



Subsurface Wastewater Disposal System Design Packet

**HARRINGTON PLACE LOT 2
40 Liam Dr.
Broadway NC 27505
PIN: 9680-69-5936
7/27/25**

Table of Contents

Project Details

Contact Information	1
Table of contents page	2
Introduction Letter	3-4
Common Form	5-13

Site Specifications

Soils Evaluation	14-15
Site Plans	16-19

Design Specifications

Initial System	20
Repair System... ..	21
Repair Pressure Manifold Design	22
Supply Line Hydraulic profile	23

System Components

Infiltrator Tank	24-25
Pump	26-27
Filter Specs	28
Manifold Box	29
Control Panel Specs	30-31

Miscellaneous

Information for the Contractor	32
Insurance Information	33-39

PAC-ONE, PLLC

Subsurface Wastewater Disposal System Design Packet

Date: 7/27/25

Proposed for a:

3 -bedroom residential dwelling

Located at:

40 LIAM DR BROADWAY NC 27505

DESIGNED BY:

Steve Bristow

920 Garner Rd, Selma NC 27576

Email: stevebristow57@gmail.com

Phone: (919)906-4737

Session Law 2022-11 (S372) Introduction Letter

This information contained within this packet concerns a soils and subsurface wastewater evaluation conducted by:

Stephen W. Bristow (LSS#1167) of Permit Acquisition Company – One, PLLC

for the property hereafter described as:

40 LIAM DR BROADWAY NC 27505

at the behest of:

Owner Print: Smith Douglas Homes

Owner Signature: Will Smith

Owner's Representative (if any): Will Smith

Date: 7/27/25

The LSS/LG evaluation(s) attached to this application is to be used to issue an Improvement Permit in accordance with G.S 130A-335(a2) and (a3).

The plans or evaluations attached to this application are to be used to issue a Construction Authorization Permit in accordance with G.S. 130A-335 (a2), (a5), and (a6).

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



Stephen W Bristow



NC DEPARTMENT OF
**HEALTH AND
HUMAN SERVICES**

ROY COOPER • Governor

KODY H. KINSLEY • Secretary

MARK BENTON • Chief Deputy Secretary for Health

SUSAN KANSAGRA • Assistant Secretary for Public Health

Division of Public Health

Application for Services

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

[hereinafter, G.S. 130A-335(a3) and (a5) permits referred to as (a2) Improvement Permit and (a2) Construction Authorization]

Applying for:

☒ (a2) Improvement Permit ☒ (a2) Construction Authorization ☐ (a2) Repair/Construction Authorization

If applying for a Construction Authorization, please indicate desired system type(s):

☒ Accepted ☐ Conventional ☐ Innovative ☐ Other _____ ☐ Any

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

☒ 5-Year Expiration Requested (site plan provided) ☐ Non-Expiring Permit Requested (plat provided, defined in G.S.130A-334(7a))

Requesting DHHS review? (systems >3000 GPD or IPWW) ☒ Yes ☐ No

Applicant: Smith Douglas Homes

Mailing Address: 3412 Apex Peakway Dr.

City: Apex

State: NC Zip: 27502

Phone #: _____

Email: _____

Owner: Smith Douglas Homes

Mailing Address: 3412 Apex Peakway Dr.

City: Apex

State: NC Zip: 27502

Phone #: _____

Email: _____

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

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

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

Applicant Signature: _____ Date: 7/27/25

Owner's Signature: _____ Date: _____



NC DEPARTMENT OF
**HEALTH AND
HUMAN SERVICES**

ROY COOPER • Governor

KODY H. KINSLEY • Secretary

MARK BENTON • Chief Deputy Secretary for Health

SUSAN KANSAGRA • Assistant Secretary for Public Health

Division of Public Health

Submittal Includes: ☒ (a2) Improvement Permit ☒ (a2) Construction Authorization ☐ Fee \$ _____

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

County: Harnett

PIN/Lot Identifier: 9680-69-5936

Issued To: Smith Douglas Homes

Property Location: 40 LIAM DR BROADWAY NC 27505

Subdivision (if applicable) HARRINGTON PLACE Lot #: LOT 2 Block: _____ Section: _____

LSS Report Provided: Yes ☒ No ☐

If yes, name and license number of LSS: Stephen W Bristow # 1167

New ☒

Expansion ☐

System Relocation ☐

Change of Use ☐

Facility Type: SFD

Number of bedrooms: 3 Number of Occupants: 6 Other: _____

Design Wastewater Strength: ☒ Domestic

☐ High Strength

☐ Industrial Process Wastewater

Proposed Design Daily Flow: 360 GPD

Proposed LTAR (Initial): .40

Proposed LTAR (Repair): .30

Proposed Wastewater System Type*: IIb (Initial) Pump Required: ☐ Yes ☒ No ☐ May be required

Proposed Wastewater System Type*: IIb (Repair) Pump Required: ☒ Yes ☐ No ☐ May be required

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

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

Saprolite System (Initial): ☐ Yes ☒ No

Saprolite System (Repair): ☐ Yes ☒ No

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

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

Usable Depth to LC (Initial)*: 48 Usable Depth to LC (Repair)*: 48 ** Limiting Condition*

Max. Trench Depth (Initial)*: 35 Max. Trench Depth (Repair)*: 32 ** Measured on the downhill side of the trench*

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

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

Drainfield location meets requirements of Rule .0508: Yes ☒ No ☐ Drainfield location meets requirements of Rule .0601: Yes ☒ No ☐

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

Permit conditions:

Installer must call for site consult to change this permit. 919-906-4737

Chamber product specified for installation- however, EZ product can be a direct replacement if needed. However, you will need drop boxes for EZ Flow

Any State approved ST that supports 360gpd is acceptable for this installation.

Licensed Soil Scientist Print Name: Steve Bristow #1167

Licensed Soil Scientist Signature: [Signature]

Date: 7/27/25

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

See attached site sketch



This Section for Local Health Department Use Only

Initial submittal received: _____ by _____
Date Initials

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

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

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

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

The following items are missing:

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

State Authorized Agent: _____ Date: _____

☐ Complete

State Authorized Agent: _____ Date: _____

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

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

Improvement Permit Expiration Date: _____

See attached site sketch

Re-submittal of Improvement Permit

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

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

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

Signature of Licensed Soil Scientist

Date

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

LHD Follow-up Completeness Review of Improvement Permit

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

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

The following items are missing:

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

State Authorized Agent: _____

Date: _____

☐ Complete

State Authorized Agent: _____

Date: _____

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

County: Harnett

Pre-Construction Conference Required: Yes ☒ No ☐

PIN/Lot Identifier: 9680-69-5936

Issued To: Smith Douglas Homes

Property Location: 40 LIAM DR BROADWAY NC 27505

AOWE/PE Plans/Evaluations Provided: Yes ☒ No ☐ If yes, name and license number of AOWE/PE: Steve Bristow # 10012E

Facility Type: SFD

Number of bedrooms: 3 Number of Occupants: 6 Other: _____

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

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

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

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

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

Design Daily Flow: 360 GPD Wastewater Strength: ☒ Domestic ☐ High Strength ☐ Industrial Process WW

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

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

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

Installation Requirements/Conditions

Septic Tank Size: 1060 gallons Total Trench/Bed Length: 310 feet Trench/Bed Spacing: 9 feet on center

Trench/Bed Width: 36 inches LTAR: .40 gpd/ft² Usable Depth to LC (Initial)*: 48 ^{*Limiting condition}

Soil Cover: 6 inches Slope Corrected Maximum Trench/Bed Depth*: 35 inches ^{*Measured on the downhill side of the trench}

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

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

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

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

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

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

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

Management Entity Required: ☐ Yes ☒ No Minimum O&M Requirements: _____

Permit conditions:

Installer must call for site consult to change this permit. 919-906-4737

Chamber product specified for installation- however, EZ product can be a direct replacement if needed. However, you will need drop boxes for EZ Flow

Any State approved ST that supports 360gpd is acceptable for this installation.

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

AOWE/PE Print Name: Steve Bristow 10012E

AOWE/PE Signature: *Steve Bristow*

Date: 7/27/25

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

See attached site sketch



This Section for Local Health Department Use OnlyInitial submittal received: _____ by _____
Date Initials

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

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

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

Construction Authorization is determined to be:

☐ Incomplete (If box is checked, information in this section is required.)The following items are missing: _____
_____Copies of this were sent to the AOWE/PE and the Applicant on _____
Date

State Authorized Agent: _____ Date: _____

☐ Complete

State Authorized Agent: _____ Date of Issuance: _____

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

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

Construction Authorization Expiration Date: _____

See attached site sketch

Re-submittal of Construction Authorization

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

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

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

Signature of Authorized On-Site Wastewater Evaluator

Date

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

LHD Follow-up Completeness Review of Construction Authorization

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

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

The following items are missing:

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

State Authorized Agent: _____

Date: _____

☐ Complete

State Authorized Agent: _____

Date: _____

Re-submittal of Construction Authorization

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

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

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

Signature of Authorized On-Site Wastewater Evaluator

Date

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

LHD Follow-up Completeness Review of Construction Authorization

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

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

The following items are missing:

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

State Authorized Agent: _____

Date: _____

☐ Complete

State Authorized Agent: _____

Date: _____

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

OWNER: Smith Douglas Homes
ADDRESS: 3412 Apex Peakway Dr. Apex, NC, 27502
PROPOSED FACILITY: SFD PROPOSED DESIGN FLOW (.0400): 360 gpd PROPERTY SIZE: .464ac
LOCATION OF SITE: 40 Liam Dr. Broadway NC PROPERTY RECORDED: yes
WATER SUPPLY: ☒Public ☐Single Family Well ☐Shared Well ☐Spring ☐Other WATER SUPPLY SETBACK: na
EVALUATION METHOD: ☒Auger Boring ☐Pit ☐Cut TYPE OF WASTEWATER: ☒Domestic ☐High Strength ☐IPWW

P R O F I L E #	.0502 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY		OTHER PROFILE FACTORS				.0509 PROFILE CLASS & LTAR*	.0502(d) SLOPE CORRECTION
			.0503 STRUCTURE/ TEXTURE	.0503 CONSISTENCE/ MINERALOGY	.0504 SOIL WETNESS/ COLOR	.0505 SOIL DEPTH	.0506 SAPRO CLASS	.0507 RESTR HORIZ		
1	SIDE SLOPE 2%	11	GR/SL	VFR/NS/NP/SEXP	10YR3/4	48+			Suitable .30	.72in
		16	GR/SL	VFR/NS/NP/SEXP	10YR 6/6					
		45	SBK/SC	FR/SS/SP/SEXP	7.5YR 4/6					
		48	SBK/SC	FR/SS/SP/SEXP	7.5YR 4/6 W/Cr 2					
2	SIDE SLOPE 2%	8	GR/SL	VFR/NS/NP/SEXP	10YR4/2	48+			Suitable .40	.72in
		21	GR/SL	VFR/NS/NP/SEXP	10YR 4/6					
		48	SBK/SCL	FR/SS/SP/SEXP	5YR4/6					
3	SIDE SLOPE 2%	4	GR/SL	VFR/NS/NP/SEXP	10YR4/2	48+			Suitable .40	.72in
		16	GR/SL	VFR/NS/NP/SEXP	10YR 4/6					
		48	SBK/SCL	FR/SS/SP/SEXP	5YR4/6					
4										

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM	SITE CLASSIFICATION (.0509): EVALUATED BY: Stephen W Bristow LSS 1167 OTHER(S) PRESENT:
Available Space (.0508)	YES	YES	
System Type(s)	IIb	IIIb	
Site LTAR	.40	.30	
Maximum Trench Depth	35	32	

Comments: Initial system is gravity w/ MTD Boring 2/3 48-12-1=35in MTD
PM Repair system-MTD Boring 1 45-12-1=32



Handwritten signature of Stephen W. Bristow.

LEGEND

LANDSCAPE POSITION	SOIL GROUP	SOIL TEXTURE	CONVENTIONAL LTAR (gpd/ft²)	SAPROLITE LTAR (gpd/ft²)	LPP LTAR (gpd/ft²)	MINERALOGY/ CONSISTENCE		STRUCTURE
CC (Concave slope)	I	S (Sand)	0.8 - 1.2	0.6 - 0.8	0.4 -0.6	MOIST	WET	SG (Single grain)
CV (Convex Slope)		LS (Loamy sand)		0.5 -0.7		Lo (Loose)	NS (Non-sticky)	M (Massive)
D (Drainage way)	II	SL (Sandy loam)	0.6 - 0.8	0.4 -0.6	0.3 - 0.4	VFR (Very friable)	SS (Slightly sticky)	GR (Granular)
FP (Flood plain)		L (Loam)		0.2 - 0.4		FR (Friable)	S (Sticky)	SBK (Subangular blocky)
FS (Foot slope)	III	SiL (Silt loam)	0.3 - 0.6	0.1 - 0.3	0.15 - 0.3	FI (Firm)	VS (Very sticky)	ABK (Angular blocky)
H (Head slope)		SCL (Sandy clay loam)		0.05 - 0.15**		VFI (Very firm)	NP (Non-plastic)	PR (Prismatic)
L (Linear Slope)		CL (Clay loam)		None		EFI (Extremely firm)	SP (Slightly plastic)	PL (Platy)
N (Nose slope)		SiCL (Silty clay loam)					P (Plastic)	
R (Ridge/summit)		Si (Silt)					VP (Very plastic)	
S (Shoulder slope)		IV				SC (Sandy clay)	0.1 - 0.4	0.05 - 0.2
T (Terrace)	SiC (Silty clay)		EXP (Expansive)					
TS (Toe Slope)	C (Clay)							
		O (Organic)	None					

* Adjust LTAR due to depth, consistence, structure, soil wetness, landscape, position, wastewater flow and quality.

**Sandy clay loam saprolite can only be used with advanced pretreatment in accordance with 15A NCAC 18E .1200.

HORIZON DEPTH

DEPTH OF FILL

RESTRICTIVE HORIZON

SAPROLITE

SOIL WETNESS

CLASSIFICATION

In inches below natural soil surface

In inches from land surface

Thickness and depth from land surface

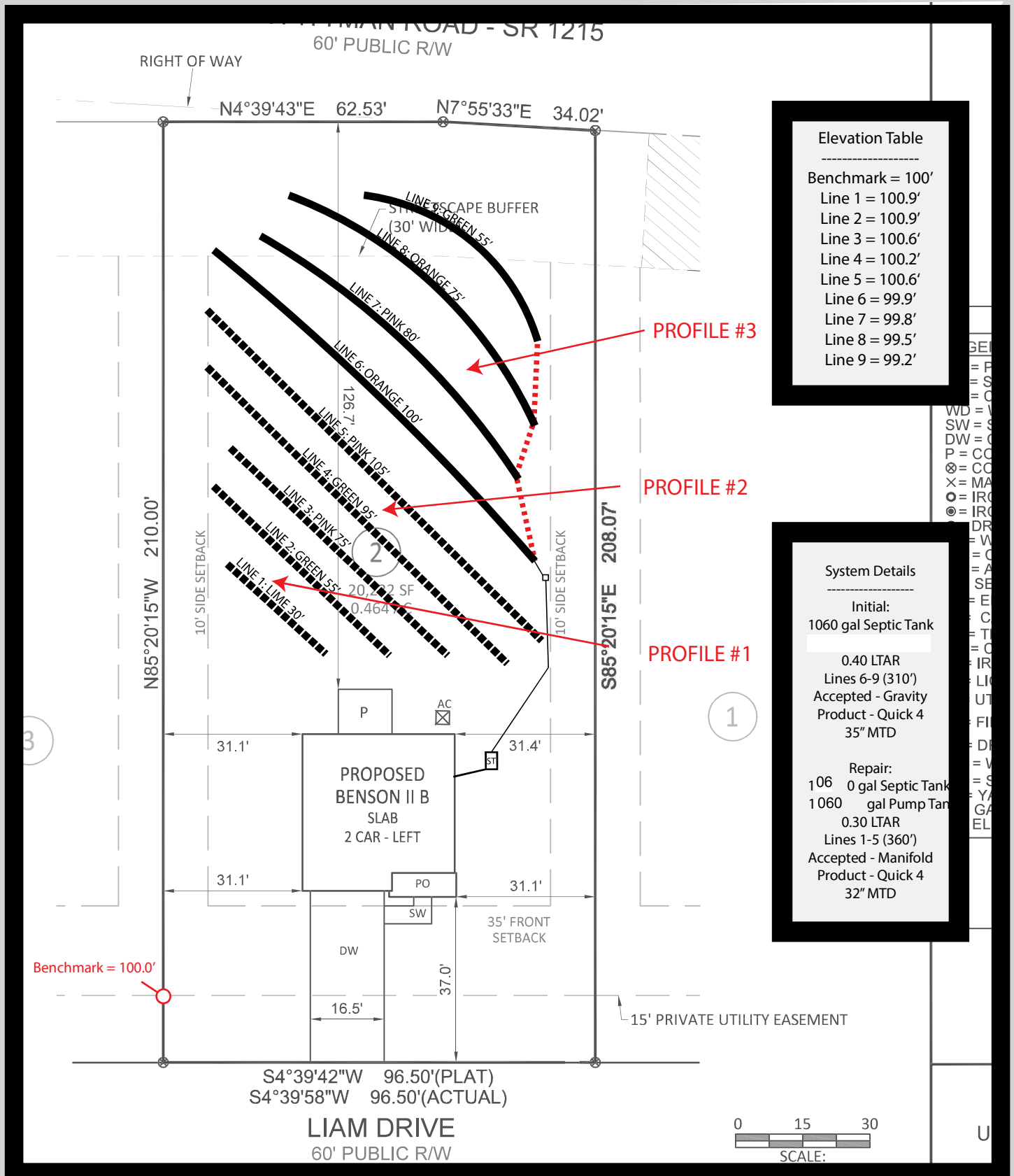
S(suitable) or U(unsuitable); Evaluation of saprolite shall be by pits.

Inches from land surface to free water or inches from land surface to soil colors with chroma 2 or less - record Munsell color chip designation

S (Suitable) or U (Unsuitable)

Show profile locations and other site features (dimensions, reference or benchmark, and North).

Harrington Place Lot 2 System Detail



Elevation Table

Benchmark =	100.0'
Line 1 =	100.9'
Line 2 =	100.9'
Line 3 =	100.6'
Line 4 =	100.2'
Line 5 =	100.6'
Line 6 =	99.9'
Line 7 =	99.8'
Line 8 =	99.5'
Line 9 =	99.2'

System Details

Initial:
1060 gal Septic Tank

0.40 LTAR
Lines 6-9 (310')
Accepted - Gravity
Product - Quick 4
35" MTD

Repair:
1060 gal Septic Tank
1060 gal Pump Tank
0.30 LTAR
Lines 1-5 (360')
Accepted - Manifold
Product - Quick 4
32" MTD

0' 30'
1 inch = 30'



Legend

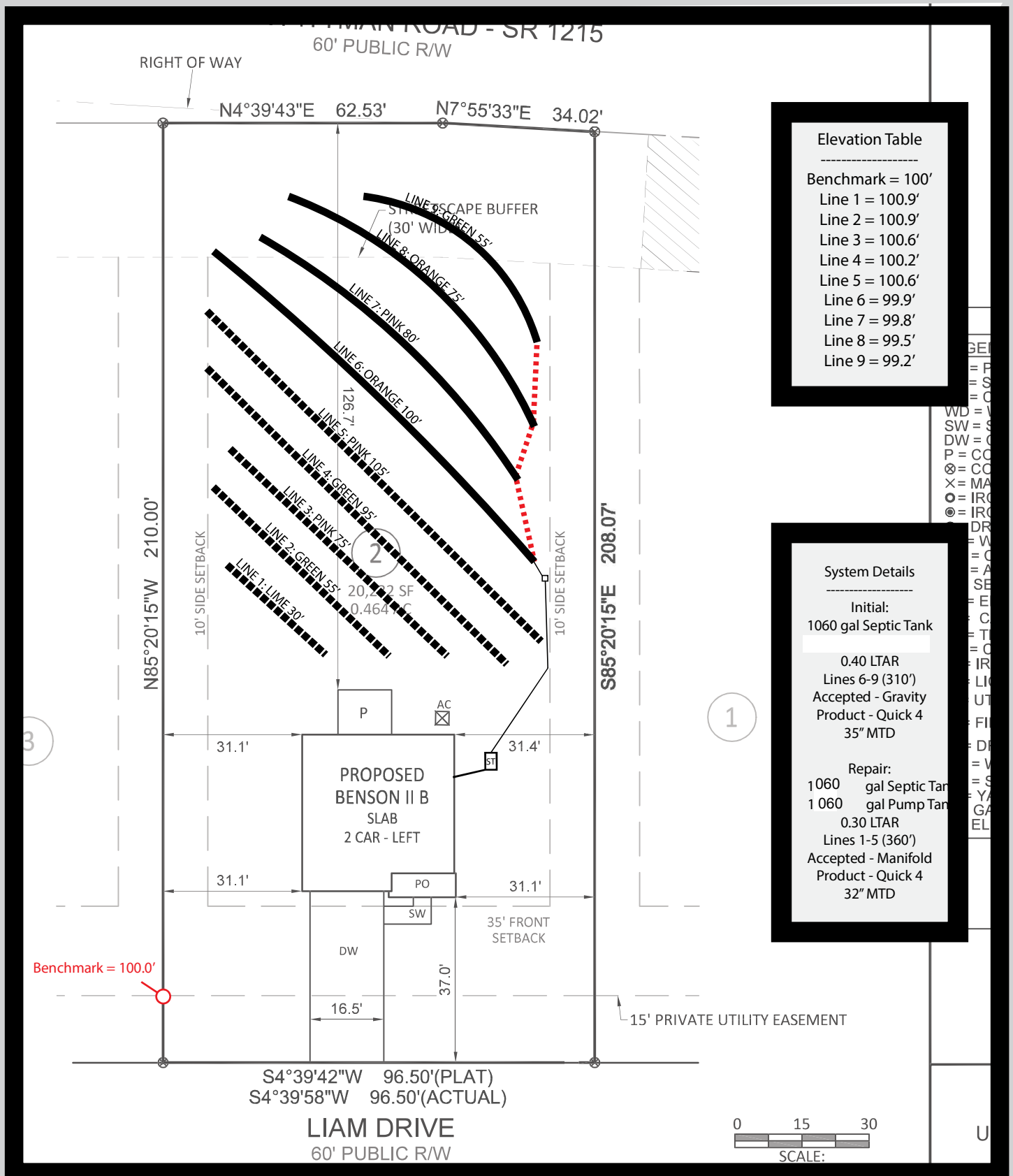
Initial

Repair

Serial



Harrington Place Lot 2 System Detail



Elevation Table

Benchmark = 100'

Line 1 = 100.9'
Line 2 = 100.9'
Line 3 = 100.6'
Line 4 = 100.2'
Line 5 = 100.6'
Line 6 = 99.9'
Line 7 = 99.8'
Line 8 = 99.5'
Line 9 = 99.2'

System Details

Initial:
1060 gal Septic Tank

0.40 LTAR
Lines 6-9 (310')
Accepted - Gravity
Product - Quick 4
35" MTD

Repair:
1060 gal Septic Tank
1060 gal Pump Tank
0.30 LTAR
Lines 1-5 (360')
Accepted - Manifold
Product - Quick 4
32" MTD

0' 30'
1 inch = 30'

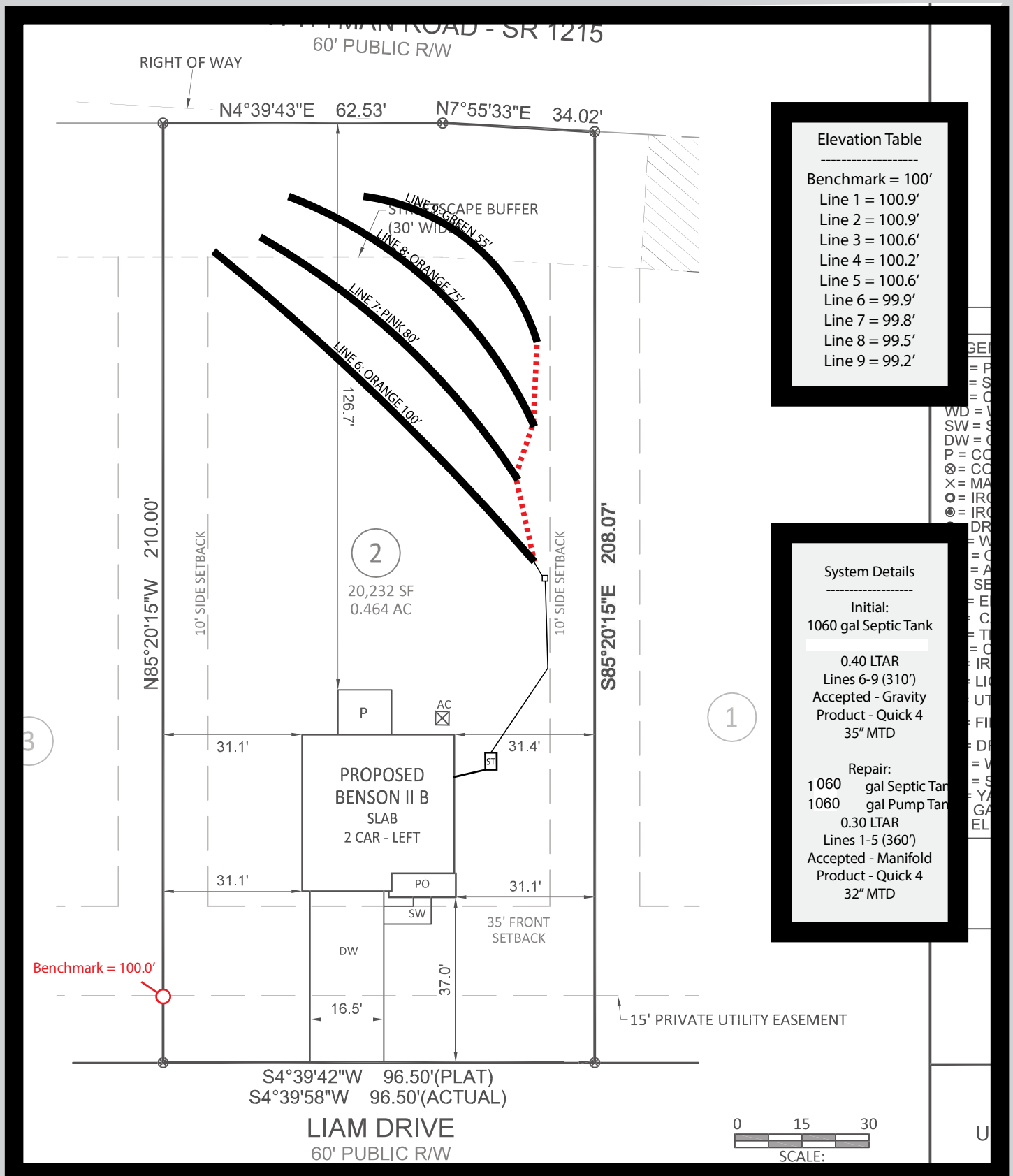


Legend

Initial ———
Repair ———
Serial - - - - -



Harrington Place Lot 2 System Detail



Elevation Table

Benchmark =	100.0'
Line 1 =	100.9'
Line 2 =	100.9'
Line 3 =	100.6'
Line 4 =	100.2'
Line 5 =	100.6'
Line 6 =	99.9'
Line 7 =	99.8'
Line 8 =	99.5'
Line 9 =	99.2'

System Details

Initial:
1060 gal Septic Tank

0.40 LTAR
Lines 6-9 (310')
Accepted - Gravity
Product - Quick 4
35" MTD

Repair:
1060 gal Septic Tank
1060 gal Pump Tank
0.30 LTAR
Lines 1-5 (360')
Accepted - Manifold
Product - Quick 4
32" MTD

0' 30'
1 inch = 30'



Legend

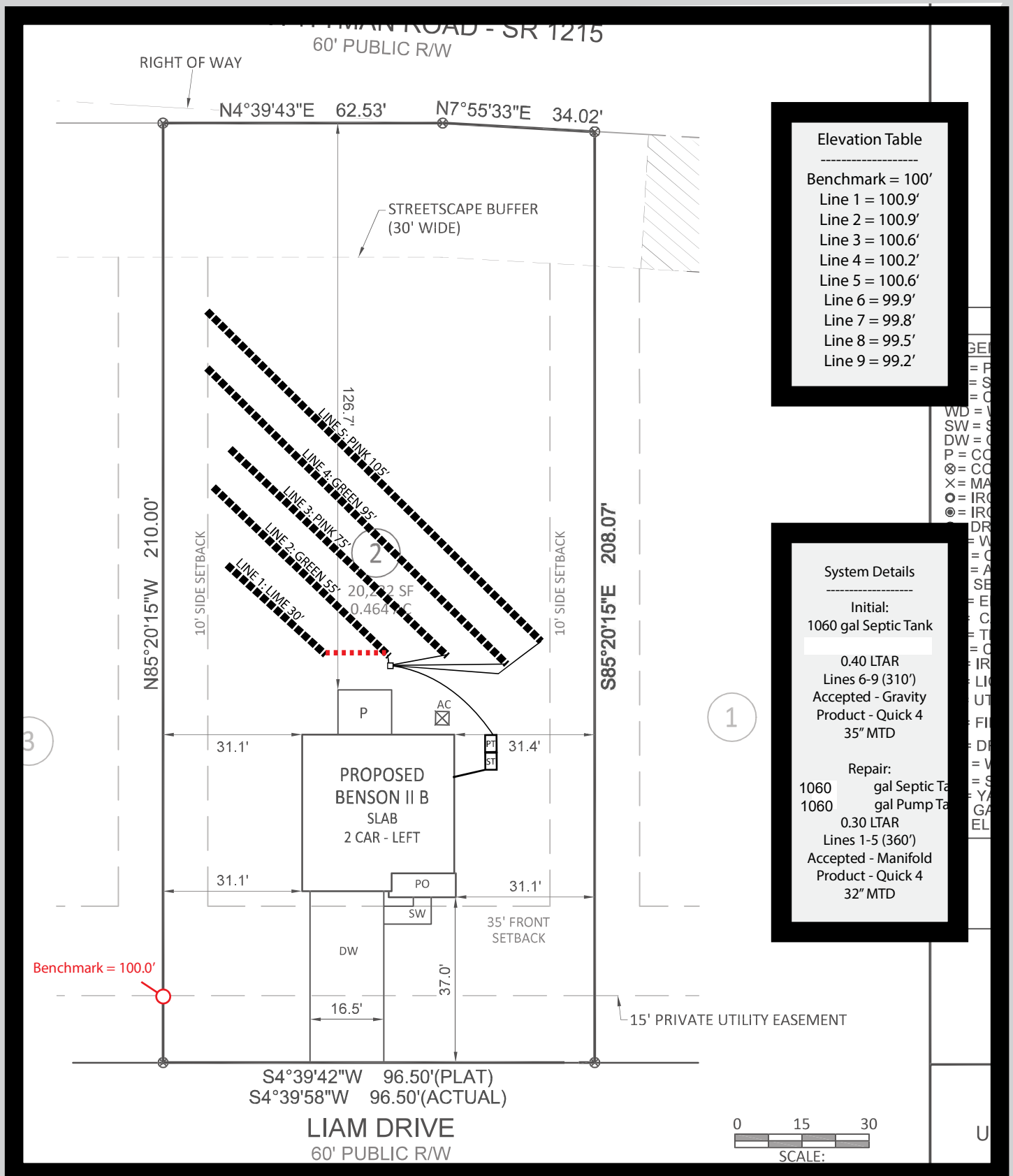
Initial

Repair

Serial



Harrington Place Lot 2 System Detail



System Overview

☒ Initial ☐ Repair

Harrington Place Lot 2

Design Criteria

Number of bedrooms	3
Design Flow	360 gal/day
Soil L.T.A.R.	.40 gal/day/sqft

System Detail

Trench Depth	35 inches
Total Trench Length	310 feet
Distribution	Serial

System Components

Trench Product	Quick 4 Chambers
Septic Tank	1060 gallons
Effluent Filter	Polylok PL-68 (or approved equivalent)

System Overview

☐ Initial ☒ Repair

Harrington Place Lot 2

Design Criteria

Number of Bedrooms	3	
Design Flow	360	gal/day
Soil L.T.A.R.	0.30	gal/day/sq ft

System Details

Trench Depth	32	inches
Total Trench Length	360	feet
Manifold Length	42	inches
Manifold Diameter	4in sch 80pvc	
Supply Line Length	40	feet
Design Head	2.0	feet
Elevation Head	6.0	feet
Total Design Head	10.27	feet
Dose Volume	164	gallons
% Pipe Volume	70	
Drawdown	8.2	inches
Pump Run Time	12.08	minutes

System Components

Trench Product	Chamber
Septic Tank	1060 gal
Pump Tank	1060 gal
Effluent Filter	Polylok PL-68 (or approved equivalent)
Effluent Pump	Zoeller Dose Mate Model 151/152/153 (or approved equivalent)
Control Panel	SJE Rhombus Model 112 panel (or approved equivalent)

RESIDENTIAL PRESSURE MANIFOLD DESIGN

Permit # Harrington 2 Repair

of BDR: 3 **Daily Flow:** 360 gal/day **L.T.A.R.:** 0.3000 gal/day/sq.ft

Septic Tank: 1000 gals **Pump Tank:** 1000 gals **Sq. Foot:** 1080 **System Type:** Accepted

Number of Taps: 4 **Length of Trenches:** 360 **ft(See Tap Chart for Details)**

Depth of Trenches: 32 in **Manifold Length:** 42 in

Manifold Diameter: 4in sch 80pvc **Tap Configuration:** 6 in spacing 1 side(s) of manifold

Supply Line: length: 40 ft **Diameter:** 2 in sch 40pvc

Friction Loss + Fitting Loss: 2.27 ft(supply line length + 70' for fittings in pump tank)

Design Head: 2 ft **Elevation Head:** 6 ft

Total Head: 10.27 ft **Pump to Deliver:** 29.80 gals/min at 10.27 ft head

Dosing Volume: 164 gals,

Drawdown: 164 gals divided by 20 gals/in = 8.2 inches

Simplex Control Panel required; elapsed time meter and cycle counter required; Floats to be determined by type of pump tank used. A septic tank filter is required.

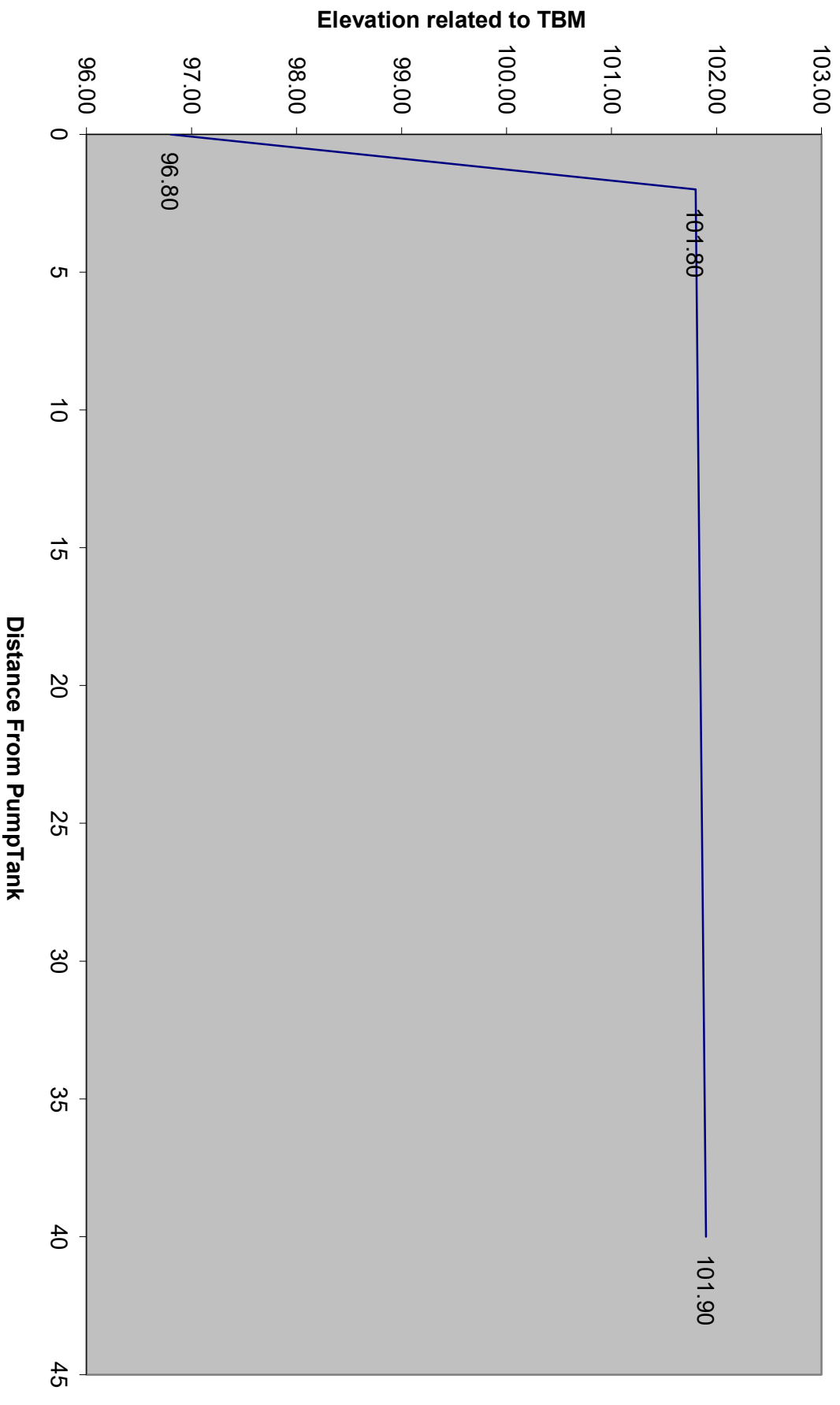
TAP CHART

Benchmark	3.8	is = 100.00	set at base of front left cable box
Pump tank elev.		2	101.80 Pump elev.

Design Head:	2
Manifold elev.	101.90

									# of Panels (PPBPS)	Spacing of Panels (in)
line	color	rod read	Elevation	length	hole size	flow/tap	gal/day	trench area	LINE LTAR	
1and2	Lime/Green	2.90	100.90	85	1/2in SCH 40	7.11	85.89	255	0.3368	
3	Pink	3.20	100.60	75	1/2in SCH 80	5.48	66.20	225	0.2942	
4	Green	3.60	100.20	95	1/2in SCH 40	7.11	85.89	285	0.3014	
5	Orange	3.20	100.60	105	3/4in SCH 80	10.1	122.01	315	0.3873	
			103.80			0	0.00	0	#DIV/0!	
			103.80			0	0.00	0	#DIV/0!	
			103.80			0	0.00	0	#DIV/0!	
			103.80			0	0.00	0	#DIV/0!	
			103.80			0	0.00	0	#DIV/0!	
			103.80			0	0.00	0	#DIV/0!	
			Total Feet =	360	gal/min =	29.80		<u>LTAR =</u>	0.3000	
			Feet Required =	300	Velocity =	2.85		(ltar + 5%)	0.3150	
Total # of Panels (PPBPS)				<u>Des. Flow</u>	360			(ltar w/25% red)	0.4000	
% of Dose Vol.	70			Pump Run=	12.08			(ltar + 5%)	0.4200	
Dose Volume		164		Tank Gal/IN	20					
Dose Pump Time		5.50		Elev. Head	6					
Drawdown in Inches		8.2								

Hydraulic Profile



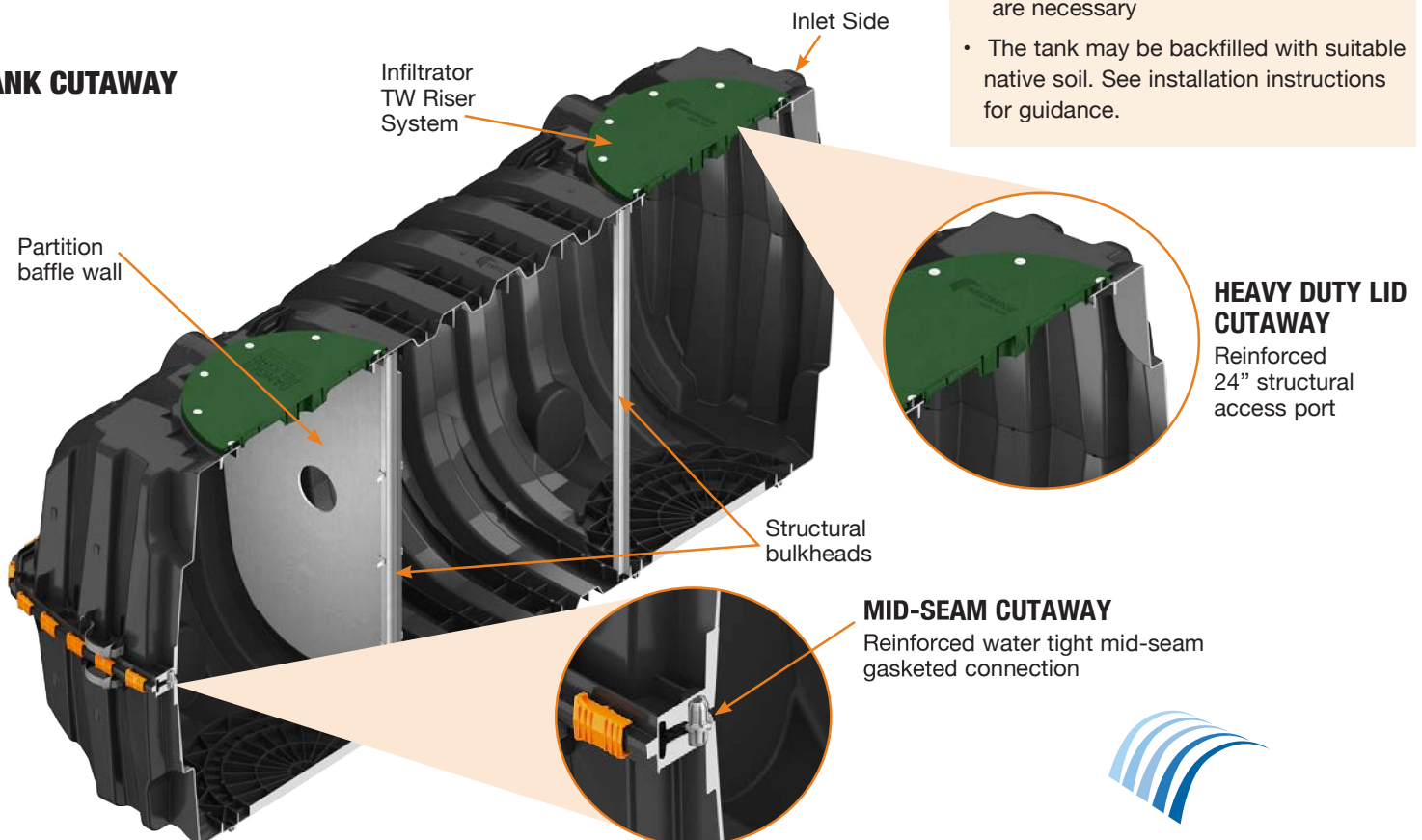


The Infiltrator IM-1060 is a lightweight strong and durable septic tank. This watertight tank design is offered with Infiltrator's line of custom-fit risers and heavy-duty lids. Infiltrator injection molded tanks provide a revolutionary improvement in plastic septic tank design, offering long-term exceptional strength and watertightness.

Features & Benefits

- Strong injection molded polypropylene construction
- Lightweight plastic construction and inboard lifting lugs allow for easy delivery and handling
- Integral heavy-duty green lids that interconnect with TW™ risers and pipe riser solutions
- Structurally reinforced access ports eliminate distortion during installation and pump-outs
- Reinforced structural ribbing and fiberglass bulkheads offer additional strength
- Can be installed with 6" to 48" of cover
- Can be pumped dry during pump-outs
- Suitable for use as a septic tank, pump tank, or rainwater (non-potable) tank
- No special water filling requirements are necessary
- The tank may be backfilled with suitable native soil. See installation instructions for guidance.

TANK CUTAWAY



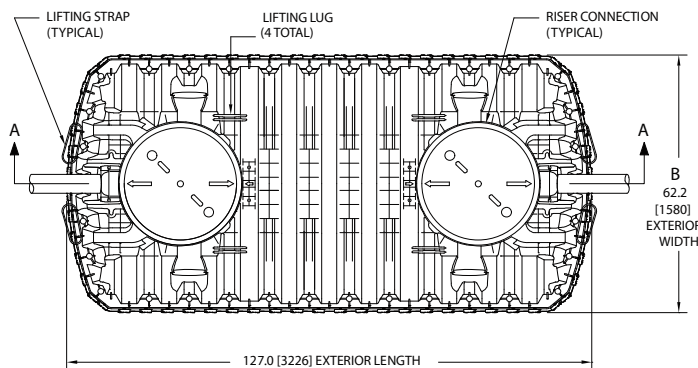
IM-1060 General Specifications and Illustrations

The IM-1060 is an injection molded two piece mid-seam plastic tank. The IM-1060 injection molded plastic design allows for a mid-seam joint that has precise dimensions for accepting an engineered EPDM gasket. Infiltrator's gasket design utilizes technology from the water industry to deliver proven means of maintaining a watertight seal. The two-piece design is permanently fastened using a series of non-corrosive plastic alignment dowels and locking seam clips. The IM-1060 is assembled and sold through a network of certified Infiltrator distributors.

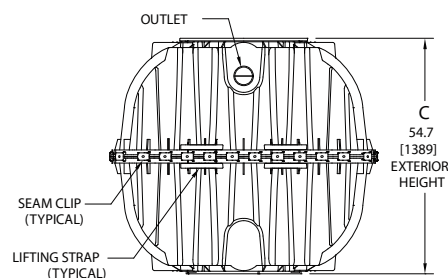
Must be backfilled and installed in accordance with Infiltrator Water Technologies, Infiltrator IM-Series Septic Tank General Installation Instructions and for shallow ground water conditions reference the Infiltrator IM-Series Tank Buoyancy Control Guidance.

Please visit www.infiltratorwater.com/images/pdf/ManualsGuides/TANK01.pdf for the latest information.

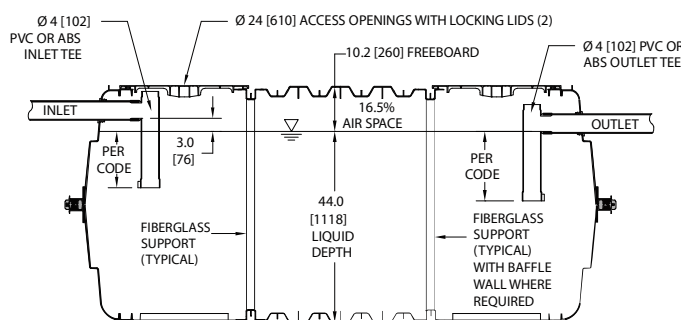
IM-1060	
Working Capacity	1094 gal (4141 L)
Total Capacity	1287 gal (4872 L)
Airspace	16.5%
Length	127" (3226 mm)
Width	62.2" (1580 mm)
Length-to-Width Ratio	2.3 to 1
Height	54.7" (1389 mm)
Liquid Level	44" (1118 mm)
Invert Drop	3" (76 mm)
Fiberglass Supports	2
Compartments	1 or 2
Maximum Burial Depth	48" (1219 mm)
Minimum Burial Depth	6" (152 mm)
Maximum Pipe Diameter	6" (152 mm)
Weight	320 lbs (145 kg)



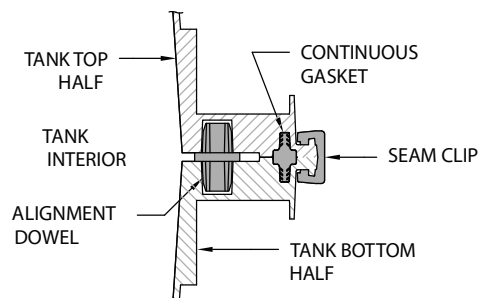
TOP VIEW



END VIEW



SIDE VIEW



MID-HEIGHT SEAM SECTION



4 Business Park Road
P.O. Box 768
Old Saybrook, CT 06475
860-577-7000 • Fax 860-577-7001
1-800-221-4436
www.infiltratorwater.com

U.S. Patents: 4,759,661; 5,017,041; 5,156,488; 5,336,017; 5,401,116; 5,401,459; 5,511,903; 5,716,163; 5,588,778; 5,839,844 Canadian Patents: 1,329,959; 2,004,564 Other patents pending. Infiltrator, Equalizer, Quick4, and SideWinder are registered trademarks of Infiltrator Water Technologies. Infiltrator is a registered trademark in France. Infiltrator Water Technologies is a registered trademark in Mexico. Contour, MicroLeaching, PolyTuff, ChamberSpacer, MultiPort, PosiLock, QuickCut, QuickPlay, SnapLock and StraightLock are trademarks of Infiltrator Water Technologies. PolyLok is a trademark of PolyLok, Inc. TUF-TITE is a registered trademark of TUF-TITE, INC. Ultra-Rib is a trademark of IPEX Inc.

© 2016 Infiltrator Water Technologies, LLC. All rights reserved. Printed in U.S.A.

IM02 1116

Contact Infiltrator Water Technologies' Technical Services Department for assistance at 1-800-221-4436

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



TECHNICAL DATA SHEET

DOSE-MATE SERIES

Models 151, 152, 153 Effluent Pumps

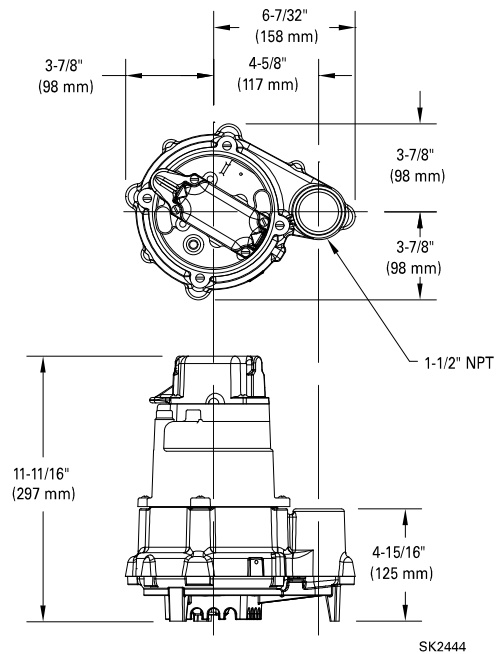
PRODUCT SPECIFICATIONS

MOTOR	Horse Power	1/3 (151), 4/10 (152), 1/2 (153)
	Voltage	115 or 230
	Phase	1 Ph
	Hertz	60 Hz
	RPM	3450
	Type	Permanent split capacitor
	Insulation	Class B
	Amps	3.0 - 10.5
PUMP	Operation	Automatic or nonautomatic
	Discharge Size	1-1/2" NPT
	Solids Handling	1/2" (12 mm), 3/4" (19 mm) spherical solids
	Cord Length	20' (6 m)
	Cord Type	UL listed power cord
	Max. Head	44' (13.4 m)
	Max. Flow Rate	77 GPM (291 LPM)
	Max. Operating Temp.	130 °F (54 °C)
	Cooling	Oil filled
	Motor Protection	Auto reset thermal overload
MATERIALS	Cap	Cast iron
	Motor Housing	Cast iron
	Pump Housing	Cast iron
	Base	Plastic or cast iron
	Upper Bearing	Sleeve bearing
	Lower Bearing	Ball bearing
	Mechanical Seals	Carbon and ceramic
	Impeller Type	Non-clogging vortex
	Impeller	Engineered thermoplastic
	Hardware	Stainless steel
	Motor Shaft	AISI 1215 steel
	Gasket	Neoprene

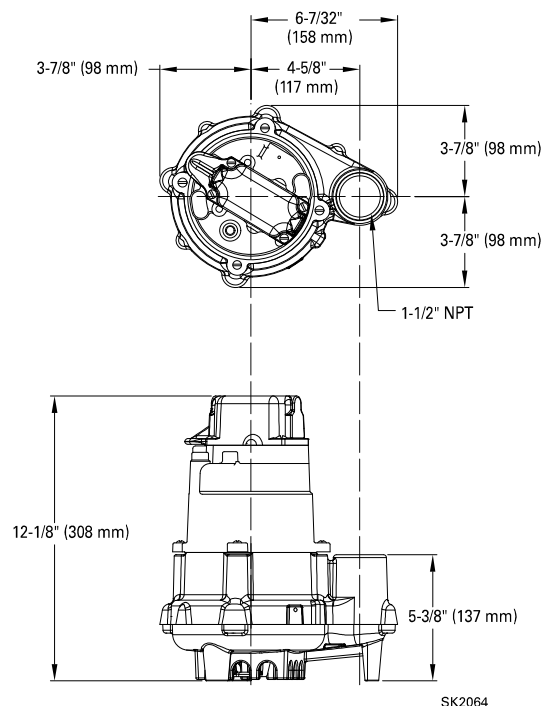
NOTE: The sizing of effluent systems normally requires variable level float(s) controls and properly sized basins to achieve required pumping cycles or dosing timers with nonautomatic pumps.

NOTE: See model comparison chart for specific details.

MODEL 151



MODELS 152 & 153

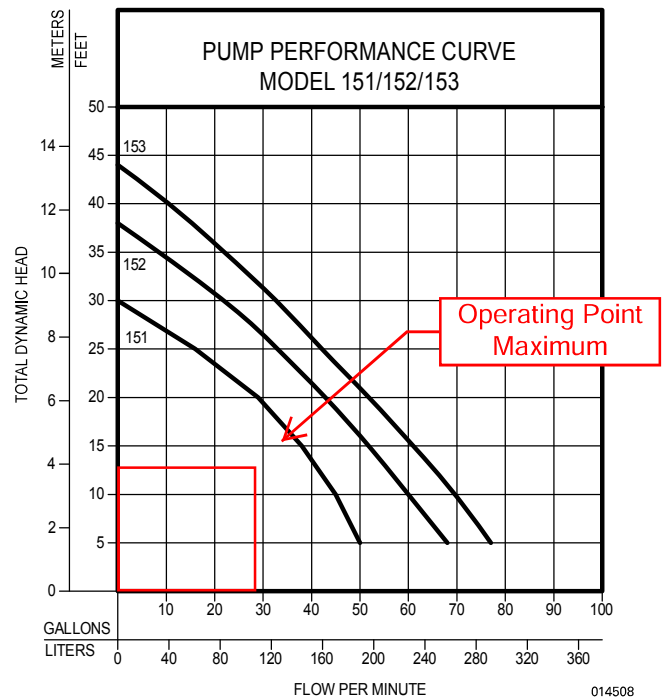


Tested to UL Standard UL778
and Certified to CSA
Standard CSA22.2 No. 108



TOTAL DYNAMIC HEAD FLOW PER MINUTE

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)	



Model	MODEL COMPARISON										
	Seal	Mode	Volts	Ph	Amps	HP	Hz	Lbs	Kg	Simplex	Duplex
N151	Single	Non	115	1	6.0	1/3	60	32	15	1	2 or 3
E151	Single	Non	230	1	3.0	1/3	60	32	15	1	2 or 3
BN151	Single	Auto	115	1	6.0	1/3	60	33	15	*	2 or 3
BE151	Single	Auto	230	1	3.0	1/3	60	33	15	*	2 or 3
N152	Single	Non	115	1	8.5	4/10	60	37	17	1	2 or 3
E152	Single	Non	230	1	4.3	4/10	60	37	17	1	2 or 3
BN152	Single	Auto	115	1	8.5	4/10	60	39	18	*	2 or 3
BE152	Single	Non	230	1	4.3	4/10	60	39	18	*	2 or 3
N153	Single	Non	115	1	10.5	1/2	60	37	17		
BN153	Single	Auto	115	1	10.5	1/2	60	39	18	*	2 or 3
E153	Single	Non	230	1	5.3	1/2	60	37	17	1	2 or 3
BE153	Single	Non	230	1	5.3	1/2	60	39	18	*	2 or 3

*BN and BE models include a 20' (6 m) piggyback variable level pump switch. Additional cord lengths are available in 25' (8 m) and 35' (11 m). 50' (15 m) cords are available for 230 V units only.

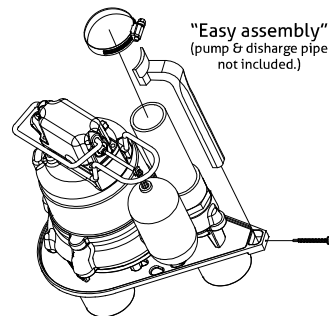
NOTE: Model 151 has a plastic base. Models 152 & 153 have a cast iron base.

SELECTION GUIDE

- For automatic, use single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
- See FM1228 for correct model of simplex control panel.
- See FM0712 for correct model of duplex control panel.

OPTIONAL PUMP STAND P/N 10-2421

- Reduces potential clogging by debris
 - Replaces rocks or bricks under the pump
 - Made of durable, noncorrosive ABS
 - Raises pump 2" (5 cm) off bottom of basin
 - Provides the ability to raise intake by adding sections of 1½" or 2" (DN40 or DN50) PVC piping
 - Attaches securely to pump
 - Accommodates sump, dewatering and effluent applications
- NOTE: Make sure float is free from obstruction.



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 Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).

© Copyright 2017 Zoeller® Co. All rights reserved.

502-778-2731 | 800-928-7867 | 3649 Cane Run Road | Louisville, KY 40211-1961 | zoellerpumps.com

PL-68 Filter and Tee

PL-68 is much more than just an effluent filter. The housing can also be used as an inlet baffle (tee) or an outlet baffle. The housing is designed to accept Polylok's snap in gas deflector to deflect gas bubbles away from the tee and to keep the solids in the tank.

Features:

- Offers 68 linear feet of 1/16" filter slots, which significantly extends time between cleaning.
- Accepts 3/4" PVC handle.
- Locks in any 360° position when used with PL-68 Tee.
- PL-68 Housing can be used as an inlet or outlet tee.
- Gasket prevents bypass.

PL-68 Installation:

Ideal for residential waste flows up to 800 gallons per day (GPD). Easily installs in any new or existing 4" outlet tee.

1. Locate the outlet of the septic tank.
2. Remove the tank cover and pump tank if necessary.
3. Glue the filter housing to the outlet pipe, or use a Polylok Extend & Lok if not enough pipe exists.
4. Insert the PL-68 filter into tee.
5. Replace and secure the septic tank cover.

PL-68 Maintenance:

The PL-68 Effluent Filter will operate efficiently for several years under normal conditions before requiring cleaning. It is recommended that the filter be cleaned every time the tank is pumped, or at least every three years.

1. Do not use plumbing when filter is removed.
2. Pull PL-68 out of the tee.
3. Hose off filter over the septic tank. Make sure all solids fall back into septic tank.
4. Insert filter back into tee/housing.

Related Products:

PL-68 Filter Concrete Baffle
Extend & Lok™



Extend & Lok™
Easily installs
into existing tanks.



Spacer Bushing
4" SCHD 40
to SDR 35



Spacer Bushing
4" SCHD 40
to 110mm Pipe



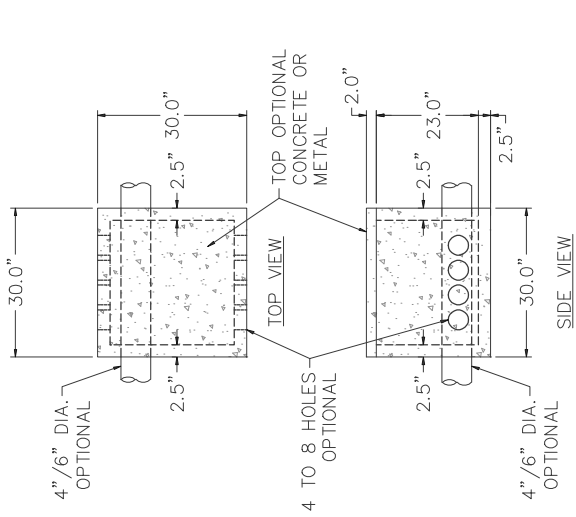
2" Extender

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

PREPARED FOR : David Brantley & Sons
37 Pine Ridge Rd.
Zebulon, NC 27597
DATE : April 11, 2014
CONTACT: COREY BRANTLEY

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

BRANTLEY TANK MODEL
SMALL
MANIFOLD BOX
SHEET NUMBER
1 of 1



SMALL MANIFOLD BOX
NTS

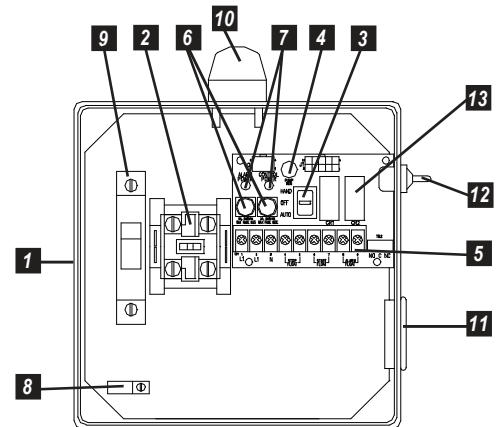
MODEL 112 Control Panel

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

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

MODEL 112

ALARMPACKAGE

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

ENCLOSURERATING

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

STARTINGDEVICE

- ☐ 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

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 NCDHHS 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 the regulating County Health Department, 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 level **for the entire length and width of the trench**. If the trench bottom level needs adjusting after excavation it **must** 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" above grade, control panel shall be 18" above grade.
- Septic tank shall have specified effluent filter or approved equivalent.

System Specifics:

- **System uses Quick 4 Chamber drain line.**
- **Repair uses Quick 4 Chamber drain line.**

Miscellaneous errors and omissions

Markel has over 35 years of experience providing miscellaneous errors and omissions insurance. Our leadership has a wealth of knowledge and expertise in protecting small business owners from litigation stemming from actual or perceived negligence. Our underwriting team has crafted policies that fit your specific needs, while our seasoned, in-house claims professionals will help you successfully navigate a loss or claim should you need their assistance.

Reporting new professional liability claims

New Claims can be reported in writing by website, email, fax, or regular mail. Please refer to your specific policy for all relevant reporting requirements.

To report a new claim, visit markelinsurance.com/file-a-claim and select "BOP/Miscellaneous errors and omissions/Workers compensation" from the drop down. You can also email newclaims@markelcorp.com and include the following:

- Policy number
- Insured and claimant names with contact details
- Date of loss
- Location and description of loss
- All pertinent documentation available (incident report, police report, witness information, photos, etc.)

General claims questions

For information about an already reported Professional Liability claim, email: markelclaims@markelcorp.com, or contact your assigned claim examiner directly.

Additional contact information:

(800) 362-7535 or (800) 3 MARKEL

(855) 662-7535 or (855) 6 MARKEL

Markel Claims Department, P.O. Box 2009,
Glen Allen, VA 23058-2009

While your policy is primarily designed to protect against a variety of professional errors and omissions claims, it may also provide protection for other specific exposures such as pollution claims, disciplinary proceedings, third party discrimination claims, subpoena and public relations expenses, among others. Contact your agent for more information, or if you have reported a Claim, your assigned examiner.

Risk management and loss prevention

Policyholders have access to loss control and risk management resources that can assist in a better understanding of potential hazards within their operation and ways to reduce claims.

Here's a sample of the many services available:

- Exposure assessments
- Loss analysis tools
- Safety videos
- Safety training materials
- Regulatory program guidance

Designed Protection® for professional service providers and associations – professional service providers hotline

Our panel of Risk Management experts is available to discuss general risk management related concerns and questions. Please visit markelcorp.com/riskmanagement and under "Designed Protection®" click "Click here," enter your policy number, then select "Professional Service Providers Hotline" to access our panel of experts.

Visit our website at:

markelinsurance.com/risk-management-home.

For more information about any of Markel's loss control services, contact us at (888) 500-3344 or email losscontrol@markelcorp.com.

For more information about our programs, risk management articles, and FAQs, please visit markelinsurance.com. To pay your bill or view policy documents, please visit portal.markelinsurance.com.

Products and services are offered through Markel Specialty, a business division of Markel Service Incorporated. Policies are written by one or more Markel insurance companies. Terms and conditions for rate and coverage may vary. 201806





CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

11/26/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Wade Associates, LLC 250 Pollock St. New Bern NC 28560	CONTACT NAME: Angela Sensenig PHONE (A/C, No, Ext): (252) 631-5269 E-MAIL ADDRESS: asensenig@wadeict.com FAX (A/C, No): (252) 649-2443
INSURED Permit Acquisition Company One, PLLC 920 Garner Rd Selma NC 27576	INSURER(S) AFFORDING COVERAGE INSURER A: Starstone Specialty Insurance Company INSURER B: Builders Mutual Insurance Company INSURER C: INSURER D: INSURER E: INSURER F:
	NAIC # 44776 10844

COVERAGES**CERTIFICATE NUMBER: 24-25****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☒ POLICY ☐ PRO-JECT ☐ LOC OTHER:			SSEP0476240AEM	11/22/2024	11/22/2025	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000
	AUTOMOBILE LIABILITY ☐ ANY AUTO ☐ ALL OWNED AUTOS ☐ HIRED AUTOS ☐ SCHEDULED AUTOS ☐ NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
	UMBRELLA LIAB EXCESS LIAB DED ☐ RETENTION \$ ☐						EACH OCCURRENCE \$ AGGREGATE \$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N ☐	N/A	69K0UB-5N24039-7-24	11/14/2024	11/14/2025	☒ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT \$ 500,000 E.L. DISEASE - EA EMPLOYEE \$ 500,000 E.L. DISEASE - POLICY LIMIT \$ 500,000
A	Errors & Omissions			SSEP0476240AEM	11/22/2024	11/22/2025	Each Occurrence \$1,000,000 General Aggregate \$2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER**CANCELLATION**

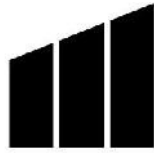
Smith Douglas Homes 3412 Apex Peakway Apex, NC 27502	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE N Whitsett/RACHEL
--	--

© 1988-2014 ACORD CORPORATION. All rights reserved.

ACORD 25 (2014/01)

The ACORD name and logo are registered marks of ACORD

INS025 (201401)



MARKEL

MARKEL INSURANCE COMPANY

10275 West Higgins Road, Suite 750
Rosemont, IL 60018
(800) 431-1270

INSURANCE POLICY

Coverage afforded by this policy is provided by the Company (Insurer) and named in the Declarations.

In **Witness Whereof**, the company (insurer) has caused this policy to be executed and attested and countersigned by a duly authorized representative of the company (insurer) identified in the Declarations.

Kathleen Anne Sturgeon

Ray W. Sales

Secretary

President



MARKEL INSURANCE COMPANY

NOTICE TO POLICYHOLDERS

CLAIM REPORTING

Please immediately report a new claim under this policy to:

newclaims@markel.com

For general claims inquiries after a claim has been reported, please email:

markelclaims@markel.com

In order for us to expedite the handling of your claim and quickly refer it to the appropriate party, please have the following information available:

- Claim number (or report as new)
- Your name, contact information and position with the Named Insured
- Date of loss
- Policy number and insured name
- Details of loss

Our address and additional contact information are as follows:

Markel Claims
P.O. Box 2009
Glen Allen, VA 23058-2009
Phone: 800-362-7535 (800) 3MARKEL
Fax: 855-662-7535 (855) 6MARKEL

Markel understands the importance of having knowledgeable claims professionals prepared to answer your questions with personal attention and expertise. With claims professionals located across four time zones, you are sure to find the claims assistance you need -- when you need it.

**PLEASE REFER TO THE POLICY FOR ANY NOTICE AND REPORTING PROVISIONS
AND DUTIES IN THE EVENT OF LOSS OR DAMAGE TO COVERED PROPERTY.**

MARKEL INSURANCE COMPANY

U.S. TREASURY DEPARTMENT'S OFFICE OF FOREIGN ASSETS CONTROL ("OFAC") ADVISORY NOTICE TO POLICYHOLDERS

No coverage is provided by this Policyholder Notice nor can it be construed to replace any provisions of your policy. You should read your policy and review your Declarations page for complete information on the coverages you are provided.

This Notice provides information concerning possible impact on your insurance coverage due to directives issued by OFAC. **Please read this Notice carefully.**

The Office of Foreign Assets Control (OFAC) administers and enforces sanctions policy, based on Presidential declarations of "national emergency". OFAC has identified and listed numerous:

- Foreign agents;
- Front organizations;
- Terrorists;
- Terrorist organizations; and
- Narcotics traffickers;

as "Specially Designated Nationals and Blocked Persons". This list can be located on the United States Treasury's web site – <https://www.treasury.gov/ofac>.

In accordance with OFAC regulations, if it is determined that you or any other insured, or any person or entity claiming the benefits of this insurance has violated U.S. sanctions law or is a Specially Designated National and Blocked Person, as identified by OFAC, this insurance will be considered a blocked or frozen contract and all provisions of this insurance are immediately subject to OFAC. When an insurance policy is considered to be such a blocked or frozen contract, no payments nor premium refunds may be made without authorization from OFAC. Other limitations on the premiums and payments also apply.



PROFESSIONAL LIABILITY INSURANCE DECLARATIONS

Claims Made and Reported Coverage: The coverage afforded by this policy is limited to liability for only those **Claims** that are first made against the **Insured** during the **Policy Period** or the Extended Reporting Period, if exercised, and reported to Markel Insurance Company during the **Policy Period** or the Extended Reporting Period, if exercised, or within 60 days after the expiration of the **Policy Period** or the Extended Reporting Period, if exercised.

Notice: This policy contains provisions that reduce the Limits of Liability stated in the policy by the costs of legal defense and permit legal defense costs to be applied against the deductible, unless the policy is amended by endorsement. Please read the policy carefully.

POLICY NUMBER: MEO1642-05

RENEWAL OF POLICY: MEO1642-04

NAMED INSURED: Permit Acquisition Company-One LLC

BUSINESS ADDRESS: 920 Garner Road
Selma, NC 27576

POLICY PERIOD: From 11/22/2023 to 11/22/2024

12:01 A.M. Standard Time at address of Insured stated above.

IN RETURN FOR THE PAYMENT OF THE PREMIUM, AND SUBJECT TO ALL THE TERMS OF THIS POLICY, THE COMPANY AGREES WITH THE NAMED INSURED TO PROVIDE THE INSURANCE AS STATED IN THIS POLICY.

1. **PROFESSIONAL SERVICES:** soil science

2. **LIMITS OF LIABILITY**

Professional Liability Coverage

A. Each Claim:	\$2,000,000
B. Policy Aggregate:	\$2,000,000

Additional Payments

A. Contingent Bodily Injury And Property Damage	\$100,000
B. Pollution	\$10,000
C. Pre-Claim Assistance Expenses	\$20,000
D. Sexual Abuse	\$10,000
E. Third Party Discrimination	\$25,000

Supplementary Payments

A. Disciplinary Proceeding	\$25,000 per Policy Period
B. Loss Of Earnings And Expense Reimbursement	\$10,000
C. Public Relations Expenses	\$5,000
D. Subpoena And Record Request Assistance	\$5,000

Producer Number, Name and Mailing Address

98496
Wade Associates, LLC. - New Bern
PO Box 1209
Davidson, NC, 28036

3. DEDUCTIBLE

A. Each Claim: \$1,000
B. Aggregate: \$3,000

4. RETROACTIVE DATE: 11/22/2019

5. PREMIUM RATE: Flat

PREMIUM BASE: Flat

6. PREMIUM FOR POLICY PERIOD

Minimum: \$560
Deposit: \$560
Adjusted Annual Premium: \$560

**7. PREMIUM PERCENTAGE FOR EXTENDED REPORTING PERIOD:
ADDITIONAL PERIOD:**

8. FORMS AND ENDORSEMENTS ATTACHED AT POLICY INCEPTION:

See MDIL 1001 attached.

These declarations, together with the Coverage Form and any Endorsement(s), complete the above numbered policy.

Countersigned: 08/30/2023	By:  _____ Authorized Representative Signature
(Date)	