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 #: 8552R Permit #: 5736 Tax Parcel #: 139-276-36

Property Owner: True Homes

Job Location Address: 10935 Flintshire Rd Lot 24

City: Charlotte State: NC Zip Code: 28227

Operation Permit Issuance Date: 2-26-14 Contractor Name: Chris Stephens Septic

Permitted Design Flow: 360 GPD

Liquid Capacity of Septic Tank: 1500 gallons STB 338 11-8-13

Liquid Capacity of Dosing Tank: 1000 gallons PT 27 11-13-13

Effluent Pump Model: [redacted] Liberty LSI

Drainfield Installation ☐ N/A

Trench Depth: 24 inches

Trench Width: 3 feet

Line Spacing: 9 feet (O.C.)

Total line length: 260 feet

# of Lines: 5 @ Various feet

Depth of Media: NA inches (Type) IVa PPBPS

Depth of Cover: 6 inches

Distribution Device: LPP

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: 66 feet

Inspection Dates

Tank(s) Inspected: 2-25-14 BH

Excavation Inspected: 2-26-14 JP

Pump & Controls Inspected: 2-26-14 JP

SKETCH OF SYSTEM INSTALLATION
(As-Built Drawing)

Installed per Consultant Design

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: IVa PPBPS, P, NA, NA

DENR Authorized Agent: Jacob Presley Signature: [signature]

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NC DENR
Division of Environmental Health
On-Site Wastewater Section

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

File #: 8552B Permit #: 5736 Tax Parcel #: 139-276-36

Property Owner: True Homes

Job Location Address: 10935 Flintshire Rd. Lot 24

City: Charlotte State: NC Zip Code: 28227

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: IVa

*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: Jacob Presley Date: 2-26-14

Signature:

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 #: 8552 B Permit #: 5736 Tax Parcel #: 139-276-36

Property Owner: Irene Hamer

Job Location Address: 10935 Flintshire Rd Lot 24

City: Charlotte State: NC Zip Code: 28227

Installation Approval Issuance Date: 2/21/14

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 _____, 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: .3 GPD/ft² (For new installations only.)

Liquid Capacity of Septic Tank: 1500 gallons Liquid Capacity of Dosing Tank: 1000 gallons

Drainfield Design ☐ N/A

Trench Depth: 28" inches

Trench Width: 3 feet

Line Spacing: 9 feet (O.C.)

Total line length: 200' feet

# of Lines: 5 @ various feet

Depth of Media: N/A inches (Type) IV.a PPBPS

Distribution Device: LPP Dist.

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' min feet

Distance from Property Line: 10' min feet

Distance from Water Supply Source: 50' min feet

SKETCH OF SYSTEM LAYOUT
(Proposed Layout)

- Install System per design consultant plans
- Do not change or alter design or location with prior approval from consultant and MCHD

Comments: System Classification & Type: IV.a

DENR Authorized Agent: Bradley W. Hallman Signature: _____

THOMPSON ENVIRONMENTAL CONSULTING, INC.
WATER ♦ WASTEWATER ♦ WETLANDS

February 28, 2014

Mr. Bradley Hallman, RS
Mecklenburg County Groundwater and Wastewater Services
700 N. Tryon Street, Suite 211
Charlotte, NC 28202

Dear Mr. Hallman,

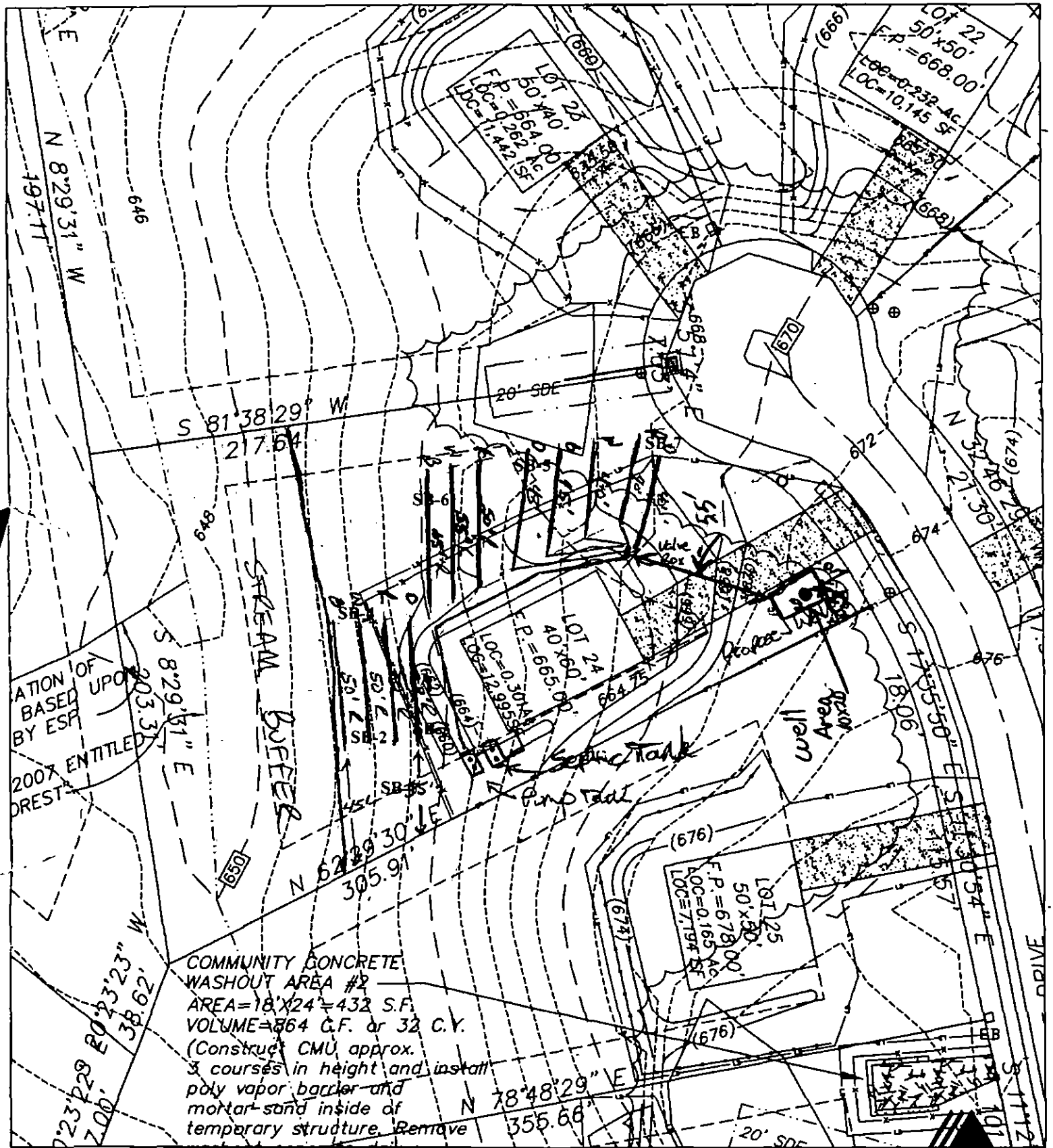
The purpose of this letter is to inform you that I have performed an inspection of the wastewater treatment and disposal system installed for Lot 24 in Sherwood Forest subdivision. I am satisfied that the installation meets the intent of the original proposal submitted to your office.

Please feel free to call on me if you have any further questions or concerns regarding this project.

Sincerely,

Larry B. Thompson, Jr.

114 ORCHARD RIDGE ROAD• LOCUST, NC • 28097-8748
PHONE: 704-301-4881 • FAX: 704-888-1496
E-MAIL: LARRY@THOMPSONENV.COM
WEB: WWW.THOMPSONENV.COM



COMMUNITY CONCRETE WASHOUT AREA #2
AREA=18'X24'=432 S.F.
VOLUME=864 C.F. or 32 C.Y.
(Construct CMU approx. 3 courses in height and install poly vapor barrier and mortar sand inside of temporary structure. Remove

- Maintain 10'ft off Property lines with well
- Maintain 50'ft min off all points of waste water sys.

Figure 1 - Septic Layout
LOT 24
SHERWOOD FOREST SUBDIVISION
MINT HILL, NORTH CAROLINA
CAROLINA DEVELOPMENT SOLUTIONS, LLC
1932 CLARK ELLIOT STREET
FORT MILL, SOUTH CAROLINA 29708
SCALE 1"=50'

GRAPHIC SCALE
50 25 0 50

NOTE: This drawing is for a septic proposal and is not a survey.

summit landservices
P.O. BOX 7442
CHARLOTTE, NC 28241
OFFICE: 704.506.0554
FAX: 704.504.1125
WWW.SUMMIT-COMPANIES.COM

Residential Subsurface Wastewater Treatment and Disposal System Proposal

for

Sherwood Forest – Lot 24
10935 Flintshire Road
Mint Hill, North Carolina

Tax Parcel # 139-276-35
MCGWS File # 8552B
April 7, 2013

GWS Septic System Design Review

GWS File #: 8552B Approved ☑ Disapproved ☐

Design Review: ☑

Field Review: ☑

*Projects cannot be "Approved" until both sections above are completed and indicate an APPROVED status.

Prepared for:

True Homes
2649 Brekonridge Center Drive
Monroe, NC 28110
704-238-1229

LICENSED SOIL SCIENTIST
LARRY B. THOMPSON JR.
1287
STATE OF NORTH CAROLINA

Prepared by:

Larry Thompson, REHS, PWS, LSS
Thompson Environmental Consulting, Inc.
PO Box 541
Midland, NC 28107-0541
Phone: 704-301-4881
Fax: 704-888-6066
larry@thompsonenv.com

NORTH CAROLINA REGISTERED ENVIRONMENTAL HEALTH SPECIALIST SEAL 1208 LARRY B. THOMPSON JR.

cc: Mecklenburg County Groundwater and Wastewater Services

Details

True Homes has contracted with Thompson Environmental Consulting, Inc. (TEC) to prepare a septic proposal for a new 3-bedroom single family residence to be located on Lot 24 of the Sherwood Forest subdivision in Mint Hill, North Carolina.

Based upon a soils investigation performed by Mecklenburg County Groundwater and Wastewater Services (MCGWS) on the 0.937 acre lot, as well as an investigation performed by TEC, TEC has determined that a sufficient amount of "Suitable" Group IV soils are available for the installation of a Type IV prefabricated porous block panel system (PPBPS) with a 0.3 LTAR for the initial system and an approved 25% reduction system with a 0.25 long term acceptance rate (LTAR) for the repair system.

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

Location

The subject property is located at 10935 Fintshire Road in Mint Hill, North Carolina. From downtown Charlotte, travel east on US 74 and continue on to NC 27 approximately 9.1 miles. Turn right onto Cabarrus Road, right onto Ferguson Road and right onto Brief Road. Take the second right onto Friar Tuck Lane and the first right onto Flintshire Road. Lot 24 is located on the left just before the cul-de-sac.

References

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

Onsite Wastewater Treatment and Disposal Systems; EPA 625/R-00/008 Design Manual, February 2002.

Design, Installation and Maintenance of the T & J Panel Wastewater Treatment System; Sixth Edition, published by T & J Panel.

Primary Investigator's Credentials

NC Registered Sanitarian No. 1208
NC Licensed Soil Scientist No. 1287
Professional Wetland Scientist No. 1346
NC Subsurface Septic System Operator No. 22199
NC Grade IV Wastewater System Installer No. 1762
NC Certified Wastewater System Inspector No. 17621

The drainfield area for this system must be protected at all times. Based upon the recommendation of MCGWS, an orange barrier fence must be installed around the drainfield area and extend 5 feet beyond any of the individual drainline flags.

Stormwater will be diverted away from the house in enclosed gutter drains adjacent to the slab foundation. Minor improvements will be made to the drive and front of the house to divert as much of the stormwater as possible to the left side of the lot.

Plans and Specifications

A. Septic Tank

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

B. Pump Tank

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

6. Float switch tie downs must be made of a corrosion resistant material (per OWPS, all metal in the tanks shall be stainless steel). Floats should be mounted on a separate "float tree" rather than the pump supply line (see pump tank detail).
7. The pump removal system will be via a pump tether made of nylon rope or its equivalent. The tether material should be resistant to mildew and rot.

C. Pipes and Fittings

1. All discharge piping, connectors and supply lines should be made of SCH 40 PVC.
2. All joints must be properly "welded" utilizing the appropriate PVC cement for each application.
3. The supply line from the pump tank to the pressure manifold shall be 2 inch Schedule 40 PVC (approximate length of supply line is 130 feet).
4. The lateral distribution lines shall be 1¼ inch Schedule 40 PVC. Holes in the laterals should be drilled on site and at the 12 o'clock position (one hole per panel). Lateral hole size is 5/32 of an inch.
5. There shall be a threaded PVC union above each pump to facilitate easy removal of the pumps for maintenance or replacement.
6. The end of each lateral is to be provided with a "turn up", contained within a turf/gate valve box, that provides above ground access for periodic clean out and pressure head adjustment.

D. Valve Box

1. The control valves (gate valves) for each lateral distribution line shall be contained within one manifold box/vault of adequate size. The box should be placed upon a gravel base.
2. The supply manifold conveys effluent from the pump to the lateral distribution lines.
3. The supply manifold should be constructed by connecting a series of (5) 2" x 2" x 1 ¼" tees to the 2 inch supply line.

E. Backfill

1. Backfill sand shall be clean, washed, medium sand that is naturally occurring and falls within the gradation of ASTM C-33 specification (used in the ready mix industry and is readily available).

F. Drainfield Installation

1. A layout of the proposed septic system is attached to this proposal. See Figure 1.
2. The drainfield and the proposed septic tank location have been marked on-site utilizing metal stemmed flags. Once this area has been approved by the county, the property owner/builder should mark this area and isolate it as much as possible from construction traffic. Prior to the system installation, the septic

contractor shall contact the county for a preconstruction conference at which time the drainfield area will be re-verified.

3. Under no circumstances shall any construction take place within the drainfield area while the soil is in a wet condition. If the installer has doubts as to whether or not the drain field area is dry enough to begin construction, the environmental health specialist for this area should be contacted for permission to proceed with the installation.
4. The specified system is a Type IV pre-fabricated permeable block panel system – specifically the 16 inch *high* panel system manufactured by T&J Panel Wastewater Treatment System, Patent No. 4013559; telephone: 1-800-222-2577. The installer must follow the manufacturer's guidelines for installing the T&J Panel System and should request an installation manual from the manufacturer prior to beginning construction.
5. The initial drain field consists of five (5) lateral trenches 3 feet wide by varying lengths (3 at 40 feet long and 2 at 45 feet long).
6. It is essential that the lateral trenches be constructed on contour with the land, with each trench being excavated level from beginning to end. The use of a tripod mounted engineer's level is essential to assure that each trench is constructed as level as possible.
7. The maximum trench depth for the two 45 foot long drainlines shall be **28 inches**. The area where the three uppermost drainlines are to be installed (these are the orange, pink and white flags that measure 40 feet in length) have approximately 12 inches of fill material present and the trenches must be installed beneath the fill material. The maximum trench depth for these three drainlines would be **40 inches**. Each trench shall be placed on a minimum of 9 foot on centers.
8. Once trenches are dug, the side walls shall be raked and a light dusting of lime applied.
9. Backfill the trench with 6 inches of sand and level to grade. Once leveled, place 1 x 4 or 6 inch boards on top of the sand the entire length of each trench. Once the grade boards have been set, the panels may be set into the trench. The panels should be placed 6 inches apart.
10. Once the panels have been set, line the top chamber of each panel with 10 – 12 pounds of clean particle sand (medium sand blasting sand). Coverage depth should be approximately 1 inch thick. *Please note that this sand is not the same material specified for backfill.*
11. Tar seal rope, or approved foam, should be placed in the "U" outs of each end of the panel to form seals. Once the tar rope is in place, the 1¼ inch Schedule 40 PVC laterals can be added and the seal completed by the addition of more tar rope on the top and sides of the pipe. Now that the connection and seals are complete, a block cap is placed on each end of the panel so that all openings are covered.
12. The end of each lateral should be fitted with a short turn up topped by a threaded female coupling with cap. Each turn up must be fitted with a turf/gate valve box with lid fitted flush to finished grade.
13. Once the lateral has been installed and the panels closed, the trench is ready to be backfilled to the top with the sand used in the trench bottom. At this point, the trenches should be left open for the final inspection by the MCGWS.

G. Proper Operation Check

1. After all components of the waste water disposal system have been installed and connected, the system shall be checked for proper operation.
2. With the electrical power turned off, fill the pump tank with water until the liquid rises to a level high enough to activate the high water alarm float. Turn on the electrical power. The alarm, alarm light and pump should activate at this time. Turn off the electrical power once these checks have been performed and prepare to set the head pressure at the valve box.

H. Pressure Head Adjustment

1. The pressure head must be adjusted to match the design specifications. The pressure head is measured by the height of the liquid coming from the turn ups at the end of each lateral when the pump is running (utilizing stand pipes).
2. Prepare a length of pipe (stand pipe), cut to the desired head pressure height and fitted with a threaded adapter that will screw into the turn up couplings at the end of each lateral. Thread the stand pipes into each lateral and then turn the power on to the pump, allowing the water to rise within the stand pipes. Adjust the gate valves within the supply manifold box to achieve the specified head pressure (liquid height in the stand pipes should equal the design head pressure).
3. Once the pressure head has been adjusted, allow the pump to run through the remainder of the cycle. The pump float switch will automatically turn the pump off if it is operating properly. Make sure that the effluent pump is completely submerged in the remaining water, making adjustments to the float switch(es) as needed. This completes the checks for proper operation of the pump, alarm and float switches.
4. At this point, the standpipes may be removed and replaced with the threaded turn up caps.

I. Final Landscaping

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

J. Utility Conflicts

1. The builder and property owner must take special care in planning for utilities (water, power, gas, telephone, cable lines, etc.). All utilities shall be kept clear of the septic system and its proposed repair area. Improper planning for underground utilities can negatively impact the installation and, in some cases, cause irreparable damage and permit revocation.
2. Water lines must be kept at least ten (10) feet from any portion of the septic system.

3. Irrigation systems should not be placed in the drain field area.

Maintenance

K. Operation and Maintenance

The designed system is classified as a Type IVa wastewater treatment and disposal system and will require ongoing maintenance. State regulations require that a system of this type be managed by a person certified (Certified Subsurface System Operator) by the North Carolina Department of Environment and Natural Resources to operate subsurface wastewater systems (Section .1961 Maintenance of Sewage Systems). A "Maintenance Contract" between the system owner and a Certified Operator will be required by MCGWS prior to the issuance of a final system approval or Operation Permit.

1. The minimum inspection/maintenance and reporting frequency for a Type IVa system is twice a year by the Certified Operator. The local health department is required to inspect the system once every three years.
2. The septic and pump tanks shall be pumped out when the solids within the septic tank reach an elevation that is equivalent to 25% of the volume of the tank. In some situations, the tanks may need to be pumped more frequently; for example, if you are using a garbage disposal, it is recommended that the septic and pump tanks be cleaned out annually. Regardless, the Certified Operator will be able to advise when it is necessary to pump out tank solids.
3. Pressure head for laterals should be checked and adjusted semi-annually, flushing with clean water as necessary to remove any accumulated solids.
4. The effluent filters should be inspected semi-annually. When it becomes necessary to clean the effluent filters, the filters should be removed and the accumulated debris washed back into the septic or pump tank – not onto the lawn.
5. All piping and valves should be inspected semi-annually for damage and corrections/repairs made immediately.
6. The pump and float controls/switches should be inspected semi-annually to assure proper operation.
7. The drain field area should be maintained to prevent over growth of vegetation. Any damp areas, leakages or malfunctions should be addressed immediately.
8. Divert gutter downspouts and surface water runoff away from the septic and pump tanks.

Design Specifics

Daily Design Flow:	360 GPD – 3 bedroom house
Septic Tank Size:	1500 Gallons
Pump Tank Size:	1000 gallons
Effluent Loading Rate:	Design = 0.3 GPD per sq. ft. (50 % reduction - PPBPS)

Supply Line Length:	Approximately 130 Feet
Number and Size of Drainlines:	(5) 3 Foot Wide Drainlines (3) at 40 Feet in Length (2) at 45 Feet in Length
Trench Width:	3 Feet Wide
Maximum Trench Depth:	28 Inches Deep
Drainline Spacing:	9 Foot on Centers
Total Length of Drainline:	210 Feet
Total Number of Panels:	47
Lateral Hole Size:	5/32 inch
Hole Spacing:	1 per panel = 47 total
Dosing Volume:	169.20 gallons per dose
Flow Rate Through System:	19.27 gallons per minute
Elevation Head:	13 feet
Pressure Head:	2 feet
Pump Requirements:	19.27 GPM at 15 Feet TDH
Recommended Pump:	Goulds WEO3M
Pump Run Time:	8.78 Minutes
Depth of Water Pumped:	Approx. 8.06" - check with individual tank manufacturer (1 cu. Ft. of water equals 7.5 gal.)
Effluent Loading Rate For Repair System:	0.25 GPD per sq. ft.
Repair Drainfield Type:	25% Reduction
Number of Drainlines:	7
Drain Lines:	(7) 3' Wide x Various Lengths

(1) at 50 Feet
(1) at 55 Feet
(1) at 65 Feet
(4) at 50 Feet

Total Trench Length: 370 Linear Feet

Maximum Trench Depth: 12 inches

Final Cover Requirement: 6 inches (minimum)

PPBPS Design Worksheet							File #:			
							PIN:	139-276-35		
System Requirements							Address:	Lot 24 - Sherwood Forest		
Design Flow	360	gpd						Mint Hill, NC		
LTAR	0.300	gpd/ft.^2					Consultant:	Larry Thompson		
Linear footage	400	ft. (conventional)					Phone:	704-301-4881		
Linear footage	200	ft. (50% Reduction)								
							Reviewed By:			
Design Layout							Date:			
Laterals	Length (ft)	# Panels								
Line # 1	40	9								
Line # 2	40	9								
Line # 3	40	9								
Line # 4	45	10								
Line # 5	45	10								
Totals	**210**	**47**								
Absorption Area										
Length (ft)	Width (ft)	Area (ft^2)								
210	3	630								
System Pressure Head	2	ft.	Value selected by system designer (must be between 2-5 ft.)							
Orifice Diameter	5/32	in.	Size selected by system designer (1/8 in. minimum)							
Flow Rate per Orifice	0.41	gpm	Determined from orifice flow design table (value dependent on pressure head & orifice diameter)							
Total System Flow Rate	19.27	gpm	Total number of panels required multiplied by the orifice flow rate							
System Dose Volume	169.20	gal.	Total number of panels required multiplied by 3.6 gal/panel							
Pump Run Time	8.78	min.	System dose volume divided by the total system flow rate							
Pump Tank Drawdown	8.06	in.								
Comments:										
1. Install system using 3 ft. wide trenches.										
2. Install drainlines on 9 ft. centers, level, and on contour.										
3. System design requires effluent pump for distribution.										
4. 100% repair area required for property.	Proposed repair is a Type III 25% reduction system at a 0.25 LTAR.									

T & J Panels	
Linear Feet	# Panels
50	11
60	14
70	16
80	18
90	21
100	23

Thompson Environmental Consulting, Inc.
PO Box 541
Midland, NC 28107-0541
704-301-4881

SHEET 1 OF 1

COUNTY: Mecklenburg
TAX ID: 139-276-35

OWNER: True Homes
LOCATION: Sherwood Forest - Lot 24

DATE: January 19, 2013

PROFILES		SB-1	SB-2	SB-3	SB-4	SB-5	SB-6	SB-7			
LANDSCAPE POSITION	.1940	ls	ls	ls	ls	ls	ls	ls			
SLOPE (%)	.1940	15%	14%	15%	13%	13%	7%	7%			
HORIZON 1 DEPTH	.1943	0-6	0-6	0-12	0-8	0-7	0-8	0-12			
TEXTURE	.1941 (a)(1)	cl	cl	cl	cl	cl	cl				
CONSISTENCE	.1941	fr	fr	fr	fr	fr	fr				
STRUCTURE	.1941 (a)(2)	sbk	sbk	sbk	sbk	sbk	sbk				
CLAY MINERALOGY	.1941 (a)(3)	se	se	se	se	se	se				
HORIZON 2 DEPTH	.1943	6-16	6-36	12-29	8-30	7-48+	8-32	12-21			
TEXTURE	.1941 (a)(1)	c	c	c	c	c	c	cl			
CONSISTENCE	.1941	fi	fi	fi	fi	fi	fi	fr			
STRUCTURE	.1941 (a)(2)	sbk	sbk	sbk	sbk	sbk	sbk	sbk			
CLAY MINERALOGY	.1941 (a)(3)	se	se	se	se	se	se	se			
HORIZON 3 DEPTH	.1943	16-25						21-53+			
TEXTURE	.1941 (a)(1)	c						c			
CONSISTENCE	.1941	vfi						fi			
STRUCTURE	.1941 (a)(2)	m						sbk			
CLAY MINERALOGY	.1941 (a)(3)	e						se			
HORIZON 4 DEPTH	.1943										
TEXTURE	.1941 (a)(1)										
CONSISTENCE	.1941										
STRUCTURE	.1941 (a)(2)										
CLAY MINERALOGY	.1941 (a)(3)										
SOIL WETNESS	.1942										
RESTRICTIVE HORIZON	.1944										
SAPROLITE	.1943/.1956		36	29	30		32				
CLASSIFICATION	.1948	u	ps	ps	ps	ps	ps	ps			
L.T.A.R. (gpd/ft^2)	.1955	0.1	0.25	0.25	0.25	0.3	0.3	0.3			

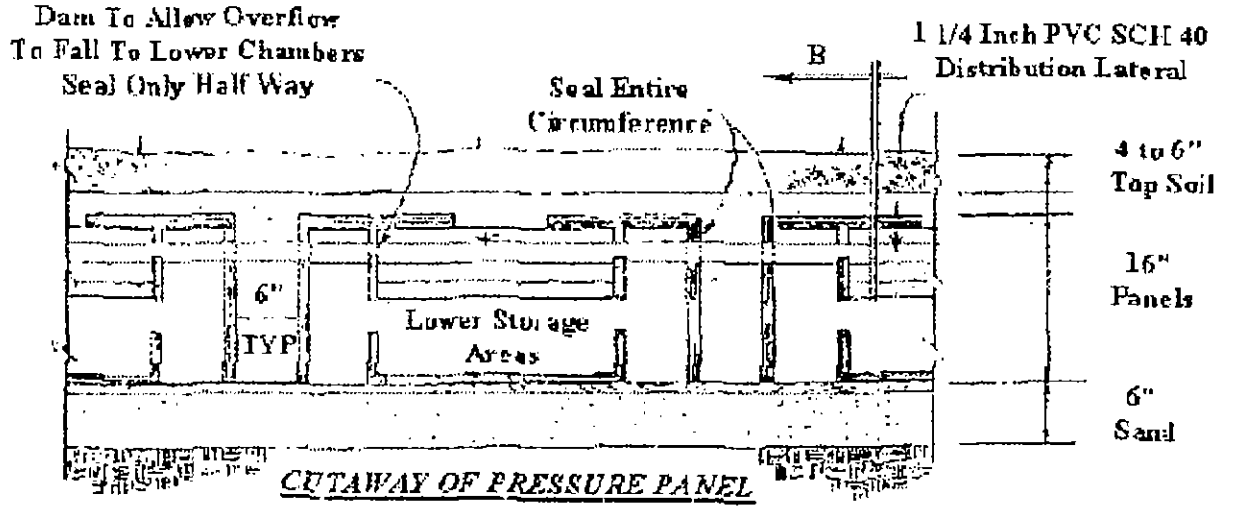
OTHER FACTORS (.1946):		**SITE LTAR (gpd/ft^2):**	**0.3 Initial/0.25 Repair**
AVAILABLE SPACE (.1945):	provisionally suitable		
SITE CLASSIFICATION (.1948):	provisionally suitable	SYSTEM TYPE:	25% Reduction/PPBPS Repair
EVALUATED BY:	Larry Thompson	OTHERS PRESENT:	
COMMENTS:	SB-7 0-12 inches fill		

Thompson Environmental Consulting
PO Box 541
Midland, NC 28107-0541

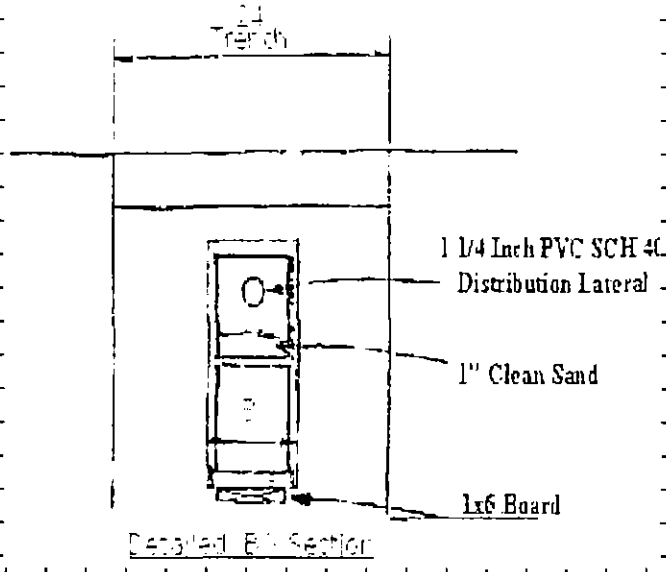
Tax ID Number: 139-276-35

Location: Lot 24 – Sherwood Forest

Date: February 15, 2013



CUTAWAY OF PRESSURE PANEL



Serpentine Bed Section

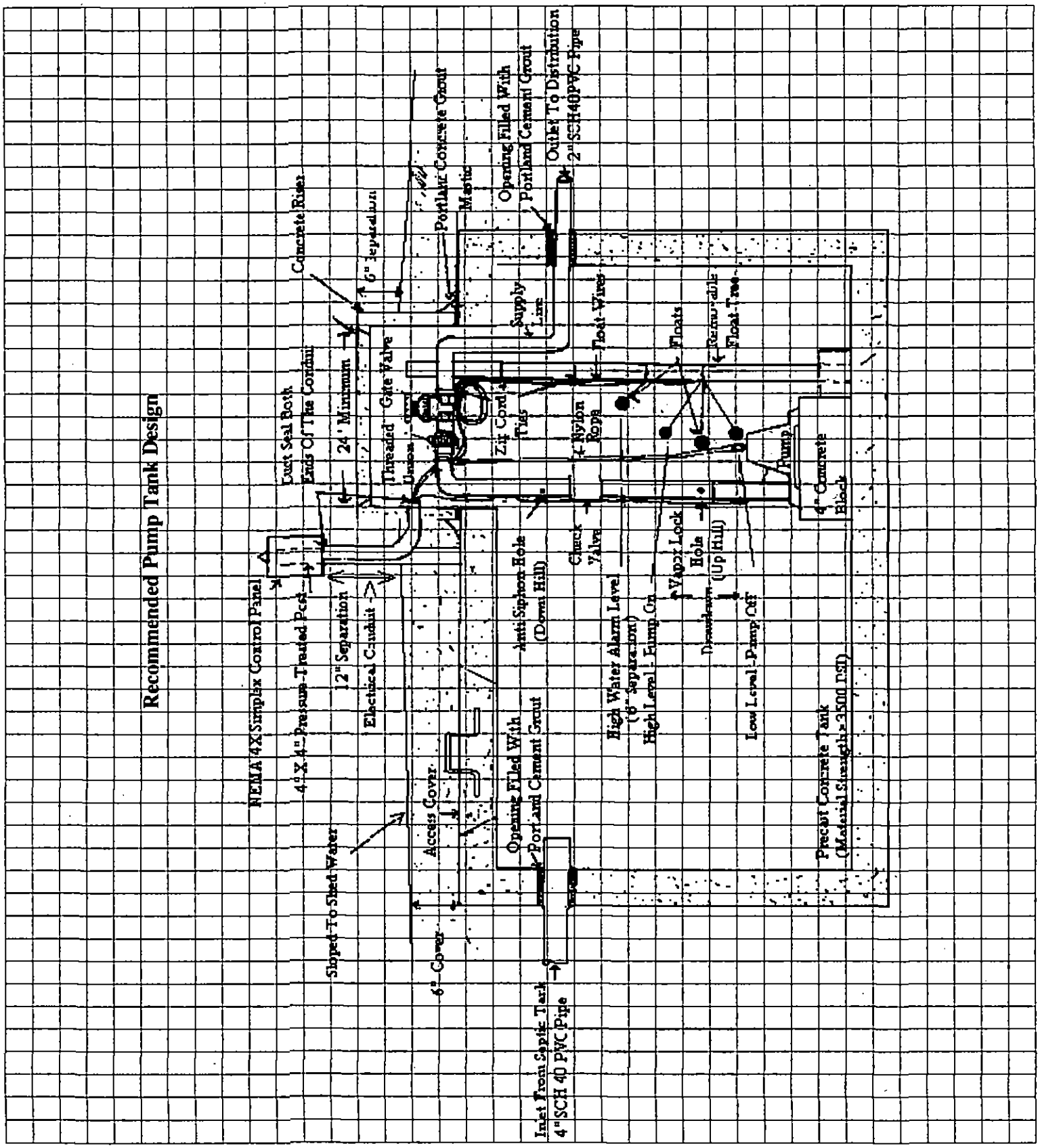
Thompson Environmental Consulting
PO Box 541
Midland, NC 28107-0541

Tax ID Number: 139-276-35

Location: Lot 24 – Sherwood Forest

Date: February 15, 2013

Recommended Pump Tank Design



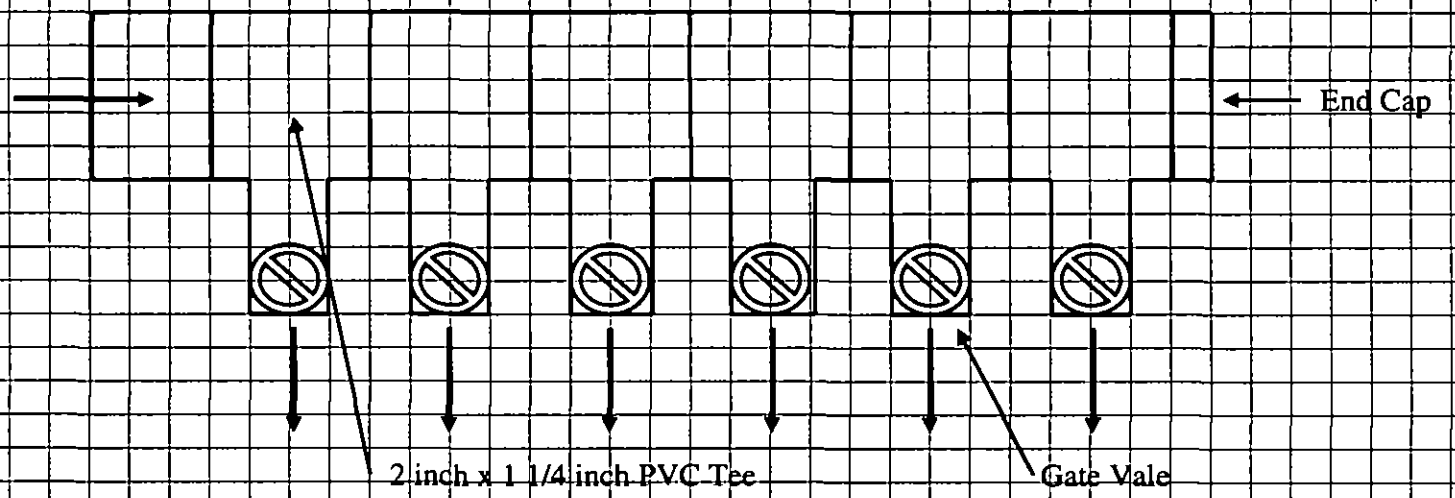
Thompson Environmental Consulting
PO Box 541
Midland, NC 28107-0541

Tax ID Number: 139-276-35

Location: Lot 24 – Sherwood Forest

Date: February 15, 2013

Recommended PPBPS Manifold Setup



GOULDS PUMPS



Submersible Effluent Pump

MODEL 3885

WE Series

PROSURANCE AVAILABLE FOR RESIDENTIAL APPLICATIONS.

APPLICATIONS

Specifically designed for the following uses:

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

SPECIFICATIONS

Pump

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

FEATURES

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

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

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

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

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

■ Capable of running dry without damage to components.

■ Designed for continuous operation when fully submerged.

MOTORS

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

■ Class B insulation on ⅓-1½ HP models.

■ Class F insulation on 2 HP models.

Single phase (60 Hz):

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

Three phase (60 Hz):

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

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

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

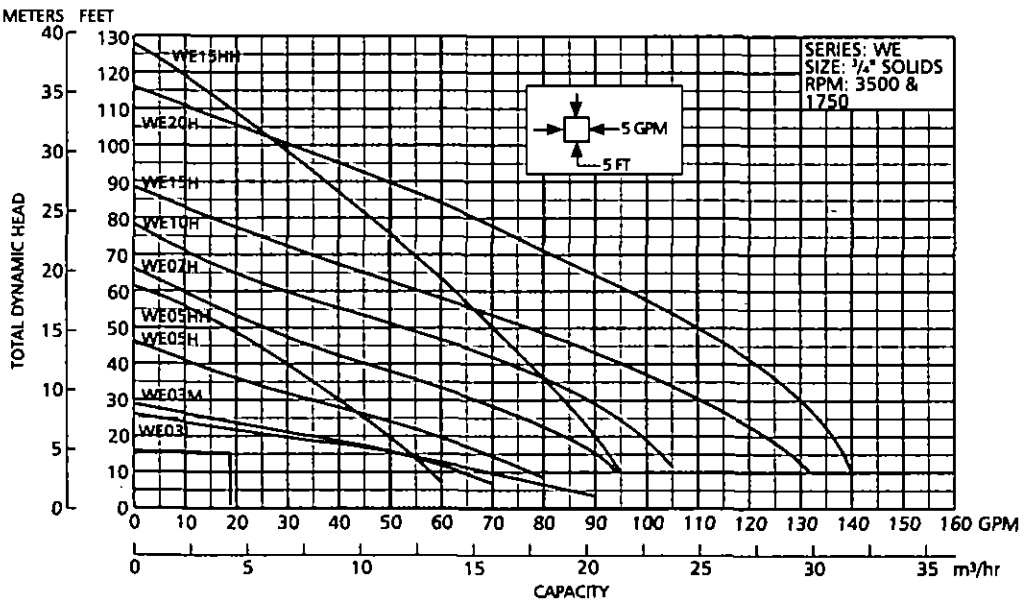
■ **Power Cable:** Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.

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

AGENCY LISTINGS

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

Goulds Pumps is ISO 9001 Registered.



Goulds Pumps

ITT Industries

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B3885

GOULDS PUMPS

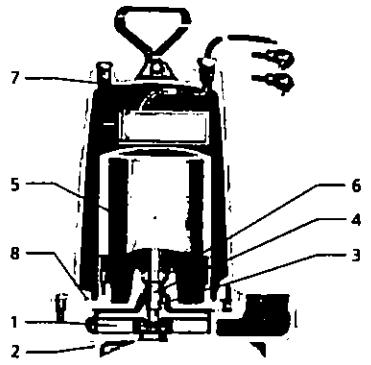
Submersible Effluent Pump

MODEL 3885

WE Series

COMPONENTS

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



MODELS

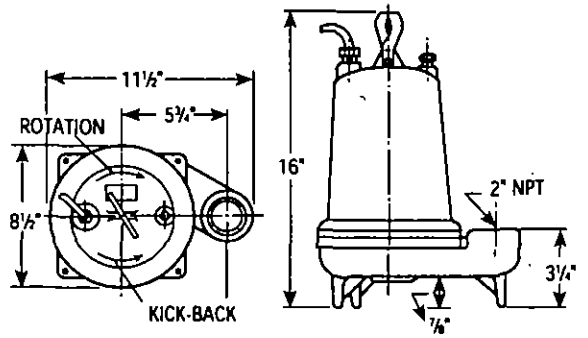
Order No.	HP	Volts	Phase	Max. Amp.	RPM	Solids	Wt. (lbs.)
WE0311L	⅓	115	1	10.7	1750	¼"	56
WE0318L		208		6.8			
WE0312L		230		4.9			
WE0311M		115		10.7			
WE0318M		208		6.8			
WE0312M		230		4.9			
WE0511H	½	115	1	14.5	3500		60
WE0518H		208		8.1			
WE0512H		230		7.3			
WE0538H		200	3	4.9			
WE0532H		230		3.3			
WE0534H		460		1.7			
WE0537H		575		1.4			
WE0511HH		115	1	14.5			
WE0518HH		208		8.1			
WE0512HH		230		7.3			
WE0538HH		200	3	4.9			
WE0532HH		230		3.6			
WE0534HH		460		1.8			
WE0537HH		575		1.5			
WE0718H	¾	208	1	11.0			70
WE0712H		230		10.0			
WE0738H		200	3	6.2			
WE0732H		230		5.4			
WE0734H		460		2.7			
WE0737H		575		2.2			
WE1018H	1	208	1	14.0			
WE1012H		230		12.5			
WE1038H		200	3	8.1			
WE1032H		230		7.0			
WE1034H		460		3.5			
WE1037H		575		2.8			
WE1518H	1½	208	1	17.5			80
WE1512H		230		15.7			
WE1538H		200	3	10.6			
WE1532H		230		9.2			
WE1534H		460		4.6			
WE1537H		575		3.7			
WE1518HH		208	1	17.5			
WE1512HH		230		15.7			
WE1538HH		200	3	10.6			
WE1532HH		230		9.2			
WE1534HH		460		4.6			
WE1537HH		575		3.7			
WE2012H	2	230	1	18.0			83
WE2038H		200	3	12.0			
WE2032H		230		11.6			
WE2034H		460		5.8			
WE2037H		575		4.7			

PERFORMANCE RATINGS (gallons per minute)

Order No.		WE03L	WE03M	WE05H	WE07H	WE10H	WE15H	WE05HH	WE15HH	WE20H
	HP	⅓	⅓	½	¾	1	1½	½	1½	2
	RPM	1750	1750	3500	3500	3500	3500	3500	3500	3500
Total Head Feet of Water	5	86	–	–	–	–	–	–	–	–
	10	70	63	78	–	–	–	58	–	–
	15	52	50	70	90	–	–	53	–	–
	20	27	35	60	83	98	123	49	90	136
	25	–	–	48	76	94	117	45	87	133
	30	–	–	35	67	88	110	40	83	130
	35	–	–	20	57	82	103	35	80	126
	40	–	–	–	45	74	95	30	77	121
	45	–	–	–	35	64	86	25	74	116
	50	–	–	–	25	53	77	–	70	110
	55	–	–	–	–	40	67	–	66	103
	60	–	–	–	–	30	56	–	63	96
	65	–	–	–	–	20	45	–	58	89
	70	–	–	–	–	–	35	–	55	81
	75	–	–	–	–	–	25	–	51	74
	80	–	–	–	–	–	–	–	47	66
	90	–	–	–	–	–	–	–	37	49
	100	–	–	–	–	–	–	–	28	30

DIMENSIONS

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



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SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Goulds Pumps

ITT Industries

FEE: 200.00
DATE: 11/25/2013

CONSTRUCTION AUTHORIZATION FOR AN ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

MECKLENBURG COUNTY
GROUNDWATER & WASTEWATER SERVICES

FILE NUMBER: 8552B

PERMIT NUMBER: 30005736

PARCEL NUMBER: 13927636

JOB LOCATION INFORMATION

ADDRESS: 10935 FLINTSHIRE RD

CITY: CHARLOTTE **STATE: NC** **ZIP:** 28227

ISSUED TO: True Homes

CONSTRUCTION AUTHORIZATION ISSUANCE DATE: 11/22/2013

CONSTRUCTION AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NUMBER 30005736, 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: 11/22/2018

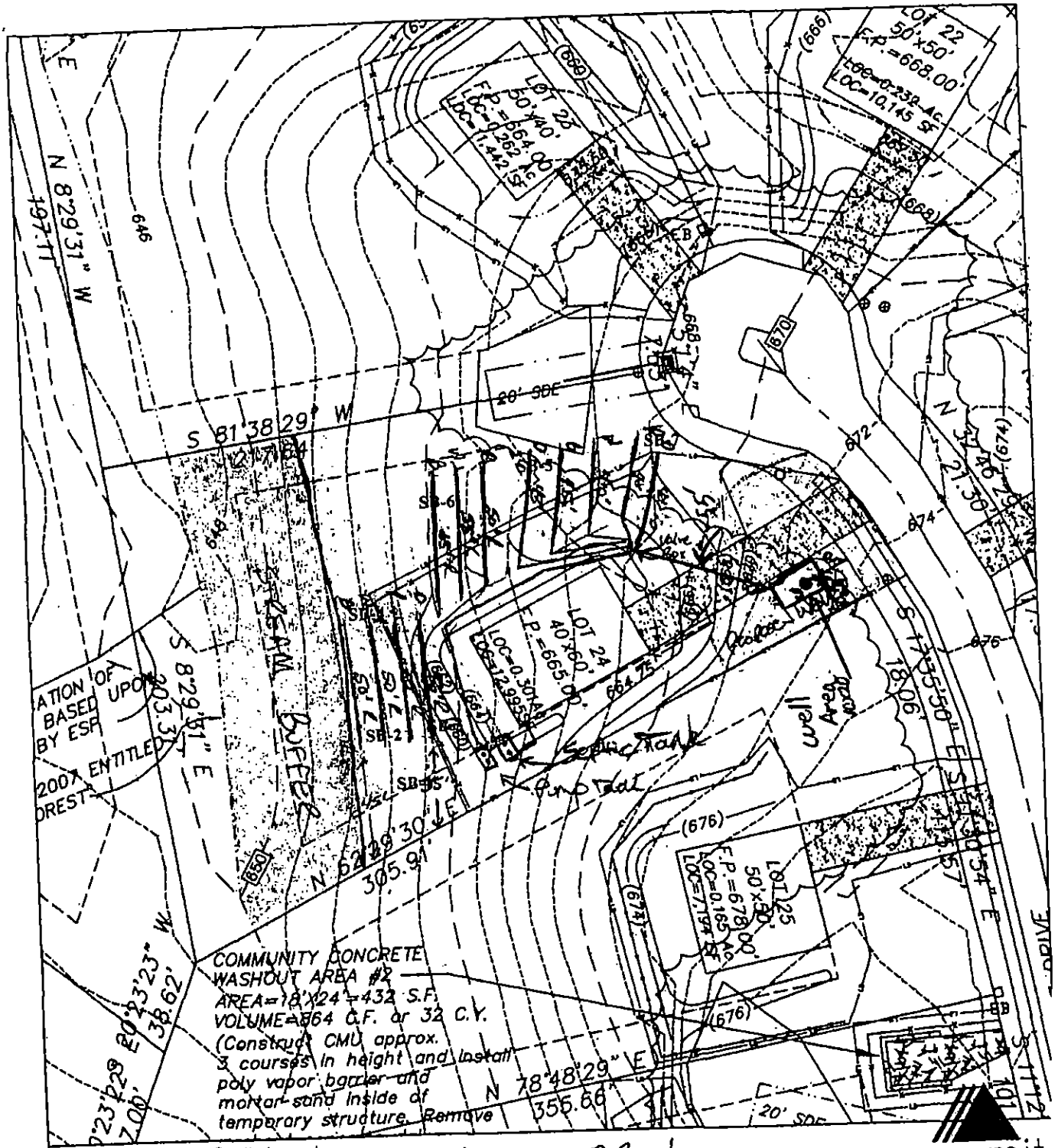


Figure 1 - Septic Layout
LOT 24
SHERWOOD FOREST SUBDIVISION
MINT HILL, NORTH CAROLINA
CAROLINA DEVELOPMENT SOLUTIONS, LLC
1932 CLARK ELLIOT STREET
FORT MILL, SOUTH CAROLINA 29708
SCALE 1"=50'

- Maintain 10'ft off Property lines with well
- Maintain 50'ft min off all ports of waste water sys.

GRAPHIC SCALE
50 25 0 50

NOTE: This drawing is for a septic proposal and is not a survey.

summit
landservices
P.O. BOX 7442
CHARLOTTE, NC 28241
OFFICE: 704.504.8934
FAX: 704.504.1123
WWW.SUMMIT-COMPANIES.COM

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St, Suite 211 Charlotte, NC 28202
Phone: (704) 336-5100 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 #: 30005736 GWS File #: 8552B Tax Parcel #: 139-276-36

- 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):** 11/22/2018

Type of Installation: Residential - New System Lot Number: 24

Structure Type: HOUSE Size (ft^2): 0 # Bedrooms: 3 # Occupants: 5

Building Foundation: Concrete Slab Water Supply: Private Well

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

Initial System Specifications:

Design Flow (gpd): 360 LTAR (gpd/ft^2): 0.3 Septic Tank Size (gal): 1500 Pump Tank Size (gal): 1000

Trench Width (ft): 3 Trench Spacing (ft): 9 Absorption Area (ft^2): 600 Total Trench Length (ft): 200

Maximum Trench Depth (in): 28 Depth of Media (in): N/A Distribution Device: Manifold (LPP Distri

III. Repair System Type: Approved **System Classification:** IIIb

Repair System Specifications:

Design Flow (gpd): 360 LTAR (gpd/ft^2): 0.25 Septic Tank Size (gal): 1500 Pump Tank Size (gal): 1000

Trench Width (ft): 3 Trench Spacing (ft): 9 Absorption Area (ft^2): 1080 Total Trench Length (ft): 360

Maximum Trench Depth (in): 12 Depth of Media (in): 12 Distribution Device: Drop Boxes

IV. Permit Conditions/Comments:

(Please See the Following Page for Permit Conditions.)

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

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

DENR Authorized Agent: Jeremy Michael Owner/Legal Agent: Jackie Draup
Print Name

Signature: Jeremy Michael REHS Signature: Jackie Draup

Date Issued: 11/22/2013

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 #: 30005736 GWS File #: 8552B

IV. Permit Conditions/Comments:

- This type of septic system requires an inspection once every 3 years by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- This type of septic system requires a Certified Operator to maintain the system. A system maintenance contract with a Certified Operator must be on file prior to issuance of an Operation Permit.
- The septic system shall be installed in accordance with the plans submitted by the wastewater system design consultant.
- 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. (50 ft. minimum) from all private wells.
- All waterlines must be located a minimum of 10 ft. from any part of the septic system.
- All components of the septic system must be located a minimum distance from the normal pool elevation or mean high water mark for the nearby body of water. See plot plan for minimum setback requirements.
- 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.
- Flow from all gutters and downspouts shall be directed not to discharge water onto or across any part of the septic system.
- Foundation drains shall be constructed not to discharge water onto or across any part of the septic system.
- The septic system shall be located at least 10 feet from any foundation drain.

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:

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- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Jeremy Michael

Signature: Jeremy Michael REHS

Date Issued: 11/22/2013

Owner/Legal Agent: Jackie Drawp
Print Name

Signature: Jackie Drawp

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 #: **30005736** GWS File #: **8552B** Tax Parcel #: **139-276-36**

- 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):** 11/22/2018

Type of Installation: Residential - New System Lot Number: 24

Structure Type: HOUSE Size (ft^2): 0 # Bedrooms: 3 # Occupants: 5

Building Foundation: Concrete Slab Water Supply: Private Well

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

Initial System Specifications:

Design Flow (gpd):	360	LTAR (gpd/ft^2):	0.3	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1000
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	600	Total Trench Length (ft):	200
Maximum Trench Depth (in):	28	Depth of Media (in):	N/A	Distribution Device:	Manifold (LPP Distri		

III. Repair System Type: Approved **System Classification:** IIIb

Repair System Specifications:

Design Flow (gpd):	360	LTAR (gpd/ft^2):	0.25	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1000
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	1080	Total Trench Length (ft):	360
Maximum Trench Depth (in):	12	Depth of Media (in):	12	Distribution Device:	Drop Boxes		

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:

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- The septic system installer shall be a registered septic contractor with Mecklenburg County Health Department.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

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

Signature: Jeremy Michael REHS Signature: _____

Date Issued: 11/22/2013

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 #: **30005736** GWS File #: **8552B**

IV. Permit Conditions/Comments:

- This type of septic system requires an inspection once every 3 years by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- This type of septic system requires a Certified Operator to maintain the system. A system maintenance contract with a Certified Operator must be on file prior to issuance of an Operation Permit.
- The septic system shall be installed in accordance with the plans submitted by the wastewater system design consultant.
- 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. (50 ft. minimum) from all private wells.
- All waterlines must be located a minimum of 10 ft. from any part of the septic system.
- All components of the septic system must be located a minimum distance from the normal pool elevation or *mean high water mark* for the nearby body of water. See plot plan for minimum setback requirements.
- 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.
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- Foundation drains shall be constructed not to discharge water onto or across any part of the septic system.
- The septic system shall be located at least 10 feet from any foundation drain.

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

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

DENR Authorized Agent: Jeremy Michael

Signature: Jeremy Michael REHS

Date Issued: 11/22/2013

Owner/Legal Agent: _____
Print Name

Signature: _____

8552B

MECKLENBURG COUNTY HEALTH DEPARTMENT App# 5736

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: 13927636
STREET ADDRESS: 10925 FLINTSHIRE ROAD
CITY: Charlotte
STATE: NC ZIP: 28227
SUBDIVISION NAME: Sherwood Forest
LOT #: 24 LOT SIZE (acres): 0.941
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:
NUMBER OF BEDROOMS: 4 3 JD
NUMBER OF OCCUPANTS: 5
FOUNDATION TYPE:
● CONCRETE SLAB ○ BASEMENT WITH PLUMBING
○ CRAWL SPACE ○ BASEMENT WITH NO PLUMBING

5. IF PLANNING TO EXPAND OR ALTER THE EXISTING SEPTIC SYSTEM PLEASE COMPLETE THE FOLLOWING SECTION: ☐ N/A
NUMBER OF BEDROOMS TO BE ADDED: _____ NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE: _____

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

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

8. PLEASE INDICATE AND RANK DESIRED SEPTIC SYSTEM TYPE(S) IN ORDER OF PREFERENCE *(1-MOST DESIRED 5-LEAST DESIRED)*:
☐ N/A ☐ ANY TYPE ☐ CONVENTIONAL ☐ ACCEPTED ☐ INNOVATIVE ☐ ALTERNATIVE ☐ OTHER _____

8A. RANK: ____ ____ ____ ____ ____

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: True Homes
ADDRESS: 2649 Brekonridge Centre Dr
CITY: Monroe
STATE: NC ZIP: 28110
WORK PHONE:
MOBILE PHONE: 803-389-3387
FAX:
E-MAIL:

13. OWNER'S LEGAL REPRESENTATIVE, IF APPLICABLE:
NAME: Scott Twiddy
ADDRESS: 1932 Clark Elliott St
CITY: Fort Mill
STATE: SC ZIP: 29708
WORK PHONE:
MOBILE PHONE: 803-389-3387
FAX: 800-980-4077
E-MAIL: stwiddy.cds@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.

_____ 09 AUG 2012

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

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OFFICE USE ONLY

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

SEPTIC APPLICATION FEE RECEIVED: $ 250 DATE FEE RECEIVED: 8/9/12

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

APPLICATION PROCESSED BY: lws

GWS FILE NUMBER ASSIGNED: 8552B

APPLICATION ID NUMBER ASSIGNED: 5736

COMMENTS:

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

Revised on: 12/15/10

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

Sheet: 1 of 2
Property ID: 13927636
Lot #: 24
File #: 8552B
AppID: 5736

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Owner: True Homes
Applicant: True Homes
Address: 2649 Brekonridge Centre Dr Monroe, NC 28110
Date Evaluated: 10/3/2012
Proposed Facility: Residence Design Flow (.1949) 480GPD
Property Size: 0.941
Location of Site: 10935 Flintshire Road Charlotte, NC 28227
Property Recorded:
Water Supply: [ ] Public [ ] Individual [X] Well [ ] Spring [ ] Other
Evaluation Method: [ ] Auger Boring [X] Pit [ ] Cut
Type of Wastewater: [X] Sewage [ ] Industrial Process [ ] Mixed

PROFILE #	.1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY .1941 .1941 Structure/ Texture	.1941 Consistence Mineralogy	b PROFILE FACTORS .1942 Soil Wetness/ Color	.1943 Soil Depth (IN.)	.1956 Sapro Class	.1944 Restr Horiz	Profile Class & LTAR
Pit 1	LS	0-7	wfsbk CL	ss sp fr sexp	10YR 7/2	48	NA	PS	PS IV
	12%	7-20	wmsbk C	s p fi sexp	32"				0.25
		20-48	wfabk C	s p fi sexp					
Pit 2	LS	0-4	wfsbk CL	ss sp fr sexp	10YR 7/2	48	NA	PS	US
	15%	4-22	mmsbk C	s p fi sexp	@37"				drip 0.1
		22-34	mmabk C	vs vp vfi exp					
		34-48	sls ma C	vs vp vfi exp					
Pit 3	LS	0-5	wfg L	ss sp fr sexp	10YR 7/2	45	NA	PS	PS IV
	13%	5-14	wmsbk C	ss sp fr sexp	@35"				0.25
		19-45	wfsbk CL	ss sp fr sexp					
Pit 4	LS	0-1	wfg L	ss sp fr sexp	10YR 7/2	46	NA	PS	PS IV
	13%	1-33	mmsbk C	s p fi sexp	@33"				0.25
		33-46	mmabk C	vs vp vfi exp					
Pit 5	LS	0-3	wfg L	ss sp fr sexp	>48	48	NA	PS	PS IV
	9%	3-33	mmsbk C	ss sp fr sexp					0.3
		33-48	wfsbk CL	ss sp fr sexp					

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

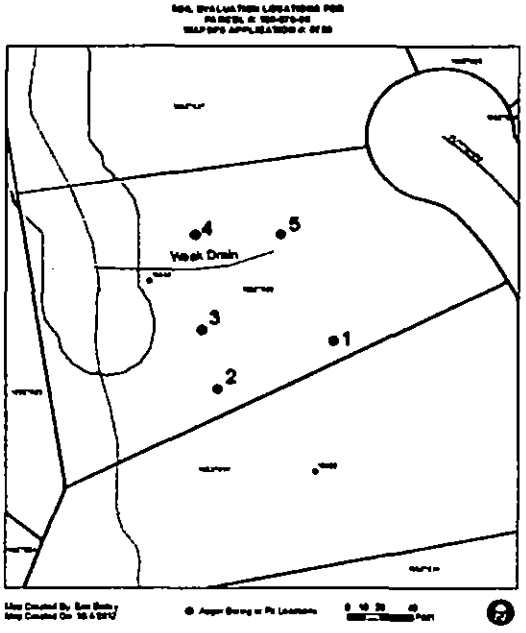
Other Factors (.1946):
Soil Evaluation By: Eric Bailey LSS
Others Present: Jacob Presley LSS
Site Classification (.1948): PS
Site Evaluation By: Jeremy Michael R.E.H.S
Others Present: Brad Hallman

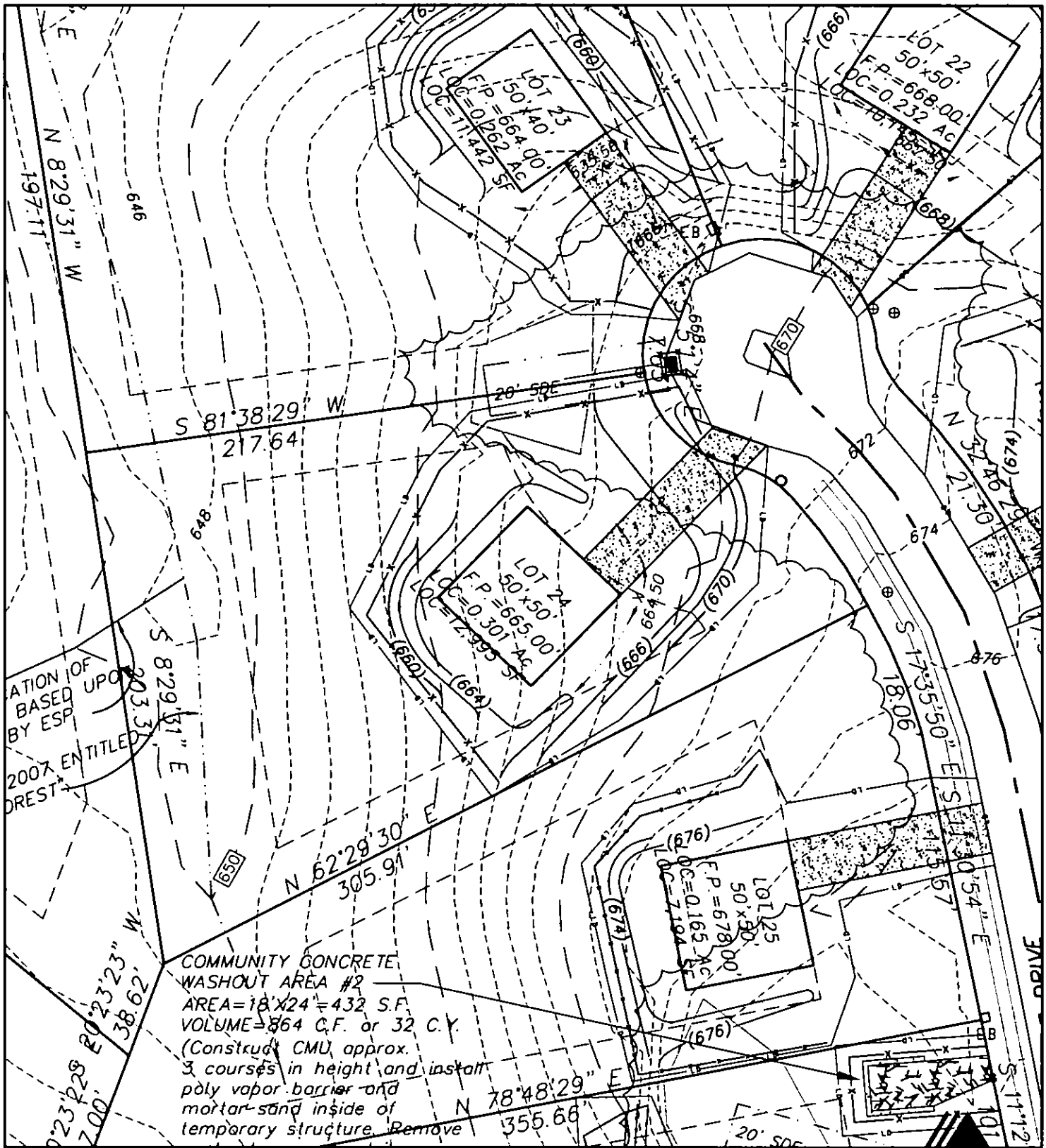
COMMENTS:

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		M-Massive
LS-Linear Slope				CR-Crumb
FS-Foot Slope	II	SL-Sandy Loam	0.8 - 0.6	GR-Granular
NS-Nose Slope		L-Loam		SBK-Subangular Blocky
HS-Head Slope				ABK-Angular Blocky
CC-Concave Slope	III	Si-Silt	0.6 - 0.3	PL-Platy
CV-Convex Slope		SiCL-Silty Clay Loam		PR-Prismatic
T-Terrace				
FP-Flood Plain		CL-Clay Loam		
D-Drainage Way		SCL-Sandy Clay Loam		
		SiL- (Silt Loam)		
	IV	SC-Sandy Clay	0.4 - 0.1	
		SiC-Silty Clay		
		C-Clay		

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

Sketch of Soil Evaluation Locations





LOT GRADING PLAN
LOT 24
SHERWOOD FOREST SUBDIVISION
MINT HILL, NORTH CAROLINA
CAROLINA DEVELOPMENT SOLUTIONS, LLC
1932 CLARK ELLIOT STREET
FORT MILL, SOUTH CAROLINA 29708
SCALE 1"=50'

GRAPHIC SCALE
50 25 0 50

summit
landservices
P.O. BOX 7442
CHARLOTTE, NC 28241
OFFICE: 704.506.0554
FAX: 704.504.1125
WWW.SUMMIT-COMPANIES.COM