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-066562-2021 **APPLICATION DATE:** 08/31/2021 **BLDG. PERMIT#: RBPR-066498-2021**

PIN: 1821340584 **RECORDED:** Yes

TOWNSHIP: 14 - New Light **JURISDICTION:** Wake County **ZONING:** R-80W

APPLICANT: Jeff Melton
12339 Wake union church RD

BUSINESS PHONE: (919) 556-8472
HOME PHONE: (919) 215-0436
MOBILE PHONE: (919) 215-0436

HD USE: 101A CONVENTIONAL ONE-FAMILY HOUSE **EXISTING USE:**

SITE ADDRESS: 2100 KINSALE MEADOW LN

SUBDIVISION: THE MANORS AT WATERSTONE RESERVE **LOT:** 18 **ACRES:** 1.72

DIRECTIONS: Capital Blvd. N, Left on Hwy. 98, Right on Camp Kanata Rd., Left into subdivision.

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: EZ1203HG - EZFlow EZ 1203H Geo **PRETREATMENT SYSTEM:**
SYSTEM TYPE INSTALLED: III B
OPERATION PERMIT: STATUS: Issued **ISSUED BY:** Alexander Merrell **ISSUED DATE:** 07/25/2022

SEPTIC TANK: David Brantley & Sons - STB-323 - 1250 gallons **DATE OF MANUFACTURE:** 11/17/2021 **FILTER:** GAG SIM/TECH - STF-110
GREASE TRAP: **DATE OF MANUFACTURE:** **FILTER:**
DOSING PUMP TANK: Brantley - PT-2124 - 1312 gal - 21.5 gal/in **DATE OF MANUFACTURE:** 11/05/2021 **FILTER:**
CC1: 999,809 **ETM1:** 0 **CC2:** **ETM2:**
RECIRCULATION TANK: **DATE OF MANUFACTURE:**
CC1: **ETM1:** **CC2:** **ETM2:**

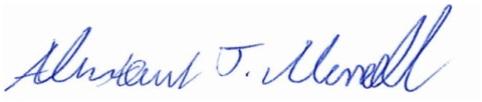
SEPTIC TANK ELEVATION: 9.83 **GREASE TRAP ELEVATION:** **DOSING PUMP TANK ELEVATION:** 10.42

RECIRCULATION TANK ELEVATION: **DISTRIBUTION DEVICE ELEVATION:**

INSTALLED TRENCH DEPTH	INSTALLED AGGREGATE DEPTH	INSTALLED TRENCH LENGTH	INSTALLED TRENCH BOTTOM ELEVATION
20	12	60	6.75
20	12	60	7.666
20	12	60	8.5
20	12	60	9.5833
20	12	60	10.5
20	12	65	11.25
20	12	55	12.0833

ACTUAL PRESSURE HEAD: 2 **ACTUAL FLOW RATE:** 38 **ACTUAL DOSE VOLUME:** 204

SPECIFIC OPERATION REQUIREMENTS:
- 4 bedroom single family residence
- 480 GPD design flow
- Site is serviced by a community well

ISSUED BY:  **DATE:** 07/25/2022

As-Built

SUBJECT PROPERTY IS____ IS NOT ____ LOCATED IN A SPECIAL FLOOD HAZARD AREA AS DESIGNATED ON FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A.) FLOOD INSURANCE RATE MAP NUMBER_____ ZONE_____

EROSION AND SEDIMENT CONTROL APPROVED PLAN
DATE _____
PERMIT NO. S _____
WAKE COUNTY ENVIRONMENTAL SERVICES SEDIMENTATION & EROSION CONTROL (919) 856-7400

SITE PLAN APPROVED BY WAKE COUNTY N.C. P.D.I.
Nikki McIntyre
08/31/2021 4:14:52 PM

RBPR-066498-2021

NOW/FORMERLY JOSEPH HARRISON JR. & CHARLOTTE HARRISON

NOW/FORMERLY BENJAMIN J. MACKIE & LESLEY J. MACKIE

UNITED STATES OF AMERICA

PROPOSED HOME
1 CAR GARAGE
2 CAR GARAGE
SCREEN PORCH

Repair Area
18
77 S.F.
AORES
2,500 S.F.
FFE 306.06'

N 14°05'56" E 195.92'
N 80°49'27" W 206.98'
N 80°45'00" E 169.20'
N 75°10'57" E 119.32'
S 34°50'14" W 438.42'
N 15°04'30" E 112.45'
S 88°17'35" E 88.75'

25' TREE & VEGETATION PROTECTION ZONE
20' BUILDING SETBACK LINE
100' NEUSE RIVER BUFFER
30' CLUSTER S/D PERIMETER SETBACK
30' PUBLIC DRAINAGE EASEMENT
OPEN SPACE
LOT 19
LOT 17

KINSALE MEADOW LANE
50' PUBLIC R/W

ZONED R-80W
SETBACKS
FRONT 15'
SIDE 7.5'
REAR 15

CURVE C-17
R=50.0'
L=28.36'
CHORD
S 16°29'31" E 27.98'

PROPOSED IMPERVIOUS AREAS
HOME 4,097 S.F.
WALK & DRIVE 5,327 S.F.
A/C 27 S.F.
TOTAL 9,451 S.F.

3'X4' MIN STANDARD SILT FEN. OUTLET
TEMPORARY 20'X50' CONSTRUCTION ENTRANCE
S/F ——— S/F ——— S/F SILT FENCE
LIMITS OF DISTURBANCE 31,734 S.F.
TOPO TAKEN FROM WAKE COUNTY GIS

PRELIMINARY PLAT, NOT FOR RECORDATION, CONVEYANCE OR SALE

BUILDER TO VERIFY HOUSE DIMENSIONS

THE MANORS AT WATERSTONE RESERVE

LOT 18 BLOCK_____

RECORDED IN BOOK OF MAPS 2021, PAGE 273 WAKE COUNTY, N. C.

I, JOHN Y. PHELPS, JR. HEREBY CERTIFY THAT THIS MAP IS CORRECT AND THAT THE BUILDINGS LIE WHOLLY ON THE LOT AND THAT THERE ARE NO ENCROACHMENTS OF OTHER BUILDINGS ON SAID LOT UNLESS SHOWN OTHERWISE. THIS MAP IS NOT FOR RECORDING.

NORTH CAROLINA PROFESSIONAL SEAL L-1319 LAND SURVEYOR JOHN Y. PHELPS

JOHN Y. PHELPS, JR. L-1319

PLOT PLAN SHEET 1 OF 4

HOMESTEAD BUILDING COMPANY

2100 KINSALE MEADOW LANE
NEW LIGHT TOWNSHIP, WAKE COUNTY, N.C.

SCALE 1"=80'
DATE 6/23/21
M@WSR-18

JOHN Y. PHELPS, JR.
PROFESSIONAL LAND SURVEYOR
5110 BUR OAK CIRCLE
RALEIGH, NORTH CAROLINA, 27612 (919) 787-3658

WAKE COUNTY
NORTH CAROLINA

TEL 919 856 7400
FAX 919 856 7407

Environmental Services

Water Quality Division
336 Fayetteville St. • P.O. Box 550 • Raleigh, NC 27602

11/19/2021

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.

A copy of the “Pressure Manifold Sewage Disposal System Maintenance Information Sheet” and a copy of the “Wake County Well and Septic System Owner’s Guide”, which contain information essential to the long-term performance of this wastewater disposal system, must be forwarded to the owner or user of the system, if other than yourself.

ANY PROPOSED MODIFICATION TO THE APPROVED PLANS MUST BE COORDINATED WITH YOUR SYSTEM DESIGNER

Please call (919) 842-7142 or email at Gary.Morehouse@wakegov.com if you have any questions.

Sincerely,

Gary Morehouse, LSS, REHSI
Environmental Consultant

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-066562-2021** **APPLICATION DATE:** 08/31/2021 **BLDG. PERMIT#:** **RBPR-066498-2021**

PIN: 1821340584 **RECORDED:** Yes

TOWNSHIP: 14 - New Light **JURISDICTION:** Wake County **ZONING:** R-80W

APPLICANT: Jeff Melton
12339 Wake union church RD
Wake Forest, NC 27587

BUSINESS PHONE: (919) 556-8472
HOME PHONE: (919) 215-0436
MOBILE PHONE: (919) 215-0436

HD USE: 101A CONVENTIONAL ONE-FAMILY HOUSE **EXISTING USE:**

SITE ADDRESS: 2100 KINSALE MEADOW LN

SUBDIVISION: THE MANORS AT WATERSTONE RE **LOT:** 18 **ACRES:** 1.72

DIRECTIONS: Capital Blvd. N, Left on Hwy. 98, Right on Camp Kanata Rd., Left into subdivision.

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:** Gary Morehouse **DATE:** 11/19/2021

CA VALID FOR: Five Years **DESIGN FLOW:** 480 GALLONS **BASEMENT:** No **BASEMENT FIXTURES:** No

SEPTIC TANK: 1200 GALLONS
DOSING PUMP TANK: 1200 GALLONS
GREASE TRAP:
RECIRCULATION PUMP TANK:

SEPTIC TANK FILTER: Yes
DOSING PUMP TANK FILTER:
GREASE TRAP FILTER:
RECIRCULATION PUMP TANK FILTER:

PROPOSED SYSTEM: 0.25 - 25% Reduction (Innovative or Accepted) **EXISTING SYSTEM:**
DRAINFIELD SQ. FT: 1,260 **AGGREGATE DEPTH:** 12 **MAX. TRENCH DEPTH:** 20 INCHES
DISTRIBUTION DEVICE: PM - Pressure Manifold
TRENCH #: 7 **TRENCH LENGTH:** 60, 60, 60, 60, 65, 55 FEET **TRENCH WIDTH:** 36 INCHES **TOTAL TRENCH LENGTH:** 420 FEET

CENTER SPACING: 9 FEET **MINIMUM SOIL COVER:** 6 INCHES

PRETREATMENT:
SUBFIELDS #:
PUMP TDH: 40.2 FEET

APPROVAL #:
PUMP DESIGN FLOW: 38.36
ZONE VALVE: No

ASDMS REQUIRED: No
LINE OF CREDIT REQUIRED: No
OPERATOR REQUIRED: No
P.E. SIGN OFF/ASBUILT REQUIRED: No
TRIPARTY AGREEMENT REQUIRED: No

SPECIFIC CONSTRUCTION AUTHORIZATION REQUIREMENTS:
ACCEPTED STATUS SYSTEM REDUCTION HAS BEEN TAKEN FOR THE DESIGN OF THE INITIAL AND REPAIR SYSTEM FOR THIS 4 BEDROOM DWELLING. INITIAL SYSTEM IS A PRESSURE MANIFOLD SYSTEM PUMPING TO 7 UNEQUAL DRAINLINES WITH 20" TRENCH BOTTOM. REPAIR SYSTEM IS A DUAL PRESSURE MANIFOLD SYSTEM PUMPING TO 7 UNEQUAL DRAINLINES WITH 20" TRENCH BOTTOM. 1200 GALLON SEPTIC TANK AND 1200 GALLON PUMP TANKS ARE PROPOSED. PARTIAL 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 ENVIRONMENTAL SERVICES PRIOR TO SYSTEM INSTALLATION. PLEASE CONTACT ENVIRONMENTAL SERVICES IF ANY QUESTIONS OR PROBLEMS ARISE PRIOR TO INSTALLATION. GARY MOREHOUSE 919-842-7142

Issued By: 

Date: 11/19/2021

CA PART A-E

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 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 **Wake County Department of Environmental Services,** 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

WAKE COUNTY NORTH CAROLINA
Environmental Services

TEL 919 856 7400
FAX 919 743 4772

Water Quality Division
336 Fayetteville Street • Raleigh, NC 27602
www.wakegov.com

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:

System Component	Frequency	Maintenance
1. Septic Tank	6-12 months	Check riser condition (must be accessible from ground surface), excess in/exfiltration, entry of water at riser, and solids accumulation.
	1-3 years	Check and clean septic tank filter. Pump septage when 1/3 to ¼ 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	Maintain vegetative cover (mow grass and remove weeds and brush).
	6-12 months	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 prohibited. Addition of chemical or biological additives has not 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.

NOTICE

PROTECTION OF WASTEWATER DISPOSAL AREAS

AREAS DESIGNATED FOR INSTALLATION AND REPAIR OF WASTEWATER DISPOSAL SYSTEMS ON WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES PERMITS MUST BE PROTECTED FROM ALL LAND DISTURBING ACTIVITIES.

PROHIBITED ACTIVITIES (NOT ASSOCIATED WITH THE INSTALLATION OF THE WASTEWATER DISPOSAL SYSTEM) INCLUDE BUT MAY NOT BE LIMITED TO:

- **CLEARING**
- **EXCAVATION**
- **FILLING**
- **GRADING**
- **STORAGE OF BUILDING MATERIALS**
- **VEHICLE OR EQUIPMENT TRAFFIC**

THE PERMITTEE IS ADVISED TO CLEARLY FLAG OR FENCE THESE AREAS DURING CONSTRUCTION TO PREVENT UNAUTHORIZED ACTIVITIES.

FAILURE TO PROTECT WASTEWATER DISPOSAL AREAS WILL LIKELY RESULT IN VOIDING OF PERMITS AND LOSS OF ABILITY TO UTILIZE THE SITE FOR THE DESIRED PURPOSE.

IF YOU HAVE A QUESTION REGARDING ANY OF THE AFOREMENTIONED ACTIVITIES, CALL WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES (856-7400) BEFORE YOU ACT.

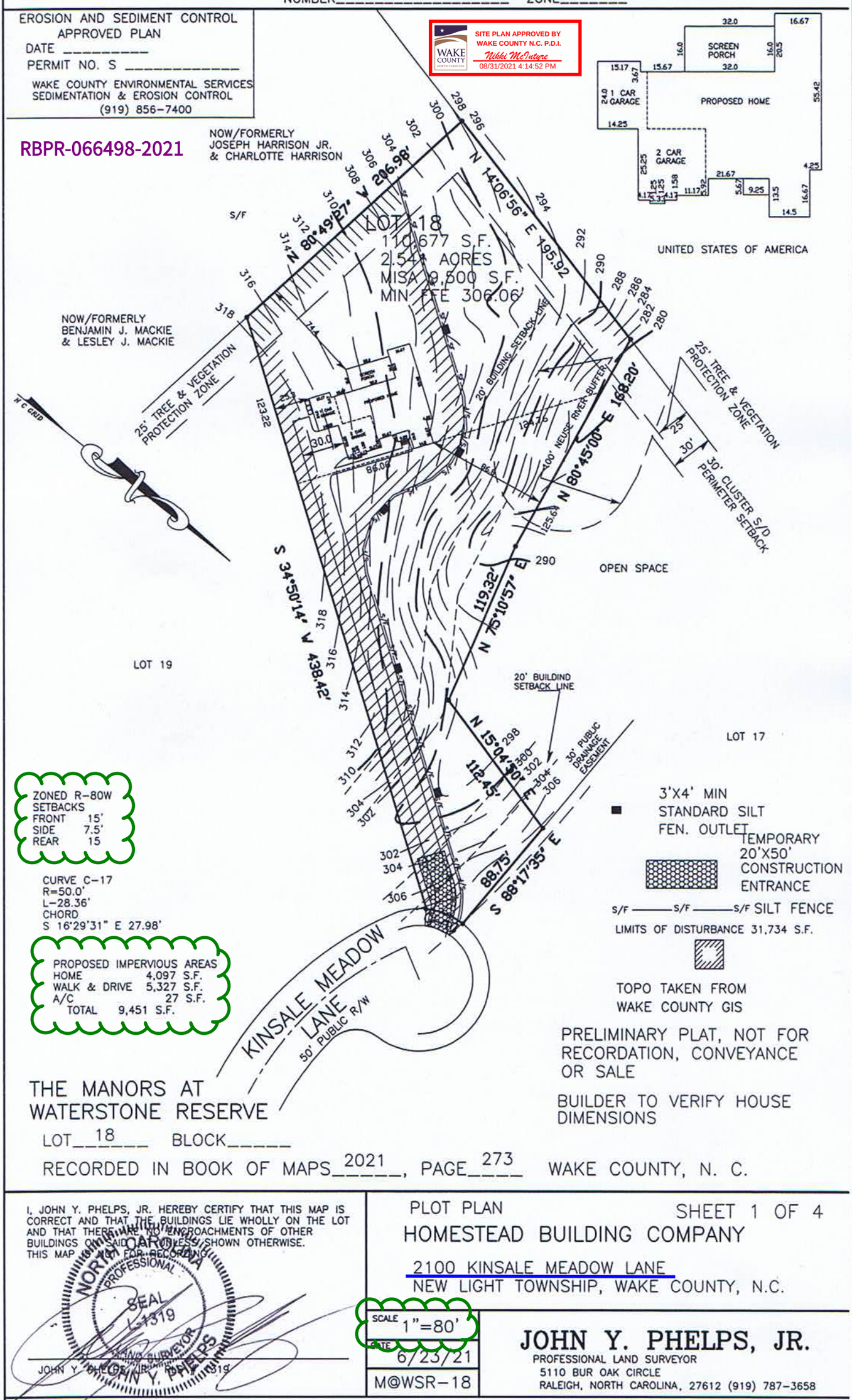
CA PART A

SUBJECT PROPERTY IS___ IS NOT ___ LOCATED IN A SPECIAL FLOOD HAZARD AREA AS DESIGNATED ON FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A.) FLOOD INSURANCE RATE MAP NUMBER_____ ZONE_____

EROSION AND SEDIMENT CONTROL
APPROVED PLAN
DATE _____
PERMIT NO. S _____
WAKE COUNTY ENVIRONMENTAL SERVICES
SEDIMENTATION & EROSION CONTROL
(919) 856-7400

SITE PLAN APPROVED BY
WAKE COUNTY N.C. P.D.I.
Nikki McIntyre
08/31/2021 4:14:52 PM

RBPR-066498-2021



ZONED R-80W
SETBACKS
FRONT 15'
SIDE 7.5'
REAR 15

CURVE C-17
R=50.0'
L=28.36'
CHORD
S 16°29'31" E 27.98'

PROPOSED IMPERVIOUS AREAS
HOME 4,097 S.F.
WALK & DRIVE 5,327 S.F.
A/C 27 S.F.
TOTAL 9,451 S.F.

3'X4' MIN STANDARD SILT FEN. OUTLET

TEMPORARY 20'X50' CONSTRUCTION ENTRANCE

S/F ——— S/F ——— S/F SILT FENCE

LIMITS OF DISTURBANCE 31,734 S.F.

TOPO TAKEN FROM WAKE COUNTY GIS

PRELIMINARY PLAT, NOT FOR RECORDATION, CONVEYANCE OR SALE

BUILDER TO VERIFY HOUSE DIMENSIONS

THE MANORS AT WATERSTONE RESERVE

LOT 18 BLOCK_____

RECORDED IN BOOK OF MAPS 2021, PAGE 273 WAKE COUNTY, N. C.

I, JOHN Y. PHELPS, JR. HEREBY CERTIFY THAT THIS MAP IS CORRECT AND THAT THE BUILDINGS LIE WHOLLY ON THE LOT AND THAT THERE ARE NO ENCROACHMENTS OF OTHER BUILDINGS ON SAID LOT UNLESS SHOWN OTHERWISE. THIS MAP IS NOT FOR RECORDING.

NORTH CAROLINA PROFESSIONAL SEAL L-1319 LAND SURVEYOR JOHN Y. PHELPS

JOHN Y. PHELPS, JR. L-1319

PLOT PLAN SHEET 1 OF 4

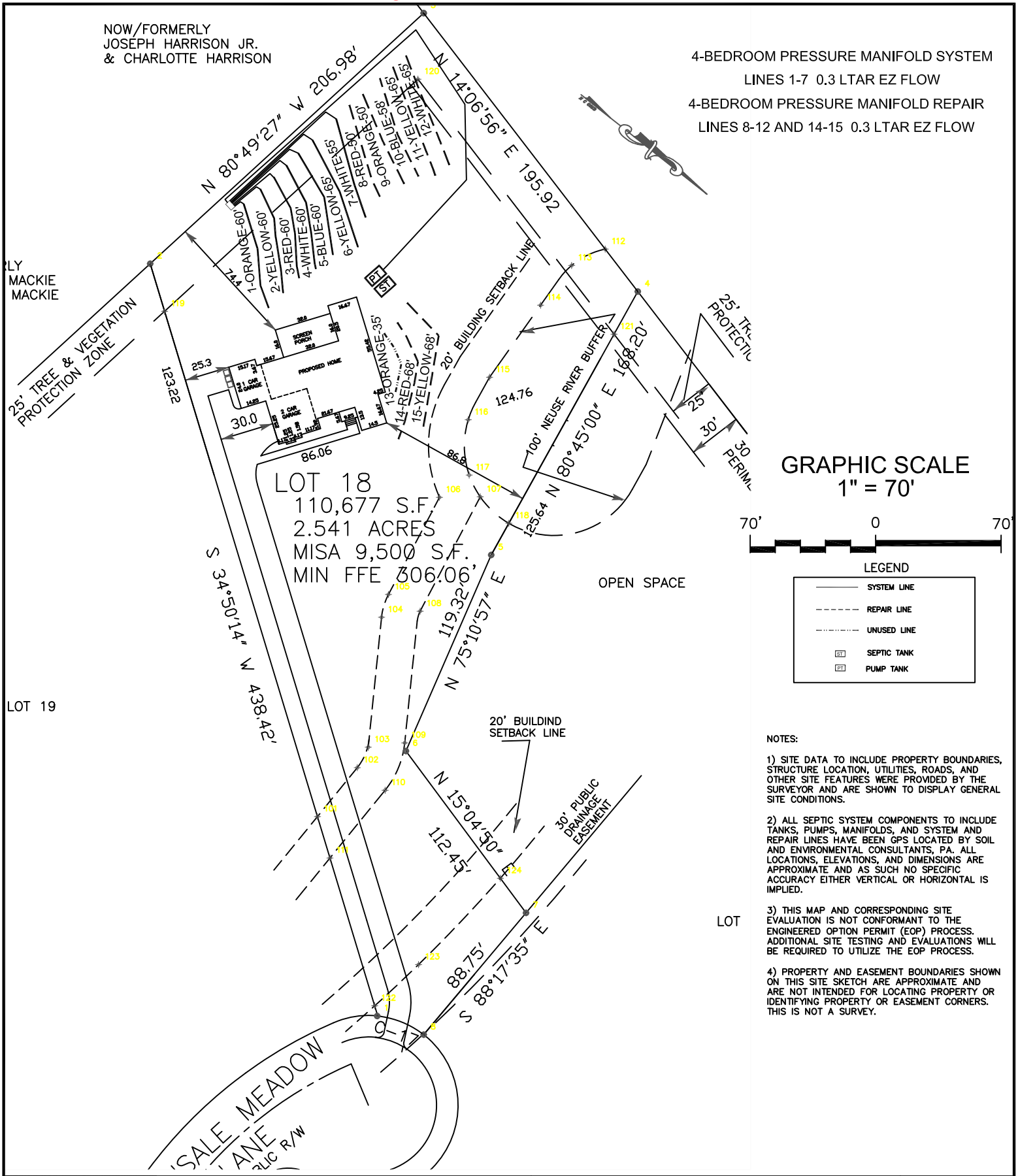
HOMESTEAD BUILDING COMPANY

2100 KINSALE MEADOW LANE
NEW LIGHT TOWNSHIP, WAKE COUNTY, N.C.

SCALE 1"=80'
DATE 6/23/21
M@WSR-18

JOHN Y. PHELPS, JR.
PROFESSIONAL LAND SURVEYOR
5110 BUR OAK CIRCLE
RALEIGH, NORTH CAROLINA, 27612 (919) 787-3658

CA PART B



NOTES:

1) SITE DATA TO INCLUDE PROPERTY BOUNDARIES, STRUCTURE LOCATION, UTILITIES, ROADS, AND OTHER SITE FEATURES WERE PROVIDED BY THE SURVEYOR 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 AND ENVIRONMENTAL CONSULTANTS, PA. ALL LOCATIONS, ELEVATIONS, AND DIMENSIONS ARE APPROXIMATE AND AS SUCH NO SPECIFIC ACCURACY EITHER VERTICAL OR HORIZONTAL IS IMPLIED.

3) THIS MAP AND CORRESPONDING SITE EVALUATION IS NOT CONFORMANT TO THE ENGINEERED OPTION PERMIT (EOP) PROCESS. ADDITIONAL SITE TESTING AND EVALUATIONS WILL BE REQUIRED TO UTILIZE THE EOP PROCESS.

4) 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.

S&EC
Soil & Environmental Consultants, PA
8412 Falls of Neuse Rd., Suite 104 • Raleigh, North Carolina 27615 • www.SandEC.com
Phone: (919) 846-5900 • Fax: (919) 846-9467

Project: 2100 KINSALE MEADOW LANE, LOT 18			Project No.: 13570.56
		Project Manager: RP	Drawn: JM
Location: WAKE CO., NC	Client: HOMESTEAD BUILDING CO.	Scale: 1"=70'	Field Work: JM
Sheet Title: SEPTIC SYSTEM SITE PLAN		Sheet No.: 1 of 1	

CA PART C

WAKE COUNTY NORTH CAROLINA

Environmental Services

TEL 919 856 7400
FAX 919 856 7407

Water Quality Division
336 Fayetteville St. • P.O. Box 550 • Raleigh, NC 27602
www.wakegov.com/water/

Foundation Drain Request Form

Wastewater Permit: WRP-066562-2021 Building Permit: RBPR-066498-2021

Parcel PIN: 1821340584

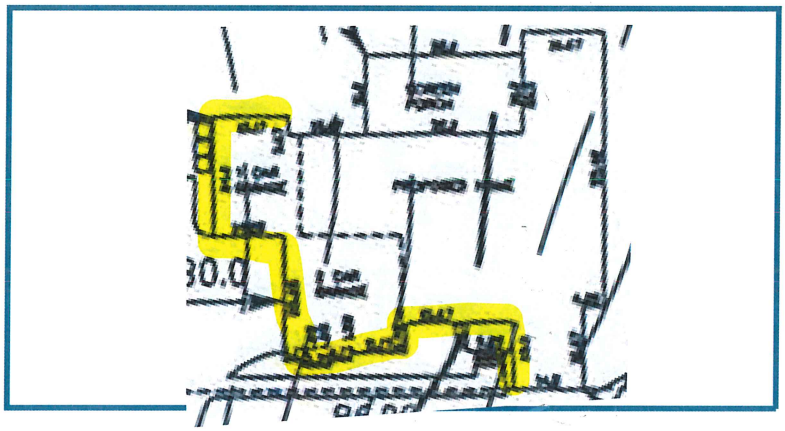
Project (Site) Address: 2100 Kinsale Meadow Road

PLEASE CIRCLE:

Foundation Drain? YES NO **PARTIAL (demonstrate below)**

If PARTIAL FOUNDATION DRAIN is circled, please demonstrate w**here the foundations drain will be located** on the diagram below, (add decks, patios, etc. as needed)

Front



Rear

Applicant Signature: Amy Hurst Date: NOV 15 2021

CA PART D

Soil & Environmental Consultants, PA

8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615 • Phone: (919) 846-5900 • Fax: (919) 846-9467
sandec.com

October 13, 2021
S&EC Project #13570.S6

Homestead Building Company
Attn: Bob Latvala
PO Box 848
Wake Forest, NC 27588

Re: Septic System Encroachment for Lot 18 Waterstone Reserve Subdivision, Wake County, NC

Dear Mr. Latvala:

The purpose of this letter is to substantiate the septic encroachment into the Tree Protection Zone as specified in Wake County's Unified Development Ordinance (16-10-2 (J), (1). Due to location of the suitable soils for the septic system and repair area, and the size and location of the proposed house and driveway, lot 18 will require an encroachment into the tree protection zone as represented on the submitted septic site plan.

Sincerely,

Ricky Pontello
NC Licensed Soil Scientist #1232

CA PART E

Soil & Environmental Consultants, PA
8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615 • Phone: (919) 846-5900 • Fax: (919) 846-9467
sandec.com

October 29, 2021
Project #13570.S6

Attached is a proposed design for a Pressure Manifold Septic System for a four bedroom residence located at 2100 Kinsale Meadow Lane, Lot 18 Waterstone Subdivision, Wake County, NC

Contents: **Page**

Department of Environmental Services
Wake County
Approved by
Date: 11/19/2021

Review of this document has been made only for conformance with the design concept of the project and approval shall not relieve the designer and/or contractor from responsibility for any errors therein or for furnishing the materials, and equipment of proper dimension, size, quantity, quality and all performance characteristics to meet the requirements and intent of the contract documents.

S&EC PROJECT #13570.S6
DESIGN – J. McGaughey
PROJECT MGR – R. Pontello

INFORMATION FOR THE CONTRACTOR

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

- Tanks shall be approved by NCDEQ (formerly NCDENR), and certification supplied by the manufacturer.
- 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 Engineer or his representative must be scheduled 5 week days in advance.
- Trenches shall be carefully excavated so the bottom is within 2 inches from the highest to the lowest points of elevation within the trench. If the bottom elevation needs adjusting after it has been trenched, it will be done by removing high points rather than filling low points. 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 will be left in the trench.
- All pipe openings in the tanks shall be properly filled with press boot seal. 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 pin flag locations should be checked by the contractor prior to beginning trench excavation.
- Pump tank riser shall be 6 inches above grade, control panel shall be 18 inches above grade.
- System uses EZ-Flow drain line.
- Repair uses EZ-Flow drain line.

2100 Kinsale Meadow Lane, Lot 18
Project No.13570.S6
PRESSURE MANIFOLD SYSTEM
FOR WASTEWATER TREATMENT

Owner:	Homestead Building Co.		
	Attn: Bob Latvala		
Address:	P.O. Box 848		
	Wake Forest, NC 27588		
Phone:	919-556-2728		
County:	Wake		
Location:			
Source of Wastewater Flow:	4 Bedroom Residence		
Estimated Daily Wastewater Production:	480	gpd	
System Flow:	38.36	gpm	

Design Specifications

Number of Drain Lines:	7		
Drainfield Size:	420	ft	
Loading Rate:	0.30	gpd/sq ft	
Distribution Method:	EZ-Flow		
Gravel Size (if applicable):	NA		
Trench Depth:	Refer to Wake County		
Trench Width:	36	in	
Minimum Septic Tank Liquid Capacity:	1200	gal	Brantley ST-323 or Approved Equivale
Pump Tank:	1200	gal	Brantley PT-463 or Approved Equivale
Grease Trap:	NA	-	
Supply Line Length:	304	ft	
Supply Line Diameter:	2.0	in. SCH 40 PVC	
Supply Line Volume:	52.90	gal	
Supply Manifold:	4 in. SCH 80 PVC		
Supply Manifold Length:	5.0	ft (minimum)	
Supply Manifold Volume:	NA		
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 Septic Tank Filter:	STF 110 or County Approved Equivalent		
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 161	or County Approved Equivalent	
TDH Capacity:	40.2	ft	
Flow Capacity:	38.36	gpm	
Additional Comments:	Soil suitability was performed by the Wake County Health Department.		

2100 Kinsale Meadow Lane, Lot 18
Project No.13570.S6
DESIGN CALCULATIONS

Supply line length	304	ft
2.0 in. SCH 40 PVC	0.174	gal/ft
Supply line Volume	*52.90*	*gal*
Total drain field length	420	ft
4.0 in. pipe	0.65	gal/ft
Total drain field volume	273.32	gal
Percent of dose volume	75%	
Dose Volume	*204.99*	*gal*
Dose volume	204.99	gal
Pump tank	19.65	gal/in
Pump tank Drawdown	*10.4*	*in*
Ground Elevation at Pump Tank	83.2	ft
Pump Tank Installation Depth	3	ft
Pump Tank Elevation	80.2	ft
Pump Elev. Difference	4.8	ft
Pump Elevation	75.4	ft
Manifold Elevation	103.2	ft
	27.8	ft
Elevation Head	*27.76*	*ft*
System flow	38.36	gal/minute
Friction Factor*	2.80	*f* /100ft
Supply Line Length	304	ft
Friction Adjustment for Fittings**	374	ft
Friction Head	*10.5*	*ft*
Pressure Head	*2.0*	*ft*
(TDH) Total Dynamic Head	*40.2*	*ft*
Daily flow	480	gal/day
LTAR	0.30	sqft/day
Max Design LTAR w/ Innovative Product + 5%	0.42	sqft/day
Trench width	3	ft
Required drain field length (ezflow)	*400*	*ft*

FRICTION FACTOR INTERPOLATER
2.0 in. SCH 40 PVC

GPM	*f*
20	0.84
22	1.01
25	1.27
27.5	1.53
30	1.78
32.5	2.08
35	2.37
37.5	2.70
40	3.03
42.5	3.40
45	3.77
47.5	4.18
50	4.58
55	5.50
60	6.42

* 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.

2100 Kinsale Meadow Lane, Lot 18

Project No.13570.S6

LINE #	FLAG COLOR	BS (ft)	HI (ft)	FS (ft)	ELEVATION (ft)	FLAGGED LINE LENGTH (ft)	DESIGN LINE LENGTH (ft)
TBM		3.58			100.00		
INSTR. 1			103.58				
1	**ORANGE**			**1.42**	**102.16**	**63**	**60**
2	**YELLOW**			**2.33**	**101.25**	**68**	**60**
3	**RED**			**3.42**	**100.16**	**70**	**60**
4	**WHITE**			**4.42**	**99.16**	**71**	**60**
5	**BLUE**			**5.33**	**98.25**	**72**	**60**
6	**YELLOW**			**6.67**	**96.91**	**65**	**65**
7	**WHITE**			**7.50**	**96.08**	**57**	**55**
8	RED			8.67	94.91	50	50
9	ORANGE			9.58	94.00	50	50
10	BLUE			10.83	92.75	58	58
11	YELLOW			12.50	91.08	79	65
12	WHITE			14.25	89.33	85	65
		3.17	103.2				
13	ORANGE			4.08	99.09	35	0
14	RED			5.58	97.59	68	68
15	YELLOW			7.33	95.84	68	68
					Total	**959**	**844**

	LINE LENGTH (ft)	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	INNOVATIVE SYSTEM	DISTRIBUTION	DESIGN FLOW (GPD)
System	**420**	**0.30**	**INNOV.**	**0.30**	**EZ-Flow**	**PRESSURE MANIFOLD**	**480**
Repair	424	0.30	*Innov.*	0.30	EZ-Flow	PRESSURE MANIFOLD	480

Notes:

**TBM1 ground @ TVB stake, TBM2 @ middle northwest house corner

**TBM is assumed to be 100.00'.

**All measures in feet.

**Nitrification lines are demonstrated on contour via colored pin flags.

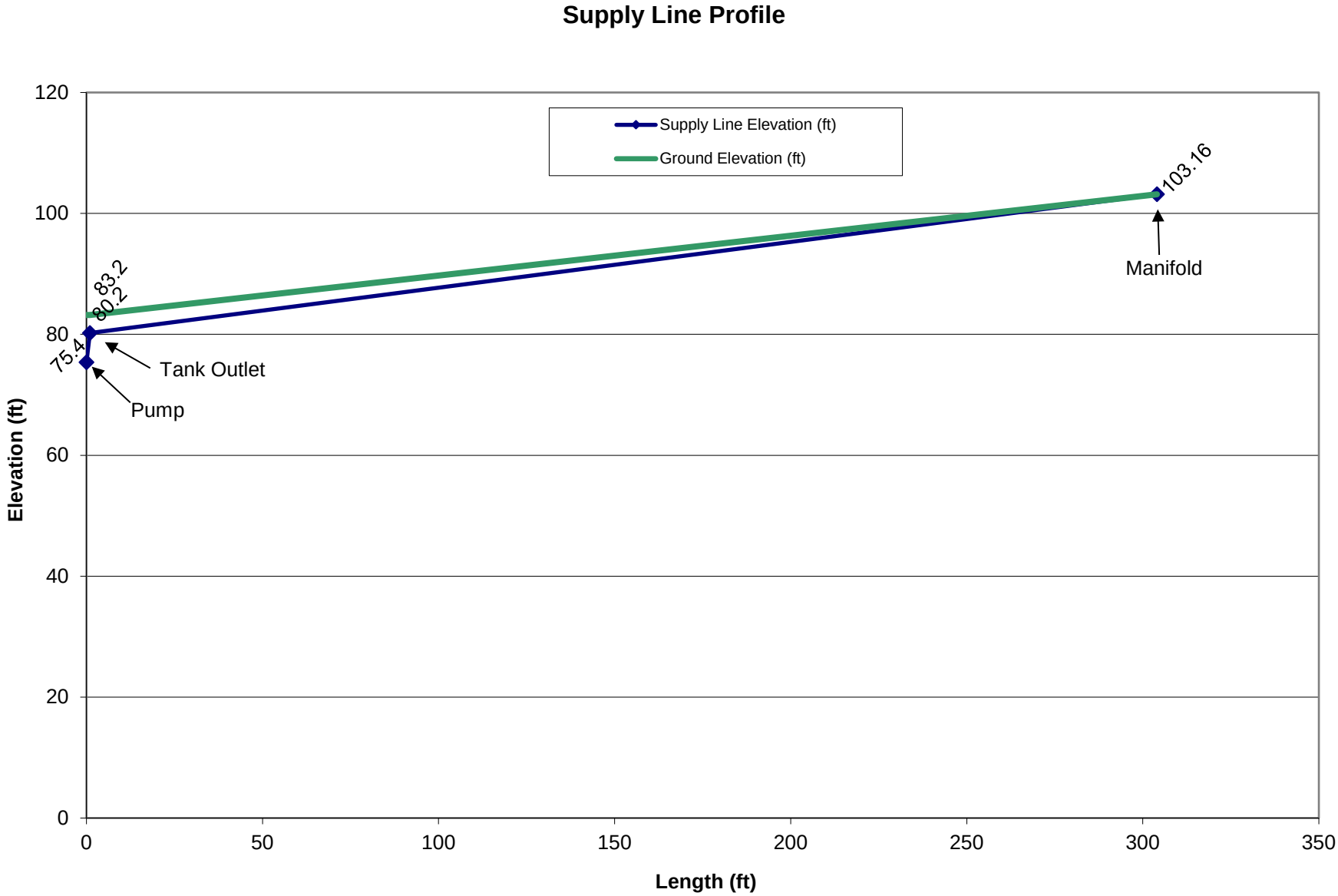
**BS, FS indicate rod readings.

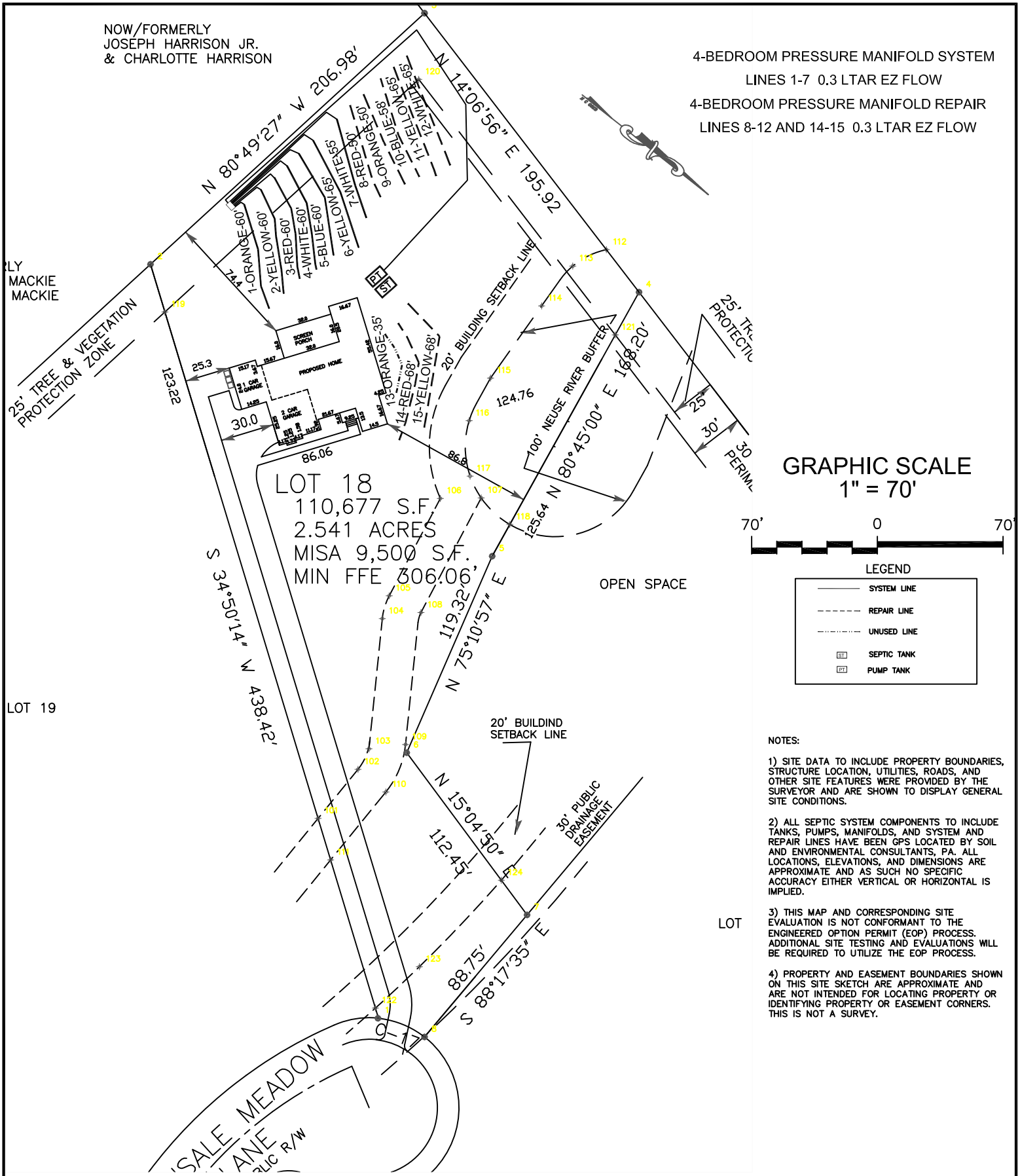
2100 Kinsale Meadow Lane, Lot 18
Project No.13570.S6
SYSTEM TAP CHART

Line #	Color	Field Elev. (ft)	Length (ft)	Hole Size (in)	Flow/Tap (gpm)	gpd	Trench Area (sq ft)	Line LTAR (gpd/sq ft)
1	ORANGE	***102.16***	**60**	1/2" SCH. 80	**5.48**	68.57	180	0.381
2	YELLOW	***101.25***	**60**	1/2" SCH. 80	**5.48**	68.57	180	0.381
3	RED	***100.16***	**60**	1/2" SCH. 80	**5.48**	68.57	180	0.381
4	WHITE	***99.16***	**60**	1/2" SCH. 80	**5.48**	68.57	180	0.381
5	BLUE	***98.25***	**60**	1/2" SCH. 80	**5.48**	68.57	180	0.381
6	YELLOW	***96.91***	**65**	1/2" SCH. 80	**5.48**	68.57	195	0.352
7	WHITE	***96.08***	**55**	1/2" SCH. 80	**5.48**	68.57	165	0.416

total **feet =** **420** **gal/min =** **38.36**

Des. Flow	**480**	**gpd**
Pump Run=	**12.51**	**min**
soil LTAR	**0.30**	**gpd/sq ft**
INNOV. Product Reduction	**25%**	
LTAR with INNOV.	**0.40**	**gpd/sq ft**
LTAR with INNOV. + 5%	**0.42**	**gpd/sq ft**
100% Dose Volume	**273.32**	**gal**
Percent Dose Volume	**75%**	
Total	**204.99**	**gal**
Pump Run Time	**5.34**	**min**


Supply Line Profile
Supply Line Elevation (ft)
Ground Elevation (ft)
120
100
80
60
40
20
0
Elevation (ft)
0
50
100
150
200
250
300
350
Length (ft)
83.2
80.2
75.4
103.16
Tank Outlet
Pump
Manifold



NOTES:

1) SITE DATA TO INCLUDE PROPERTY BOUNDARIES, STRUCTURE LOCATION, UTILITIES, ROADS, AND OTHER SITE FEATURES WERE PROVIDED BY THE SURVEYOR AND ARE SHOWN TO DISPLAY GENERAL SITE CONDITIONS.

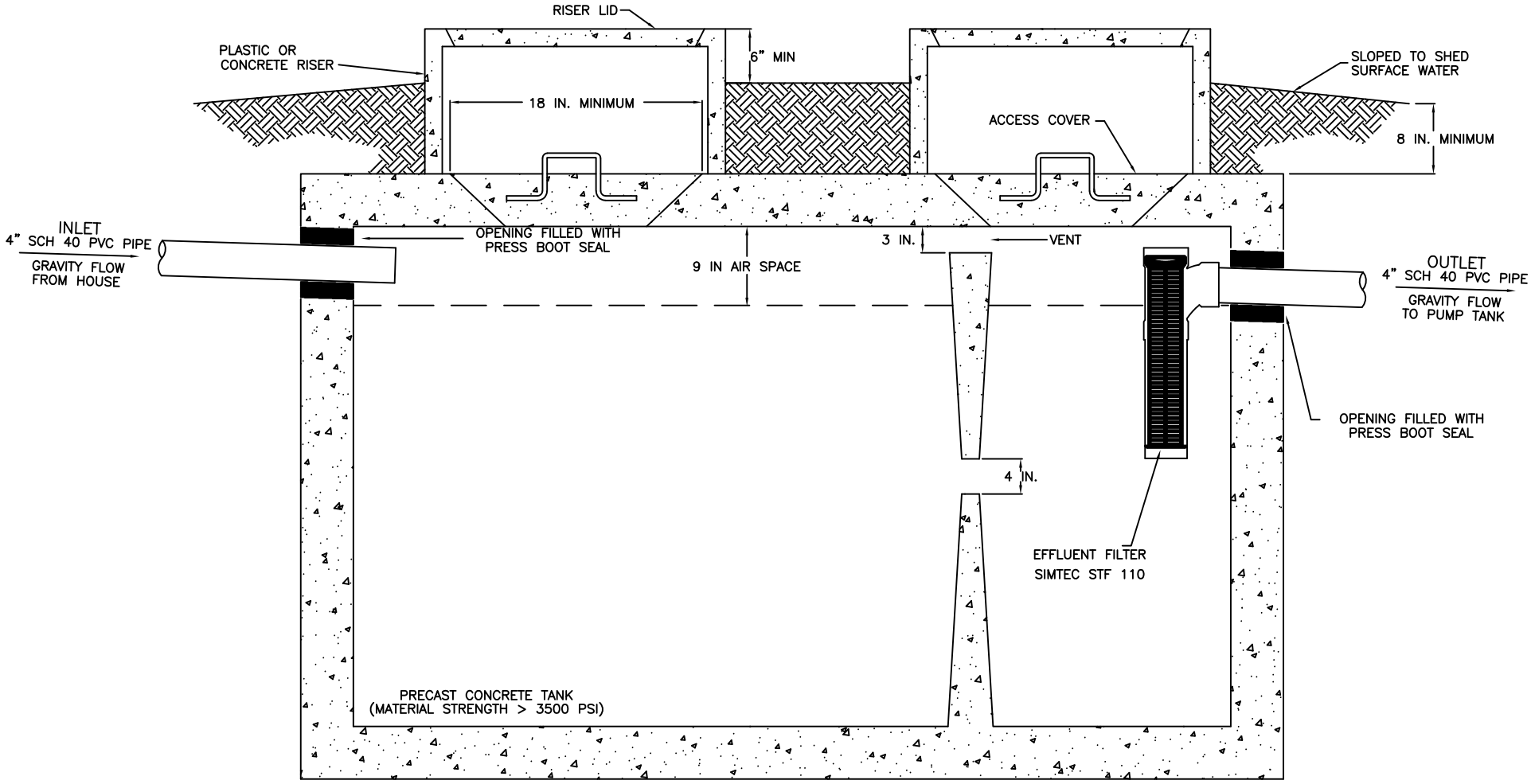
2) ALL SEPTIC SYSTEM COMPONENTS TO INCLUDE TANKS, PUMPS, MANIFOLDS, AND SYSTEM AND REPAIR LINES HAVE BEEN GPS LOCATED BY SOIL AND ENVIRONMENTAL CONSULTANTS, PA. ALL LOCATIONS, ELEVATIONS, AND DIMENSIONS ARE APPROXIMATE AND AS SUCH NO SPECIFIC ACCURACY EITHER VERTICAL OR HORIZONTAL IS IMPLIED.

3) THIS MAP AND CORRESPONDING SITE EVALUATION IS NOT CONFORMANT TO THE ENGINEERED OPTION PERMIT (EOP) PROCESS. ADDITIONAL SITE TESTING AND EVALUATIONS WILL BE REQUIRED TO UTILIZE THE EOP PROCESS.

4) 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.

S&EC
Soil & Environmental Consultants, PA
8412 Falls of Neuse Rd., Suite 104 • Raleigh, North Carolina 27615 • www.SandEC.com
Phone: (919) 846-5900 • Fax: (919) 846-9467

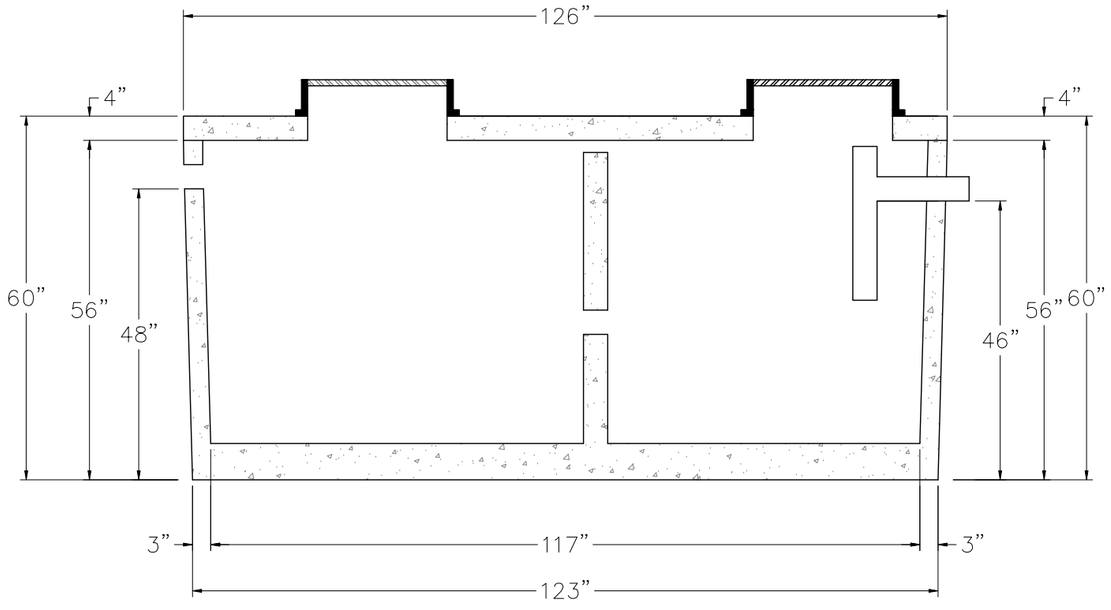
Project: 2100 KINSALE MEADOW LANE, LOT 18			Project No.: 13570.56
		Project Manager: RP	Drawn: JM
Location: WAKE CO., NC	Client: HOMESTEAD BUILDING CO.	Scale: 1"=70'	Field Work: JM
Sheet Title: SEPTIC SYSTEM SITE PLAN			Sheet No.: 1 of 1

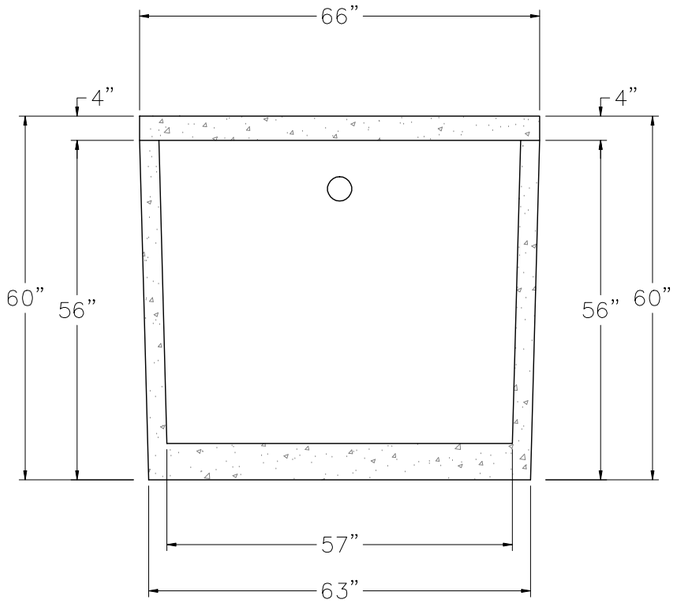


1200 GALLON SEPTIC TANK

JOB NO. 13570.S6	PROJECT NAME: 2100 KINSALE MEADOW LANE, LOT 18
PROJECT MGR. RP	SHEET TITLE: SEPTIC TANK DIAGRAM
SCALE NTS	

S&EC
Soil & Environmental Consultants, PA
8412 Falls Of Neuse Road • Raleigh, North Carolina 27615 • Phone: (919) 846-5900 • Fax: (919) 846-9467
www.SandEC.com





1,250 ST 323

NTS

NON TRAFFIC BEARING

BRANTLEY TANK MODEL
1,250 ST 323

SHEET NUMBER
1 of 1

REVISION NO.	DATE
Original Submittal	April 11, 2014
Revision 1	
Revision 2	
Revision 3	
Master Set	-----

PREPARED FOR : David Brantley & Sons
37 Pine Ridge Rd.
Zebulon, NC 27597

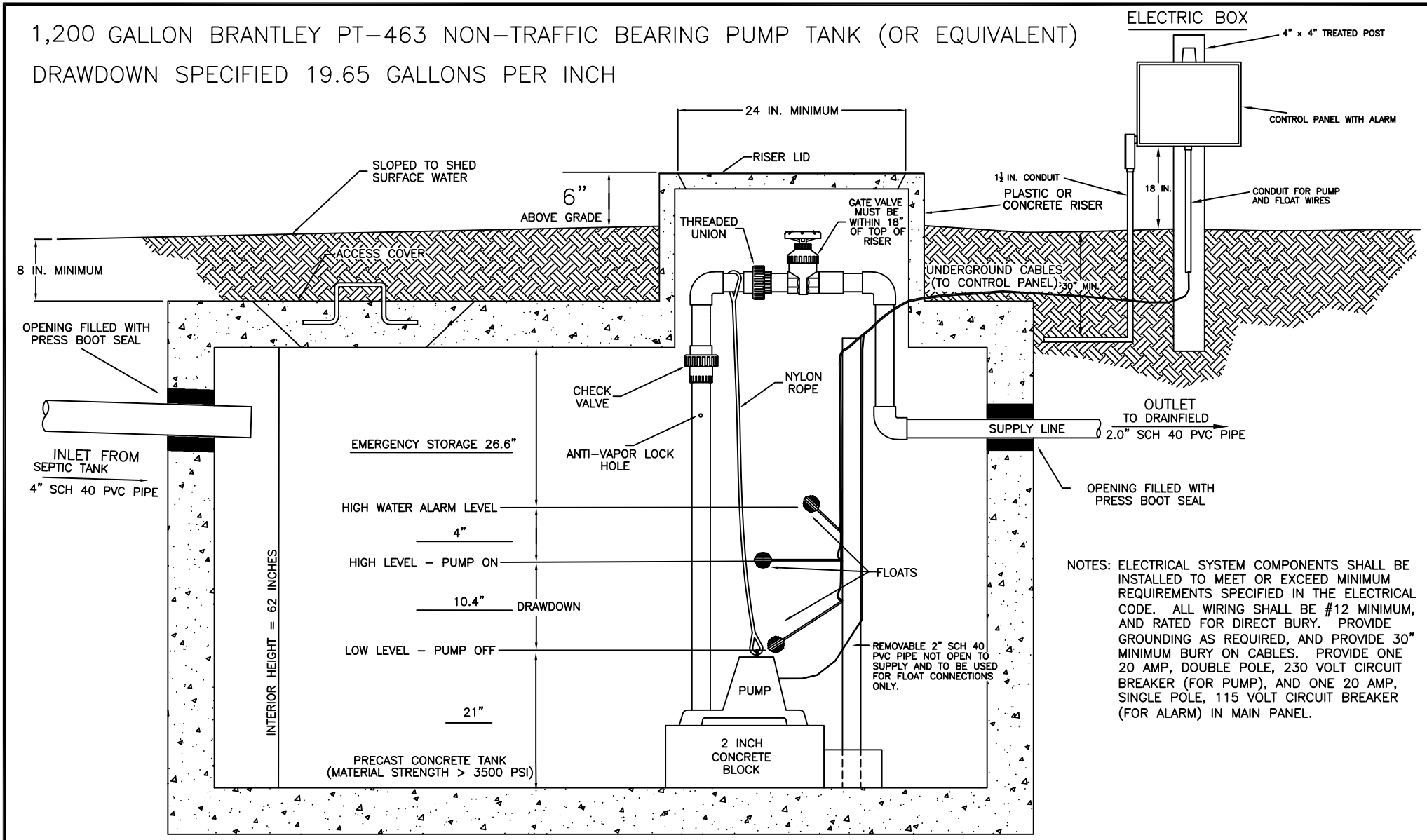
DATE : April 11, 2014

CONTACT:
CORY BRANTLEY

DAVID BRANTLEY & SONS
37 Pine Ridge Rd.
Zebulon, NC 27597
Office 252-478-3721
Fax 919-573-0443
tinstaller@gmail.com

1,200 GALLON BRANTLEY PT–463 NON–TRAFFIC BEARING PUMP TANK (OR EQUIVALENT)

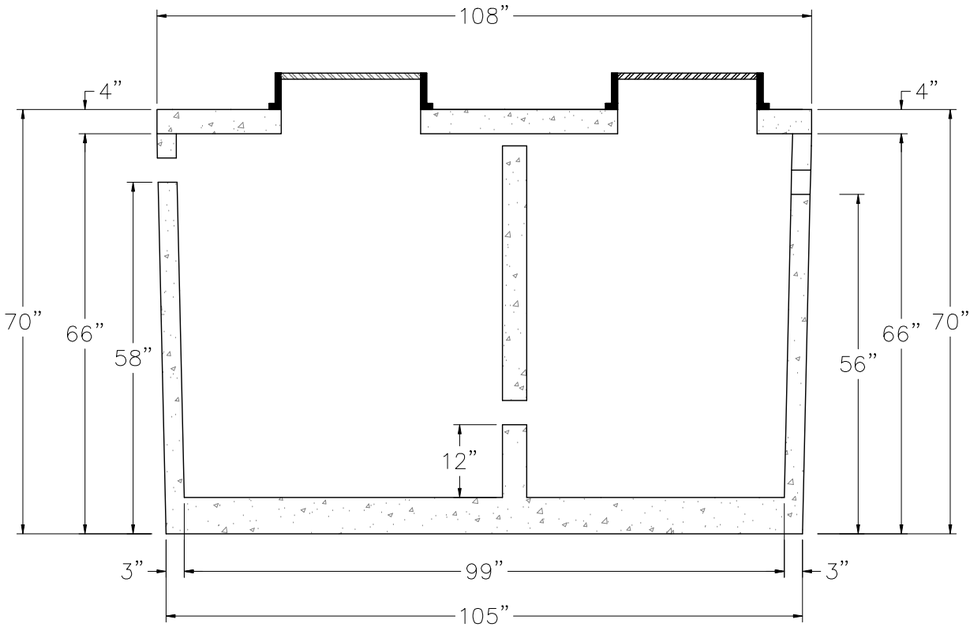
DRAWDOWN SPECIFIED 19.65 GALLONS PER INCH

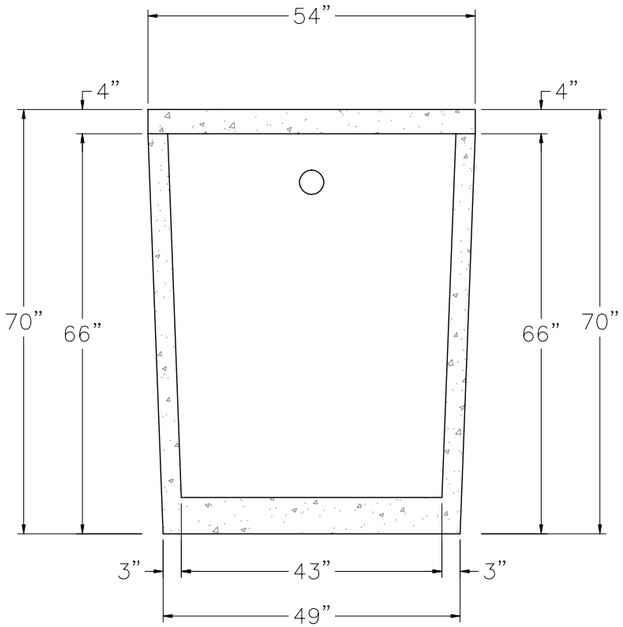


NOTES: ELECTRICAL SYSTEM COMPONENTS SHALL BE INSTALLED TO MEET OR EXCEED MINIMUM REQUIREMENTS SPECIFIED IN THE ELECTRICAL CODE. ALL WIRING SHALL BE #12 MINIMUM, AND RATED FOR DIRECT BURY. PROVIDE GROUNDING AS REQUIRED, AND PROVIDE 30" MINIMUM BURY ON CABLES. PROVIDE ONE 20 AMP, DOUBLE POLE, 230 VOLT CIRCUIT BREAKER (FOR PUMP), AND ONE 20 AMP, SINGLE POLE, 115 VOLT CIRCUIT BREAKER (FOR ALARM) IN MAIN PANEL.

JOB NO. 13570.S6	PROJECT NAME: 2100 KINSALE MEADOW LANE, LOT 18
PROJECT MGR. RP	SHEET TITLE: PUMP TANK DIAGRAM
SCALE NTS	

S&EC
Soil & Environmental Consultants, PA
8412 Falls Of Neuse Road • Raleigh, North Carolina 27614 • Phone: (919) 846-5900 • Fax: (919) 846-9467
www.SandEC.com





1,200 PT 463

NTS

NON TRAFFIC BEARING

BRANTLEY TANK MODEL
1,200 PT 463

SHEET NUMBER
1 of 1

REVISION NO.	DATE
Original Submittal	April 11, 2014
Revision 1	
Revision 2	
Revision 3	
Master Set	-----

PREPARED FOR : David Brantley & Sons
37 Pine Ridge Rd.
Zebulon, NC 27597

DATE : April 11, 2014

CONTACT: CORY BRANTLEY

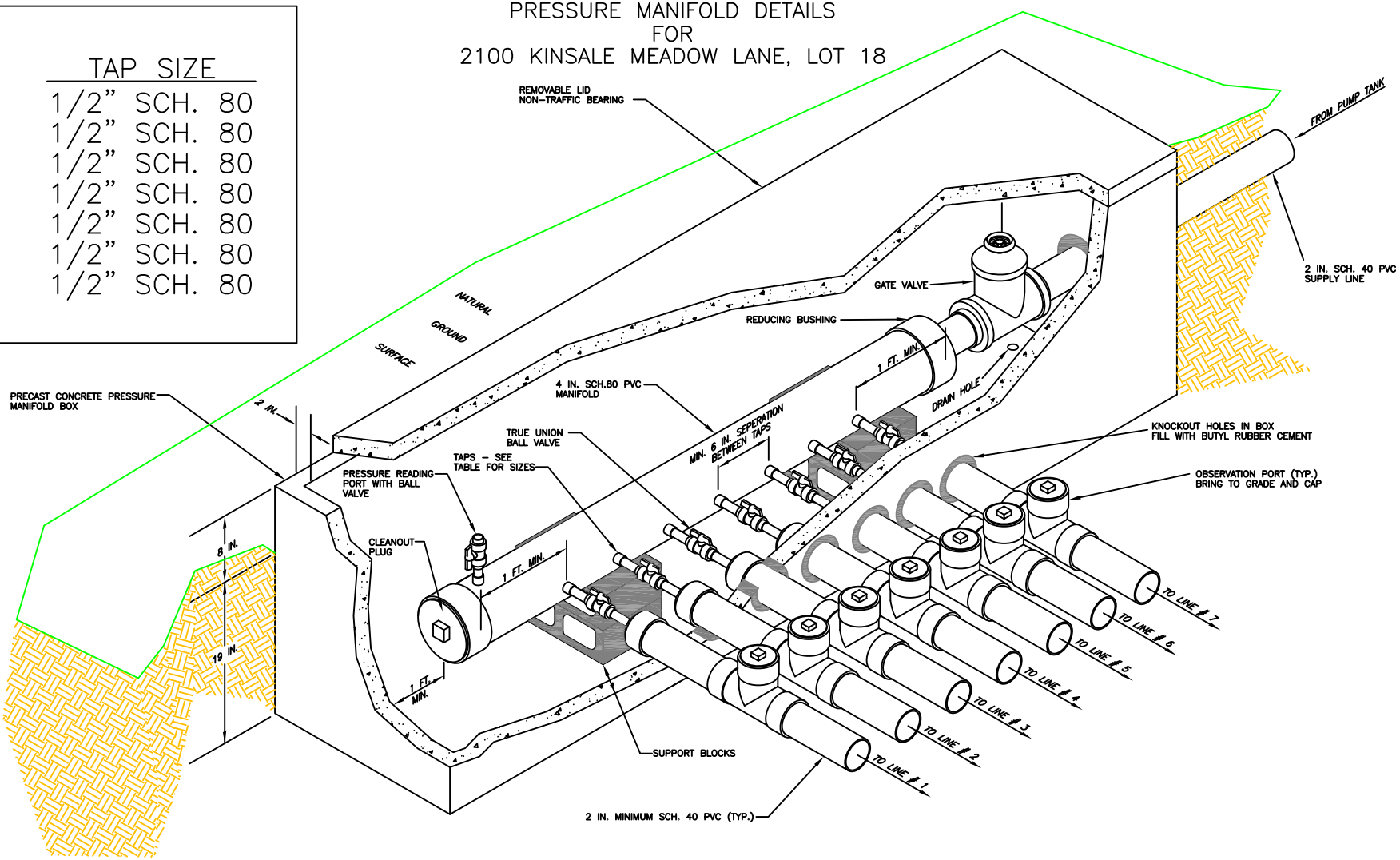
DAVID BRANTLEY & SONS
37 Pine Ridge Rd.
Zebulon, NC 27597
Office 252-478-3721
Fax 919-573-0443
1installer@gmail.com

NOTE: SOME DESIGNS REQUIRE SUPPLY LINE TO ENTER OPPOSITE END OF MANIFOLD.
SEE SITE PLAN PAGE 6.

TAP SIZES

LINE No.	TAP SIZE
1	1/2" SCH. 80
2	1/2" SCH. 80
3	1/2" SCH. 80
4	1/2" SCH. 80
5	1/2" SCH. 80
6	1/2" SCH. 80
7	1/2" SCH. 80

PRESSURE MANIFOLD DETAILS FOR 2100 KINSALE MEADOW LANE, LOT 18



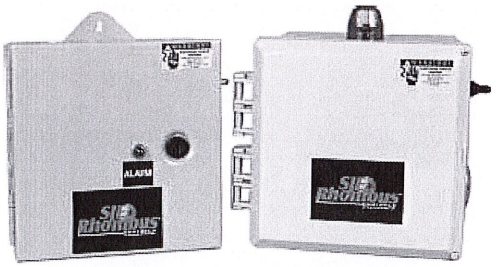
JOB NO. 13570.S6	2100 KINSALE MEADOW LANE, LOT 18
PROJECT MGR. RP	SHEET TITLE: PRESSURE MANIFOLD DIAGRAM
SCALE NTS	

S&EC
Soil & Environmental Consultants, PA
8412 Falls of Neuse Rd., Suite 104 • Raleigh, North Carolina 27615 • Phone: (919) 846-5900 • Fax: (919) 846-9467
www.SandEC.com

MODEL 112 Control Panel

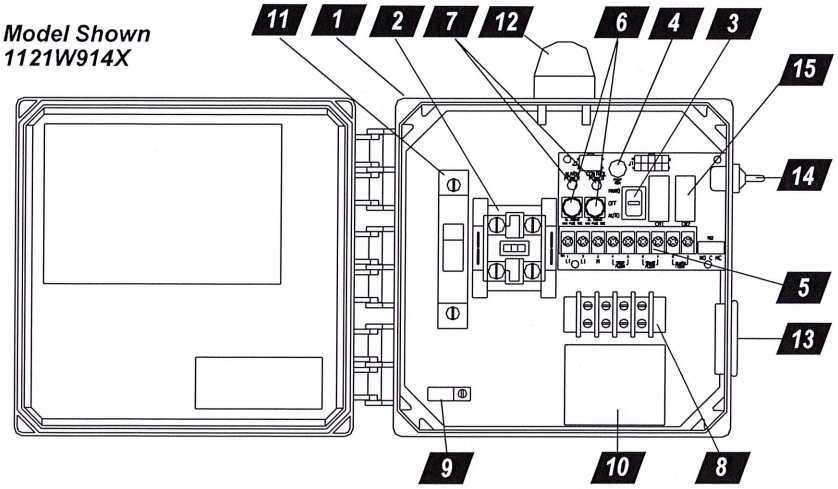
Single phase, simplex motor contactor control.

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.



indoor *indoor/outdoor*

Model Shown
1121W914X



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 flanges for outdoor or indoor use).

   * Options selected may increase enclosure size and change component layout.
2. **Magnetic Motor Contactor** controls pump by switching hot 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. **Pump Input Power and Pump Connection Terminal Block**
9. **Ground Lug**
10. **Terminal Block Installation Label**
11. **Circuit Breaker** (optional) provides pump disconnect and branch circuit protection.

STANDARD ALARM PACKAGE (other options available)

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

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' Sensor Float® control switches
- Complete with step-by-step installation instructions
- Three-year limited warranty

c UL us
LISTED

SJE-Rhombus CONTROLS
SJ ELECTRO SYSTEMS, INC.

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

112	1	W	9	0	4	H	3A, 8AC, 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 = 8-15 FLA
- 2 = 16-20 FLA
- 3 = 21-30 FLA

PUMP DISCONNECTS
- 0 = no pump disconnect
- 1 = pull-out with safety deadfront in a 10"x8" enclosure
- 4 = circuit breaker

FLOAT SWITCH APPLICATION
- H or L = pump down or pump up
- X = no floats

OPTIONS *Listed below*

★ Options selected may increase enclosure size and change component layout.

If additional features are required, call the factory for a quote on either a Pro-Line or Engineered Custom control panel system.

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
★ 4A	Low level cutout
	select option 4D if floats included
★ 4B	Red low-level indicator & alarm
	must select 4A also
4D	Low-level float
6A	Auxiliary alarm contact, form C type
★ 8A	Elapsed time meter
★ 8C	Event (cycle) counter
10E	Lockable latch - NEMA 4X
10E	Lockable latch - NEMA 1
★10F	Lightning arrester
★10K	Anti-condensation heater

CODE	DESCRIPTION
11C	NEMA 1 alarm panel *must select option 6A*
11D	NEMA 4X alarm panel *must select option 6A*
15A	Control / alarm circuit breaker
	Does not include the circuit board as in standard.
16A	10' cord in lieu of 20'
16B	15' cord in lieu of 20'
16C	30' cord in lieu of 20'
16D	40' cord in lieu of 20'
17A	SJE SignalMaster® / mounting strap ●
17B	SJE SignalMaster® / externally weighted ●
17C	Sensor Float® / internally weighted ▲
17D	Sensor Float® / externally weighted ▲
17E	Sensor Float® Mini / pipe clamp ▲
17F	Sensor Float® Mini / externally weighted ▲
19X	Door mounted pump run indicator
21A	Pumpmaster® in lieu of on/off switches ●
21B	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

SAMPLE

MODEL	112	1	W	9	1	4	H	3A 8A

- Alarm Package
- Enclosure Rating
- Starting Device
- Pump Full Load Amps
- Pump Disconnect
- Float Switch Application
- Options: Alarm Flasher, Elapsed Time Meter

 Printed in USA 01/00
Cat Page PN 1009181B

"Quality Pumps Since 1939"

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

ZOELLER® PUMP CO.

SECTION: 2.20.050
FM0460
0504
Supersedes
1103

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

COMPARE THESE FEATURES

- Non-clogging bronze vortex impeller design.
- Durable cast construction. Cast iron switch case, base, motor and pump housing.
- Castings - Cast iron class 25-30 (25,000# tensile strength). Impeller, bronze class 85-5-5-5.
- Corrosion resistant powder coated epoxy finish.
- 20 ft. UL Listed 3-wire neoprene cord and plug. Longer cords available in lengths of 25-35-50 feet.
- Motor - 60 Hz, 3450 RPM, oil-filled, hermetically sealed, automatic reset thermal overload protection (1 Ph only).
- Upper sleeve bearing and lower ball bearing running in bath of oil.
- Carbon and ceramic shaft seal.
- Maximum temperature for effluent or dewatering, 130°F - 54°C (ED 140°F - 60°C).
- Major width 12¾". Height 18 9/16". (Single seal pumps)
- No screens to clog.
- Square Ring & Gasket - Neoprene.
- Stainless steel screws, bolts, float rod, handle guard, arm and seal assembly.
- Passes ¾" spherical solids.
- 1½" NPT discharge with 2" or 3" flange available.
- Automatic units available with float operated, submersible (NEMA 6) 2-pole mechanical switch. On point 14¾" - Off point 5".
- Available in single or double seal designs.
- 100% of units are computerized tested.

MODELS 4161-4163-4165 DOUBLE SEAL PUMPS (Nonauto only)

- Protects motor from seal leaks.
- Improved bearing lubrication.
- Helps eliminate seal and bearing damage from dry runs.
- Major width 12¾". Height 20 7/16".

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.

AUTOMATIC UNITS NOT RECOMMENDED FOR USE IN EFFLUENT SYSTEMS.

161 - 163 - 165 Single Seal Series
4161 - 4163 - 4165 Double Seal Series
(For Pump Prefix Identification see News & Views 0052)

Tested to UL Standard UL778

Certified to CSA Standard C22.2 No 108

HIGH HEAD
"FLOW-MATE"

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

EFFLUENT

OR DEWATERING PUMP • SUBMERSIBLE
1½" NPT DISCHARGE STANDARD • 2" AND 3" NPT FLANGE AVAILABLE

SSPMA MEMBER
SUMP AND SEWAGE PUMP MFRS. ASSN.

SINGLE SEAL PUMP

DOUBLE SEAL PUMP

POWDER COATED TOUGH™

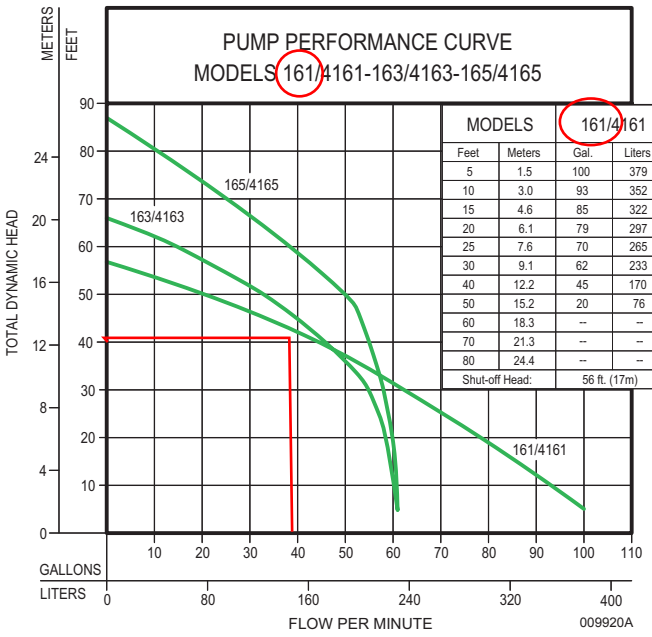
MODELS AVAILABLE

• Automatic (Single Seal Only) or Nonautomatic

161-163 and 4161-4163 Series
- ½ HP, 1 Ph, 115V, 200-208V or 230V
- ½ HP, 3 Ph, 200-208V, 230V or 460V

165 and 4165 Series
- 1 HP, 1 Ph, 200-208V or 230V
- 1 HP, 3 Ph, 200-208, 230V or 460V

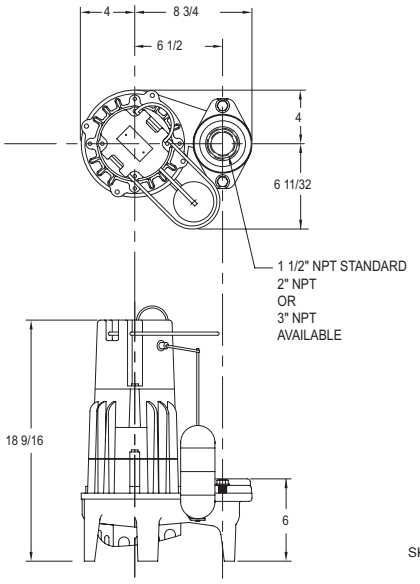
*NOTE: No UL listing or approval for 200-208V 1Ph or Extra Duty (ED) pumps. See back page for UL & CSA Listings.



MODELS		161/4161		163/4163		165/4165	
Feet	Meters	Gal.	Liters	Gal.	Liters	Gal.	Liters
5	1.5	100	379	61	231	61	231
10	3.0	93	352	61	231	61	231
15	4.6	85	322	60	227	61	231
20	6.1	79	297	59	223	60	227
25	7.6	70	265	57	216	59	223
30	9.1	62	233	55	206	58	220
40	12.2	45	170	46	172	55	208
50	15.2	20	76	33	125	50	189
60	18.3	--	--	15	57	39	148
70	21.3	--	--	--	--	23	87
80	24.4	--	--	--	--	10	38
Shut-off Head:		56 ft. (17m)		66 ft. (20m)		86.5 ft. (26m)	

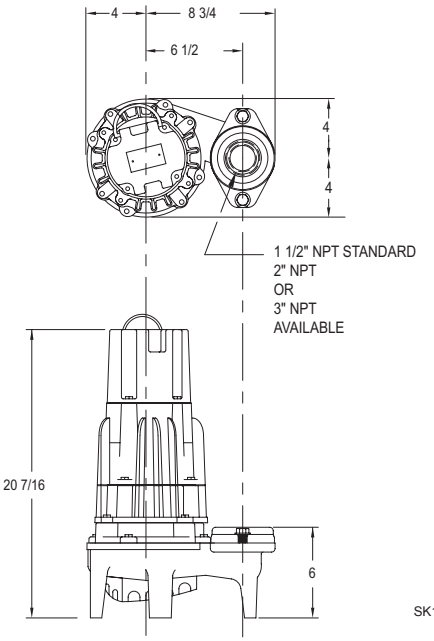
009920B

Single Seal
Automatic Design
Weight 80 lbs.



SK374

Double Seal Design
Weight 87 lbs.



SK1413

Standard all models - 20 ft. cord - ½ HP

161 MODELS	4161 MODELS	Control Selection						Listings	
Single Seal	Double Seal	Volts -	Ph	Mode	Amps	Simplex	Duplex	CSA	UL
M161	---	115	1	Auto	15.5	1	---	Y	Y
N161	N4161	115	1	Non	15.5	2 or 3 & 5	4 & 5	Y	Y(1)
D161	---	230	1	Auto	7.5	1	---	Y	Y
E161	E4161	230	1	Non	7.5	2 or 3 & 5	4 & 5	Y	Y
* H161	---	200-208	1	Auto	8.8	1	---	Y	N
* I161	* I4161	200-208	1	Non	8.8	2 or 3 & 5	4 & 5	Y	N
* J161	* J4161	200-208	3	Non	6.4	3 & 5	4 & 5	Y	Y
* F161	* F4161	230	3	Non	5.2	3 & 5	4 & 5	Y	Y
* G161	* G4161	460	3	Non	2.9	3 & 5	4 & 5	Y	Y

Standard all models - 20 ft. cord - ½ HP

163 MODELS	4163 MODELS	Control Selection						Listings	
Single Seal	Double Seal	Volts -	Ph	Mode	Amps	Simplex	Duplex	CSA	UL
M163	---	115	1	Auto	15.0	1	---	Y	Y
N163	N4163	115	1	Non	15.0	2 or 3 & 5	4 & 5	Y	Y(1)
D163	---	230	1	Auto	7.5	1	---	Y	Y
E163	E4163	230	1	Non	7.5	2 or 3 & 5	4 & 5	Y	Y
* H163	---	200-208	1	Auto	8.5	1	---	Y	N
* I163	* I4163	200-208	1	Non	8.5	2 or 3 & 5	4 & 5	Y	N
* J163	* J4163	200-208	3	Non	6.0	3 & 5	4 & 5	Y	Y
* F163	* F4163	230	3	Non	4.8	3 & 5	4 & 5	Y	Y
* G163	* G4163	460	3	Non	2.9	3 & 5	4 & 5	Y	Y

Standard all models - 20 ft. cord - 1 HP

165 MODELS	4165 MODELS	Control Selection						Listings	
Single Seal	Double Seal	Volts -	Ph	Mode	Amps	Simplex	Duplex	CSA	UL
D165	---	230	1	Auto	10.2	1	---	Y	Y
E165	E4165	230	1	Non	10.2	2 or 3 & 5	4 & 5	Y	Y
* H165	---	200-208	1	Auto	12.6	1	---	Y	N
* I165	* I4165	200-208	1	Non	12.6	2 or 3 & 5	4 & 5	Y	N
* J165	* J4165	200-208	3	Non	7.5	3 & 5	4 & 5	Y	Y
* F165	* F4165	230	3	Non	7.4	3 & 5	4 & 5	Y	Y
* G165	* G4165	460	3	Non	3.7	3 & 5	4 & 5	Y	Y
* BA165	* BA4165	575	3	Non	3.0	3 & 5	4 & 5	N	N

* No Molded Plug

(1) UL Listed unit available with 20 Amp plug.

SELECTION GUIDE

1. Integral float operated mechanical switch, no external control required.
2. For automatic use single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
3. See FM1228 for correct model of simplex control panel.
4. See FM0712 for correct model of duplex control panel.
5. Variable level control switch 10-0225 used as control activator, specify simplex (3) float or duplex (3) or (4) float system.

For information on additional Zoeller products refer to catalog on Piggyback Variable Level Float Switches, FM0477; Electrical Alternator, FM0486; Mechanical Alternator, FM0495; Alarm Package, FM0732; and Sump/Sewage Basins, FM0487.

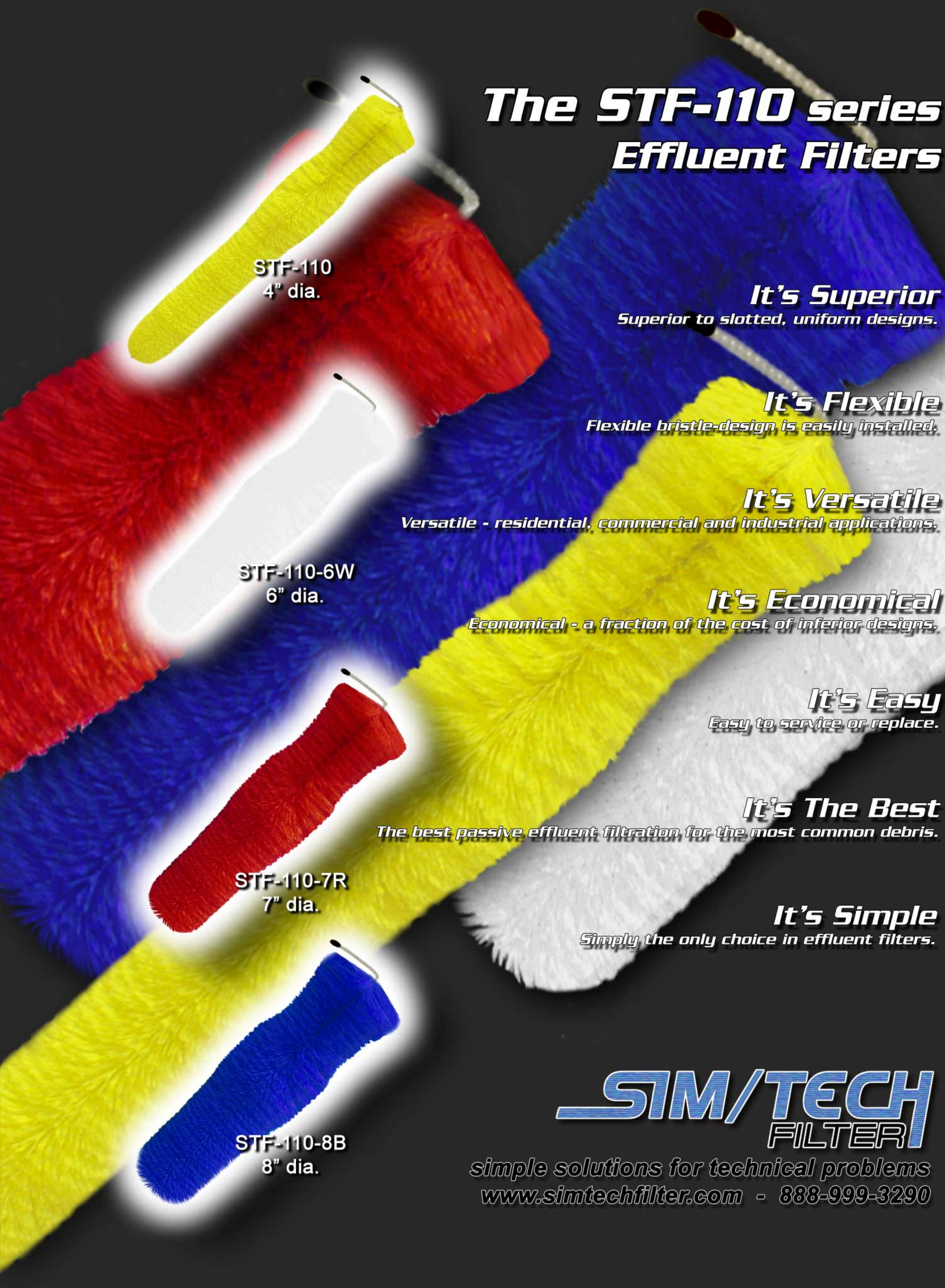
⚠ CAUTION

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).

RESERVE POWERED DESIGN

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

The STF-110 series Effluent Filters



It’s Superior
Superior to slotted, uniform designs.

It’s Flexible
Flexible bristle-design is easily installed.

It’s Versatile
Versatile - residential, commercial and industrial applications.

It’s Economical
Economical - a fraction of the cost of inferior designs.

It’s Easy
Easy to service or replace.

It’s The Best
The best passive effluent filtration for the most common debris.

It’s Simple
Simply the only choice in effluent filters.

SIM/TECH FILTER

simple solutions for technical problems

www.simtechfilter.com - 888-999-3290

STF-110 series
Effluent Filers

- ***Superior filtration*** of the most common solids found in today's wastewater systems
- ***Versatile design*** has applications for residential, commercial and industrial systems and fit many different types of tees and housings
- ***Flexible bristle-design*** is simple to install and service, even in systems with limited access
- ***Self-locking bristles*** hold the filter firmly in place with no need for receivers or canisters and eliminate filter float-up
- ***Debris separation area*** naturally sorts solids according to size and mass for longer filter life
- ***Allows biological maturing*** necessary in wastewater treatment systems
- ***Durable*** enough to be serviced and economical enough to be replaced
- ***Economical solution*** for protecting and servicing all types of wastewater systems at a fraction of the cost of inferior designs

Designed after our proven STF-110 effluent filter that currently protects residential septic systems all over the world, the latest additions to this series of filters were designed with more demanding residential, commercial and industrial systems with larger housings and pre-cast tanks with built in square baffles in mind.

We achieve superior filtration of the most common solids found in today's wastewater systems with our non-uniform bristle design. This design is much more efficient than uniform / slotted designs which can pass larger more harmful debris into the system.

The flexible self-locking bristles make it simple to install and service, even in systems with limited access. They also hold the filter firmly in place with no need for receivers or canisters and eliminate filter float-up.

The filters employs a debris separation space which naturally sorts solids according to size and mass. This makes the filter function more efficiently and greatly increases its life-span. It also allows for biological maturing which is necessary in all wastewater treatment systems.

STF-110-7R in 4"-6" sanitary Tee(cut-a-way)

STF-110-7R in pre-cast septic tank with square baffle.

The STF-110 series filters use triangular polypropylene bristles wound together with a 316 stainless-steel core. This makes them durable enough to be serviced and economical enough to be replaced. This provides an economical solution for protecting and servicing all types of wastewater systems at a fraction of the cost of inferior designs.

STF-130 changing sleeve is required to block effluent flow while servicing without the need to pump down the tank.

STF-110 in 4" sanitary Tee (cut-a-way view)

Solutions

We offer free CAD detail drawings in DXF format to cover our complete product line.

For the protection and performance of wastewater systems by

proudly made in the USA

SIM/TECH FILTER

www.gag-simtech.com
888-999-3290

US Patent # 6,811,692

Toll Free: 888-999-3290

Bristle Filter Instructions
For STF-110 4” (Installation & Maintenance)

Instructions for installation in standard 4” outlet “Tee” of septic tank.

Installed Filter

- Orient the filter so that the wire handle faces opposite the discharge outlet.
- Push filter into top of “Tee” until the 90 degree wire handle touches the top of the “Tee”. The filter is now “installed”, as shown in the picture to the right.
- The flexibility of the STF-110 bristle filter allows it to be used in just about any situation. If you need help with a custom installation please call Sim/Tech Filter toll free at 888-999-3290.

Recommended maintenance schedule

For maximum protection, it is recommended that the filter be replaced annually. If not, it should be inspected at least once per year. The filter is capable of lasting three years under normal conditions. Such factors as garbage disposals, pets, laundry, etc. may cause the need for more frequent inspection or service.

Instructions for performing maintenance in standard 4” outlet “Tee” of septic tank.

STF-130 Maintenance Sleeve

- Before removing filter, one of two options must be performed. These options need to be performed to prevent any outflow of unfiltered effluent from the tank while the filter is removed.

  Option 1

  Insert a STF-130 maintenance sleeve (sold separately) with the handle coupling on the same side of the “Tee” as the outlet hole. Push the sleeve into the “Tee” until the handle coupling hits the top of the “Tee”. Do not remove the sleeve until a filter has been put back in the “Tee”.

  Option 2

  Have the tank pumped down by a professional septic service company.
- After performing one of the options above, remove filter by pulling up on the filter handle.
- Place the used filter in the provided plastic bag for proper disposal.
- Install a new replacement filter as described in the installation instructions at the top of the page.
- If a maintenance sleeve was used (option 1), remove the sleeve from the outlet “Tee”.

Maintenance Sleeve partially inserted into “Tee”

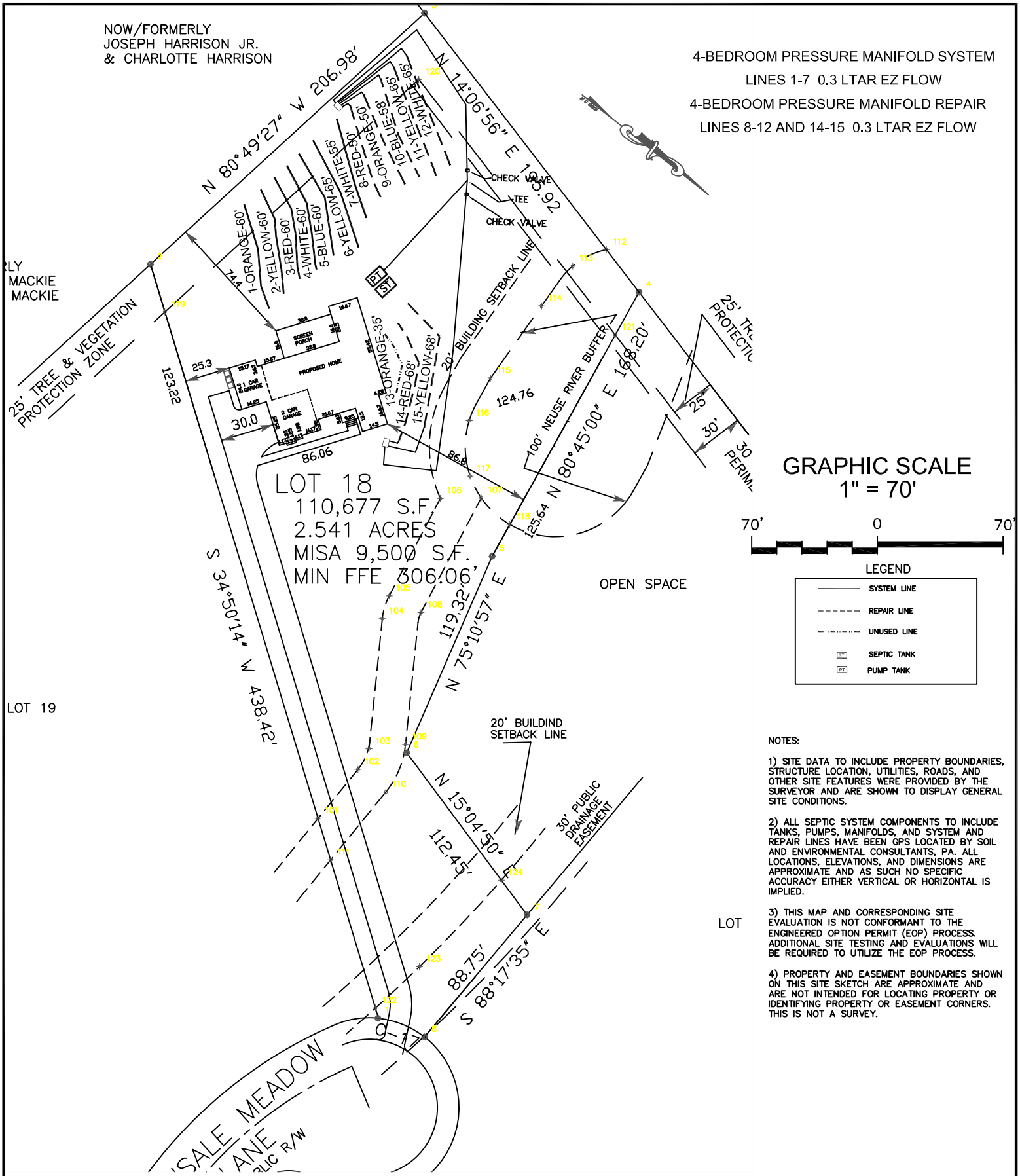
U.S. Patent # 6,811,692

2100 Kinsale Meadow Lane, Lot 18
Project No.13570.S6
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)
8	RED	***94.91***	**50**	1/2" SCH. 80	**5.48**	60.82	150	0.405
9	ORANGE	***94.00***	**50**	1/2" SCH. 80	**5.48**	60.82	150	0.405
10	BLUE	***92.75***	**58**	1/2" SCH. 80	**5.48**	60.82	174	0.350
11	YELLOW	***91.08***	**65**	1/2" SCH. 80	**5.48**	60.82	195	0.312
12	WHITE	***89.33***	**65**	1/2" SCH. 40	**7.11**	78.91	195	0.405
14	RED	***97.59***	**68**	1/2" SCH. 40	**7.11**	78.91	204	0.387
15	YELLOW	***95.84***	**68**	1/2" SCH. 40	**7.11**	78.91	204	0.387

total **feet =** **424** **gal/min =** **43.25**

Des. Flow	**480**	**gpd**
Pump Run=	**11.10**	**min**
soil LTAR	**0.30**	**gpd/sq ft**
INNOV. Product Reduction	**25%**	
LTAR with INNOV.	**0.40**	**gpd/sq ft**
LTAR with INNOV. + 5%	**0.42**	**gpd/sq ft**
100% Dose Volume	**275.92**	**gal**
Percent Dose Volume	**75%**	
Total	**206.94**	**gal**
Pump Run Time	**4.78**	**min**



NOTES:

1) SITE DATA TO INCLUDE PROPERTY BOUNDARIES, STRUCTURE LOCATION, UTILITIES, ROADS, AND OTHER SITE FEATURES WERE PROVIDED BY THE SURVEYOR 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 AND ENVIRONMENTAL CONSULTANTS, PA. ALL LOCATIONS, ELEVATIONS, AND DIMENSIONS ARE APPROXIMATE AND AS SUCH NO SPECIFIC ACCURACY EITHER VERTICAL OR HORIZONTAL IS IMPLIED.

3) THIS MAP AND CORRESPONDING SITE EVALUATION IS NOT CONFORMANT TO THE ENGINEERED OPTION PERMIT (EOP) PROCESS. ADDITIONAL SITE TESTING AND EVALUATIONS WILL BE REQUIRED TO UTILIZE THE EOP PROCESS.

4) 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.

S&EC
Soil & Environmental Consultants, PA
8412 Falls of Neuse Rd., Suite 104 • Raleigh, North Carolina 27615 • www.SandEC.com
Phone: (919) 846-5900 • Fax: (919) 846-9467

Project: 2100 KINSALE MEADOW LANE, LOT 18			Project No.: 13570.56
		Project Manager: RP	Drawn: JM
Location: WAKE CO., NC	Client: HOMESTEAD BUILDING CO.	Scale: 1"=70'	Field Work: JM
Sheet Title: REPAIR SYSTEM SITE PLAN			Sheet No.: 1 of 1

S&EC

Soil & Environmental Consultants, PA

8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615 • Phone: (919) 846-5900 • Fax: (919) 846-9467
sandec.com

October 13, 2021
S&EC Project #13570.S6

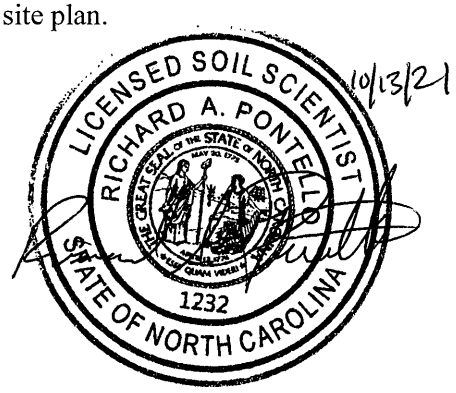
Homestead Building Company
Attn: Bob Latvala
PO Box 848
Wake Forest, NC 27588

Re: Septic System Encroachment for Lot 18 Waterstone Reserve Subdivision, Wake County, NC

Dear Mr. Latvala:

The purpose of this letter is to substantiate the septic encroachment into the Tree Protection Zone as specified in Wake County's Unified Development Ordinance (16-10-2 (J), (1). Due to location of the suitable soils for the septic system and repair area, and the size and location of the proposed house and driveway, lot 18 will require an encroachment into the tree protection zone as represented on the submitted septic site plan.

Sincerely,



10/13/21

Ricky Pontello
NC Licensed Soil Scientist #1232

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-066562-2021** **APPLICATION DATE:** 08/31/2021 **BLDG. PERMIT #: RBPR-066498-2021**

PIN: 1821340584 **RECORDED:** Yes

TOWNSHIP: 14 - New Light **JURISDICTION:** Wake County **ZONING:** R-80W

APPLICANT: Jeff Melton
12339 Wake union church RD

BUSINESS PHONE: (919) 556-8472
HOME PHONE: (919) 215-0436
MOBILE PHONE: (919) 215-0436

HD USE: 101A CONVENTIONAL ONE-FAMILY HOUSE **EXISTING USE:**

SITE ADDRESS: 2100 KINSALE MEADOW LN

SUBDIVISION: THE MANORS AT WATERSTONE RE **LOT:** 18 **ACRES:** 1.72

DIRECTIONS: Capital Blvd. N, Left on Hwy. 98, Right on Camp Kanata Rd., Left into subdivision.

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.

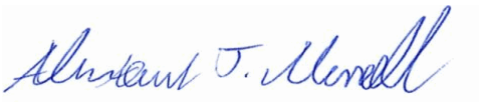
IP VALID FOR: Five Years AS PER GS 130A-335 (f)
DESIGNED BY: S&EC
SYSTEM LAYOUT: Private Sector
SITE CLASSIFICATION: Provisionally Suitable

IP STATUS: Issued **BY:** Alexander Merrell **DATE:** 11/10/2021

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:
PRETREATMENT STRENGTH REQUIRED:
EASEMENT FOR WW SYSTEM ASSOCIATED WITH PARCEL:

MAXIMUM TRENCH DEPTH: 20 INCHES
PUMP REQUIRED: Yes

SPECIFIC SYSTEM REQUIREMENTS: - 4 bedroom single family residence with 480 GPD design flow
- Repair system is Type IIIB with .3 LTAR and 20" maximum trench depth
- Site is serviced by a community well
- MAINTAIN ALL SETBACKS
- No cutting/grading/alterations allowed in septic areas
- No utilities allowed in septic areas
- Call with questions @ 919-397-7095

ISSUED BY: 

DATE: 11/10/2021

SUBJECT PROPERTY IS___ IS NOT ___ LOCATED IN A SPECIAL FLOOD HAZARD AREA AS DESIGNATED ON FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A.) FLOOD INSURANCE RATE MAP NUMBER_____ ZONE_____

EROSION AND SEDIMENT CONTROL
APPROVED PLAN
DATE _____
PERMIT NO. S _____
WAKE COUNTY ENVIRONMENTAL SERVICES
SEDIMENTATION & EROSION CONTROL
(919) 856-7400

SITE PLAN APPROVED BY
WAKE COUNTY N.C. P.D.I.
Nikki McIntyre
08/31/2021 4:14:52 PM

RBPR-066498-2021

NOW/FORMERLY
JOSEPH HARRISON JR.
& CHARLOTTE HARRISON

N 80°49'27" W 206.98'

N 14°06'56" E 195.92'

LOT 18
110,677 S.F.
2.541 ACRES
MISA 8,500 S.F.
MIN FFE 306.06'

Initial System

Repair System

47 ft

15 ft

30 ft

135 ft

45 ft

12 ft

S/F

UNITED STATES OF AMERICA

NOW/FORMERLY
BENJAMIN J. MACKIE
& LESLEY J. MACKIE

30 ft

25' TREE & VEGETATION PROTECTION ZONE

29' BUFFALO STREAM LINE

100' NEUSE RIVER BUFFER

N 80°45'00" E 169.20'

25' TREE & VEGETATION PROTECTION ZONE

30' CLUSTER S/D PERIMETER SETBACK

OPEN SPACE

S 34°50'14" W 438.42'

N 75°10'57" E 119.32'

LOT 19

20' BUILDIND SETBACK LINE

N 15°04'30" W 112.45'

30' PUBLIC DRAINAGE EASEMENT

LOT 17

S 88°17'35" E 88.75'

KINSALE MEADOW LANE
50' PUBLIC R/W

ZONED R-80W
SETBACKS
FRONT 15'
SIDE 7.5'
REAR 15

CURVE C-17
R=50.0'
L=28.36'
CHORD
S 16°29'31" E 27.98'

PROPOSED IMPERVIOUS AREAS
HOME 4,097 S.F.
WALK & DRIVE 5,327 S.F.
A/C 27 S.F.
TOTAL 9,451 S.F.

3'X4' MIN
STANDARD SILT
FEN. OUTLET

TEMPORARY
20'X50'
CONSTRUCTION
ENTRANCE

S/F ——— S/F ——— S/F SILT FENCE

LIMITS OF DISTURBANCE 31,734 S.F.

TOPO TAKEN FROM
WAKE COUNTY GIS

PRELIMINARY PLAT, NOT FOR RECORDATION, CONVEYANCE OR SALE

BUILDER TO VERIFY HOUSE DIMENSIONS

THE MANORS AT WATERSTONE RESERVE

LOT 18 BLOCK_____

RECORDED IN BOOK OF MAPS 2021, PAGE 273 WAKE COUNTY, N. C.

I, JOHN Y. PHELPS, JR. HEREBY CERTIFY THAT THIS MAP IS CORRECT AND THAT THE BUILDINGS LIE WHOLLY ON THE LOT AND THAT THERE ARE NO ENCROACHMENTS OF OTHER BUILDINGS ON SAID LOT UNLESS SHOWN OTHERWISE. THIS MAP IS NOT FOR RECORDING.

NORTH CAROLINA PROFESSIONAL SEAL L-1319 LAND SURVEYOR JOHN Y. PHELPS

JOHN Y. PHELPS, JR. R.L.S. L-1319

PLOT PLAN SHEET 1 OF 4

HOMESTEAD BUILDING COMPANY

2100 KINSALE MEADOW LANE
NEW LIGHT TOWNSHIP, WAKE COUNTY, N.C.

SCALE 1"=80'
DATE 6/23/21
M@WSR-18

JOHN Y. PHELPS, JR.
PROFESSIONAL LAND SURVEYOR
5110 BUR OAK CIRCLE
RALEIGH, NORTH CAROLINA, 27612 (919) 787-3658