnett's South Slope Lot 12, Block 1, Homer, Alaska

ADEC Plan Number 9090

FILE COPY

Dear Mr. Marley:

The Department has reviewed the record information received on October 11, 2012 for an alternate wastewater system to serve a six-bedroom single family residence at the referenced property. This wastewater system consists of a 1250-gallon septic tank followed by a BioCycle Model 1500 unit which discharges effluent meeting secondary treatment standards to a pressurized soil absorption system having a total absorptive capacity of 1300 ft2. The maximum approved wastewater flow for this system is 900 gallons per day based on the six bedrooms. Potable water is provided to the residence by means of an onsite cistern.

The information was reviewed in accordance with the Wastewater Disposal Regulations, 18 AAC 72 and the Department's Conditional Approval to Construct letter issued August 27, 2012. Final approval to operate is hereby issued and the enclosed Construction and Operation Certificate constitutes a written approval required under the noted regulations. Any future expansion or modification for the subject project will require additional approval from this office.

This approval does not imply the granting of additional authorizations, nor obligate any federal, state, or local regulatory body to grant required authorizations. This is not an approval of omissions or oversights y this office or noncompliance with any applicable regulation. The Department's approval to operate does not guarantee correctness or the functionality of the design, or waive the owner's responsibility for continued compliance with state regulations.

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 - 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 555 Cordova Street, Anchorage, Alaska 99501, within 15 days of receiving the decision. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental

Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 30 days of the decision. If a hearing is not requested within 30 days, the right to appeal is waived.

If you have any questions please contact me at 907 262 3405, or by e-mail at Monica. English@alaska.gov.

Sincerely,

Monica T. English

Moneal Eglin

Environmental Engineering Associate

Enclosure:

Construction and Operation Certificate



#### STATE OF ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION CONSTRUCTION AND OPERATION CERTIFICATE FOR

# DOMESTIC WASTEWATER DISPOSAL SYSTEMS

A	APPROV	VAL	TO	CONSTRUCT
---	--------	-----	----	-----------

A. APPROVAL TO CONSTRUCT	
Plans for the construction or modification of	Barnett's South Slope Sub. L12 B1 - BioCycle Model 1500 Treatment System
(ADEC Plan Tracking Number 9090)	domestic wastewater disposal system
located in Homer	, Alaska, submitted in accordance with 18 AAC 72.210
by Pegasus Engineering - Gus Andress, P.E.	t t reviewed and are
approved.  conditionally approved (see attached cor	
Monica J. Ggli	Environmental Engineering Associate  DATE  Environmental Engineering Associate  DATE
Monica T. English  If construction has not started within two years of the be submitted for review and approval before constru	e approval date, this certificate is void and new plans and specifications must
B. APPROVED CHANGE ORDERS	
Change (contract order number or descriptive refere	nce) Approved by Date
	completed and signed by the Department before this system is made available
for use.  The construction of the above reference	domestic wastewater disposal system was completed
on 9/12/2012 (date). The system is hereby	granted interim approval to operate for 90 days following the completion date.
nv.	TITLE DATE
As-built/record drawings, submitted to the Departm wastewater disposal system was constructed in sub- final approval to operate.	nent, or an inspection by the Department, has confirmed that the domestic stantial conformance with the approved plans. The system is hereby granted
Monica T. English	Environmental Engineering Associate 12/31/2012.
	Distribution: 1. Retain original for project file 2. Make copies for distribution

TASMANIA CT. 50' R/W δ, 98.89' WEST PARKING LOT 12 LOT 11 0.67 Ac 3% GARAGE REPLACEMENT S.A.S. 6 BR HOME 3% /3% NORTH C.O. 2 0 ABS RECYCLE BIOCYCLE-MODEL 1500 2 1-1/4" Ø PVC 1250 GAL STEEL PRESSURE LINE 2-COMP SEPTIC TANK 45 161.62 ය 1-1/2" Ø -PVC MANIFOLD -TOE OF MOUND 160.00' EAST 25' x 52' S.A.S. W/8 INFILTRATOR ROWS 2.8' WIDE x 52" LONG W/1-1/4" $\phi$  PVC PIPE LATERALS, 1/8" HOLES @ 4' O.C. **AS-BUILT** 

#### NOTES

- THERE ARE NO SLOPES GREATER THAN 25% WITHIN 50 FEET OF ANY PART OF THE NEW SEPTIC SYSTEM.
- THERE ARE NO KNOWN CLASS A,B,OR C WELLS WITHIN 200 FEET OF THE NEW SEPTIC SYSEM.
- THERE ARE NO KNOWN PRIVATE WELLS WITHIN 100 FEET OF THE NEW SEPTIC SYSTEM.
- THIS RESIDENCE WILL BE SERVED BY A 2000 GALLON CISTERN AND WILL NOT HAVE A PRIVATE WELL ON THE LOT.

9/20/12



PEGASUS ENGINEERING 4971 THOMPSON DR HOMER, AK 99603 (907)226-2476

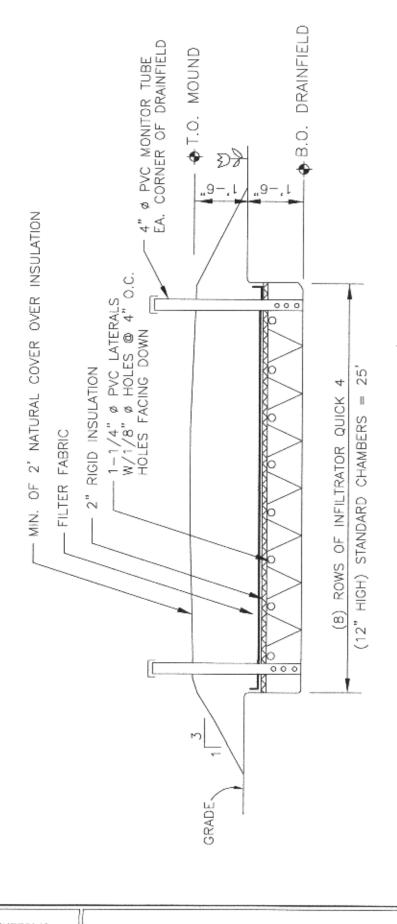
SITE PLAN

MARLEY RESIDENCE

BARNETT'S SOUTH SLOPE SUB, L12,B1 HOMER, AK DATE: 9/18/2012

DWG: MARLEY.dwg

SHEET: SHEET 1 OF 2



AS--BUILT

DRAINFIELD CROSS SECTION

Duane F. Andress CE-4722

#### PEGASUS ENGINEERING

4971 THOMPSON DR HOMER, AK 99603 (907)226-2476

# MARLEY RESIDENCE

BARNETT'S SOUTH SLOPE SUB, L12, B1 HOMER, AK SCALE: NTS

DATE: 6/25/12

SHEET: 2 OF 2

DWG, NAME: MARLEY, DWG.

Date Received

# STATE OF ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

582

APPLICATION FOR ON-SITE WATER AND SEWER SYSTEM APPROVAL

E Prince						
GENERAL INFORMATION	1	3	, ed			
LOT 14, BLK	South x	slope,	Subd.	i . Politika		
DAENEII	Company of the second	a falfright of the				
				,: · · ·	251.1	
MARY ALICE MAXE	IELD	Applicant is: Bank Owner/	Cert Builder	ified Install		
dress (Street or P. O. Box)	PROPERTY OF STATE OF	Type of Resid			Total No. of Bedrooms	
BOX 897		Single Fa	mily 🗌 Mul	ti-Family	1	
y, State and Zip Code		Telephone	~ 2 6	7707		
HOMER, ALASKA 9	01003	z 35-7707				
nd Approval to:	THE THE TANK OF THE TANK OF THE TANK	- 3FC }A				
Applicant Other: (Give Name & Address)		La approximation		<del></del>	- 1	
	The transport for the second of the second o	17 Jay - 1 Jeu	a 10 kg sat	hipspale.	5	
MATER CURRI V CVCTEM	44.					
WATER SUPPLY SYSTEM urce of Water and Containment (Check all that Apply	Type of Water Supply System	Treatment of	Water (Check	all that Ap	ply)	
		₩None		Chlorina	ation	
Well (Drilled or Driven) 🗌 Surface (Identify)	Private			Mineral	Removal	
Roof Catchment	Public (Serves more than one	Filtration		□ wither an	110110101	
Other (Identify)	family)	Other:				
Holding Tank	1000 a 1890 a 1900 from	Factority and Committee	part of the	114118		
all Data			×	Yes	□ No.	
ell Data Is the Height of the Well Casing more than	12" above the Ground?			1 100		
is a sanitary seal installed on the well casi	Day 15 Conference of the Confe		×	, Yes	No No	
Is drainage directed away from or around		of the well casing	9?	Yes	□ No	
Is drainage directed away room of					(If Available)	
pate Drilled Depth of Well (Feet)	Static Water Level (Feet)	Yield (If Available) Pump Bate (II Available)				
7-2-85 54	14		Gal/Min		Gal/M	
eparation Distances from the Well Casing to each of th	ne Following Sources of Contaminati	ion:	Absorption A	Vens on Lot		
eptic/Holding Tank on Lot	Sewer Lines on Lot		Absorption	86'		
<b>ا</b> اھ	81'+				rptiomArea on Adjacent L	
losest Septic/Holding Tank on Adjacent Lot	Closest Sewer Lines on Adjacent Lor	t.	Closest Edge	> 400		
f toxic materials are stored on the property, including based materials, pesticides, fungicides or herbicides, inc	4 - Learly points Jubricants and ot	her petroleum well casing:	On Lot	25'	On Adjacent Lot	
ased materials, posterious, rangement			Sampler Is:	18 . 4		
JOSEPH CURTIS	A CONTRACTOR	973	☐ Buye	rs hobb 1	Engineer	
	JOMER, ALASKA 9	2603	☐ Bank	er	Government Official	
Water Sample Results: Satisfactory - Date:	Process Should district a	tisfactory - Date:				
Attach Copy	1 Sept. Fig. Conf.					
Comments/Recommendations:  APPLICANT ADVISED TO ADD	FILL ABOUND CASING	S FO SLO	PE AW	AY AS	REQUIRED.	
				11.0	हार पुरुषात्र विद्यार हो।	
I certify that the above information is correct:	LOD Loved Blooms	Title			Date	
Signature . /	/ped/Printed Name	ENGR. 7	ECH		10-13-86	
Coeple em	JOSEPH CURTIS				10/29/86	

III. WASTEV	VATER DİSPOSAL		The second of th	1367			* B - *		100 00 00	
☐ Septic T	Septic Tank/Absorption System			Package Treatment: (Specify Brand Name or Process)				Noe	WECO	in a child
☐ Holding Specify:	Tank Capacity o	f Tank	Where	e Waste is Disposed			Frequency of Pumping			
	Septic Tank Outfall Discharged To:			Out	ner (Speci	fy):	rator, etc.)		and the second second	A CALLED TO THE
☐ New Sy			Andrew State of the Control of the C		division in the	ocine	rator, etc.)		All Miles	rest re
Name of Installe	er							Date Ins	talled	
Owner/Bu	ilder Certified In	staller	Other:	Type/Manufacturer						
Septic Tank Siz	e (Gallons)	lumber of C	ompartments	Soil Type	or Rating					
Type Soil Absor	rption System		Dimensions/Size Soil At	osorption Syst	em		Type/Quan Absorption	tity Backfil System	Material use	d for Soil
Percolation Test	Results		Percolation Test by: (N	ame)		-				
Minimum Groun tion area	nd Cover over Absorp	Tank	Ground Cover over Septic	Cleanout F Septic Tar	ipes/Caps nk Yes	Insta		Cleanout I Absorptio	Pipes/Caps In n System	
Separation Distance to:	Water Supply Source	e on Lot	Nearest Water Supply Sou Lot	0.0	-	<u> </u>	Body of Wate	r Water Tab	Yes [	Lot Line
Comments/Reco	mmandations	Feet		Fee	t :		Feet		Fee	Fe
NOT Existing		certified in	staller, professional engineer	or DEC Staff						
Name of Installer		1/01			. :			Date Insta	lled	
Owner/Bui	Ider Certified Ins		SOther:	Type/Manu		11-		1	1985	1 2 2
Septic Tank Size	(Gallons)	Numbe	r of Compartments	Soil Type o						
1350			3			۲L -	CL			
Type Soil Absorp			Dimensions/Size Soil Abs	Absorption System		Material used				
dequacy Test Re Reass 🔲 I	esults: Fail			d By: (Attach Copy of Report) Date Septic Tank Pumped (Attac			ed (Attach C	opy of Receip		
dinimum Ground ion Area	Cover over Absorp	Minimum ( Tank	Ground Cover over Septic	Cleanout Pi Septic Tank		Instal		Cleanout Pipes/Caps Installed on Absorption System		stalled on
Separation Distance to:	Water Supply Source		Nearest Water Supply Source	on Adjacent		rest B		Yes No  Water Water Table/Bedrock Lot Line  Feet 10 Feet 210 6		
Sose	e above information	Phys S	650R65 C. Schul yped/Printed Name JOSEPH CURTIS	PAOERER T	Civi				/0/ 39	>10 Fee
NOT	E: Must be signed by a	professiona	l engineer.	600	S OF	Al	400			
				E 60 8	1	A	A CO			

SEAL

G. L. Sincolony 1903, 1900-8

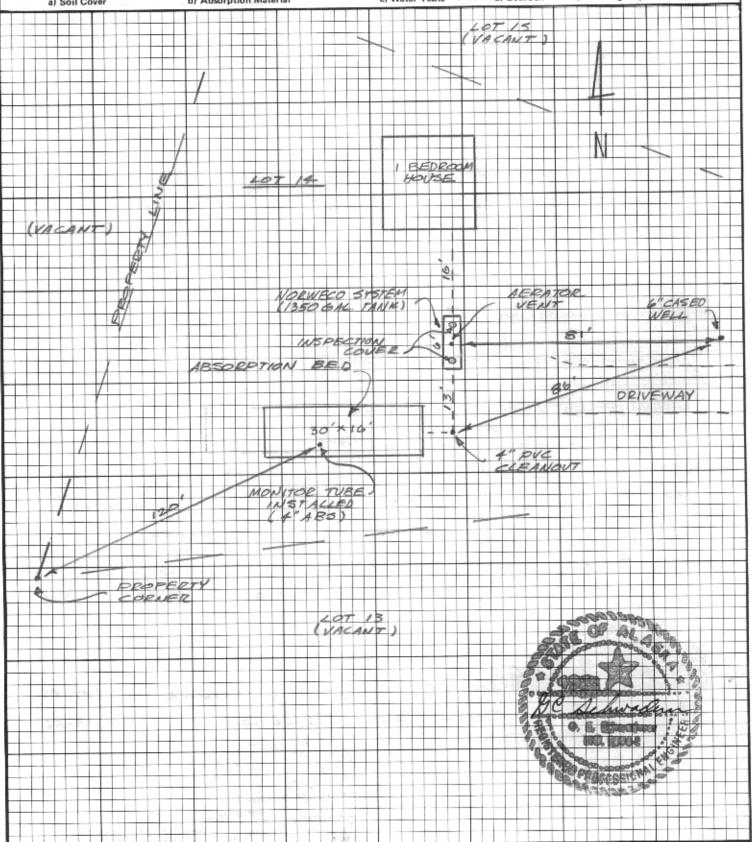
Registered Professional Engineer

#### INSTRUCTIONS FOR DIAGRAM

- In a plan view, locate and identify each of the following:
   a) Well
   b) All Structures
  - e) Surface Water
- f) Sources of Contamination
- c) Septic Tank

d) Soil Absorption System (Include Dimensions)

- h) Closest well on an adjacent property
- j) Closest edge of an absorption field on an adjacent property
- g) Property Line
  i) Closest septic tank on an adjacent property



Date	Received	
------	----------	--

# STATE OF ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION DOCUMENTATION OF CONSTRUCTION

GENERAL INFORMATION	Submitted by: (Check one)
Description of the Location	1
Barnett's South Slope Subd.	Certified Installer
Barnell's 300th	☐ Approved Homeowner
Lot 17 Block 1	Registered Engineer
	Onsite Wastewater System Serves:
staller Name:	Onsite Wastewater System of Redrooms 3
Arno Construction	Single Family. Number of Bedrooms
ATMO CONSCIOUS	Duplex. Number of Bedrooms
failing Address	Small Commercial Facility With Estimated
P.O. Box 1772 Homer, Ak 99603	Design Flow of less than 500 GPD.
Hamer Ak 99603	Design flow of loss
FIGURE	
I. WATER SUPPLY SYSTEM (SECTION II IS OPTIONAL)  Type of Water Supply System	System Treatment of Water (Check all that Apply) Chlorination
ource of Water and Containment (Check all that Apply)	□ None □ Mineral Removal
Well (Drilled or Driven)	
Uther (tolerally) (comily)	
A .	Yes No
Well Data  Is the height of the well casing more the 12" above the ground?	☐ Yes ☐ No
Is a sanitary seal or well cap installed on the well casing?	ne well casing?
Is a sanitary seal or well cap instance on the casing within a radius of 10 feet of the	Yes No  [Yald (If available) Pump Rate (If available)
Is well wire enclosed in conduit?	(Sr: 14 (If available) (Pump Rate 12)
Depth of Well (Feet)	
Separation Distance from the Well Casing to each of the Following Sources of Contamination:  Sewer Lines on Lot	Absorption Area on Lot
Sentic/Holding Tank on Let	Closest Edge of an Absorption Area on
Closest Sewer Lines on Adjacent Lot	Feet Adjacent Lot: Lo- Adjacent Lot
is land to be including fuel tanks, paints, lubricants and outer	on Lot Feet On Adjacent Bot F
Indicate separation distance from toxic materials including to well casing: petroleum based materials, pesticides, fungicides or herbicides to well casing:	Sampler is: Buyer Engineer
Water Sample Taken by: (Name)	
	☐ Banker ☐ Government Official
Address	Date:
Water Sample Results:   Satisfactory - Date	Unsatisfactory - Date
Attach Copy Comments/Recommendations:	
Comments/Recommendations	
	Salar Sa
I certify that the above information, and that provided in Section IV, is con Typed/Printed Name	Tect: Date
I certify that the above information, and that provided Name	20/2/02
Signature To	aine Civil Engineer
Welliam F. Grains Willer Professional Engineer. DEC	staff, or Owner/Builder

Note: 1. This section should be signed by a Certified Installer. Professional Engineer. DEC staff, or Owner/Builder

2. All public water systems must receive ADEC plan approval prior to construction. See 18 AAC 80 State of Alaska Drinking Water

	I egal Description:	++1- <	South Slave	Subdi	vision
WASTEWATER DISPOSAL	Legal Description: Ba	+ 17 Bloc	ck l		
e of Wastewater System:		☐ Package 7	Treatment Plant (requir	es engineered	design)
Septic Tank with Conventional Soil Abs	Size in Gall		Manufactu		
Holding Tank: Material Type:	Size iii Gui		Onsite (requires engin	eered design)	
J Other - Specify Type	1 1 1 1 1 1 1 1			Gallons Per	Day (GPD)
Small Commercial System (< 500 GPD)	With Estimated Daily v	astewater Flow	01.		
Criteria Used to Estimate Daily Wastev	vater Quantity:				
		- 1. A. P.			
NEW SYSTEM   REPAIR TO EX	KISTING SYSTEM	Certified Instal	ler Installation Notific		1
A C -+		7.1	Date Installed	1: 12/19	1002/8
		☐ With Ins	spection by a Registere	d Engineer	distribuida di
Jeen Little Litt		By a Cer	tified Installer/Installer		10-23-01
By Approved Homeowner (attach copy eptic Tank: Material: Manufac	turer:		Number of C	ompartments:	
Steel D&W	1 1250				le Bed
ype of Soil Absorption System:	□ Deep Trench		Trench Seepa	gerit L	,
	☐ Mound	Other, S	Specify Size of Absorption Area	825 Ft	= 30,5 x 50
oil Type: SM Soil Rat	ing: 0.6 9 Pd/ft				3' to Bottom
Grading/Size of Distribution Rock: 3/4"			pth of Distribution Ro	ck: 12"/	5 Co Docum
Percolation Test Results, Attach Copy of Re	port:		est Performed by:		•
	n m Dadanam	percolation test r	results must be sealed/signed	by a registered er	Test
imum Ground Cover Over: Septic	Sq. Ft. per Bedroom  Tank: Z'+Z" Z <sub>14</sub> , Absorpti	on Area: 2'+	Insul Sewer Pipe	S: 0 + 0	LH301.
Foundation Foundation	dation Cleanout: Yes	Septic Tank:	7es Monitor II	bes: /63	
List Separation Distances From Septic Tank	c or Absorption Area, Wh	ichever is Close	st, to All Nearby:		None
Public Drinking Water Sources Within 200	feet: None	Private Drin	king Water Sources W		N/A
Nearest Water Bodies (see 18 AAC 72.020	(b)):			Lot Line:	,
Separation Distance from Onlot Sewer Lin	es to: Public I	Orinking Water S	The second of th	1 24.30	11 +
Separation Distance From Bottom of Distr		Groundwate	er Table: 4 ' +	Bedrock:	B. 296.
Separation Distance from Absorption Area	to Slope exceeding 25%	· N/A	1	X Procession	7.7
Comments/Recommendations			( B 4	49TH 6	
			1	Villiam 7.	Craw
				W.Blam F	Cruino
			(4)	CE 4	200
1				PROFE	000
		I is correct.		1.00000	4
I certify that the above information, and t	hat provided in Section I Typed/Printed Na	me	Title, Reg./Cert No.,	Inst. No.	Date / 7 / 2
Signature	1	C	Chail Englacev	CE 4950	20/2/2
411 41	LANGUAGE TO A			ears printed name	
NOTE: Must be signed by a Certified Installer. Pro- tration number. and is signed. those blocks ne	Jessianal Engineer. DEC staff.	or Approved Homeo	wner. If engineering seat v	a s prante	

IV. DIAGRAM OF SYSTEM(S) INSTRUCTIONS FOR DIAGRAM d) Soil Absorption System In a plan view, locate and identify each of the following: c) Septic Tank (Include dimensions) b) All Structures g) Property Line a) Well None f) Sources of contamination Nove i) Closest septic tank on an adjacent property Nowe e) Surface Water None h) Closest well on adjacent property > 100 k) All cleanouts and monitor tubes j) Closest edge of an absorption field on adjacent property None Show distances between the well and each of the sources of contamination listed in 1. 3. Show distances between water bodies and each part of the onsite system listed in 1. 4. In a cross section view of the soil absorption area, identify each component and show the depth (thickness) of the following: f) Insulation e) Discharge pipes c) Water Table a) Soil Cover b) Absorption Material lot 17 Lot 16 Vacant House 4" Cleanout 1250 Gal. Septic Tank Garage w/Cleanouts -4" Sewer Line (Solid) -4" Monitor Tube (Typ) 4" Perf Pipe 51 Typ

Tasmania West Court

Shallow Trench SAS

SITE PLAN 1": 30"

2/2/02 Sht. 1/3

TH
(feet) SURFACE ELEVATION
Brown, Organics
Sandy Loam, SM
Brown, Loamy Sand, SM
2 Gray, Silty Sand
Sandy Silt, SM
Gray Loam, SM
Red Sandy Loam Loam, SM
4- Red, Sandy Loam, SM
Gray, Silty Sand, SM
5- Gray, Silt Loam, SM
Gravel, < 1/2, GM
6-// Gray W/Mod. Mottleing
Silty Sand, SM
7-1///
8 - Oray Gray Gravel GM
Bottom of Hole
No Water
-1. 1
1
7 1
7



Sandhill Enterprises William F. Craine, P.E. P.O. Box 728 Homer, Ak. 99603 235 - 5902 SOIL LOG – TEST HOLE #1 SHALLOW TRENCH SAS BARNETT'S SOUTH SLOPE SUBD. LOT 17 BLOCK 1 STAFFORD RESIDENCE

DATE: 12/9/01 SHEET: 3/3

Drawn: WFC

Revisions: