PROPERTY SERVICE CHART

ADDRESS _____ REID # _____

SERVICE	COMMENTS	DATE	REHS
2/ e e	u d 2 es eed e de e C ed C e e s s e es d s e ed d e d	2/2 /24	
e s	e e ed e 3/01/24 d s e ed	3/01/24	
e s	Issued e e s se s e e ssued s e	3/0 /24	
Well Site	Well site located off front of SFR. Well Area 25'+ off house, 50'+ off proposed A2/A5 septic area (see A2/A5 permit for more information), 12"+ off front property line and 10'+ off left property line.	3/13/24	KCM
Map Check	Well site not located within 1500' of any known source of contamination.	3/18/24	KCM
Well Permit	Issued	3/18/24	KCM
Well Grout	Aqua Drill set 90' SDR-21, and Loftin Concrete poured 1/2 yard concrete to the surface.	7/18/24	DWJ
system install	Charles Driggers set 1000gal septic tank HPPP-1000, STB-760 with a Polylok filter and 1250 gal pump tank HPPP-1250, PT-42 with 24" riser, 8" tether length, zoeller 151 pump, with Alderon alarm panel and 102"of 2" sch40 PVC supply line to manifold with 4 sch80 1/2" taps connected to 600 ' of conventional pipe with gravel installed.	8/22/24	MKB
Well Final	Wellhead approved, tags match ROC.	10/22/24	KCM
Pump+Alarm	Pump+Alarm failed. NEMA 4x box has un sealed opening on bottom, need cover for turn up, seal conduit.	10/22/24	KCM
Pump+Alarm/ Cover Check	Pump + Alarm approved. PT set up good, NEMA 4x box sealed, floats functional, alarm audible, separate breakers, pressure head set at 2ft. Cover check approved, cover ok over drainfield with seed and straw.	10/23/24	KCM
COC/OP	Issued	10/23/24	KCM

Guilford County
Environmental Health Division
Water Quality Section
400 W. Market Street
Greensboro, NC 27401
336.641.7613

Operation Permit

Address: 7812 WHIPPLE TRL, GREENSBORO, NC 27455 Permit Number: 24-02-SNHR-00972

Contractor: DRIGGERS SEPTIC TANK

Design Flow:	480 GPD	Pump Tank Capacity:	1250 GAL
Septic Tank Capacity:	1000 GAL	Pump Tank ID #:	PT-42
Septic Tank ID #:	STB-760	Pump Tank Mfg:	High Point Pre-Cast (HPPP)
Septic Tank Mfg:	High Point Pre-Cast (HPPP)	Pump Make:	Zoeller
Filter Type:	Polylok		
Trench Type:	Conventional		
Trench Length:	600 FT		
Trench Width:	36 IN		

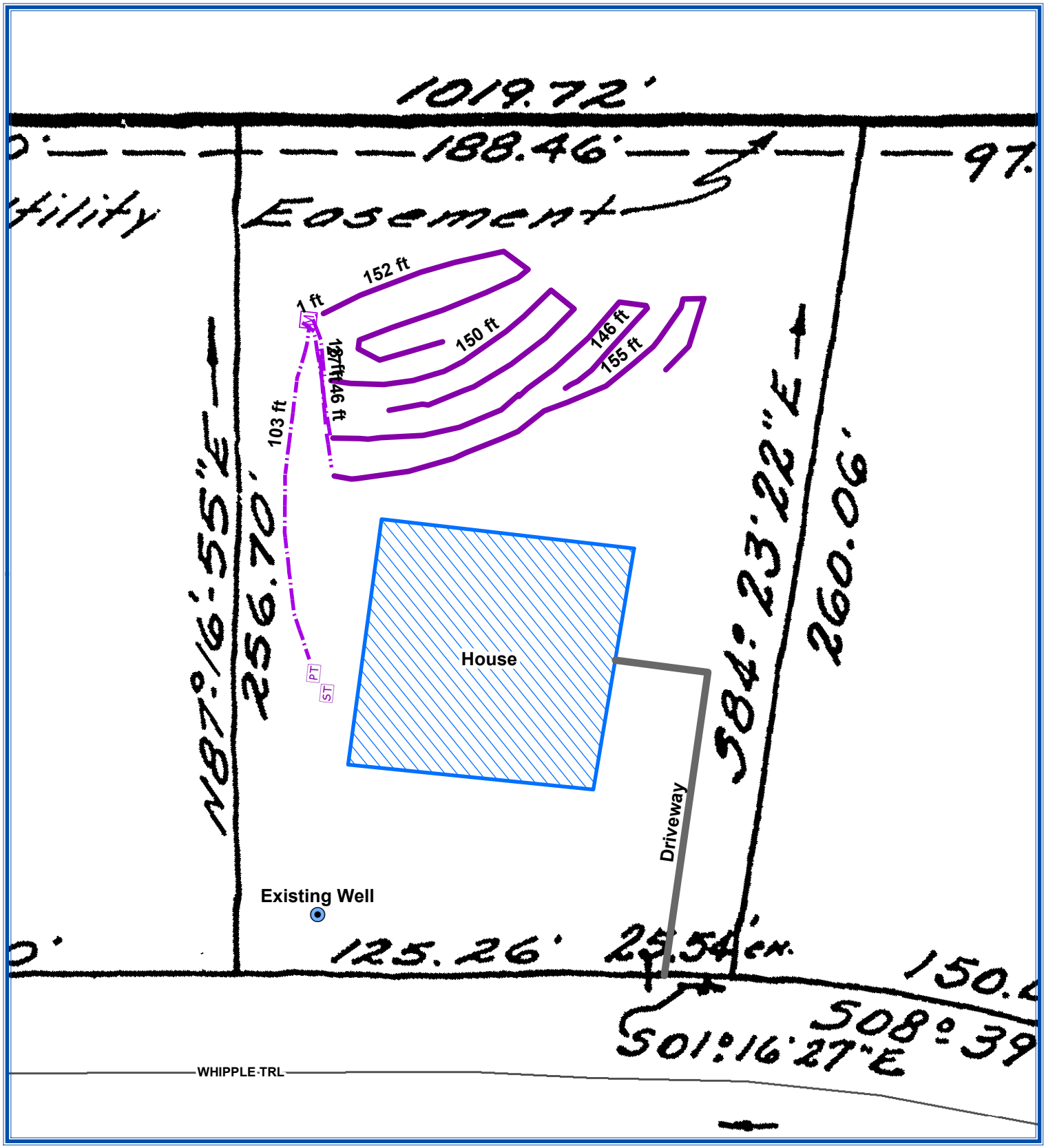
Comments:

Charles Driggers set 1000gal septic tank HPPP-1000, STB-760 with a Polylok filter and 1250 gal pump tank HPPP-1250, PT-42 with 24" riser, 8" tether length, zoeller 151 pump, with Alderon alarm panel and 102"of 2" sch40 PVC supply line to manifold with 4 sch80 1/2" taps connected to 600 ' of conventional pipe with gravel installed.

Drainfield Approval:	MKB Environmental Health Specialist	Date:	8/22/24
Tank Approval:	MKB Environmental Health Specialist	Date:	8/22/24
Supply Line Approval:	MKB Environmental Health Specialist	Date:	8/22/24
Pump/Alarm Approval:	KCM Environmental Health Specialist	Date:	10/23/24
Operational Permit Approval:	Kenneth C. Melder REHS Environmental Health Specialist	Date:	10/23/24

This System is in compliance with Article 11 of G.S. Chapter 130A .1900 "Sewage Treatment and Disposal Systems" and all conditions prescribed by the Authorization for Wastewater System Construction. This Operation Permit is subject to suspension or revocation if the stated conditions are not met.

Diagram



Address: 7812 Whipple Trail
Permit #: 24-02-SNHR-00972
Issuer's Initials: KCM
Date: 10/23/2024

0 20 40 60 Feet

1 inch = 40 feet

DISCLAIMER:
The data shown in this map is for public use. Guilford County makes no warranty to its accuracy; all data sets and maps are for geographical representation only.

CONDITIONS:

Initial system and designated repair areas must be protected from traffic, construction, destruction, cultivation, landscaping, erosion, or any other circumstances that may alter site conditions and may cause problems with the initial system or the future system as permitted.

Surface and/or subsurface drainage diversion around the system must be maintained as permitted.

Heavy vegetative growth over drainfields and the root system of many shallow-rooted trees are detrimental to the proper operation of subsurface sewage systems and must be controlled periodically.

All subsurface sewage disposal ssytems must be maintained and operated in a manner that prevents surface discharge or any other potential public health concerns. All public health concerns created by the operation of this system must be addressed immediately (within 48 hours). Required permits to correct the public health concern must be obtained from the Environmental Health Water Quality Unit and corrections to the system are to be completed within 30 days of the date of that permit.

Establish cover over drainlines.

Access to tanks, tank components (pumps, float controls, valves, etc.), drainfields, or other system components must be maintained to allow periodic follow up inspections as required and/or to evaluate system concerns.

To avoid damage to the system, the septic tanks should be pumped out every 3-5 years.

Environmental Health Division Water Quality Section

400 W Market St.
Greensboro, NC 27401
(336) 641-7613

Water Well Certificate of Completion

Address of Well: 7812 WHIPPLE TRL
GREENSBORO, NC 27455

Well Permit: 24-02-WNHR-00539 **X:**

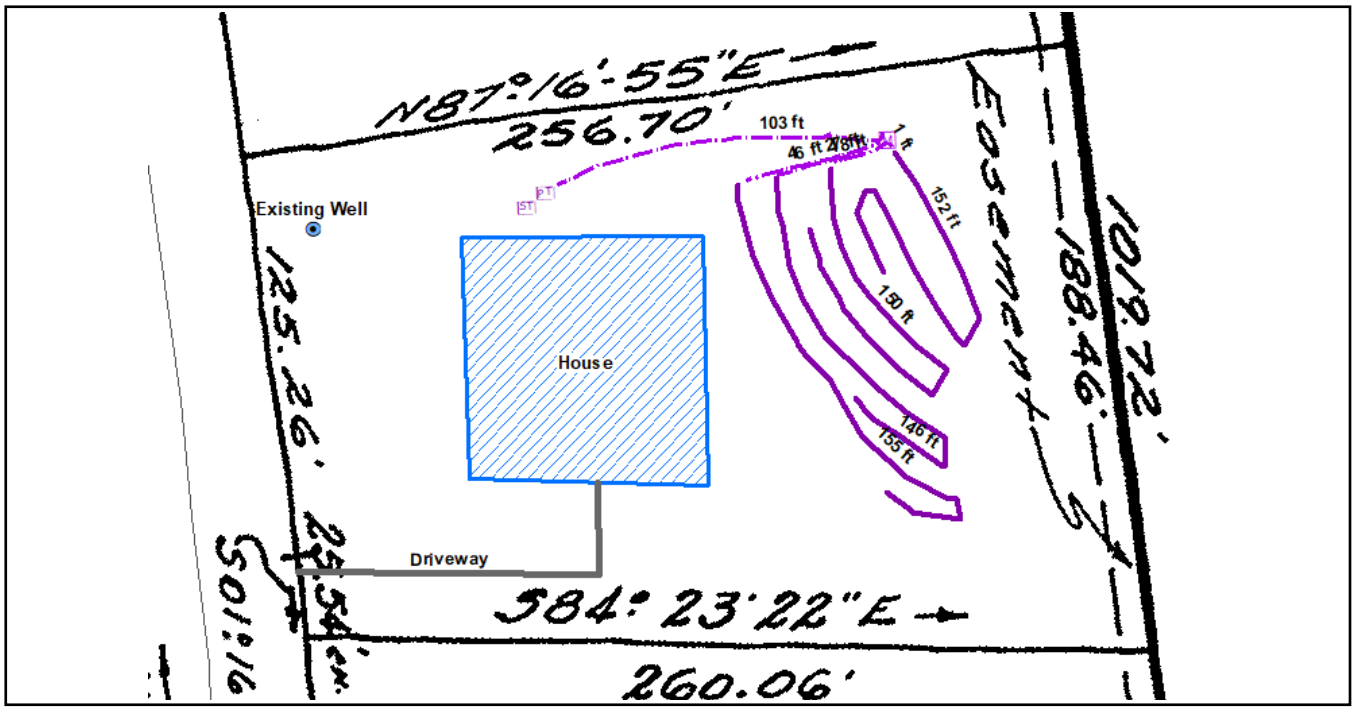
Well Contractor: AQUA DRILL INC. **Y:**

Construction or repair has been completed, a Record of Construction, Repair or Abandonment of a Well has been submitted, and the inspection has been completed in accordance with the Guilford County Well Rules. This Operation Permit is subject to suspension or revocation if the stated conditions are not met.

Certification By: Kenneth C. Melder REHS Date Issued: 10/23/24

Environmental Health Specialist

Diagram



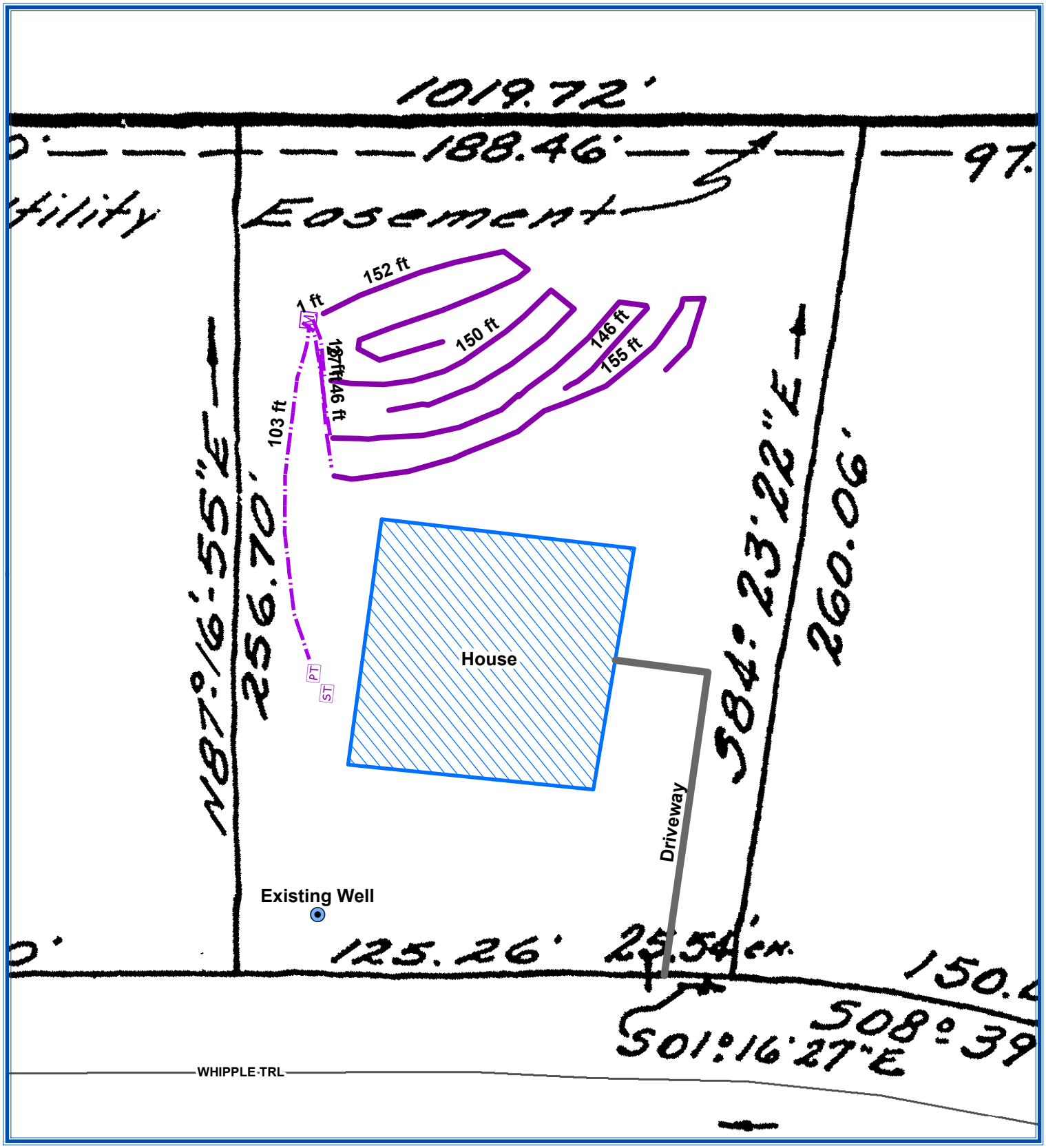
Well Information:

Casing Depth: 90 ft. Total Well Depth: 165 ft. Well Yield: 50 gpm

Pump Depth: 80 ft. Pump Size: .75 HP hp

Well Usage: One Single Family Dwelling

Diagram



Address: 7812 Whipple Trail
Permit #: 24-02-SNHR-00972
Issuer's Initials: KCM
Date: 10/21/2024

0 20 40 60 Feet

1 inch = 40 feet

DISCLAIMER:
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WELL CONSTRUCTION RECORD (GW-1)

For Internal Use Only:

1. Well Contractor Information:

Gary Thompson
Well Contractor Name

4418-A
NC Well Contractor Certification Number

Aqua Drill, Inc.
Company Name

2. Well Construction Permit #: 24-02-WNHR-00539
List all applicable well construction permits (i.e. UIC, County, State, Variance, etc.)

3. Well Use (check well use):

Water Supply Well:
- [ ] Agricultural
- [ ] Geothermal (Heating/Cooling Supply)
- [ ] Industrial/Commercial
- [ ] Irrigation
- [ ] Municipal/Public
- [x] Residential Water Supply (single)
- [ ] Residential Water Supply (shared)

Non-Water Supply Well:
- [ ] Monitoring
- [ ] Recovery

Injection Well:
- [ ] Aquifer Recharge
- [ ] Aquifer Storage and Recovery
- [ ] Aquifer Test
- [ ] Experimental Technology
- [ ] Geothermal (Closed Loop)
- [ ] Geothermal (Heating/Cooling Return)
- [ ] Groundwater Remediation
- [ ] Salinity Barrier
- [ ] Stormwater Drainage
- [ ] Subsidence Control
- [ ] Tracer
- [ ] Other (explain under #21 Remarks)

4. Date Well(s) Completed: 7-18-24 **Well ID#** _____

5a. Well Location:

Lakeridge Builders
Facility/Owner Name

Facility ID# (if applicable)

7812 Whipple Trail Greensboro NC 27455
Physical Address, City, and Zip

Guilford
County

Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

36° 12' 49.4" N 79° 47' 41.3" W

6. Is(are) the well(s): [x] **Permanent** or [ ] **Temporary**

7. Is this a repair to an existing well: [ ] **Yes** or [x] **No**
If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

8. For Geoprobe/DPT or Closed-Loop Geothermal Wells having the same construction, only 1 GW-1 is needed. Indicate TOTAL NUMBER of wells drilled: _____

9. Total well depth below land surface: 165 **(ft.)**
For multiple wells list all depths if different (example- 3@200' and 2@100')

10. Static water level below top of casing: 40 **(ft.)**
If water level is above casing, use "+"

11. Borehole diameter: 6 **(in.)**

12. Well construction method: Rotary Air
(i.e. auger, rotary, cable, direct push, etc.)

FOR WATER SUPPLY WELLS ONLY:

13a. Yield (gpm) 50 **Method of test:** Catch+Time

13b. Disinfection type: HTH 70% **Amount:** 16 oz

14. WATER ZONES

FROM	TO	DESCRIPTION
100 ft.	105 ft.	Fractor 50 GPM
ft.	ft.	

15. OUTER CASING (for multi-cased wells) OR LINER (if applicable)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
0 ft.	90 ft.	6 1/4 in.	SDR 21	PVC

16. INNER CASING OR TUBING (geothermal closed-loop)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
ft.	ft.	in.		
ft.	ft.	in.		

17. SCREEN

FROM	TO	DIAMETER	SLOT SIZE	THICKNESS	MATERIAL
ft.	ft.	in.			
ft.	ft.	in.			

18. GROUT

FROM	TO	MATERIAL	EMPLACEMENT METHOD & AMOUNT
0 ft.	30 ft.	Concrete	Poured from truck
ft.	ft.		
ft.	ft.		

19. SAND/GRAVEL PACK (if applicable)

FROM	TO	MATERIAL	EMPLACEMENT METHOD
ft.	ft.		
ft.	ft.		

20. DRILLING LOG (attach additional sheets if necessary)

FROM	TO	DESCRIPTION (color, hardness, soil/rock type, grain size, etc.)
0 ft.	7 ft.	Red Clay
7 ft.	85 ft.	Sandrock
85 ft.	90 ft.	Blue Granite
90 ft.	165 ft.	Blue Granite
ft.	ft.	
ft.	ft.	
ft.	ft.	

21. REMARKS

22. Certification:

Signature of Certified Well Contractor — Date: 7-18-24

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

23. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well construction details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

24a. For All Wells: Submit this form within 30 days of completion of well construction to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

24b. For Injection Wells: In addition to sending the form to the address in 24a above, also submit one copy of this form within 30 days of completion of well construction to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

24c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well construction to the county health department of the county where constructed.

GUILFORD COUNTY DEPARTMENT OF PUBLIC HEALTH
Division of Environmental Health, Water Quality Unit
400 W. Market St., Suite 300, Greensboro, NC 27401

Record of Construction, Repair, or Abandonment of a Well

Address of Well: 7812 Whipple Trail Greensboro NC 27455 LATITUDE 36° 12' 49.4"

Well Permit Number: 24-02-WNHR-00539 LONGITUDE 79° 47' 41.3"

Well Contractor Company: Aqua Drill Inc Completion Date: 7-18-24

Total Well Depth: 165 ft. Well Yield: 50 gpm Static Water Level: 40 ft.

Outer Casing Material: PVC SDR21
Casing Diameter: 6 1/4 in. Casing Depth: 90 ft.

Inner Casing Material: _____
Casing Diameter: _____ in. Casing Depth: _____ ft.

Grout

Depth	Material	Method
From: 0 ft. To: 30 ft.	Concrete	Poured from truck
From: ____ ft. To: ____ ft.		
From: ____ ft. To: ____ ft.		

Formation Log

Depth	Description
From: 0 ft. To: 7 ft.	Red Clay
From: 7 ft. To: 85 ft.	Sandrock
From: 85 ft. To: 90 ft.	Blue Granite
From: 90 ft. To: 165 ft.	Blue Granite
From: ____ ft. To: ____ ft.	
From: ____ ft. To: ____ ft.	
From: ____ ft. To: ____ ft.	
From: ____ ft. To: ____ ft.	
From: ____ ft. To: ____ ft.	

Water Production Zones

Depth: 100 ft.	____ ft.	____ ft.	____ ft.	____ ft.	____ ft.	____ ft.
Yield: 50 gpm	____ gpm	____ gpm	____ gpm	____ gpm	____ gpm	____ gpm

Method of Repair: _____

Method of Abandonment: _____

I hereby certify that this well was constructed, repaired, or abandoned according to the Guilford County Well Rules in effect on this date and that a copy of this record has been provided to the well owner.

Well Contractor: Gary J Rump Certification #: 4418-A Date: 7-18-24

Record of Pump Installation

Pump Installation Company: AquaDrill Inc Completion Date: 07/29/24

Pump Depth: 80 ft. Static Water Level: 40 ft.

Pump Brand: Flowise Pump Size and Rating: 3/4 hp 10 gpm

I hereby certify that this pump was installed and wellhead completed according to the Guilford County Well Rules in effect on this date and that a copy of this record has been provided to the well owner.

Well Contractor: Jamie Neusent Certification #: 2677C Date: 07/29/24

Environmental Health Division Water Quality Section
400 W Market St.
Greensboro, NC 27401
(336) 641-7613

Permit to Construct a Well

Address: 7812 WHIPPLE TRL
GREENSBORO, NC 27455

Permit Number: 24-02-WNHR-00539

Comments/Specifications:

Well shall be located and constructed according to North Carolina and Guilford County Well Rules. Well site must meet minimum separation distances.

All property lines and corners shall be clearly flagged prior to construction of the well.

Well site located off front of SFR. Well Area 25'+ off house, 50'+ off proposed A2/A5 septic area (see A2/A5 permit for more information), 12"+ off front property line and 10'+ off left property line.

Above Information Certified By: _____ Date: 4-26-24
Owner or Authorized Agent

Permit Issued: Kenneth C Melder REHS Date Issued: 3/18/24
Environmental Health Specialist

I certify that a grout inspection was completed and is in compliance with Guilford County Well Rules.

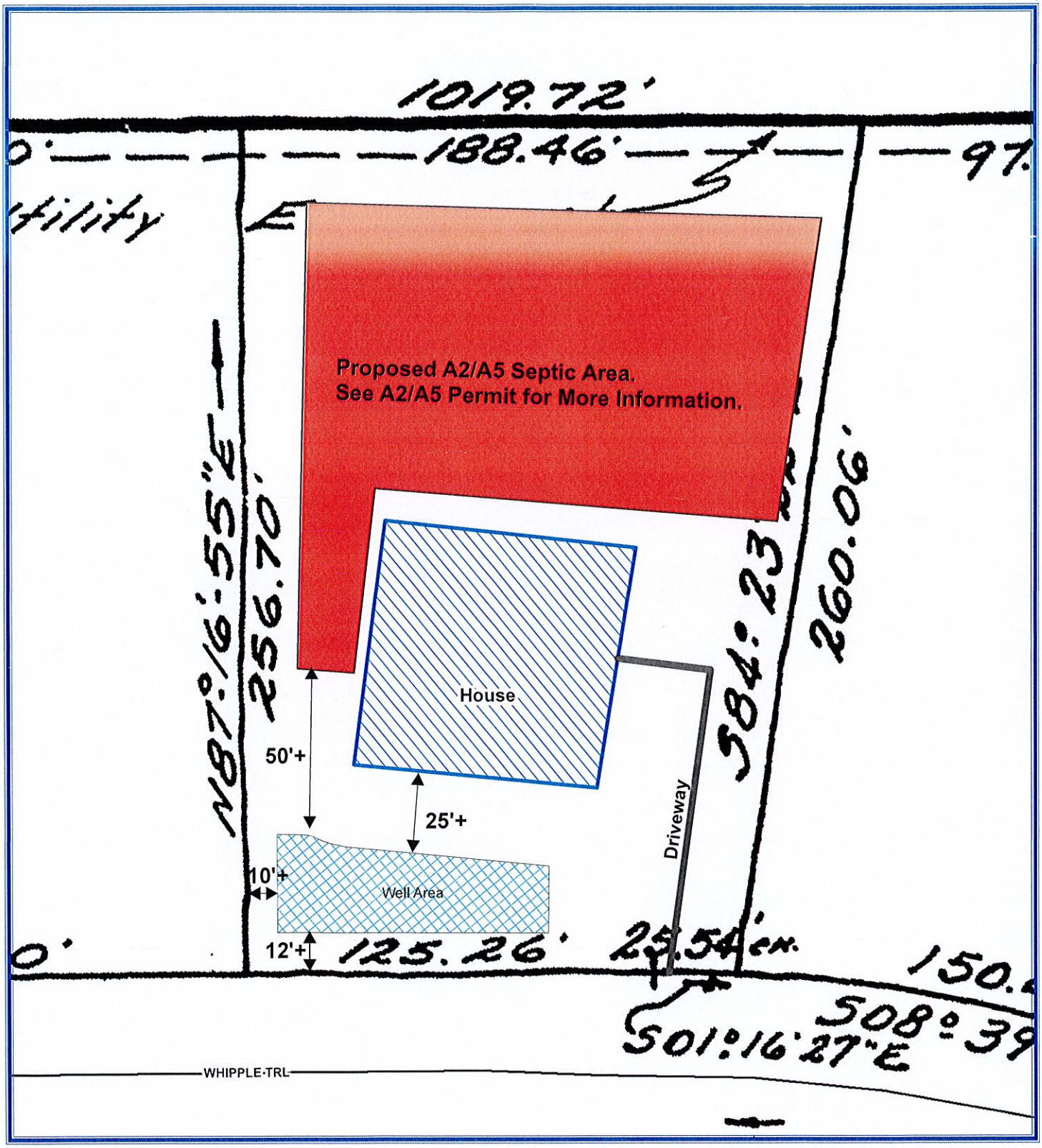
Partial Grout Inspection: _____ Date: _____
Environmental Health Specialist

Final Grout Inspection: _____ Date Issued: _____
Environmental Health Specialist

Permits for the Construction of New Wells shall expire one year from date of issuance.

- **All property lines and corners shall be clearly flagged prior to construction of the well.**
- **All proposed structures shall be clearly flagged prior to construction of the well.**

Diagram



Address: 7812 Whipple Trail
Permit #: 24-02-WNHR-00539
Issuer's Initials: KCM
Date: 3/18/2024

0 20 40 60 Feet

1 inch = 40 feet

DISCLAIMER:
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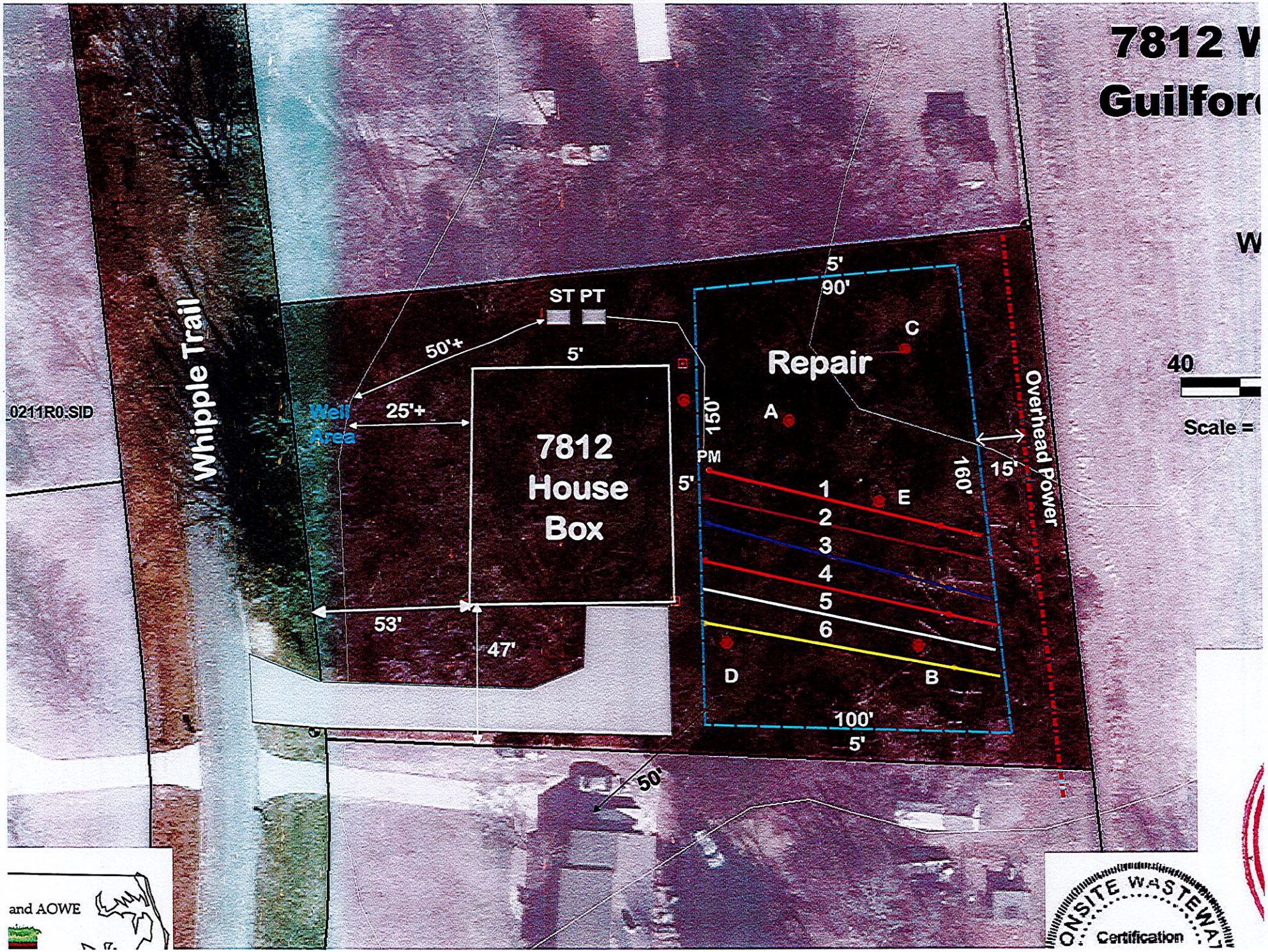
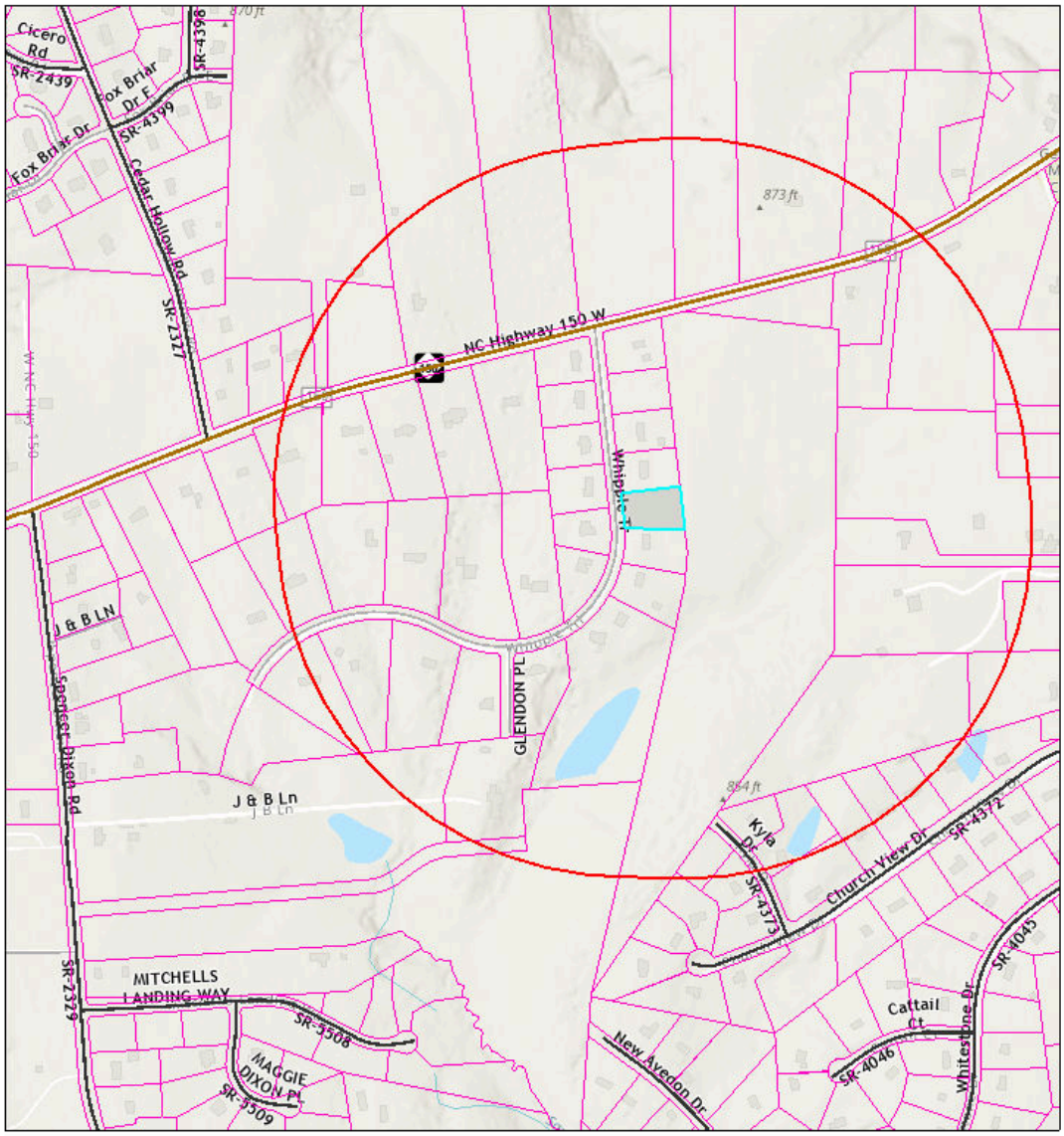

7812 W
Guilfor
W
Whipple Trail
0211R0.SID
ST PT
50'+
5'
Well Area
25'+
7812 House Box
53'
47'
5'
150'
PM
5'
90'
C
Repair
A
160'
15'
Overhead Power
1
2
3
4
5
6
E
D
B
100'
5'
50'
40
Scale =
and AOWE
ONSITE WASTEWA
Certification

7812 WHIPPLE TRL GREENSBORO, NC 27455

Area of Interest (AOI) Information

Area : 8,380,796.21 ft²

Mar 18 2024 11:40:05 Eastern Daylight Time



North Carolina Parcels (Polygons) - Parcels
County Boundary
Non-System Roads
Non-System
Secondary Route
Primary Roads
NC Route

1:9,028
0 0.05 0.1 0.2 mi
0 0.1 0.2 0.4 km

Guilford County Application For Improvement Permit and/or Authorization to Construct

☐ Scaled site plan submitted – (Valid 60 Months)
☐ Unscaled site plan submitted – (Valid 60 months)
☐ Survey plat to scale* submitted – (Valid without expiration)
* scale of 1" = no more than 60'

Layout

Building Permit # _____ Septic Permit # 24-02-SNHR-00972 Well Permit # 24-02-WNHR-00539

PROPERTY INFORMATION

Address 7812 Whipple Trail City Greensboro Parcel REID # 138881
Development Name _____ Section/Phase # _____ Lot # 5 Plat Book # _____ Page # _____
☐ Lot of Record ☐ First Lot Out ☐ Plat Required ☐ >5 acres (5-17-65 to 2-1-74) ☐ >10 acres (2-1-74 to present)
Date Lot Originally Deeded & Recorded _____

ZONING INFORMATION

Zoning: _____ Conditional Zoning (Describe): _____
Watershed: _____ Watershed Critical Area: _____
Building Setbacks (Zoning) Front Street: _____ Side Street: _____ Side Yard: _____ Rear: _____
Comments: _____

PLANNING DEPARTMENT OFFICIAL: _____

APPLICANT INFORMATION

Applicant Name James Campbell Address: 7718 Edgewood Drive Greensboro NC 27406
Phone 1: 336-337-6218 Phone 2: _____ Email: Jamie@lakeridgebuilders.com
Owner Name: James Campbell Address: 7718 Edgewood Drive
Phone 1: Same Phone 2: _____ Email: Same

Lakeridge Builders

DEVELOPMENT INFORMATION

☑ NEW ☐ ACCESSORY ☐ SWMH ☐ MULTIFAMILY/DUPLEX ☐ ADDITION (TYPE) _____
☑ HOUSE ☐ MODULAR ☐ DWMH ☐ RENOVATION ☐ OTHER TYPE _____
Residential Specifications: Max # of Bedrooms: 4 MAX. # of Occupants: _____ Total # of Rooms: _____ Size of Structure (sq ft): 3,600
Basement: ☐ Yes ☑ No Basement Fixtures: ☐ Yes ☐ No
Non-Residential Type: ☐ Commercial ☐ Industrial ☐ Other _____
Wastewater Strength: ☐ Domestic ☐ High Strength ☐ Industrial Process
MAX. # of Employees: _____ # of Fixtures _____ Plumbing: _____ Size of Structure (sq ft): _____
Description of Facility: _____
Other Flow Related Info (# Seats (e.g. Restaurant), # Chairs (e.g. Beauty Shop), # Spaces, Etc.): _____

Water Supply Proposed: ☑ New Well ☐ Existing Well ☐ Community Well ☐ Public Water ☐ Spring
Are there any existing wells, springs, or waterlines on this property? ☐ Yes ☑ No
Sewage Disposal: Please Indicate Desired System Type (see back)
☐ Conventional ☑ Accepted ☐ Modified ☐ Alternative ☐ Other _____ ☐ Any/All

The applicant shall notify the local health department upon submittal of this application if any of the following apply to the property in question. If the answer to any question is "yes", applicant must attach supporting documentation.

☐ YES	☑ NO	Does the site contain any jurisdictional wetlands?
☐ YES	☑ NO	Does the site contain any existing wastewater systems?
☐ YES	☑ NO	Is any wastewater going to be generated on the site other than domestic sewage?
☐ YES	☑ NO	Is the site subject to approval by any other public agency?
☐ YES	☑ NO	Are there any easements or right of ways on this property?

I have read this application and certify that the information provided herein is true, complete and correct and is given in good faith. 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, making the site accessible so that a complete site evaluation can be performed, and compliance with applicable governing regulations.
IF THE INFORMATION IN THE APPLICATION FOR AN IMPROVEMENT PERMIT IS FALSIFIED, CHANGED, OR THE SITE IS ALTERED, THEN THE IMPROVEMENT PERMIT AND AUTHORIZATION TO CONSTRUCT MAY BECOME INVALID.

_____ 2-19-24
Property Owner's or Owner's Legal Representative* Signature (Required) Date
* Must provide documentation to support claim as owner's legal representative.

Church St, t/l NC 150 W, t/l Whipple Trail; lot on left.

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

ROY COOPER • Governor
KODY H. KINSLEY • Secretary
MARK BENTON • Chief Deputy Secretary for Health
SUSAN KANSAGRA • Assistant Secretary for Public Health
Division of Public Health

Application for Services

This application, in conjunction with the common form established in G.S. 130A-335(a3) and (a5), is optional for local health departments to be used for applications submitted in accordance with G.S. 130A-335(a2), (a3), and (a5).
(hereinafter, G.S. 130A-335(a3) and (a5) permits referred to as (a2) Improvement Permit and (a2) Construction Authorization)

Applying for:
[x] (a2) Improvement Permit [x] (a2) Construction Authorization [ ] (a2) Repair/Construction Authorization

If applying for a Construction Authorization, please indicate desired system type(s):
[x] Accepted [ ] Conventional [ ] Innovative [ ] Other _____ [ ] Any

[x] New Construction [ ] Expansion [ ] System Relocation [ ] Change of Use [ ] Repair
[x] 5-Year Expiration Requested (site plan provided) [ ] Non-Expiring Permit Requested (plat provided, defined in G.S.130A-334(7a)
Requesting DHHS review? (systems >3000 GPD or IPWW) [ ] Yes [x] No

Applicant: Lakeridge Builders
Mailing Address: 3718 Edgelawn Drive
City: Greensboro
State: NC Zip: 27406
Phone #: 336-587-6211
Email: Jamie@lakeridgebuilders.com

Owner: Jamie Campbell
Mailing Address: 3718 Edgelawn Drive
City: Greensboro
State: NC Zip: 27406
Phone #: 336-587-6211
Email: Jamie@lakeridgebuilders.com

If the answer to any of the following questions is "yes", applicant must attach supporting documentation.

[ ] Yes	[x] No	Does the site contain any jurisdictional wetlands?
[ ] Yes	[x] No	Is any wastewater going to be generated on the site other than domestic sewage?
[ ] Yes	[x] No	Is the site subject to approval by any other public agency?
[ ] Yes	[x] No	Are there any easements or right of ways on this property?

I understand that the documentation and fees, as required in G.S. 130A-335(a2), (a3), (a5), and (a6), attached to this application are to be used to issue an Improvement Permit and/or Construction Authorization pursuant to G.S. 130A-335(a2),(a3), and (a5). I understand that authorized county and state officials are granted right of entry to the property indicated on this application to conduct necessary inspections to determine compliance with applicable laws and rules. ***I understand that if the information in the application for an Improvements Permit and/or Construction Authorization is falsified, changed, or the site is altered, then the Improvement Permit and Construction Authorization shall become invalid.***

Applicant Signature: _____ Date: 2-19-24

Owner's Signature: _____ Date: 2-19-24

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

ROY COOPER • Governor
KODY H. KINSLEY • Secretary
MARK BENTON • Chief Deputy Secretary for Health
SUSAN KANSAGRA • Assistant Secretary for Public Health
Division of Public Health

Application for Services

This application, in conjunction with the common form established in G.S. 130A-335(a3) and (a5), is optional for local health departments to be used for applications submitted in accordance with G.S. 130A-335(a2), (a3), and (a5).
[hereinafter, G.S. 130A-335(a3) and (a5) permits referred to as (a2) Improvement Permit and (a2) Construction Authorization]

Applying for:
☒ (a2) Improvement Permit ☒ (a2) Construction Authorization ☐ (a2) Repair/Construction Authorization

If applying for a Construction Authorization, please indicate desired system type(s):
☒ Accepted ☐ Conventional ☐ Innovative ☐ Other _____ ☐ Any

☒ New Construction ☐ Expansion ☐ System Relocation ☐ Change of Use ☐ Repair
☒ 5-Year Expiration Requested (site plan provided) ☐ Non-Expiring Permit Requested (plat provided, defined in G.S.130A-334(7a)
Requesting DHHS review? (systems >3000 GPD or IPWW) ☐ Yes ☒ No

Applicant: _____
Mailing Address: _____
_____
City: _____
State: _____ Zip: _____
Phone #: _____
Email: _____

Owner: _____
Mailing Address: _____
_____
City: _____
State: _____ Zip: _____
Phone #: _____
Email: _____

If the answer to any of the following questions is "yes", applicant must attach supporting documentation.

☐ Yes	☒ No	Does the site contain any jurisdictional wetlands?
☐ Yes	☒ No	Is any wastewater going to be generated on the site other than domestic sewage?
☐ Yes	☒ No	Is the site subject to approval by any other public agency?
☐ Yes	☒ No	Are there any easements or right of ways on this property?

I understand that the documentation and fees, as required in G.S. 130A-335(a2), (a3), (a5), and (a6), attached to this application are to be used to issue an Improvement Permit and/or Construction Authorization pursuant to G.S. 130A-335(a2),(a3), and (a5). I understand that authorized county and state officials are granted right of entry to the property indicated on this application to conduct necessary inspections to determine compliance with applicable laws and rules. ***I understand that if the information in the application for an Improvements Permit and/or Construction Authorization is falsified, changed, or the site is altered, then the Improvement Permit and Construction Authorization shall become invalid.***

Applicant Signature: _____ Date: _____

Owner's Signature: _____ Date: _____

Permit/File #: _____

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

ROY COOPER • Governor
KODY H. KINSLEY • Secretary
MARK BENTON • Chief Deputy Secretary for Health
SUSAN KANSAGRA • Assistant Secretary for Public Health
Division of Public Health

Submittal Includes: [X] **(a2) Improvement Permit** [X] **(a2) Construction Authorization** [ ] **Fee $**_____

IMPROVEMENT PERMIT FOR G.S. 130A-335(a2)

County: Guilford

PIN/Lot Identifier: PIN: 7869576537

Issued To: Lakenridge Builders Jamie Campbell

Property Location: 7812 Whipple Trail

Subdivision (if applicable) Willow Hills Lot #: 5 Block: _____ Section: _____

LSS Report Provided: Yes [X] No [ ]

If yes, name and license number of LSS: Alan Clapp #1058

New [X] Expansion [ ] System Relocation [ ] Change of Use [ ]

Facility Type: Single family residential dwelling

Number of bedrooms: 4 Number of Occupants: 8 Other: _____

Design Wastewater Strength: [X] Domestic [ ] High Strength [ ] Industrial Process Wastewater

Proposed Design Daily Flow: 480 GPD Proposed LTAR (Initial): .275 Proposed LTAR (Repair): .275

Proposed Wastewater System Type*: IIIb (Initial) Pump Required: [X] Yes [ ] No [ ] May be required

Proposed Wastewater System Type*: exempt (Repair) Pump Required: [X] Yes [ ] No [ ] May be required

**Please include system classification for proposed wastewater system types in accordance with Rule .1301 Table XXXII*

Effluent Standard: [X] DSE [ ] HSE [ ] NSF/ANSI 40 [ ] TS-I [ ] TS-II [ ] RCW

Saprolite System (Initial): [ ] Yes [X] No Saprolite System (Repair): [ ] Yes [X] No

Fill System (Initial): [ ] Yes [X] No If yes, specify: [ ] New [ ] Existing (when adding more than 6 inches of fill to system area provide a fill plan)

Fill System (Repair): [ ] Yes [X] No If yes, specify: [ ] New [ ] Existing (when adding more than 6 inches of fill to system area provide a fill plan)

Usable Depth to LC (Initial)[x]: 32" Usable Depth to LC (Repair)[x]: 32" ***[x] Limiting Condition***

Max. Trench Depth (Initial)[‡]: 20" Max. Trench Depth (Repair)[‡]: 20: ***[‡] Measured on the downhill side of the trench***

Artificial Drainage Required: [ ] Yes [X] No If yes, please specify details: _____

Type of Water Supply: [X] Private well [ ] Public well [ ] Shared well [ ] Municipal Supply [ ] Spring [ ] Other: _____

Drainfield location meets requirements of Rule .0508: Yes [X] No [ ] Drainfield location meets requirements of Rule .0601: Yes [X] No [ ]

Permit valid for: [X] Five years [site plan submitted pursuant to GS 130A-334(13a)] [ ] No expiration [plat submitted pursuant to GS 130A-334(7a)]

Permit conditions:

_____

_____

_____

_____

_____

Licensed Soil Scientist Print Name: Alan Clapp

Licensed Soil Scientist Signature: Alan Clapp Date: 2/18/24

The LSS evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2).

See attached site sketch

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES
Division of Public Health

Permit/File #: 24-02-SNHR-00972

This Section for Local Health Department Use Only

Initial submittal received: JV (*Date*) by 03/05/2024 (*Initials*)

G.S. 130A-335(a3) states the following:

When an applicant for an Improvement Permit submits to a local health department an Improvement Permit application, the permit fee charged by the local health department, the common form developed by the Department, and a soil evaluation pursuant to subsection (a2) of this section, the local health department shall, within five business days of receiving the application, conduct a completeness review of the submittal. A determination of completeness means that the Improvement Permit includes all of the required components. If the local health department determines that the Improvement Permit is incomplete, the local health department shall notify the applicant of the components needed to complete the Improvement Permit. The applicant may submit additional information to the local health department to cure the deficiencies in the Improvement Permit. The local health department shall make a final determination as to whether the Improvement Permit is complete within five business days after the local health department receives the additional information from the applicant. If the local health department fails to act within any period set out in this subsection, the applicant may treat the failure to act as a determination of completeness. The Department shall develop a common form for use as the Improvement Permit.

The review for completeness of this Improvement Permit was conducted in accordance with G.S. 130A-335(a3). This Improvement Permit is determined to be:

☐ Incomplete (If box is checked, information in this section is required.)

The following items are missing:

_____

_____

Copies of this were sent to the LSS and the Applicant on _____ (*Date*)

State Authorized Agent: _____ Date: _____

☑ Complete

State Authorized Agent: _____ Date: 03/05/2024

This Improvement Permit is issued pursuant to G.S. 130A-335 (a2) and (a3) using the signed and sealed LSS/LG evaluation(s) attached here. The issuance of this permit in no way guarantees the issuance of other permits. The permit holder is responsible for checking with appropriate governing bodies in meeting their requirements. *This permit is subject to revocation if the site plan, plat, or the intended use changes.* The Improvement Permit shall not be affected by a change in ownership of the site. This permit is subject to compliance with the provisions of 15A NCAC 18E and to the conditions of this permit.

The Department, the Department's authorized agents, and the local health departments shall be discharged and released from any liabilities, duties, and responsibilities imposed by statute or in common law from any claim arising out of or attributed to evaluations, submittals, or actions from a licensed soil scientist or licensed geologist pursuant to GS 130A-335(a2).

Improvement Permit Expiration Date: 2/18/29

See attached site sketch

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES
Division of Public Health

Permit/File #: _____

Re-submittal of Improvement Permit

LHD USE ONLY: This IP resubmittal received: _____ by _____
Date *Initials*

The following items are being resubmitted pursuant to G.S. 130A-335(a3) for issuance of the Improvement Permit:

_____

_____

_____

_____

I, _____hereby attest that the information required to be included with this re-submittal
Licensed Soil Scientist (Print Name)
is accurate and complete to the best of my knowledge and that the proposed Improvement Permit meets all applicable federal, State, and local laws, regulations, rules, and ordinances.

_____ _____
Signature of Licensed Soil Scientist *Date*

The section below is for Local Health Department use after submittal of items noted as missing above.

LHD Follow-up Completeness Review of Improvement Permit

The review for completeness of this Improvement Permit re-submittal was conducted in accordance with G.S. 130A-335(a3). This Improvement Permit is determined to be:

☐ Incomplete (If box is checked, information in this section is required.)

The following items are missing:

_____

_____

Copies of this were sent to the LSS and the Applicant on _____
Date

State Authorized Agent: _____ Date: _____

☐ Complete

State Authorized Agent: _____ Date: _____

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES
Division of Public Health

Permit/File #: _____

CONSTRUCTION AUTHORIZATION FOR G.S. 130A-335(a2)

County: Guilford **Pre-Construction Conference Required:** Yes ☐ No ☒

PIN/Lot Identifier: PIN: 7869576537

Issued To: Lakenridge Builders Jamie Campbell

Property Location: 7812 Whipple Trail

AOWE/PE Plans/Evaluations Provided: Yes ☒ No ☐ If yes, name and license number of AOWE/PE: Alan Clapp # 10017E

Facility Type: Single family residential dwelling

Number of bedrooms: 4 Number of Occupants: 8 Other: _____

☒ New ☐ Expansion ☐ Repair ☐ System Relocation ☐ Change of Use

Basement? ☐ Yes ☒ No Basement Fixtures? ☐ Yes ☒ No

Crawl Space? ☒ Yes ☐ No Slab Foundation? ☐ Yes ☒ No

Type of Wastewater System* IIIb (Initial) exempt (Repair)

**Please include system classification for proposed wastewater system types in accordance with Rule .1301 Table XXXII*

Design Daily Flow: 480 GPD Wastewater Strength: ☒ Domestic ☐ High Strength ☐ Industrial Process WW

Session Law 2014-120 Section 53, Engineering Design Utilizing Low-flow Fixtures and Low-flow Technologies? ☐ Yes ☒ No
(if yes, please provide engineering documentation)

Effluent Standard: ☒ DSE ☐ HSE ☐ NSF/ANSI 40 ☐ TS-I ☐ TS-II ☐ RCW

Type of Water Supply: ☒ Private well ☐ Public well ☐ Shared well ☐ Municipal Supply ☐ Spring ☐ Other: _____

Installation Requirements/Conditions

Septic Tank Size: 1000 gallons Total Trench/Bed Length: 580 feet Trench/Bed Spacing: 9 feet on center

Trench/Bed Width: 36 inches LTAR: .275 gpd/ft² Usable Depth to LC (Initial)ˣ: 32" ˣ***Limiting condition***

Soil Cover: 6 inches Slope Corrected Maximum Trench/Bed Depth‡: 20 inches ‡ ***Measured on the downhill side of the trench***

Pump Tank Size (if applicable): 1000 gallons Requires more than 1 pump? ☐ Yes ☒ No

Pump Requirements: * ft. TDH vs. 35 GPM Grease Trap Size (if applicable): _____ gallons

Distribution Method: ☐ Serial ☐ D-Box or Parallel ☒ Pressure Manifold(s) ☐ LPP ☐ Other: _____

Artificial Drainage Required: Yes ☐ No ☒ If yes, please specify details: _____

Legal Agreements *(If the answer is "Yes" to any type of legal agreements, please attach a copy of the agreement.)*

Multi-party Agreement Required [.0204(g)]: ☐ Yes ☒ No Declaration of Restrictive Covenants: ☐ Yes ☒ No

Easement, Right-of-Way, or Encroachment Agreement Required [.0301(b)]: ☐ Yes ☒ No

Management Entity Required: ☐ Yes ☒ No Minimum O&M Requirements: 5 year LHD per .1301

Permit conditions:
*TDH to be determined by final plumbing stub and tank locations.

The requirements of 15A NCAC 18E are incorporated by reference into this permit and shall be met. Systems shall be installed in accordance with the attached site sketch. *This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes.* The Construction Authorization shall not be affected by a change in ownership of the site. This Construction Authorization is subject to compliance with the provisions of 15A NCAC 18E, or 15A NCAC 18A .1900, as applicable, and to the conditions of this permit.

AOWE/PE Print Name: Alan Clapp

AOWE/PE Signature: Alan Clapp Date: 2/18/24

This AOWE/PE submittal is pursuant to and meets the requirements of G.S. 130A-335(a2) and (a5).

See attached site sketch

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES
Division of Public Health

Permit/File #: 24-02-SNHR-00972

This Section for Local Health Department Use Only

Initial submittal received: JV (*Date*) by 03/05/2024 (*Initials*)

G.S. 130A-335(a5) states the following:

When an applicant for a Construction Authorization, or an Improvement Permit and Construction Authorization together, submits a Construction Authorization, or an Improvement Permit and Construction Authorization application together, the permit fee charged by the local health department, the common form developed by the Department, and any necessary signed and sealed plans or evaluations conducted by a person licensed pursuant to Chapter 89C of the General Statutes as a licensed engineer or a person certified pursuant to Article 5 of Chapter 90A of the General Statutes as an Authorized On-Site Wastewater Evaluator, the local health department shall, within five business days of receiving the application, conduct a completeness review of the submittal. A determination of completeness means that the Construction Authorization or Improvement Permit and Construction Authorization includes all of the required components. If the local health department determines that the Construction Authorization or Improvement Permit and Construction Authorization is incomplete, the local health department shall notify the applicant of the components needed to complete the Construction Authorization or Improvement Permit and Construction Authorization. The applicant may submit additional information to the local health department to cure the deficiencies in the Construction Authorization or Improvement Permit and Construction Authorization. The local health department shall make a final determination as to whether the Construction Authorization or Improvement Permit and Construction Authorization is complete within five business days after the local health department receives the additional information from the applicant. If the local health department fails to act within any period set out in this subsection, the applicant may treat the failure to act as a determination of completeness. The applicant may apply for the building permit for the project upon the decision of completeness of the Construction Authorization or Improvement Permit and Construction Authorization by the local health department or if the local health department fails to act within five business days. The Authorized On-Site Wastewater Evaluator or licensed engineer submitting the evaluation pursuant to this subsection may request that the local health department revoke or suspend the Construction Authorization or Improvement Permit and Construction Authorization for cause. Upon written request of the Authorized On-Site Wastewater Evaluator or licensed engineer, the local health department shall suspend or revoke the Construction Authorization or Improvement Permit and Construction Authorization pursuant to G.S. 130A-23. The Department shall develop a common form for use as the Construction Authorization.

The review for completeness of this Construction Authorization was conducted in accordance with G.S. 130A-335(a5). This Construction Authorization is determined to be:

☐ Incomplete (If box is checked, information in this section is required.)

The following items are missing: _____

_____

Copies of this were sent to the AOWE/PE and the Applicant on _____ (*Date*)

State Authorized Agent: _____ Date: _____

☒ Complete

State Authorized Agent: _____ Date of Issuance: 03/05/2024

This Construction Authorization is issued pursuant to G.S. 130A-335(a2) and (a5) using the signed and sealed plans or evaluations attached here. This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes. The Construction Authorization shall not be affected by a change in ownership of the site. This Construction Authorization is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit.

The Department, the Department's authorized agents, and the local health departments shall be discharged and released from any liabilities, duties, and responsibilities imposed by statute or in common law from any claim arising out of or attributed to plans, evaluations, preconstruction conference findings, submittals, or actions from a person licensed pursuant to Chapter 89C of the General Statutes as a licensed engineer or a person certified pursuant to Article 5 of Chapter 90A of the General Statutes as an Authorized On-Site Wastewater Evaluator in GS 130A-335(a2), (a5), and (a7). The Department, the Department's authorized agents, and the local health departments shall be responsible and bear liability for their actions and evaluations and other obligations under State law or rule, including the issuance of the operations permit pursuant to GS 130A-337.

Construction Authorization Expiration Date: 2/18/29

See attached site sketch

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES
Division of Public Health

Permit/File #: _____

Re-submittal of Construction Authorization

LHD USE ONLY: This CA resubmittal received: _____ by _____
Date *Initials*

The following items are being resubmitted pursuant to G.S. 130A-335(a5) for issuance of the Construction Authorization:

_____

_____

_____

_____

I, _____hereby attest that the information required to be included with this re-submittal
Authorized Onsite Wastewater Evaluator (Print Name)
is accurate and complete to the best of my knowledge and that the proposed Construction Authorization meets all applicable federal, State, and local laws, regulations, rules, and ordinances.

_____ _____
Signature of Authorized On-Site Wastewater Evaluator *Date*

The section below is for Local Health Department use after submittal of items noted as missing above.

LHD Follow-up Completeness Review of Construction Authorization

The review for completeness of this Construction Authorization re-submittal was conducted in accordance with G.S. 130A-335(a5). This Construction Authorization is determined to be:

☐ Incomplete (If box is checked, information in this section is required.)

The following items are missing:

_____

_____

Copies of this were sent to the AOWE/PE and the Applicant on _____
Date

State Authorized Agent: _____ Date: _____

☐ Complete

State Authorized Agent: _____ Date: _____

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES
Division of Public Health

Permit/File #: _____

ADDENDUM TO G.S. 130A-335(a2) SUBMITTAL

County: Guilford

PIN/Lot Identifier: PIN: 7869576537

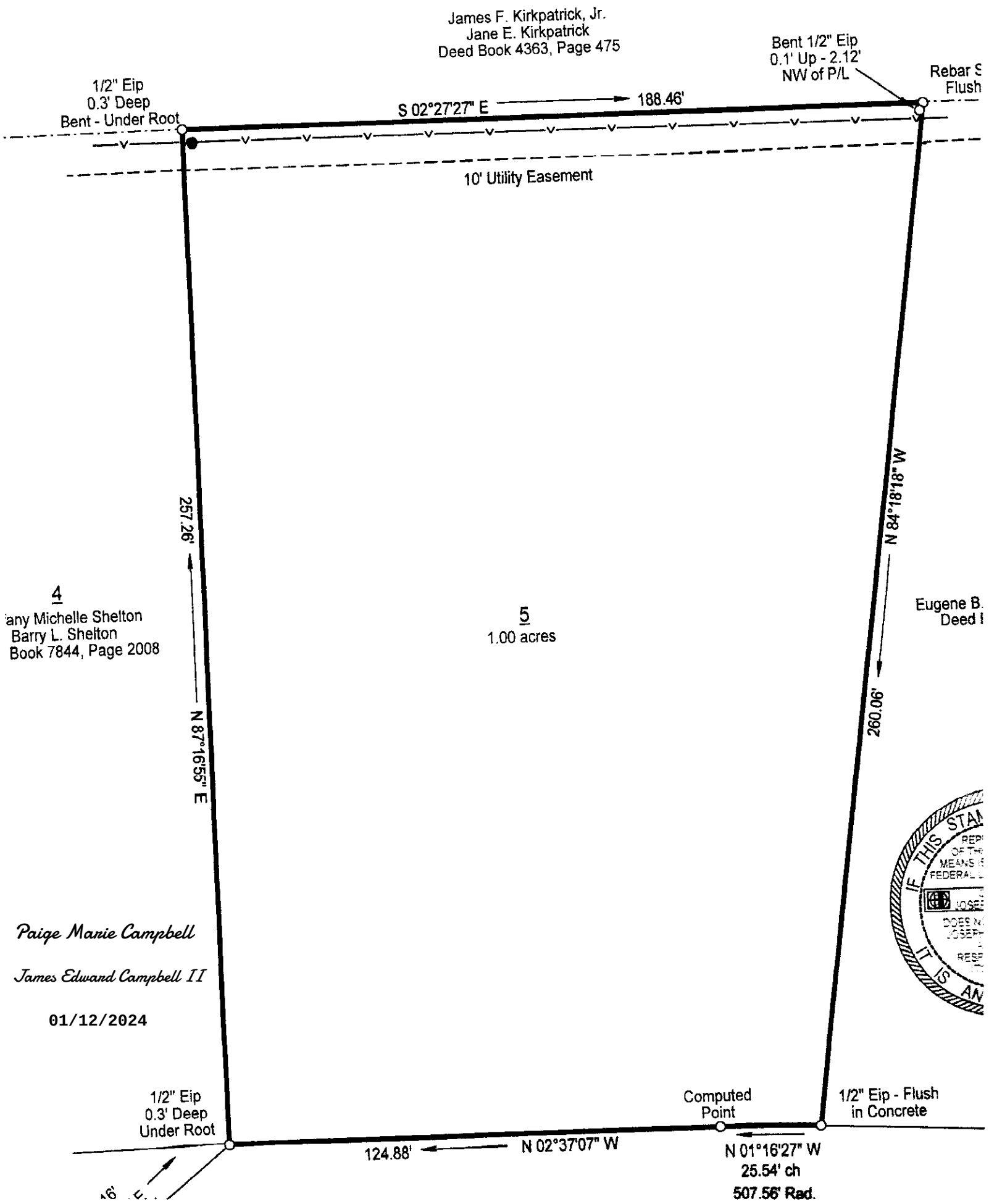
Issued To: Lakenridge Builders Jamie Campbell

Additional Improvement Permit Conditions:

1. Property is a lot of record. Willow Hills PB: 52 PG: 18 Lot 5. Recorded 12/6/1973.
2. Repair Area exemption per 15A 18E .0508 (c) applies.
3. Reduced Setbacks per 15A 18E .00602 applies.

Additional Construction Authorization Conditions:

4. Install system per 15A 18E .0901 (g) and .0800.
5. Pump system to meet 15A 18E .1100 and .1400.
6. ~~Use septic and pump tanks as required per 15A 18E .0805.~~
7. If a 25% chamber system is used, use #5 clean, washed gravel placed over the chamber louvers.
8. If a chamber system is used, place either: 1. Approved high flow splash plate, or 2. #5 clean, washed gravel inside the first chamber in each lateral to prevent scouring of trenches.
9. Make sure property lines are marked prior to installation.
10. Construct protective fencing around the soil area to protect from grading, compaction, and construction traffic. Storage of materials, cuts and fill over septic area could result in revocation of the permit.
11. ~~Contact NC 811 prior to any digging.~~
12. Divert all surface water around system and repair area including gutter and foundation drains. Install upslope surface diversion swales.
13. ~~Install system during dry conditions. Install system in area noted at the trench depth specified. Final plu~~mbing stub out elevation will determine final TDH.
14. Straw and seed septic area after installation to establish a stable cover and prevent soil erosion.
15. ~~Submit the attached common form, report, and map with signature and an application(if required) to the~~ Health Department.



Alan Clapp
Licensed Soil Scientist
405 N. Churton Street
Hillsborough, NC 27278
Phone: 336-202-6808 **alanclapp63@gmail.com**
Soil/Site Evaluations-Septic Systems Layout and Design-Storm Water Assessment-Preliminary Evaluations

February 18, 2024

Jamie Campbell
Lakenridge Builders
jamie@lakenridgebuilders.com

RE: James and Paige Campbell Property
PIN: 7869576537
7812 Whipple Trail – 1 Acre
Guilford County, NC

Mr. Campbell:

On January 16 and February 17, 2024, the property referenced above in Guilford County was evaluated to facilitate Improvement Permit/Construction Authorization permitting for a septic system to serve a Single-Family Residential Dwelling. This report and attached documents were prepared to meet the requirements for a Licensed Soil Scientist evaluation and AOWE design to meet **SL 2023-90.** Well water is to serve as water supply for the dwelling. Well setbacks must meet **15A NCAC 02C .0107** requirements and any Guilford County local well regulations.

Soil bores were made and examined to determine soil suitability for on-site sewage disposal systems in accordance with **15A 18E Wastewater Treatment and Disposal Systems**. These borings were made by a soil auger. The property was traversed, and numerous bores were made in a transect-type sampling pattern to perform the soil/site evaluation. A septic layout is shown to demonstrate available space (.0508). The soil profile descriptions and locations along with the septic layout drawing will be located on a copy of the site plan. Under state regulations, sites for subsurface sewage disposal systems (septic tank systems) are evaluated for landscape position and topography, soil characteristics (structure, mineralogy, and texture), soil depth, soil wetness, restrictive horizons, and available space. This property is in the Piedmont region of NC and the geologic area of the Late Paleozoic intrusive terrane.

Any lot in North Carolina recorded after January 1, 1983, requires enough area for an initial and repair field. Lots recorded prior to January 1, 1983 are repair area exempt for dwellings with four bedrooms or less and subject to some reduced setbacks if recorded prior to July 1, 1977. The lot was recorded December 6, 1973, at PB: 52 PG: 18, Lot 5 of Willow Hills Subdivision in Guilford County registry, so both the exemptions apply.

Typical Septic System used in Piedmont of NC:

The most common septic systems used in North Carolina are listed with the corresponding minimum usable soil depth required and any trench length reduction if allowed noted in parentheses: conventional (30"), shallow conventional systems (24" with soil cap), chamber systems (24" with soil cap and 25% drain field reduction), polystyrene systems (24" with soil cap and 25% drain field reduction), vertical panel block systems (requires at least 34" of usable soil and allows 50% drain field reduction), horizontal panel block systems (requires 26" of usable soil depth and allows 50% drain field reduction), large diameter pipe (24"), low pressure pipe (24"), low profile chamber (20"), low pressure fill (18") and drip irrigation (18"). A pump can be used to deliver effluent to the usable soil area if gravity flow cannot be achieved. Also, a pump is required on any system with over 750' of drain field. The percent reduction means the amount of drain field trench length reduction for that product as compared to conventional trenches. Certain models of chamber systems and polystyrene bundle systems are considered accepted trench products. Accepted trench products may be substituted in lieu of conventional gravel trenches.

SL 2023-90 Conditions, System Specifications and Site Features:

The information below is provided to facilitate the IP/CA issuance. One additional feature I would recommend is to **construct protective fencing around the soil area and septic layout**. No grading, filling, storage, compaction, or disturbance should be allowed over the soil/septic area. No soil removal from septic area during clearing.

Design Flow:	480 GPD	**Nitrification Field:**	360 Lin. Ft.
Septic Tank:	1000 GAL	**# of Lines:**	6
Pump Tank:	1000 GAL	**Min. Trench Depth:**	18 inches
Soil LTAR:	0.275 gpd/ft²	**Max. Trench Depth:**	20 inches
System Type:	Pump to **Conv. Trench**	**Min. Soil Cover:**	6 inches
Classification:	IIIb	**Max. Soil Cover:**	8 inches
Saprolite System:	No	**Trench Spacing:**	9 Ft. on Center
Pump Requirements:	35 gpm @ TDH to be determined	**Trench Width:**	36 inches
Dosing Volume:	166 Gallons	**Aggregate Depth:**	12"
Pre-treatment (Y/N):	No	**Distribution Type:**	Pressure Manifold
Installer Level Required:	II	**Conditions:**	See attached

Location: 7812 Whipple Trail

Project #: 124011

Design and Calculations:

Bedrooms: 4 not to exceed 8 people

Design Flow: 4-bedroom x 120 gpd/bedroom = 480 gpd, domestic strength wastewater

Tankage: (15A NCAC .0801 (a)):

For a 4-bedroom dwelling, the minimum septic tank size is 1000-gallon septic tank (STB) capacity with effluent filter. Use a 1000-gallon septic tank. For a system that also requires a pump use a 1000-gallon pump tank (PT). (.0802 (a)).

Soil/Site Conditions:

Initial and Repair LTAR: .275 gpd/ft²
Trench Bottom Square Footage Required: 480 gpd/.275 gpd/ft² = 1745 ft²
Drainfield Requirement: 1745 ft²/ 3 ft trench = 580 ft.
System Requirement:

Conventional:	580’
25% Accepted Trench	440’
50% PPBPS Trench	290’

Usable Soil/Saprolite Depth – Initial and Repair: 32” (Based on bores A, B, C, D, E in the usable soil area and slope corrected)
Maximum Trench Depth Initial and Repair: 20”

Initial System Type: Pump to Conventional trench (IIIb)
Initial Trench Required: **580’ x 3’** of Conventional trench.

Repair System Type: Exempt Lot, save any remaining soil area for future repairs.

Septic Layout:

Line	Color	Length
1	Orange	94’
2	Purple	96’
3	Blue	100’
4	Red	100’
5	White	101’
6	Yellow	104’
Total:		**595’**

1. Initial system - 580’ needed 25% Accepted Trench Lines 1-6
2. Repair system – Save any remaining soil area for future repairs.

3. Line lengths measured with Bluebeam Revu Measuring tool.
4. Meets .0508 Available Space requirements.
5. Lines shown at 9' on center at minimum.

System Distribution: Pressure Manifold (18E .1106 (a))

Pressure Manifold Tap Requirements:

Line	Layout Length	Length Used	Tap Dia.	Tap Sch.	Tap Flow[1] (gpm)	Flow/Foot
1	94'	90'	½"	80	5.5	.061
2	96'	90'	½"	80	5.5	.061
3	100'	100'	½"	80	5.5	.055
4	100'	100'	½"	80	5.5	.055
5	101'	100'	½"	80	5.5	.055
6	104'	100'	½"	80	5.5	.055
Total:	**595'**	**580'**			**33 gpm**	

1. Tap Flows @ 2' Pressure Head
2. 6-tap manifold
3. The pump shall be sized to deliver 35 gpm @ TDH determined by pump elevation and location and allows for vent hole (2 gpm) flow loss in pump tank.

Manifold, Dosing Volume, Drawdown:

Manifold Size 3 or 4 " **Force Main Size** 2 " PVC

Dosing Volume = **580'** X .46 = **267** Gallons (based on ⅔ to ¾ trench pipe volume)
Length of Drainfield

Drawdown tether = **267** Gallons / Gallons per Inch of Pump Tank used = ***"**

Total Dynamic Head = * + *' + 2' = '*
TDH
Elevation Head + Friction Loss + Pressure Head

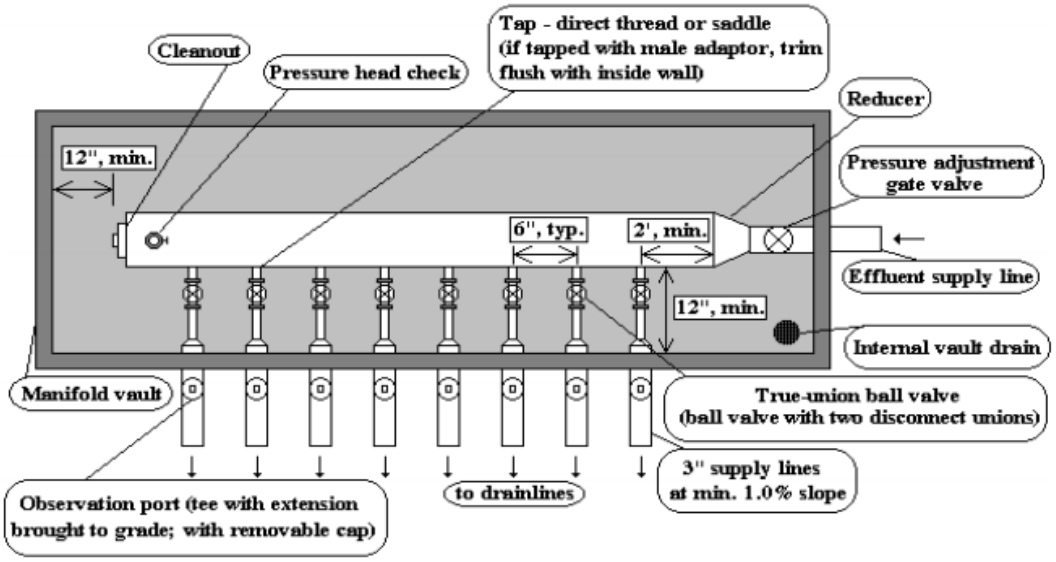
Pump Requirement **35** GPM @ * Head

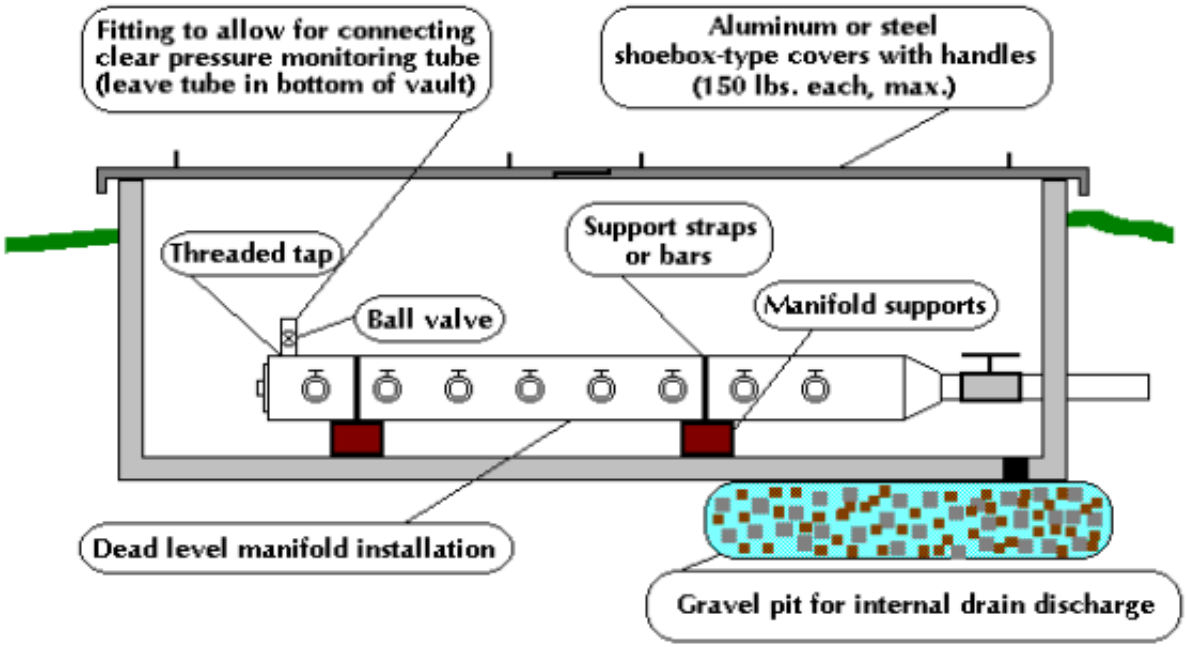
***To be determined at time of installation based on plumbing stub out elevation**

Pump Supply Lines and Force Mains:

Meet .0601 setbacks and .1100 design specifications.

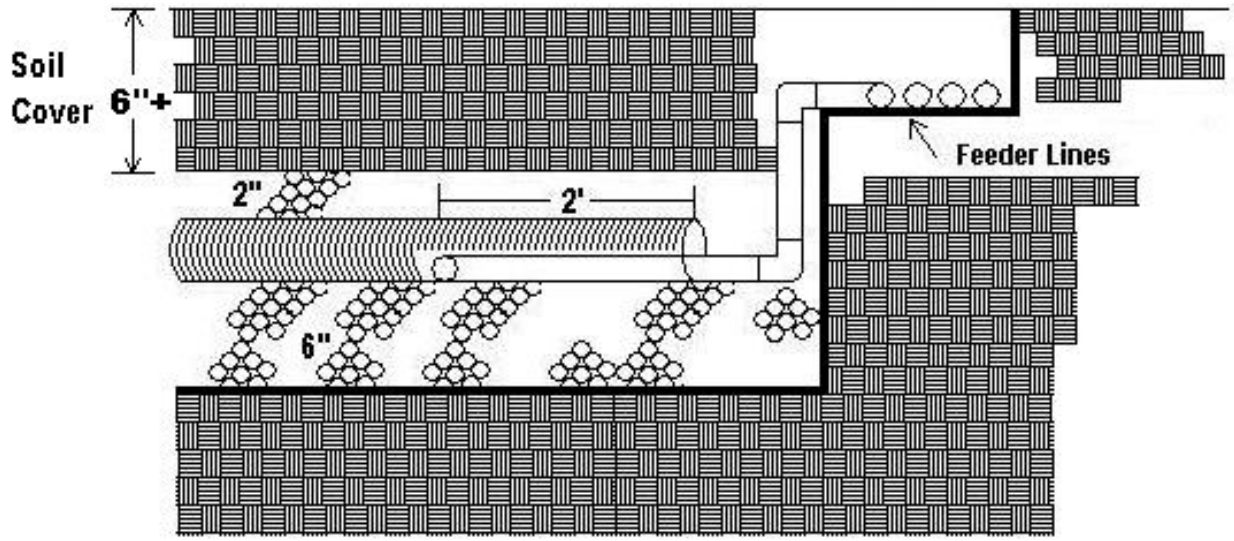
Profile View of Pressure Manifold for Sloping Site Installation (not to scale)



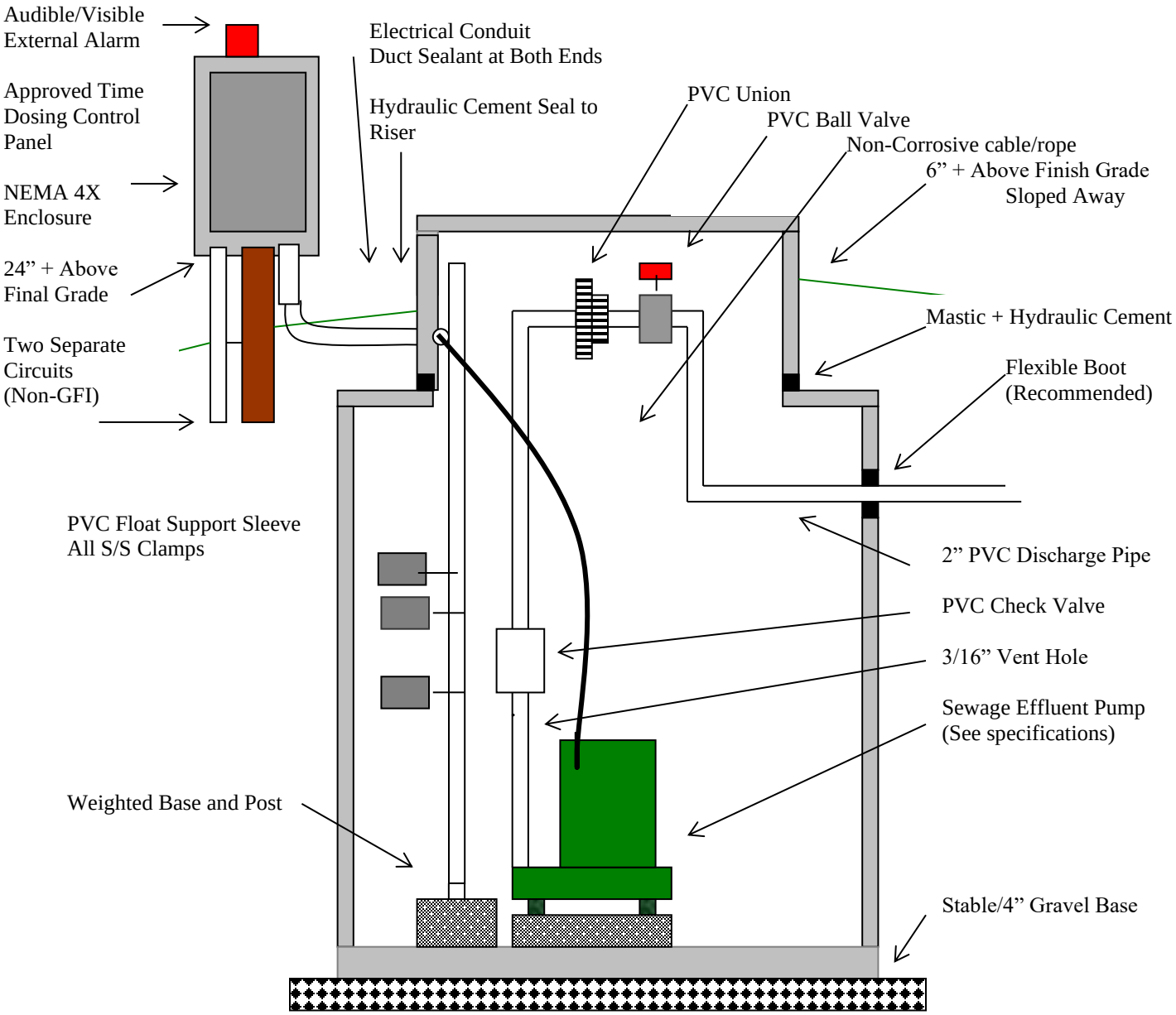


Project #: 124011

Typical Trench Cross Section When Pumping to a Manifold



Feeder lines should be elbowed down to gravel trench, accepted trench, or other trench product. Feeder line ditch should be higher than trench bottom to prevent backflow into feeder line trench (as shown).



TYPICAL PUMP TANK DETAIL SPECIFICATIONS

Not to Scale

- The Alarm shall be located adjacent to the pump tank and approved for outdoor locations (NEMA 4X or equal)
- The circuit serving the alarm shall be on a separate circuit from the pump.
- The control panel enclosure shall be mounted at least 3-5' above grade on a durable, sturdy, non-corrosive post such as a pressure treated 4X4.
- The floats shall be supported using non-corrosive materials separate from the discharge pipe. The float wire pivot points shall be secured with durable straps such as all stainless-steel clamps or equivalent. The floats should be strapped to a 2" removable PVC pipe sleeve located over a smaller diameter weighted standpipe. The floats shall be adjustable and replaceable without entering the tank or removing the pump. The pump off level shall be set to keep the pump submerged.
- Pipe penetrations shall be through approved flexible boots or sleeves. The riser and conduit shall be sealed to the tank with pliable mastic followed by a troweled coat of hydraulic cement.
- All piping shall be Schedule 40 minimum PVC. All fittings shall be PVC pressure fittings labeled NSF-PW. Valves and unions shall be located within 18" of the riser cover and should be Schedule 80 or equal.

The Control panel is to be mounted adjacent to the pump tank. Recommend at a height to allow the Operator to work controls while standing. (e.g., center of panel to be 3 to 5 feet above finished grade) The alarm circuit shall be supplied ahead of the pump circuit overload device (on a separate circuit). The alarm shall be provided with a test button which activates both the light and horn. In the event of a high-water condition, activation of a "silence" switch will bypass the horn and leave the visual alarm on. Any recurrence of the high-water condition will automatically reactivate the horn and light. *Alarm panels that are mounted indoors may be used in addition to, but not instead of the exterior alarm panel.*

PUMP CONTROLS (FLOATS) Electrical control floats or similar devices designed for detecting effluent levels shall be provided to activate and deactivate the pump. The pump-off elevation shall be set to keep the pump always submerged. A separate float to activate the high-water alarm shall be set to activate within 6 inches of the pump-on elevation. Underwriter's Laboratory or an equivalent third party electrical shall list the level sensing devices testing and listing agency.

The floats shall be supported utilizing durable, corrosion resistant material, and shall be adjustable, removable, and replaceable without requiring dewatering, entrance into the tank, or pump removal. An acceptable method would be to provide a PVC vertical weighted pipe with the float cables secured at the proper elevation using **"all stainless steel" clamps at the float pivot points**. *Care must be taken to ensure that the sharp edge of the clamp does not bear on the wire insulation. Plastic tie-wraps alone, or strapping floats to the discharge pipe are not acceptable.*

CONDUCTORS (WIRES) shall be conveyed to the disconnect enclosure through waterproof, gasproof, and corrosion-resistant conduits. Wire grips, duct seal, or other suitable material shall be used to seal around wire and wire conduit openings. There shall be no splices within the pump tank or tank access riser.

When necessary or specified, the tanks and control panels shall be protected from vehicular traffic by constructing guardrails or bollards.

Conclusions:

In North Carolina, two primary options for septic system permitting exist. In the traditional option, the local county health department can evaluate and permit any site. A new version for the traditional permit is now allowed by NC Session Law 2023-90. In this version, a NC Licensed Soil Scientist can evaluate a lot and submit soil information on each lot to the Health Department in lieu of the Health Department evaluation. In the traditional permitting model, the county in the form of an Improvement Permit grants site approval. An Authorization to Construct a Wastewater System is issued once building floor plans are reviewed and the Improvement Permit is issued. The county issues an Operation Permit after the system has been installed to meet the specifications of the Authorization to Construct. Septic layouts and system design can be performed as needed. The private permitting option is the Engineer Option Permit (EOP). A NC Licensed Engineer, an NC Licensed Soil Scientist and a NC Registered Septic Installer can evaluate, design, and install a septic system without Health Department involvement other than record keeping.

The attached soil map and septic layout maps are based on soil boring, property iron and flag locations collected using an EOS Arrow Gold GPS and iCMTGIS Pro app and then overlain with the Guilford County topo shapefiles available from NC OneMap. PCGIS X software was then used to prepare the maps and site plan. The house site was marked with wire flags and located by GPS. A one inch to 50' version of the map will be provided. The map is scaled to print on 11" x 17" (Tabloid) paper in Landscape format. The GPS locations can be accurate to submeter, but county GIS shapefile layers should not be considered as accurate as survey located features, points, and property lines. Property corners where found were collected and are noted on the soils map.

Site Conditions for Improvement Permit and Construction Authorization:

1. Property is a lot of record. Willow Hills PB: 52 PG: 18 Lot 5. Recorded 12/6/1973.
2. Repair Area exemption per 15A 18E .0508 (c) applies.
3. Reduced Setbacks per 15A 18E .00602 applies.
4. Install system per 15A 18E .0901 (g) and .0800.
5. Pump system to meet 15A 18E .1100 and .1400.
6. Use septic and pump tanks as required per 15A 18E .0805.
7. If a 25% chamber system is used, use #5 clean, washed gravel placed over the chamber louvers.
8. If a chamber system is used, place either: 1. Approved high flow splash plate, or 2. #5 clean, washed gravel inside the first chamber in each lateral to prevent scouring of trenches.
9. Make sure property lines are marked prior to installation.
10. Construct protective fencing around the soil area to protect from grading, compaction, and construction traffic. Storage of materials, cuts and fill over septic area could result in revocation of the permit.
11. Contact NC 811 prior to any digging.
12. Divert all surface water around system and repair area including gutter and foundation drains. Install upslope surface diversion swales.
13. Install system during dry conditions. Install system in area noted at the trench depth specified. Final plumbing stub out elevation will determine final TDH.
14. Straw and seed septic area after installation to establish a stable cover and prevent soil erosion.
15. Submit the attached common form, report, and map with signature and an application(if required) to the Health Department.

NC Licensed Soil Scientist statement:

This LSS Evaluation is being submitted pursuant to and meets the requirements of GS. 130A-335 (a2).

NC Onsite Wastewater Evaluator statement (AOWE):

This AOWE submittal is pursuant to and meets the requirements of G.S. 130A-335(a2) and (a5).

Please feel free to contact me if you have any further questions.

Alan Clapp

NC Licensed Soil Scientist #1058
NC Registered Environmental Health Specialist #1118
NC Subsurface Wastewater Operator #1009092
NC Authorized Onsite Wastewater Evaluator #10017E

Project #: 124011

Septic System Setbacks - *15A NCAC 18E .0601 Location of Sanitary Sewage Systems*:

TABLE IX. Minimum setbacks from all wastewater systems to site features

Site Features	Setback in feet
Any transient or non-transient non-community water supply well, community well, shared water supply well, well that complies with 15A NCAC 18A .1700, or water supply spring	100
A private drinking water well or upslope spring serving a single family dwelling unit	50
Any other well or source not listed in this table, excluding monitoring wells	50
Surface waters classified WS-I, from ordinary high-water mark	100
Waters classified SA, from mean high-water mark	100
Any Class I or Class II reservoir, from normal water level	100
Lake or pond, from normal water level	50
Any other stream, non-water supply spring, or other surface waters, from the ordinary high-water mark	50
Tidal influenced waters, such as marshes and coastal waters, from mean high-water mark	50
Permanent stormwater retention basin, from normal water level	50
Any water line, unless the requirements of Paragraph (i) have been met	10
Closed loop geothermal wells	15
Building foundation and deck supports	5
Patio, porch, stoop, lighting fixtures, or signage, including supporting structures such as posts or pilings	1
Any basement, cellar, or in-ground swimming pool	15
Buried storage tank or basin, except stormwater	10
Above ground swimming pool and appurtenances that require a building permit	5
Top of slope of embankment or cuts of two feet or more vertical height with a slope greater than 50 percent	15
Top of slope of embankment or cuts of two feet or more vertical height with a slope greater than 33 percent and less than or equal to 50 percent	15 If the site has suitable soil depth that extends for a minimum horizontal distance of 15 feet from the edge of the dispersal field, no minimum setback is required.
Top of slope of embankment or cuts of two feet or more vertical height with a slope less than 33 percent	0
Groundwater lowering system, as measured on the ground surface from the edge of the feature	25
Downslope interceptor drains and surface water diversions with a vertical cut of more than two feet, as measured on the ground surface from the edge of the feature	15

Upslope and sideslope interceptor drains and surface water diversions with a vertical cut of more than two feet, as measured on the ground surface from the edge of the feature	10
A stormwater collection system as defined in 15A NCAC 02H .1002(48), excluding gutter drains that connect to a stormwater collection system, with a vertical cut of more than two feet as measured from the center of the collection system	10
Bio-retention area, injection well, infiltration system, or dry pond	25
Any other dispersal field, except designated dispersal field repair area for project site	20
Any property line	10
Burial plot or graveyard boundary	10
Above ground storage tank from dripline or foundation pad, whichever is more limiting	5
Utility transmission and distribution line poles and towers, including guy wires, unless a greater setback is required by the utility company	5
Utility transformer, ground-surface mounted	5
Underground utilities	5

Applicability of Setbacks - *15A NCAC 18E .0602*:

TABLE XIII. Minimum setbacks from wastewater systems to specific site features on lots described in this Rule

Feature	Minimum setback in feet
SA waters from mean high-water mark	50
Basement	8
Property line	5
Cuts of two feet or more vertical height	5

GENERAL DRAINFIELD REQUIREMENTS AND BEST CONSTRUCTION PRACTICES

1. Any clearing or preparation of the nitrification field shall be done without removal, disturbance, or compaction of soil. The contractor shall establish and stake the contour lines of the drainfield area before the installation and before the preconstruction conference, when required. **Tree or sediment protective fencing shall be installed around septic area to eliminate construction traffic and soil compaction on septic area.**

2. Drainfield trenches shall be installed level and shall follow the ground contours. An engineer's level or laser shall be used in staking and constructing the lines. Trench depth shall not exceed the maximum specified by the Construction Authorization, unless otherwise specified, (i.e., ultra-shallow systems). Trench installation specifications from product manufacturers shall be followed.

3. No construction or backfilling shall be done when soil conditions are wet enough to cause a smearing or compaction of the soil in the drainfield or repair area.

4. The pipe between the septic tank and drainfield, or between the septic tank and pump tank shall be a minimum of 3" schedule 40 PVC or equivalent, with a minimum fall of 1/8" per foot. All joints from the septic tank to the drainfield shall be watertight. The pipe shall be on a firm, stable surface and secured. There shall be a 2' dam of undisturbed earth before a gravel trench begins. All other trench types per manufacturer. The pipe shall then be inserted at least 2' into the corrugated pipe. A cleanout to the ground surface shall be located at the end of the gravity pipe (the beginning of the drainfield) when the drainfield is over 50' from the tank.

5. The trench bottoms shall be smoothed and level with loose soil removed.

6. When necessary to change to a new contour, a step-down shall be constructed of a 2' **undisturbed** earth dam, which is raised to an elevation equal to the upstream gravel surface. However, precautions shall be taken to prevent raising the level of the effluent in the tank. Schedule 40 pipe (3" minimum) shall be used in crossing dams. Fittings will be needed to make the turns. The rigid pipe shall extend at least 2 feet into the level portion of the corrugated pipe. Area taken up by dams and step-downs shall not count as part of the footage required. *For accepted trench products and Panel Block products, use manufacturer's specifications*.

7. The soil cover over the drainfield shall be to a depth of at least 6". Boulders should be removed from the backfill material to prevent damage to the pipe. The finished grade shall be smoothed to prevent ponding of surface water over the drainfield. Surface water from upslope, including foundation and gutter drains, shall be effectively diverted away.

8. A vegetative cover of grass over the drainfield shall be established after final grading to prevent soil erosion. Divert all surface water and gutter drainage around system.

Installation and Testing Recommendations and Best Practices:

1. A pre-construction conference is recommended to be attended by the installer and health department prior to beginning construction of the system.
2. For Accepted trench products use manufacturer's specifications for installation. The Installer should be certified in writing by the manufacturer.
3. The septic tank, dosing tank, risers and pipe penetrations shall be demonstrated to be watertight by a 24-hour leak test (no measurable leakage in 24 hours). The test shall be run with riser's inlet/outlet pipes installed.
4. Care shall be taken during installation to prevent extraneous debris from entering tanks, supply lines or distribution network. Supply lines and manifold shall be flushed prior to system start-up.
5. For pump dosed systems, a pump delivery rate shall be measured, and the floats adjusted according to the measured delivery rate to achieve the design flow at design head. All other mechanical components, pump(s), pump cycling, filters,

etc., as applicable must be demonstrated to be fully operable in accordance with their design.

6. Install water line, electrical lines and other buried utilities around septic and repair areas.
7. Keep repair areas free of parking and any future construction. Maintain grass cover over drainfield and repair areas.
8. Any proposed Septic Tank, Pump Tank and Pressure Manifold locations are at the discretion of the Health Department at time of the preconstruction conference.
9. Call NC 811 to mark any utilities prior to digging.
10. Estimated Septic Tank pumping frequency:

Table I. Septic Tank Pumping Frequency in Years

Septic Tank Size Gallons / Liters	Household size - Number of Occupants									
	1	2	3	4	5	6	7	8	9	10
	Septic Tank Pumping Frequency in Years									
500 gallons * / 1890 liters	5.8	2.6	1.5	1.0	0.7	0.4	0.3	0.2	0.1	--
750 * / 2840	9.1	4.2	2.6	1.8	1.3	1.0	0.7	0.6	0.4	0.3
900 / 3400	11.0	5.2	3.3	2.3	1.7	1.3	1.0	0.8	0.7	0.5
1000 / 3800	12.4	5.9	3.7	2.6	2.0	1.5	1.2	1.0	0.8	0.7
1250 / 5000	15.6	7.5	4.8	3.4	2.6	2.0	1.7	1.4	1.2	1.0
1500 / 5500	18.9	9.1	5.9	4.2	3.3	2.6	2.1	1.8	1.5	1.3

NC DHHS Division of Public Health Onsite Water Protection:
Understanding and Protecting Septic Systems

Septic System Resources form NC State Agricultural Extension:
https://content.ces.ncsu.edu/septic-systems-and-their-maintenance
https://content.ces.ncsu.edu/septic-system-owners-guide

Accepted Trench Products: https://ehs.ncpublichealth.com/oswp/approvedproducts.htm

T and J Panel Resources: http://www.tjpanel.com/installation-manual.html

Sheet ___ of ___
PROPERTY ID #: 130891
COUNTY: GUILFORD

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM
(Complete all fields in full)

OWNER: JAMES EDWARD CAMPBELL PROPERTY
ADDRESS: 3718 EDGEWOOD DR GSO NC 27406
PROPOSED FACILITY: SFD
PROPOSED DESIGN FLOW (0400): 480 gpd
LOCATION OF SITE: 7812 WHIPPLE TRAIL
APPLICATION DATE
DATE EVALUATED:
PROPERTY SIZE: 1 ACRE
PROPERTY RECORDED: 1973

WATER SUPPLY: ☐ Private ☐ Public ☑ Well ☐ Spring ☐ Other
EVALUATION METHOD: ☑ Auger Boring ☐ Pit ☐ Cut
TYPE OF WASTEWATER: ☑ Sewage ☐ Industrial Process ☐ High Strength

Boring/Pit/Cut #	A	B	C	D	E	F	G	H
Landscape position (.0502)	T	T	T	T	T			
Slope % (.0502)	4	3	3	4	3			
H1 depth (.0505)	0-8	0-6	0-12	0-6	0-7			
H1 texture (.0503)	scl	scl	scl	scl	scl			
H1 consistence (.0503)	fr	fr	fr	fr	fr			
H1 structure (.0503)	gr	gr	gr	gr	gr			
H1 mineralogy (.0503)	se	se	se	se	se			
H2 depth (.0505)	8-32	6-28	12-40	6-26	7-29			
H2 texture (.0503)	c	c	c	c	c			
H2 consistence (.0503)	fi	fi	fi	fi	fi			
H2 structure (.0503)	msbk	msbk	msbk	msbk	msbk			
H2 mineralogy (.0503)	se	se	se	se	se			
H3 depth (.0503)	32-37	28-33	40	26-35	29-33			
H3 texture (.0503)	cl	cl	SAP	cl	cl			
H3 consistence (.0503)	fr	fr		fr	fr			
H3 structure (.0503)	wsbk	wsbk		wsbk	wsbk			
H3 mineralogy (.0503)	se	se		se	se			
H4 depth (.0503)	37	33		35	33			
H4 texture (.0503)	SAP	SAP		SAP	SAP			
H4 consistence (.0503)								
H4 structure (.0503)								
H4 mineralogy (.0503)								
Soil wetness (.0504)								
Saprolite (.0506)								
Notes:	X-1	X-1	X-1	X-1	X-1			
Usable soil depth (.0503)	36"	32"	39"	34"	32"			
Profile Class (.0509)	S	S	S	S	S			
LTAR (.0509)	.275	.25	.275	.275	.275			
Evaluation Date	1-16-24	1-16-24	1-16-24	2-17-24	2-17-24			

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.0508)	S	EXEMPT
System Type(s) (.1301)	IIIb	EXEMPT
Site LTAR (.0509)	.275	EXEMPT

OTHER FACTORS
SITE CLASSIFICATION (.0509): S
EVALUATED BY: Alan Clapp, LSS, AOWE, REHS
OTHER(S) PRESENT: KIP LEDBETTER

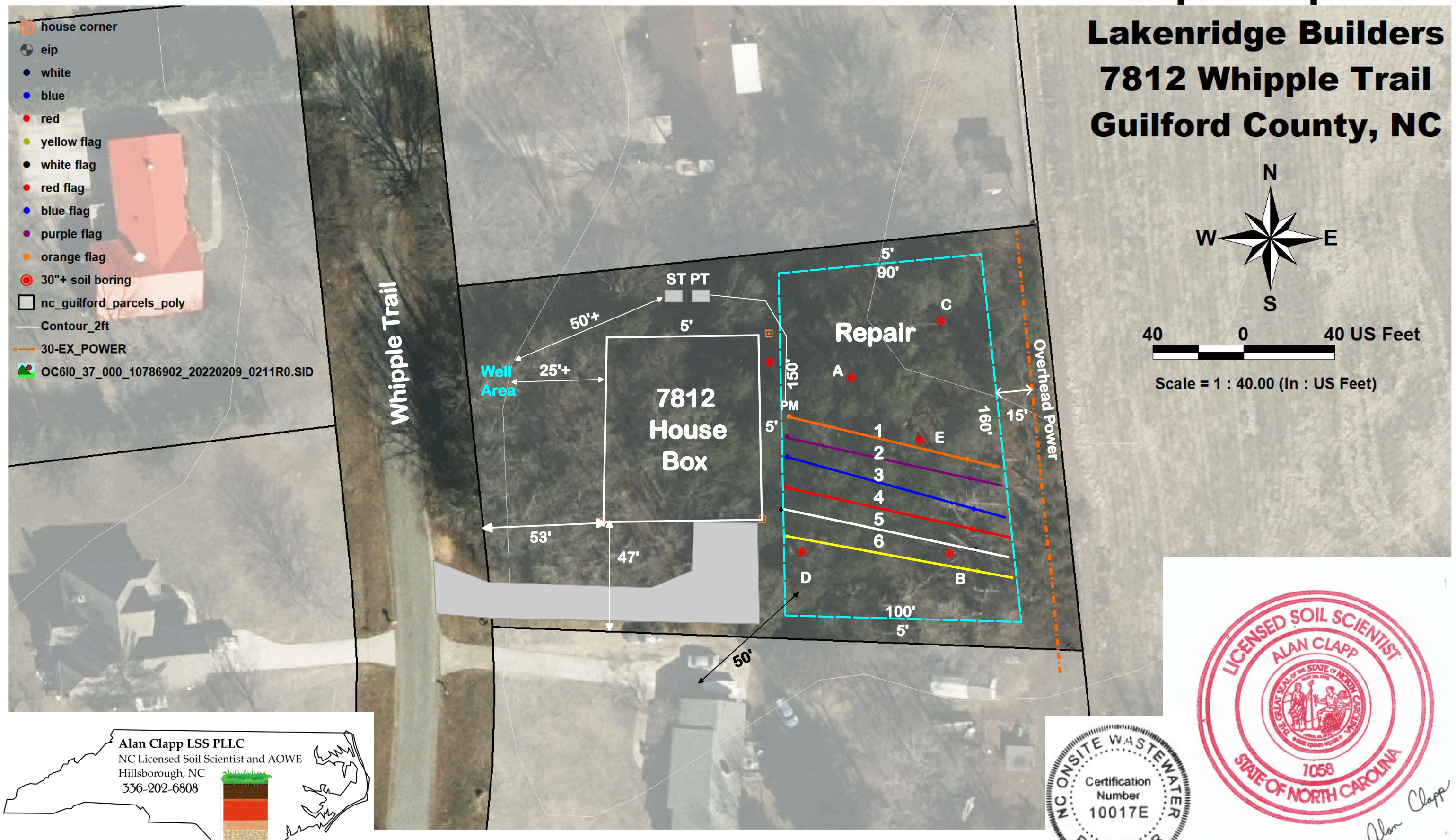
COMMENTS:

reclassified using .0901-.0910

x = slope correction per .0502(d)

Septic Map for:

Lakenridge Builders
7812 Whipple Trail
Guilford County, NC



Alan Clapp LSS PLLC
NC Licensed Soil Scientist and AOWE
Hillsborough, NC
336-202-6808

NC ONSITE WASTEWATER EVALUATOR
Certification Number 10017E

LICENSED SOIL SCIENTIST
ALAN CLAPP
STATE OF NORTH CAROLINA
1058

Alan Clapp

02-18-2024

F.C.

PLAT BOOK 52 PAGE 18

The undersigned hereby acknowledge(s) this Plat and Allotment to be _____ free act and deed and hereby dedicate(s) to Public use as Streets, Playgrounds, Parks, Open Spaces, and Easements forever all areas so shown or indicated on said Plat.

GUILFORD COUNTY

Signed _____

Attest _____

Trustee _____

Trustee _____

Approved by the Planning Board of the City of Greensboro, N. C., effective on the _____ day of _____ 19____, provided that the Plat is registered in the office of the Register of Deeds of Guilford County, N. C., within thirty days from the effective date of this approval.

_____
City Clerk

_____
Director of Planning and Executive Secretary of Planning Board
Said Plat was approved by the Planning Board of the City of Greensboro, N. C.

_____
Licensed Engineer No. _____

Subscribed and sworn to before me this _____ day of _____, 19____.

_____
Notary Public
My commission expires: _____

GUILFORD COUNTY, NORTH CAROLINA

I, ROBERT E. WILSON, certify that under my direction and supervision this map was drawn from an actual field land survey made by me, deed description recorded in Book 2722, Page 36; that the error of closure as calculated by latitudes and departures is 1:15,000; that the boundaries not surveyed are shown as broken lines plotted from deed information; that this map was prepared in accordance with GS 47-30 as amended that the subdivision or Development or a portion thereof is NOT within the Corporate Limits of the City of Greensboro or within a mile thereof.

Witness my hand and seal this 15th day of NOV. A.D. 19 73

Signed _____

Licensed Surveyor No. L637

Subscribed and sworn to before me this 1st day of NOVEMBER, 19 73.

Amber L. Jones Notary Public
My commission expires 11/7/75

NORTH CAROLINA - GUILFORD
The foregoing certificate(s) of
Amber L. Jones

A Notary Public of said county is (are) certified to be correct.
This December 6, 1973
MARK STEWART, Register of Deeds
Deputy, Register of Deeds

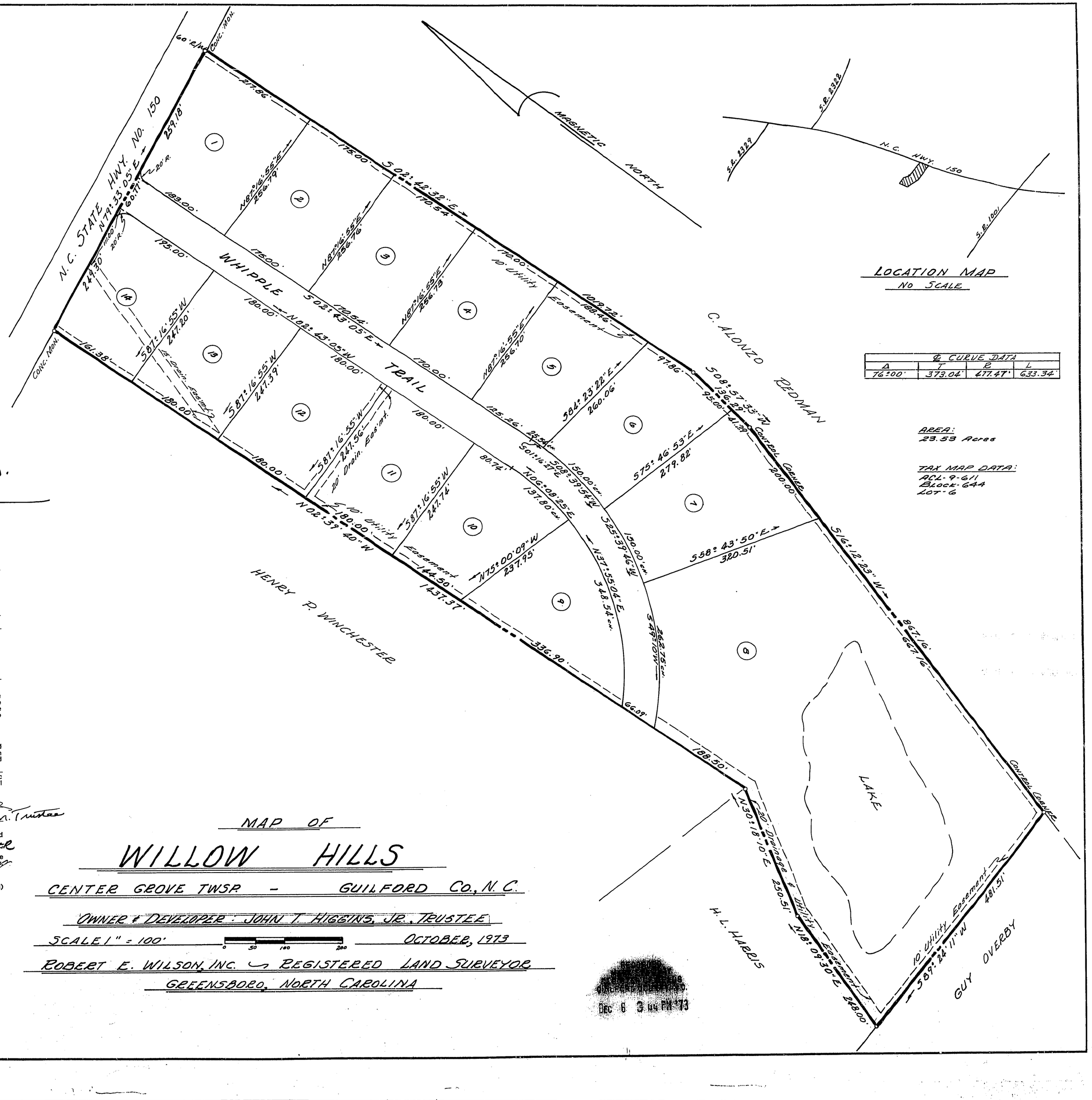
When grade of adjacent property does not conform to the street grade, an easement is effective for the purpose of sloping embankments from street grade level at the property line having a slope ratio of two feet horizontal for each foot of vertical dimension.

The undersigned hereby acknowledge(s) that the land shown on this plat is within the subdivision-regulation jurisdiction of the Board of Commissioners of Guilford County and this plat and allotment to be _____ free act and deed, and hereby dedicate(s) to public use as roads, streets, and easements, forever all areas so shown or indicated on said plat.

TRUSTEE
SIGNED: John T. Higgins, Jr. Trustee

Approved by the Board of Commissioners of Guilford County, N. C. on the 3RD day of DECEMBER 19 73; provided that the plat is registered in the office of the Register of Deeds of Guilford County, N. C. within thirty days from date of this approval.

Signed _____ (Seal)
Chairman



MAP OF

WILLOW HILLS

CENTER GROVE TWSP. - GUILFORD CO., N. C.

OWNER & DEVELOPER: JOHN T. HIGGINS, JR., TRUSTEE

SCALE 1" = 100' 0 50 100 200 OCTOBER, 1973

ROBERT E. WILSON, INC. - REGISTERED LAND SURVEYOR

GREENSBORO, NORTH CAROLINA

Dec 6 3 44 PM '73

NORTH CAROLINA REGISTERED L637 LAND SURVEYOR ROBERT E. WILSON

Southern Photo Print & Supply Co., Greensboro, N. C. #125 300 1-70