

WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER PERMIT

NO PERMIT(S) FOR CONSTRUCTION, LOCATION OR RELOCATION ACTIVITY SHALL BE ISSUED UNTIL AN
AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION AUTHORIZATION HAS BEEN ISSUED
***PERMIT VOID IF NOT IN COMPLIANCE WITH ZONING REGULATIONS AND/OR IF SITE IS ALTERED OR
INTENDED USE CHANGED***

OPERATIONS PERMIT

PERMIT # WRP-092761-2022 **APPLICATION DATE:** 11/08/2022 **BLDG. PERMIT#:** RBPR-133808-2024
PIN: 0891020449 **RECORDED:** Yes
TOWNSHIP: 02 - Bartons Creek **JURISDICTION:** Wake County **ZONING:** R-40W
APPLICANT: Brinley, Chad, CATRAM LLC **BUSINESS PHONE:** (919) 771-1997
Chad Brinley **HOME PHONE:**
3611 CESSNA **MOBILE PHONE:**
HD USE: 0019 Subdivision Improvement Permitting **EXISTING USE:** 0019 Subdivision Improvement Permitting
SITE ADDRESS: 1528 LAKE ADVENTURE CT
SUBDIVISION: OVERLOOK AT MT. VERNON PH 3 **LOT:** 15 **ACRES:** 0.86
DIRECTIONS: 100' Water Supply Watershed Buffer

Systems defined as either type III-b, III-g with a pump, IV, V or VI, in accordance with the North Carolina administrative code 15A NCAC 18a .1961, table V as adopted by reference in the "Regulations Governing Wastewater Treatment Dispersal Systems in Wake County", requires Wake County Environmental Services to conduct periodic inspections of the system type pursuant to 15A NCAC 18a. 1961 (j). Fees for these inspections will be charged as per the approved Fee Schedule. In addition, all systems are to be operated and maintained as specified in 15A NCAC 18A .1961. This permit is based in part on information provided by the homeowner and/or his/her representative in the application submitted for this permit. The Environmental Health Specialist is not responsible for false or misleading information contained in the application. The environmental health specialist is also not responsible for concealed conditions on the property or for statements in this report that may have resulted from false or misleading statements provided to him/her in the application. Neither Wake County nor the Environmental Health Specialist warrants that the septic tank system will continue to function satisfactorily in the future or that the water supply will remain potable.

OPERATION PERMIT VALID FOR: No Expiration

INSTALLED BY: BRANTLEY, CORY - 1036 - IV

PROPRIETARY SYSTEM: IQ4 - Infiltrator Quick 4 Standard **PRETREATMENT SYSTEM:**

SYSTEM TYPE INSTALLED: III B

OPERATION PERMIT: **STATUS:** Issued

ISSUED BY: Noah Greenway

ISSUED DATE: 08/13/2025

SEPTIC TANK: David Brantley & Sons - STB-323 - 1250 gallons **DATE OF MANUFACTURE:** 06/09/2025 **FILTER:** GAG SIM/TECH - STF-110

GREASE TRAP:

DATE OF MANUFACTURE:

FILTER:

DOSING PUMP TANK: Brantley - PT-2124 - 1312

DATE OF MANUFACTURE: 05/20/2025

FILTER:

gal - 21.5 gal/in

CC1: 999,807

ETM1: 15

CC2:

ETM2:

RECIRCULATION TANK:

DATE OF MANUFACTURE:

CC1:

ETM1:

CC2:

ETM2:

SEPTIC TANK ELEVATION: 6.58

GREASE TRAP ELEVATION:

DOSING PUMP TANK ELEVATION: 7.17

RECIRCULATION TANK ELEVATION:

DISTRIBUTION DEVICE ELEVATION: 3

INSTALLED TRENCH DEPTH	INSTALLED AGGREGATE DEPTH	INSTALLED TRENCH LENGTH	INSTALLED TRENCH BOTTOM ELEVATION
36	12	75	5.045
36	12	70	5.833
36	12	65	6
36	12	65	6.583
36	12	65	6.75
36	12	65	7.045

ACTUAL PRESSURE HEAD: 2

ACTUAL FLOW RATE: 32

ACTUAL DOSE VOLUME: 194

SPECIFIC OPERATION REQUIREMENTS:

- System designed for a 4 bedroom residence, having 480 gals/day.
- Site serviced by community well water.
- Future repair is a IIIB type system with a max trench depth of 36" and a 0.3 LTAR.
- No cutting, grading, alterations, or utilities in septic area.
- Maintain all required setbacks.
- Ashland 30 pump

ISSUED BY:



DATE: 08/13/2025



Health & Human Services

☎ 919 856 7400
📠 919 743 4772

Onsite Water Protection
P.O. Box 550 • Raleigh, NC 27602
336 Fayetteville St. • Raleigh, NC 27601
wake.gov

October 16, 2024

REQUIREMENTS TO COMPLETE YOUR PRESSURE MANIFOLD SYSTEM

Dear Sir/Madam:

Enclosed is your approved pressure manifold installation plan and the "Pressure Manifold Sewage Disposal System Maintenance Information Sheet".

To complete your permit:

- **System Installation** - A contractor **CERTIFIED** by the State of North Carolina to at least a **LEVEL II** certification, and **REGISTERED** in Wake County, must be used to install your system.

ANY PROPOSED MODIFICATION TO THE APPROVED PLANS MUST BE COORDINATED WITH WAKE COUNTY.

Please call (919) 480-9998 or email at CORY.LARSEN@wake.gov if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads "Cory Larsen".

CORY LARSEN, PE
Environmental Engineer

***** CA PART A - C *****

WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER PERMIT

NO PERMIT(S) FOR CONSTRUCTION, LOCATION OR RELOCATION ACTIVITY SHALL BE ISSUED UNTIL AN AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION AUTHORIZATION HAS BEEN ISSUED

PERMIT VOID IF NOT IN COMPLIANCE WITH ZONING REGULATIONS AND/OR IF SITE IS ALTERED OR INTENDED USE CHANGED

CONSTRUCTION AUTHORIZATION PERMIT

PERMIT # WRP-092761-2022

APPLICATION DATE: 11/08/2022

BLDG. PERMIT#: RBPR-133808-2024

PIN: 0891020449

RECORDED: Yes

TOWNSHIP: 02 - Bartons Creek

JURISDICTION: Wake County

ZONING: R-40W

APPLICANT: Brinley, Chad, CATRAM LLC
3611 CESSNA
Garner, NC 27529

BUSINESS PHONE: (919) 771-1997
HOME PHONE:
MOBILE PHONE:

HD USE: 0019 Subdivision Improvement Permitting

EXISTING USE: 0019 Subdivision Improvement Permitting

SITE ADDRESS: 1528 LAKE ADVENTURE CT

SUBDIVISION: OVERLOOK AT MT. VERNON PH 3 **LOT:** 15

ACRES: 0.86

DIRECTIONS: 100' Water Supply Watershed Buffer

Contractors shall install system on contour. See attached SITE PLAN for wastewater system design and well location. No underground utilities, water lines or sprinklers systems may be located in the original system, or permit areas. A septic tank filter with two risers for access is required. The wastewater system shall not be covered or placed into use until inspected by the Wake County Department of Environmental Services and Operations Permit issued. An Accepted Status System may be used in place of conventional system, if it can be placed in the permitted/authorized trench footprint (except reduction in line length and/or number as allowed for in approval) and the installation in accordance with the accepted system approval, without unauthorized product alteration. If permit required use of an Accepted Status System, substitution with another accepted status system may be made, as long as no changes are necessary in the location of each nitrifications line (including any increase in line length), trench depth or effluent distribution method. If changes are necessary, prior approval by this office is required before system installation. Maximum depth of line is calculated using the downhill side of the trench and includes slope correction.

CONSTRUCTION AUTHORIZATION PERMIT VALID FOR: Five Years

CONSTRUCTION AUTHORIZATION PERMIT: CA STATUS: Issued

BY: Cory Larsen

DATE: 10/16/2024

CA VALID FOR: Five Years

DESIGN FLOW: 480 GALLONS

BASEMENT: No

BASEMENT FIXTURES:

SEPTIC TANK: 1200 GALLONS

SEPTIC TANK FILTER: Yes

DOSING PUMP TANK: 1200 GALLONS

DOSING PUMP TANK FILTER:

GREASE TRAP:

GREASE TRAP FILTER:

RECIRCULATION PUMP TANK:

RECIRCULATION PUMP TANK FILTER:

PROPOSED SYSTEM: 0.25 - 25% Reduction (Innovative or Accepted)

EXISTING SYSTEM:

DRAINFIELD SQ. FT: 1,215

AGGREGATE DEPTH: 12

MAX. TRENCH DEPTH: 36 INCHES

DISTRIBUTION DEVICE: PM - Pressure Manifold

TRENCH #: 6

TRENCH LENGTH: 75, 70, 65, 65
TRENCH WIDTH: 36 INCHES

TOTAL TRENCH LENGTH: 405 FEET

CENTER SPACING: 9 FEET

MINIMUM SOIL COVER: 6 INCHES

PRETREATMENT:
SUBFIELDS #:
PUMP TDH: 17.5 FEET

APPROVAL #:
PUMP DESIGN FLOW: 32.88
ZONE VALVE: No

ASDMS REQUIRED: No
P.E. SIGN OFF/ASBUILT REQUIRED: No

LINE OF CREDIT REQUIRED: No

OPERATOR REQUIRED: No

TRIPARTY AGREEMENT REQUIRED: No

SPECIFIC CONSTRUCTION AUTHORIZATION REQUIREMENTS:

ALLOWED SYSTEM REDUCTION HAS BEEN TAKEN FOR THE DESIGN OF THE INITIAL AND REPAIR SYSTEM FOR THIS 4 BEDROOM (MAXIMUM OCCUPANCY OF 8) DWELLING. INITIAL SYSTEM IS A PRESSURE MANIFOLD SYSTEM PUMPING TO 6 UNEQUAL DRAINLINES WITH 36" TRENCH BOTTOM. REPAIR SYSTEM IS A PRESSURE MANIFOLD SYSTEM PUMPING TO 6 UNEQUAL DRAINLINES WITH 36" TRENCH BOTTOM. 1200 GALLON SEPTIC TANK AND 1200 GALLON PUMP TANKS ARE PROPOSED. FOUNDATION DRAIN ALLOWED.

WHEN INSTALLING SYSTEM, MAINTAIN ALL REQUIRED SETBACKS. DO NOT DISTURB OR REMOVE ANY SOIL IN INITIAL OR REPAIR AREAS. MUST MAINTAIN REQUIRED EMERGENCY STORAGE IN THE PUMP TANK. A NEMA 4X CONTROL PANEL WITH TWO BREAKERS, TWO POWER SUPPLIES, ELAPSED TIME METER AND CYCLE COUNTER ARE REQUIRED. IF FLAGS ARE MISSING, CALL DESIGNER TO RE-FLAG.

THIS SYSTEM IS DESIGNED BY A CONSULTANT AND MUST BE INSTALLED PER THE APPROVED DESIGN, PLAN AND SPECIFICATIONS. ANY DEVIATION MUST BE APPROVED BY THE DESIGNER AND WAKE COUNTY PRIOR TO SYSTEM INSTALLATION. PLEASE CONTACT WAKE COUNTY IF ANY QUESTIONS OR PROBLEMS ARISE PRIOR TO INSTALLATION.

Issued By:

A handwritten signature in black ink, appearing to be 'C. H.', written over a horizontal line.

Date: 10/16/2024

HOMEOWNER GUIDE FOR UTILIZATION AND MAINTENANCE OF ON-SITE WASTEWATER DISPOSAL SYSTEMS

What is an On-site Wastewater Disposal System?

There are a number of different types of on-site wastewater disposal systems each designed for a specific set of site conditions. However, there are several system components that are common to most systems. These include the following:

1. A septic tank - a concrete tank that is designed to receive wastewater from the house and to provide a degree of pretreatment for the waste, chiefly through removal of some of the solids in the waste. Note that these solids accumulate over time and necessitate periodic pumping of the septic tank. Currently septic tanks are equipped with two access risers (normally constructed of concrete), which are designed to be at least 6 inches above the ground surface to prevent surface and shallow groundwater from entering the septic tank and to provide access for maintenance. **Care must be taken not to damage or cover these risers so that water inflow / infiltration can be prevented and the tank can be accessed for maintenance.**
2. In some installations, a pump tank - a concrete tank, very similar to the septic tank, which contains a pump along with the associated controls / componentry. The pump tank and pump is designed to receive effluent from the septic tank, and pump the effluent to a disposal field located at a higher elevation and/or to a pressurized distribution network in the disposal field. **The pump tank also has an access riser which must be protected in a similar manner to that indicated for the septic tank.** Servicing of the pump tank components often necessitates the assistance of a professional such as a septic tank installer or Certified Subsurface System Operator. The latter is required for operation and maintenance of certain types of systems.
3. A disposal field - a series of subsurface trenches and lines that are designed to distribute the effluent into the soil and provide for the ultimate treatment and disposal of the effluent. There are numerous variations on the design of the disposal field, related chiefly to the type of system chosen, site constraints, etc. Dependent on the type of disposal system, you may have to maintain a contract with a Certified Subsurface System Operator for operation and maintenance of your wastewater disposal system.

Utilization of Your Wastewater Disposal System

In order to obtain the maximum efficiency and life expectancy from your system, the following simple procedures must be adhered to:

1. **Practice water conservation.** This can include many practical considerations such as not leaving the water running while you brush your teeth, not overfilling the tub, limiting time in the shower, not replacing low flow fixtures with those of higher flows, over rinsing dishes (allow the dishwasher to do its job), immediate repair of any leaking fixtures, running washing machines and dishwashers only when full, etc.

NOTE: Washing machines generate significant volumes of wastewater. As a result, laundry activities should be spread over the week as opposed to accumulating all of laundry until the weekend.

2. **Do not utilize your wastewater disposal system as a trash can by dumping nondegradables down your drains or toilet.** These include cigarette butts, sanitary products, grease, plastics, disposable diapers, etc. Avoid use of garbage disposals. Do not retrofit garbage disposals unless the system is specifically permitted for their use. Also, do not dump harmful chemicals down the drain. These include petroleum products, paint, paint thinner, pesticides, antifreeze, etc.

Maintenance of Your Wastewater Disposal System

Every wastewater disposal system requires maintenance in order to function properly. The specific maintenance required is related to the type of system. The following are general considerations that apply to all systems.

1. **Protect your wastewater disposal system components including the tanks, access risers, disposal field and associated components.** Do not drive or park on any portion of the system. The area over the disposal field should be left undisturbed with the grass cover being maintained as you would your lawn. Location of trees and shrubs on or in close proximity to the disposal field is not recommended since roots may clog or damage your drain lines. Additionally, great care must be exercised when considering the addition of any structure(s) to the site. The location of any appurtenances cannot encroach on the installation or repair areas for your system. It is not recommended that irrigation systems be located in proximity to the disposal system since their construction can cause system damage and/or result in additional hydraulic load on the disposal field.
2. **Protect the system from excess surface and shallow groundwater.** The land surface on and around the wastewater disposal system should be landscaped to shed rainfall and runoff and prevent ponding. Be sure that foundation drains, runoff from roofs and drives, etc. are diverted away from the disposal system.
3. **Regularly have the septic tank / pump tank pumped and cleaned by a permitted septage hauler.** Although the necessary frequency of pumping varies with the household and system, most tanks need **pumping at a frequency of 3-5 years** and at any time solids occupy one-fourth to one-third of the septic tank liquid depth.

Note that all septic tanks being currently installed incorporate an effluent filter within the outlet compartment of the septic tank. This filter is to be cleaned anytime the septic tank is pumped. If plumbing becomes sluggish, this filter should be checked. If filter service is found to be necessary, the tank is to be pumped, the filter cleaned and the filter reinstalled.

4. **Be alert to warning signs that your system may not be functioning properly.**
These include sewage surfacing over the disposal system, sewage backups / slow draining in the house, lush growth over the disposal system, sewage odors, etc.
5. **Do not make or allow repairs to your system unless all necessary permits are obtained from Wake County Department of Environmental Services.**
6. **Commercial additives for septic tank systems** - It has generally not been demonstrated that these additives enhance the function of septic systems or reduce the need for tank pumping and other necessary maintenance.
7. **Special maintenance considerations** - As already alluded to, some of the more complex wastewater disposal systems require that you retain / maintain the services of a Certified Wastewater System Operator in order to comply with Laws and Rules and maintain a valid operation permit for your system. In Wake County this maintenance requirement should be recorded with Register of Deeds if applicable.

Where Do I Obtain Information and Assistance?

If you are purchasing a new home, you should request a copy of your wastewater system permit from the builder / seller along with information regarding any special maintenance requirements. You may also obtain information and assistance from the **Onsite Water Protection Division**, 336 Fayetteville Street Mall, Raleigh, NC, Telephone (919) 856-7400. Additional information is also available on Wake County's [Septic and Wastewater Management](#) webpage.

BSM 3/9/21



PRESSURE MANIFOLD SYSTEMS

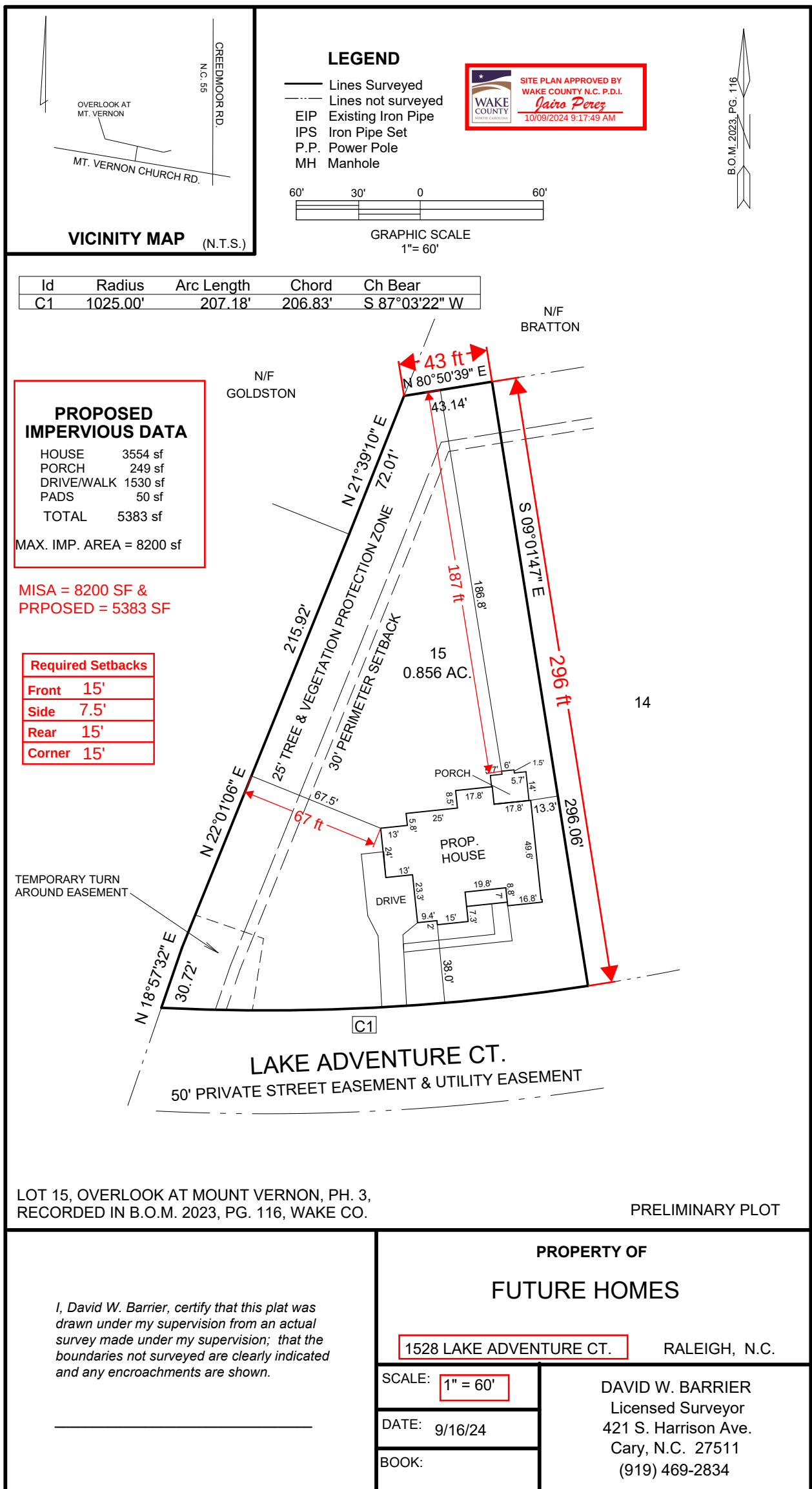
A Pressure Manifold System is one of several types of septic systems approved for use in Wake County. The Pressure Manifold System, while somewhat more expensive to install, is a flexible and high-quality method of wastewater disposal. A pump doses a pressure distribution manifold that disperses the effluent evenly to each trench. Dosed systems are more common for larger flows. The manifold can be constructed with different size taps to accommodate different trench lengths. This allows for better utilization of the area on the lot. The pressure manifold can include valves or plugs that permit more control over trench loading or trench resting.

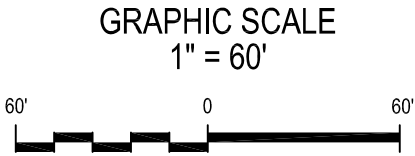
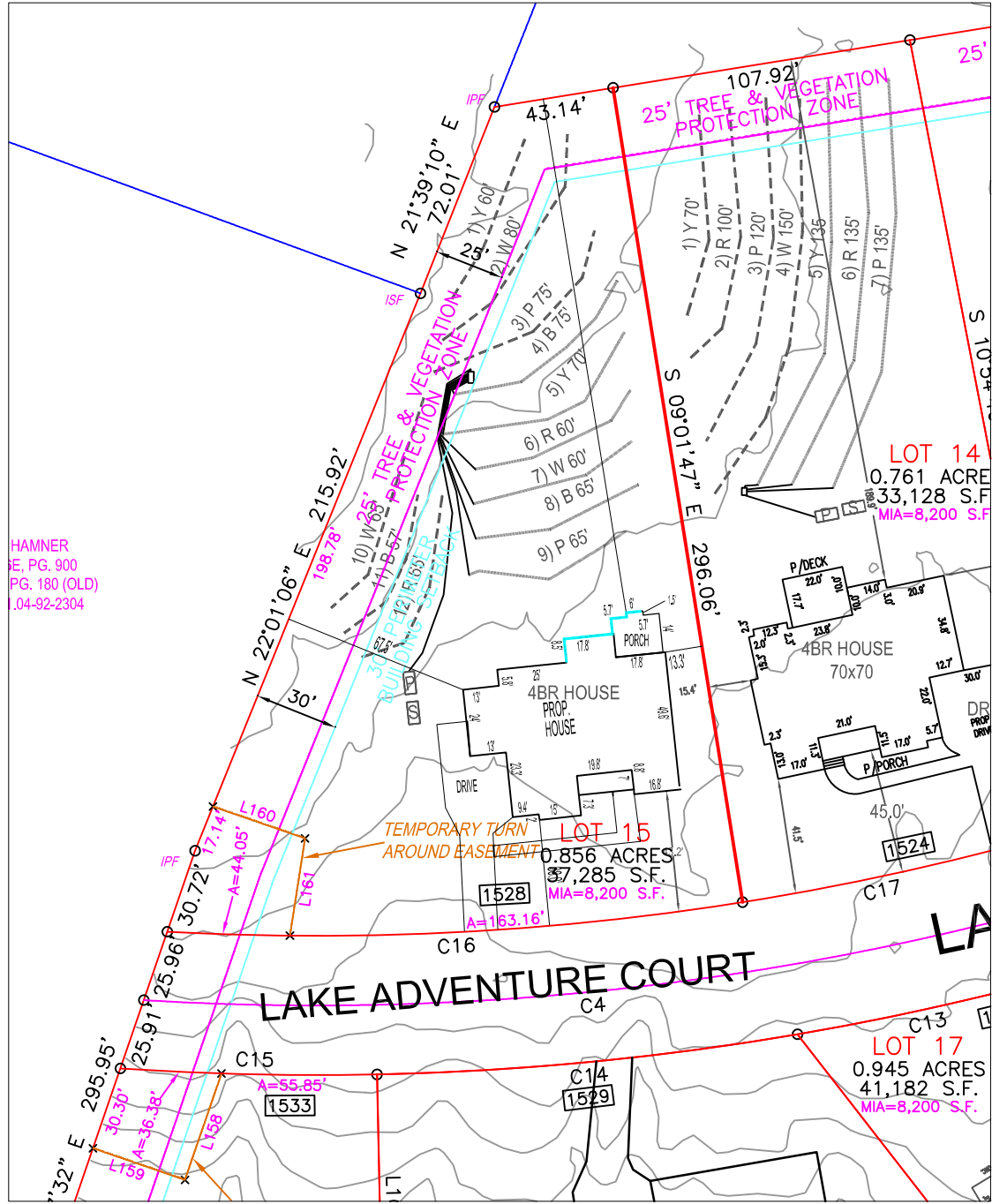
Experience and study have shown that pressure manifold systems require routine maintenance in order to function properly. Items 1, 4 and 6 are also recommended for conventional septic systems. The maintenance schedule frequency is as follows:

<u>System Component</u>	<u>Frequency</u>	<u>Maintenance</u>
1. Septic Tank	6-12 months 1-3 years	Check riser condition (must be accessible from ground surface), excess in/exfiltration, entry of water at riser, and solids accumulation. Check and clean septic tank filter. Pump septage when 1/3 to 1/4 of the liquid capacity of the tank is occupied by solids.
2. Pump or Dosing Tank	6-12 months	Check riser conditions (must be accessible from ground surface), excess in/exfiltration, entry of water at riser, and solids accumulation. Pump sludge accumulation as required and when septic tank is pumped. Check pump(s), controls, floats, electrical connections, and alarm for proper operation. Wash (hose) sludge accumulation from pump housing.
3. Supply lines (Manifold)	6-12 months	Check for settling, pipe exposure and leakage.
4. Ground Absorption Field	1-4 weeks 6-12 months	Maintain vegetative cover (mow grass and remove weeds and brush). Check for settling, erosion and surfacing of effluent. Check site drainage, eliminate low or settled areas and divert surface or shallow groundwater movement around fields.
5. Pressure Manifold	6-12 months	Flush sludge from pressure manifold (any discharge sludge and effluent is to be treated with a chlorine solution). Check and reset pressure head.
6. General	At all times	Prohibit vehicular or equipment traffic on ground absorption field. Prohibit tillage (gardening) or other soil disturbance over ground absorption field. Practice water conservation to reduce wastewater load on system. Do not permit entry of grease and non-domestic waste to system. Use of a garbage disposal is <u>prohibited</u> . Addition of chemical or biological additives has <u>not</u> been demonstrated to be necessary to maintain proper system function. Prevention of root intervention on lateral lines and trenches may be necessary on certain sites. Surface and groundwater diversion structures must be maintained.

A certified operator may be required.

RBPR-133808-2024





CA PART B (1)

LEGEND

SYSTEM LINE

REPAIR LINE

NO FOUNDATION DRAINS

S

SEPTIC TANK

P

PUMP TANK

Owner
Name: Future Homes
Email: jthompsonfuturehomesonline.com.com
Phone: (919) 363-4111
Address: 1105 Classic Rd, Apex, NC 27539

Site
PIN: 0891020449
Address: 1528 Lake Adventure Ct
Permit: WRP-092761-2022

- NOTES:
- 1) SITE DATA TO INCLUDE PROPERTY BOUNDARIES, STRUCTURE LOCATION, UTILITIES, ROADS, AND OTHER SITE FEATURES WERE PROVIDED BY BNK SURVEYING AND ARE SHOWN TO DISPLAY GENERAL SITE CONDITIONS.
- 2) ALL SEPTIC SYSTEM COMPONENTS TO INCLUDE TANKS, PUMPS, MANIFOLDS, AND SYSTEM AND REPAIR LINES HAVE BEEN GPS LOCATED BY SOIL SERVICES, PLLC. ALL LOCATIONS, ELEVATIONS, AND DIMENSIONS ARE APPROXIMATE AND AS SUCH NO SPECIFIC ACCURACY EITHER VERTICAL OR HORIZONTAL IS IMPLIED.
- 3) PROPERTY AND EASEMENT BOUNDARIES SHOWN ON THIS SITE SKETCH ARE APPROXIMATE AND ARE NOT INTENDED FOR LOCATING PROPERTY OR IDENTIFYING PROPERTY OR EASEMENT CORNERS. THIS IS NOT A SURVEY.

Project No.: 1582-1

Project Manager: SM

Scale: 1"=60'

Sheet No.: 7 of 18

Drawn: SM

Field Work: SM

SEPTIC SYSTEM SITE PLAN

1528 LAKE ADVENTURE CT

WAKE CO., NC

FUTURE HOMES

Sheet Title:

Project:

Location:

Client:

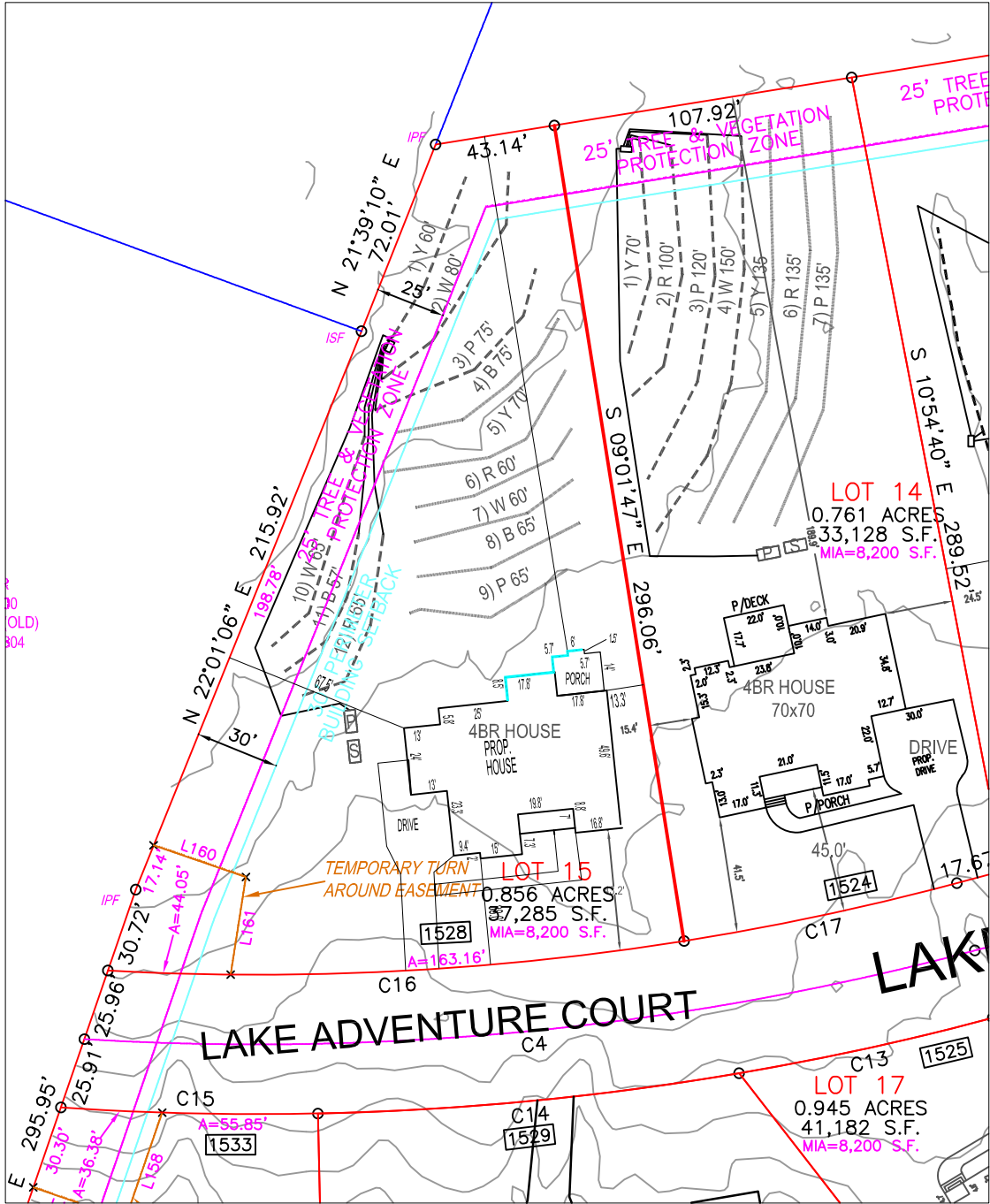
Future Homes

Soil Services, PLLC

PO BOX 91115, RALEIGH, NC 27675

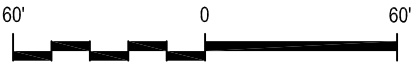
OFFICE: (919) 745-1928 FAX: (919) 251-9053

WWW.SOILSERVICES.US



GRAPHIC SCALE

1" = 60'



CA PART B (2)

LEGEND

- SYSTEM LINE
- REPAIR LINE
- NO FOUNDATION DRAINS
- SEPTIC TANK
- PUMP TANK

Owner
Name: Future Homes
Email: jthompsonfuturehomesonline.com.com
Phone: (919) 363-4111
Address: 1105 Classic Rd, Apex, NC 27539

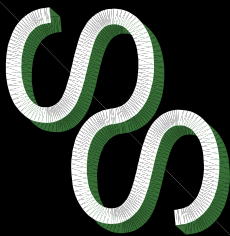
Site
PIN: 0891020449
Address: 1528 Lake Adventure Ct
Permit: WRP-092761-2022

NOTES:

- 1) SITE DATA TO INCLUDE PROPERTY BOUNDARIES, STRUCTURE LOCATION, UTILITIES, ROADS, AND OTHER SITE FEATURES WERE PROVIDED BY BNK SURVEYING AND ARE SHOWN TO DISPLAY GENERAL SITE CONDITIONS.
- 2) ALL SEPTIC SYSTEM COMPONENTS TO INCLUDE TANKS, PUMPS, MANIFOLDS, AND SYSTEM AND REPAIR LINES HAVE BEEN GPS LOCATED BY SOIL SERVICES, PLLC. ALL LOCATIONS, ELEVATIONS, AND DIMENSIONS ARE APPROXIMATE AND AS SUCH NO SPECIFIC ACCURACY EITHER VERTICAL OR HORIZONTAL IS IMPLIED.
- 3) PROPERTY AND EASEMENT BOUNDARIES SHOWN ON THIS SITE SKETCH ARE APPROXIMATE AND ARE NOT INTENDED FOR LOCATING PROPERTY OR IDENTIFYING PROPERTY OR EASEMENT CORNERS. THIS IS NOT A SURVEY.

SOIL SERVICES, PLLC

PO BOX 91115, RALEIGH, NC 27675
OFFICE: (919) 745-1928 FAX: (919) 251-9053
WWW.SOILSERVICES.US



SEPTIC REPAIR SITE PLAN

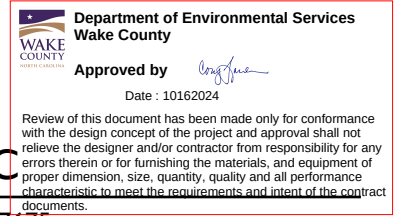
1528 LAKE ADVENTURE CT

WAKE CO., NC FUTURE HOMES

Project No.: 1582-1	Drawn: SM	Field Work: SM	Sheet No.: 1 of 1
Project Manager: SM	Scale: 1"=60'	Sheet No.: 1 of 1	
Client: FUTURE HOMES			



CA PART C



SOIL SERVICES, PLLC

PO BOX 91115 ♦ RALEIGH, NC ♦ 27675

October 14, 2024
Project No. 1582-1

Pressure Manifold Design Packet
1528 Lake Adventure Ct
Four-Bedroom Residence
WRP-092761-2022

Contents

Installer Information	1
Design Specifications.....	2 – 5
System Tap Chart.....	6
System Site Plan	7
Septic Tank Diagram	8
Effluent Filter.....	9
Pump Tank Diagram	10
Pressure Manifold	11
Nitrification Trench Detail.....	12
Control Panel Specifications.....	13 – 14
Pump Specifications.....	15 – 16
Repair System Specifications	17
Repair System Site Plan.....	18

Designed By:

Sarah I. Menser, LSS
NC License No. 1304
AOWE No. 10007E

INSTALLER INFORMATION

The permit should be read very carefully prior to bidding. The following are details that must be considered by the installer prior to and during installation:

- Tanks shall be approved by NCDHHS, and certification supplied by the manufacturer.
- Tanks shall be water tested prior to installation.
- The installer shall be responsible to the owner for placement of the tanks and to ensure that final grades are returned to the original grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement without damage or displacement of pipe or fittings.
- Installation of the system shall be during dry conditions in order to protect the soil structure.
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy-bodied PVC pipe glue applied to weld all joints.
- Where required by Wake County Environmental Services, post installation inspections by the designer must be scheduled 5 days in advance.
- Trenches shall be carefully excavated and be level end to end as well as side to side. Trenches shall not be over-dug and backfilled to level. It is extremely important to insure that trenches are not over excavated during initial trenching. All fine grading within the trench will be done by hand with a shovel. No loose material shall be left in the trench.
- All pipe openings in the tanks shall be properly grouted with waterproof grout. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent settlement.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral.
- No heavy equipment shall be used on the field during or after installation. The use of a small loader (i.e. Bobcat) or a trencher (i.e. Ditch Witch 2300/2310) may be used for installation.
- Elevations at pinflag locations should be checked by the installer prior to beginning trench excavation.
- Pump tank riser shall be 6" above grade, control panel shall be 24" above grade.
- Septic tank shall have specified effluent filter or approved equivalent.
- Pump tank shall be as specified. Any change shall be approved by designer and County Health Department.
- System uses EZ-FLOW drain line.
- Repair uses EZ-FLOW drain line.

OVERLOOK PH 3 - LOT 15
Project No. 1582-1
PRESSURE MANIFOLD SYSTEM
FOR WASTEWATER TREATMENT

Owner: Future Homes
Attn: Jim Thompson
Address: 1105 Classic Rd
Apex, NC 27539
Phone: 919-363-4111
County: Wake
Location: 1528 Lake Adventure Ct

Source of Wastewater Flow: 4 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 480 gpd
System Flow: 32.9 gpm

Design Specifications

Number of Drain Lines: 6
Drainfield Size: 405 ft
Loading Rate: 0.30 gpd/sq ft
Distribution Media: EZ-Flow
Gravel Size (if applicable): NA
Trench Depth: as permitted
Trench Width: 3 ft
[Septic Tank:](#) 1200 gal
[Pump Tank:](#) 1200 gal
[Grease Trap:](#) NA -
Estimated Supply Line Length: 119 ft
Supply Line Diameter: 2.0 in. SCH 40 PVC
Supply Line Volume: 20.71 gal
[Supply Manifold:](#) 4.0 in. SCH 80 PVC
Supply Manifold Length: 4.5 ft (minimum)
Supply Manifold Volume: 0.6 gal
Threaded Union: In Tank
Gate Valves: 1 in Pump Tank
1 at Pressure Manifold
Check Valves: 1 in Pump Tank
Anti-Siphon Hole: 1 in Pump Tank
Solenoid Valve: NA
[Air Release/Vacuum Break Valve:](#) NA

Recommended Float Controls: SJE Sensor Float Control Switches as Required
for Control Panel or County Approved Equivalent
[Recommended Control Panel:](#) SJE-Rhombus Model 112 (NEMA 4x) Control
Panel or County Approved Control Panel.
Recommended Pump: Zoeller Model N152 or County Approved Equivalent
TDH Capacity: 17.5 ft
Flow Capacity: 32.9 gpm

Additional Comments: Soil suitability was performed by the Wake
County Health Department.

OVERLOOK PH 3 - LOT 15
Project No. 1582-1
DESIGN CALCULATIONS

Supply line length	119	ft
2.00 in. SCH 40 PVC	0.174	gal/ft
Supply line Volume	20.706	gal
Total drain field length	405	ft
4" pipe	0.65079	gal/ft
Total drain field volume	263.57	gal
Percent of dose volume	75%	
Dose Volume	197.7	gal
Dose volume	197.68	gal
Pump tank	19.65	gal/in
Pump tank Drawdown	10.1	in
Ground Elevation at Pump Tank	96	ft
Pump Tank Installation Depth	3	ft
Pump Tank Elevation	93.0	ft
Pump Elev. Difference	5.4	ft
Pump Elevation	87.6	ft
Elevation of Highest Drain Line	98.1	ft
Manifold Elevation	99.1	ft
	11.5	ft
Elevation Head	11.5	ft
System flow	32.88	gal/minute
Friction Factor*	2.11	f / 100ft
Supply Line Length	119	ft
Friction Adjustment for Fittings**	189	ft
Friction Head	4.0	ft
Pressure Head	2.0	ft
(TDH) Total Dynamic Head	17.5	ft
Daily flow	480	gal/day
LTAR	0.30	sqft/day
Trench width	3	ft
Required drain field length (gravel)	533	ft
Required drain field length (ezflow)	400	ft

* Computed by Hazen Williams Formula, assuming C=140

**If supply line is greater than 350ft, then 20% is added to account for fittings. If supply line is less than 350ft, then 70ft is added to account for fittings.

OVERLOOK PH 3 - LOT 15

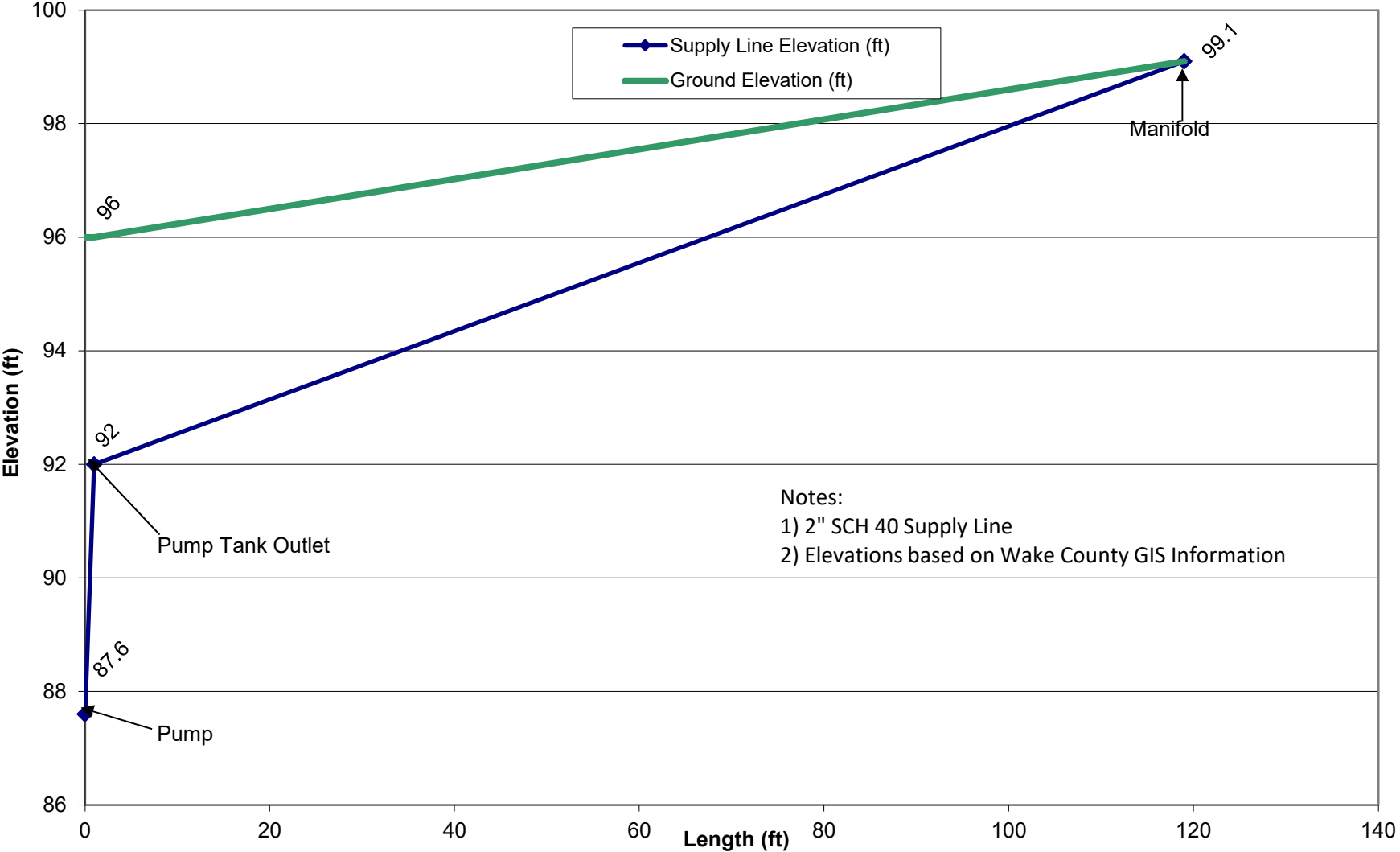
Project No. 1582-1

<u>LINE #</u>	<u>FLAG COLOR</u>	<u>BS (ft)</u>	<u>HI (ft)</u>	<u>FS (ft)</u>	<u>ELEVATION (ft)</u>	<u>FLAGGED LINE LENGTH (ft)</u>	<u>DESIGN LINE LENGTH (ft)</u>
TBM		2.4			100.00		
INSTR. 1			102.40				
1	YELLOW			3.05	99.35	60	60
2	WHITE			3.20	99.20	80	80
3	PINK			4.00	98.40	79	75
4	BLUE			4.30	98.10	77	75
5	YELLOW			4.80	97.60	73	70
6	RED			5.20	97.20	62	65
7	WHITE			5.50	96.90	60	65
8	BLUE			5.80	96.60	65	65
9	PINK			6.10	96.30	90	65
10	WHITE			3.20	99.20	79	75
11	BLUE			4.15	98.25	57	57
12	RED			4.95	97.45	60	65
Total						842	817

<u>System</u>	<u>DESIGN LINE LENGTH (ft)</u>	<u>SOIL LTAR GPD/FT²</u>	<u>SYSTEM TYPE</u>	<u>DESIGN LTAR* GPD/FT²</u>	<u>DISTRIBUTION MEDIA</u>	<u>DISTRIBUTION METHOD</u>	<u>DESIGN FLOW (GPD)</u>
	405	0.30	Accepted	0.30	EZ-Flow	Pressure Manifold	480
Repair	412	0.30	Accepted	0.29	EZ-Flow	Pressure Manifold	480

- Notes:**
- 1) TBM on ground AT STAKE.
 - 2) TBM is assumed to be 100.00'.
 - 3) All measures in feet.
 - 4) Nitrification lines are demonstrated on contour via colored pin flags.
 - 5) BS, FS indicate rod readings.
- * **Design LTAR = Design Flow / ((Design Line Length x Trench Width) / (1-%Reduction))**

Supply Line Profile

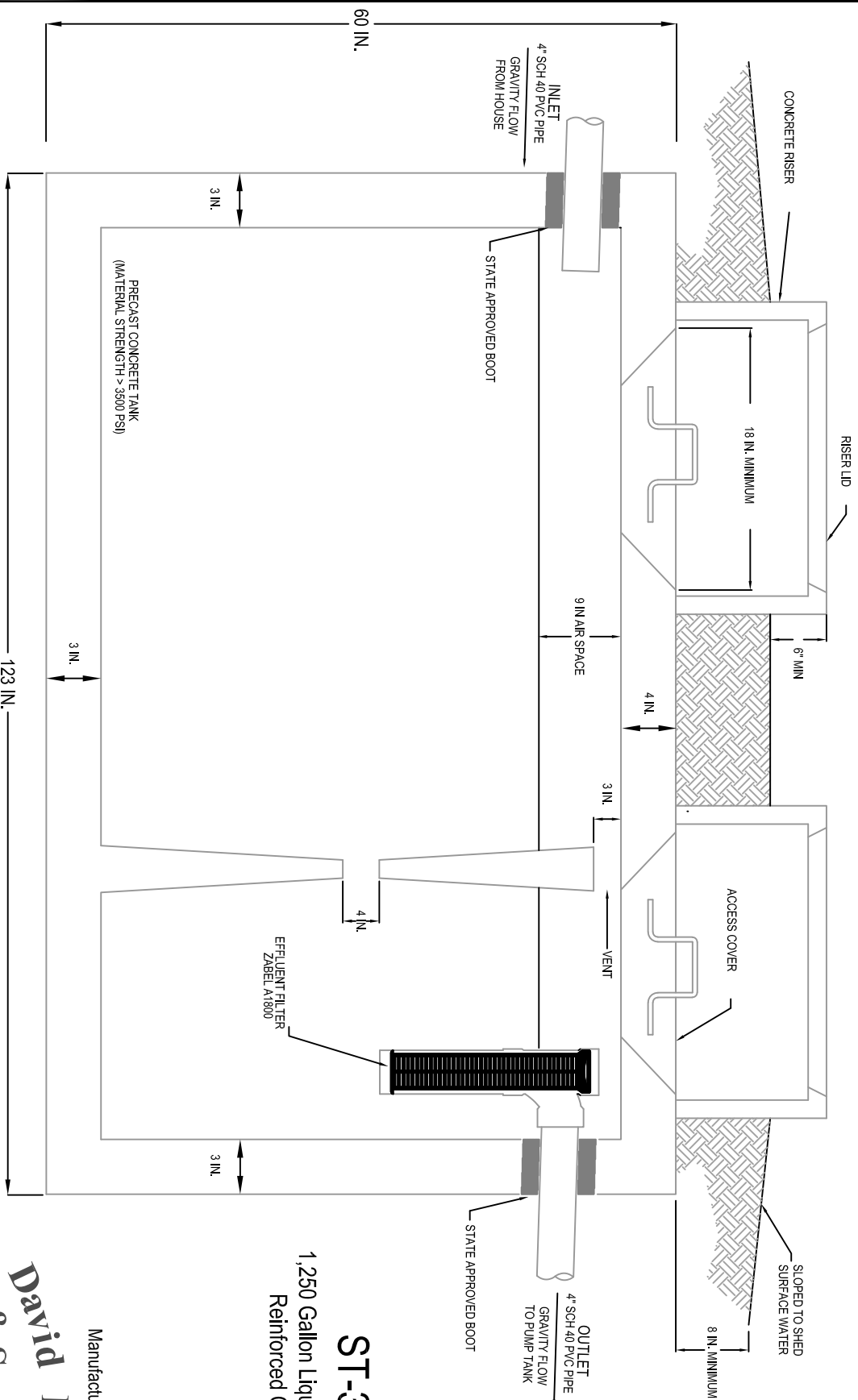


OVERLOOK PH 3 - LOT 15
Project No. 1582-1
SYSTEM TAP CHART

Line #	Color	Field Elev. (ft)	Length (ft)	Hole Size (in)	Flow/Tap (gpm)	gpd	Trench Area (sq ft)	Line LTAR (gpd/sq ft)
4	BLUE	98.10	75	1/2" SCH. 80	5.48	80.00	225	0.356
5	YELLOW	97.60	70	1/2" SCH. 80	5.48	80.00	210	0.381
6	RED	97.20	65	1/2" SCH. 80	5.48	80.00	195	0.410
7	WHITE	96.90	65	1/2" SCH. 80	5.48	80.00	195	0.410
8	BLUE	96.60	65	1/2" SCH. 80	5.48	80.00	195	0.410
9	PINK	96.30	65	1/2" SCH. 80	5.48	80.00	195	0.410

total feet = 405 gal/min = 32.88

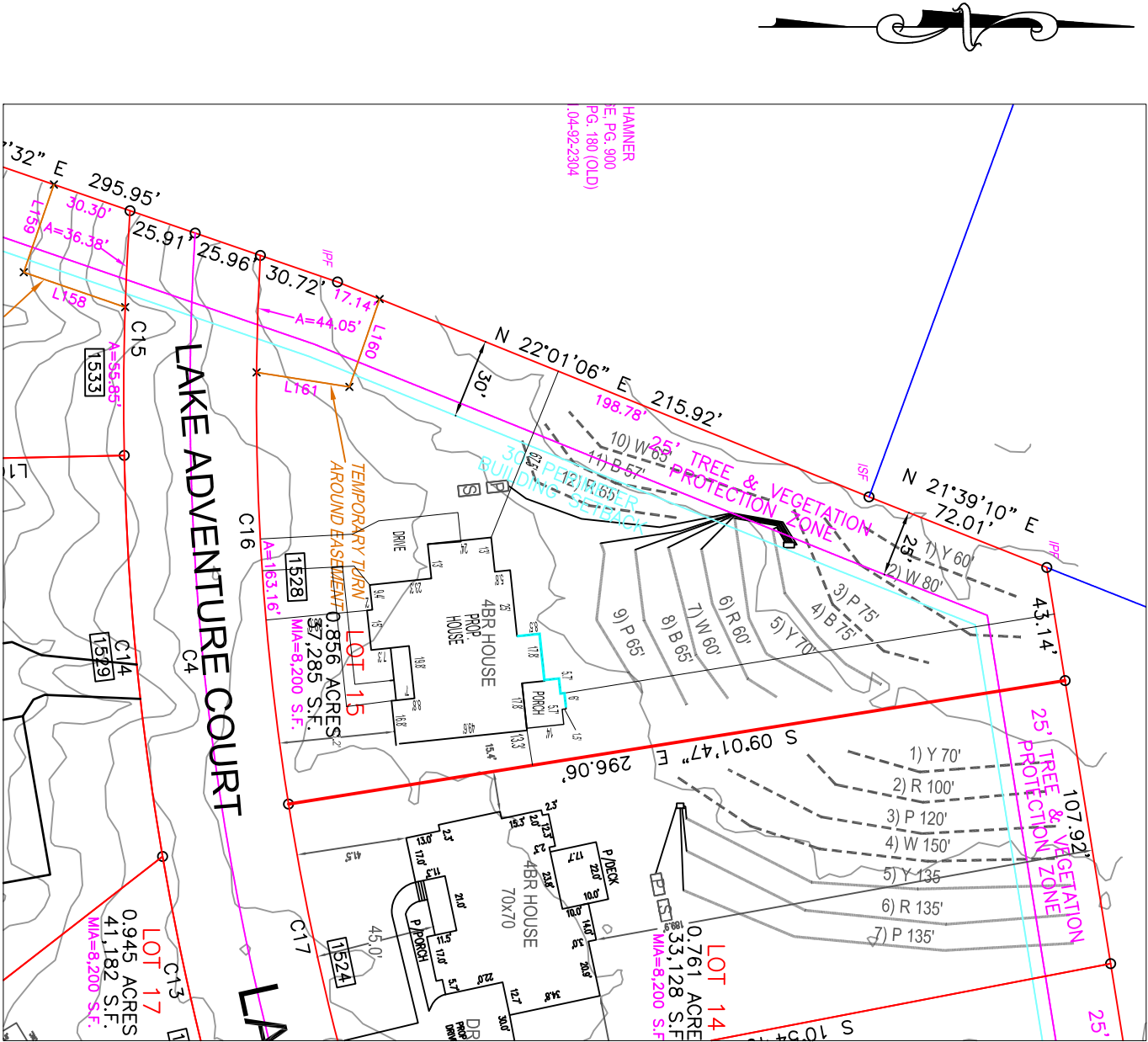
Des. Flow	480	gpd
Pump Run=	14.60	min
soil LTAR	0.30	gpd/sq ft
(Itar +5%)	0.315	gpd/sq ft
INNOV. Product Reduction	25%	
LTAR with INNOV.	0.40	gpd/sq ft
LTAR with INNOV. + 5%	0.420	gpd/sq ft
100% Dose Volume	263.56	gal
Percent Dose Volume	75%	
Total	197.67	gal
Pump Run Time	6.01	min



ST-323
 1,250 Gallon Liquid Capacity
 Reinforced Concrete

Manufactured By:
David Brantley & Sons, Inc.
 37 Pine Ridge Road
 Zebulon, NC 27597
 (888) 817-1904
www.davidbrantley-sonslnc.com

JOB NO.: 1582-1		PROJECT NAME: 1528 LAKE ADVENTURE CT	
PROJECT MGR: SM		SHEET TITLE: SEPTIC TANK DIAGRAM	
SCALE: NTS		 SOIL SERVICES, PLLC PO BOX 9115, RALEIGH, NC 27675 OFFICE: (919) 745-1028 FAX: (919) 375-9899 WWW.SOILSERVICES.US	
NOTES:		1) TANK SHALL HAVE A MIN. LIQUID CAPACITY OF 1200 GALS. 2) TANK DIMENSIONS PROVIDED BY MANUFACTURER.	
		8 OF 18	



LEGEND

	SYSTEM LINE
	REPAIR LINE
	NO FOUNDATION DRAINS
	SEPTIC TANK
	PUMP TANK

Owner

Name: Future Homes
Email: jthompsonfuturehomesonline.com
Phone: (919) 363-4111
Address: 1105 Classic Rd, Apex, NC 27539

Site

PIN: 0891020449
Address: 1528 Lake Adventure Ct
Permit: WRP-092761-2022

NOTES:

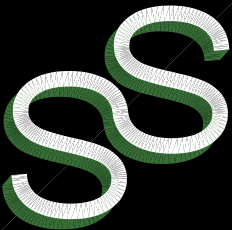
- 1) SITE DATA TO INCLUDE PROPERTY BOUNDARIES, STRUCTURE LOCATION, UTILITIES, ROADS, AND OTHER SITE FEATURES WERE PROVIDED BY BNK SURVEYING AND ARE SHOWN TO DISPLAY GENERAL SITE CONDITIONS.
- 2) ALL SEPTIC SYSTEM COMPONENTS TO INCLUDE TANKS, PUMPS, MANIFOLDS, AND SYSTEM AND REPAIR LINES HAVE BEEN GPS LOCATED BY SOIL SERVICES, PLLC. ALL LOCATIONS, ELEVATIONS, AND DIMENSIONS ARE APPROXIMATE AND AS SUCH NO SPECIFIC ACCURACY EITHER VERTICAL OR HORIZONTAL IS IMPLIED.
- 3) PROPERTY AND EASEMENT BOUNDARIES SHOWN ON THIS SITE SKETCH ARE APPROXIMATE AND ARE NOT INTENDED FOR LOCATING PROPERTY OR IDENTIFYING PROPERTY OR EASEMENT CORNERS. THIS IS NOT A SURVEY.

Project No.:	1582-1
Project Manager:	SM
Scale:	1"=60'
Sheet No.:	7 of 18

Sheet Title:	SEPTIC SYSTEM SITE PLAN
Project:	1528 LAKE ADVENTURE CT
Location:	WAKE CO., NC
Client:	FUTURE HOMES

SOIL SERVICES, PLLC

PO BOX 91115, RALEIGH, NC 27675
OFFICE: (919) 745-1928 FAX: (919) 251-9053
WWW.SOILSERVICES.US





OutdoorSmart Filter Alarm

All Polylok/Zabel
filters accept the
SmartFilter®
switch and alarm.



A1800 Series



A100 Series

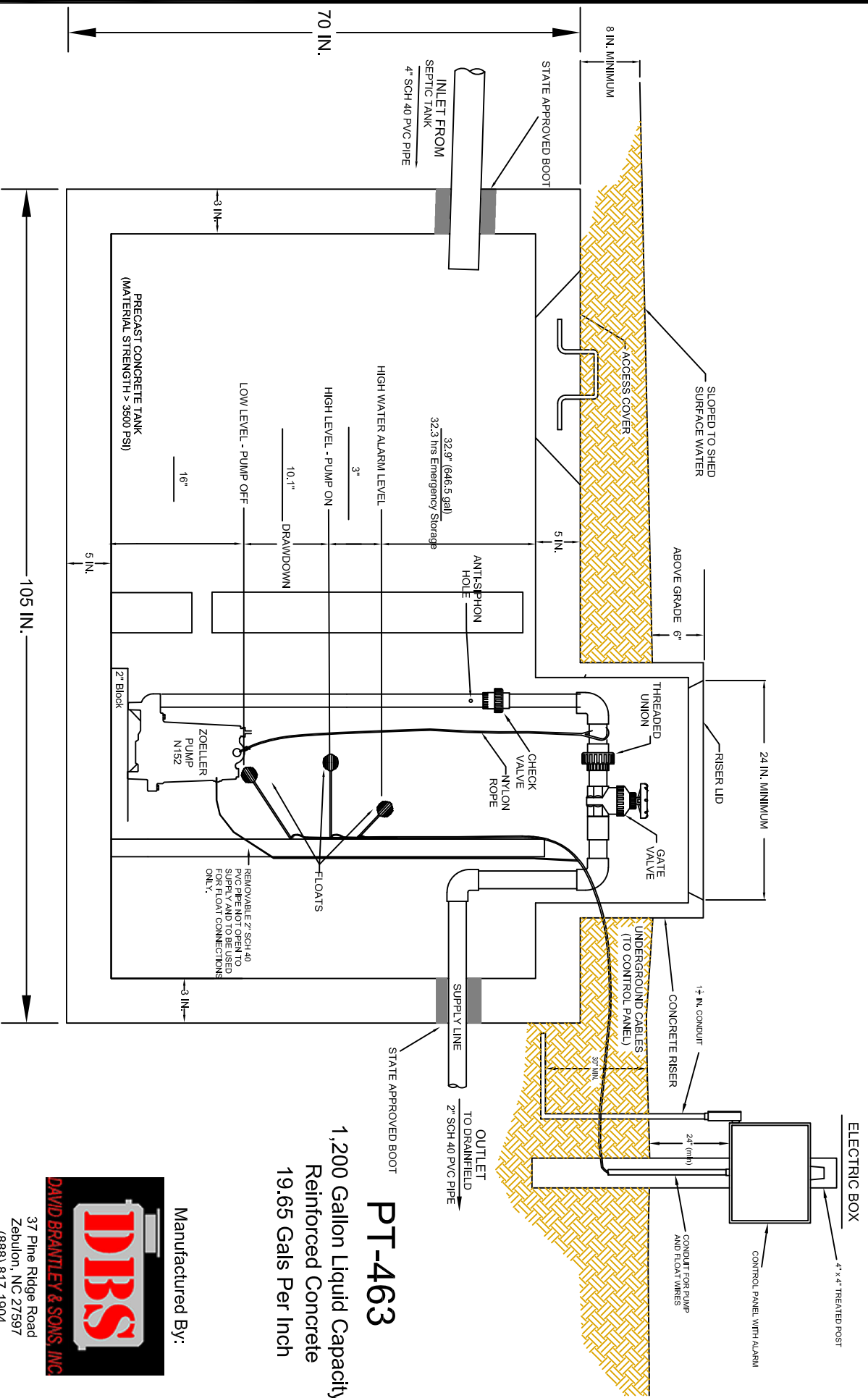


A300 Series



A600 Series

Features	A1800 Series	A100 Series	A300 Series	A600 Series
Filtration	1/16"	1/16"	1/32"	1/64"
Gallons Per Day	800	1200 - 6000	1200 - 6000	1200 - 6000
Linear Feet of Filtration	80	78 - 338	78 - 338	78 - 338
SmartFilter Switch and Alarm	Available	Available	Available	Standard
Available Filter Dimensions	4x18, 4x22	8x18, 8x26, 8x32 12x20, 12x28, 12x36	8x18, 8x26, 8x32 12x20, 12x28, 12x36	8x18, 8x26, 8x32 12x20, 12x28, 12x36
Disc Dam Technology		x	x	x
Extend & Lok Compatible	x	x	x	x
NSF Certification	x	x	x	
Installed in Multiples for Larger Flows		x	x	x
Applications				
Residential	x	x	x	
Residential Multi-Family	x	x	x	
Commercial		x	x	x
Grease Traps			x	x
High TSS Removal	x	x	x	x
Benefits				
Extends Life of Leaching Fields	x	x	x	x
Keeps Solids in Septic Tank	x	x	x	x
Polylok Comparable Filter	PL-68	PL-122	PL-525 or PL-625	PL-525 or PL-625



PT-463
 1,200 Gallon Liquid Capacity
 Reinforced Concrete
 19.65 Gals Per Inch

Manufactured By:



37 Pine Ridge Road
 Zebulon, NC 27597
 (888) 817-1904
www.davidbrantley-sonsinc.com

JOB NO: 1582-1

PROJECT NAME:

PROJECT MGR: SM

SHEET TITLE:

SCALE: NTS

PROJECT NAME:

1528 LAKE ADVENTURE CT

PUMP TANK DIAGRAM



SOIL SERVICES, PLLC

PO BOX 9115, RALEIGH, NC 27675
 OFFICE: (919) 745-1828 FAX: (919) 375-9889
WWW.SOILSERVICES.US

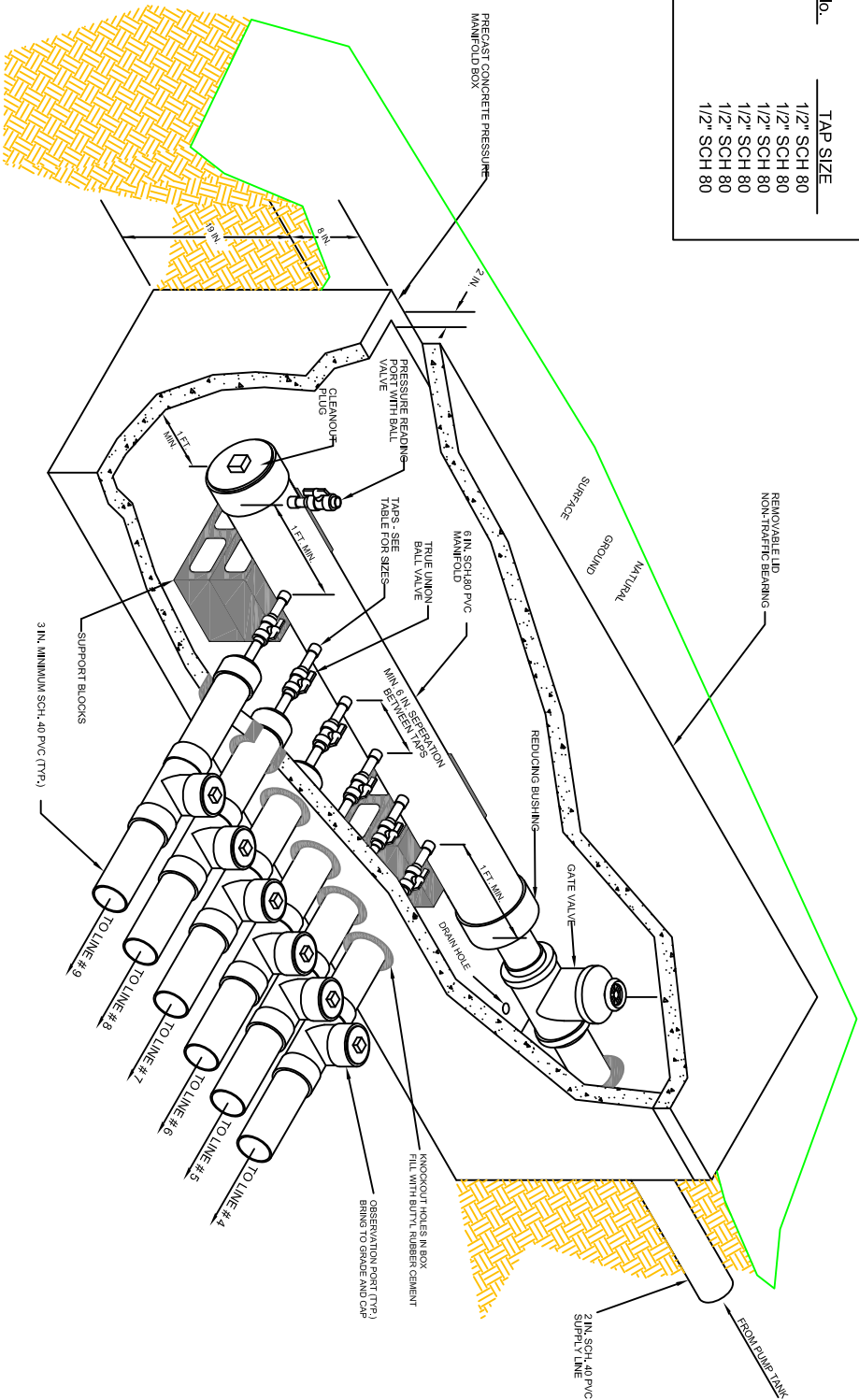
NOTES:

- 1) TANK SHALL HAVE A MIN. LIQUID CAPACITY OF 1200 GALS.
- 2) TANK SHALL NOT BE INSTALLED AT A DEPTH GREATER THAN 3 FEET WITHOUT COUNTY/STATE APPROVAL.

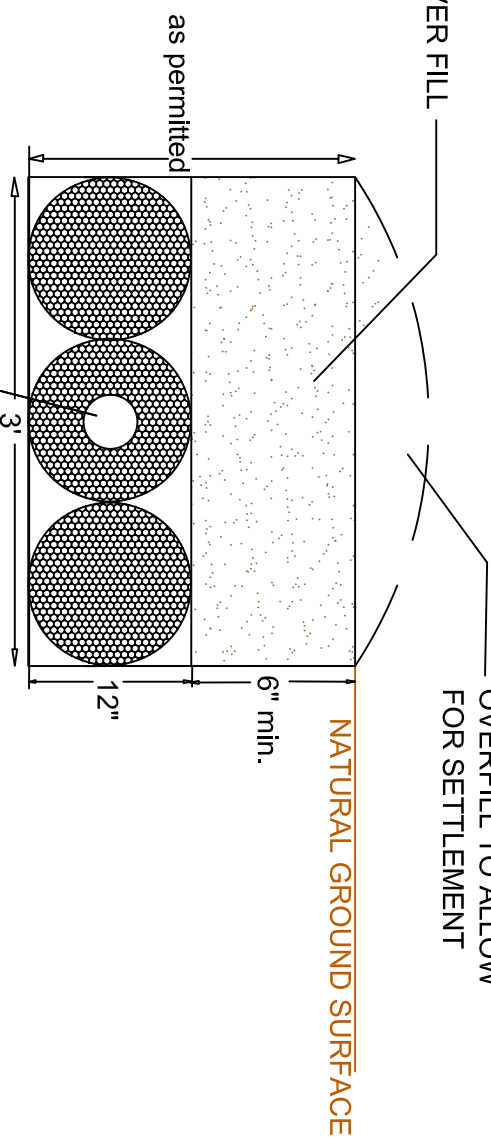
PAGE:

NOTE: SOME DESIGNS REQUIRE SUPPLY LINE TO ENTER OPPOSITE END OF MANIFOLD.
SEE SITE PLAN PAGE 7.

LINE NO.	TAP SIZE
4	1/2" SCH 80
5	1/2" SCH 80
6	1/2" SCH 80
7	1/2" SCH 80
8	1/2" SCH 80
9	1/2" SCH 80



11 OF 18



NOTE:

1. PERFORATED CORRUGATED PLASTIC PIPE SHALL MEET REQUIREMENTS OF ASTM D 2729.
2. PIPE SHALL BE LEVEL.
3. END CAP SHALL BE PROVIDED AT END OF ALL CORRUGATED PLASTIC PIPE LINES.
4. TRENCH BOTTOM SHALL BE LEVEL.
5. SEE INFORMATION FOR INSTALLER.

JOB NO:	PROJECT NAME:		 SOIL SERVICES, PLLC PO BOX 9115, RALEIGH, NC 27675 OFFICE: (919) 45-1928 FAX: (919) 261-9053 WWW.SOILSERVICES.ORG	NOTES:	12
PROJECT MGR:	1582-1	1528 LAKE ADVENTURE CT			
SCALE:	SM	SHEET TITLE: NITRIFICATION TRENCH			
NTS					

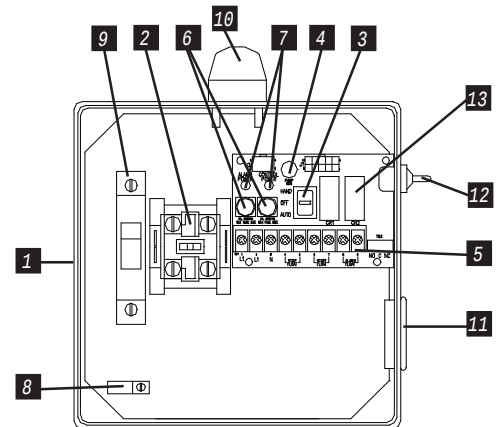
MODEL 112 Control Panel

Single phase, simplex motor contactor control.

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

PANEL COMPONENTS

1. **Enclosure** measures 8 x 8 x 4 inches (20.32 X 20.32 X 10.16 cm).
Choice of NEMA 1 (steel for indoor use), or NEMA 4X (ultraviolet stabilized thermoplastic with removable mounting feet for outdoor or indoor use).
* Options selected may increase enclosure size and change component layout.
2. **Magnetic Motor Contactor** controls pump by switching electrical lines.
3. **HOA Switch** for manual pump control (mounted on circuit board).
4. **Green Pump Run Indicator Light** (mounted on circuit board).
5. **Float Switch Terminal Block** (mounted on circuit board).
6. **Alarm and Control Fuses** (mounted on circuit board).
7. **Alarm and Control Power Indicators** (mounted on circuit board).
8. **Ground Lug**
9. **Circuit Breaker** (optional) provides pump disconnect and branch circuit protection.



Model Shown 1121W914X



STANDARD ALARM PACKAGE

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

NOTE: other options available.

FEATURES

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



PO Box 1708, Detroit Lakes, MN 56502

1-888-DIAL-SJE • 1-218-847-1317

1-218-847-4617 Fax

email: sje@sjerhombus.com

www.sjerhombus.com

**SEE BACKSIDE FOR COMPLETE LISTING OF AVAILABLE OPTIONS.
SEE PRICE BOOK FOR LIST PRICE.**

112

1

W

9

1

4

H

3A, 8A, 8C, 10E, 15A

MODEL 112

ALARM PACKAGE

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

ENCLOSURE RATING

- ☐ I = Indoor, NEMA 1 (metal)
☐ W = Weatherproof, NEMA 4X (engineered thermoplastic)

STARTING DEVICE

- ☐ 1 = magnetic motor contactor 120/208/240V
☐ 9 = magnetic motor contactor 120V only

PUMP FULL LOAD AMPS

- ☐ 0 = 0-7 FLA
☐ 1 = 7-15 FLA
☐ 2 = 15-20 FLA
☐ 3 = 20-30 FLA

PUMP DISCONNECTS

- ☐ 0 = no pump disconnect
☐ 4 = circuit breaker 120V (select STARTING DEVICE option 9 above)
120/208/240V (select STARTING DEVICE option 1 above)

FLOAT SWITCH APPLICATION

- ☐ H or L = pump down or pump up (select 17 option)
☐ X = no floats
WITH alarm package
WITHOUT alarm package

OPTIONS Listed below



ENCLOSURE UPSIZE - If you selected 3 or more of the ★ options, or one ★★ option, add a one-time enclosure upsize fee would apply.

CODE DESCRIPTION

- ☐ 1A Red beacon only / no audio
(must select 1E if floats included)
☐ 1C Horn only / no visual
(must select 1E if floats included)
☐ 1E Alarm float
☒ 3A Alarm flasher
☐ ★ 3B Manual alarm reset
☐ ★ 4A Redundant off
(select option 4D if floats included)
☐ ★ 4B Red redundant off indicator & alarm
(must select 4A also)
☐ 4D Redundant off float
(select 4A option) (select 17 option)
☐ ★ 5A Thermal cutout/heat sensor auto
reset (for pumps w/thermal switch leads)
☐ ★★ 5E Seal failure circuit & red indicator (2 wire)
☐ 6A Auxiliary alarm contact, form C
☒ ★ 8A Elapsed time meter
☒ ★ 8C Event (cycle) counter
☐ ★★ 9_A Pump overload
specify amperage after number 9 followed by letter "A".
Example: 912A = 12 amp pump.
★★ ☐ 0-25 FLA
★★ ☐ 25-30 FLA
☒ 10E Lockable latch - NEMA 4X
☐ 10E Lockable latch - NEMA 1
☐ ★ 10F Lightning arrestor (select pump circuit breaker)
☐ ★ 10K Anti-condensation heater

CODE DESCRIPTION

- ☐ 11C NEMA 1 alarm panel (must select option 6A)
☐ 11D NEMA 4X alarm panel (must select option 6A)
☐ ★★ 14B Main disconnect (rotary style, mounted through door, non-fused)
★★ ☐ 0-20 FLA
★★ ☐ 20-30 FLA
☒ 15A Control / alarm circuit breaker
☐ 16A 10' cord in lieu of 20' (per float)
☐ 16B 15' cord in lieu of 20' (per float)
☐ 16C 30' cord in lieu of 20' (per float)
☐ 16D 40' cord in lieu of 20' (per float)
☐ 17A SJE SignalMaster® / mounting strap ● (per float)
☐ 17B SJE SignalMaster® / externally weighted ● (per float)
☐ 17C Sensor Float® / internally weighted ▲ (per float)
☐ 17D Sensor Float® / externally weighted ▲ (per float)
☐ 17E Sensor Float® Mini / pipe clamp ▲ (per float)
☐ 17F Sensor Float® Mini / externally weighted ▲ (per float)
☐ 17J Sensor Float® / pipe clamp ▲ (per float)
☐ 19T TOA (Test/Off/Automatic) switch and pump run light through
door mounted
☐ 19U HOA (Hand/Off/Automatic) switch and pump run light through
door mounted
☐ 19X Door mounted pump run indicator
☐ 21A SJE PumpMaster® in lieu of on/off switches ●
☐ 21B SJE PumpMaster® Plus in lieu of on/off switches ●
☐ 21C Super Single® in lieu of on/off switches ▲
☐ 21D Double Float® in lieu of on/off switches ▲
● Mechanically-activated ▲ Mercury-activated

If additional features are required, call the factory for a quote on an Engineered Custom control panel.

SAMPLE

MODEL

112

1

W

9

1

4

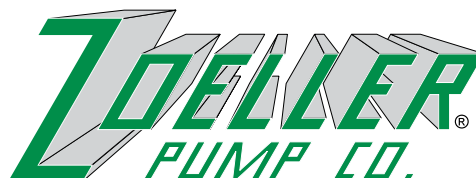
H

3A 8A 17A

Alarm Package
Enclosure Rating
Starting Device
Pump Full Load Amps
Pump Disconnect
Float Switch Application
Options: Flasher, Elapsed Time Meter,
SJE SignalMaster® / pipe clamp

"QUALITY PUMPS SINCE 1939"

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.



SECTION: 3.20.014

FM1919

1206

Supersedes

0504

MAIL TO: P.O. BOX 16347 • Louisville, KY 40256-0347
SHIP TO: 3649 Cane Run Road • Louisville, KY 40211-1961
(502) 778-2731 • 1 (800) 928-PUMP • FAX (502) 774-3624

visit our web site:
www.zoeller.com

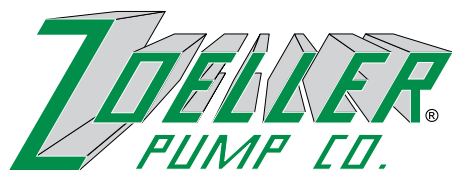
ZOELLER ON-SITE WASTEWATER PRODUCTS

INTRODUCING ZOELLER ON-SITE "DOSE-MATE" PUMPS

COMPARE THESE FEATURES

- Durable cast iron construction.
- Model 151 comes standard with a glass-filled polypropylene base.
- Corrosion resistant powder coated epoxy finish.
- Stainless steel lifting handle.
- Assembled with stainless steel bolts.
- Non-clogging engineered thermoplastic vortex impeller design.
- Model 151 - 1/3 HP passes 1/2" spherical solids.
- Model 152 - .4 HP passes 3/4" spherical solids.
- Model 153 - 1/2 HP passes 3/4" spherical solids.
- Motor - 60 Hz, 3450 RPM, oil-filled, hermetically sealed, automatic reset thermal overload protected.
- Carbon/Ceramic seals.
- Upper sleeve bearing and lower ball bearing running in bath of oil.
- 20 ft. UL Listed power cord with molded 3-wire plug.
- 1 1/2" NPT vertical discharge.
- BN and BE standard models include a 20 ft. variable level float switch.
- Operates at temperatures to 130°F (54°C) in effluent applications.
- All models include a 1 1/2" x 2" PVC adapter fitting.

Note: The sizing of effluent systems normally requires variable level float(s) controls and properly sized basins to achieve required pumping cycles or dosing timers with nonautomatic pumps.



Manufacturers of . . .

"QUALITY PUMPS SINCE 1939"

151/152/153 EFFLUENT SERIES

(For Pump Prefix Identification see News & Views 0052)

"DOSE-MATE"

FOR SEPTIC TANK - LOW PRESSURE PIPE (LPP)
AND ENHANCED FLOW STEP SYSTEMS

EFFLUENT
SUBMERSIBLE

1 1/2" NPT DISCHARGE



C US
Tested to UL Standard UL778
and Certified to CSA
Standard CSA22.2 No. 108



Model N152/N153
High Head
Effluent

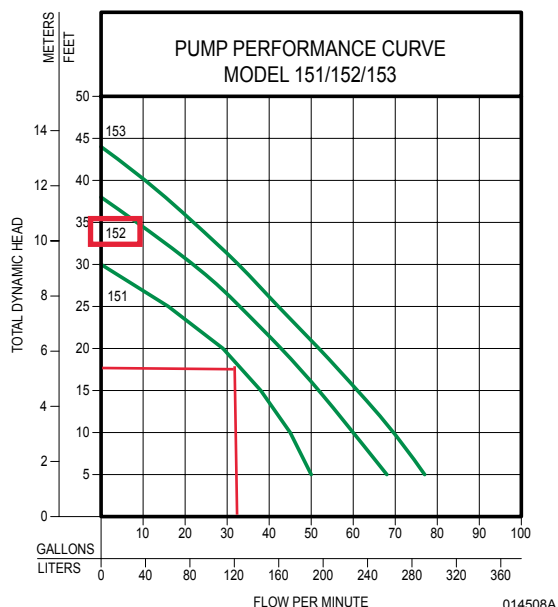
MODELS AVAILABLE

- N151/N152/N153 & E151/E152/E153 nonautomatic
- BN151/BN152/BN153 & BE151/BE152/BE153 packaged with Piggyback Variable Level Float Switch
- 1/3, .4 & 1/2 HP, 1Ph 115V or 230V



POWDER
COATED
TOUGH™

Model BN152/BN153
High Head
Effluent



TOTAL DYNAMIC HEAD/FLOW
PER MINUTE
EFFLUENT AND DEWATERING

MODEL		151		152		153	
Feet	Meters	Gal.	Liters	Gal.	Liters	Gal.	Liters
5	1.5	50	189	69	261	77	291
10	3.0	45	170	61	231	70	265
15	4.6	38	144	53	201	61	231
20	6.1	29	110	44	167	52	197
25	7.6	16	61	34	129	42	159
30	9.1	--	--	23	87	33	125
35	10.7	--	--	--	--	22	85
40	12.2	--	--	--	--	11	42
Shut-off Head:		30 ft. (9.1m)		38 ft. (11.6m)		44 ft. (13.4m)	

014508B

CONSULT FACTORY FOR SPECIAL APPLICATIONS

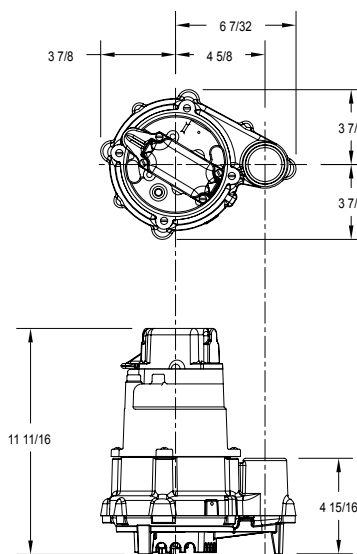
- Timed dosing panels available.
- Electrical alternators, for duplex systems, are available and supplied with an alarm.
- Variable level control switches are available for controlling single phase systems.
- Double piggyback variable level float switches are available for variable level long and short cycle controls.
- Sealed Qwik-Box available for outdoor installations. See FM1420.
- Over 130°F (54°C) special quotation required.

151/152/153 Series

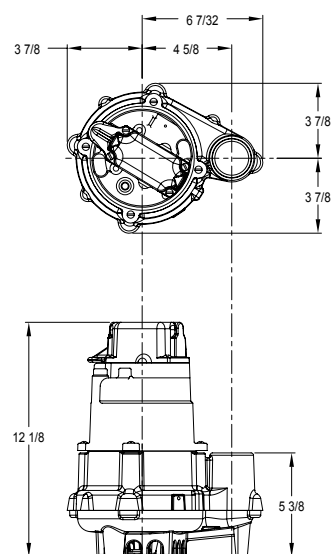
151/152/153 MODELS				Control Selection	
Model	Volts-Ph	Mode	Amps	Simplex	Duplex
N151	115 1	Non	6.0	1	2 or 3
BN151	115 1	Auto	6.0	Included	2 or 3
E151	230 1	Non	3.2	1	2 or 3
BE151	230 1	Auto	3.2	Included	2 or 3
N152	115 1	Non	8.5	1	2 or 3
BN152	115 1	Auto	8.5	Included	2 or 3
E152	230 1	Non	4.3	1	2 or 3
BE152	230 1	Auto	4.3	Included	2 or 3
N153	115 1	Non	10.5	1	2 or 3
BN153	115 1	Auto	10.5	Included	2 or 3
E153	230 1	Non	5.3	1	2 or 3
BE153	230 1	Auto	5.3	Included	2 or 3

CAUTION

All installation of controls, protection devices and wiring should be done by a qualified licensed electrician. All electrical and safety codes should be followed including the most recent National Electric Code (NEC) and the Occupational Safety and Health Act (OSHA).



SK2444



SK2064

SELECTION GUIDE

1. Single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
2. See FM0712 for correct model of Electrical Alternator E-Pak.
3. Variable level control switch 10-0743 used as a control activator, specify duplex (3) or (4) float system.

RESERVE POWERED DESIGN

For unusual conditions a reserve safety factor is engineered into the design of every Zoeller pump.



www.zoeller.com

ZOELLER
PUMP CO.

MAIL TO: P.O. BOX 16347
Louisville, KY 40256-0347
SHIP TO: 3649 Cane Run Road
Louisville, KY 40211-1961
(502) 778-2731 • 1 (800) 928-PUMP
FAX (502) 774-3624

Manufacturers of . .

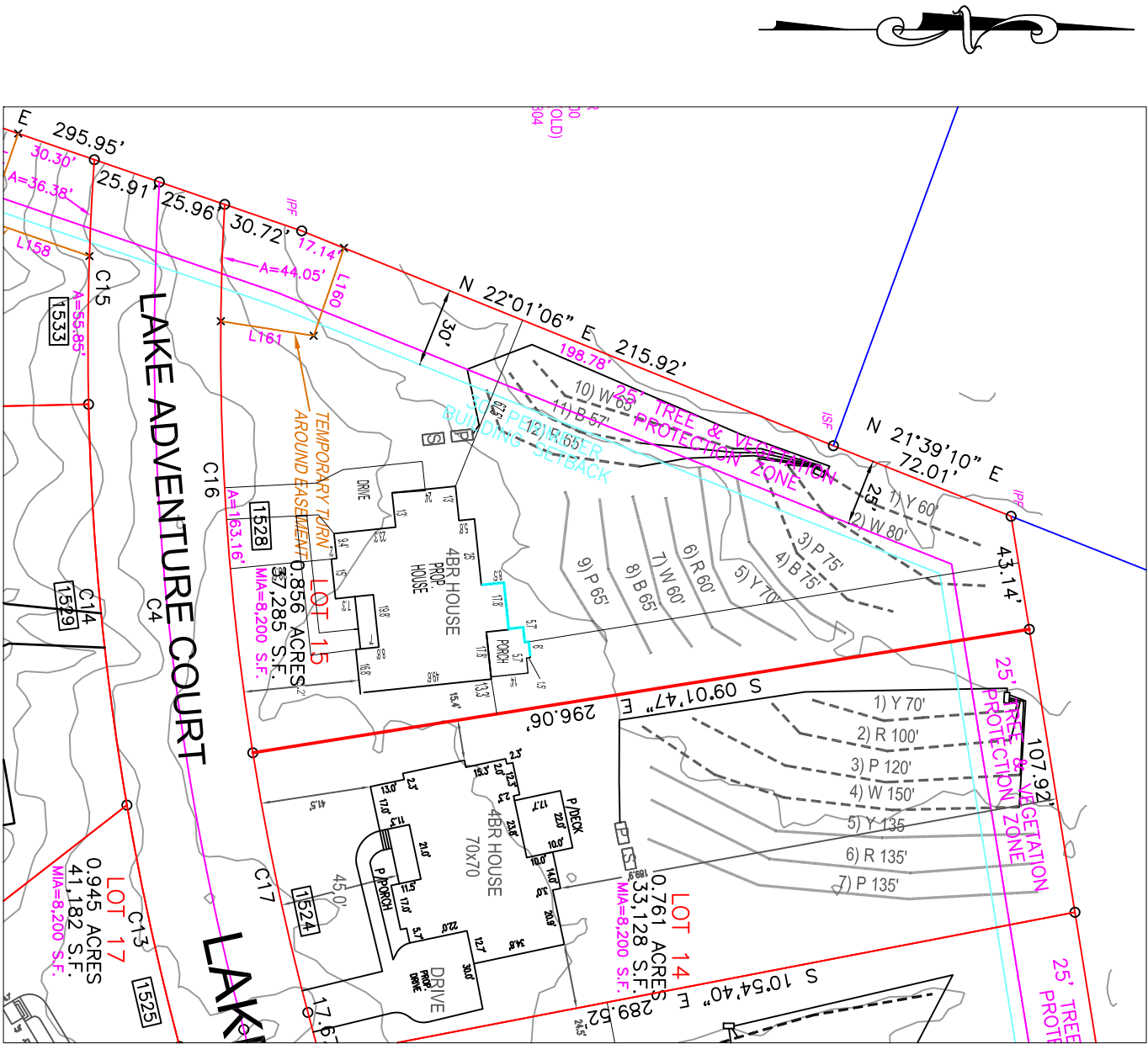
"QUALITY PUMPS SINCE 1939"

OVERLOOK PH 3 - LOT 15
Project No. 1582-1
REPAIR TAP CHART

Line #	Color	Field Elev. (ft)	Length (ft)	Hole Size (in)	Flow/Tap (gpm)	gpd	Trench Area (sq ft)	Line LTAR (gpd/sq ft)
1	YELLOW	99.35	60	1/2" SCH. 80	5.48	69.63	180	0.387
2	WHITE	99.20	80	1/2" SCH. 40	7.11	90.37	240	0.377
3	PINK	98.40	75	1/2" SCH. 40	7.11	90.37	225	0.402
10	WHITE	99.20	75	1/2" SCH. 40	7.11	90.37	225	0.402
11	BLUE	98.25	57	1/2" SCH. 80	5.48	69.63	171	0.407
12	RED	97.45	65	1/2" SCH. 80	5.48	69.63	195	0.357

total feet = 412 gal/min = 37.78

Des. Flow	480	gpd
Pump Run=	12.70	min
soil LTAR	0.30	gpd/sq ft
(ltar +5%)	0.315	gpd/sq ft
INNOV. Product Reduction	25%	
LTAR with INNOV.	0.4	gpd/sq ft
LTAR with INNOV. + 5%	0.42	gpd/sq ft
100% Dose Volume	268.11	gal
Percent Dose Volume	75%	
Total	201.08	gal
Pump Run Time	5.32	min



GRAPHIC SCALE
1" = 60'



LEGEND

	SYSTEM LINE
	REPAIR LINE
	NO FOUNDATION DRAINS
	SEPTIC TANK
	PUMP TANK

Owner

Name: Future Homes

Email: jthompsonfuturehomesonline.com.com

Phone: (919) 363-4111

Address: 1105 Classic Rd, Apex, NC 27539

Site

PIN: 0891020449

Address: 1528 Lake Adventure Ct

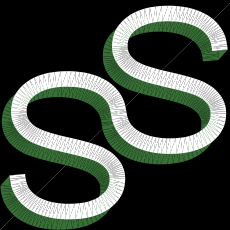
Permit: WRP-092761-2022

NOTES:

- 1) SITE DATA TO INCLUDE PROPERTY BOUNDARIES, STRUCTURE LOCATION, UTILITIES, ROADS, AND OTHER SITE FEATURES WERE PROVIDED BY BNK SURVEYING AND ARE SHOWN TO DISPLAY GENERAL SITE CONDITIONS.
- 2) ALL SEPTIC SYSTEM COMPONENTS TO INCLUDE TANKS, PUMPS, MANIFOLDS, AND SYSTEM AND REPAIR LINES HAVE BEEN GPS LOCATED BY SOIL SERVICES, PLLC. ALL LOCATIONS, ELEVATIONS, AND DIMENSIONS ARE APPROXIMATE AND AS SUCH NO SPECIFIC ACCURACY EITHER VERTICAL OR HORIZONTAL IS IMPLIED.
- 3) PROPERTY AND EASEMENT BOUNDARIES SHOWN ON THIS SITE SKETCH ARE APPROXIMATE AND ARE NOT INTENDED FOR LOCATING PROPERTY OR IDENTIFYING PROPERTY OR EASEMENT CORNERS. THIS IS NOT A SURVEY.

SOIL SERVICES, PLLC

PO BOX 91115, RALEIGH, NC 27675
OFFICE: (919) 745-1928 FAX: (919) 251-9053
WWW.SOILSERVICES.US



Sheet Title:

SEPTIC REPAIR SITE PLAN

Project:

1528 LAKE ADVENTURE CT

Location:

WAKE CO., NC

Client:

FUTURE HOMES

Project No.: 1582-1

Project Manager: SM

Drawn: SM

Scale: 1"=60'

Field Work: SM

Sheet No.:

1 of 1



SOIL SERVICES, PLLC

PO BOX 91115 ♦ RALEIGH, NC ♦ 27675

November 18, 2022
Project No. 1582-1

Wake County Dept. of Environmental Services
Attn: Geoffrey Pearce
P.O. Box 550
Raleigh, NC 27602

**Re: Tree Protection Zone Encroachment Substantiation
Overlook Phase 3 - Lot 15 (Approx. 0.856 Acres)
Mt. Vernon Rd & Creedmoor Rd, Wake County
PIN No. 0891-02-5319**

Dear Mr. Pearce:

The proposed Overlook Subdivision site plan was a result of the back and forth revision process between the client (Tom Hankins & Chad Brinley), surveyor (BNK Surveying), and soil scientist (Soil Services, PLLC). Encroachment into the 25' tree protection zone was necessary to site the required amount of nitrification trench on ground in order to demonstrate conformity with Wake County Section VI Subdivision guidelines. The encroachments are perpendicular in nature and were minimized where possible. We believe that the proposed subdivision plan with these encroachments allow for the permitted use of this property as a residential development, keeping in account the limited suitable soil areas, road configuration, topographic constraints, and many local and state development standards, ordinances, rules and regulations, and setbacks.

If you have any questions regarding this matter please contact me.

Sincerely,

Sarah Menser, LSS
Soil Services, PLLC
NC Licensed Soil Scientist No. 1304

WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER PERMIT

NO PERMIT(S) FOR CONSTRUCTION, LOCATION OR RELOCATION ACTIVITY SHALL BE ISSUED UNTIL AN
AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION AUTHORIZATION HAS BEEN ISSUED
***PERMIT VOID IF NOT IN COMPLIANCE WITH ZONING REGULATIONS AND/OR IF SITE IS ALTERED OR
INTENDED USE CHANGED***

IMPROVEMENT PERMIT

PERMIT #: WRP-092761-2022

APPLICATION DATE: 11/08/2022

BLDG. PERMIT #:

PIN: 0891020449

RECORDED: Yes

TOWNSHIP: 02 - Bartons Creek

JURISDICTION: Wake County

ZONING: R-40W

APPLICANT: Brinley, Chad, CATRAM LLC
3611 CESSNA

BUSINESS PHONE: (919) 771-1997

HOME PHONE:

MOBILE PHONE:

HD USE: 101A CONVENTIONAL ONE-FAMILY HOUSE

EXISTING USE: 0019 Subdivision Improvement Permitting

SITE ADDRESS: 1528 LAKE ADVENTURE CT

SUBDIVISION: OVERLOOK AT MT. VERNON PH 3 **LOT:** 15

ACRES: 0.86

DIRECTIONS: 100' Water Supply Watershed Buffer

Permit is subject to revocation if the Site Plan or Plat changes or the intended use changes.

*Maximum depth of line is calculated using the downhill side of the trench and includes slope correction.

IP VALID FOR: Five Years AS PER GS 130A-335 (f)

DESIGNED BY: Soil Services

SYSTEM LAYOUT: Private Sector

SITE CLASSIFICATION: Provisionally Suitable

IP STATUS: Issued

BY: Caroline Suggs

DATE: 02/06/2023

NUMBER OF BEDROOMS: 4

OR TOTAL NUMBER OF OCCUPANTS: 8

PERMITTED DESIGN FLOW: 480 GPD

BASEMENT: No

BASEMENT PLUMBING: No

WASTEWATER STRENGTH: Domestic

SYSTEM TYPE: III B

LTAR: 0.300

EXISTING SYSTEM UTILIZED: No

PRETREATMENT STRENGTH REQUIRED: None

EASEMENT FOR WW SYSTEM ASSOCIATED WITH PARCEL: No

MAXIMUM TRENCH DEPTH: 36 INCHES

PUMP REQUIRED: Yes

SPECIFIC SYSTEM REQUIREMENTS: -System designed for a 4 bedroom residence, having 480 gals/day.

-Site serviced by community well water.

-Future repair is a IIIB type system with a max trench depth of 36" and a 0.3 LTAR.

-No cutting, grading, alterations, or utilities in septic area.

-Maintain all required setbacks.

ISSUED BY:

Caroline Suggs, R.E.H.S.

DATE: 02/06/2023

SCALE: 1"= 60'

