Proj 332521

5811B

MECKLENBURG COUNTY
HEALTH DEPARTMENT

App #6168

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: 141-601-24
STREET ADDRESS: 11131 WILDLIFE RD.
CITY: CHARLOTTE
STATE: NC ZIP: 28273
SUBDIVISION NAME: SANCTUARY
LOT #: _____ LOT SIZE (acres): _____

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: 840
NUMBER OF BEDROOMS: 1
NUMBER OF OCCUPANTS: 1

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: 1 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: ____ ____ ____ ____ ____

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: TOM PONGPAT
ADDRESS: 11131 WILDLIFE RD
CITY: CHARLOTTE
STATE: NC ZIP: 28273
WORK PHONE: _____
MOBILE PHONE: _____
FAX: _____
E-MAIL: _____

13. OWNER'S LEGAL REPRESENTATIVE, IF APPLICABLE:

NAME: BEN STAHNKE
ADDRESS: P.O. BOX 472625
CITY: CHARLOTTE
STATE: NC ZIP: 28247
WORK PHONE: (704) 996-3273
MOBILE PHONE: _____
FAX: (704) 442-0551
E-MAIL: BENNANCONSTRUCTION@GMAIL.COM

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.

_____ _____

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

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OFFICE USE ONLY

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

SEPTIC APPLICATION FEE RECEIVED: $ _____ DATE FEE RECEIVED: _____

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

APPLICATION PROCESSED BY: Rivs

GWS FILE NUMBER ASSIGNED: 5811B

APPLICATION ID NUMBER ASSIGNED: 6168

COMMENTS:

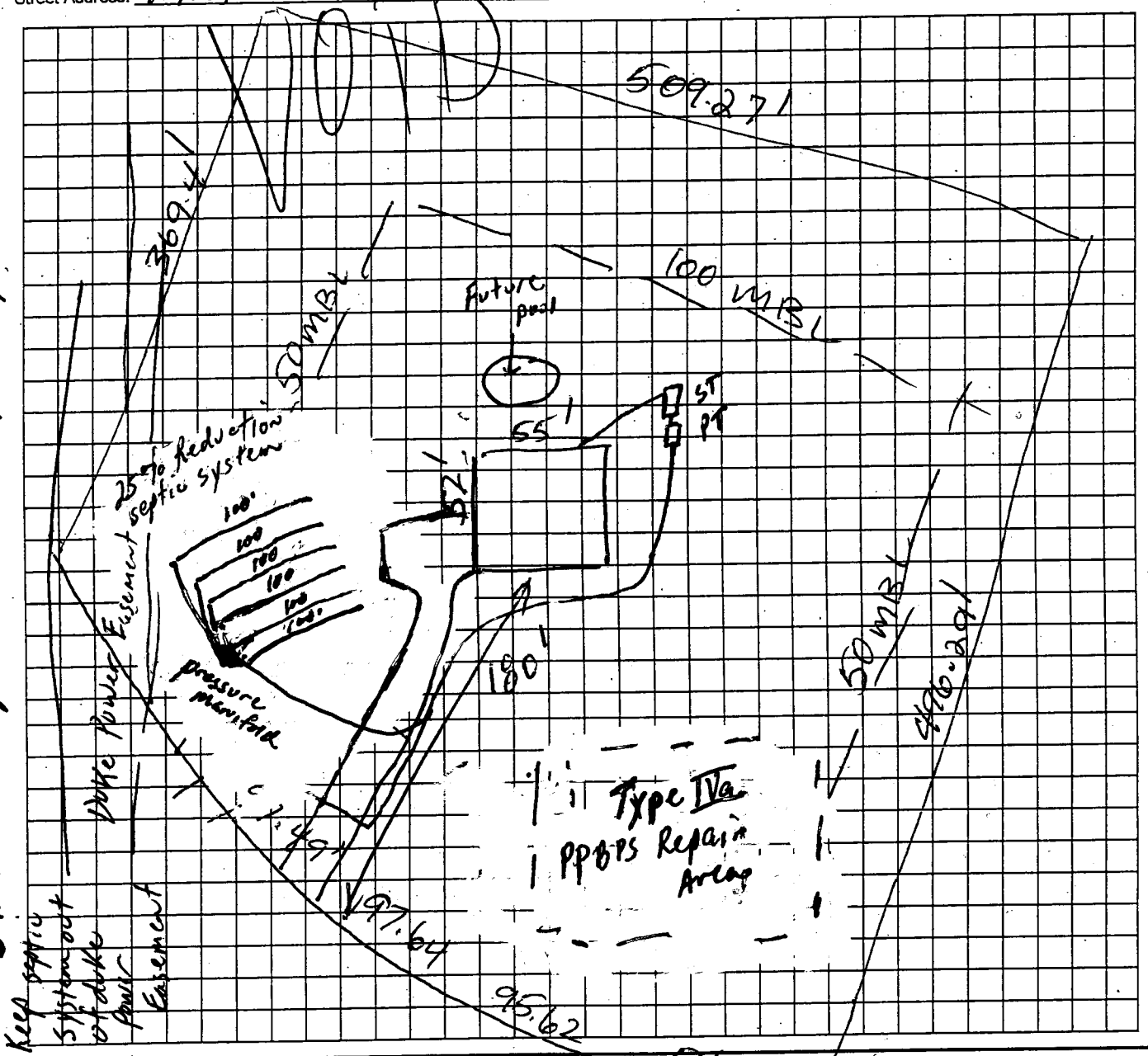
MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST. SUITE 211 CHARLOTTE, NC 28202, OFFICE: 704-336-5103, FAX: 704-336-6894

File #: 5811B

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: 11125 WILDLIFE RD. Tax Parcel #: 19960124



COMMENTS LTAR .25, 1500 ST, 1500 PT, Pressure Manifold, 25% Reduction System
5 lines @ 100' long @ 3' wd 600 LF, Municipal Water

Modified Plot Plan

*The undersigned, an authorized agent of the Mecklenburg County Health Department, certifies that the Department has approved the Request for the "Job Location" contained in this document. This approval is granted in accordance with the provisions of Laws and Rules for Sanitary Sewage Collection, Treatment, and Disposal and Water Supply Wells in effect at the time of issuance of the permit and is subject to the following provisions:

- No work shall be conducted on the septic tank system until an installation, construction, alteration and/or repair approval is granted by this Department.
- This permit is not transferable.
- Addition/Renovation approval valid 1 year from issuance date
- Mobile home exchange approval valid 6 months from issuance date

Modified plan approval for 5 bedroom house

Philo Walker RS — REHS Signature

7/26/11 — 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: 01/03/11

CONDITIONS OF IMPROVEMENT PERMIT

Permit Number: **5811B**

Tax Number: **199-371-03**

- The IMPROVEMNET 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.

Basement: ☒ Yes ☐ No ☐ Partial Basement

Primary Wastewater System

Type: ☐ I ☐ II ☒ III ☐ IV ☐ V ☐ VI

☐ Conventional
☒ Prefabricated, permeable block panel system
☐ Shallow Placed Conventional

☒ Low Pressure Pipe
☐ Large Diameter Pipe
☐ Fill
☐ Other

☐ Innovative or Experimental:

0.25 Long-term acceptance rate (GPD/ft^2)	**480** Max gallons/day wastewater flow	**960** Absorption Area (ft^2)	**8** Trench spacing (min. on centers) (ft)
Serviced by private well: ☐ Yes ☒ No	**1500** Gallon septic tank	**320** Total trench length (ft)	**24** Maximum trench depth (in) (At least 12" of provisionally suitable soil must remain between trench bottom and unsuitable soil conditions.)
4 Bedrooms in residence	**1500** Gallon pump tank	**na** Depth of stone (in)	

Any surface water present: **No** Type: Minimum separation distance (ft):

Additional conditions: **Install according to plans on file submitted by Toney Jacobs and Associates. Lot #2**

Repair Area System

Type: ☐ I ☐ II ☒ III ☐ IV ☐ V ☐ VI

☐ Conventional
☒ Prefabricated, permeable block panel system
☐ Shallow Placed Conventional

☒ Low Pressure Pipe
☐ Large Diameter Pipe
☐ Fill
☐ Other

☐ Innovative or Experimental:

960 Absorption Area (ft^2) **320** Total trench length (ft)	**na** Depth of stone (in)	**8** Trench spacing (min. on centers) (ft)	**24** Maximum trench depth (in)

The undersigned, an authorized agent of the MECKLENBURG COUNTY HELTH DEPARTMENT, certifies that the Department has approved the Request for the Job Location contained in this document. The approval is granted in accordance with the provisions of Laws and Rules For Sewage, Treatment and Disposal in effect at the time of issuance of the permit and is subject to the following provisions:

*** No work shall be conducted on the septic tank system until an Installation, Construction, Alteration and/or Repair Approval is granted by this Department.

*** This Improvement permit is transferable.

DENR Authorized Agent — Date: 3/15/05

MECKLENBURG COUNTY
HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
c/o HAL MARSHALL CTR.
SUITE 211
700 N. TRYON ST.
CHARLOTTE, NC 28202
(704) 336-5103

Owner/Agent Signature — Date: 3-15-05

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENTAL, HEALTH, AND
NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

IWWS-100195

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

ACS

Sheet: 1 of 2
Property ID: PO 199-161-11
Lot #: 2
File #: 5811B
Code: 2

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

Owner: Sanctuary at Lake Wylie
Address: 10933 Ballantyne Crossing Ave., Charlotte, N. C. 28277
Proposed Facility: Residence Design Flow (.1949): 600gpd
Location of Site: Wildlife Road
Water Supply: [x] Public [ ] Individual [ ] Well [ ] Spring [ ] Other
Evaluation Method: [ ] Auger Boring [x] Pit [ ] Cut
Type of Wastewater: [x] Sewage [ ] Industrial Process [ ] Mixed

Applicant: Toney Jacobs
Date Evaluated: 1/12/2005
Property Size: Approx .3a inv.
Property Recorded:

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 (IN.)	.1956 Sapro Class	.1944 Restr Horiz	Profile Class & LTAR
1	LS, 10	0-17	GR/CL	FR/SEXP/SS/SP	>51" TO SOIL WETNESS	51	N/A	NONE	PS, IV .25GPD/FT^2
		17-51	ABK/C	FI/SEXP/S/P					
2	"	0-11	GR/CL	FR/SEXP/SS/SP	"	"	"	"	"
		11-51	ABK/C	FI/SEXP/S/P					
3	"	0-6	GR/CL	FR/SEXP/SS/SP	>48" TO SOIL WETNESS	48	"	"	"
		6-32	ABK/C	FI/SEXP/S/P					
		32-48	ABK/CL	FR/SEXP/SS/SP					

Description	Initial System	Repair System
Available Space (.1945)	PS	US
System Type(s)		
Site LTAR	.25GPD/FT^2	.25GPD/FT^2

Other Factors (.1946):
Site Classification (.1948): UNSUITABLE
Evaluated By: W. R. Marlin, LSS, 1/14/2005. W. R. Marlin
Others Present: P. Penninger

COMMENTS:
100% repair

Landscape Position	Group	Texture	.1955 LTAR
R-Ridge	I	S-Sand	1.2 - 0.8
SS-Shoulder Slope		LS-Loamy Sand	
LS-Linear Slope			
FS-Foot Slope	II	SL-Sandy Loam	0.8 - 0.6
NS-Nose Slope		L-Loam	
HS-Head Slope			
CC-Concave Slope	III	SI-Silt	0.6 - 0.3
CV-Convex Slope		SICL-Silty Clay Loam	
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	

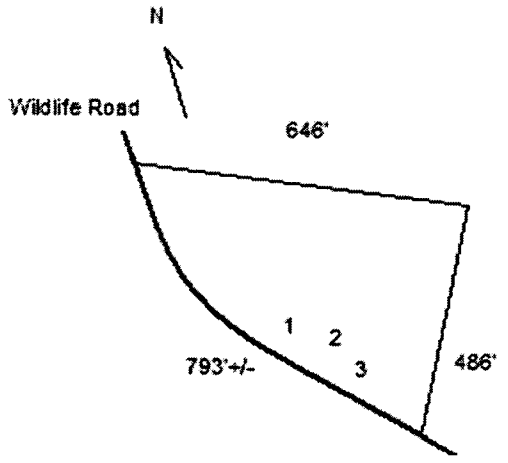
Structure
SG-Single Grain
M-Massive
CR-Crumb
GR-Granular
SBK-Subangular Blocky
ABK-Angular Blocky
PL-Platy
PR-Prismatic

Consistence
Moist
VFR-Very Friable
FR-Friable
FI-Firm
VFI-Very Firm
EFI-Extremely Firm

Consistence
Wet
NS-Non-Sticky
SS-Slightly Sticky
S-Sticky
VS-Very Sticky
NP-Non-Plastic
SP-Slightly Plastic
P-Plastic
VP-Very Plastic

Mineralogy
SEXP-Slightly Expansive
EXP-Expansive

Sketch of Soil Evaluation Locations



CONDITIONS OF IMPROVEMENT PERMIT for an ALTERATION TO AN EXISTING ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit Number: **5811B**

Tax Number: **19960124**

- The 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.

VOID

Basement: ☐ Yes ☒ No ☐ Partial Basement

Primary Wastewater System

Type: ☐ I ☐ II ☒ III ☐ IV ☐ V ☐ VI

☐ Conventional
☐ Prefabricated, permeable block panel system
☐ Shallow Placed Conventional
☐ Low Pressure Pipe
☐ Large Diameter Pipe
☐ Fill
☐ Other
☒ Innovative or Experimental:

0.25 Long-term acceptance rate (GPD/ft^2)	**240** Max gallons/day wastewater flow	**720** Absorption Area (ft^2)	**9** Trench spacing (min. on centers) (ft)
Serviced by private well: ☐ Yes ☒ No	**1000** Gallon septic tank	**240** Total trench length (ft)	**30** Maximum trench depth (in) (At least 12" of provisionally suitable soil must remain between trench bottom and unsuitable soil conditions.)
2 Bedrooms in residence	**1000** Gallon pump tank	**12** Depth of media (in)	

Any surface water present: **no** Type: Minimum separation distance (ft):

Additional conditions:

Repair Area System

Type: ☐ I ☐ II ☐ III ☒ IV ☐ V ☐ VI

☐ Conventional
☒ Prefabricated, permeable block panel system
☐ Shallow Placed Conventional
☐ Low Pressure Pipe
☐ Large Diameter Pipe
☐ Fill
☐ Other
☐ Innovative or Experimental:

480 Absorption Area (ft^2) **160** Total trench length (ft)	**na** Depth of media (in)	**9** Trench spacing (min. on centers) (ft)	**30** Maximum trench depth (in)

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department has approved the Request for the Job Location contained in this document. The approval is granted in accordance with the provisions of Laws and Rules For Sewage Treatment, and Disposal Systems in effect at the time of issuance of the permit and is subject to the following provisions:

*** No work shall be conducted on the septic tank system until an Installation Approval is granted by this Department.

*** This Improvement permit is transferable.

Phila Walker REHS 4/30/13
DENR Authorized Agent Date

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

Ben Starling 5/3/13
Owner/Agent Signature Date

NC DENR
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

"GUEST HOUSE" LOW PRESSURE MANIFOLD
25% REDUCTION SEPTIC SYSTEM
FOR
SUBSURFACE WASTEWATER DISPOSAL
11131 WILDLIFE ROAD
CHARLOTTE, NC 28278

MCHD FILE # 5811B

GWS Septic System Design Review

GWS File #: 58113 Approved ☐ Disapproved ☐

Design Review: ☑

Field Review: ☑

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

Prepared for
Bennan Construction & Roofing
P.O. Box 47265
Charlotte, North Carolina 28247
704 996 3773
BennanConstruction@gmail.com

Prepared by:
Toney C. Jacobs, LSS
Jacobs On-Site Development, Inc.
Mooresville, North Carolina 28117
704 662 9845
toneycjacobs@gmail.com

March 27, 2013

VOID

Copy: Philo Walker, REHS
Mecklenburg County Health Dept.-IWWS
700 N. Tryon Street
Charlotte, N.C. 28202
704 336 5570

Toney C. Jacobs, LSS

BACKGROUND

This permit is for a one bedroom "guest house" beside of and detached from the main house. Because the house manifold is maxed out, a separate system is used which must be a 2-bedroom design. The soil was evaluated to a depth of 48 inches and found to have usable soil. The LTAR of the soil described by Jacob Presley, REHS & LSS with MCHD and Toney Jacobs, LSS was 0.25 LTAR.

The proposed system will be a Type III(b) and does not require a maintenance contract with a certified operator; however, all lots in The Sanctuary subdivision do require management. Plan does not require engineering certification. The site plan is shown on Appendix 1.

APPLICATION INFORMATION

1. Prepared for:

Builder:	Ben Stahnke Bennan Construction & Roofing P.O. Box 47265 Charlotte, North Carolina 28247
Soil Scientist and Designer:	Toney C. Jacobs, LSS Jacobs On-Site Development, Inc. 168 Broadbill Drive Mooresville, NC 28117

2. Water supply is provided by CMUD.
3. Facility to be served by the proposed system is a single bedroom permitted as 240gpd.

LOCATION

The property is located off Shopton Road at 11131 Wildlife Road.

REFERENCES

Law and Rules for Sewage Treatment and Disposal Systems, 15A NCAC 18A, Section .1900, Department of Environment Health and Natural Resources, August 1, 1998.

CONSTRUCTION NOTES

Both the initial and repair systems areas are currently in or immediately adjacent to the lawn. Trees should be removed carefully to disturb as little soil as possible.

PLANS AND SPECIFICATIONS FOR SPECIFIC SYSTEM COMPONENTS

Septic Tank

1. The 1000 gallon State approved septic tank receives wastewater directly from the house.
2. A septic tank shall be watertight, structurally sound, and not subject to excessive corrosion or decay.
3. The septic tank must be of two-compartment design for maximum solids retention. The inlet

compartment of two-compartment tank shall hold between two-thirds and three-fourths of the total tank capacity.

4. Effluent from the two-compartment septic tank flows by gravity through a State approved effluent filter and a four-inch solid PVC pipe to the pumping tank.
5. Both the septic tank and pumping tank must be provided with above ground approved manhole risers to provide easy access for clean-out and pump service.
6. When prefabricated concrete tanks or tanks of other material are used, they shall be constructed in accordance with the plans which have been approved by the State and shall comply with all requirements of Section .1953 of 15A NCAC 18A.
7. On the outlet tee of the septic tank an effluent filter must be installed. This filter should be equivalent to a Zabel Model A1800 or other State approved unit supplied by the tank manufacturer.

Pumping Tank

1. The 1000 gallon State approved pumping tank shall have an access manhole extending at least 6 inches above finished grade.
2. A septic tank effluent pump that will not be corroded by sewage shall be used in the pumping tank.
3. The pump must be placed on two concrete blocks set next to each other on the bottom of the tank. This prevents the pumping of any solid particles that can clog the system.
4. A piece of nylon rope or other non-corrodible material should be attached to the pump and to the outlet pipe for lifting the pump in and out of the chamber.
5. The lower level control or "pump-off" must be positioned above the pump, so that the pump remains submerged at all time.
6. The pump outlet pipe should be connected to the supply manifold with a threaded PVC union to allow quick removal.
7. Pump and Simplex control circuits shall be provided with manual circuit disconnects within a watertight, corrosion-resistant, outside enclosure (NEMA 4X or equivalent) adjacent to the pump tank, securely mounted at least 12 inches above finished grade. Pump control (Simplex) may be mounted on side of house if long cord pump is used. The pump shall be manually operable without requiring the use of special tools or entrance into the tank for testing purposes. Conductors shall be conveyed to the disconnect enclosure through water proof, gas proof, and corrosion-resistant conduits, with no splices or junction boxes provided inside the tank. Wire grips, duct seal or other suitable material shall be used to seal around wire and wire conduit openings inside the pump tank and disconnect enclosure. There shall be two electric circuits for controls: one for pump power, one for the alarm. These will require 2 circuit breakers.
8. The pump tank shall have a properly functioning high-water alarm. The alarm circuit shall be supplied ahead of any pump overload and short circuit protective devices. It should be on a separate electrical circuit from the pump power line. The alarm shall be audible and visible by system users and included in the pump and control enclosure (Simplex Panel). The alarm is activated if the water level in the pump tank rises above the "pump-on" float control. The tank provides at least one day or more of excess storage capacity (depending on water use in the home) during which time the system must be repaired.
9. Float switch for the high water alarm shall be set no more than 3 inches above the high water

level of pump cycle.

10. Float switch tie downs to be made of corrosion resistant material, no tape or metal hose clamps. For maintenance flexibility, tree must be used to set floats.
11. Approved pressure bell may be used with compatible panel 8, 9, 10 above.
12. Watertight testing per .1900 rules shall be required on two piece pump tanks.
13. Wiring between the pumping tank and the house should meet State and local code requirements.

Pipe and Fittings

1. All pipes and fitting should be made of SCH 40 PVC.
2. All joints must be sealed with appropriate PVC-solvent cement.
3. There should be a threaded PVC union above the pump to allow easy removal or replacement.
4. A gate valve for final pressure adjustment is installed in the supply line inside the manifold box.
5. Approved manifold and valve box, either constructed or commercially purchased. Reference upon request.

CONSTRUCTION INSTALLATION

Site Preparation

1. One of the most important concerns for an on-site system is to protect the site from soil disturbance. Other than tree removal, leveling should not be required.
2. The absorption field area has been designed. It should be roped off and protected from construction traffic. Areas on both sides of the drive should be protected.
3. Locate water service line and relocate if 10' horizontal separation cannot be maintained. Sewer line may cross water line if 18" of clear separation is maintained, with sewer line below water line.

Tank Installation

1. The two-compartment septic tank is installed.
2. The pumping tank is installed next to the septic tank.
3. The tanks are connected with an appropriate length of solid, four-inch PVC pipe.

Supply Manifold

1. The supply manifold conveys effluent from the pump to the distribution laterals.
2. Design of the manifold is shown on attached diagrams.
3. After the supply manifold has been placed in its trench and lateral lines connected, it should be backfilled with tightly tamped soil. The supply manifold trench must not be backfilled with gravel, or the trench may become a conduit for downslope flow effluent from the laterals.

25% Reduction Laterals

1. Install per cited reference material and this plan.
2. Trenches shall be 36" wide equivalent, and 9' minimum on center. Trenches shall be "level" from end to end.

PROPER OPERATION CHECK AND PRESSURE HEAD ADJUSTMENT

1. After all connections have been installed and connected, the system should be checked for proper operation. With electrical power turned off, fill the pump tank with a garden hose until the liquid rises to the level of the high-water alarm float.
2. Turn on the electrical power. The alarm light should go off when the liquid level falls below the high-water float. The pump should turn off when the liquid reaches the lowest float control. Be sure the pump is still completely submerged.
3. The pressure head is measured as the height liquid will rise above the manifold.

FINAL LANDSCAPING

1. After the system is installed, the following should be checked to ensure that the system will not be overloaded with excess rainwater and runoff. The distribution field is shaped to shed rainwater and is free of low areas.

2. Finally, the entire area should be planted with grass in order to prevent erosion. The soil should be properly tilled, limed (if necessary) and fertilized before planting. After applying an appropriate grass seed, the area should be heavily mulched with straw or other suitable material.

QUALITY ASSURANCE REQUIREMENTS

The system must be installed by a qualified and competent contractor. Critical stages of the installation which should be checked are:

1. System layout
2. Septic and pump tank installation prior to backfilling
3. Manifold and lateral installation prior to backfilling
4. Final landscaping, operation and pressure head check

The system design is based on a maximum waste flow of 240 gallons per day. Homeowners should pay particular attention to the section titled Guest House/Resident Suggestions for ways to minimize the burden on the system.

OPERATION AND MAINTENANCE PROCEDURE

The system is classified as Type III(b) and DOES NOT require a maintenance contract with a certified operator. Management is required by subdivision covenants, but is not required by code.

- Septic system shall be pumped every 4 years or when solids accumulate to 1/3 the volume of the tank.
- At 6-month intervals, inspect the effluent filter. When washing the filter, debris must be sprayed directly back into the septic tank and not onto the lawn.
- Pressure head for manifold should be checked and adjusted after installation and semi-annually thereafter.
- All piping and fittings shall be checked annually for damage and/or proper operation and corrections made immediately.

- The property should be inspected to insure all surface water is diverted away from the fields and tank. Any ponding of surface water should be corrected.
- Grasses shall be mowed and maintained and any erosion shall be corrected promptly.
- The nitrification field area shall be checked for leakages, blowouts or malfunction, indications of damp or mushy areas compared to surrounding area or evidence of noticeable odor of sewage. Repairs shall be made immediately.
- The pump electrical should be checked to insure tight, clean connections with no corrosion and proper operation.
- Pump switches shall be checked for free operation and proper level set.
- Pump draw down depth and delivery rate shall be checked each year.
- Check septic tank and pump tank for evidence of damage or leakage. Check the quality of effluent including grease and sludge accumulation.

GUEST HOUSE/RESIDENT SUGGESTIONS

Most systems do not require much effort to operate and maintain. Even though the effort is small, the system must be maintained properly so that it operates reliably and at a minimum cost. Following are suggestions for the homeowner to minimize the burden on the septic system.

1. Garbage disposals should not be used in on-site systems. The ground garbage adds large amounts of solids to a septic tank, causing sludge to build up at a quicker rate than without. If disposal is installed, use should be limited.
2. Grease, cooking oils and coffee grounds should never be put into a septic tank.
3. Items such as disposable diapers, cigarettes, facial tissues and other solid or paper wastes should not be flushed into the on-site system.
4. Used motor oil and other such oily liquids should not be put into a septic tank.
5. Using less water can reduce the amount of water flowing to the treatment and disposal field.
6. Water-saving fixtures and devices can be installed on sinks, toilets and showers to reduce the rate at which the water flows from the fixture.
7. Dishwashers and washing machines should only be run with full loads.
8. Leaky faucets and toilets can add large volumes of water to the daily flow of water into the on-site system. Repair the leaks to save water and give the treatment and disposal field a rest.

FINAL INSPECTION

As of January 2013 the Mecklenburg County Health Department has instituted a new policy which requires the following: *Upon completion of the project the system designer shall provide Groundwater and Wastewater Services with a letter certifying that the system was installed in accordance with the approved design. If these designs were required to be stamped by a Registered Professional Engineer then the completion letter also needs to be stamped by the Registered Profession Engineer. The Hold will not be released for the project until this letter is received.*

This inspection should be scheduled **3 days before the planned installation completion**. Time incurred on this on-site inspection will be billed to the owner or builder at prevailing rate.

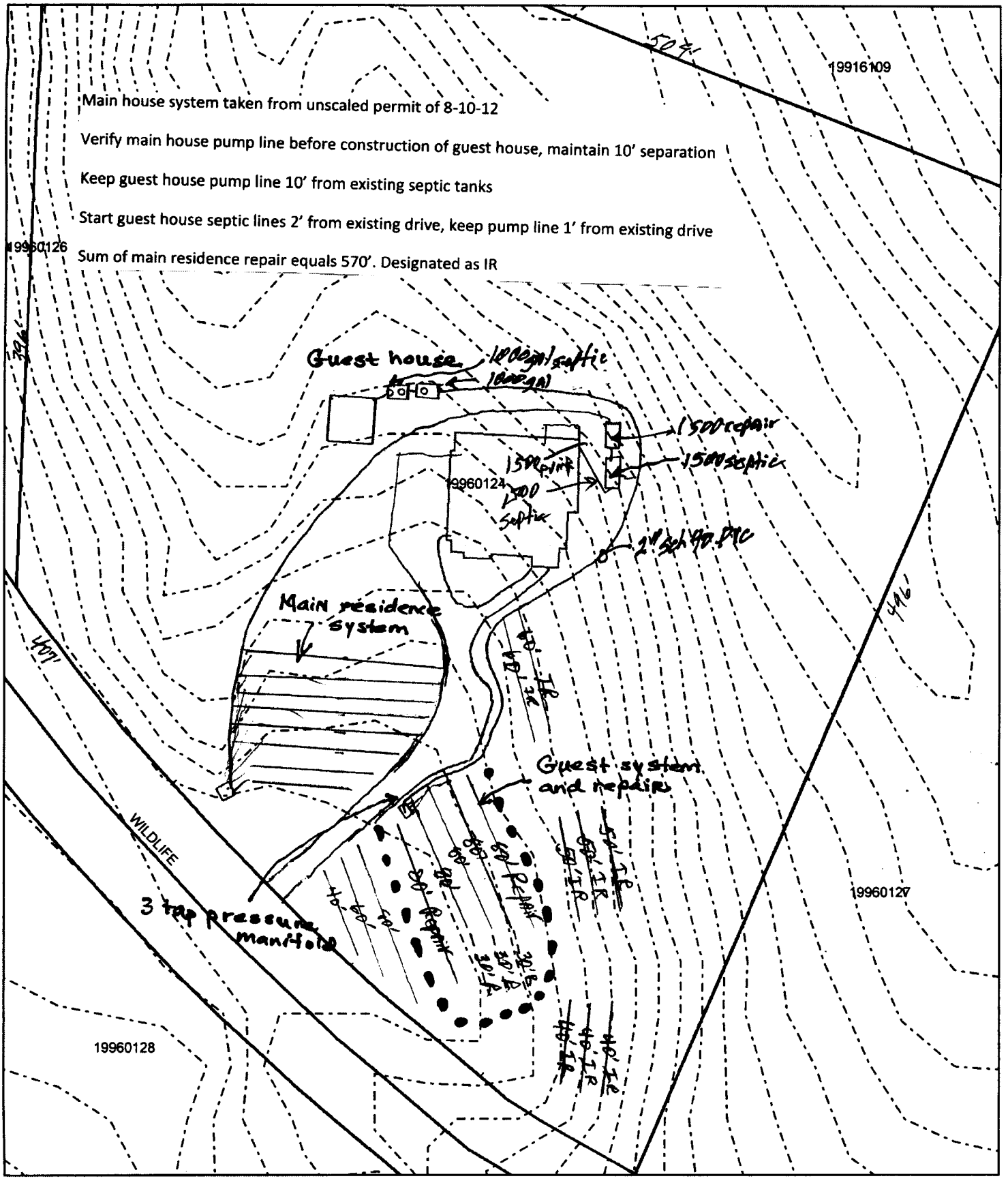
DESIGN SPECIFICATIONS

For 2 bedroom **Guest House** at
11131 Wildlife Road

Daily design flow	240 gpd.
Septic tank size	1000 gal. (2 compartments)
Pumping tank size	1000 gal.
Initial system	240' of 25% reduction
Effluent loading rate, Initial system	0.25 gpd/ft^2 by soil evaluation adjusted to 0.286
Total length and diameter of supply pipe	approx. 380 ft. 2" SCH 40 PVC
Number and length of laterals	3 @ 80', end-fed
Flow rate through the system	21.3 gpm from three (3) each ½" sch 40 taps from a 4" manifold
Elevation head	Approx. 22' (to be verified by installer)
Pressure head	2.0'
Friction head	3.6'
20% contingency	5.5'
Total head	33.1'
Pump requirements	21.3 gpm at 33.1' of head; use Gould WEO 5H pump or equivalent with compatible electrical
Dosing volume	120 gal. – 2.0 doses/day at design flow
Depth of water pumped per dose	calculated to specific tank by measure or dealer engineering specifications (1 cubic ft. of water equals 7.48 gal.)
Pump run per dose	approx. 5.6 min
Check valve	yes
Siphon break hole	no
Effluent loading rate, Repair system	0.25 gpd/ft^2
Repair system	160' of 50% reduction PPBPS (T & J Panel)

Appendix I

11131 Wildlife Rd.



Septic drawing by: Toney C. Jacobs
April 5, 2013

0 30 60 Feet

N

TONEY C. JACOBS & ASSOCIATES, INC.

Consulting Soil Scientists

Licensed by the North Carolina Board for Licensing of Soil Scientists

Certified by the American Registry of Certified Professionals in Agronomy, Crops and Soils

168 Broadbill Drive
Mooresville, NC 28117
Phone (704) 663-6905
Fax (704) 662-9845 E-mail jacobs@i-america.net

February 18, 2005

VOID

To: Mr. David Cornelius, R.S.
Mecklenburg County Env. Health Dept.

From : Toney C. Jacobs
Paul G. Penninger

RE: Request for an Improvement Permit for lot 2 at The Sanctuary:
MCHD file # 5811B

Crescent Resources is requesting an Improvement Permit for lot **2** at The Sanctuary Subdivision for a **4** bedroom, basement home. Mr. Bill Marlin of the MCHD evaluated the soils on 1-12-05 and determined the septic area is PS at an 0.25 gpd/ft^2 LTAR. Toney C. Jacobs and Associates, Inc. has flagged a LP PPBPS system and repair on the lot, as shown on the attached sketch.

We understand a building permit cannot be issued until your office issues an Authorization to Construct (ATC). The buyer of the lot will apply for the ATC. If the buyer's house pad does not fit in the "building envelope" shown on the Improvement Permit, we understand the proposed system may have to be modified prior to your office issuing the ATC. **No grading shall take place on lot prior to obtaining the ATC from the MCHD.**

Tri-County Wastewater (TCWW) is under contract to supply maintenance services for each septic system installed at The Sanctuary. TCWW will have a list of preferred septic contractors for the subdivision and will also have requirements for the installation of the septic systems that are greater that the state requirements. It will be the responsibility of TCWW to enforce any requirements above state requirements or the conditions on the Improvement Permit or ATC.

Please review the attached system sketch and design specifications for the Improvement Permit. Please call if you have and questions, comments, or corrections.

Design Specifications for Lot 2 at

The Sanctuary, MCHD File # 5811B

System Type:	primary: repair:	LP PPBPS LP PPBPS
Daily design flow:		480 gpd
Septic tank size:		1500 gal. (2 compartments)
Pumping tank size:		1500 gal.
Effluent loading rate:		0.25 gpd/ft^2 for primary and repair
Number and length of laterals:		4@ 80 ft., centerfed
Number of panels required:		18 per 80 ft. line for a total of 72 panels
Flow rate through the system:		36 gpm (use 3/16 in. holes with 3 ft. head pressure)
Pump requirements:		to be calculated by installer or owners agent when specific house and pump tank location are available
Dosing volume:		*approx. 260 gal. (3.6 gal. per panel) – 2.2 doses/day at design flow
Depth of water pumped per dose:		calculated to specific tank by measure or dealer engineering specifications (1 cubic ft. of water equals 7.48 gal.)
Check valve:		YES
Siphon break hole:		No

*Note: Before placement of cap block, one panel on each line, near the center of the field should be observed filling to make certain that it does not overflow the top chamber into the air chambers. If overflow occurs, reduce floats by 25 gallons and reset until no overflow is observed.

Wildlife Road SR #1335
Phase II
Phase I
2
220,270 sq.ft.
5.06 ac.
MINIMUM FFE = 572'
N68°07'30"W
646.18'
N23°20'15"E
495.47'
N71°19'38"E
277.19'
298.
L=230.62'
R=609.92
N07°21'34"W
102.23'
L=270.14'
R=650.00
L=372.93'
R=876.72
L=62.37'
R=91.72
L=635.26'
R=735.00
L=5.14'
R=5.00
L=6.53'
R=5.00
18+00
17+00
16+00
15+00
14+00
13+00
20+00
21+00
22+00
23+00
24+00
OHP
680
670
660
650
640
630
620

Phase II
Phase II
N23°13'29"E
495.48'
DRIVE
220,270 sq.ft.
5.06 ac.
N07°21'34"W
102.23'
L=270.14'
R=450.00'
L=242.37'
R=490.00'
SIDEWALK AROUND SWIMMING POOL
SWIMMING POOL
S' RECOR
VALVE
TPN66690
Phase II