

VOID

former

13406 HIWASSEE RD

01132105

1/8/2008

duponbj

Groundwater and Wastewater Services File Imaging Project

May 2007

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Groundwater & Wastewater Services
Septic Project File & Data Review Worksheet

GWS File #: 5190B WASPS App #: _____

Primary ES assigned to project: PSW

Secondary ES assigned to project: _____

Project Type: New System ☐ Alteration ☐ Repair ☑ Modified Plot Plan ☐

I. File Review:

Rule or Law	Permit Application			
.1937(d)	Is the Application complete	Yes ☑	No ☐	N/A ☐
.1937(d)	Is there a Site plan/Plat with application	Yes ☐	No ☑	N/A ☐
.1937(d)	Is the Facility shown?	Yes ☐	No ☐	N/A ☐
.1937(d)	Are appurtenances shown	Yes ☐	No ☐	N/A ☐
	Site Evaluation Information			
.1939 (a)(1)	Topography and Landscape Position Recorded?	Yes ☐	No ☐	N/A ☐
.1940 (a-g)	Slope % Recorded?	Yes ☐	No ☐	N/A ☐
.1939 (a)(2)	Texture Class Recorded?	Yes ☐	No ☐	N/A ☐
.1939 (a)(2)	Structure type Recorded?	Yes ☐	No ☐	N/A ☐
.1939 (a)(2)	Consistence Recorded?	Yes ☐	No ☐	N/A ☐
.1939 (a)(2)	Mineralogy Recorded?	Yes ☐	No ☐	N/A ☐
.1939 (a)(3)	Soil Wetness Condition Recorded?	Yes ☐	No ☐	N/A ☐
.1939 (a)(4)	Soil Depth to Rock or Parent Material Recorded When Encountered	Yes ☐	No ☐	N/A ☐
.1939 (a)(5)	Depth to Restrictive Horizons Recorded When Encountered?	Yes ☐	No ☐	N/A ☐
.1939 (a)(6)	Sufficient Available Space Recorded?	Yes ☐	No ☐	N/A ☐
.1937(m)	Are the Profile Locations Shown?			
.1939(a)	Are the S/PS Profiles in system & in repair area?	Yes ☐	No ☐	N/A ☐
& .1945(b)	Number of auger borings made: _____ Were sufficient auger borings made?	Yes ☐	No ☐	N/A ☐
.1939(d), .1955, .1956, .1957	LTAR	Yes ☐	No ☐	N/A ☐
	Improvement Permit/Construction Authorization			
.1937(g) 130A-336(a)	Proposed System Type stated-Initial	Yes ☐	No ☐	N/A ☐
.1945(b)	Proposed System Type stated-Repair	Yes ☐	No ☐	N/A ☐
130A-336 (a)(3)	System location identifiable by setbacks - Initial	Yes ☐	No ☐	N/A ☐
.1937(g) .1945(b)	System components shown – Initial	Yes ☐	No ☐	N/A ☐
.1945(b)	Repair area shown	Yes ☐	No ☐	N/A ☐
.1937 (f)(g)	Does System design match facility, flow & WWcharacteristics?	Yes ☐	No ☐	N/A ☐
.1937 (f)(g)	Is System design consistent with soil/site conditions?	Yes ☐	No ☐	N/A ☐
.1937 (f)(g)	Is the System located in the approved area?	Yes ☐	No ☐	N/A ☐
130A-336(a)	Is the Design flow (gpd) indicated?	Yes ☐	No ☐	N/A ☐

130A-336(a)	Number of Bedrooms, employees, seats, etc. indicated?	Yes ☐	No ☐	N/A ☐
.1937(g)	Trench depth indicated?	Yes ☐	No ☐	N/A ☐
.1937(g)	Trench width indicated?	Yes ☐	No ☐	N/A ☐
.1937(g)	Trench length indicated?	Yes ☐	No ☐	N/A ☐
130A-336(a)(1)	Proposed/existing well shown?	Yes ☐	No ☐	N/A ☐
130A-336(a)(1)	Property line lengths shown?	Yes ☐	No ☐	N/A ☐
130A-336(a)	Facility/appurtenance setbacks shown from fixed points?	Yes ☐	No ☐	N/A ☐
	Operation Permit			
.1937(i)	System type as described in table V(a) of rule .1961	Yes ☐	No ☐	N/A ☐
.1937(i)	Conditions for system performance, operation, maintenance, monitoring and reporting.	Yes ☐	No ☐	N/A ☐

II. WASPS Review:

Construction authorization issued	Yes ☐ ✓	No ☐	N/A ☐
Installation approval issued	Yes ☑	No ☐	N/A ☐
Operation permit issued	Yes ☐	No ☐	N/A ☐
Other related documentation	Yes ☐	No ☐	N/A ☐

Items requiring correction/modification: _____

Comments: Repair to Existing System

IA issued date: 4/23/08

OP issued date: _____

Review performed by: JW Date performed: 5/15/08

P Walker

GWS RES. APP 12/04

5/22/08

[redacted]

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

FILE # 5190B

[redacted]

SEPTIC / TYPE APPLICATION: ☐ NONE ☐ NEW SYSTEM EXISTING SYSTEM: ☐ EXPANSION/ALTERATION ☒ REPAIR

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

JOB LOCATION INFORMATION:
TAX/PARCEL #: 011-321-05
STREET ADDRESS: 13906 Hwy 55 & 86 Road
CITY: Huntersville
STATE: NC ZIP: 28078
SUBDIVISION OR MOBILE HOME PARK NAME:
LOT #:
TOWNSHIP: Huntersville
☐ 0-MECKLENBURG ☐ 4-PINEVILLE
☐ 1-CHARLOTTE ☐ 5-MATTHEWS
☐ 2-DAVIDSON ☒ 8-HUNTERSVILLE
☐ 3-CORNELIUS ☐ 7-MINT HILL

BUILDING INFORMATION:
TYPE OF BUILDING:
☐ SINGLE MOBILE HOME (S) ☐ MODULAR HOME (M)
☐ DOUBLE WIDE (D) ☐ MULTIPLE FAMILY (U)
☒ HOUSE (H) ☐ OTHER
HEATED SQUARE FOOTAGE:
NUMBER OF BEDROOMS:
NUMBER OF OCCUPANTS:

FOUNDATION FOR RESIDENCE:
☐ CONCRETE SLAB ☐ BASEMENT WITH PLUMBING
☐ CRAWLSPACE ☐ BASEMENT WITH NO PLUMBING

IF PLANNING TO EXPAND/ALTER THE EXISTING SYSTEM INDICATE THE FOLLOWING CHANGES:
NUMBER OF BEDROOMS TO BE ADDED: 3 NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE: 3
WILL THERE BE A HOME BUSINESS IN THE RESIDENCE? ☐ YES ☒ NO TYPE:

WATER SUPPLY:
☐ MUNICIPAL (M) ☐ PUBLIC (C) ☒ PRIVATE WELL (P) ☐ SHARED WELL (S) ☐ OTHER 'SPRINGS' (O)
PROPOSED USE OF WELL: ☐ N/A ☐ IRRIGATION ☒ POTABLE ☐ GEOTHERMAL ☐ OTHER

ARE ANY OF THE FOLLOWING LOCATED ON THE PROPERTY? IF SO, PLEASE SHOW LOCATION ON SITE PLAN/PLAT.

BURIED CABLES, LANDFILLS, STUMPHOLES	☐ YES	☒ NO	WELLS, SPRINGS, OR WATER LINES	☐ YES	☒ NO
EXISTING WASTEWATER SYSTEMS	☐ YES	☒ NO	DESIGNATED WETLANDS	☐ YES	☒ NO
EASEMENTS OR RIGHT-OF-WAYS	☐ YES	☒ NO	GRADING/SOIL REMOVAL PERFORMED	☐ YES	☒ NO

PROPERTY OWNER:
NAME: Steven L. Mullis
ADDRESS: 13906 Highway 55 & 86 Road
CITY: Huntersville
STATE: NC ZIP: 28078
HOME PHONE: 704 875 5932 WORK PHONE:
MOBILE PHONE: 704 307 1462 FAX:

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:
NAME:
ADDRESS: Same
CITY:
STATE: ZIP:
HOME PHONE: WORK PHONE:
MOBILE PHONE: FAX:

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? 1990
WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY?

*An Improvement Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

S. L. Mullis 5-22-08
Owner's/Agent's Signature Date

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT & NATURAL RESOURCES DIVISION
OF ENVIRONMENTAL HEALTH ON-SITE
WASTEWATER SECTION

*A Well Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

Owner's/Agent's Signature Date

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

TOTAL P.01

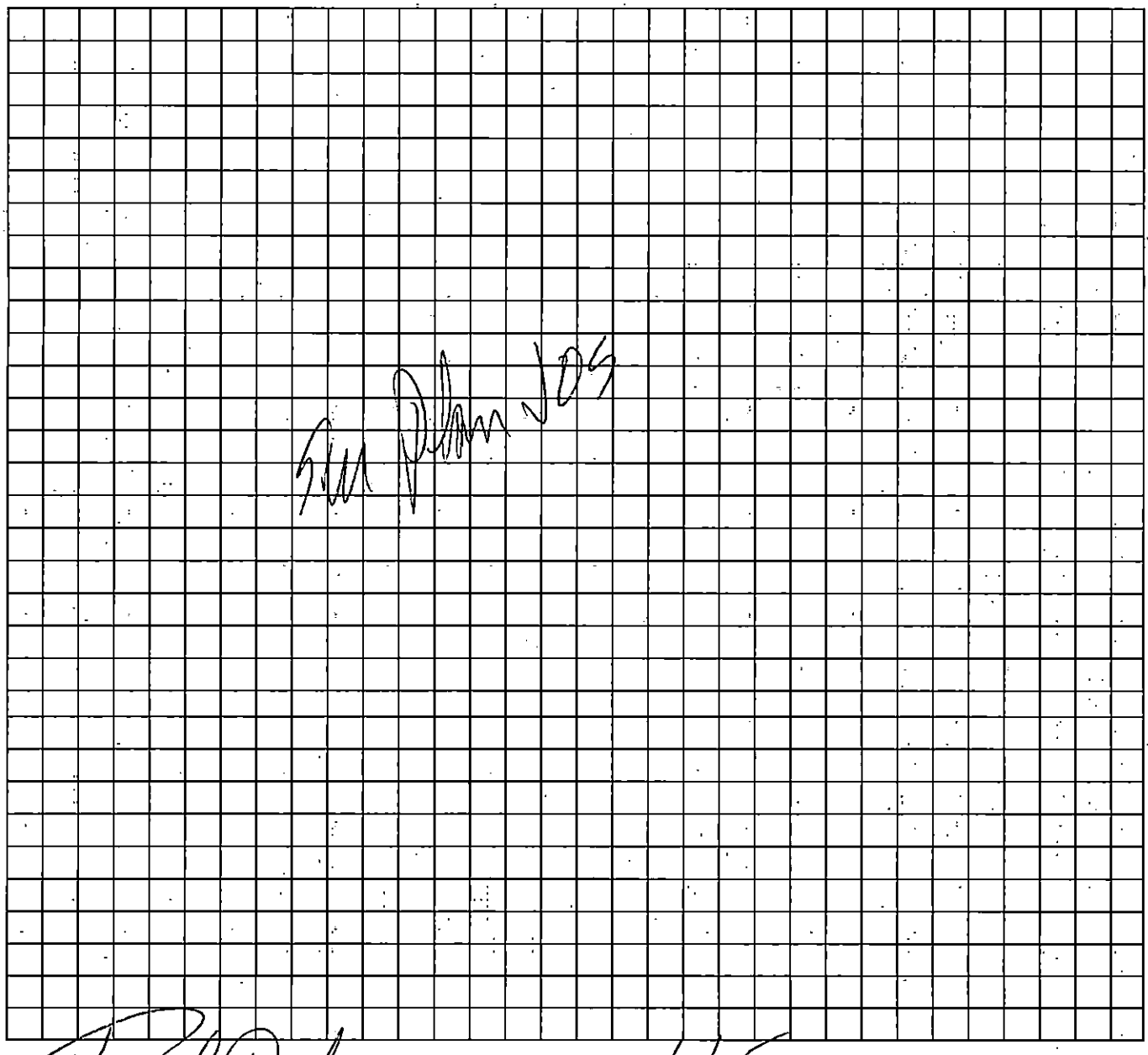
File #: _____

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: 15640 Huntingtown Village Rd Tax Parcel #: 011-321-05

Subdivision Name: _____ Lot #: _____



Property Owner's or Owner's Legal Representative Signature

1/13/15
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

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

OPERATION PERMIT for an ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 5190B Permit #: _____ Tax Parcel #: 011 321 05

Property Owner: Steven L. Mullis

Job Location Address: 13406 Hiwassee Rd

City: Huntersville State: NC Zip Code: 28078

Operation Permit Issuance Date: 6/17/08 Contractor Name: Orbison

Permitted Design Flow: 360 GPD

Liquid Capacity of Septic Tank: existing gallons

Liquid Capacity of Dosing Tank: N/A gallons

Effluent Pump Model: NA

Drainfield Installation ☐ N/A

Trench Depth: 48 inches

Trench Width: 3 feet

Line Spacing: 9 feet (O.C.)

Total line length: 456 feet

# of Lines: 6 @ 75 feet

Depth of Media: 12 inches (Type) Gravel

Depth of Cover: 36 inches

Distribution Device: existing DI Box

Inspection Dates

Tank(s) Inspected: Existing

Excavation Inspected: 6/17/08

Pump & Controls Inspected: NA

SKETCH OF SYSTEM INSTALLATION
(As-Built Drawing)

See installation approval

Bed Installation *(For Repair Installations ONLY.)* ☒ N/A

Bed Depth: _____ inches

Bed Width: _____ feet

Total line length: _____ feet

# of Lines: _____ @ _____ feet

Depth of Media: _____ inches (Type) _____

Depth of Cover: _____ inches

Distribution Device: _____

Water Supply Source

☐ Municipal ☒ Private Well ☐ Community Well

☐ Other _____

System Installation Setbacks

Distance from Building Foundation: 5 feet

Distance from Property Line: 10 feet

Distance from Water Supply Source: >100 feet

The undersigned has inspected the Septic Tank System described above, and certifies it has been ☐ installed ☐ altered ☒ repaired ☐ as detailed in the plot above ☒ in accordance with the permit issued and meets the provisions of 15A NCAC 18A. 1900, "Laws and Rules for Sewage Treatment and Disposal Systems" in effect on the date of issuance of the permit. The issuance of this Operation Permit does not in any way guarantee that the system will operate properly or relieve any person now or hereafter owning, controlling, or using such system from any liability resulting from the failure of the system to operate properly. This document is issued subject to those restrictions and conditions shown on the permit(s) and the provisions of 15A NCAC 18A. 1900 in addition to those listed below under "Comments." This document shall be null and void if any information contained in the application is untrue or if any additions are made to the property which would increase the requirements for said system.

Notice: Disturbance of the designated repair area may result in the Suspension or Revocation of this permit.

Comments: System Classification & Type: Type IIa Repair to Existing System, GTR, G

DENR Authorized Agent: Philo S. Walker RS Signature: Philo S. Walker RS

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

OPERATION PERMIT for an
ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 5190B Permit #: _____ Tax Parcel #: 011 321 05

Property Owner: Steven L Mullis

Job Location Address: 13406 Hiwassee Rd

City: Huntersville State: NC Zip Code: 28078

OPERATION PERMIT CONDITIONS:

I. Performance: System shall perform in accordance with 15A NCAC 18A .1961.

II. Monitoring: System shall be monitored as required by 15A NCAC 18A .1961.

III. Maintenance: 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.

IV. Operation: System shall be operated in accordance with 15A NCAC 18A .1961.

System Classification: IIa

*Operation Permits for Type V and VI systems expire five (5) years from the date of issuance (in accordance with Table V(a)). The system owner must contact GWS six (6) months prior to expiration for permit renewal.

Subsurface system operator required: Yes ☐ No ☒

☐ This type of system requires the system owner to maintain a contract with a certified operator to perform system inspection, maintenance, and reporting as required in 15A NCAC 18A .1961. and Table V(a). The system owner is responsible for all fees associated with these services.

☐ System does not require inspection by GWS on a routine frequency.

☐ System requires inspection by GWS once every five (5) years. The system owner is responsible for all fees associated with the inspection.

☐ System requires inspection by GWS once every three (3) years. The system owner is responsible for all fees associated with the inspection.

☐ System requires inspection by GWS once every twelve (12) months. The system owner is responsible for all fees associated with the inspection.

☐ System requires inspection by GWS once every six (6) months. The system owner is responsible for all fees associated with the inspection.

V. Other: Type IIa

DENR Authorized Agent: Philo S. Walker Date: 6/17/08

Signature: Philo S. Walker RS

GWS – RES. APP 12/04

SEPTIC FEE:
DATE: 5-22-08
CRT [1]:

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

WELL FEE:
DATE:
CRT [1]:

FILE # 5190B

SEPTIC / TYPE APPLICATION: ☐ NONE ☐ NEW SYSTEM EXISTING SYSTEM : ☐ EXPANSION/ALTERATION ☒ REPAIR

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

JOB LOCATION INFORMATION:

TAX/PARCEL #:
STREET ADDRESS: 13406 Hiwassee Road
CITY: Huntersville
STATE: NC ZIP: 28078
SUBDIVISION OR MOBILE HOME PARK NAME:
LOT #:
TOWNSHIP: Huntersville

☐ 0-MECKLENBURG ☐ 4-PINEVILLE
☐ 1-CHARLOTTE ☐ 5-MATTHEWS
☐ 2-DAVIDSON ☒ 6-HUNTERSVILLE
☐ 3-CORNELIUS ☐ 7-MINT HILL

BUILDING INFORMATION:

TYPE OF BUILDING:

☐ SINGLE MOBILE HOME (S) ☐ MODULAR HOME (M)
☐ DOUBLE WIDE (D) ☐ MULTIPLE FAMILY (U)
☒ HOUSE (H) ☐ OTHER

HEATED SQUARE FOOTAGE:
NUMBER OF BEDROOMS:
NUMBER OF OCCUPANTS:

FOUNDATION FOR RESIDENCE:

☐ CONCRETE SLAB ☐ BASEMENT WITH PLUMBING
☐ CRAWLSPACE ☐ BASEMENT WITH NO PLUMBING

IF PLANNING TO EXPAND/ALTER THE EXISTING SYSTEM INDICATE THE FOLLOWING CHANGES:

NUMBER OF BEDROOMS TO BE ADDED: 3 NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE: 3

WILL THERE BE A HOME BUSINESS IN THE RESIDENCE? ☐ YES ☒ NO TYPE:

WATER SUPPLY:

☐ MUNICIPAL (M) ☐ PUBLIC (C) ☒ PRIVATE WELL (P) ☐ SHARED WELL (S) ☐ OTHER 'SPRINGS' (O)

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

ARE ANY OF THE FOLLOWING LOCATED ON THE PROPERTY? IF SO, PLEASE SHOW LOCATION ON SITE PLAN/PLAT.

BURIED CABLES, LANDFILLS, STUMPHOLES	☐ YES	☐ NO	WELLS, SPRINGS, OR WATER LINES	☐ YES	☐ NO
EXISTING WASTEWATER SYSTEMS	☐ YES	☐ NO	DESIGNATED WETLANDS	☐ YES	☐ NO
EASEMENTS OR RIGHT-OF-WAYS	☐ YES	☐ NO	GRADING/SOIL REMOVAL PERFORMED	☐ YES	☐ NO

PROPERTY OWNER:

NAME: Steven L. Mullis
ADDRESS: 13406 Hiwassee Road
CITY: Huntersville
STATE: NC ZIP: 28078
HOME PHONE: 704 8753932 WORK PHONE:
MOBILE PHONE: 704 3071462 FAX:

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:

NAME:
ADDRESS: Same
CITY:
STATE: ZIP:
HOME PHONE: WORK PHONE:
MOBILE PHONE: FAX:

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? 1990

WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY?

*An Improvement Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

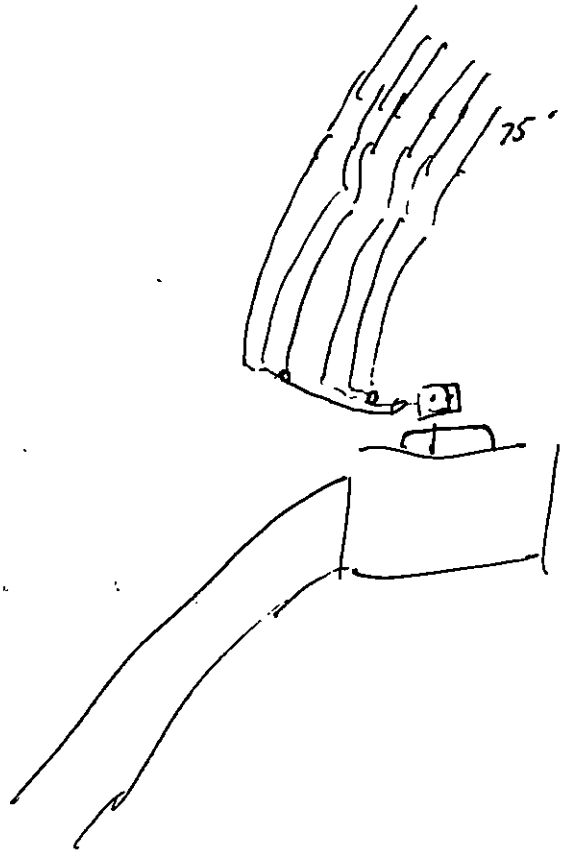
Owner's/Agent's Signature Date

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT & NATURAL RESOURCES DIVISION
OF ENVIRONMENTAL HEALTH ON-SITE
WASTEWATER SECTION

*A Well Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

Owner's/Agent's Signature Date

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



Wayne Orhesin
Fax 704 662 8795

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

INSTALLATION APPROVAL for an ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 5190B Permit #: _____ Tax Parcel #: 011 321 05

Property Owner: Steven L. Mullis

Job Location Address: 13406 Hiwassee Road

City: Huntersville State: NC Zip Code: 28078

Installation Approval Issuance Date: 4/23/08

Permission is hereby given to ☐ install ☐ alter ☒ repair an on-site wastewater treatment & and disposal system, with subsurface soil absorption and effluent discharge, as specified herein at the described location. This approval is granted based upon the application information submitted to our office. All work shall be completed on or before 5/28/08, after which date this approval shall be null and void. The system shall meet all of the construction requirements of 15A NCAC 18A. 1900 which are in effect on the date of granting this approval. An **Operation Permit** must be obtained from the Mecklenburg County Health Department before any system can be covered up or placed into service. The issuance of this permit does not in any way guarantee that the system anticipated to be constructed will operate properly, or relieve any person now of hereafter owning, controlling or using such system from any liability resulting from the failure of the system to operate properly.

***NOTICE: This system shall not be installed while soils are in a wet condition.**

Permitted Design Flow: 360 GPD

Site LTAR: Existing GPD/ft² (For new installations only.)

Liquid Capacity of Septic Tank: Existing gallons

Liquid Capacity of Dosing Tank: NA gallons

Drainfield Design ☐ N/A

Trench Depth: 36 inches

Trench Width: 3 feet

Line Spacing: 9 feet (O.C.)

Total line length: 450 feet

# of Lines: 6 @ 75 feet

Depth of Media: 12 inches (Type) Gravel

Distribution Device: Existing D-Boxes

Bed Design *(For Repair Installations ONLY.)* ☒ N/A

Bed Depth: _____ inches

Bed Width: _____ feet

Total line length: _____ feet

# of Lines: _____ @ _____ feet

Depth of Media: _____ inches (Type) _____

Distribution Device: _____

Water Supply Source

☐ Municipal ☐ Private Well ☐ Community Well

☐ Other _____

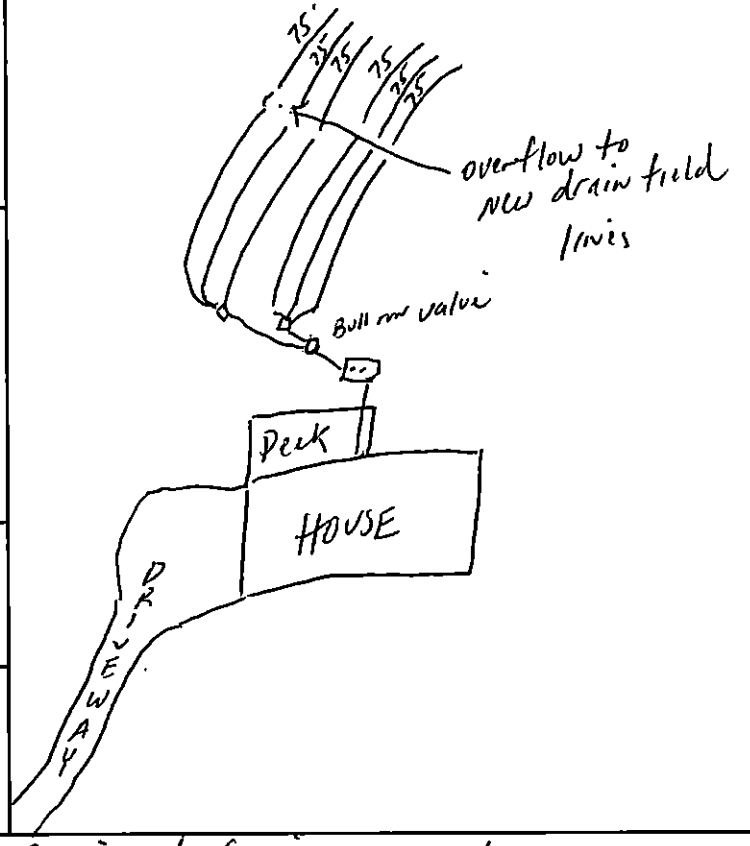
Minimum System Setbacks

Distance from Building Foundation: 5 feet

Distance from Property Line: 10 feet

Distance from Water Supply Source: >100 feet

SKETCH OF SYSTEM LAYOUT
(Proposed Layout)



Comments: System Classification & Type: Type IIa Repair / Gravity gravel system overflow to new lines

DENR Authorized Agent: Philo Walker Signature: Philo Walker RS

Jimmy

INDIVIDUAL WATER AND WASTEWATER SYSTEMS PROGRAM
APPLICATION FOR SERVICES

100 CASH 3/14/03 DG

CRT

Mecklenburg County Health Dept.
Environmental Health Division
c/o Hal Marshall Ctr., Suite 211
700 N. Tryon St.
Charlotte, NC 28202

(704)336-5102

5190B

PERSON FILING APPLICATION:

NAME: Mullis (last) Steven (first) L (mi)

ADDRESS: 13406 Hiwassee PHONE: 704 8753932

CITY: Huntersville STATE: NC ZIPCODE: 28078

Date: 3-14-03

PROPERTY OWNER:

NAME: Same As Above (last) (first) (mi)

ADDRESS: _____ PHONE: (__) _____

CITY: STATE: ZIPCODE:

PROPERTY INFORMATION (FROM ENGINEERING FORM):

TAX/PARCEL NUMBER: 01132105

STREET ADDRESS: 13406 Hiwassee

ZONING: Rural

Township (check one):
[X] 0 Mecklenburg County [] 2 Davidson [] 4 Pineville [] 6 Huntersville
[] 1 Charlotte [] 3 Cornelius [] 5 Matthews [] 7 Mint Hill

SUBDIVISION OR MOBILE HOME PARK NAME:

LOT NUMBER: LOT SIZE (in acres): 1/4

TYPE APPLICATION (check one):

[redacted] 1990

[] EXCHANGE MOBILE HOME - SAME # BEDROOMS (Y)
[] ADDITION - INCREASE ROOMS/OCCUPANCY/MOBILE HOME SIZE (A or M)
[] COMMERCIAL OR INDUSTRIAL (N)

[redacted]
[X] ADDITION - GARAGE OR RENOVATION/NO MAJOR CHANGES (X)
[redacted]

RESIDENTIAL PROPERTY (Type Building, check one):
[] SINGLE MOBILE HOME (S) [X] HOUSE (H) [] MULTIPLE FAMILY (U)
[] DOUBLE WIDE (D) [] MODULAR HOME (M) [] OTHER _____ (O)

NUMBER BEDROOMS: 3 NUMBER OCCUPANTS: 2

SYSTEM CLASSIFICATION:

COMMERCIAL/INDUSTRIAL PROPERTY:
Type Business _____ # Employees ___ Per Shift ___ ___ ___
Industrial Wastes (Y/N) ___
Underground Storage Tanks On Property (Y/N) ___ Type _____

WATER SUPPLY (check one):
[] Community (C) [] Shared Well (S)
[] Municipal (M) [] Other 'spring' (O)
[X] Private Well (P)

FUTURE ADDITIONS - ALL PLANNED ADDITIONS MUST BE ENTERED (check all that apply):
[] Swimming Pool [] Jacuzzi [] Stable/Barn [] Workshop [] None
[] Garage [] Storage Building [X] Deck/Patio [] Bedrooms [] Other

The undersigned, owner, or legal agent for the owner, of the property described above as the "JOB LOCATION" has read the foregoing application, acknowledges that the contents of same are true, and authorizes agents of the MECKLENBURG COUNTY HEALTH DEPARTMENT to enter onto the property for the purpose of processing this request.

Signed: S. L Mullis Date: 3-14-03

NOTICE:

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 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.

... O.K. to use existing system for a deck addition. (12'x25')

[] IMPROVEMENT PERMIT - VALID 60 MONTHS FROM ISSUANCE
[] MOBILE HOME EXCHANGE APPROVAL - VALID 6 MONTHS FROM ISSUANCE
[X] ADDITION/RENOVATION APPROVAL - VALID 1 YEAR FROM ISSUANCE

Jimmy Mullis R.S. 3/17/03
Environmentalist Date

WATER : 122791

PF 31744

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

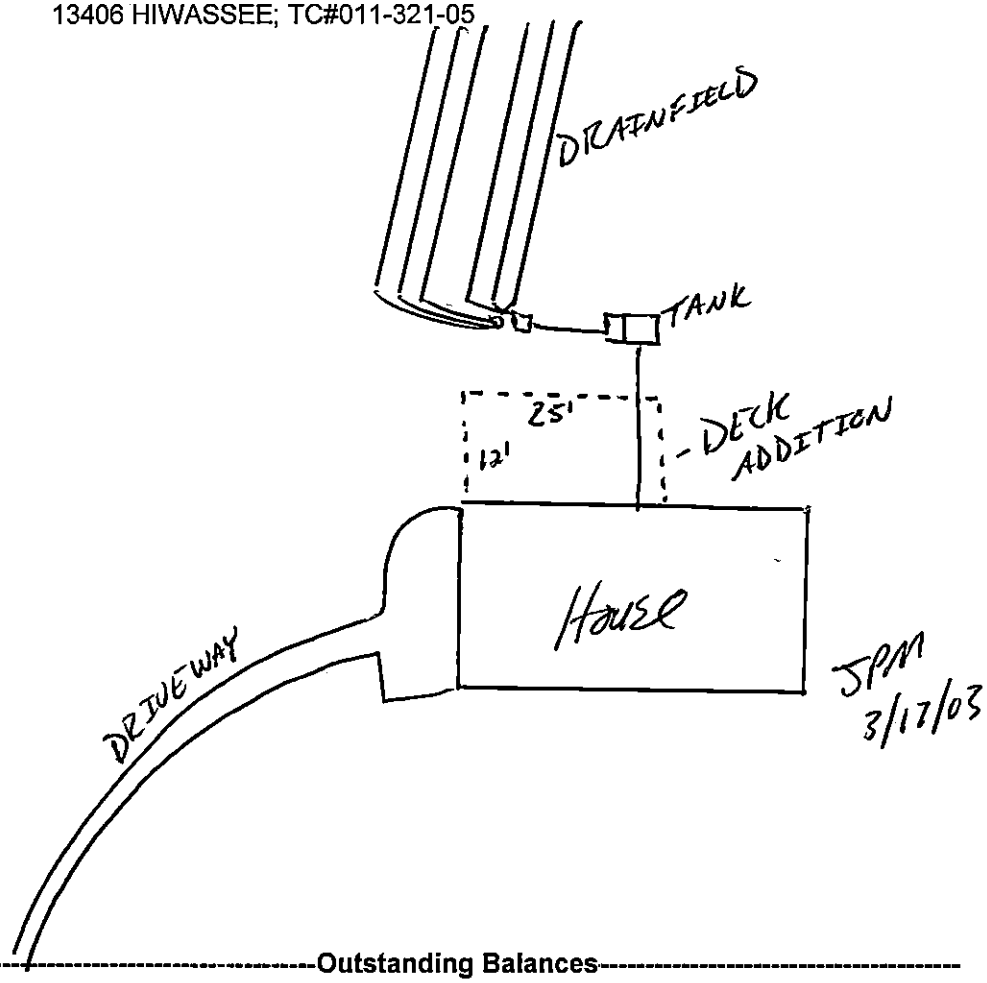
Receipt Information

Date:	03/14/03	**Amount:**	100.00
Receipt #:	15264	**Tendered:**	100.00
Check / Auth #:	CASH	**Returned:**	0.00
Received By:	JONESNY		

Account Information

Account #: 200000
Contractor: MULLIS, STEVEN L.
Attn:
Address: 13406 HIAWASSEE
Address:
City/State/Zip: HUNTERSVILLE, NC

Item	Description	Permit#	Quantity	Unit Price	Total Price
0705	MH Exc/Add/Repl w/o System Mod 13406 HIWASSEE; TC#011-321-05		1	100.00	100.00



Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance

5190B

SAM 8/24/16

Supervisor/Administrative Professional Checklist

New Septic ☑ **New Well** ☐ **Use Existing** ☐ **Alteration** ☐ **Modified Plot Plan** ☐

New Septic Fees Paid:

IP ($250.00) DWO 1/13/15 Initials/Date

CA ($200.00) BA 3/13/15 Initials/Date

OP ($200.00) BA 3/13/15 Initials/Date

(CA and OP fees need to be paid before a building permit can be issued)

New Well Fee Paid: $550.00 _____ Initials/Date

Use Existing Fee Paid: $100.00 _____ Initials/Date

Alteration Fee Paid: $300.00 (Total) $200 (If use existing was paid)_____ Initials/Date

Modified Plot Plan Fee Paid: $100.00 _____ Initials/Date

Floor plans need to be submitted and reviewed before CA can be issued. ☐ Reviewed ☑ JAM 3/4/15

generate CA form in WASP & put in file.

This site is served by septic and well. Verify each is complete before final hold is released. ☑

Septic file completed. ☑ JAM 8-10-16 Well file completed. ☑ JAM 8-10-16

Send permit for signature. ☑ Signature received. ☐ _____

This septic system requires a certified operator contract before final hold is released. ☑

Certified operator contract is on file. ☐ _____

Groundwater & Wastewater Services
Septic Project File & Data Review Worksheet

GWS File #: 5190B WASPS App #: 7252

Primary ES assigned to project: Kim Garrett

Secondary ES assigned to project: _____

Project Type: New System ☐ Alteration ☐ Repair ☐ Modified Plot Plan ☐

I. File Review:

Rule or Law	Permit Application			
.1937(d)	Is the Application complete	Yes ☑	No ☐	N/A ☐
.1937(d)	Is there a Site plan/Plat with application	Yes ☑	No ☐	N/A ☐
.1937(d)	Is the Facility shown?	Yes ☑	No ☐	N/A ☐
.1937(d)	Are appurtenances shown	Yes ☑	No ☐	N/A ☐
	Site Evaluation Information			
.1939 (a)(1)	Topography and Landscape Position Recorded?	Yes ☑	No ☐	N/A ☐
.1940 (a-g)	Slope % Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(2)	Texture Class Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(2)	Structure type Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(2)	Consistence Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(2)	Mineralogy Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(3)	Soil Wetness Condition Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(4)	Soil Depth to Rock or Parent Material Recorded When Encountered	Yes ☑	No ☐	N/A ☐
.1939 (a)(5)	Depth to Restrictive Horizons Recorded When Encountered?	Yes ☑	No ☐	N/A ☐
.1939 (a)(6)	Sufficient Available Space Recorded?	Yes ☑	No ☐	N/A ☐
.1937(m)	Are the Profile Locations Shown?			
.1939(a)	Are the S/PS Profiles in system & in repair area?	Yes ☑	No ☐	N/A ☐
& .1945(b)	Number of auger borings made: 8			
	Were sufficient auger borings made?	Yes ☑	No ☐	N/A ☐
.1939(d), .1955, .1956, .1957	LTAR 0.25	Yes ☑	No ☐	N/A ☐
	Improvement Permit/Construction Authorization			
.1937(g) 130A-336(a)	Proposed System Type stated-Initial	Yes ☑	No ☐	N/A ☐
.1945(b)	Proposed System Type stated-Repair	Yes ☑	No ☐	N/A ☐
130A-336 (a)(3)	System location identifiable by setbacks - Initial	Yes ☑	No ☐	N/A ☐
.1937(g) .1945(b)	System components shown – Initial	Yes ☑	No ☐	N/A ☐
.1945(b)	Repair area shown	Yes ☑	No ☐	N/A ☐
.1937 (f)(g)	Does System design match facility, flow & WWcharacteristics?	Yes ☑	No ☐	N/A ☐
.1937 (f)(g)	Is System design consistent with soil/site conditions?	Yes ☑	No ☐	N/A ☐
.1937 (f)(g)	Is the System located in the approved area?	Yes ☑	No ☐	N/A ☐
130A-336(a)	Is the Design flow (gpd) indicated?	Yes ☑	No ☐	N/A ☐

130A-336(a)	Number of Bedrooms, employees, seats, etc. indicated?	Yes ☑	No ☐	N/A ☐
.1937(g)	Trench depth indicated?	Yes ☑	No ☐	N/A ☐
.1937(g)	Trench width indicated?	Yes ☑	No ☐	N/A ☐
.1937(g)	Trench length indicated?	Yes ☑	No ☐	N/A ☐
130A-336(a)(1)	Proposed/existing well shown?	Yes ☑	No ☐	N/A ☐
130A-336(a)(1)	Property line lengths shown?	Yes ☑	No ☐	N/A ☐
130A-336(a)	Facility/appurtenance setbacks shown from fixed points?	Yes ☑	No ☐	N/A ☐
	Operation Permit			
.1937(i)	System type as described in table V(a) of rule .1961	Yes ☐	No ☐	N/A ☐
.1937(i)	Conditions for system performance, operation, maintenance, monitoring and reporting.	Yes ☐	No ☐	N/A ☐

II. WASPS Review:

Construction authorization issued	Yes ☐	No ☐	N/A ☐
Installation approval issued	Yes ☐	No ☐	N/A ☐
Operation permit issued	Yes ☐	No ☐	N/A ☐
Other related documentation	Yes ☐	No ☐	N/A ☐

Items requiring correction/modification: _____

Comments:

IA issued date: 4/25/16

OP issued date: 7/28/16

Review performed by: JAM Date performed: 3/6/15

PIEDMONT DESIGN ASSOCIATES, P.A.
125 East Plaza Drive, Suite 101
Mooresville, NC 28115
Telephone (704) 664-7888 Fax (704) 664-1778
Email: dmunday@pdapa.com
NCBELS License No: C-1007

Engineering
Surveying
Planning

August 8, 2016

Mecklenburg County Health Department
Groundwater & Wastewater Services
700 North Tryon Street, Suite 211
Charlotte, NC 28202
Attn: Kim Garrett

Re: SFR Low Pressure Pipe Sand-Lined Trench Distribution Septic System
15640 Huntingtowne Village Road (P.I.D. # 01132105)
Huntersville, Mecklenburg County, NC

Dear Ms. Garrett:

ENGINEERS CERTIFICATION

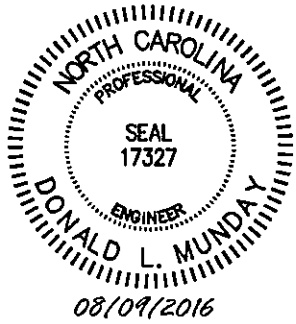
I, **Donald L. Munday**, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe periodically the construction of the referenced project, a SFR Low Pressure Pipe Sand-Lined Trench Distribution Septic System; 15640 Huntingtowne Village Road (P.I.D. # 01132105), located in Huntersville, Mecklenburg County, NC, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the approved plans and specifications.

Sincerely,

PIEDMONT DESIGN ASSOCIATES, P.A.

Donald L. Munday, P.E.
N.C. Registration No. 17327

cc: Mr. Toney Jacobs, LSS



08/09/2016

5190B

MECKLENBURG COUNTY HEALTH DEPARTMENT

App # 7252

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: 1011-325-05

STREET ADDRESS: ~~14920 Old Vermillion Dr~~ 15640 Hunting Downe Village Rd.

CITY: Huntersville

STATE: NC ZIP: 28078

SUBDIVISION NAME: _____

LOT #: _____ LOT SIZE (acres): 14.1

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: ~12000

NUMBER OF BEDROOMS: 5

NUMBER OF OCCUPANTS: 10

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 25% red

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: Joey Karaffa

ADDRESS: 14920 Old Vermillion Dr

CITY: Huntersville

STATE: NC ZIP: 28078

WORK PHONE: _____

MOBILE PHONE: 980-622-0259

FAX: _____

E-MAIL: NA

13. **OWNER'S LEGAL REPRESENTATIVE, IF APPLICABLE:**

NAME: Tonya C Jacobs

ADDRESS: 146 Broadhill Dr

CITY: Mooresville

STATE: NC ZIP: 28117

WORK PHONE: 704 662 9845

MOBILE PHONE: 562-9219

FAX: _____

E-MAIL: tonyacjacobs@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

1/13/15 Date

OFFICE USE ONLY

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

SEPTIC APPLICATION FEE RECEIVED: $ 250 DATE FEE RECEIVED: 1/13/15

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

APPLICATION PROCESSED BY: Lwa

GWS FILE NUMBER ASSIGNED: 5190B

APPLICATION ID NUMBER ASSIGNED: 7252

COMMENTS:

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

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	03/13/15	**Amount:**	200.00
Receipt #:	93944	**Tendered:**	200.00
Check / Auth #:	CHECK 272	**Returned:**	0.00
Received By:	ATKINBB		

Account Information

Account #: 200000
Contractor: JACOBS ON-SITE DEVELOPMENT IN
Attn: JACOBS C. TONEY
Address:
Address: 168 BROADBILL DRIVE
City/State/Zip: MOORESVILLE, NC 28117

Item	Description	Permit#	Quantity	Unit Price	Total Price
0734	Septic Construction Authorizat 15640 HUNTINGTONTOWNE VILLAGE RD		1	200.00	200.00

----------Outstanding Balances----------

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	01/13/15	**Amount:**	250.00
Receipt #:	92197	**Tendered:**	250.00
Check / Auth #:	CHECK 266	**Returned:**	0.00
Received By:	SADERLW		

Account Information

Account #: 200000
Contractor: JACOBS ON-SITE DEVELOPMENT IN
Attn:
Address: 168 BROADBILL DR
Address:
City/State/Zip: MOORESVILLE, NC 28117

Item	Description	Permit#	Quantity	Unit Price	Total Price
0701	Improvment Permit App-Residen 15640 HUNTINGTOWN VILLAGE RD		1	250.00	250.00

----------Outstanding Balances----------

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
	10.00				

FEE: 200.00
DATE:3/18/2015

MECKLENBURG COUNTY
GROUNDWATER & WASTEWATER SERVICES

FILE NUMBER: 5190B

PERMIT NUMBER: 30007252

PARCEL NUMBER: 01132105

JOB LOCATION INFORMATION

ADDRESS: 15640 HUNTINGTOWNE VILLAGE RD

CITY: HUNTERSVILLE **STATE: NC** **ZIP:** 28078

ISSUED TO: Joey Karafla

CONSTRUCTION AUTHORIZATION ISSUANCE DATE: 3/18/2015

CONSTRUCTION AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NUMBER 30007252, AND THE ATTACHED SITE PLAN WITH SYSTEM DETAILS. CONSTRUCTION AND INSTALLATION MUST ALSO MEET ALL REQUIREMENTS SET FORTH IN THE RULES GOVERNING SANITARY SEWAGE COLLECTION, TREATMENT, AND DISPOSAL AND ANY OTHER APPLICABLE RULES AND LAWS.

2. AN INSTALLATION APPROVAL MUST BE SECURED PRIOR TO INSTALLATION OF THE SEPTIC TANK SYSTEM. THE INSTALLER OF THE SYSTEM SHALL BE A REGISTERED SEPTIC TANK CONTRACTOR WITH THE MECKLENBURG COUNTY HEALTH DEPARTMENT.

3. ANY ALTERATION IN SITE OR SOIL CONDITIONS (INCLUDING LOCATION OF STRUCTURES AND APPURTENANCES) OR MODIFICATION IN USE, DESIGN WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS AS SPECIFIED IN THE ASSOCIATED IMPROVEMENT PERMIT AND APPLICATION, MAY SUBJECT THIS CONSTRUCTION AUTHORIZATION AND ASSOCIATED PERMIT(S) TO REVOCATION.

4. THIS CONSTRUCTION AUTHORIZATION AS PROVIDED IN G.S. 130A-335(f) AND G.S. 130A-336(b) SHALL BE VALID FOR A PERIOD EQUAL TO THE VALIDITY OF THE IMPROVEMENT PERMIT, NOT TO EXCEED 60 MONTHS.
   *CONSTRUCTION AUTHORIZATION EXPIRATION DATE: 3/4/2020

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 #: **30007252** GWS File #: **5190B** Tax Parcel #: **011-321-05**

- 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):** 3/4/2020

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

Structure Type: HOUSE Size (ft^2): 12000 # Bedrooms: 5 # Occupants: 10

Building Foundation: Water Supply: Private Well

II. Initial System Type: Low Pressure Pipe (LPP) **System Classification:** Va

Initial System Specifications:

Design Flow (gpd):	600	LTAR (gpd/ft^2):	0.25	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1500
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	2400	Total Trench Length (ft):	800
Maximum Trench Depth (in):	48	Depth of Media (in):	36	Distribution Device:	Manifold (LPP Distri		

III. Repair System Type: Low Pressure Pipe (LPP) **System Classification:** Va

Repair System Specifications:

Design Flow (gpd):	600	LTAR (gpd/ft^2):	0.25	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1500
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	2400	Total Trench Length (ft):	800
Maximum Trench Depth (in):	48	Depth of Media (in):	36	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: Kim Garrett Owner/Legal Agent: _____
Print Name

Signature: Kim Garrett Reits Signature: _____

Date Issued: 3/4/2015

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 #: **30007252** GWS File #: **5190B**

IV. Permit Conditions/Comments:

- This type of septic system requires an inspection once every year 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.
- All drainage improvements (swales, interceptor drains, etc.) noted on the plot plan must be inspected and approved prior to issuance of an Operation Permit.
- Proper well abandonment is required prior to receiving an Installation Approval from our office to install the septic 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 installed in accordance with the required setbacks listed on the corresponding plot plan.
- All components of the septic system must be located at least 100 ft. from all private wells (saprolite system).
- All waterlines must be located a minimum of 10 ft. from any part of the septic system.
- Upon completion of the project the system designer shall provide Groundwater & Wastewater Services with a letter certifying that the system was installed in accordance with the approved design.
- The system must be water tested during the final inspection to verify proper operation and set system pressure.

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: Kim Garrett

Signature: Kim Garrett, REHS

Date Issued: 3/4/2015

Owner/Legal Agent: _____
Print Name

Signature: _____

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

Septic System Pre-Construction Meeting Checklist

File #5190 B App #7252 Tax Parcel #01-321-05

Property Owner: Joseph & Rosemarie Karaffa

Job Location Address: 15640 Huntingtowne Village Rd

City: Huntersville State: NC Zip Code: 28078

1. **Does System design match facility, flow & wastewater characteristics?**

   ☒ YES ☐ NO

   Comments: _____

2. **Is there sufficient available space for the septic systems initial and repair areas?**

   ☒ YES ☐ NO

   Comments: _____

3. **Can the septic system be installed per the permit conditions and drawing on file?**

   ☒ YES ☐ NO

   Comments: _____

* If "NO" is checked for any of the above the existing permit may need to be revoked.

Permission is hereby given to ☒ install ☐ alter ☐ repair an on-site wastewater treatment & and disposal system, with subsurface soil absorption and effluent discharge meeting all of the construction requirements of 15A NCAC 18A .1900 which are in effect on the date of granting this approval. **System shall not be installed while soils are in wet condition.**

Kim Garrett, REHS — Authorized Agent

4/25/16 — Date

Brad Russell — Others Present

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St, Suite 311 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-5234

NC DENR
Division of Environmental Health
On-Site Wastewater Section

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

Permit #: 20007252 GWS File #: 51908 Tax Parcel #: 011-321-05

- 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): 3/4/2020

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

Structure Type: HOUSE Size (ft²): 12000 # Bedrooms: 5 # Occupants: 10

Building Foundation: Water Supply: Private Well

II. Initial System Type: Low Pressure Pipe (LPP) System Classification: V/a

Initial System Specifications:

Design Flow (gpd):	600	LTAR (gpd/ft²):	0.25	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1500
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft²):	2400	Total Trench Length (ft):	800
Maximum Trench Depth (in):	48	Depth of Media (in):	36	Distribution Device:	Manifold (LPP Only)		

III. Repair System Type: Low Pressure Pipe (LPP) System Classification: V/a

Repair System Specifications:

Design Flow (gpd):	600	LTAR (gpd/ft²):	0.25	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1500
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft²):	2400	Total Trench Length (ft):	800
Maximum Trench Depth (in):	48	Depth of Media (in):	36	Distribution Device:	Manifold (LPP Only)		

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 transferrable.

DENR Authorized Agent: Kim Garrett Owner/Legal Agent: Tony Lobach
Print Name

Signature: Kim Garrett Signature: Tony Lobach

Date Issued: 3/4/2015

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St. Suite 214 Charlotte, NC 28202
Phone: (704) 336-5100 Fax: (704) 336-5994

NC DENR
Division of Environmental Health
On-Site Wastewater Section

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

Permit #: 30007252 GWS File #: 5198B

IV. Permit Conditions/Comments:

- This type of septic system requires an inspection once every year 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.
- All drainage improvements (swales, interceptor drains, etc.) noted on the plot plan must be inspected and approved prior to issuance of an Operation Permit.
- Proper well abandonment is required prior to receiving an Installation Approval from our office to install the septic 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 installed in accordance with the required setbacks listed on the corresponding plot plan.
- All components of the septic system must be located at least 100 ft. from all private wells (soapstone system).
- All waterlines must be located a minimum of 10 ft. from any part of the septic system.
- Upon completion of the project the systems designer shall provide Groundwater & Wastewater Services with a letter certifying that the system was installed in accordance with the approved design.
- The system must be water tested during the final inspection to verify proper operation and set system pressure.

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 non-transferable.

DENR Authorized Agent: Kim Garrett

Signature: Kimberly M. Garrett

Date Issued: 3/4/2015

Owner/Legal Agent: Tonya L. Franks

Print Name

Signature: Tonya L. Franks

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

Sheet: 1 of 3
Property ID: 011-321-05
Lot #: NA
File #: 5190B
AppID: 7252

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Property Owner: Joey Karaffa
Applicant: Toney Jacobs, LSS
Address: 14920 Old Vermillion Dr, Huntersville, NC 28078
Date Evaluated: 1/26/2015
Proposed Facility: 5 Bedroom House
Design Flow (.1949): 600 GPD
Property Size: 14.1 ac
Location: 15640 Huntingtowne Village Rd, Huntersville, NC 28078
Property Recorded: Unknown
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	General Comments	Profile Class & LTAR	Maximum Trench Bottom Depth for 3' Wide Conventional Trench
Pit #1	NS 11%	0 - 5	Fill		2 chroma 10 - 34"	17	US 17 - 35 PS 35 - 84	NA	water seeping Into pit Need curtain drain	PS IV for sand lined trench @ 0.25 LPP	Trench bottom must be between 39 - 60"
		5 - 17	wfsbk C	S VP VFI EXP							
		17 - 35	mass SCL	S P FI SEXP							
		35 - 84	mass SL	SS SP FI SEXP							
Pit #2	NS 9%	0 - 9	gr SCL	SS SP FR SEXP	2 chroma 12 - 46"	37	US 37 - 46 PS 46 - 84	NA	water seeping Into pit Need curtain drain	PS IV for sand lined trench @ 0.25 LPP	Trench bottom must be between 46 - 60"
		9 - 37	wfsbk C	S VP VFI EXP							
		37 - 43	mass CL	S P FI SEXP							
		43 - 84	mass L	SS SP FI SEXP							
Pit #3	NS 8%	0 - 3	Fill		2 chroma 12 - 56"	32	US 32 - 56 PS 56 - 84	NA	water seeping Into pit Need curtain drain	PS IV for sand lined trench @ 0.25 LPP	Trench bottom must be between 59 - 60"
		3 - 10	gr SCL	SS SP FR SEXP							
		10 - 32	wfsbk C	S VP VFI EXP							
		32 - 56	mass CL	S P FI SEXP							
		56 - 84	mass L	SS SP FI SEXP							
Pit #4	NS 9%	0 - 8	gr SCL	SS SP FR SEXP	>84"	37	US 18 - 26 PS 26 - 84	NA		PS IV for sand lined trench @ 0.25 LPP	Trench bottom must be between 29 - 60"
		8 - 18	wfsbk C	S VP VFI EXP							
		18 - 26	mass SCL	S P FI SEXP							
		26 - 37	mass L	SS SP FI SEXP							
		37 - 84	mass LS	SS SP FI SEXP							

Description	Initial System	Repair System
Available Space (.1945)	PS	PS
System Type(s)	V	V
Site LTAR (gpd/sq ft)	0.25*	0.25*

*LTAR only valid using a LPP Sand Lined Trench System
[15A NCAC 18A.1956 (7)]

Other Factors (.1946):
Soil Evaluation By: Jacob Presley, REHS, LSS
Others Present: Toney Jacobs, LSS
Site Classification (.1948): PS
Site Evaluation By: Kim Hinnebo, REHS
Others Present: Toney Jacobs, LSS

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM
CONTINUED

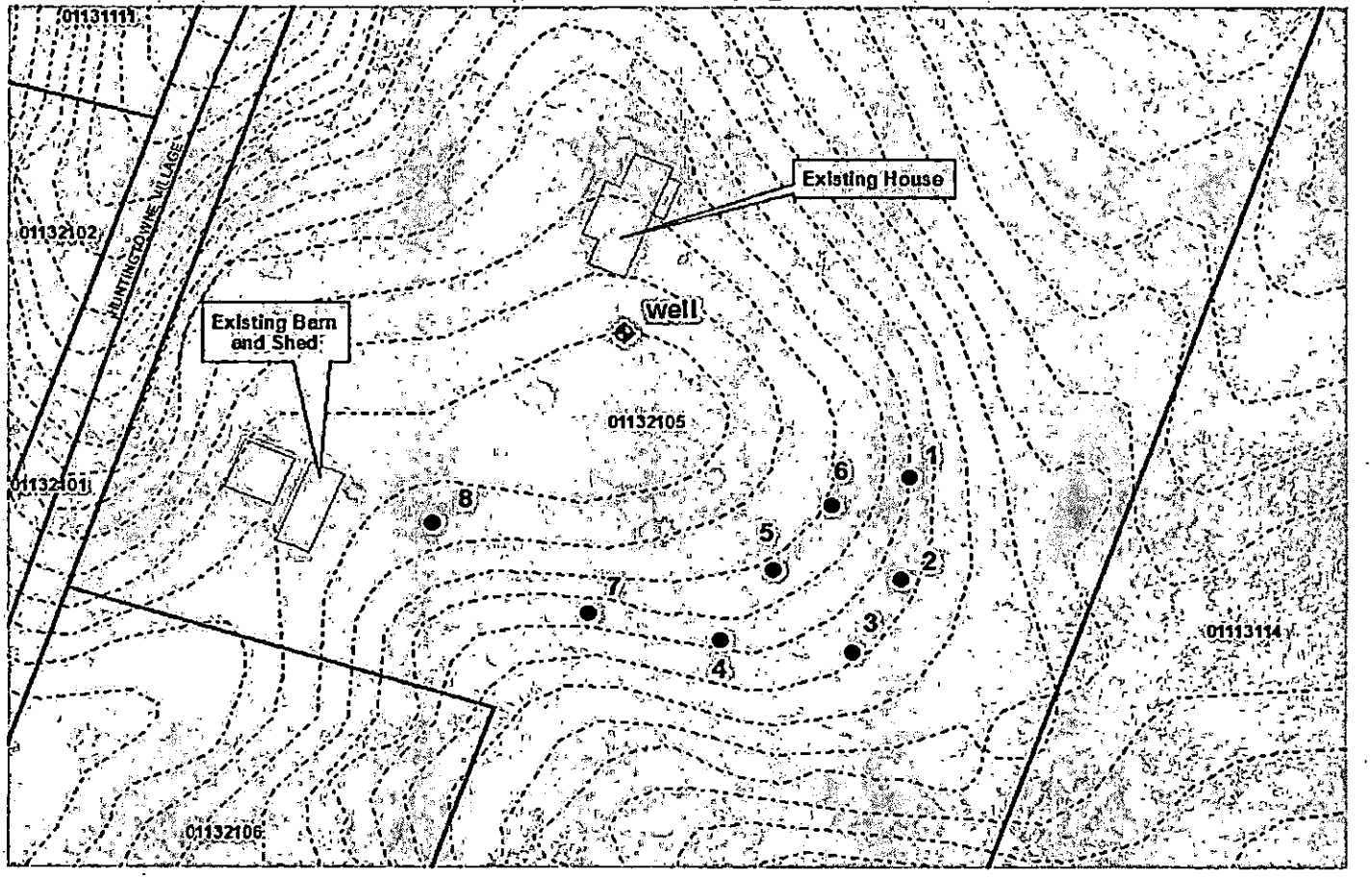
PROFILE #	.1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY .1941 .1941 Structure/ Texture	.1941 Consistence Mineralogy	b PROFILE FACTORS .1942 Soil Wetness/ Color	.1943 Soil Depth (IN.)	.1956 Sapro Class	.1944 Restr Horiz	General Comments	Profile Class & LTAR	Maximum Trench Bottom Depth for 3' Wide Conventional Trench
Pit #5	NS 9%	0 - 3	Fill		>84"	20	US 20 - 31 PS 31 - 84	NA		PS IV for sand lined trench @ 0.25 LPP	Trench bottom must be between 34 - 60"
		3 - 12	gr SL	S SP FR SEXP							
		12 - 20	wmsbk C	S VP VFI EXP							
		20 - 31	mass SCL	S P FI SEXP							
		31 - 84	mass SL	SS SP FI SEXP							
Pit #6	NS 9%	0 - 18	Fill		2 chroma 18 - 36"	26	US 26 - 36 PS 36 - 84	NA	water seeping into pit Need curtain drain	PS IV for sand lined trench @ 0.25 LPP	Trench bottom must be between 38 - 60"
		18 - 26	wfsbk SCL	S P FR SEXP							
		26 - 34	mass SCL	S P FI SEXP							
		34 - 84	mass SL	SS SP FI SEXP							
Pit #7	LS 11%	0 - 36	Fill		>84"	0	PS 36 - 84	NA	water seeping into pit Need curtain drain	PS IV for sand lined trench @ 0.25 LPP	Trench bottom must be between 40 - 60"
		36 - 84	mass SL	SS SP FI SEXP							
Pit #8	LS 5%	0 - 9	gr SCL	SS SP FR SEXP	2 chroma 8 - 36"	36	PS 36 - 84	NA		PS IV for sand lined trench @ 0.25 LPP	Trench bottom must be between 36 - 60"
		8 - 36	wfsbk C	VS VP VFI EXP							
		36 - 84	mass SL	SS SP FI SEXP							

COMMENTS:

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		mass-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				Sap-Saprolite
FP-Flood Plain		CL-Clay Loam		**Structure Prefixes**
D-Drainage Way		SCL-Sandy Clay Loam		w-weak
		SiL-Silt Loam		m-moderate
				s-strong
				f-fine
	IV	SC-Sandy Clay	0.4 - 0.1	m-medium
		SiC-Silty Clay		c-coarse
		C-Clay		

Consistence Moist	Consistence Wet	Mineralogy
VFR-Very Friable	SS-Slightly Sticky	SEXP-Slightly Expansive
FR-Friable	S-Sticky	EXP-Expansive
FI-Firm	VS-Very Sticky	
VFI-Very Firm	NP-Non-Plastic	**Classification**
EFI-Extremely Firm	SP-Slightly Plastic	US-Unsuitable
	P-Plastic	PS-Provisionally Suitable
	VP-Very Plastic	S-Suitable
		NA-Not Applicable

Soil Boring Location Sketch



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

NC DHHS
Division of Environmental Health
On-Site Wastewater Section

OPERATION PERMIT for an
ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 5190B Permit #: 36007252 Tax Parcel #: 01-321-05

Property Owner: Joseph & Rosemarie Karaffa

Job Location Address: 15640 Huntingtowne Village Rd

City: Huntersville State: NC Zip Code: 28078

Operation Permit Issuance Date: 7/28/16 Contractor Name: Brad Russell, R&H

Permitted Design Flow: 600 GPD Liquid Capacity of Dosing Tank: 1500 gallons

Liquid Capacity of Septic Tank: 1500 gallons Manufacture Dellinger Effluent Pump Model: Myers ME 75 3/4hp

Drainfield Installation ☐ N/A

Trench Depth. 48 inches

Trench Width: 3 feet

Line Spacing: 9 feet (O.C.)

Total line length: 800 feet

# of Lines: 3 @ 268 feet center feed

Depth of Media: 36 inches (Type) Sand/tirechips

Depth of Cover: 12 inches

Distribution Device: manifold

Bed Installation *(For Repair Installations ONLY.)* ☒ N/A

Bed Depth: _____ inches

Bed Width: _____ feet

Total line length: _____ feet

# of Lines: _____ @ _____ feet

Depth of Media: _____ inches (Type) _____

Depth of Cover: _____ inches

Distribution Device: _____

Water Supply Source

☐ Municipal ☒ Private Well ☐ Community Well

☐ Other _____

System Installation Setbacks

Distance from Building Foundation: >5 feet

Distance from Property Line: >10 feet

Distance from Water Supply Source: >100 feet

Inspection Dates

Tank(s) Inspected:	5/5/16	KG
Excavation Inspected:	4/29/16	JM
Pump & Controls Inspected:	7/28/16	KG
Interceptor drain	5/5/16	KG

SKETCH OF SYSTEM INSTALLATION
(As-Built Drawing)

System installed as per design by Toney Jacobs, 2/15/15.

The undersigned has inspected the Septic Tank System described above, and certifies it has been ☐ installed ☐ altered ☐ repaired ☐ as detailed in the plot above ☐ in accordance with the permit issued and meets the provisions of 15A NCAC 18A. 1900, "Laws and Rules for Sewage Treatment and Disposal Systems" in effect on the date of issuance of the permit. The issuance of this Operation Permit does not in any way guarantee that the system will operate properly or relieve any person now or hereafter owning, controlling, or using such system from any liability resulting from the failure of the system to operate properly. This document is issued subject to those restrictions and conditions shown on the permit(s) and the provisions of 15A NCAC 18A. 1900 in addition to those listed below under "Comments." This document shall be null and void if any information contained in the application is untrue or if any additions are made to the property which would increase the requirements for said system.

Notice: Disturbance of the designated repair area may result in the Suspension or Revocation of this permit.

Comments: System Classification & Type: Va, pressure, TCI+P, DEEP, n/a

DENR Authorized Agent: Kim Garrett, REHS Signature: Kim Garrett, REHS

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

OPERATION PERMIT for an
ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 5190 B Permit #: 30007252 Tax Parcel #: 011-321-05

Property Owner: Joseph & Rosemarie Karaffa

Job Location Address: 15640 Huntingtowne Village Rd

City: Huntersville State: NC Zip Code: 28078

OPERATION PERMIT CONDITIONS:

I. Performance: System shall perform in accordance with 15A NCAC 18A .1961.

II. Monitoring: System shall be monitored as required by 15A NCAC 18A .1961.

III. Maintenance: 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.

IV. Operation: System shall be operated in accordance with 15A NCAC 18A .1961.

System Classification: Va

*Operation Permits for Type V and VI systems expire five (5) years from the date of issuance (in accordance with Table V(a)). The system owner must contact GWS six (6) months prior to expiration for permit renewal.

Subsurface system operator required: Yes ☒ No ☐

☒ This type of system requires the system owner to maintain a contract with a certified operator to perform system inspection, maintenance, and reporting as required in 15A NCAC 18A .1961. and Table V(a). The system owner is responsible for all fees associated with these services.

☐ System does not require inspection by GWS on a routine frequency.

☐ System requires inspection by GWS once every five (5) years. The system owner is responsible for all fees associated with the inspection.

☐ System requires inspection by GWS once every three (3) years. The system owner is responsible for all fees associated with the inspection.

☒ System requires inspection by GWS once every twelve (12) months. The system owner is responsible for all fees associated with the inspection.

☐ System requires inspection by GWS once every six (6) months. The system owner is responsible for all fees associated with the inspection.

V. Other:

DENR Authorized Agent: Kim Garrett, REHS Date: 7/28/16

Signature: Kim Garrett, REHS

kimberly.garrett@mecklenburgcountync.gov

R & H of Lake Norman Inc.

Wastewater System Installation and Management
Inspection & Maintenance Agreement

STATE OF NORTH CAROLINA, COUNTY of Iredell. This agreement is made and entered into this date of 8/11/16, by and between Kuraffa (the Owner) and R & H of Lake Norman Inc. (the Contractor).

Witnesseth

WHEREAS, the owner owns or controls the property upon which a ground absorption sewage treatment system is installed, such system being designed a Type 4 system under the Rules for Sanitary Sewage Collection, Treatment and Disposal found at 15A N.C. Adm. Code 18A 1900 et seq,; and

WHEREAS, 15A N.C. Adm. Code 18A 1961 requires that a condition of the Operation Permit for said system be that a properly executed contract between the system owner and a management entity shall be in effect for as long as the system is in use; and

WHEREAS, the contractor is a management entity of a type authorized by 15A N.C. Adm. Code 18A. 1961 to manage a Type 4 system.

NOW THEREFORE, in consideration of the premises and of the mutual covenants and promises contained in this Agreement, it is hereby agreed by and between the Owner and the Contractor as stipulated below:

1. The Contractor's obligations. The Contractor shall perform the following services on the Owner's system located at 15640 Huntingtown Cir.

a. The Contractor shall inspect the system at least the frequency required in Table V(b) of 15A N.C. Adm. Code 18A 1961(b) for a Type 4 system.

b. The Contractor shall perform the following routine maintenance procedures in accordance with conditions of the Operation Permit:

c. The Contractor shall report results of inspections to the local department at the frequency specified in Table V(b) of 15A N.C. Adm. Code 18A 1961 for a Type 4 system.

d. If an inspection indicates the need for system repairs, the Contractor shall notify the health department within 24 hours of the then inspection.

e. The Contractor shall notify the Owner of needed repairs, which are outside the scope of routine maintenance described in sub-paragraph (b) above. The Contractor shall perform necessary repairs to the system at the request of the Owner and shall be entitled to payment thereof at the Contractor's normal charge for services and materials.

f. The Contractor shall employ or shall contract with a certified operator(s) if required by Table V(b) of 15A N.C. Adm. Code 18A 1961(b) for a Type 4 system.

g. The Contractor shall respond to a request for a non-scheduled service or maintenance call within 72 hours after receipt of such request.

2. The Owner's obligations.

a. The Owner shall pay to the Contractor the sum of $350 per year for periodic inspections, routine maintenance procedures and periodic reports. The annual fee may be amended upon 60 days advance notice to the Owner but may not increase more than 2 percent per year. The Owner shall pay to the Contractor the normal and customary fees for any work performed on the system as a result of nonscheduled service or maintenance calls. All fees are due and payable within 30 days of billing. Payments due to the Contractor and unpaid by the Owner after 30 days shall accrue interest from the due date until paid at a rate of 2 percent per month.

b. Within 7 days of receipt of notice of needed repairs pursuant to paragraph 1.e. above, the Owner shall request the Contractor to complete needed repairs or shall provide to the Contractor evidence that the repairs were satisfactorily completed.

c. The Owner shall provide the Contractor with such access to the system as is reasonably necessary for the Contractor to comply with the terms of this Agreement.

3. Term. This Agreement shall remain in effect until terminated.

a. Automatic Termination. This agreement shall automatically terminate if the Operation Permit for the system is revoked and all appeals of the revocation are exhausted or time for taking an appeal has passed.

b. Termination by Mutual Consent. The Parties may mutually agree to terminate this Agreement by giving written notice of termination by mutual consent to the local Health Department within 30 days in advance of the date of termination.

c. Termination by the Owner. The Owner may terminate this Agreement by giving notice to the Contractor and to the local Health Department 30 days in advance of the date of termination.

d. Termination by the Contractor. The Contractor may terminate this Agreement for cause by giving notice of intent to terminate this Agreement to the Owner and the local Health Department 30 days in advance of the date of termination. Cause shall be defined as:

1. Failure to remit payment for any bill for services performed under and in accordance with this Agreement if said bill is not paid within 30 days of receipt by the Owner. If the said bill is paid after notice of termination in this Agreement, the Agreement shall continue in effect; or

2. Failure of the Owner to provide to the Contractor authorization to complete needed repairs or satisfactory evidence that needed repairs were completed within 2 days of receipt of notice of needed repairs pursuant to paragraph 1.e. above. If said authorization to complete needed repairs or evidence of completion of said repairs is provided after notice of termination is given but prior to the due date of termination of this Agreement, this agreement shall continue in effect;

3. Failure of the Owner to allow the Contractor such access to the system as is reasonably necessary in order for the Contractor to comply with the terms of this Agreement.

4. The Contractor may not terminate this Agreement without cause, but may assign its rights and duties under this Agreement as provided in paragraph 4 below.

4. Assignment.

a. Assignment by the Owner. The Owner shall notify the Contractor of the name and address of any purchaser of the property on which the system is located. The Owner shall also notify any purchaser of the property on which the system is located of the existence of this Agreement and shall assign all rights and duties under this Agreement to said purchaser.

b. Assignment by the Contractor. The Contractor may assign it's rights and duties under this Agreement to another management entity, which is qualified pursuant to 15A N.C. Adm. Code 18A. 1961 to manage a Type 4 system upon 30 days written notice to the Owner and the local Health Department.

5. Use of Subcontractors. The Contractor may subcontract with such manufacturers, suppliers and contractors as it deems desirable to perform any of the Contractor's duties under this Agreement. The Contractor shall at all times remain responsible for the performance of and payment for all work performed by the subcontractors.

6. Representatives. The parties represent to each other that each has the power, authority and legal right to enter into and perform it's obligations as set forth in this Agreement.

7. Regulatory Amendments. References in the Agreement to sections of the administrative code shall include such rules as the may be amended in the future.

8. No Implied Waiver. The waiver by either party of the default or a breach by the party of any provision of this Agreement shall not operate or be construed to operate as a waiver of any subsequent default or breach. The failure at any time of either party to enforce any provision of this Agreement (a) shall not be construed to be a waiver of such provisions, or of any other provisions; and (b) shall not in any way affect the validity of this Agreement, or the right of either party thereafter to enforce each and every provision of this Agreement.

9. Notice. Every notice required under this agreement shall be in writing and shall be deemed sufficiently given if delivered in person or sent by a certified or registered mail, return receipt requested, postage prepaid to the party to be notified and addressed as follows:

To the Owner: Kavatha
1564 Huntington Home Ln
Huntersville NC.

To the Contractor: R & H of Lake Norman Inc.
142 Hidden Harbor Road
Mooresville, NC 28117

To the local Health Department: Iredell County Health Department
610 East Center Avenue
Mooresville, NC 28115

The date of any notice shall be date of personal delivery or the date shown on the return receipt as the date of delivery or attempt delivery, as the case may be. Changes in the respective addresses to which notice may be directed may be made from time to time by either party by notice of the other party.

10. Placement of Agreement. This Agreement and any questions concerning its validity, construction or performance shall be governed by the laws of the State of North Carolina notwithstanding the place of execution, or the order in which the signatures of the parties are affixed.

11. Entire Agreement and Amendment. This Agreement supersedes all prior negotiations, agreements and understandings between the parties with respect to the subject matter hereof and constitutes the entire Agreement between the parties with respect to the subject matter hereof. To be effective, any amendment or modification to this Agreement must be in writing and must be signed by the parties.

12. Severability. In the event that any provision of this Agreement shall, for any reason, be determined to be invalid, illegal or unenforceable in any respect, the parties shall negotiate in good faith and agree to such amendments, modifications or supplements of or to this Agreement or such other appropriate actions as shall, to the maximum practicable in light of such determination, implement and give effect to the intentions of the parties reflected in this Agreement, and the other provisions of this Agreement shall, as so amended, modified, supplemented or otherwise affected by such actions, remain in full force and effect.

IN TESTIMONY WHEREOF, the parties hereto have executed this Agreement in duplicate originals, one of which is retained by each of the parties, the day and year first above written.

X _____ 8/1/16
(Owner) (Date)

X _____ 8/1/16
(Contractor) (Date)

PIEDMONT DESIGN ASSOCIATES, P.A.
125 East Plaza Drive, Suite #101
Mooresville, NC 28115
Phone: 704-664-7888 Fax: 704-664-1778
Email: dmunday@pdapa.com

Engineering
Surveying
Planning

February 27, 2015

Mr. Toney C. Jacobs, LSS
Jacobs On-Site Development, Inc.
168 Broadbill Drive
Mooresville, NC 28117

Re: SFR Low Pressure Pipe, Sand-Lined Trench Distribution Septic System
15640 Huntingtowne Village Road
Huntersville, Mecklenburg County, NC

Dear Mr. Jacobs,

At your request we have reviewed the design calculations for the proposed single family low pressure pipe, sand-lined trench distribution septic system intended to serve the above residence. This review was conducted to comply with the North Carolina Board of Examiners for Engineers and Surveyors policy number BP-1007-1 with regards to on-site wastewater system design. We have found that the system is designed correctly and should function as intended.

These comments and recommendations are based on observations made at the time of this review (February 27, 2015) and are limited to that discussed in this letter. Any conditions that may come forth and are different from that discussed herein should be reported to the Engineer for further evaluation. Any questions regarding the recommendations should be addressed to the Engineer for elaboration. Thank you for allowing us to provide this service to you.

Yours truly,

Piedmont Design Associates, P. A.

Donald L. Munday, P.E.
NC Registration No. 17327
President

NORTH CAROLINA PROFESSIONAL SEAL 17327 ENGINEER DONALD L. MUNDAY 2/27/15

GWS Septic System Design Review

GWS File #: 5190B — Approved ☑ Disapproved ☐

Design Review: ☑ ☐

Field Review: ☑ ☐

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

PIEDMONT DESIGN ASSOCIATES, P.A.
125 East Plaza Drive, Suite #101
Mooresville, NC 28115
Phone: 704-664-7888 Fax: 704-664-1778
Email: dmunday@pdapa.com

Engineering
Surveying
Planning

February 27, 2015

Mr. Toney C. Jacobs, LSS
Jacobs On-Site Development, Inc.
168 Broadbill Drive
Mooresville, NC 28117

Re: SFR Low Pressure Pipe, Sand-Lined Trench Distribution Septic System
15640 Huntingtowne Village Road
Huntersville, Mecklenburg County, NC

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Yours truly,

Piedmont Design Associates, P. A.

Donald L. Munday, P.E.
NC Registration No. 17327
President

GWS Septic System Design Review

GWS File #: 5190B	**Approved**	**Disapproved**
Design Review:	☑	☐
Field Review:	☑	☐

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

A DEEP SAND LINED TRENCH LOW PRESSURE PIPE DISTRIBUTION SEPTIC SYSTEM IN SUITABLE SAPROLITE BELOW MIXED MINERALOGY CLAY FOR SUBSURFACE WASTEWATER DISPOSAL

15640 Huntingtowne Village Road
Huntersville, North Carolina 28078

PIN # 011-321-05
MCHD FILE # 5190B

Prepared for:
Joey and Rosemarie Karaffa
14920 Old Vermillion Drive
Huntersville, NC 28078

Prepared by:
Toney C. Jacobs, LSS
Jacobs On-Site Development, Inc.
168 Broadbill Drive
Mooresville, NC 28117
704-582-9219

February 15, 2015

Toney C. Jacobs, LSS

Copy: Jacob Presley, REHS, LSS (980 721-2060)
Kim Garrett, REHS (980-721-2054)
Mecklenburg County Health Dept.-IWWS
700 N. Tryon Street
Charlotte, N.C. 28202

Ken Wrench (704-201-4460)
August Homes
10602B Bailey Rd.
Cornelius, NC 28031

List of Attachments

1. Overall site plan with topo (1" = 100') Pit locations by Jacob Presley (MCHD)

1(b)Full site plan

2. System site plan 1" = 50'
3. Typical trench profile
4. Schematic distribution of system
5. Table 1 showing line data
6. Pump curve

BACKGROUND

This system is a LPP distribution with sand lined trench design criteria using gravel or tire chips as drainfield media without a reduction in lineal footage. The 14.1 acre site has a ridge (Fig. 1) running diagonally from the right front to near the middle. The site has an expansive clay layer on top with PS saprolite at varying depths. Below the clay is a varying depth C horizon with a coarse texture suitable saprolite. Designing at 3' of head allows pressure adjustments with water levels above the surface for easy management.

The soils were evaluated on January 26, 2015 by Jacob Presley of the Mecklenburg County Health Department (MCHD). Based on this evaluation, only a deep sand lined trench, with an LPP system distribution in saprolite was considered for the proposed 5-bedroom house. The main soil limitation was the unsuitable mineralogy layer. Jacobs On-Site (JOS) flagged the proposed system on January 28, 2015. At a conservative 0.25 LTAR there is a high expectation for the success of the system.

The proposed system will be a type V with IV(a) distribution and will require a maintenance contract with a certified operator. Two additional site meetings are required by this plan, and as a condition of the Improvement permit and Authorization to construct. No time limit is set for these, but one will be a pre-installation meeting to review each aspect of the plan, expectations of the Health Department, and requirements of the installer. The second meeting (final inspection) will be to certify that all design criteria are met. JOS and the Health Department want all systems to function properly, and because of the soil and site limitations present, this extra effort is included. There will be additional billing at the current rate by JOS for meeting the final inspection.

Because of the design parameters of this plan, it must be reviewed by a professional engineer. A letter from Piedmont Design Associates accompanies this work.

APPLICATION INFORMATION

1. Owner: Joey and Rosemarie Karaffa
   14920 Vermillion Drive
   Huntersville, NC 28078

   Soil Scientist
   and Designer: Toney Jacobs, LSS
   Jacobs On-Site Development, Inc.
   168 Broadbill Drive
   Mooresville, NC 28117

2. Water supply is provided by private well.
3. Facility to be served by the proposed system is a 5-bedroom single family residence.

LOCATION

The property is located on the right side of Huntingtowne Village Road, approximately ¼ mile off Hiwassee Road.

REFERENCES

1. Design and Installation of Low Pressure Pipe Waste Treatment Systems by: Craig Cogger, Bobby L. Carlile, Dennis Osborne, Ed Holland; published by UNC Sea Grant College Pub. UNC-SC-82-03, May 1982.

2. Law and Rules for Sewage Treatment and Disposal Systems, 15A NCAC 18A, Section .1900, Department of Environment Health and Natural Resources, April 17, 2002 and later.

PLANS AND SPECIFICATIONS FOR SPECIFIC SYSTEM COMPONENTS

Septic Tank

1. The 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 a State approved unit supplied by the tank manufacturer.

Pumping Tank

1. The 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. 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 house) 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. Alternative electronics may be used.
11. Approved pressure bell may be used with compatible panel, substituting for #s 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.

Sand Lined Trench

Follow all rules of 15A NCAC 18A .1956(7) all. Trenches on contour, forty-eight inches deep with 24" of sand backfill. See Figure 3.

15A NCAC 18A.1956(7)
(i) Filter media used in the sand lined portion of the trench is sand or loamy sand in texture. If required by the local health department in the Construction Authorization, the installer shall provide written laboratory verification of the media textural classification and quality prior to the sand lined trench being installed. When laboratory analysis is required, the material shall be determined to be a clean, uncoated fine, medium, or coarse sand with at least 90 percent in sizes ranging from 0.1 to 1.0 millimeters, with no more than one percent smaller than 0.002 millimeters.

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 pumping tank.

5. Manifold and valve as shown in specifications. The proposed system uses 3 laterals center-fed and 3 gate valves at the valve box for each of the three lines.
6. Lateral lines are made of 1 ½ inch SCH 40 PVC. Holes in laterals are drilled on up side of pipes and enclosed in 4" corrugated drain tile.
7. The end of each lateral is equipped with a capped "turn-up" that provides above ground access for clean-out or back flushing of the laterals. Using (2) 45-degree elbows rather than a 90-degree elbow for the turn-ups will make clean-out easier.

CONSTRUCTION INSTALLATION

Site Preparation

1. One of the most important concerns for an on-site system is to protect the site from soil disturbance by heavy equipment.
2. Now that the absorption area has been designated and flagged, **it should be barricaded off and protected from construction traffic**. No site preparation or construction work should be required. **Do Not Grade!**
3. An upslope 60" deep French drain is required and shown on plan. All house drainage must be diverted away from the system.
4. No clearing is necessary on site and reflagging should not be necessary.

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 manifold to the distribution laterals.
2. Design of the manifold is shown in Figure 4.
3. The 6" supply manifold joins each lateral through a valve and pipe connected by a reducing tee on the manifold to a 1½ inch pipe to the lateral.
4. 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.

Low Pressure Pipe Lateral Lines

1. Lateral lines shall be constructed from 1½" SCH 40 PVC and placed 4" drain line with stone or tire chips.
2. Trenches shall be 36" wide and 9' minimum on center, "level" from end to end and 48" deep from the original soil surface (see Fig. 4).
3. Holes drilled in the laterals shall be 5/32 inch with the holes pointed up and 8' on center.
4. A turn-up with a capped end is at the end of each lateral (Fig. 5). The capped end must be brought up above or flush with the final grade. Using two 45-degree elbows for constructing cleanouts is required. A larger diameter sleeve with cap or approved box with lid shall be placed over the turn-up.

Trench backfill

1. Figure 3 illustrates the 48" ditch and fill.
2. From 0-12" there should be a mix of excavated material. This should be a blended mixture of surface soil, massive clay, and clay loam from above the loam material.
3. During excavation the top soil, clay, and clay loam should be placed on the opposite side of the trench from the loam to facilitate trench backfilling.

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 turned-up elbow when the pump is running. To set or check the pressure head:

    - Glue a four-foot length of pipe (preferable clear) to a threaded adapter that will screw onto the turn-ups at the end of each lateral.
    - Replace each turn-up cap with the pipe and adapter.
    - Turn the power on to allow liquid to rise in the pipe.
    - Adjust the gate valves until the effluent reaches the desired height in the pipe. Remember to include the distance below the ground surface to the lateral line when measuring the height.

FINAL LANDSCAPING

After the system is installed, the following should be checked to ensure that the system will not be overloaded with excess rainwater and runoff:

1. The distribution field should be 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 mulched.

QUALITY ASSURANCE REQUIREMENTS

The system must be installed by a qualified, contractor that is on the Mecklenburg County list of competent contractors (review introduction about installer). 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. Backfill material around the chambers.
5. Final landscaping, operation and pressure head check.

The system design is based on a maximum waste flow of 600 gallons per day. The homeowner should pay particular attention to the section titled Homeowner Suggestions for ways to minimize the burden on the system.

OPERATION AND MAINTENANCE PROCEDURE

The system is classified as **Type V with IV(a) distribution and DOES require a maintenance contract** with a certified operator. The contract shall be executed between the system owner and a management entity prior to the issuance of an Operation Permit. The contract shall include the specific requirements for maintenance and operation, responsibilities of the owner and system operator, and provisions that the contract shall be in effect for as long as the system in use.

Operating, Maintenance and Inspection procedures shall include, but not be limited to the following:

- Minimum inspection/maintenance frequency shall be 2 times per year, with reporting frequency every 6 months to the local health department.
- 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.
- All laterals shall be checked and if necessary, flushed annually with clean water.
- Pressure head for laterals should be checked and adjusted one month after installation and semi-annually thereafter.

- All piping and fittings shall be checked semi-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.

The system operator, in conjunction with the local Health Department shall establish an operation and maintenance program and procedure based on experience obtained from similar installations.

OWNER 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 owner 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 and a high BOD 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 and toilets to reduce the rate at which the water flows from the fixture.
7. 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.
8. Roof drains, foundation drains, and other such drains should not empty into or onto the surface above the on-site system. These drains should be directed to another part of the lot away from the treatment and disposal field.
9. Dishwashers and washing machines should only be run with full loads.

DESIGN SPECIFICATIONS FOR PRIMARY AND REPAIR SYSTEMS
15649 Huntingtowne Road - Huntersville NC

Daily design flow:	600 gal. (5-bedroom)
Septic tank size:	1500 gal. (2 compartments)
Pumping tank size:	1500 gal.
Trench width:	36"
Trench depth:	48" low side (24" sand, 12"aggregate, 12" cover)
Effluent loading rate:	0.25gpd/ft^2 primary & repair
Total length and diameter of supply pipe:	approx. 250' of 2" SCH 40 PVC
Number and length of laterals:	3 @ 268 center-fed' see table (1½" SCH 40 PVC) with LPP distribution (134' each way from tee)
Hole size:	5/32"
Hole spacing:	8' – 16 one direction, 17 other direction from tee
Total number of holes:	33 per line – 99 total
Flow rate through the system:	49.5 gpm
Elevation head:	approx. 8' *
Pressure head:	3.0'
Friction head	approx.16'
20% contingency:	5.4'
Total head:	32.4'
Pump requirements:	49.5 gpm at 32.4' of head; use Gould's WE07H pump or equivalent with compatible electrical
Dosing volume:	412 gal.- 1.5 dose/day at design flow per zone
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. 8.3 min
Check valve:	no
Siphon break hole:	yes
Repair	same loading but will require 2.5' of sand

* to be verified by installer

Table 1: Summary of Primary and Repair Nitrification Line Specifications
15640 Huntingtowne Village Road

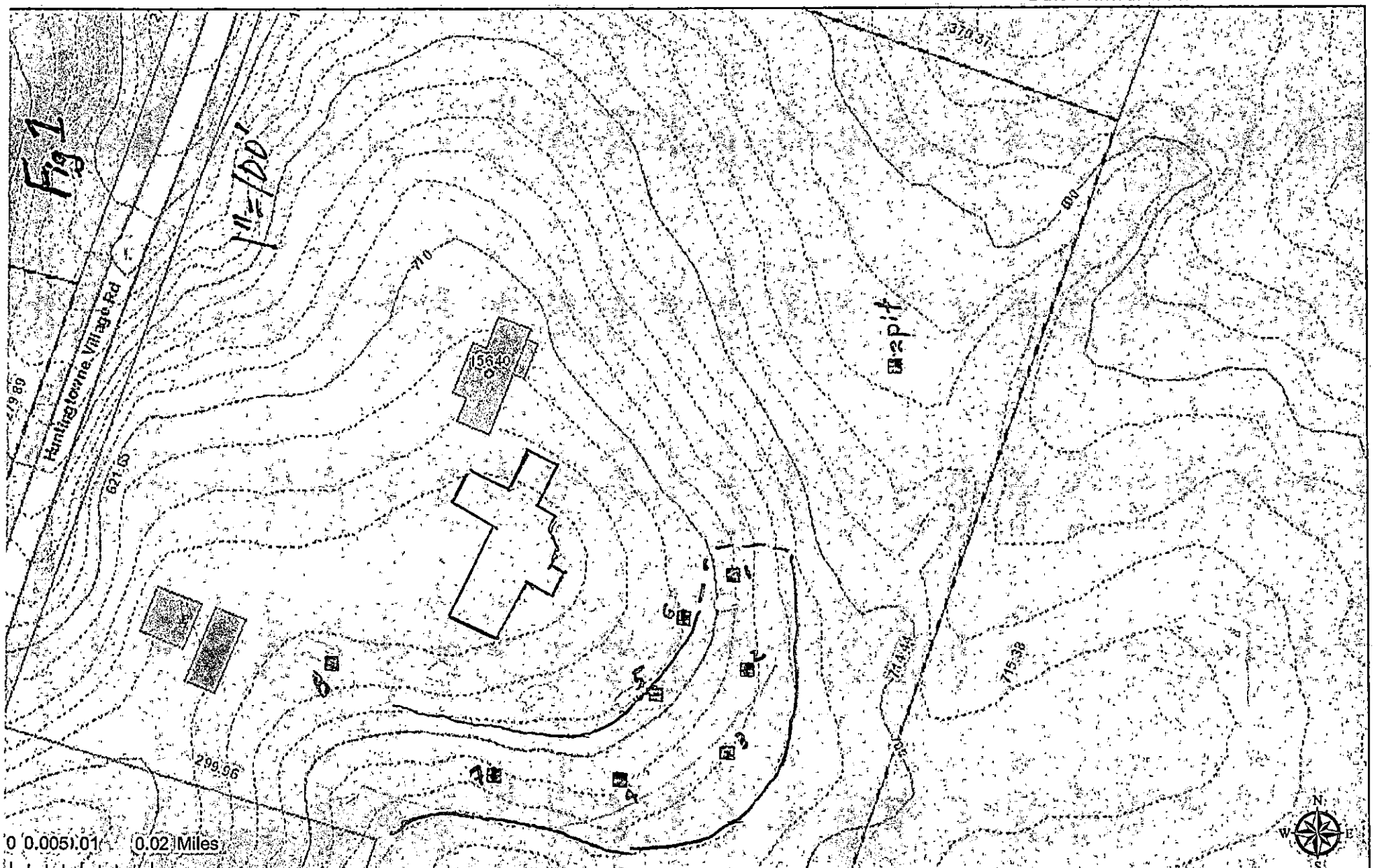
Line No.	*Use*	*Line Color*	*System Type*	*Line Length (ft)*	*Elevation Approx.(ft)*
1	system	white	LPP in aggregate	268	709
2	system	pink	LPP in aggregate	268	708
3	system	orange	LPP in aggregate	268	707
4	repair		LPP in aggregate	268	706
5	repair		LPP in aggregate	268	705
6	repair	blue	LPP in aggregate	268	704
				Total system: 804'	
				Total repair: 804'	

tank		1500 gal. (2 compartment)	
pump tank		1500 gal.	approx. 709'
manifold			approx. 706'

Manifold Information	
Tap size (inches)	1½
Tap material	SCH 40 PVC
No. taps	3
Barrel size (inches)	6
Barrel material	SCH 80 PVC
Flow (gpm) tap	16.5

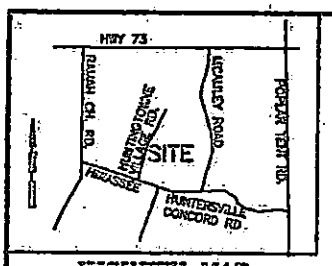
Polaris 3G Map – Mecklenburg County, North Carolina

Date Printed: 1/13/2015 8:56:54 AM



his map or report is prepared for the inventory of real property within Mecklenburg County and is compiled from recorded deeds, plats, tax maps, surveys, planimetric maps, and other public records and data. sers of this map or report are hereby notified that the aforementioned public primary information sources should be consulted for verification. Mecklenburg County and its mapping contractors assume no legal isponsibility for the information contained herein.

Fig 1b Full Site Plan



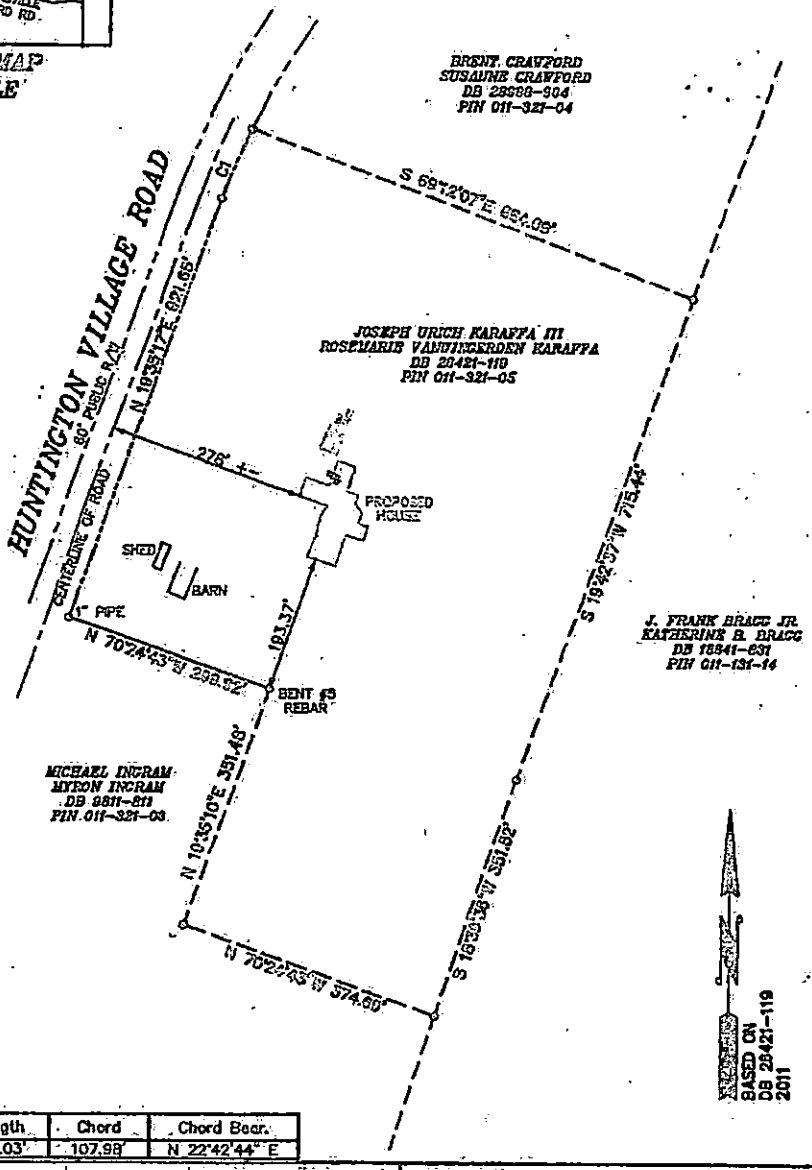
VICINITY MAP
NO SCALE

I, RUFUS JACKSON LOVE CERTIFY THAT THIS MAP WAS DRAWN FROM AN ACTUAL SURVEY UNDER MY DIRECT SUPERVISION, THAT THE RATIO OF PRECISION IS 1:10,000+ BEFORE ADJUSTMENTS, AND THAT THE ANGULAR ERROR WAS < 7.5 SECONDS PER TURN.

WITNESS MY HAND AND OFFICIAL SEAL THIS____ DAY OF _____

N.C.P.L.S. L-2644
LICENSE NO.

PRELIMINARY
PROFESSIONAL LAND SURVEYOR



Curve	Radius	Length	Chord	Chord Bear.
C1	998.43'	108.03'	107.98'	N 22°42'44" E

PLOT PLAN
FOR AUGUSTA HOMES

PROPERTY OF JOSEPH URICH KARAFFA III
& wf. ROSEMARIE VANWINGERDEN KARAFFA
15640 HUNTINGTOWNE VILLAGE ROAD
DEED BOOK 26421-119, PIN 011-321-05
HUNTERSVILLE TOWNSHIP, MECKLENBURG COUNTY
HUNTERSVILLE, NORTH CAROLINA
DECEMBER 31, 2014

FILE NAME: AUG-122

200 0 200 400 600
GRAPHIC SCALE -- FEET Scale 1" = 200'

NOTES:

1. THIS PROPERTY IS NOT LOCATED IN A DESIGNATED FLOOD ZONE.
2. AREA DETERMINED BY COORDINATE COMPUTATION.
3. CP DENOTES COMPUTED POINT, #3 MONUMENT FOUND OR SET.
4. UNDERGROUND UTILITIES NOT LOCATED AS OF THIS DATE.
5. NO NCGS GRID MONUMENTS WITHIN 2000' OF SUBJECT PROPERTY.
6. ALL MONUMENTS ARE EXISTING UNLESS OTHERWISE NOTED.

LEGEND:

- PROPERTY LINE
- RE LINE
- UNSURVEYED LINE
- BACK OF CURB/EDGE OF PAVE.
- SETBACK LINE
- CP COMPUTED POINT
- PP POWER POLE

PYRAMID LAND SURVEYING PA C-1341
P.O. BOX 11 DAVIDSON, NORTH CAROLINA
(704)663-4240 RUFUS JACKSON LOVE L-2644

UD 20421-119

PIN 011-321-05

Site Plan Fig 2

1"=50'

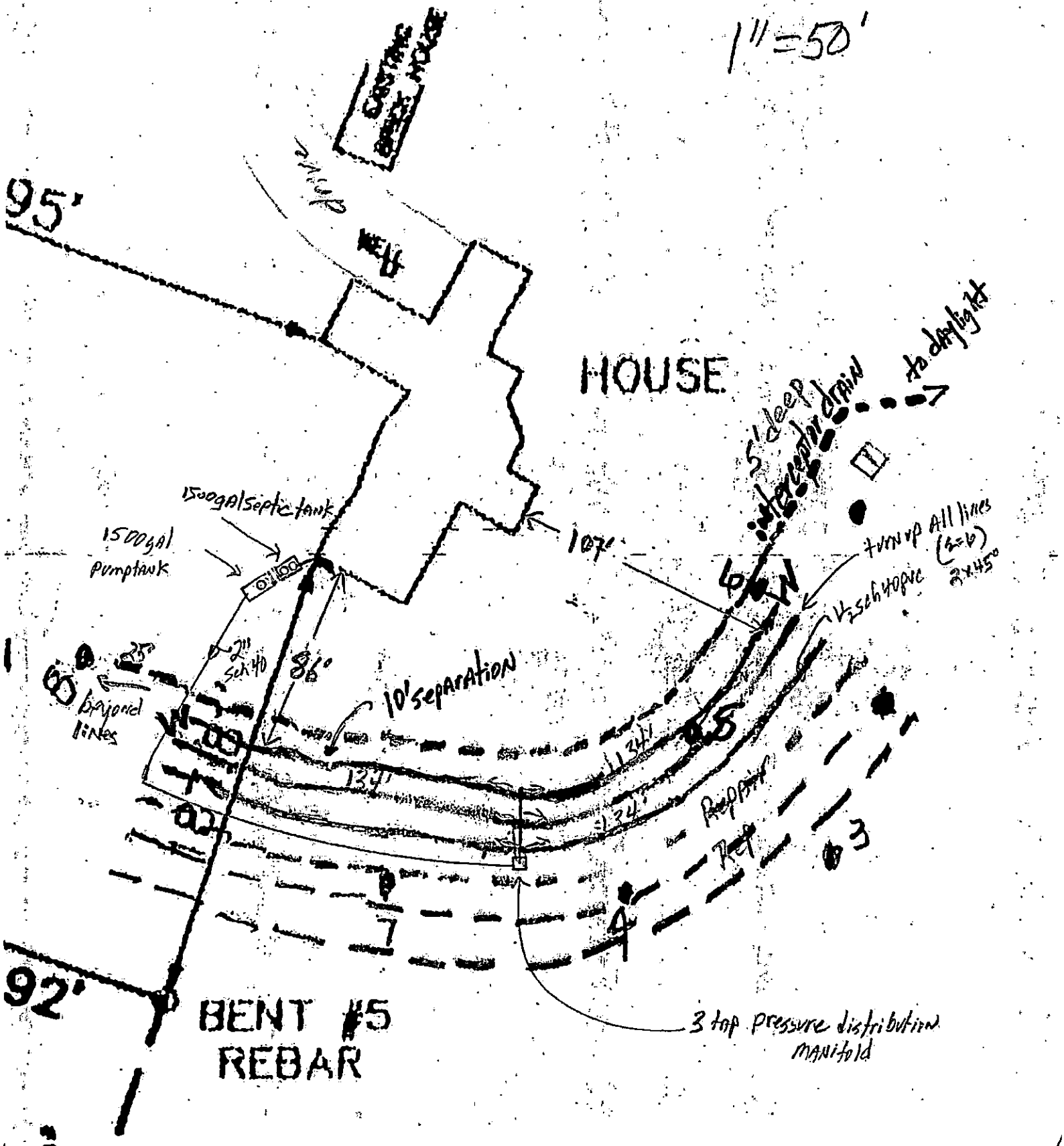


Fig 3

Trench detail

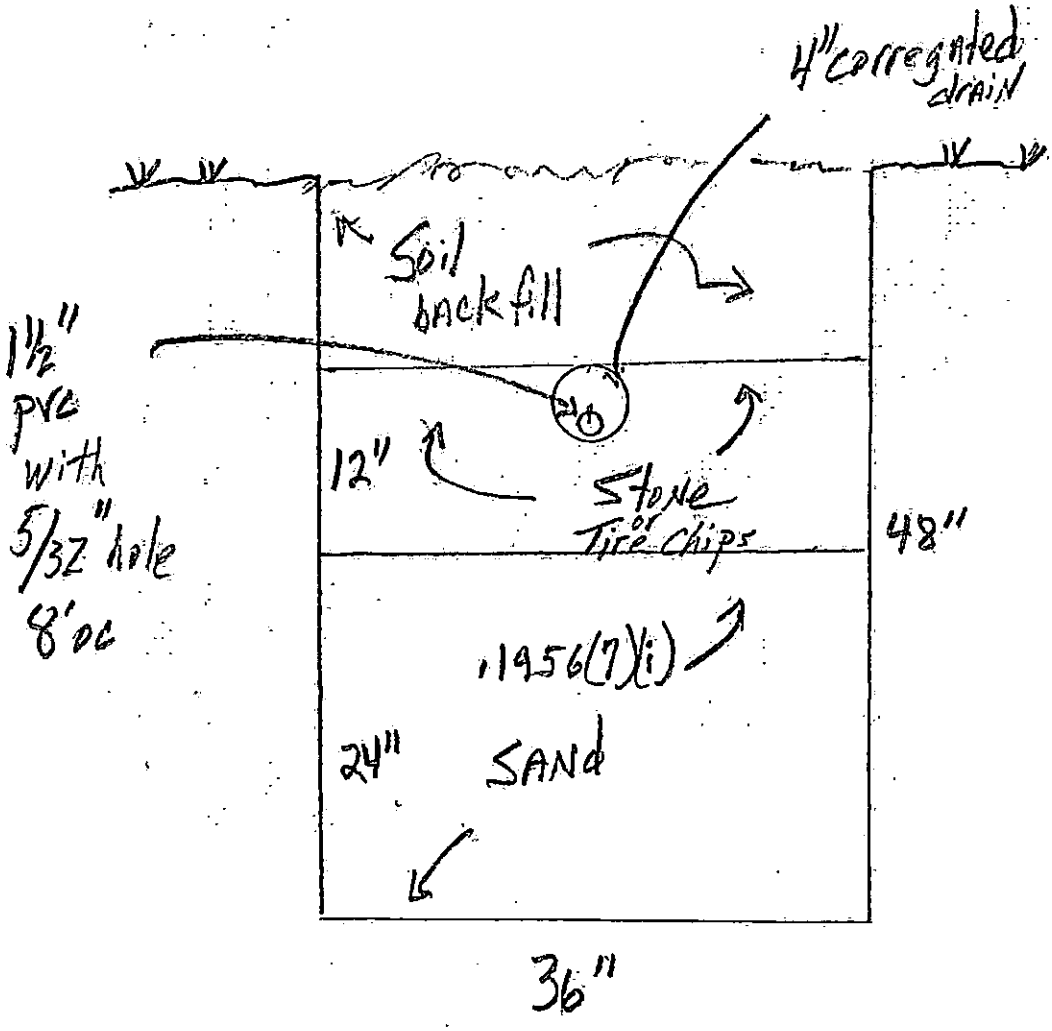
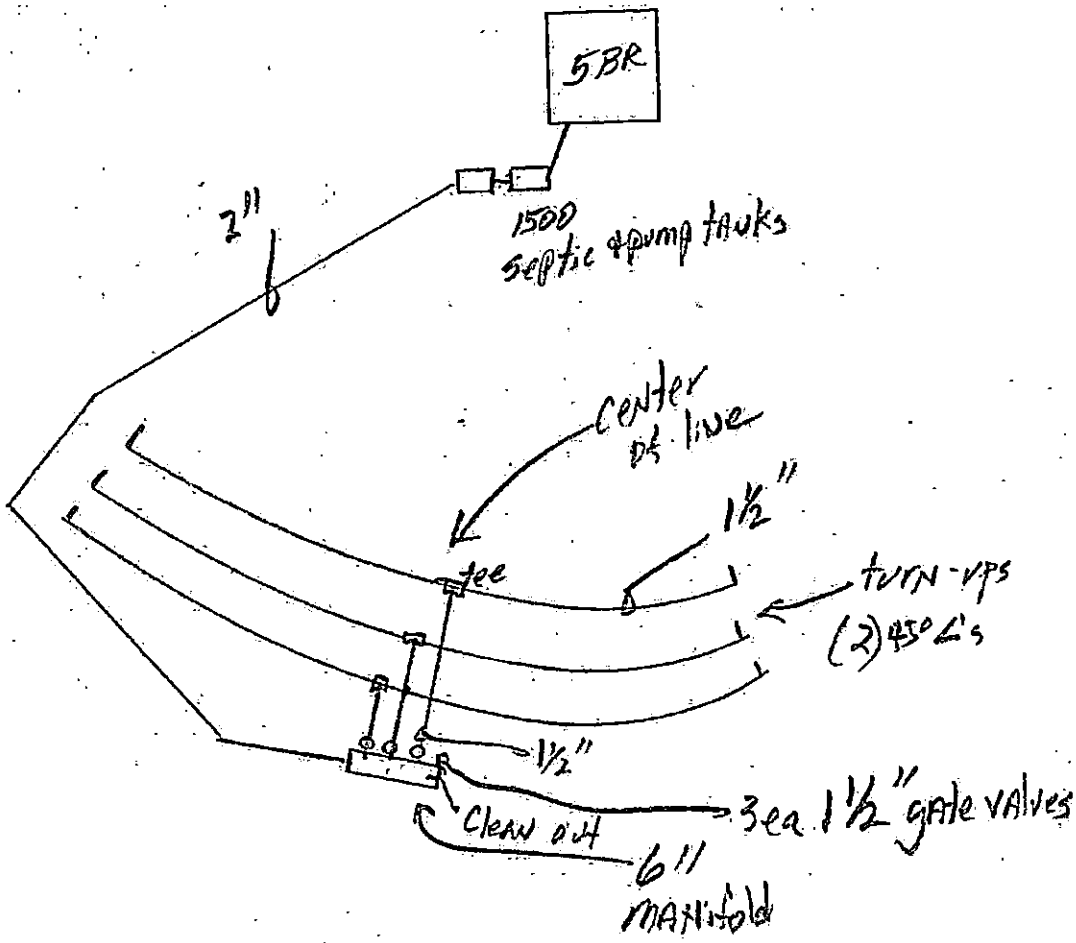


Fig. 4

Schematic of System





Goulds Submersible Effluent Pump

MODEL

3885

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 128 GPM.
- Total heads: up to 123 feet TDH.
- Mechanical seal: silicon carbide-rotary seat/silicon carbide-stationary seat, 300 series stainless steel metal parts, BUNA-N elastomers.
- Temperature: 104°F (40°C) continuous 140°F (60°C) intermittent.
- Fasteners: 300 series stainless steel.
- Capable of running dry without damage to components.

Motor

Single phase:

- ⅓ HP, 115 V, 200 V, 230 V, 60 Hz, 1750 RPM; ½ HP, 115 V, 60 Hz, 3500 RPM; ½ HP – 1½ HP, 230 V, 60 Hz, 3500 RPM.
- Built-in overload with automatic reset.
- Class B insulation.

Three phase:

- ½ HP – 1½ HP 200/230/460 V, 60 Hz, 3500 RPM.
- Class B Insulation.
- Overload protection must be provided in starter unit.
- Shaft: threaded, 400 series stainless steel.
- Bearings: ball bearings upper and lower.
- Power cord: 20 foot standard length (optional lengths available).

Single phase:

- ⅓ and ½ HP – 16/3 SJTO with 115 V or 230 V three prong plug.
- ¾-1½ HP – 14/3 STO with bare leads.

Three phase:

- ½-1½ HP – 14/4 STO with bare leads. On CSA listed models – 20 foot length SJTW and STW are standard.

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 adaptable for slide rail systems.

■ **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 three phase models to guard against component damage on accidental reverse rotation.

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

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

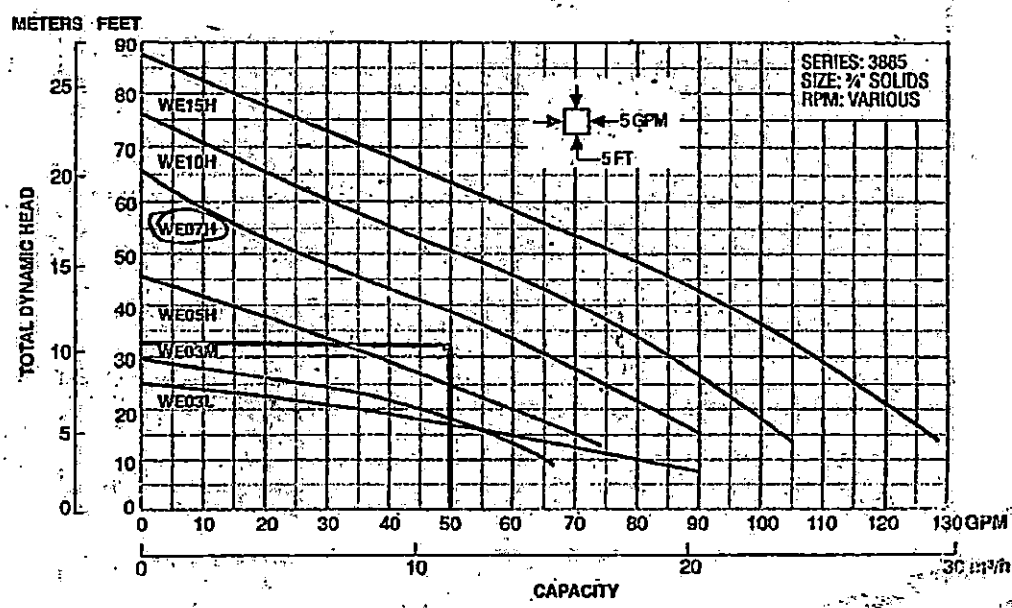
■ **Bearings:** Upper and lower heavy duty ball bearing construction.

■ **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.

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

AGENCY LISTINGS

- Canadian Standards Association
- Underwriters Laboratories



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Effective May, 1995
B3885

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	03/13/15	**Amount:**	200.00
Receipt #:	93943	**Tendered:**	200.00
Check / Auth #:	CHECK 272	**Returned:**	0.00
Received By:	ATKINBB		

Account Information

Account #: 200000
Contractor: JACOBS ON-SITE DEVELOPMENT
Attn: JACOBS C. TONEY
Address:
Address: 168 BROADBILL DRIVE
City/State/Zip: MOORESVILLE, NC 28117

Item	Description	Permit#	Quantity	Unit Price	Total Price
0703	Septic Operational Permit 15640 HUNTINGTOWNE VILLAGE RD		1	200.00	200.00

----------Outstanding Balances----------

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance