MECKLENBURG COUNTY
HEALTH DEPARTMENT

APPLICATION FOR A RESIDENTIAL SITE IMPROVEMENT PERMIT/ CONSTRUCTION AUTHORIZATION FOR AN ON-SITE WASTEWATER SYSTEM, NEW WELL INSTALLATION, OR REPAIR OF EXISTING WELL

1. SEPTIC / TYPE APPLICATION: ○ N/A ○ NEW SYSTEM ○ ALTERATION ○ REPAIR ● MODIFIED PLOT PLAN

2. WELL / TYPE APPLICATION: ○ N/A ● NEW WELL ○ MAJOR REPAIR ○ ABANDONMENT

3. JOB LOCATION INFORMATION:

TAX PARCEL NUMBER: 01942119
STREET ADDRESS: 13853 FOXLYN TRAIL
CITY: HUNTERSVILLE
STATE: NC ZIP: 28078
SUBDIVISION NAME: MAC WOOD
LOT #: 5 LOT SIZE (acres): 1.8

TOWNSHIP:

○ MECKLENBURG ○ CORNELIUS ● HUNTERSVILLE
○ DAVIDSON ○ CHARLOTTE ○ PINEVILLE
○ MATTHEWS ○ MINT HILL

4. BUILDING INFORMATION:

BUILDING TYPE:

○ SINGLE MOBILE HOME ○ MODULAR HOME
○ DOUBLE WIDE ○ MULTIPLE FAMILY
● HOUSE ○ OTHER _____

HEATED SQUARE FOOTAGE: 4800 SF
NUMBER OF BEDROOMS: 3 4 5PM PER PHONE CV. 3/9/11 WITH GERARD REID.
NUMBER OF OCCUPANTS: 6

FOUNDATION TYPE:

○ CONCRETE SLAB ○ BASEMENT WITH PLUMBING
● CRAWL SPACE ○ BASEMENT WITH NO PLUMBING

5. IF PLANNING TO EXPAND OR ALTER THE EXISTING SEPTIC SYSTEM PLEASE COMPLETE THE FOLLOWING SECTION: ■ N/A

NUMBER OF BEDROOMS TO BE ADDED: _____ NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE: _____

6. WATER SUPPLY: ○ MUNICIPAL ● PRIVATE WELL ○ PUBLIC WELL ○ SHARED WELL ○ OTHER _____

7. PROPOSED USE OF WELL: ○ N/A ○ IRRIGATION ● POTABLE (DRINKING WATER) ○ OTHER _____

8. PLEASE INDICATE AND RANK DESIRED SEPTIC SYSTEM TYPE(S) IN ORDER OF PREFERENCE *(1-MOST DESIRED 5-LEAST DESIRED):*

☐ N/A ☐ ANY TYPE ☐ CONVENTIONAL ☐ ACCEPTED ☐ INNOVATIVE ☐ ALTERNATIVE ☐ OTHER _____

8A. RANK: 1 ____ ____ ____ ____

9. DO ANY OF THE FOLLOWING APPLY TO THE PROPERTY IN QUESTION? IF "YES" PLEASE ATTACH SUPPORTING DOCUMENTATION.

BURIED CABLES, LANDFILLS, STUMPHOLES	● YES ○ NO	GRADING/SOIL REMOVAL PERFORMED	○ YES ● NO
EXISTING WASTEWATER (SEPTIC) SYSTEMS	○ YES ● NO	JURISDICTIONAL WETLANDS	○ YES ● NO
WELLS, SPRINGS, OR WATER LINES	○ YES ● NO	APPROVAL REQUIRED BY ANY OTHER PUBLIC AGENCY	○ YES ● NO
EASEMENTS OR RIGHT-OF-WAYS	● YES ○ NO	WASTEWATER OTHER THAN DOMESTIC SEWAGE	○ YES ● NO
CHEMICAL/PETROLEUM STORAGE TANKS	○ YES ● NO	KNOWN UNDERGROUND CONTAMINATION	○ YES ● NO
WASTE STORAGE	○ YES ● NO	GROUNDWATER USE RESTRICTIONS/VARIANCES	○ YES ● NO

10. WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? _____ ☒ UNKNOWN

11. WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY? _____ ☒ N/A

12. PROPERTY OWNER:

NAME: GERARD & KAREN REID
ADDRESS: 13844 FOXLYN TRAIL LN
CITY: HUNTERSVILLE
STATE: NC ZIP: 28078
WORK PHONE: 704-367-5609
MOBILE PHONE: 704-562-4811
FAX: 704-364-0120
E-MAIL: greid@shelcoinc.com

13. OWNER'S LEGAL REPRESENTATIVE, IF APPLICABLE:

NAME: N/A.
ADDRESS: _____
CITY: _____
STATE: _____ ZIP: _____
WORK PHONE: _____
MOBILE PHONE: _____
FAX: _____
E-MAIL: _____

MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST. SUITE 211 CHARLOTTE, NC 28202, OFFICE: 704-336-5103, FAX: 704-336-6894

Revised on: 12/15/10

14. SEPTIC SYSTEM PERMIT APPLICATION:

If the information in this application is falsified, changed, or the site is altered, then the Improvement Permit and Authorization to Construct shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for either sixty (60) months or is non-expiring depending upon the documentation submitted: complete site plan = 60 months, complete plat = non-expiring.

_____ (Initial here for septic system applications)

15. WELL PERMIT APPLICATION:

If the information in this application is falsified, changed, or the site is altered, then the Well Permit shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for a period of twelve (12) months from the date of issuance.

_____ (Initial here for well applications)

16. APPLICATION SIGNATURE SECTION:

ONLY COMPLETE APPLICATIONS WILL BE PROCESSED. A proper signature is required in order to process your application. Please review the application carefully and sign in the space provided below. A PROPOSED PLOT PLAN is required to be submitted with each application.

_____ 3/1/11

Property Owner's or Owner's Legal Representative Signature — Date

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OFFICE USE ONLY

○ SURVEY PLAT TO SCALE SUBMITTED ○ SCALED SITE PLAN SUBMITTED ○ UN-SCALED SITE PLAN SUBMITTED

SEPTIC APPLICATION FEE RECEIVED: $ 100.00 CHK 1594 & NCH DATE FEE RECEIVED: 3/2/11

WELL APPLICATION FEE RECEIVED: $ _____ DATE FEE RECEIVED: _____

APPLICATION PROCESSED BY: JC

GWS FILE NUMBER ASSIGNED: 7025B

APPLICATION ID NUMBER ASSIGNED: 4957

COMMENTS:

MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST. SUITE 211 CHARLOTTE, NC 28202, OFFICE: 704-336-5103, FAX: 704-336-6894

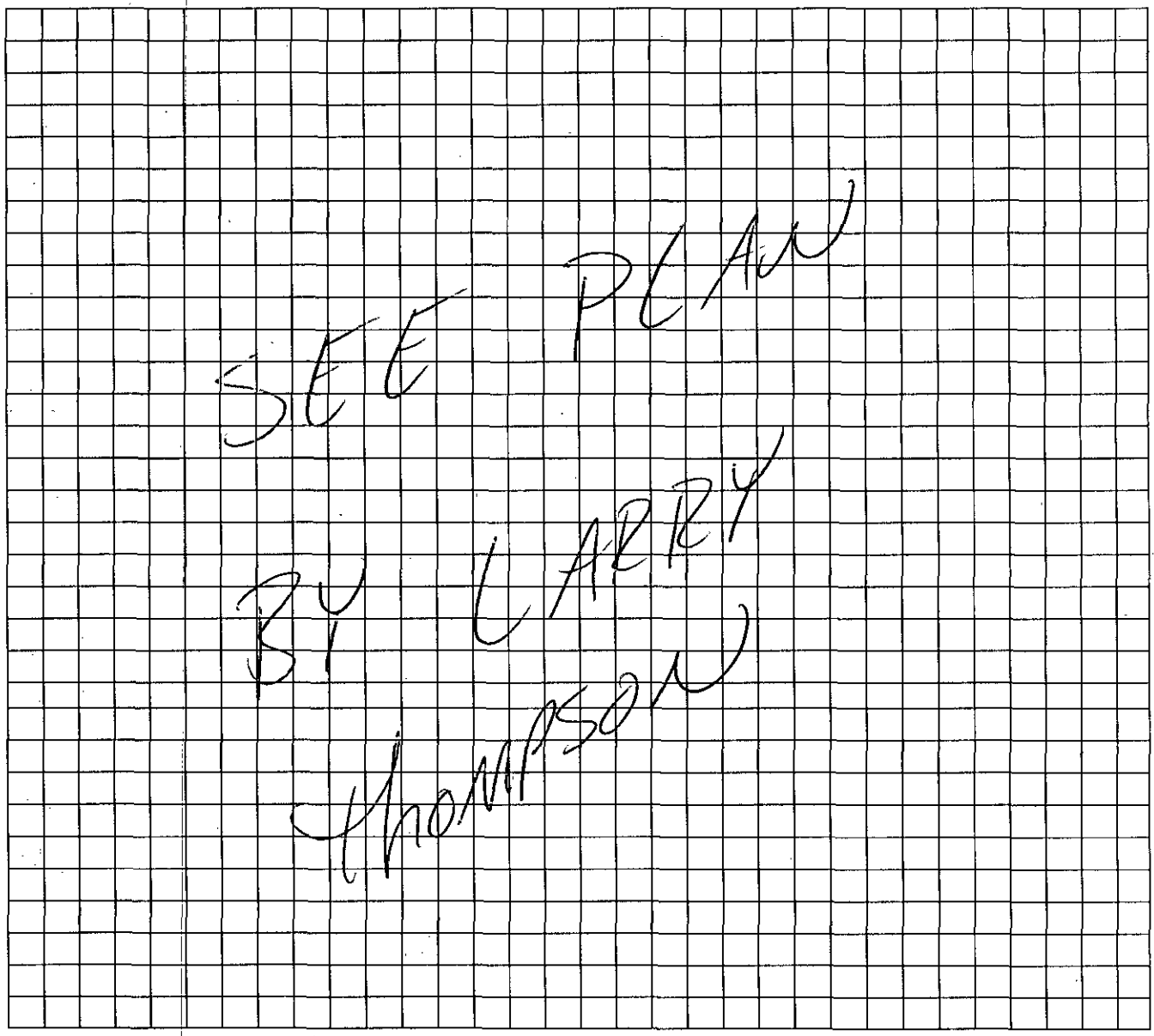
File #: _____

PROPOSED PLOT PLAN

A drawing showing the locations of the following items is required: existing and proposed property lines with dimensions, easements or right-of-ways, proposed building pad(s) or existing building footprint(s), all appurtenances (garage, driveway, deck, pool, etc.), location of existing or proposed well(s), location of existing or proposed sewer lines and sewage disposal systems, surface water bodies, and *any aboveground or underground storage tanks.* Provide names for all roads that adjoin the property.

Street Address: _____ Tax Parcel #: _____

Subdivision Name: _____ Lot #: _____



_____ _____

Property Owner's or Owner's Legal Representative Signature Date

MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST. SUITE 211 CHARLOTTE, NC 28202, OFFICE: 704-336-5103, FAX: 704-336-6894

Revised on: 12/15/10

Department of Environment, Health, and Natural Resources
Division of Environmental Health
On-site Wastewater Section

Sheet: 1 of 2
Property ID: PO 019-421-09
Lot #: 3
File #: 7023B
AppID: 2056

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

LOT # 5 EASEMENT

Owner: MacWood LLC
Applicant: Larry Foxworth
Address: 13834 Foxlyn Trail Ct., Huntersville, N. C. 28078 480
Date Evaluated: 3/25/07
Proposed Facility: Residence Design Flow (.1949): ~~360~~
Property Size: 1.8a
Location of Site: 13834 Foxlyn Trail Ct.
Property Recorded:
Water Supply: [ ] Public [x] Individual [x] Well [ ] Spring [ ] Other
Evaluation Method: [x] Auger Boring [x] Pit [ ] Cut
Type of Wastewater: [x] Sewage [ ] Industrial Process [ ] Mixed

PROFILE #	.1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY .1941 .1941 Structure/ Texture	.1941 Consistence Mineralogy	b PROFILE FACTORS .1942 Soil Wetness/ Color	.1943 Soil Depth (IN.)	.1956 Sapro Class	.1944 Restr Horiz	Profile Class & LTAR
1	LS, 6	0-6	GR/SCL	FR/SEXP/SS/SP	>45" TO SOIL WETNESS	45	N/A	NONE	PS, IV .3GPD/FT^2
		6-28	SBK/ABK/C	FI/SEXP/S/P					
		28-45	SBK/SCL	FR/SEXP/SS/SP					
2	"	0-3	GR/SCL	"	>48" TO SOIL WETNESS	48+	"	"	"
		3-24	SBK/ABK/C	FI/SEXP/S/P					
		24-48	SBK/SCL	FR/SEXP/SS/SP					
3	"	0-4	GR/SCL	"	>46" TO SOIL WETNESS	46	"	"	"
		3-31	SBK/ABK/C	FI/SEXP/S/P					
		31-46	SBK/CL	FR/SEXP/SS/SP					
4	"	0-3	GR/CL	"	"	"	"	"	"
		3-28	SBK/ABK/C	FI/SEXP/S/P					
		28-46	SBK/CL	FR/SEXP/SS/SP					
5	FS, 10	0-3	GR/CL	"	>56" TO SOIL WETNESS	48	"	"	PS, III .3GPD/FT2
		3-48	SBK/SCL	"					
		48-56	M/SL	FR/SEXP/NS/NP					
6	LS, 6	0-5	GR/SCL	FR/SEXP/SS/SP	>48" TO SOIL WETNESS	"	"	"	PS, IV .3GPD/FT^2
		5-40	SBK/ABK/C	FI/SEXP/S/P					
		40-48	SBK/CL	FR/SEXP/SS/SP					
					SITE LTAR .3GPD/FT^2				

Description	Initial System	Repair System
Available Space (.1945)	PS	PS
System Type(s)	IV a	IV a
Site LTAR	0.3	0.25

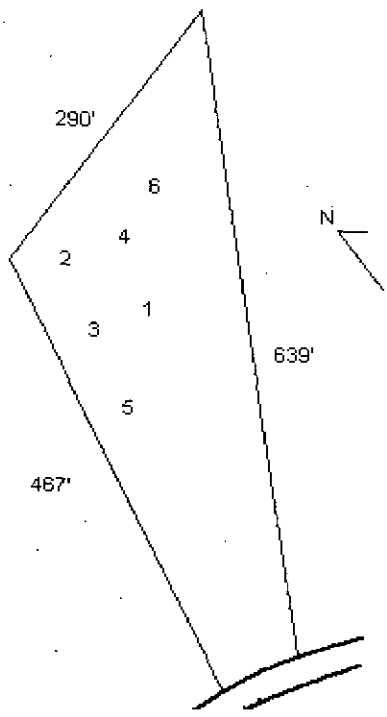
Other Factors (.1946):
Soil Evaluation By: W. R. Marlin, LSS, 4/5/2007,
Others Present:
Site Classification (.1948):
Site Evaluation By:
Others Present:

COMMENTS:
100% repair

Landscape Position	Group	Texture	.1955 LTAR	Structure
R-Ridge	I	S-Sand	1.2 - 0.8	SG-Single Grain
SS-Shoulder Slope		LS-Loamy Sand		M-Massive
LS-Linear Slope				CR-Crumb
FS-Foot Slope	II	SL-Sandy Loam	0.8 - 0.6	GR-Granular
NS-Nose Slope		L-Loam		SBK-Subangular Blocky
HS-Head Slope				ABK-Angular Blocky
CC-Concave Slope	III	SI-Silt	0.6 - 0.3	PL-Platy
CV-Convex Slope		SICL-Silty Clay Loam		PR-Prismatic
T-Terrace		CL-Clay Loam		
FP-Flood Plain		SCL-Sandy Clay Loam		
	IV	SC-Sandy Clay	0.4 - 0.1	
		SIC-Silty Clay		
		C-Clay		

Consistence Moist	Consistence Wet	Mineralogy
VFR-Very Friable	NS-Non-Sticky	SEXP-Slightly Expansive
FR-Friable	SS-Slightly Sticky	EXP-Expansive
FI-Firm	S-Sticky	
VFI-Very Firm	VS-Very Sticky	
EFI-Extremely Firm	NP-Non-Plastic	
	SP-Slightly Plastic	
	P-Plastic	
	VP-Very Plastic	

Sketch of Soil Evaluation Locations



Residential Subsurface Wastewater Treatment and Disposal System Design

for

Lot 5 – MacWood Subdivision
13853 Foxlyn Trail Court
Huntersville, North Carolina

Tax Parcel # 019-421-119
MCGWS File # 7025B
February 25, 2011

GWS Septic System Design Review

GWS File #: 70258 **Approved** ☒ **Disapproved** ☐

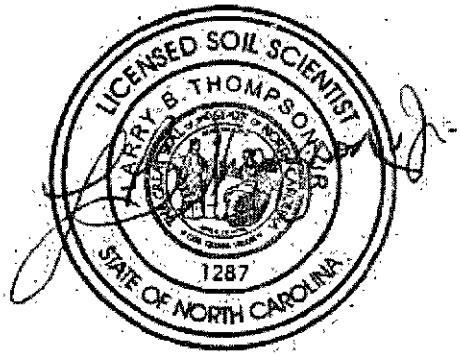
Design Review: JPM ☒ ☐

Field Review: JPM ☒ ☐

***Projects are not considered "APPROVED" until both sections above are completed and indicate an APPROVED status.**

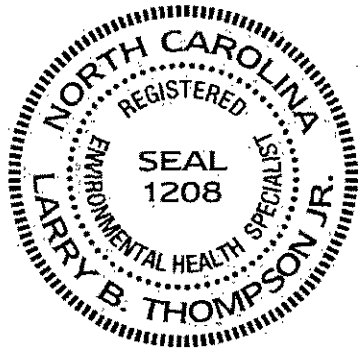
Prepared for:

Mr. Gerard Reid
13844 Foxlyn Trail Court
Huntersville, NC 28078



Prepared by:

Larry Thompson, REHS, PWS, LSS
Thompson Environmental Consulting, Inc.
114 Orchard Ridge Road
Locust, NC 28097-8748
Phone: 704-301-4881
Fax: 704-888-1496
info@thompsonenv.com



cc: Mr. Jeremy Michelone, RS
Mecklenburg County Groundwater and Wastewater Services

Details

Mr. Gerard Reid has contracted with Thompson Environmental Consulting, Inc. (TEC) to prepare a revised septic proposal for a 4-bedroom single family residence to be located on Lot 5 of the MacWood Subdivision in Huntersville, North Carolina.

Based upon an investigation performed by TEC on the 1.793 acre lot, it was determined that the soils ocurring on that lot would be classified as "Unsuitable" for the installation of a subsurface wastewater treatment and disposal system. There is, however, a dedicated easement area located behind Lot 3 in a common area that contains a sufficient amount of "Suitable" Group IV soils for the installation of a Type III accepted system (25% reduction) for a 4-bedroom residence. The proposed repair system would be a pre-fabricated porous block panel system (PPBPS). The residence will be served by a private well to be located on Lot 5.

Mr. Reid would like to request that Mecklenburg Groundwater and Wastewater Services (MCGWS) consider issuing the appropriate permits for a subsurface wastewater treatment and disposal system based upon the following proposal.

Location

The subject property is located in the MacWood subdivision in Huntersville, North Carolina. From Charlotte, travel north on I-77 approximately 12 miles and take Exit 23 onto Gilead Road. Turn left onto N. Old Statesville Road and right onto Ramah Church Road. Travel approximately two mile and turn right onto MacWood Road. Foxlyn Trail Court will be located on the left and Lot 5 is located on the left in the cul-de-sac.

References

Laws and Rules for Sewage Treatment and Disposal Systems, 15A NCAC 18A, Section .1900, Department of Environment and Natural Resources, Division of Environmental Health, On-Site Wastewater Section, August 2007.

Accepted Wastewater System No. AWWS-05-01; North Carolina Department of Environment and Natural Resources, Division of Environmental Health, On-Site Wastewater Section, April 2, 2005.

Accepted Wastewater System No. AWWS-05-02-R1; North Carolina Department of Environment and Natural Resources, Division of Environmental Health, On-Site Wastewater Section, April 2, 2005.

Primary Investigator's Credentials

NC Registered Sanitarian No. 1208
NC Licensed Soil Scientist No. 1287
Professional Wetland Scientist No. 1346
NC Subsurface Septic System Operator No. 22199

NC Grade IV Wastewater System Installer No. 1762
NC Certified Wastewater System Inspector No. 17621

Plans and Specifications

A. Septic Tank

1. The septic tank shall be State approved (Section .1953 of 15A NCAC 18A), watertight, structurally sound, and 1500 gallons in capacity.
2. The septic tank will be fitted with an approved effluent filter and riser for easy access and periodic maintenance.
3. It is the responsibility of the septic contractor to thoroughly inspect the septic tank prior to accepting delivery to assure that the tank has had time to properly cure and is free of cracks or other structural deficiencies.

B. Pump Tank

1. The pump tank shall be State approved, of one-piece construction, watertight, structurally sound and, at a minimum, 1000 gallons in capacity. Again, it is the responsibility of the septic tank contractor to thoroughly inspect each pump tank prior to accepting delivery.
2. All pipe penetrations into the tank shall be booted (i.e., C-293 boot with a stainless steel strap).
3. The pump tank shall have access risers that extend, at a minimum, 6 inches above finished grade and must have less than 36 inches of fill over its top once finished grade has been established (a reinforced concrete tank will be required if finished soil cover is 36 inches or greater in depth).
4. Floats, pump and control circuits, and the control panel shall meet the requirements of Rule .1952(c). Panel and control equipment shall include lightning protection, be protected from unauthorized access, and remain accessible at all times to the system operator.
5. The pump and alarm controls shall be provided with manual circuit disconnects within a watertight, corrosion resistant, Nema 4x rated control panel. The control panel must be securely mounted outside, adjacent to the pump tank riser and at a minimum of 12 inches above finished grade. Pump and float control wiring should be long enough to reach from the tank to the control panel without splicing, routed through wire conduit, and sealed at the openings within the pump tank as well as the control panel enclosure. It is paramount that the conduit is properly sealed to prevent the escape of flammable gases from the pump tank. Furthermore, there must be two electrical circuits for the pump tank controls: one for the pump and one for the alarm controls.
6. Float switch tie downs must be made of a corrosion resistant material (all metal in the tanks shall be stainless steel). Floats should be mounted on a separate "float tree" rather than the pump supply line (see pump tank detail).
7. The pump removal system will be via a pump tether made of nylon rope or its equivalent. The tether material should be resistant to mildew and rot.

C. Pipe, Fittings and Supply Line

1. All discharge piping, connectors and supply lines should be made of SCH 40 PVC.
2. All joints must be properly "welded" utilizing the appropriate PVC cement for each application.
3. The supply line shall be constructed of 2 inch SCH 40 PVC (approximately 600 linear feet).

D. Pressure Manifold

1. A pressure manifold shall be used to distribute wastewater equally to each of the drainlines.
2. The pressure manifold shall be contained within an adequately sized box/vault that will allow future repair lines to be installed and is designed to allow for drainage of effluent that may accumulate in it during flushing and head pressure adjustments. The box should be placed upon a gravel base.
3. A gate valve shall be provided at the pressure manifold box to allow for final pressure adjustment (2 foot of head pressure as per design).
4. The pressure manifold shall be constructed of SCH 80 PVC.
5. There shall be 3 taps (SCH. 80 PVC - direct thread or saddle), ½ inch in diameter, each to have a true union ball valve that will allow for future removal/replacement. NOTE: Using SCH 40 taps will increase the required pump delivery rate beyond that which is specified in this design.
6. The connecting pipe between the Pressure Manifold taps and the drain field shall be constructed of PVC.

E. Drain Field Installation

1. The drainfield has been previously laid out on-site utilizing metal stemmed flags. Once this area has been approved by the MCGWS, the property owner/builder should mark this area and isolate it as much as possible from construction traffic. Prior to the system installation, the septic contractor shall contact the MCGWS and the system designer for a preconstruction conference at which time the drain field area will be re-verified.
2. Under no circumstances shall any construction take place within the drain field area while the soil is in a wet condition. If the installer has doubts as to whether or not the drain field area is dry enough to begin construction, the MCGWS should be contacted for permission to proceed with the installation.
3. The specified system is a shallow placed approved accepted system; the **EZ*flow* 1203H, Infiltrator Quick4 Standard Chamber System** or other systems with a 25% reduction approval granted by the state.
4. The drain field consists of three (3) lateral trenches to be constructed 3 foot wide by 135 feet in length.
5. The maximum trench depth for this system shall be **36 inches**.

6. The laterals are to be installed on contour with the land, keeping the individual trench bottoms level from beginning to end.
7. The trenches should be left open for the final inspection by the MCGWS.

F. Final Landscaping

1. Final cover over the drainfield shall be at least 6 inches deep.
2. The drainfield shall be shaped to shed rainwater and be free from low spots.
3. The drainfield area should be planted with grass as soon as possible to prevent erosion. The soil should be properly tilled, limed (if necessary) and fertilized prior to planting. After applying grass seed, the area should be heavily mulched with straw or other suitable material.

G. Utility Conflicts

1. The builder and property owner must take special care in planning for water, power, gas, telephone and cable lines. These utilities shall be kept clear of all parts of the septic system and its proposed repair area. Improper planning for underground utilities can negatively impact the installation and, in some cases, cause irreparable damage and permit revocation. If there are any questions regarding preferred routes, contact the MCGWS as soon as possible.
2. Lawn irrigation should not be placed over the drain field area.

Maintenance

H. In General

1. The homeowner must maintain the drainfield area through periodic mowing. The drainfield must not be allowed to become overgrown.
2. The septic tank should be pumped every 4 years or when the solids within the septic tank reach an elevation that is equivalent to 25 percent of the volume of the tank. In some situations, the tanks may need to be pumped more frequently. If using a garbage disposal, it is recommended that the homeowner has the septic and pump tanks cleaned out annually.
3. When it becomes necessary to clean the effluent filter, the filter should be removed and the accumulated debris washed back into the septic tank – not onto the lawn.
4. Any damp areas, leakages or malfunctions in the drainfield area should be addressed immediately.
5. Divert gutter downspouts and surface water runoff away from the septic and pump tanks.

I. Suggestions to the Homeowner

1. As previously mentioned, if you plan to use a garbage disposal in your home you should plan to have your septic and pump tanks cleaned out annually. The ground

up garbage adds large amounts of solids into a septic tank that tend to degrade at a very slow rate.

2. Grease, cooking oils, coffee grounds and non-degradable solids (disposable diapers, cigarettes and solid paper wastes) should never be put into a septic tank.
3. Used motor oil or any oily liquids should not be disposed of in a septic tank.
4. Be aware of the amount of water that you are using in your home. Water saving fixtures and devices can be installed on sinks, toilets and showers to reduce the volume of wastewater that you are sending to your drain field.
5. Run dishwashers and washing machines only when you have a full load.
6. Use liquid detergents. Powdered detergents have binding agents in them that tend to solidify in the wastewater disposal system.
7. Repair leaky faucets and toilets. Small drips equal large volumes of water over time and can over burden your drain field.
8. Do not use chemical additives in your system. Studies have indicated that they do not increase the biological activity that naturally occurs in the septic system and in some cases certain additives have been found to be detrimental to the life of a system.

Design Specifics

Daily Design Flow:	480 GPD – 4 bedroom house
Septic Tank Size:	1500 gallons (2 compartments)
Pump Tank Size:	1000 gallons (one piece const.)
Effluent Loading Rate:	Design = 0.3 GPD per sq. ft.
Drain Field Type:	Accepted 25% Reduction
Supply Line:	+/- 600 Feet (2 inch SCH 40)
Distribution Method:	Pressure Manifold (SCH 80)
Number of Taps and Size:	(3) ½ inch SCH 80 Taps
Drain Lines:	(3) 3' Wide x 135' Long
Maximum Trench Depth:	36 inches
Final Cover Requirement:	6 inches (minimum)
Pump Requirements:	16.44 GPM at 25 Feet TDH
Pump Specified:	Goulds WE05H (or equivalent)
Check Valve Required:	Yes

Thompson Environmental Consulting, Inc.
114 Orchard Ridge Road
Locust, NC 28097-8748
704-301-4881

SHEET 1 OF 1

COUNTY: Mecklenburg County
TAX ID: 019-421-119

OWNER: Gerard Reid
LOCATION: MacWood - Lot 5 Septic Easement Ai

DATE: February 25, 2011

PROFILES		SB-1	SB-2								
LANDSCAPE POSITION	.1940	ls	ls								
SLOPE (%)	.1940	4%	4%								
HORIZON 1 DEPTH	.1943	0-5	0-7								
TEXTURE	.1941 (a)(1)										
CONSISTENCE	.1941										
STRUCTURE	.1941 (a)(2)										
CLAY MINERALOGY	.1941 (a)(3)										
HORIZON 2 DEPTH	.1943	5-10	7-30								
TEXTURE	.1941 (a)(1)	scl	c								
CONSISTENCE	.1941	fi	fi								
STRUCTURE	.1941 (a)(2)	sbk	sbk								
CLAY MINERALOGY	.1941 (a)(3)	se	se								
HORIZON 3 DEPTH	.1943	10-32	30-52+								
TEXTURE	.1941 (a)(1)	c	scl								
CONSISTENCE	.1941	fi	fr								
STRUCTURE	.1941 (a)(2)	sbk	sbk								
CLAY MINERALOGY	.1941 (a)(3)	se	se								
HORIZON 4 DEPTH	.1943	32-53+									
TEXTURE	.1941 (a)(1)	scl									
CONSISTENCE	.1941	fr									
STRUCTURE	.1941 (a)(2)	sbk									
CLAY MINERALOGY	.1941 (a)(3)	se									
SOIL WETNESS	.1942										
RESTRICTIVE HORIZON	.1944										
SAPROLITE	.1943/.1956										
CLASSIFICATION	.1948	s	s								
L.T.A.R. (gpd/ft^2)	.1955	0.3	0.3								

OTHER FACTORS (.1946):
AVAILABLE SPACE (.1945): provisionally suitable
SITE CLASSIFICATION (.1948): provisionally suitable

SITE LTAR (gpd/ft^2): 0.3

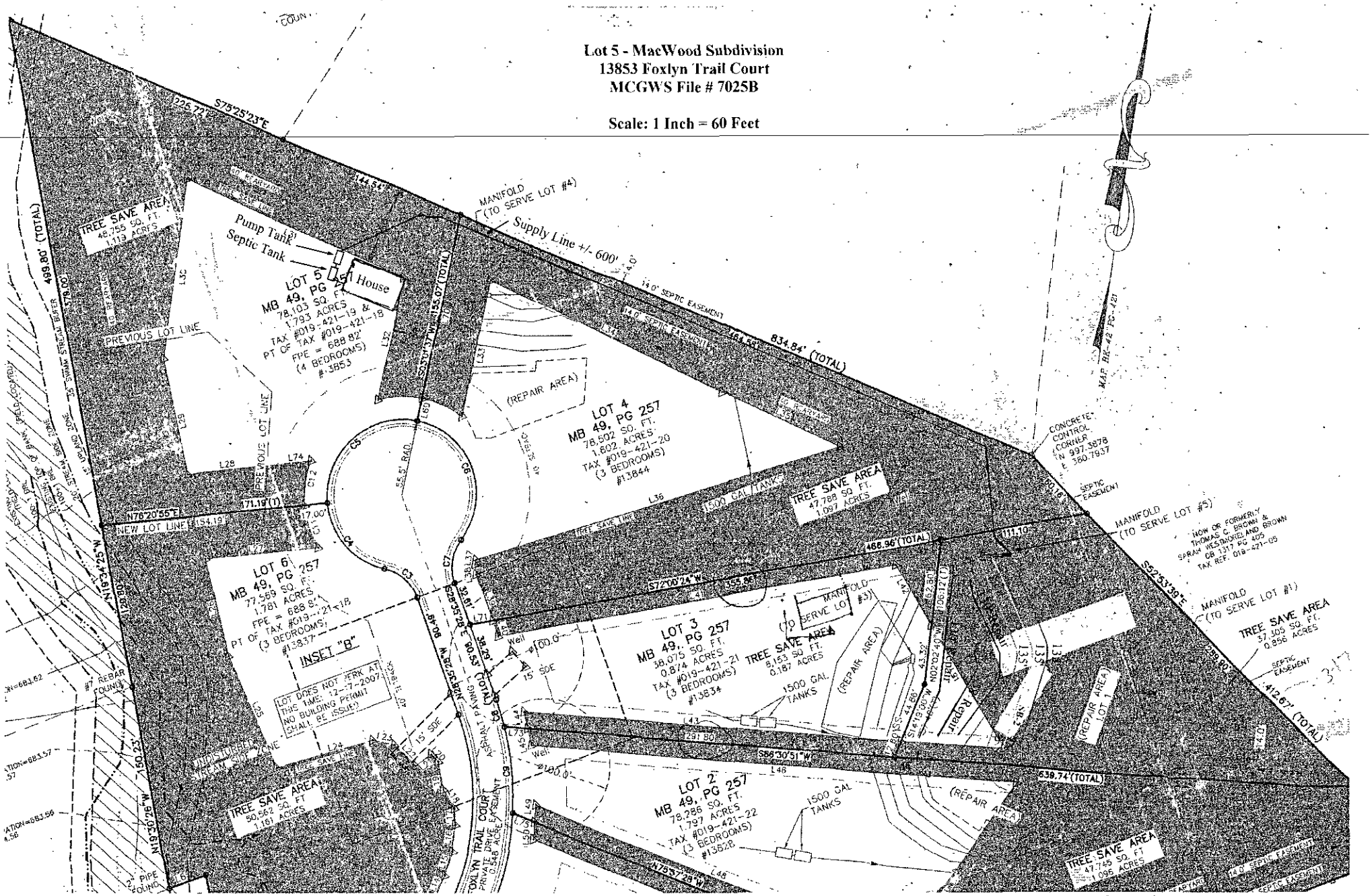
SYSTEM TYPE: 25% reduction w/ PPBPS repair

EVALUATED BY: Larry Thompson
OTHERS PRESENT:

COMMENTS: First 5-7 inches of soil is mixed/fill material.

Lot 5 - MacWood Subdivision
13853 Foxlyn Trail Court
MCGWS File # 7025B

Scale: 1 Inch = 60 Feet



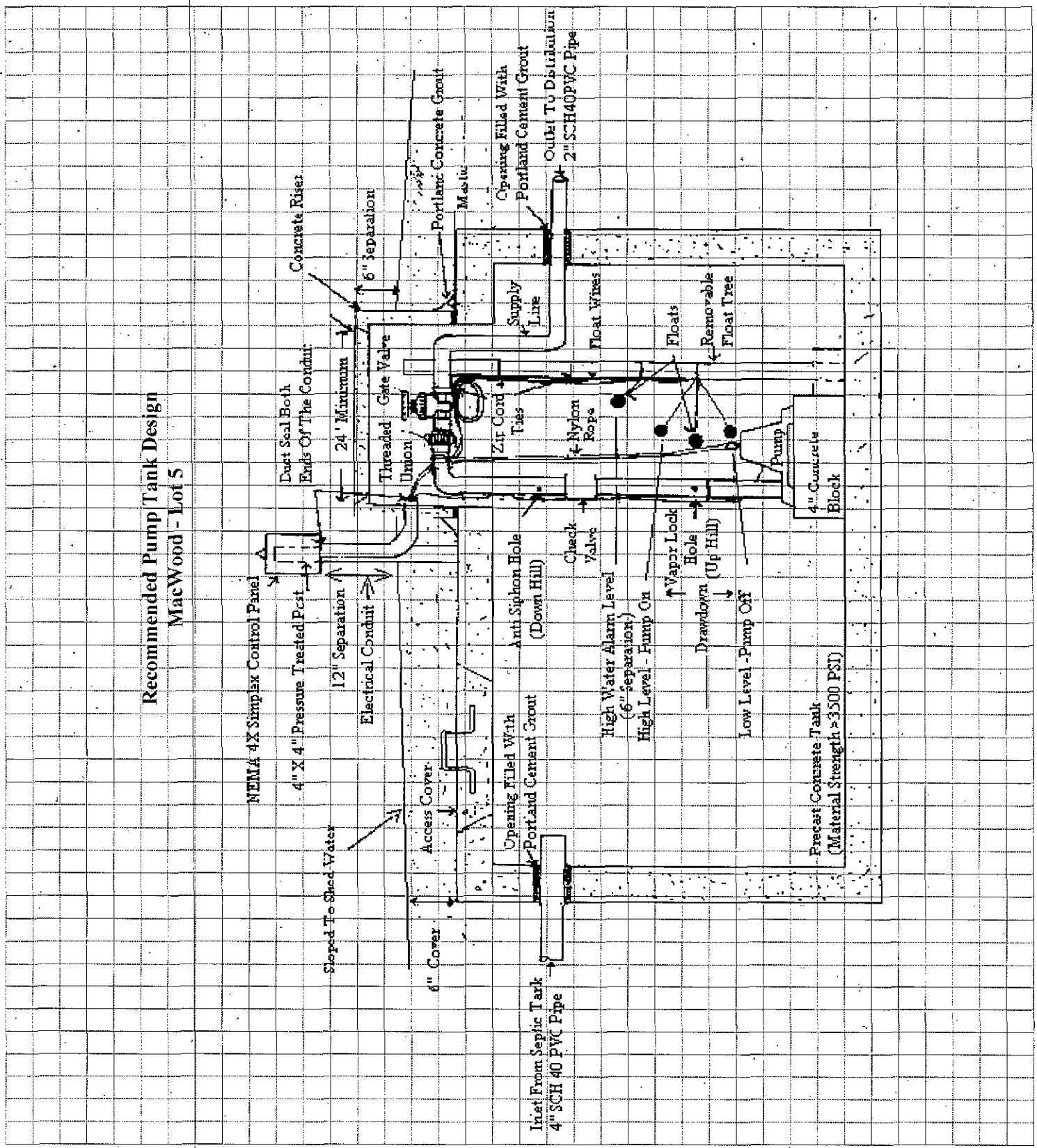
Thompson Environmental Consulting
114 Orchard Ridge Road
Locust, NC 28097-8748

MCGWS File No.: 7025B

Location: MacWood - Lot 5

Date: February 24, 2011

Recommended Pump Tank Design
MacWood - Lot 5



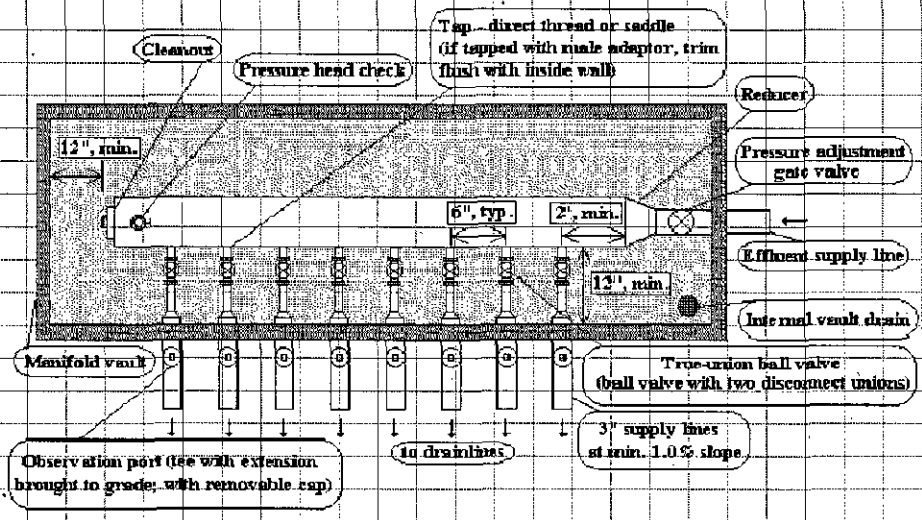
Thompson Environmental Consulting, Inc.
114 Orchard Ridge Road
Locust, NC 28097

MCGWS File No.: 7025B

Location: MacWood - Lot 5

Date: February 24, 2011

Recommended Pressure Manifold Design



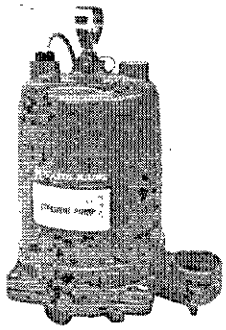
GOULDS PUMPS

Submersible Effluent Pump

MODEL 3885

WE Series

PROSURANCE AVAILABLE FOR RESIDENTIAL APPLICATIONS.



APPLICATIONS

Specifically designed for the following uses:

- Homes
- Farms
- Trailer courts
- Motels
- Schools
- Hospitals
- Industry
- Effluent systems

SPECIFICATIONS

Pump

- Solids handling capabilities: ¾" maximum.
- Discharge size: 2" NPT.
- Capacities: up to 140 GPM.
- Total heads: up to 128 feet TDH.
- Temperature: 104°F (40°C) continuous 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

FEATURES

■ **Impeller:** Cast iron, semi-open, non-clog with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.

■ **Casing:** Cast iron volute type for maximum efficiency. 2" NPT discharge.

■ **Mechanical Seal: SILICON CARBIDE VS. SILICON CARBIDE** sealing faces. Stainless steel metal parts, BUNA-N elastomers.

■ **Shaft:** Corrosion-resistant, stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.

■ **Fasteners:** 300 series stainless steel.

■ Capable of running dry without damage to components.

■ Designed for continuous operation when fully submerged.

MOTORS

■ Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.

■ Class B insulation on ⅓-1½ HP models.

■ Class F insulation on 2 HP models.

Single phase (60 Hz):

- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.
- SJTOW or STOW severe duty oil and water resistant power cords.
- ⅓ and ½ HP models have NEMA three prong grounding plugs.
- ¾ HP and larger units have bare lead cord ends.

Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.

■ **Designed for Continuous Operation:** Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.

■ **Bearings:** Upper and lower heavy duty ball bearing construction.

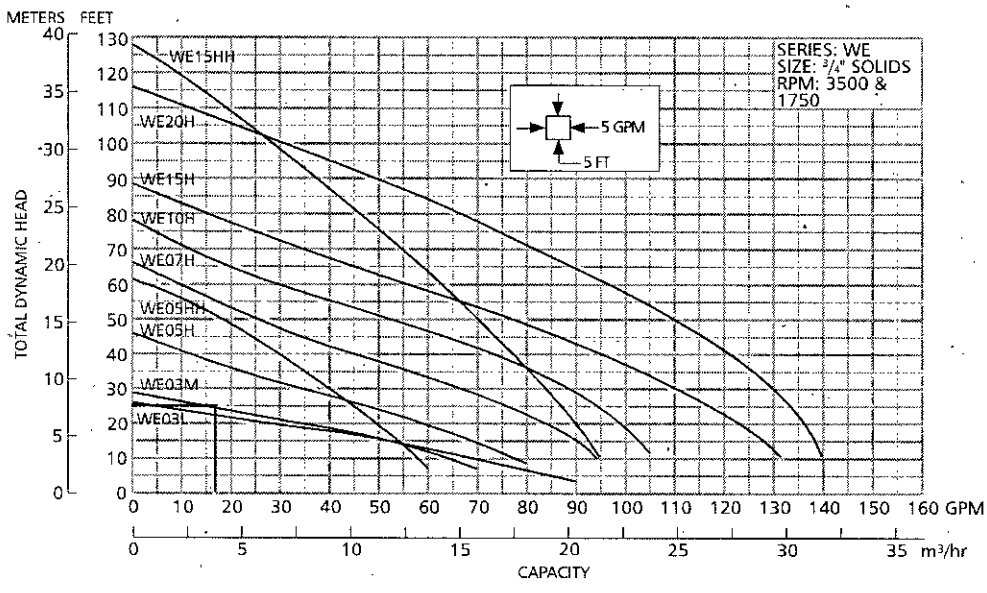
■ **Power Cable:** Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.

■ **O-ring:** Assures positive sealing against contaminants and oil leakage.

AGENCY LISTINGS

Tested to UL 778 and CSA 22.2 108 Standards By Canadian Standards Association File #LR38549

Goulds Pumps is ISO 9001 Registered.



Goulds Pumps

ITT Industries

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B3885

GOULDS PUMPS

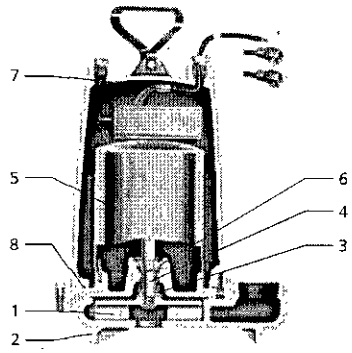
Submersible Effluent Pump

MODEL 3885

WE Series

COMPONENTS

Item No.	Description
1	Impeller
2	Casing
3	Mechanical Seal
4	Motor Shaft
5	Motor
6	Ball Bearings
7	Power Cable
8	Casing O-Ring



MODELS

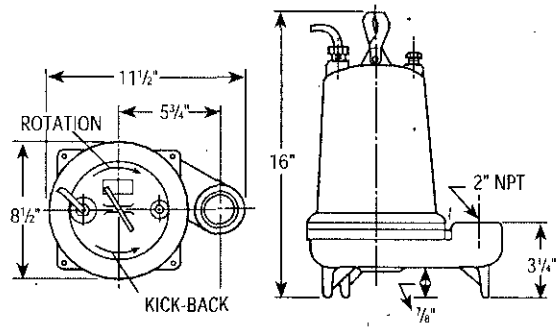
Order No.	HP	Volts	Phase	Max. Amp.	RPM	Solids	Wt. (lbs.)
WE0311L	1/3	115	1	10.7	1750	3/4"	56
WE0318L		208		6.8			
WE0312L		230		4.9			
WE0311M		115		10.7			
WE0318M		208		6.8			
WE0312M		230		4.9			
WE0511H	1/2	115	1	14.5	3500		60
WE0518H		208		8.1			
WE0512H		230		7.3			
WE0538H		200	3	4.9			
WE0532H		230		3.3			
WE0534H		460		1.7			
WE0537H		575		1.4			
WE0511HH		115	1	14.5			
WE0518HH		208		8.1			
WE0512HH		230		7.3			
WE0538HH		200	3	4.9			
WE0532HH		230		3.6			
WE0534HH		460		1.8			
WE0537HH		575		1.5			
WE0718H	3/4	208	1	11.0			70
WE0712H		230		10.0			
WE0738H		200	3	6.2			
WE0732H		230		5.4			
WE0734H		460		2.7			
WE0737H		575		2.2			
WE1018H	1	208	1	14.0			
WE1012H		230		12.5			
WE1038H		200	3	8.1			
WE1032H		230		7.0			
WE1034H		460		3.5			
WE1037H		575		2.8			
WE1518H	1 1/2	208	1	17.5			80
WE1512H		230		15.7			
WE1538H		200	3	10.6			
WE1532H		230		9.2			
WE1534H		460		4.6			
WE1537H		575		3.7			
WE1518HH		208	1	17.5			
WE1512HH		230		15.7			
WE1538HH		200	3	10.6			
WE1532HH		230		9.2			
WE1534HH		460		4.6			
WE1537HH		575		3.7			
WE2012H	2	230	1	18.0			83
WE2038H		200	3	12.0			
WE2032H		230		11.6			
WE2034H		460		5.8			
WE2037H		575		4.7			

PERFORMANCE RATINGS (gallons per minute)

Order No.		WE03L	WE03M	WE05H	WE07H	WE10H	WE15H	WE05HH	WE15HH	WE20H
Total Head Feet of Water	HP	1/3	1/3	1/2	3/4	1	1 1/2	1/2	1 1/2	2
	RPM	1750	1750	3500	3500	3500	3500	3500	3500	3500
	5	86	–	–	–	–	–	–	–	–
	10	70	63	78	–	–	–	58	–	–
	15	52	50	70	90	–	–	53	–	–
	20	27	35	60	83	98	123	49	90	136
	25	–	–	48	76	94	117	45	87	133
	30	–	–	35	67	88	110	40	83	130
	35	–	–	20	57	82	103	35	80	126
	40	–	–	–	45	74	95	30	77	121
	45	–	–	–	35	64	86	25	74	116
	50	–	–	–	25	53	77	–	70	110
	55	–	–	–	–	40	67	–	66	103
	60	–	–	–	–	30	56	–	63	96
	65	–	–	–	–	20	45	–	58	89
	70	–	–	–	–	–	35	–	55	81
	75	–	–	–	–	–	25	–	51	74
	80	–	–	–	–	–	–	–	47	66
	90	–	–	–	–	–	–	–	37	49
	100	–	–	–	–	–	–	–	28	30

DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)



Goulds Pumps and the ITT Engineered Blocks Symbol are registered trademarks and tradenames of ITT Industries.

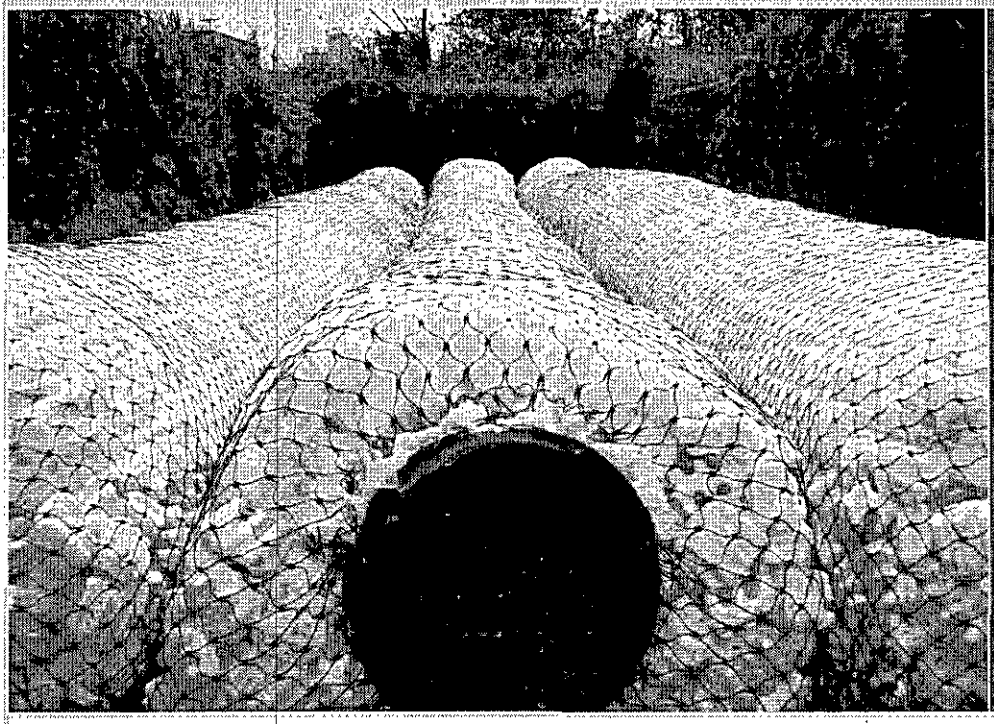
PRINTED IN U.S.A.

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Goulds Pumps

ITT Industries

EZflow by INFILTRATOR



EZflow by infiltrator is an environmentally friendly replacement to traditional stone and pipe drainfields using an engineered geosynthetic aggregate modular design. The EZflow system is designed to improve infiltration performance by eliminating the fines associated with crushed stone and reducing compaction and embedment associated with stone. Preassembled units include a 3" or 4" perforated pipe surrounded by aggregate and held in place with a durable high-strength netting. This product comes in easy-to-contour 5' and 10' lengths and in diameters of 7, 8, 9, 10, 12, 13, or 14 inches.

Compared with stone and pipe, benefits include:

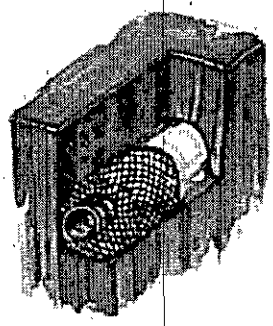
- Always clean and free of fines
- Bundles are quick to install, saving costs on heavy machinery and labor
- Modular construction allows configurations to match trench dimensions for most system shapes and sizes
- Engineered for optimal storage and absorption efficiencies
- Ability to contour along sloped sites and around trees or landscaping
- Lightweight system is perfect for repairs and tight job sites
- Easily hand-carried into position reducing time and labor
- 5' or 10' lengths with simple snap, internal couplers
- Easier cleanup at the job site with the elimination of stone
- Manufactured from recycled materials rather than a mined natural resource
- A wide variety of diameters and configurations to meet any installation professional's needs
- Approved in many jurisdictions with an increased efficiency rating, reducing drain field size
- Also useful for foundation and other drainage applications
- Backed by the leader in the onsite wastewater industry

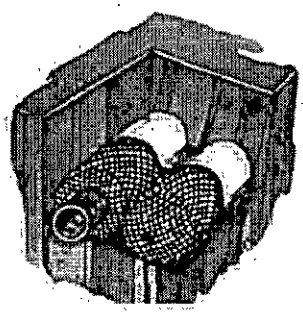
EZflow™ by INFILTRATOR

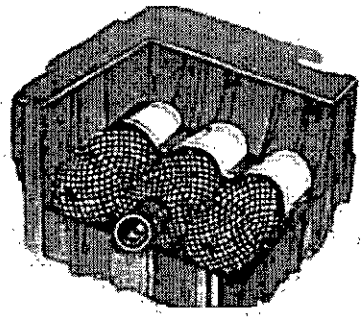
For technical assistance, installation instructions or customer service, call Infiltrator Systems at 800.689.7759.

EZflow by INFILTRATOR

Configurations: Available in 7", 8", 9", 10", 12", 13" and 14" diameter bundles.





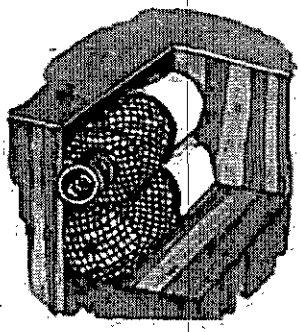


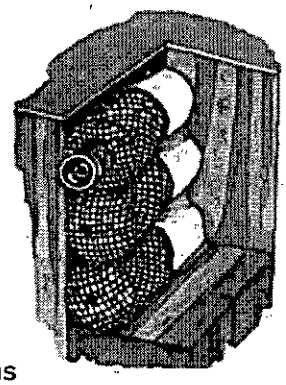
Single Pipe Systems

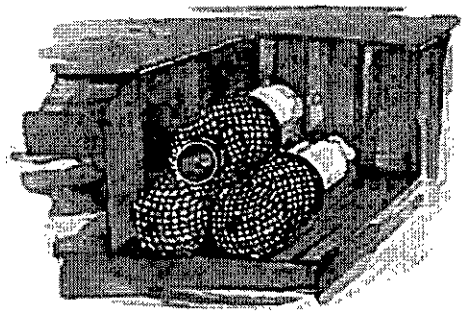
0701P-GEO
0801P-GEO
1001P-GEO
1001LPP-GEO
1201P-GEO
1201LPP-GEO
1401P-GEO

Horizontal Systems

0705H-GEO
0904H-GEO
1002H-GEO
1003H-GEO
1006H-GEO
1202H-GEO
1203H-GEO
1203HP-GEO
1206H-GEO
1209H-GEO
1303H-GEO
1402H-GEO







Vertical Systems

1002V-GEO
1003V-GEO
1004V-GEO
1006V-GEO
1202V-GEO
1203V-GEO
1204V-GEO
1206V-GEO
1402V-GEO

Triangular Systems

1003T-GEO
1203T-GEO
1303T-GEO
1403T-GEO

Notes:

1. Other systems include 12" square and 10" and 12" bed systems. Bed systems will dictate the number of bundles.

2. System dimensions are dependent upon bundle diameter and configuration.

3. LLP is for "Low Pressure Pipe" in which a pressurized distribution pipe is field installed within the corrugated pipe.

4. Internal pipe and couplings meet the requirements of ASTM F405.

5. Bundles are also available without geotextile between the netting and synthetic aggregrate.

INFILTRATOR SYSTEMS INC. STANDARD LIMITED WARRANTY

(a) The structural integrity of each EZflow by Infiltrator expanded polystyrene drainfield system and other accessories manufactured by EZflow by Infiltrator ("Units"), when installed and operated in a leachfield of an onsite sewage system in accordance with Infiltrator's instructions, is warranted to the original purchaser ("Holder") against defective materials and workmanship for one year from the date that the septic permit is issued for the sewage system containing the Units, provided, however, that if a septic permit is not required by applicable law the warranty period will begin upon the date that installation of the septic system commences. To exercise its warranty rights, Holder must notify Infiltrator in writing at its Corporate Headquarters in Old Saybrook, Connecticut within fifteen (15) days of the alleged defect. Infiltrator will supply replacement Units for Units determined by EZflow by Infiltrator to be covered by this Limited Warranty. EZflow by Infiltrator's liability specifically excludes the cost of removal and/or installation of the Units.

(b) THE LIMITED WARRANTY AND REMEDIES IN SUBPARAGRAPH (a) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES WITH RESPECT TO THE UNITS INCLUDING NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

(c) This Limited Warranty shall be void if any part of the EZflow system is manufactured by anyone other than EZflow by Infiltrator. The Limited Warranty does not extend to incidental, consequential or indirect damages. Infiltrator shall not be liable for penalties or liquidated damages, including loss of production and profits, labor and materials, overhead costs, or other losses or expenses incurred by the Holder or any third party. Specifically excluded from Limited Warranty coverage are damage to the Units due to ordinary wear and tear, alteration, accident, misuse, abuse or neglect of the Units; the Units being subjected to vehicle traffic or other conditions which are not permitted by the installation instructions; failure to maintain the minimum ground covers set forth in the instruction manual forms; the placement of improper materials into the system containing the Units; failure of the Units or the septic system due to improper sizing or improper siting, excessive water levels, improper grease disposal or improper operation, or any other event not caused by Infiltrator. This Limited Warranty shall be void if the Holder fails to comply with all of the terms set forth in this Limited Warranty. Further, in no event shall Infiltrator be responsible for any loss or costs paid to the Holder, the Units, or any third party resulting from installation or shipment, or from any product liability claims of Holder or any third party. For this Limited Warranty to apply, the Units must be installed in accordance with all site conditions required by state and local codes, all other applicable laws, and Infiltrator's installation instructions.

(d) No representative of Infiltrator has the authority to change or extend this Limited Warranty. No warranty applies to any party other than the original Holder.

* * * * * * *

The above represents the Standard Limited Warranty offered by Infiltrator. A limited number of states and counties have different warranty requirements. Any purchaser of Units should contact Infiltrator's Corporate Headquarters in Old Saybrook, Connecticut, prior to each purchase, to obtain a copy of the applicable warranty, and should carefully read that warranty prior to the purchase of Units.

INFILTRATOR®
systems inc.

6 Business Park Road • P.O. Box 768
Old Saybrook, CT 06475
860.577.7000 • FAX 860.577.7001

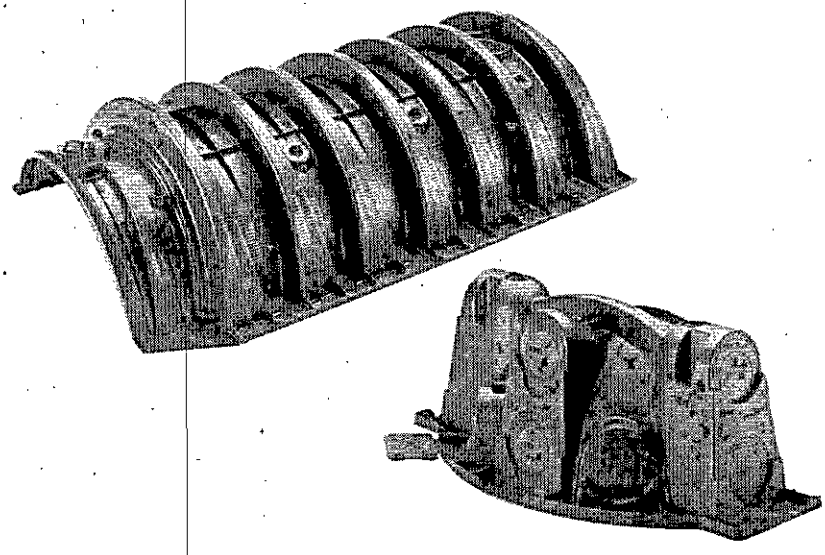
800.689.7759
www.ezflowlp.com
www.infiltratorsystems.com

For technical assistance, installation instructions or customer service, call Infiltrator Systems at 800.689.7759.

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The **Quick4® Standard** Chamber

INFILTRATOR systems inc.



The evolutionary patent-pending Quick4® Standard Chamber fits in a 36" wide trench and is ideal for curved or straight systems. It features the patent-pending Contour Swivel Connection™ which permits 10-degree turns, right or left. The MultiPort™ end cap allows multiple piping options and eliminates pipe fittings. The chamber's four-foot length provides optimal installation flexibility.

The Quick4 Standard Chamber Offers You These Unique Benefits:

- Advanced contouring connections swivel 10-degrees, right or left
- Latching mechanism allows for quick installation
- Compact nesting provides more trench length in an equivalent stack height
- Four-foot chambers are easy to handle and install
- The Quick4 Standard Chamber supports wheel loads of 16,000 lbs/axle with only 12" of cover
- Certified by the International Association of Plumbing and Mechanical Officials (IAPMO)

The MultiPort End Cap Offers These Unique Benefits:

- Patent-pending tear-out seals on inlet ports provide a tight fit to the pipe
- Eight molded-in inlets/outlets allow for maximum piping flexibility
- Multiple ports eliminate pipe fittings and make looping ends easy
- Patent-pending MultiPort end cap fits on either end of the Quick4 Standard Chamber

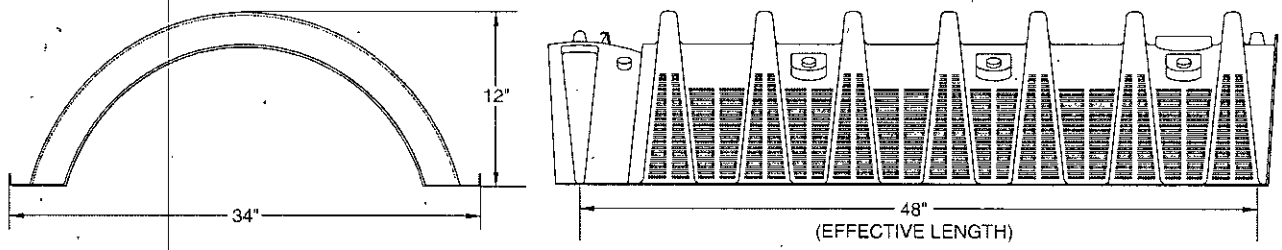
Infiltrator is the number-one septic leachfield chamber system in the onsite industry, with over 42 million units in-ground in all 50 states and 24 countries.

Approved in _____

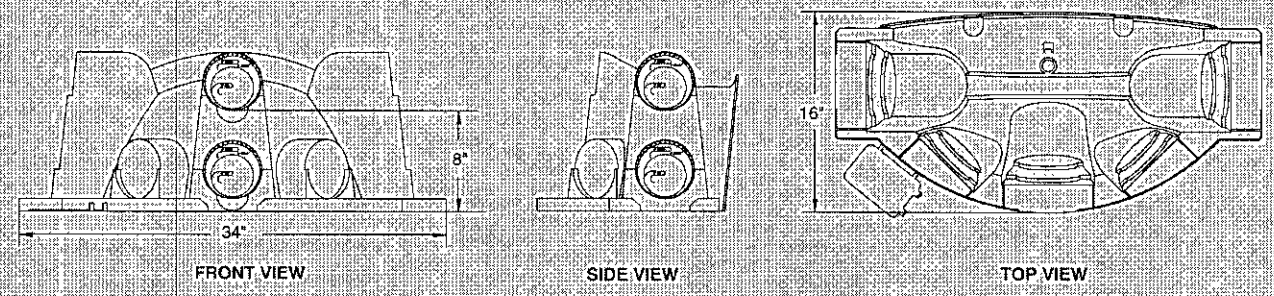


The **Quick4® Standard** Chamber

The Quick4 Standard Chamber



MultiPort End Cap



Quick4 Standard Chamber Specifications

Size (W x L x H) .....34" x 53" x 12" (86 cm x 135 cm x 31 cm)	Louver Height .....8" (20 cm)
Effective Length .....48" (122 cm)	Invert Height .....8" (20 cm)

INFILTRATOR SYSTEMS, INC. STANDARD LIMITED WARRANTY

(a) The structural integrity of each chamber, end cap and other accessory manufactured by Infiltrator ("Units"), when installed and operated in a leachfield of an onsite septic system in accordance with Infiltrator's instructions, is warranted to the original purchaser ("Holder") against defective materials and workmanship for one year from the date that the septic permit is issued for the septic system containing the Units, provided, however, that if a septic permit is not required by applicable law, the warranty period will begin upon the date that installation of the septic system commences. To exercise its warranty rights, Holder must notify Infiltrator in writing at its Corporate Headquarters in Old Saybrook, Connecticut within fifteen (15) days of the alleged defect. Infiltrator will supply replacement Units for Units determined by Infiltrator to be covered by this Limited Warranty. Infiltrator's liability specifically excludes the cost of removal and/or installation of the Units.

(b)THE LIMITED WARRANTY AND REMEDIES IN SUBPARAGRAPH (a) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES WITH RESPECT TO THE UNITS, INCLUDING NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE

(c) This Limited Warranty shall be void if any part of the chamber system is manufactured by anyone other than Infiltrator. The Limited Warranty does not extend to incidental, consequential, special or indirect damages. Infiltrator shall not be liable for penalties or liquidated damages, including loss of production and profits, labor and materials, overhead costs, or other losses or expenses incurred by the Holder or any third party. Specifically excluded from Limited Warranty coverage are damage to the Units due to ordinary wear and tear, alteration, accident, misuse, abuse or neglect of the Units; the Units being subjected to vehicle traffic or other conditions which are not permitted by the installation instructions; failure to maintain the minimum ground covers set forth in the installation instructions; the placement of improper materials into the system containing the Units; failure of the Units or the septic system due to improper siting or improper sizing, excessive water usage, improper grease disposal, or improper operation; or any other event not caused by Infiltrator. This Limited Warranty shall be void if the Holder fails to comply with all of the terms set forth in this Limited Warranty. Further, in no event shall Infiltrator be responsible for any loss or damage to the Holder, the Units, or any third party resulting from installation or shipment, or from any product liability claims of Holder or any third party. For this Limited Warranty to apply, the Units must be installed in accordance with all site conditions required by state and local codes; all other applicable laws; and Infiltrator's installation instructions.

(d) No representative of Infiltrator has the authority to change or extend this Limited Warranty. No warranty applies to any party other than the original Holder.

The above represents the Standard Limited Warranty offered by Infiltrator. A limited number of states and counties have different warranty requirements. Any purchaser of Units should contact Infiltrator's Corporate Headquarters in Old Saybrook, Connecticut, prior to such purchase, to obtain a copy of the applicable warranty, and should carefully read that warranty prior to the purchase of Units.

INFILTRATOR®
systems Inc.
6 Business Park Road • P.O. Box 768
Old Saybrook, CT 06475
860-577-7000 • FAX 860-577-7001

1-800-221-4436
www.infiltratorsystems.com

For technical assistance, installation instructions or customer service, call Infiltrator Systems at 1-800-221-4436.

U.S. Patents: 4,759,661; 5,017,041; 5,156,488; 5,336,017, 5,401,116, 5,401,459, 5,511,903, 5,716,163; 5,588,778; 5,839,844
Canadian Patents. 1,329,959; 2,004,564 Other patents pending.

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Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St, Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30004957** GWS File #: **7025B** Tax Parcel #: **019-421-19**

- This IMPROVEMENT PERMIT is subject to revocation if site plans or the intended use change. There is to be **NO** grading, filling, or disturbance of the soil in the area of the septic tank system or repair area.
- CONSTRUCTION AUTHORIZATION must be obtained prior to receiving a Building Permit. The Construction Authorization is **NOT** transferable. Do not clear, grade, fill or disturb soil prior to obtaining a Construction Authorization.
- Domestic-type wastewater only. No industrial process wastewater may be discharged into the system.

I. This Improvement Permit Shall: Expire in Five (5) Years **Expiration Date (If Applicable):** 3/2/2016

Type of Installation: Residential - Modified Plot Plan Lot Number: 5

Structure Type: HOUSE Size (ft^2): 4800 # Bedrooms: 4 # Occupants: 6

Building Foundation: Crawl Space Water Supply: Private Well

II. Initial System Type: Pump to Approved **System Classification:** IIIb

Initial System Specifications:

Design Flow (gpd):	480	LTAR (gpd/ft^2):	0.3	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1000
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	1200	Total Trench Length (ft):	400
Maximum Trench Depth (in):	30	Depth of Media (in):	12	Distribution Device:	Pressure Manifold		

III. Repair System Type: PPBPS (pressurized) **System Classification:** IVa

Repair System Specifications:

Design Flow (gpd):	480	LTAR (gpd/ft^2):	0.3	Septic Tank Size (gal):	1500	*Pump* Tank Size (gal):	1000
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	800	Total Trench Length (ft):	267
Maximum Trench Depth (in):	30	Depth of Media (in):	N/A	Distribution Device:	Manifold (LPP Distri		

IV. Permit Conditions/Comments:

(Please See the Following Page for Permit Conditions.)

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment, and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until an INSTALLATION APPROVAL is granted by the Department.
- The septic system installer shall be a registered septic contractor with Mecklenburg County Health Department.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Jeremy Michelone Owner/Legal Agent: _____
Print Name

Signature: Jeremy Michelone RS Signature: _____

Date Issued: 3/2/2011

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St, Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30004957** GWS File #: **7025B**

IV. Permit Conditions/Comments:

- Easement agreement forms shall be on file and the property shall be deeded and recorded prior to issuance of Construction Authorization.
- This type of septic system requires an inspection once every 5 years by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- This type of repair system requires the property owner to obtain a contract with a Certified Operator to perform routine inspections and maintenance on the system.
- The septic system shall be installed in accordance with the plans submitted by the wastewater system design consultant.
- All components of the septic system must be located at least 100 ft. (50 ft. minimum) from all private wells.

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until an INSTALLATION APPROVAL is granted by the Department.
- The septic system installer shall be a registered septic contractor with Mecklenburg County Health Department.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Jeremy Michelone

Signature: Jeremy Michelone R.S.

Date Issued: 3/2/2011

Owner/Legal Agent: _____
Print Name

Signature: _____

FILE NUMBER: 7025B

Revised On: January 3, 2007

APPLICATION NUMBER: 7025B

SEPTIC FEE: 200
DATE: 3-13-07
X33066 JHA

MECKLENBURG COUNTY GROUNDWATER & WASTEWATER SERVICES
APPLICATION FOR A RESIDENTIAL SITE IMPROVEMENT PERMIT/ CONSTRUCTION AUTHORIZATION FOR AN ON-SITE WASTEWATER SYSTEM, NEW WELL INSTALLATION, OR REPAIR OF EXISTING WELL

WELL FEE: _____
DATE: _____

1. SEPTIC / TYPE APPLICATION: ☐ NONE ☑ NEW SYSTEM ☐ ALTERATION ☐ REPAIR ☐ MODIFIED PLOT PLAN

2. WELL / TYPE APPLICATION: ☐ NONE ☐ NEW WELL ☐ MAJOR REPAIR ☐ ABANDONMENT

3. JOB LOCATION INFORMATION:

TAX PARCEL NUMBER: 019-421-09P0
STREET ADDRESS: 13853 Foxlyn Trail Ct.
CITY: Huntersville
STATE: NC ZIP: 28078
SUBDIVISION NAME:
LOT #: 5 LOT SIZE (acres): 1.80
TOWNSHIP:
☐ 0-MECKLENBURG ☐ 3-CORNELIUS ☑ 6-HUNTERSVILLE
☐ 1-CHARLOTTE ☐ 4-PINEVILLE ☐ 7-MINT HILL
☐ 2-DAVIDSON ☐ 5-MATTHEWS

4. BUILDING INFORMATION:

BUILDING TYPE:
☐ SINGLE MOBILE HOME ☐ MODULAR HOME
☐ DOUBLE WIDE ☐ MULTIPLE FAMILY
☑ HOUSE ☐ OTHER _____
HEATED SQUARE FOOTAGE: 5000
NUMBER OF BEDROOMS: 4 & 4
NUMBER OF OCCUPANTS: 3
FOUNDATION TYPE:
☐ CONCRETE SLAB ☐ BASEMENT WITH PLUMBING
☑ CRAWL SPACE ☐ BASMENT WITH NO PLUMBING

5. IF PLANNING TO EXPAND OR ALTER THE EXISTING SYSTEM PLEASE COMPLETE THE FOLLOWING SECTION: ☐ N/A

NUMBER OF BEDROOMS TO BE ADDED: _____ NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE: _____

6. WATER SUPPLY: ☐ MUNICIPAL ☐ PUBLIC WELL ☑ PRIVATE WELL ☐ SHARED WELL ☐ SPRING

7. PROPOSED USE OF WELL: ☐ N/A ☐ IRRIGATION ☐ POTABLE ☐ GEOTHERMAL ☐ OTHER

8. PLEASE INDICATE AND RANK DESIRED SEPTIC SYSTEM TYPE(S) IN ORDER OF PREFERENCE *(1-MOST DESIRED, 5-LEAST DESIRED):*

☑ ANY TYPE ☐ CONVENTIONAL ☐ ACCEPTED ☐ INNOVATIVE ☐ ALTERNATIVE ☐ OTHER _____

8A. RANK: ____ ____ ____ ____ ____

9. DO ANY OF THE FOLLOWING APPLY TO THE PROPERTY IN QUESTION? IF "YES" PLEASE ATTACH SUPPORTING DOCUMENTATION.

BURIED CABLES, LANDFILLS, STUMPHOLES	☐ YES	☑ NO	GRADING/SOIL REMOVAL PERFORMED	☐ YES	☑ NO
EXISTING WASTEWATER SYSTEMS	☐ YES	☑ NO	JURISDICTIONAL WETLANDS	☐ YES	☑ NO
WELLS, SPRINGS, OR WATER LINES	☐ YES	☑ NO	APPROVAL REQUIRED BY ANY OTHER PUBLIC AGENCY	☐ YES	☑ NO
EASEMENTS OR RIGHT-OF-WAYS	☐ YES	☑ NO	WASTEWATER OTHER THAN DOMESTIC SEWAGE	☐ YES	☑ NO

10. PROPERTY OWNER:

NAME: Mac Wood LLC
ADDRESS: 15632 MacWood Rd
CITY: Huntersville
STATE: NC ZIP: 28078
HOME PHONE: WORK PHONE:
MOBILE PHONE: 704634-5472 FAX:

11. OWNER'S LEGAL REPRESENTATIVE, IF APPLICABLE:

NAME: Larry Foxworth
ADDRESS:
CITY:
STATE: ZIP: same
HOME PHONE: WORK PHONE:
MOBILE PHONE: FAX:

12. WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? 2005

13 WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY? 2007

14. SEPTIC SYSTEM PERMIT APPLICATION SIGNATURE SECTION:

If the information in this application is falsified, changed, or the site is altered, then the Improvement Permit and Authorization to Construct shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for either 60 months or is non-expiring depending upon the documentation submitted: complete site plan = 60 months, complete plat = non-expiring.

Larry Foxworth 3/13/07
Property Owner's or Owner's Legal Representative Signature Date

15. WELL PERMIT APPLICATION SIGNATURE SECTION:

If the information in this application is falsified, changed, or the site is altered, then the Well Permit shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for a period of 12 months from the date of issuance.

Property Owner's or Owner's Legal Representative Signature Date

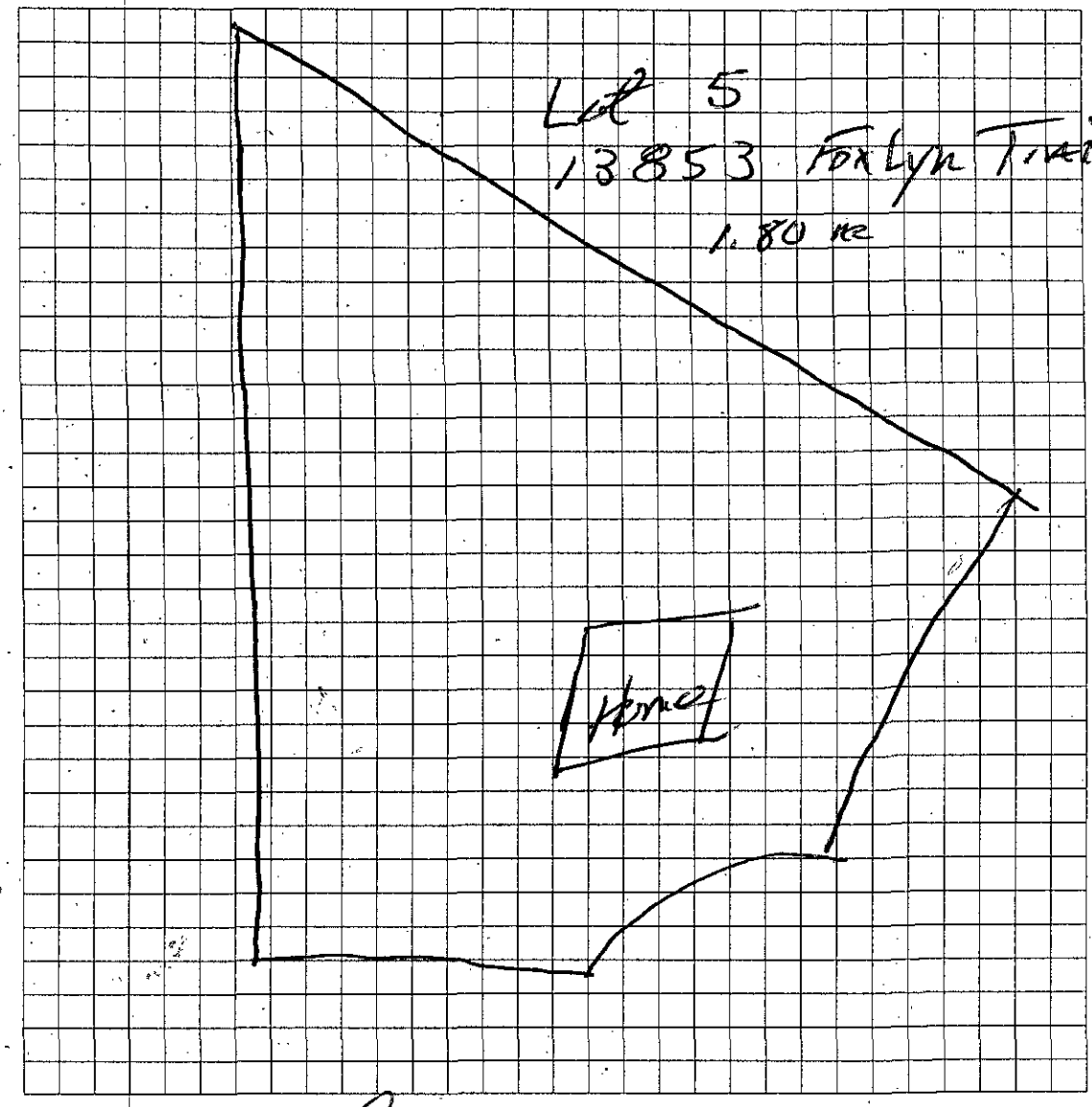
☐ SURVEY PLAT TO SCALE SUBMITTED ☐ SCALED SITE PLAN SUBMITTED ☑ UN-SCALED SITE PLAN SUBMITTED

Mecklenburg County
Land Use & Environmental Service Agency
Groundwater & Wastewater Services
700 N. Tryon St., Suite 211
Charlotte, NC 28202
Phone: (704) 336-5103
Fax: (704) 336-6894

File #_____
Date_____

PROPOSED PLOT PLAN

A map showing existing and proposed property lines and easements with dimensions, the location of the single family residence, non-single family residence, or other facility, and appurtenances, the site for the proposed well, and the location of existing or proposed sewer lines and/or sewage disposal systems, surface water bodies, aboveground or underground storage tanks. Name all roads adjoining the property. If this a repair indicate the type of repair.



Owner/Agent Signature Tony Smith

Date 3/13/05

LBC 12/15/04

Department of Environment, Health, and Natural Resources
Division of Environmental Health
On-site Wastewater Section

Sheet: 1 of 3
Property ID: PO 019-421-09
Lot #: 5
File #: 7025B
AppID: 2058

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

Owner: MacWood LLC
Applicant: Larry Foxworth
Address: 15632 MacWood Road, Huntersville, N. C. 28078
Date Evaluated: 4/3/07
Proposed Facility: Residence
Design Flow (.1949): ~~720~~ 480 360 gpd
Property Size: 1.8a
Location of Site: 13853 Foxlyn Trail Ct.
Property Recorded:
Water Supply: [ ] Public [x] Individual [x] Well [ ] Spring [ ] Other
Evaluation Method: [ ] Auger Boring [x] Pit [ ] Cut
Type of Wastewater: [x] Sewage [ ] Industrial Process [ ] Mixed

PROFILE #	1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY 1941 .1941 Structure/ Texture	.1941 Consistence Mineralogy	b PROFILE FACTORS .1942 Soil Wetness/ Color	.1943 Soil Depth (IN.)	.1956 Sapro Class	.1944 Restr Horiz	Profile Class & LTAR
1	LS, 10	0-4	GR/SCL	FR/SEXP/SS/SP	>45" TO SOIL WETNESS	45	N/A	NONE	US
		4-25	SBK/SC	VFI/EXP/VS/VP					
		25-45	M/SC	"					
2	"	0-6	GR/SCL	FR/SEXP/SS/SP	>44" TO SOIL WETNESS	44	"	"	US, IV .25GPD/FT^2
		6-32	SBK/ABK/SC	FI/SEXP/S/P					
		32-44	M/SCL	FR/SEXP/SS/SP					
3	"	0-12	GR/SCL	"	2.5Y7/1 at 37"	42	"	"	US
		12-21	SBK/SC	FI/SEXP/S/P					
		21-36	"	VFI/EXP/VS/VP					
		36-42	SBK/C	"					
4	"	0-8	GR/SCL	FR/SEXP/SS/SP	>34" TO SOIL WETNESS	34	"	"	US, IV .2GPD/FT^2
		8-34	SBK/SC	FI/SEXP/S/P					
5	"	0-6	GR/SCL	FR/SEXP/SS/SP	2.5Y6/2 at 29"	38	"	"	US, IV .1GPD/FT^2 LPP
		6-26	SBK/SC	FI/SEXP/S/P					
		26-38	SBK/SC	VFI/EXP/VS/VP					
6	"	0-11	GR/SCL	FR/SEXP/SS/SP	>40" TO SOIL WETNESS	40	"	"	"
		11-24	SBK/SC	FI/SEXP/S/P					
		24-40	"	VFI/EXP/VS/VP					

Description	Initial System	Repair System
Available Space (.1945)		
System Type(s)		
Site LTAR		

Other Factors (.1946):
Soil Evaluation By: W. R. Marlin, LSS, 4/5/2007,
Others Present:
Site Classification (.1948):
Site Evaluation By:
Others Present:

Department of Environment, Health, and Natural Resources
Division of Environmental Health
On-site Wastewater Section

Sheet: 3 of 3
File #: 7025B

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM
CONTINUED

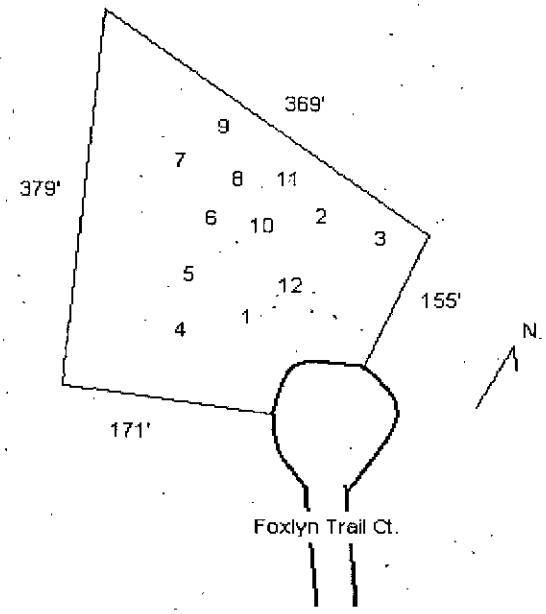
PROFILE #	1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY 1941		OTHER PROFILE FACTORS				Profile Class & LTAR
			1941 Structure/ Texture	1941 Consistence Mineralogy	1942 Soil Wetness/ Color	1943 Soil Depth (IN.)	1956 Sapro Class	1944 Restr Horiz	
7	LS, 10	0-14	GR/SL	FR/SEXP/NS/NP	2.5Y6/2 at 31"	35	N/A	NONE	US, IV .2GPD/FT^2
		14-31	SBK/SC	FI/SEXP/S/P					
		31-35	"	FI-VFI/EXP/VS/VP					
8	"	0-8	GR/SCL	FR/SEXP/SS/SP	>41" TO SOIL WETNESS	25	US	"	US, IV .1GPD/FT^2
		8-25	SBK/SC	FI/SEXP/S/P					
		25-41	M/SCL	FR/SEXP/SS/SP					
9	"	0-14	GR/SCL	"	2.5Y6/1 at 28"	41	N/A	"	"
		14-24	SBK/SC	FI/SEXP/S/P					
		24-41	M/SCL	FR/SEXP/SS/SP					
10	"	0-8	GR/SCL	"	>50" TO SOIL WETESS	22	PS	"	PS, SAP II .3GPD/FT^2
		8-22	M/SCL	"					
		22-50	M/SL	FS/SEXP/SS/SP					
11	"	0-4	GR/SCL	"	>42" TO SOIL WETNESS	28	N/A	NONE	US, IV .1GPD/FT^{2}LPP
		4-28	SBK/C	FI/SEXP/S/P					
		28-42	M/C	"					
12	"	0-11	GR/SL	FR/SEXP/NS/NP	2.5Y6/2 at 26"	42	"	"	US, III .15GPD/FT^{2}LPP
		11-36	SBK/SCL	FR/SEXP/SS/SP					
		36-42	SBK/SC	Fi-VFI/EXP/VS/VP					
					SITE LTAR .1GPD/FT^{2}LPP				

COMMENTS:
100% repair

Landscape Position	Group	Texture	.1955 LTAR	Structure
R-Ridge	I	S-Sand	1.2 - 0.8	SG-Single Grain
SS-Shoulder Slope		LS-Loamy Sand		M-Massive
LS-Linear Slope				CR-Crumb
FS-Foot Slope	II	SL-Sandy Loam	0.8 - 0.6	GR-Granular
NS-Nose Slope		L-Loam		SBK-Subangular Blocky
HS-Head Slope				ABK-Angular Blocky
CC-Concave Slope	III	SI-Silt	0.6 - 0.3	PL-Platy
CV-Convex Slope		SICL-Silty Clay Loam		PR-Prismatic
T-Terrace		CL-Clay Loam		
FP-Flood Plain		SCL-Sandy Clay Loam		
	IV	SC-Sandy Clay	0.4 - 0.1	
		SIC-Silty Clay		
		C-Clay		

Consistence Moist	Consistence Wet	Mineralogy
VFR-Very Friable	NS-Non-Sticky	SEXP-Slightly Expansive
FR-Friable	SS-Slightly Sticky	EXP-Expansive
FI-Firm	S-Sticky	
VFI-Very Firm	VS-Very Sticky	
EFI-Extremely Firm	NP-Non-Plastic	
	SP-Slightly Plastic	
	P-Plastic	
	VP-Very Plastic	

Sketch of Soil Evaluation Locations



7025 B

Soil & Environmental Consultants, PA

236 LePhillip Court, Suite C • Concord, North Carolina 28025 • Phone: (704) 720-9405 • Fax: (704) 720-9406
www.SandEC.com

4 480 GPD

Attached is a proposed design for a 3 bedroom single family residence PPBPS pressure dosed system at lot 5 of Mac Woods Subdivision in Mecklenburg County, North Carolina.

Contents: **Page**

Information for the Installer---------- 1

Design Information

Layout Specifications---------- 2

System Tapsheet---------- 3

Site Plan---------- 4

Pressure Panel Drawing---------- 5

Septic Tank Diagram---------- 6

Pump Tank Diagram---------- 7

Pump Specifications---------- 8-9

Control Panel & Float Specifications---------- 10-13

Electric Box Installation---------- 14

Maintenance of Septic Systems---------- 15-18

Calculations---------- 19

GWS Septic System Design Review — Approved ☒ Disapproved ☐

GWS File #: 7025 B

Design Review: TCT 8-3-07

Field Review: 8/13/07

*Projects are not considered "APPROVED" until both sections above are completed and indicate an APPROVED status.

Jul-07
S & EC Project No. 5-1947
Design By: E. Bailey

Greensboro Office:
3817-E Lawndale Drive
Greensboro, NC 27455
Phone: (336) 540-8234
Fax: (336) 540-8235

Raleigh Office:
11010 Raven Ridge Road
Raleigh, NC 27614
Phone: (919) 846-5900
Fax: (919) 846-9467

INFORMATION FOR THE INSTALLER:

- The permit should be read very carefully prior to bidding. The following are details that must be considered along with all other considerations.
- Tanks shall be approved by DEHNR, and certification supplied by the manufacturer.
- Tanks shall be water tested prior to installation.
- The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original natural grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement.
- Installation of the system shall be during dry conditions in order to protect the soil structure.
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied glue applied to weld all joints.
- Where required by the county health department, post installation inspections by the designer must be scheduled 5 week days in advance.
- Trenches shall be carefully excavated so the bottom is within 2" from the highest to the lowest points of elevation within the trench. If the bottom elevation needs adjusting after it has been trenched, it will be done by removing high points rather than filling low points. It is extremely important to insure that trenches are not over excavated during initial trenching. All fine grading within the trench will be hand done with a shovel. No loose material will be left in the trench
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral.
- No heavy equipment shall be used on the field during or after installation. The use of a small loader (i.e. Bobcat) or a trencher (i.e. Ditch Witch 2300/2310) may be used for installation.
- Elevations at pinflag locations should be checked by the installer prior to beginning trenches.
- Pumptank riser should be 6" above grade, control panel should be 12" above grade.
- Septic tank riser shall be a minimum of 6" above finished grade.
- System and repair will be panel block systems with LPP distribution
- Trench walls should be raked and limed. Trenches 36" wide
- 1-5/32" hole drilled for each panel

Mac Woods Lot 5

Project No. 5-1947

LAYOUT FOR 4 BEDROOM HOME

Jul-07

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	Design Length
TBM		5.0			100.0		
INSTR. 1			105.0				
			Repair				
1	Red			4.80	100.2	156	
2	Orange			5.20	99.8	154	
					Total	**310**	
			System				
3a	Yellow			5.50	99.5	130	70
3b	Yellow			5.50	99.5	130	60
4	Red			5.70	99.3	58	58
5a	Blue			6.10	98.9	130	70
5b	Blue			6.10	98.9	130	60
						Total	**318**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	DISTRIBUTION
SYSTEM	318	0.275	PPBPS	LPP
REPAIR	310	0.275	PPBPS	LPP

Notes:

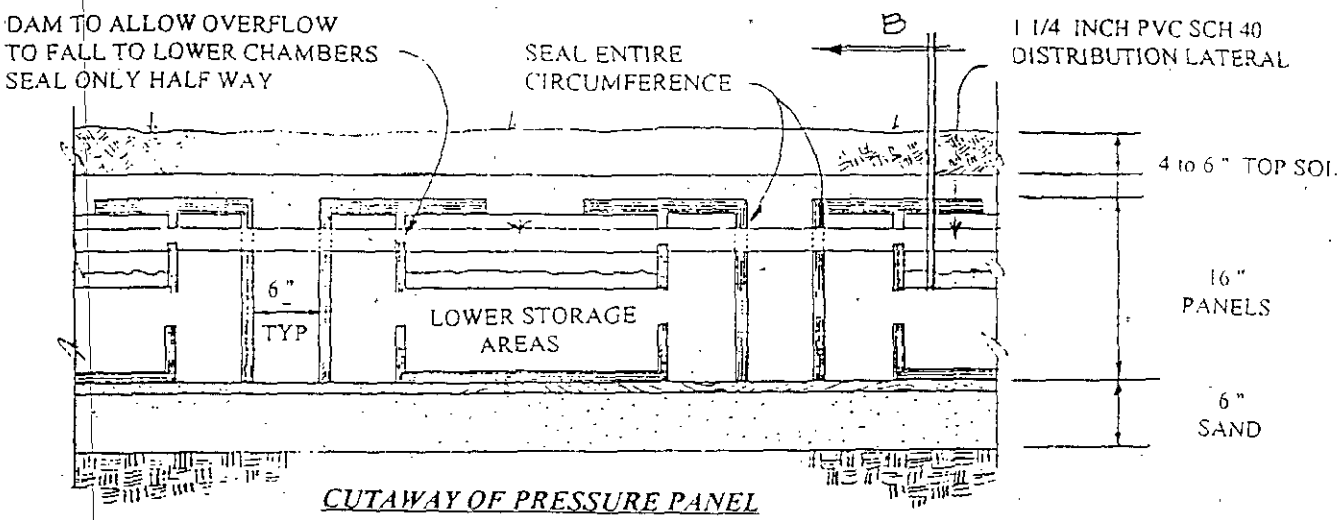
** TBM of system located ground beside stake
**TBM is assumed to be 100'
**All measures in feet
**Nitrification lines are demonstrated on contour via colored pin flags
**BS and FS indicate rod readings
**LPP PPBPS lines shall not exceed 70'

Mac Woods Lot 5

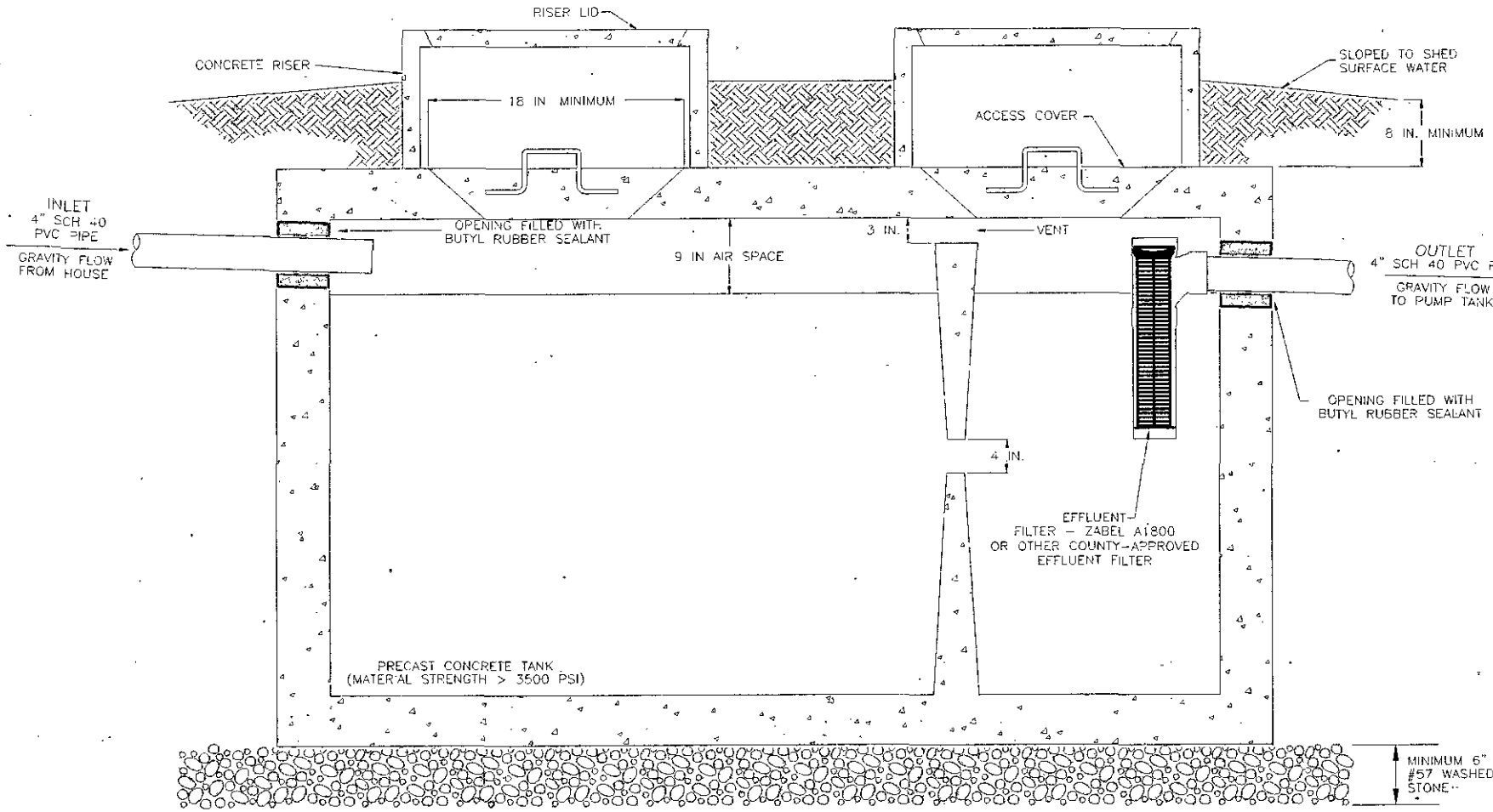
SYSTEM

DESIGN SPECIFICATIONS

Line #	Color	#Panels	#Holes Panel	Line Length	Hole Size	Line Head	Line Flow
3a	Yellow	16	1	70	5/32"	2	6.56
3b	Yellow	13	1	60	5/32"	2	5.33
4	Red	13	1	58	5/32"	2	5.33
5a	Blue	16	1	70	5/32"	2	6.56
5b	Blue	13	1	60	5/32"	2	5.33
		71		**318**			**29.11**



CUTAWAY OF PRESSURE PANEL



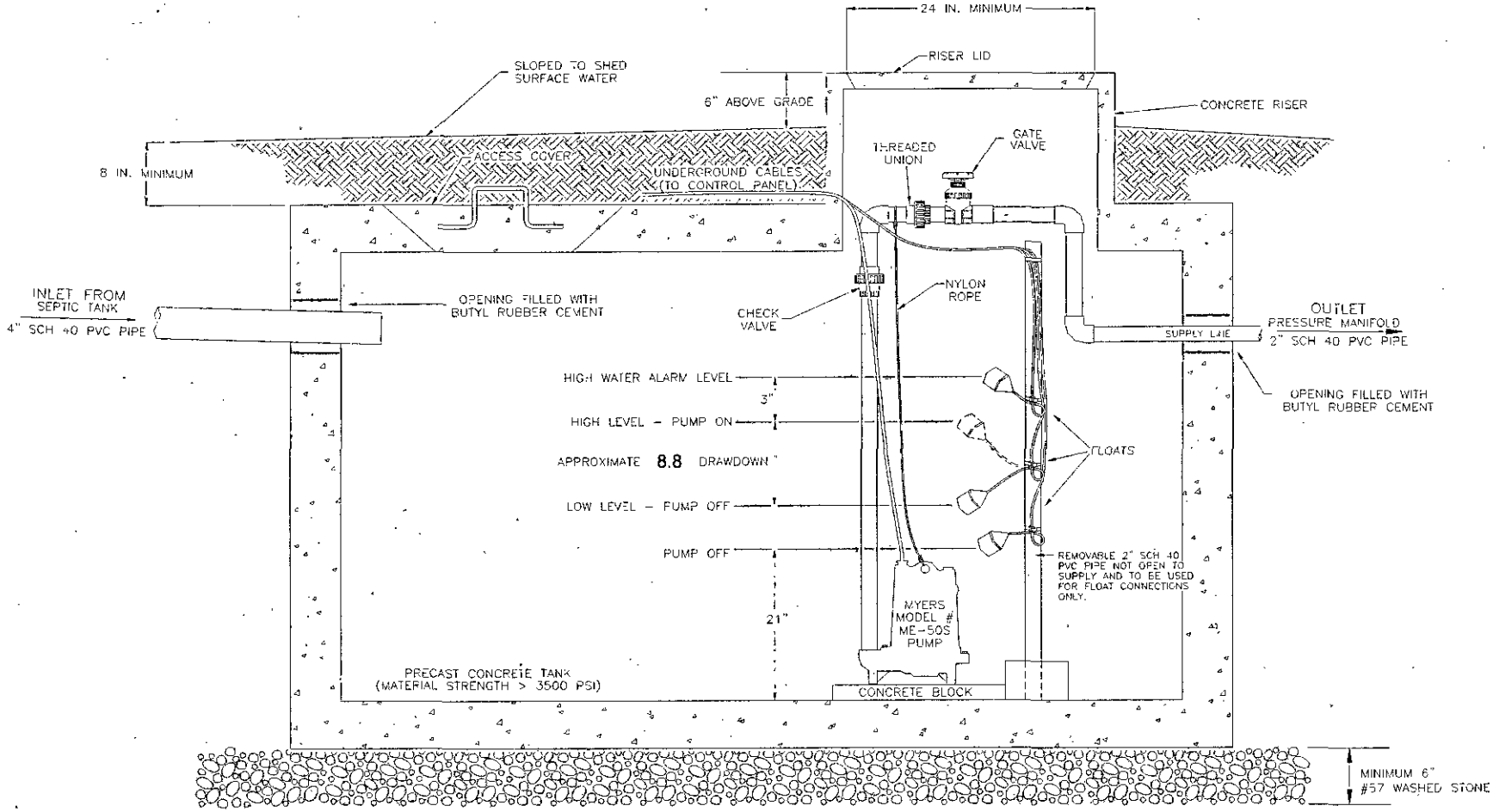
NOTES

1. TANK DIMENSIONS VARY BY MANUFACTURER

1500 GALLON SEPTIC TANK

PROJECT NO.: 4591	PROJECT NAME: **Mac Woods Lot 5**	S&EC
PROJECT MGR.:	SHEET TITLE: SEPTIC TANK DIAGRAM	
SCALE: NTS		

Soil & Environmental Consultants, Inc.
11010 Raven Ridge Road Raleigh, North Carolina 27614 Phone: (919) 846-5900 Fax: (919) 846-9467
Web Page: www.SandEC.com



NOTES

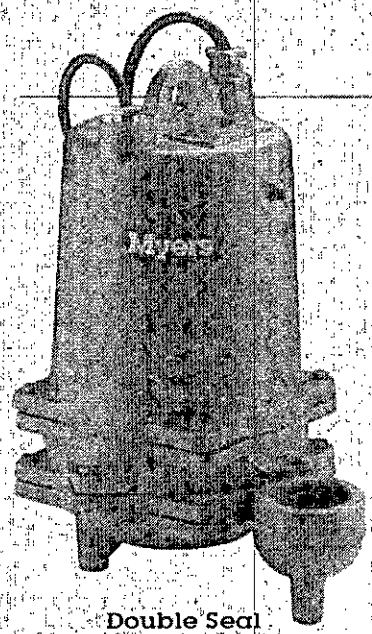
1. TANK DIMENSIONS VARY BY MANUFACTURER.
2. DRAWDOWN WILL VARY WITH TANK DIMENSIONS. DRAWDOWN SHOWN BASED ON 21 GALLONS PER INCH.

1500 GALLON PUMP TANK

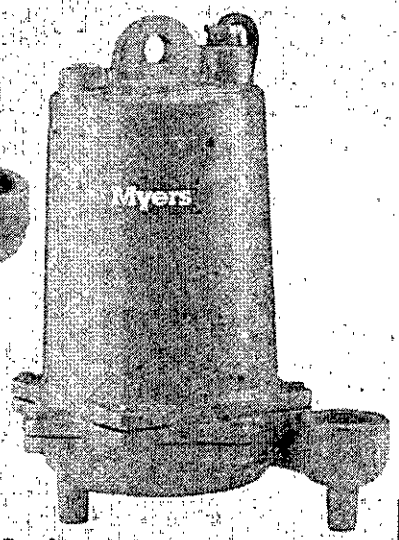
PROJECT NO. 5-1947	PROJECT NAME: Mac Woods Lot 5	S&EC Soil & Environmental Consultants, Inc.
PROJECT MGR.		11010 Raven Ridge Road Raleigh, North Carolina 27614 Phone: (919) 846-5900 Fax: (919) 846-9467 Web Page: www.SandEC.com
SCALE NTS	SHEET TITLE: PUMP TANK DIAGRAM	

ME SERIES

1/2 through 1-1/2 HP
Effluent Pumps



Double Seal



Single Seal

THE MYERS ME SERIES EFFLUENT PUMPS ARE DESIGNED SPECIFICALLY FOR TODAY'S EFFLUENT PRESSURE DISTRIBUTION MOUNDS, TRENCHES AND HIGH FLOW DRAINAGE APPLICATIONS. The ME Series effluent pumps with their efficient two vane, enclosed impellers, provide the ideal performance for optimum dosing. ME Series pumps are constructed of only corrosion resistant materials like cast iron, stainless steel and thermoplastics to assure that they will perform for years to come in the harsh effluent environment and drainage applications. For more information, call your Myers distributor today or the Myers Ashland, Ohio sales office at 419/289-1144.

ADVANTAGES BY DESIGN

IDEAL FOR USE IN MOUND AND TRENCH PRESSURE DISTRIBUTION SYSTEMS

- High efficiency, two vane, enclosed impeller provides ideal performance for most efficient dosing.
- Impeller passes full ¾ inch solids.
- Enclosed impeller design eliminates possibility of jamming or corrosion between impeller and volute.

DURABLE MOTOR WILL DELIVER MANY YEARS OF RELIABLE SERVICE

- Oil-filled motor for maximum heat dissipation and constant bearing lubrication.
- High torque, permanent split capacitor (PSC), single phase motors. No starting switches or relays to wear out.
- Optional seal leak probe warns of seal leak condition. (Dual seal motors only.) Helps prevent costly motor damage.
- Motors have on winding current and temperature sensitive overload. (Single phase only.)

THE ME SERIES EFFLUENT PUMPS ARE DESIGNED FOR YEARS OF MAINTENANCE FREE OPERATION

- Volute seal ring is replaceable. Restores pump to original performance if wear should occur.
- Motor is held in place by 4 screws. Easily removed if service is ever needed.

PRODUCT CAPAILITIES

Capacities To	120 GPM	454 LPM
Heads To	95 ft.	28.9 m
Max. Spherical Solids	¾ in.	19 mm
Liquids Handling	domestic effluent & drain water	
Intermittent Liquid Temp.	up to 140° F	up to 60° C
Motor Electrical Data	1/2 HP 115 volts, 1 ph 1/2 to 1-1/2 HP 230 volts, 1 ph 208, 230, 460, 575 volts, 3 ph oil-filled, permanent split capacitor type, 1 ph, 3450 rpm, 60 Hz	
Motor Insulation	Class B (130° C)	
Third Party Approvals	UL, CSA	
Acceptable pH Range	6-9	
Specific Gravity	9-1.1	
Viscosity	28-35 SSU	
Discharge, NPT	2 in.	50.8 mm
Min. Sump Dia. Simplex	24 in.	61 cm
Duplex	36 in.	91.4 cm

Construction Materials	
Motor Housing, Volute	cast iron, Class 30, ASTM A48-76
Enclosed Two Vane Impeller Standard	engineered thermoplastic
Optional	bronze
Impeller Wear Ring	304 SST
Volute Sealing Ring	Buna-N
Shaft	416 SST
Power Cord	
1/2 HP, 1 Ph	20 ft. 16/3 SJOW/SJOW-A
3/4 - 1-1/2 HP 1 Ph	20 ft. 14/3 SJOW/SJOW-A
All 3 Ph	20 ft. 14/4 SOW/SOW-A
Shaft Seals Standard	single carbon & ceramic
Optional	tandem carbon & ceramic
Opt. Lower	tungsten carbide
Fasteners	300 Series SST

WHERE INNOVATION MEETS TRADITION

ISO 9001 Certified Company

Myers
PENTAIR PUMP GROUP

8

ME SERIES

1/2 through 1-1/2 HP
Effluent Pumps

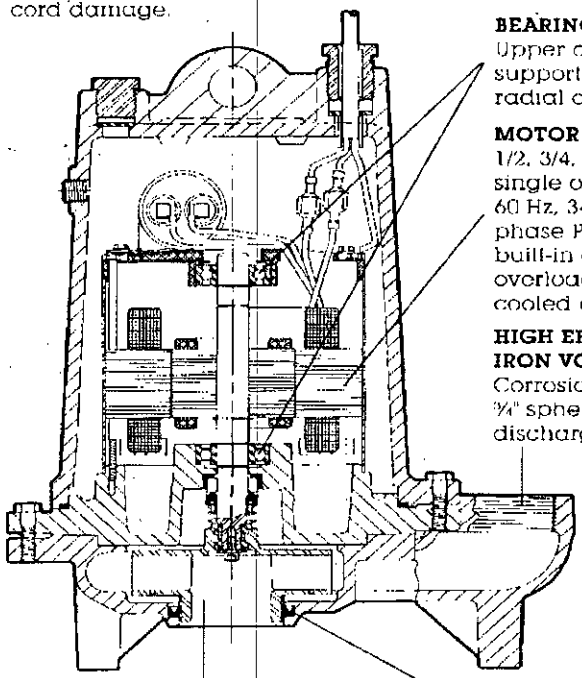
POWER CORD
Jacket sealed with compression fittings. Individual wires potted with epoxy to prevent wicking in case of cord damage.

MOTOR HOUSING
Cast iron for efficient heat transfer and corrosion resistance.

BEARINGS
Upper and lower ball support rotor. Take radial and thrust loads.

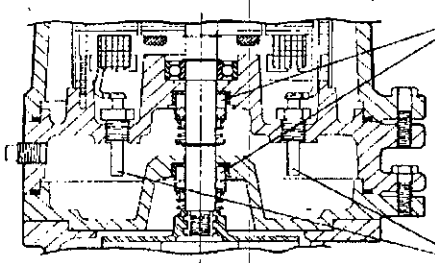
MOTOR
1/2, 3/4, 1 and 1-1/2 HP single or three phase. 60 Hz, 3450 RPM. Single phase PSC motors have built-in on winding overload protection, oil-cooled and lubricated.

HIGH EFFICIENCY CAST IRON VOLUTE
Corrosion resistant. Passes ¾" spherical solids. 2" NPT discharge.



ENCLOSED TWO VANE IMPELLER
high efficiency. Passes ¾" spherical solids with stainless steel wear ring. Optional bronze construction available.

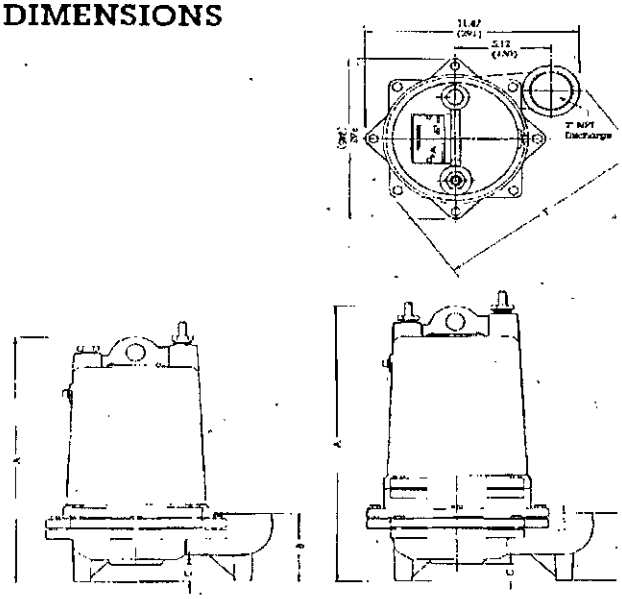
VOLUTE/IMPELLER SEAL RING
Maintains high efficiency and reduces recirculation. Replaceable.



SHAFT SEAL(S)
Carbon and ceramic faces. Optional dual tandem seals. Extends motor life.

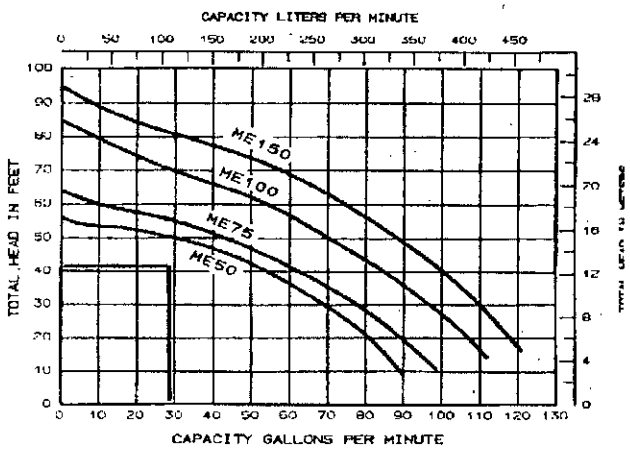
SEAL LEAK PROBES
Optional probes (dual seal only) detect water leakage in seal housing. Activates warning light.

DIMENSIONS



Model Series	Inches (millimeters)			
	A	B	C	Γ
ME50S	16.8 (427)	4.09 (104)	1.03 (26)	12.13 (308)
ME50D	18.6 (472)	4.09 (104)	1.03 (26)	12.13 (308)
ME75S, ME100S, ME150S	16.8 (427)	4.0 (102)	1.06 (27)	12.5 (318)
ME75D, ME100D, ME150D	18.6 (472)	4.0 (102)	1.06 (27)	12.5 (318)

PERFORMANCE CURVE



K3320 9/98
Printed in U.S.A.

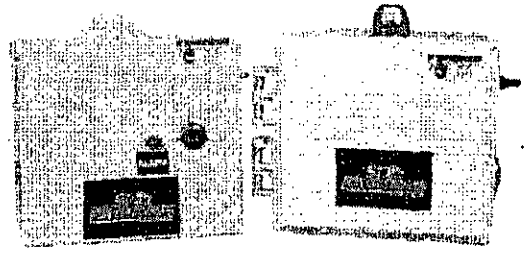
Myers
PENTAIR PUMP GROUP

F. E. Myers, 1101 Myers Parkway, Ashland, Ohio 44805-1969
419/289-1144, FAX: 419/289-6658, www.femyers.com
Myers (Canada), 269 Trillium Drive, Kitchener, Ontario N2G 4W5
519/748-5470, FAX: 519/748-2553

MODEL 112 Control Panel

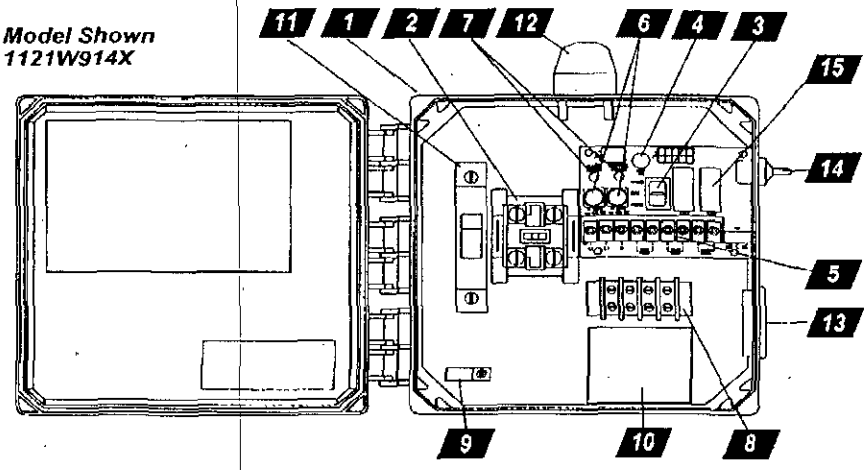
Single phase, simplex motor contactor control.

The Model 112 control panel provides a reliable means of controlling one 120, 208, or 240 VAC single-phase pump in pump chambers, sump pump basins, irrigation systems and lift stations. Two control switches activate a magnetic motor contactor to turn the pump on and off. If an alarm condition occurs, an additional alarm switch activates the audio/visual alarm system.



indoor *indoor/outdoor*

Model Shown
1121W914X



1. **Enclosure** measures 8 x 8 x 4 inches (20.32 X 20.32 X 10.16 cm). Choice of NEMA 1 (steel for indoor use), or NEMA 4X (ultraviolet stabilized thermoplastic with removable flanges for outdoor or indoor use).

   * Options selected may increase enclosure size and change component layout.

2. **Magnetic Motor Contactor** controls pump by switching hot electrical lines.
3. **HOA Switch** for manual pump control (mounted on circuit board).
4. **Green Pump Run Indicator Light** (mounted on circuit board).
5. **Float Switch Terminal Block** (mounted on circuit board).
6. **Alarm and Control Fuses** (mounted on circuit board).
7. **Alarm and Control Power Indicators** (mounted on circuit board).
8. **Pump Input Power and Pump Connection Terminal Block**
9. **Ground Lug**
10. **Terminal Block Installation Label**
11. **Circuit Breaker** (optional) provides pump disconnect and branch circuit protection.

STANDARD ALARM PACKAGE (other options available)

12. **Red Alarm Beacon** provides 360° visual check of alarm condition. **Note:** NEMA 1 style utilizes a door mounted indicator in lieu of a beacon.
13. **Alarm Horn** provides audio warning of alarm condition (83 to 85 decibel rating). **Note:** NEMA 1 style utilizes an internally mounted buzzer (83 to 85 decibel) in lieu of horn.
14. **Exterior Horn Test/Normal/Silence Switch** allows alarm horn to be silenced and testing of horn and light to ensure proper operation of alarm system.
15. **Horn Silence Relay** automatically resets alarm after alarm condition has been resolved (mounted on circuit board).

FEATURES

- Entire control system (panel and switches) is UL Listed to meet and/or exceed industry safety standards
- Dual safety certification for the United States and Canada
- Standard package includes three 20' Sensor Float® control switches
- Complete with step-by-step installation instructions
- Three-year limited warranty

c UL us
LISTED

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SJ ELECTRO SYSTEMS, INC.
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1-888-DIAL-SJE 1-218-847-1317
1-218-847-4617 Fax
email: sje@sjerhombus.com
www.sjerhombus.com



MODEL 112

ALARM PACKAGE
0 = select options or no alarm package
1 = alarm package (includes test/normal/silence switch, fuse, red light, horn & float)

ENCLOSURE RATING
I = Indoor, NEMA 1 (metal)
W = Weatherproof, NEMA 4X (engineered thermoplastic)

STARTING DEVICE
1 = magnetic motor contactor 120/208/240V
9 = magnetic motor contactor 120V only

PUMP FULL LOAD AMPS
0 = 0-7 FLA
1 = 8-15 FLA
2 = 16-20 FLA
3 = 21-30 FLA

PUMP DISCONNECTS
0 = no pump disconnect
1 = pull-out with safety deadfront in a 10"x8" enclosure
4 = circuit breaker

FLOAT SWITCH APPLICATION
H or L = pump down or pump up
X = no floats

OPTIONS *Listed below*

★ Options selected may increase enclosure size and change component layout.

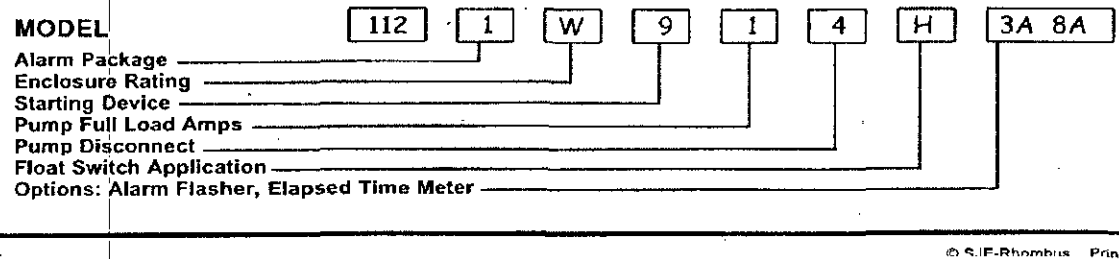
If additional features are required, call the factory for a quote on either a Pro-Line or Engineered Custom control panel system.

CODE	DESCRIPTION
1A	Red beacon only / no audio *must select 1E if floats included*
1C	Horn only / no visual *must select 1E if floats included*
1E	Alarm float
3A	Alarm flasher
★ 4A	Low level cutout *select option 4D if floats included*
★ 4B	Red low-level indicator & alarm *must select 4A also*
4D	Low-level float
6A	Auxiliary alarm contact, form C type
★ 8A	Elapsed time meter
★ 8C	Event (cycle) counter
10E	Lockable latch - NEMA 4X
10E	Lockable latch - NEMA 1
★10F	Lightning arrester
★10K	Anti-condensation heater

CODE	DESCRIPTION
11C	NEMA 1 alarm panel *must select option 6A*
11D	NEMA 4X alarm panel *must select option 6A*
15A	Control / alarm circuit breaker *Does not include the circuit board as in standard.*
16A	10' cord in lieu of 20'
16B	15' cord in lieu of 20'
16C	30' cord in lieu of 20'
16D	40' cord in lieu of 20'
17A	SJE SignalMaster® / mounting strap ●
17B	SJE SignalMaster® / externally weighted ●
17C	Sensor Float® / internally weighted ▲
17D	Sensor Float® / externally weighted ▲
17E	Sensor Float® Mini / pipe clamp ▲
17F	Sensor Float® Mini / externally weighted ▲
19X	Door mounted pump run indicator
21A	Pumpmaster® in lieu of on/off switches ●
21B	*Pump*Master® Plus in lieu of on/off switches ●
21C	Super Single® in lieu of on/off switches ▲
21D	Double Float™ in lieu of on/off switches ▲

● Mechanically-activated ▲ Mercury-activated

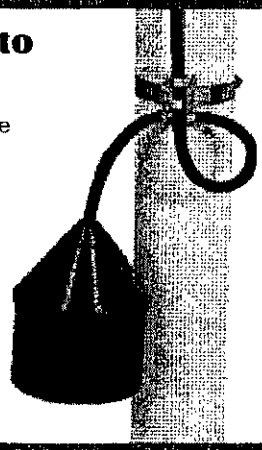
SAMPLE



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SENSOR FLOAT® control switch

Mercury-activated, narrow-angle float switch designed to activate pump control panels and alarms.



This narrow-angle sensing device is used to accurately monitor liquid levels in sewage and non-potable water applications. The Sensor Float® control switch is not sensitive to rotation and is suitable for use with intrinsically safe circuits. Contact SJE-Rhombus regarding specific intrinsically safe applications.

Normally Open Model (high level)
The control switch turns on (closes) when the float tips slightly **above** horizontal signaling a high level, and turns off (opens) when the float drops slightly below horizontal.

Normally Closed Model (low level)
The control switch turns on (closes) when the float drops slightly **below** horizontal signaling a low level, and turns off (opens) when the float tips slightly above horizontal.

FEATURES

- Suitable for use with intrinsically safe circuits.
- Not sensitive to rotation.
- Control differential of .5 inches (1 cm) above or below horizontal.
- UL Listed for use in non-potable water and sewage.
- CSA Certified.
- Three-year limited warranty.

LR54245 LISTED 83N2

Hydraulic

OPTIONS

This switch is available:

- for normally open (high level) applications or normally closed (low level) applications.
- in standard cable lengths of 10, 15, 20, or 30 feet and 3, 5, 6, or 10 meters.
- with three mounting options that allow for flexibility in installation:

  Mounting Clamp: for applications where the switch can be attached to a discharge pipe or similar mounting device.

  Internally Weighted: for applications where the switch can be suspended from above.

  Externally Weighted: for applications where the switch can be suspended from above.

SPECIFICATIONS

CABLE: flexible 18 gauge, 2 conductor (UL,CSA) SJOW, water-resistant (CPE) jacket

FLOAT: 3.38 inch diameter x 4.55 inch long (8.58 cm x 11.56 cm), high-impact, corrosion resistant, PVC housing for use in sewage and non-potable water up to 140°F (60°C)

MAXIMUM WATER DEPTH: 30 feet (9 meters), 13 psi

MERCURY TILT SWITCH: single pole, single throw, mercury-to-mercury contacts, hermetically sealed in a steel capsule and epoxy sealed in the float housing

ELECTRICAL: 5 amp, 120/230 VAC, 50/60 Hz

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email: sje@sjerhombus.com
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Sensor Float® control switch installation instructions

⚠WARNING **ELECTRICAL SHOCK HAZARD**
Disconnect power before installing or servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.

⚠WARNING **EXPLOSION OR FIRE HAZARD**
Do not use this product with flammable liquids. Do not install in hazardous locations as defined by National Electrical Code, ANSI/NFPA 70.

Failure to follow these precautions could result in serious injury or death. Replace product immediately if switch cable becomes damaged or severed. Keep these instructions with warranty after installation. This product must be installed in accordance with National Electric Code, ANSI/NFPA 70 so as to prevent moisture from entering or accumulating within boxes, conduit bodies, fittings, float housing, or cable.

MOUNTING THE SWITCH

1. Place the cord into the clamp as shown in Figure B.
2. Locate clamp at desired activation level and secure the clamp to the discharge pipe as shown in Figures A and B. **Note:** Do not install cord under hose clamp.
3. Tighten the hose clamp using a screwdriver. Over tightening may result in damage to the plastic clamp. Make sure the float cable is not allowed to touch the excess hose clamp band during operation.
4. Bring cable leads back to control device and wire according to Figure C.
5. Check installation. Allow system to cycle to insure proper operation.

Note: All hose clamp components are made of 18-8 stainless steel material. See your SJE-Rhombus supplier for replacements.

Figure A

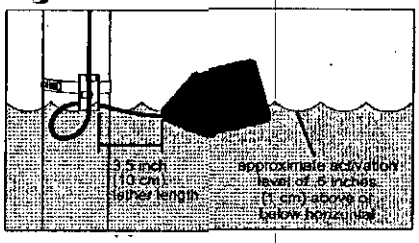
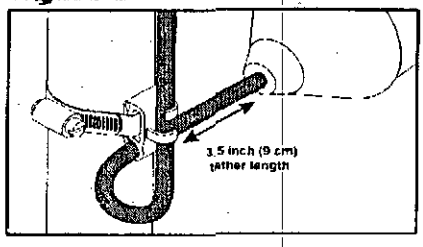


Figure B



INTERNAL WEIGHT

1. Determine desired activation level.
2. Suspend switch 7 inches (18 cm) below desired activation level as shown in Figure D. Switch remains partially submerged during the "on" tipping action. Switch can be totally submerged and still continue to operate properly.
3. Wire cable leads directly into control device as shown in Figure C.
4. Check installation. Allow system to cycle to insure proper operation.

Figure C - Wiring Diagram

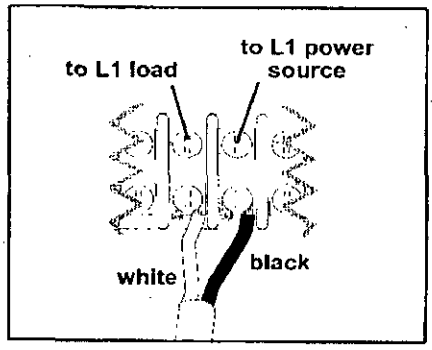
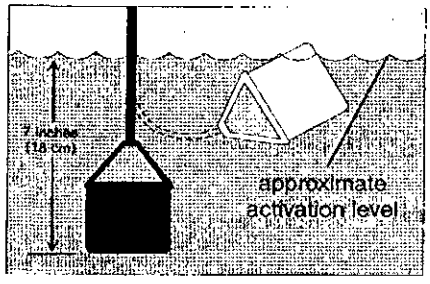


Figure D



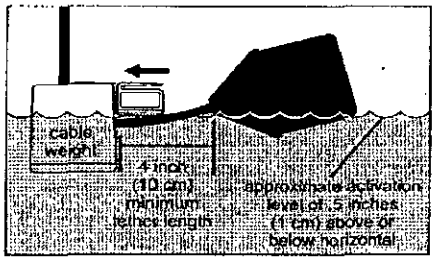
CABLE WEIGHT

1. Determine desired activation level.
2. Suspend switch and cable weight at desired activation level as shown in Figure E.
3. Wire cable leads directly into control device as shown in Figure C.
4. Check installation. Allow system to cycle to insure proper operation.

Cable weight is attached to switch cable at the factory. To adjust:

1. Release clip.
2. Adjust cable weight to desired position.
3. Lay switch cable in weight channel.
4. Align clip with weight channel and slide towards switch cable as shown in Figure E.
5. Snap clip snugly up to cable, moving clip to tightest possible position.

Figure E

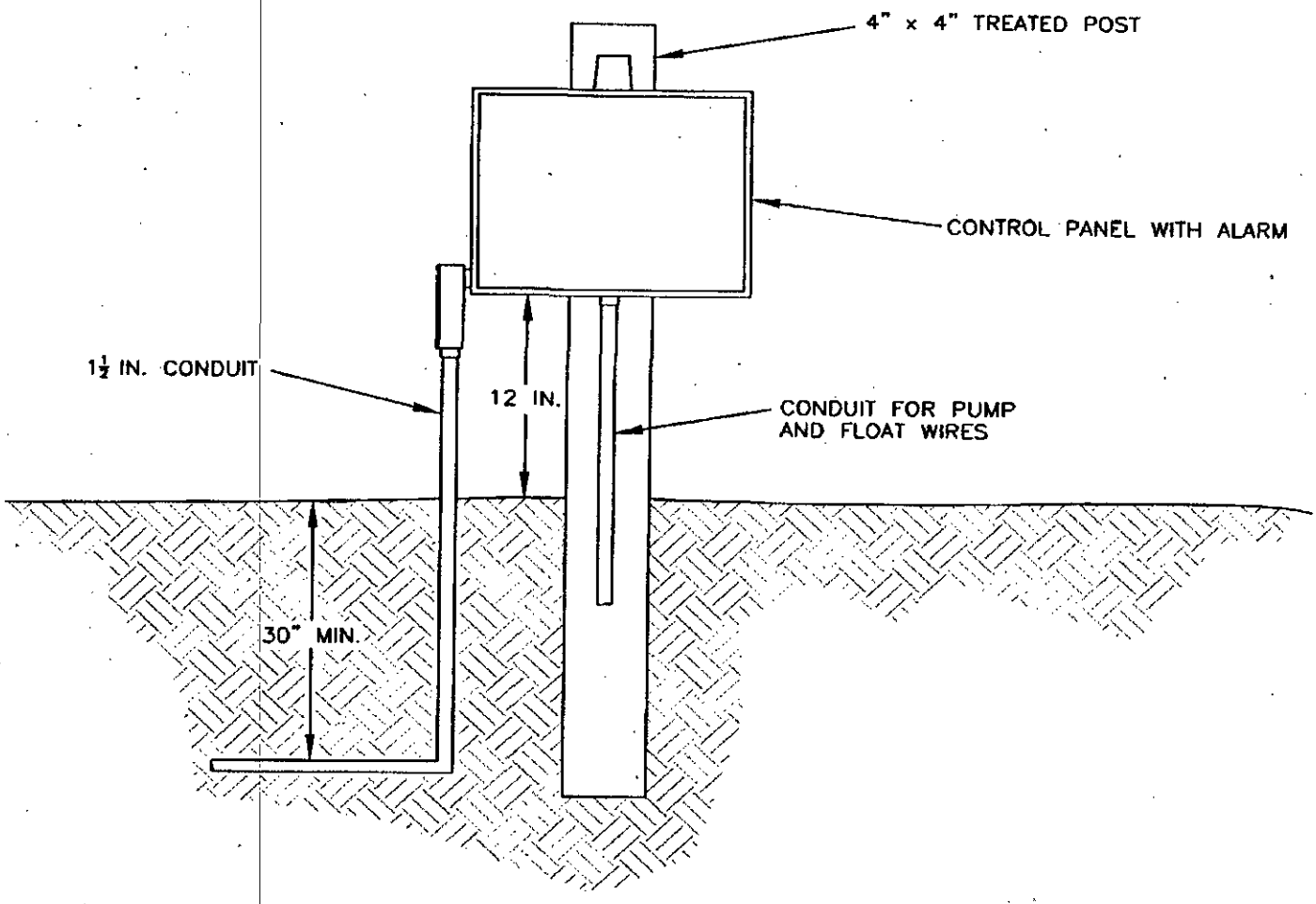


CONTROLS SJE-Rhombus
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E-mail: sje@sjerhombus.com

Instl. Instr. PN 1009646A
Cat. Page PN 1009509A

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ELECTRIC BOX



NOTES: ELECTRICAL SYSTEM COMPONENTS SHALL BE INSTALLED TO MEET OR EXCEED MINIMUM REQUIREMENTS SPECIFIED IN THE ELECTRICAL COME. ALL WIRING SHALL BE #12 MINIMUM, AND RATED FOR DIRECT BURY. PROVIDE GROUNDING AS REQUIRED, AND PROVIDE 30" MINIMUM BURY ON CABLES. PROVIDE ONE 20 AMP, DOUBLE POLE, 230 VOLT CIRCUIT BREAKER (FOR PUMP), AND ONE 20 AMP, SINGLE POLE, 115 VOLT CIRCUIT BREAKER (FOR ALARM) IN MAIN PANEL.

(1) The pit shall consist of an excavation at least 42 inches square and in no case shall the bottom of an excavation be closer than one foot from the seasonally high water table or rock.

(2) The pit shall be properly curbed to prevent caving. In sandy or loose soil, the curb should extend the full depth of the pit. In tight soils, partial curbing is acceptable if it prevents caving.

(3) The privy floor slab shall be constructed of reinforced concrete. Where it is impractical to secure or construct reinforced concrete floor assemblies, wood construction shall be acceptable provided the floor slab is made of rough sub-flooring and covered with tight tongue-and-groove flooring or other type flooring materials to provide strength and prevent entrance of flies and mosquitoes to the privy pit. Where wood construction is used, floors shall be anchored to at least four-inch by four-inch sills.

(4) Wood used for riser, seat assemblies, and the floor slab shall be tongue-and-groove or plywood (exterior or marine) material.

(5) Privies shall not be used for the disposal of water-carried sewage.

History Note: *Authority G.S. 130A-335(e);*
Eff. July 1, 1982;
Amended Eff. December 1, 1990.

15A NCAC 18A .1960 MAINTENANCE OF PRIVIES

(a) Any person owning or controlling the property upon which a privy is located shall be responsible for these requirements:

(1) The privy building shall afford a reasonable degree of protection from bad weather conditions.

(2) When the pit becomes filled to within 18 inches of the top of the ground, the privy building shall be moved to a new pit and the old pit completely covered with earth.

(3) If the pit caves in, a new pit shall be provided.

(b) The tenant or person occupying the property shall be responsible for these requirements:

(1) The walls, floors, and seat of the privy and grounds immediately adjacent to the building shall be kept in a clean and decent condition.

(2) Fowl and other animals shall not be harbored in the privy building.

(3) Seat cover shall be hinged and closed at all times when the privy is not in use.

(4) Flies shall be excluded from the pit at all times.

(5) Ashes, garbage, and trash shall be kept out of the pit.

History Note: *Authority G.S. 130A-335(e) and (f);*
Eff. July 1, 1982;
Amended Eff. January 1, 1990.

15A NCAC 18A .1961 MAINTENANCE OF SEWAGE SYSTEMS

(a) Any person owning or controlling the property upon which a ground absorption sewage treatment and disposal system is installed shall be responsible for the following items regarding the maintenance of the system:

(1) Ground absorption sewage treatment and disposal systems shall be operated and maintained to prevent the following conditions:

(A) a discharge of sewage or effluent to the surface of the ground, the surface waters, or directly into groundwater at any time; or

(B) a back-up of sewage or effluent into the facility, building drains, collection system, or freeboard volume of the tanks; or

(C) a free liquid surface within three inches of finished grade over the nitrification trench for two or more observations made not less than 24 hours apart. Observations shall be made greater than 24 hours after a rainfall event.

The system shall be considered to be malfunctioning when it fails to meet one or more of these requirements, either continuously or intermittently, or if it is necessary to remove the contents of the tank(s) at a frequency greater than once per month in order to satisfy the conditions of Parts (A), (B), or (C) of this Paragraph. Legal remedies may be pursued after an

authorized agent has observed and documented one or more of the malfunctioning conditions and has issued a notice of violation.

(2) Ground absorption sewage treatment and disposal systems shall be checked, and the contents of the septic tank removed, periodically from all compartments, to ensure proper operation of the system. The contents shall be pumped whenever the solids level is found to be more than 1/3 of the liquid depth in any compartment.

(b) System management in accordance with Tables V(a) and V(b) of this Rule shall be required for all systems installed or repaired after July 1, 1992. After July 1, 1992, system management in accordance with Tables V(a) and V(b) shall be required for all existing Type V and Type VI systems.

(c) No Improvement Permit or Construction Authorization shall be issued for Type IV, Type V, or Type VI systems, unless a management entity of the type specified in Table V(b) is specifically authorized, funded, and operational to carry out this management program in the service area where the proposed system is to be located.

(d) A local health department may be the public management entity only for systems classified Type IV, V(a) and V(b) and only when specifically authorized by resolution of the local board of health.

(e) A contract shall be executed between the system owner and a management entity prior to the issuance of an Operation Permit for a system required to be maintained by a public or private management entity, unless the system owner and certified operator are the same. The contract shall include the specific requirements for maintenance and operation, responsibilities of the owner and system operator, provisions that the contract shall be in effect for as long as the system is in use, and other requirements for the continued proper performance of the system. It shall also be a condition of the Operation Permit that subsequent owners of the system execute such a contract.

(f) Inspections of the system shall be performed by a management entity at the frequency specified in Table V(b). The management entity shall report the results of their inspections to the local health department at the specified reporting frequency. However, where inspections indicate the need for system repairs, the management entity shall notify the local health department within 48 hours in order to obtain a Construction Authorization for the repairs.

(g) The management entity shall be responsible for assuring routine maintenance procedures and monitoring requirements in accordance with the conditions of the Operation Permit and the contract.

(h) Sewage systems with multiple components shall be classified by their highest or most complex system type in accordance with Table V to determine local health department and management entity responsibilities.

(i) Sewage systems not identified in this Rule shall be classified by the Division of Environmental Health after consultation with the appropriate commission governing operators of pollution control facilities.

(j) The local health department shall routinely review the performance and operation reports submitted in accordance with Table V(b) of this Rule and shall perform an on-site inspection of the systems as required in Table V(a).

(k) The certified operator shall hold a valid and current certificate from the appropriate commission, and nothing in this Section shall preclude any requirements for system operators, in accordance with Article 3 of G.S. 90A.

TABLE V(a)

LOCAL HEALTH DEPARTMENT RESPONSIBILITIES

System Classification	System Description	Permits Required	Minimum System Review Frequency
Type I	a. Privy b. Chemical toilet c. Incinerating toilet d. Other toilet system e. Grease trap	Improvement Permit, Construction Authorization, and Operation Permit	N/A
Type II	a. Conventional septic system (single-family or 480 GPD or less) b. Conventional septic system with 750 linear feet of	Improvement Permit, Construction Authorization, and Operation Permit	N/A

	Entity with a Certified Operator or a private Certified Operator		
Type V	Public Management Entity With a Certified Operator or a private Certified Operator	a. 2/yr (0-1500 GPD) 4/yr (1500-3000 GPD) 12/yr (3000-10000 GPD) 1/wk (> 10000 GPD) b. 12/yr (3000-10000 GPD) 1/wk (> 10000 GPD) c. 4/yr. d. 12/yr.	6 mos.
Type VI	Public Management Entity With a Certified Operator	a. 1/wk(3000-10000 GPD) 2/wk(10000-25000 GPD) 3/wk(25000-50000 GPD) 5/wk(> 75000 GPD) b. 12/yr.	3 mos.

(l) A sewage collection, treatment, and disposal system that creates or has created a public health hazard or nuisance by surfacing of effluent or discharge directly into groundwater or surface waters, or that is partially or totally destroyed shall be repaired within 30 days of notification by the state or local health department unless the notification otherwise specifies a repair period in writing. If a system described in the preceding sentence has for any reason been disconnected, the system shall be repaired prior to reuse. The state or local health department shall use its best professional judgement in requiring repairs that will reasonably enable the system to function properly. If, for any reason, a sewage collection, treatment, and disposal system is found to be nonrepairable, or is no longer required, the system shall not be used, and may be required to have any contents removed, collapse any components and backfill, or otherwise secured as directed by the authorized agent to protect the public health and safety.

(m) When necessary to protect the public health, the state or local health department may require the owner or controller of a malfunctioning system to pump and haul sewage to an approved wastewater system during the time needed to repair the system.

History Note: *Filed as a Temporary Amendment Eff. July 3, 1991, for a period of 180 days to expire on December 30, 1991;*
Filed as a Temporary Amendment Eff. June 30, 1990, for a period of 180 days to expire on December 27, 1990;
Authority G.S. 130A-335(e),(f);
Eff. July 1, 1982;
Amended Eff. August 1, 1991; October 1, 1990; January 1, 1990; August 1, 1988;
Temporary Amendment Eff. January 20, 1997;
Amended Eff. August 1, 1998.

15A NCAC 18A .1962 APPLICABILITY

The provisions of this Section shall not apply to properly functioning sewage collection, treatment, and disposal systems in use or for which a valid permit to install a system has been issued prior to July 1, 1977. This provision is applicable only where the sewage flow and sewage characteristics are unchanged. This provision does not affect the requirements for system operation, maintenance, and management in accordance with Rule .1961 of this Section.

History Note: *Authority G.S. 130A-335(e);*
Eff. July 1, 1982;
Amended Eff. August 1, 1991; December 1, 1990.

	nitrification line or less e. Conventional system with shallow placement		
Type III	a. Conventional septic system > 480 GPD (excluding single-family residence) b. Septic system with single effluent pump or siphon c. Gravity fill system d. Dual gravity field system e. PPBPS system, gravity dosed f. Large diameter pipe system g. Other non-conventional trench systems	Improvement Permit, Construction Authorization, and Operation Permit	5 yrs. (IIIb only)
Type IV	a. Any system with LPP distribution b. System with more than 1 pump or siphon	Improvement Permit, Construction Authorization, and Operation Permit	3 yrs.
Type V	a. Sand filter pretreatment system b. Any > 3,000-GPD septic tank system with a nitrification field designed for > 1500 GPD c. Aerobic Treatment Unit (ATU) d. Other mechanical, biological, or chemical pretreatment plant (< 3000 GPD)	Improvement Permit, Construction Authorization, and Operation Permit	12 mos.
Type VI	a. Any > 3,000 GPD system with mechanical, biological, or chemical pretreatment system plant b. Wastewater reuse/recycle	Improvement Permit, Construction Authorization, and Operation Permit	6 mos.

TABLE V(b)

MANAGEMENT ENTITY RESPONSIBILITIES

System Classification	Management Entity	*Minimum System* Inspection/Maintenance Frequency	Reporting Frequency
Type I	Owner	N/A	N/A
Type II	Owner	N/A	N/A
Type III	Owner	N/A	N/A
Type IV	Public Management	2/yr.	12 mos.

CALCULATIONS

Location Mac Woods

Project Number 5-1947

Lot No: 5

No. of Bedrooms	4	
Design Flow	480.00	$^{gal}/_{day}$
LTAR	0.275	$^{gal}/_{ft^2\ day}$
EZ-Lay? (YES OR NO)	No	
Supply Line Length	805	ft.
Supply Line Volume	140.07	gal.
Required Feet of Line	290	ft.
Amount of Line from Layout	318	ft.
Gallons per Minute	29.11	$^{gal}/_{min}$
Required Septic Tank Capacity	1500	gal.
Minimum Standard Tank Size	1500	
Lateral Line Volume	24.8	gal.
Dosing Volume	255.60	gal.

Note: Dosing Volume based on 3.6 gal/panel

FRICTION FACTOR INTERPOLATER
2" SCH 40 PVC

GPM	*f*
18.04	0.84
18.04	0.84
25	1.27
29.11	1.69
30	1.78
33.96	2.25
35	2.37
38.53	2.84
40	3.03
	-2.89
45	3.77
	-3.52
50	4.58
	-4.62
60	6.42

Tank Draw Down	8.8	*Generic Draw Down of 29 gal.per in.*
Pump Run Time	8.78	minutes
Elevation Head	18	ft.
Pressure Head	2	ft.
Friction Factor	1.69	ft./100 ft. *(From the interpolater.)*
Friction Head	13.60	ft.
Lateral Friction	1.729	
Total Dynamic Head (+15%)	40.60	ft.

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

Sheet ____ *of* ____
PROPERTY ID #: _____
COUNTY: Mecklenburg

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Larry Foxworth _____ APPLICATION DATE _____
ADDRESS: Foxlyn _____ DATE EVALUATED: _____
PROPOSED FACILITY: 3 Bedroom PROPOSED DESIGN FLOW (.1949): 360gpd PROPERTY SIZE: _____
LOCATION OF SITE: Foxlyn Lot 5 _____ PROPERTY RECORDED: _____
WATER SUPPLY: ☐ Private ☐ Public ☒ Well ☐ Spring ☐ Other _____
EVALUATION METHOD: ☒ Auger Boring ☒ Pit ☐ Cut TYPE OF WASTEWATER: ☒ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
1	L Desc 5 5-8%	0-6	WFGR/SCL	NS NP FR/ NEXP	>48	48	NA	PS	PS 0.3
		6-33	MMSBK/C	SS SP FI/ SEXP					
		33-48	WMSBK/CL	SS SP FI/ SEXP					
2	L Desc 6 5-8%	0-6	WFGR/SCL	NS NP FR/ NEXP	>55	31	PS	PS	PS 0.3
		6-22	MMSBK/C	SS SP FI/ SEXP					
		22-31	WFSBK/C	SS SP FR/ SEXP					
		31-55	SLSMA/L	NS SP FR/ NEXP					
3	L Desc 7 5-8%	0-10	WFGR/SCL	NS NP FR/ NEXP	24 5YR 6/1	55	us	PS	PS 0.1
		10-24	MFSBK/ C	SS SP FI/ SEXP					
		24-55	MMABK/C	SS SP FI/ SEXP					
		55-77	SLSMA/SCL	NS NP FR/NEXP					
4	L Desc 8 13%	0-5	WFGR/SCL	NS NP FR/ NEXP	>22	22	PS	PS	PS 0.1
		5-22	MCSBK/C	SS SP FI/ SEXP					
		22-50+	SLSMA/SL	SS SP FI/ NEXP					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)		
System Type(s)		
Site LTAR		

OTHER FACTORS (.1946): _____
SITE CLASSIFICATION (.1948): _____

EVALUATED BY: EB BM _____
OTHER(S) PRESENT: BF CB _____

COMMENTS: _____

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

Sheet ____ *of* ____
PROPERTY ID #: _____
COUNTY: Mecklenburg

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Larry Foxworth _____ APPLICATION DATE _____
ADDRESS: Foxlyn _____ DATE EVALUATED: _____
PROPOSED FACILITY: 3 Bedroom PROPOSED DESIGN FLOW (.1949): 360gpd PROPERTY SIZE: _____
LOCATION OF SITE: Foxlyn Lot 5 _____ PROPERTY RECORDED: _____
WATER SUPPLY: ☐ Private ☐ Public ☒ Well ☐ Spring ☐ Other _____
EVALUATION METHOD: ☒ Auger Boring ☒ Pit ☐ Cut TYPE OF WASTEWATER: ☒ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941)		OTHER PROFILE FACTORS				PROFILE CLASS & LTAR
			.1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	.1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	
1	L Desc 18 5-8%	0-12	WFGR/SL	NS NP FR/ NEXP	>18	18	NA	PS	PS 0.1
		12-18	WFSBK/SCL	SS SP FR/ NEXP					
2	L Desc 19 5-8%	0-6	WFGR/SCL	NS NP FR/ NEXP	>22	22	NA	PS	PS 0.1
		6-22	WFGR/SCL	SS SP FI/ NEXP					
3	L Desc 20 5-8%	0-8	WFGR/SCL	NS NP FR/ NEXP	>21	21	NA	PS	PS 0.1
		8-21	WMSBK/SCL	SS SP FI/ NEXP					
4	L Desc 21 5-8%	0-6	WFGR/ SCL	NS NP FR/ NEXP	>20	20	NA	PS	PS 0.1
		6-20	WMSBK/SCL	SS SP FI/ NEXP					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)		
System Type(s)		
Site LTAR	0.1	0.1

OTHER FACTORS (.1946): _____
SITE CLASSIFICATION (.1948): _____

EVALUATED BY: EB BM _____
OTHER(S) PRESENT: BF CB _____

COMMENTS: _____

LEGEND

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

Sheet ____ *of* ____
PROPERTY ID #: _____
COUNTY: Mecklenburg

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Larry Foxworth _____ APPLICATION DATE _____
ADDRESS: Foxlyn _____ DATE EVALUATED: _____
PROPOSED FACILITY: ____ PROPOSED DESIGN FLOW (.1949): ____ PROPERTY SIZE: _____
LOCATION OF SITE: Foxlyn Lot 5 _____ PROPERTY RECORDED: _____
WATER SUPPLY: ☐ Private ☐ Public ☒ Well ☐ Spring ☐ Other _____
EVALUATION METHOD: ☒ Auger Boring ☒ Pit ☐ Cut TYPE OF WASTEWATER: ☒ Sewage ☐ Industrial Process ☐ Mixed

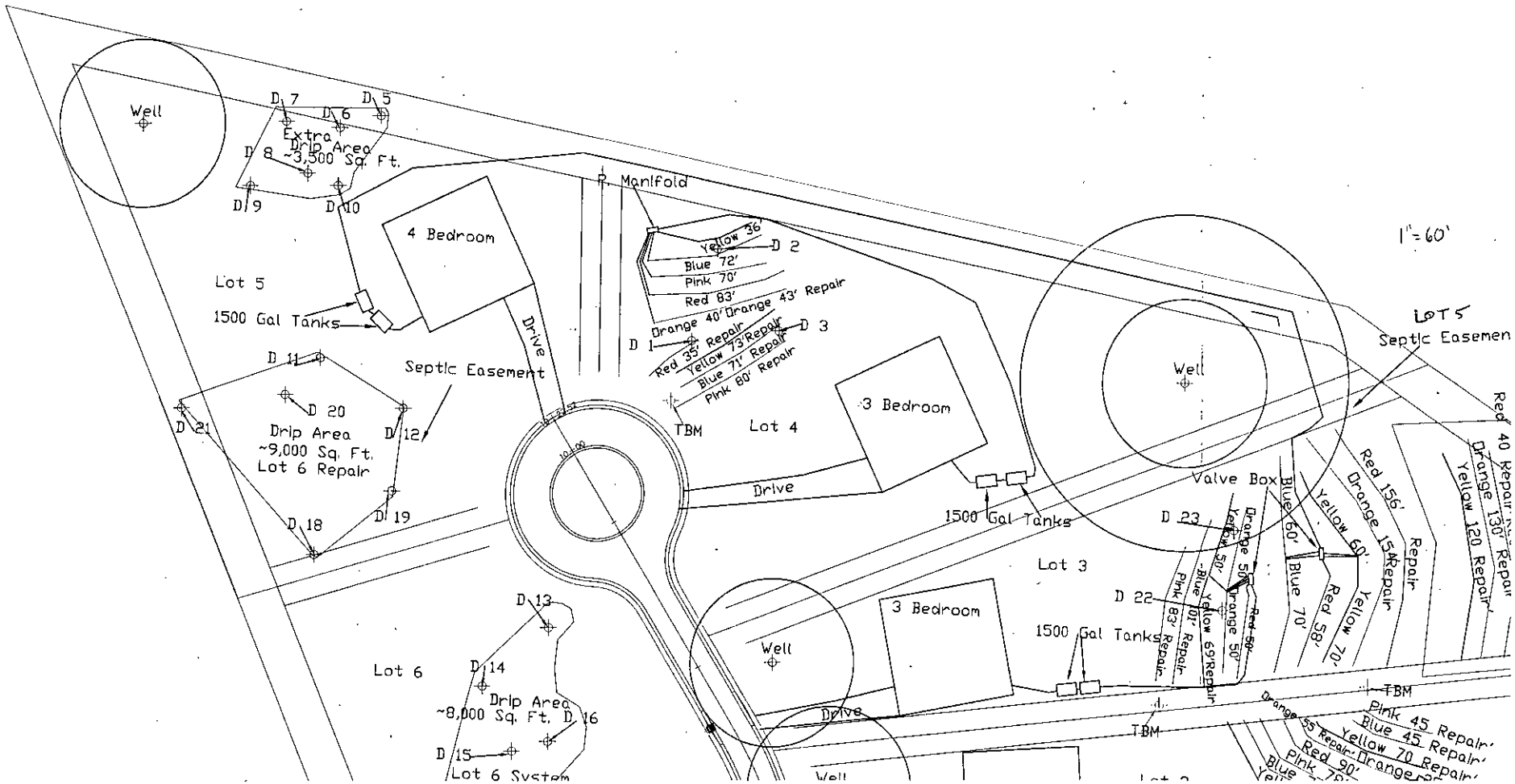
PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
1	L Desc 9	0-8 8-24 24-35	WFGR/SL WFSBK/SCL WFSBK/C	NS NP FR/ NEXP SS SP FR/ SEXP SS SP FI/ SEXP	24 5yr6/1	35	NA	PS	PS 0.1
2	L Desc 10	0-1 1-6 6-18 18-60	WFGR/SCL MMABK/C SLSMA/SL SLSMA/SL	NS NP FR/ NEXP VS VP VFI/ EXP NS NP FI/ NEXP NS SP FR/ NEXP	>60	6	PS	PS	PS 0.4
3	L Desc 11	0-5 5-30	WFGR/SL MFSBK/ C	NS NP FR/ NEXP SS SP FI/ SEXP	19 5 yr 6/2	30	NA	PS	PS 0.3
4	L Desc 12	0-6 6-23 23+	WFGR/ SCL MMSBK/C SLSMA/C	NS NP FR/ NEXP SS SP FI/ SEXP NS NP FR/ SEXP	>23	>23	PS	PS	PS 0.1

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)		
System Type(s)		
Site LTAR		

OTHER FACTORS (.1946): _____
SITE CLASSIFICATION (.1948): _____

EVALUATED BY: EB BM _____
OTHER(S) PRESENT: BF CB _____

COMMENTS: _____


Well
D 7
D 5
D 6
Extra Drip Area
~3,500 Sq. Ft.
D 8
D 9
D 10
4 Bedroom
Lot 5
1500 Gal Tanks
Drive
Septic Easement
D 11
D 20
D 21
D 12
Drip Area
~9,000 Sq. Ft.
Lot 6 Repair
D 18
D 19
R Manifold
Yellow 36'
D 2
Blue 72'
Pink 70'
Red 83'
Orange 40' Orange 43' Repair
Red 35' Repair
Yellow 73' Repair
D 1
D 3
Blue 71' Repair
Pink 80' Repair
TBM
Lot 4
3 Bedroom
Drive
1500 Gal Tanks
Well
Valve Box
D 23
Lot 3
D 22
3 Bedroom
1500 Gal Tanks
Well
Drive
TBM
D 13
Lot 6
D 14
Drip Area
~8,000 Sq. Ft.
D 16
D 15
Lot 6 System
1"=60'
LOT 5
Septic Easemen
Red 40 Repair
Orange 130' Repair
Yellow 120 Repair
Red 156'
Orange 154' Repair
Repair
Blue 60'
Yellow 60'
Blue 70'
Red 58'
Yellow 70'
Yellow 50'
Orange 50'
Blue 101' Repair
Pink 83' Repair
Yellow 69' Repair
Orange 50'
Red 50'
TBM
Pink 45 Repair
Blue 45 Repair
Yellow 70 Repair
Orange 55 Repair
Red 90'
Pink 76'

8/15/07

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St, Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30002058** GWS File #: **7025B** Tax Parcel #: **019-421-09**

- This IMPROVEMENT PERMIT is subject to revocation if site plans or the intended use change. There is to be **NO** grading, filling, or disturbance of the soil in the area of the septic tank system or repair area.
- CONSTRUCTION AUTHORIZATION must be obtained prior to receiving a Building Permit. The Construction Authorization is **NOT** transferable. Do not clear, grade, fill or disturb soil prior to obtaining a Construction Authorization.
- Domestic-type wastewater only. No industrial process wastewater may be discharged into the system.

I. This Improvement Permit Shall: Expire in Five (5) Years **Expiration Date (If Applicable):** 8/15/2012

Type of Installation: Residential - New System Lot Number: 0

Structure Type: HOUSE Size (ft^2): 5000 # Bedrooms: 4 # Occupants: 3

Building Foundation: Crawl Space Water Supply: Private Well

II. Initial System Type: PPBPS (pressurized) **System Classification:** IVa

Initial System Specifications:

Design Flow (gpd):	480	LTAR (gpd/ft^2):	0.275	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1500
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	873	Total Trench Length (ft):	291
Maximum Trench Depth (in):	30	Depth of Media (in):	N/A	Distribution Device:	Manifold (LPP Distri		

III. Repair System Type: PPBPS (pressurized) **System Classification:** IVa

Repair System Specifications:

Design Flow (gpd):	480	LTAR (gpd/ft^2):	0.275	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1500
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	873	Total Trench Length (ft):	291
Maximum Trench Depth (in):	30	Depth of Media (in):	N/A	Distribution Device:	Manifold (LPP Distri		

IV. Permit Conditions/Comments:

(Please See the Following Page for Permit Conditions.)

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment, and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until an INSTALLATION APPROVAL is granted by the Department.
- The septic system installer shall be a registered septic contractor with Mecklenburg County Health Department.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Jeremy Michelone Owner/Legal Agent: _____
Print Name

Signature: _____ Signature: _____

Date Issued: 8/15/2007

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St, Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30002058** GWS File #: **7025B**

IV. Permit Conditions/Comments:

- Easement agreement forms shall be on file and the property shall be deeded and recorded prior to issuance of Construction Authorization.
- This type of septic system requires an inspection once every 3 years by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- This type of septic system requires a Certified Operator to maintain the system. A system maintenance contract with a Certified Operator must be on file prior to issuance of an Operation Permit.
- The septic system shall be installed in accordance with the plans submitted by the wastewater system design consultant.

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until an INSTALLATION APPROVAL is granted by the Department.
- The septic system installer shall be a registered septic contractor with Mecklenburg County Health Department.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Jeremy Michelone

Signature: _____

Date Issued: 8/15/2007

Owner/Legal Agent: _____
Print Name

Signature: _____