(1)

ICHD - ENVIRONMENTAL HEALTH DIVISION

Statesville Office (704) 878-5305 Mooresville Office (704) 660-3625

PERMIT # OSWP-2022-7457

SEPTIC: IMPROVEMENT PERMIT / AUTHORIZATION TO CONSTRUCT / OPERATION PERMIT / EXISTING SYSTEM

PIN # 4649-49-0838 ✓

Inspections 324896

APPLICANT / OWNER: HELMSMAN HOMES LLC | APPLICANT ADDRESS: PO Box 3965, MOORESVILLE, NC 28117

SITE ADDRESS: 118 CARRISA LN, TROUTMAN, NC 28166 ✓ | PHONE: (980) 500-1251 | ALT. PHONE: (980) 500-1251

SITE DIRECTIONS:

SAP CONTROLLED: YES ☒ NO ☐

SUBDIVISION: Wiltshire Creek ✓ | SECTION: | LOT #: 38 ✓ | LOT AREA: 0.903 ✓ | DESIGN FLOW: 360 | L.T.A.R.: .30

Septic Tank: (gal) 1000	STB: 7460	Date: 10/9/22	☒ New System ☐ Repair ☐ Expansion	System Type: IV	☒ Residence	No. Bedrooms: 3	Water Supply: New Well
Pump Tank: (gal)	PT: 363	Date: 10/8/22	System Description: LP-PPBPS-50% Reduction		☐ Business	No. Persons: 6	
Pump Make: Liberty	Model: 290-2	Serial #:	Repair System Description: LP-PPBPS; 50% Reduction		☐ Other	No. Employees:	
# Nitrification Fields: 1	# Lines: 3	Linear Ft.: 200	Maintenance Agreement Required: ☒ YES	NO	☒ Slab	☐ Crawl Space	
Trench Width: 24"	Trench Bottom Depth (Low side): 32"		Gravel Depth: N/A	☐ GRAVITY ☒ PRESSURE	☐ Basement w/ Plumbing	☐ Basement w/o Plumbing	

Comments / Conditions:

INITIAL SITE SKETCH

This permit is issued pursuant to G.S. 130A-335(a2), (a3) & (a4) using the signed and sealed LSS/LG Evaluation attached here, from:

Soil & Forestry Services of the Carolinas PA

LSS# 1231

AS BUILT SKETCH

11/22/22 Lines, tanks - need plumbing & supply DW

11/23/22 - Supply line & connecting good - BB

12/12/22: Electrical MW

12/12/22: floats MW

12/12/22: PH MW

12/12/22: Alarm MW See as built

notes on site plan

* Needs Maintenance before signing OP

Permit can be suspended or revoked if any false information is supplied toward securing the permit / any unauthorized changes are made to the site / any unauthorized changes are made in the installation of the system. CONTACT A LOCATOR SERVICE PRIOR TO ANY EXCAVATION

☐ IMPROVEMENT PERMIT with plat valid without expiration. ☒ IMPROVEMENT PERMIT with site plan valid for 60 mos. ☒ AUTHORIZATION TO CONSTRUCT valid for period equal to IMPROVEMENT PERMIT--not to exceed 60 mo.

Owner / Applicant Signature: Brian H Bass Date:

IMPROVEMENT PERMIT by: Brian H Bass Date: 11-7-2022.

AUTHORIZATION TO CONSTRUCT by: ☒ Date: 11/22/22

Installed By: Specialty Septic

OPERATION PERMIT by: Sidney Hyldreth Date: 3/17/23

Existing System Inspected By: Date:

FOR SEPTIC FINAL INSPECTION CALL: 704-664-3703 BETWEEN 8am-9am the day the inspection is needed.

County: Iredell

This Section for Local Health Department Use Only

Initial submittal received: 10/21/22 (Date) by BB (Initials)

Permit Number OSWP 2022-7457

G.S. 130A-335(a4) states the following: *'If a local health department fails to act on an application for an improvement permit submitted pursuant to subsection (a3) of the section within 10 business days of receipt of a complete application, the local health department shall issue the improvement permit.'*

In accordance with G.S. 130A-335(a3) the improvement permit application is:

☐ 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 Owner on _____ (Date)

State Authorized Agent: _____ Date: _____

☐ Denied (See attached report.)

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

State Authorized Agent: _____ Date: _____

☑ Complete

State Authorized Agent: Benjamin A Batts Date of Issuance: 11-7-2022

This Improvement Permit is issued pursuant to G.S. 130A-335 (a2), (a3), and (a4) using the signed and sealed LSS/LG evaluation(s) attached here. The issuance of this permit by the Health Department 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 site is subject to revocation if the site plan, plat, or the intended use changes, or if information submitted in the application was falsified, inaccurate or misleading. 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 the Laws and Rules for Sewage Treatment and Disposal and to conditions of this permit. The location and identification of all property lines, easements, water lines, and other appropriate utilities shall be the responsibility of the owner.

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: 11-7-2027

See attached site sketch

County: Iredell

IMPROVEMENT PERMIT FOR G.S. 130A-335(a2)/SL2022-11

PIN/Lot Identifier: 4649490827

Issued To: HH Wiltshire Holdings, LLC

Property Location: 118 Carissa Cove, Troutman, NC 28166

Subdivision: Wiltshire Creek Lot #: 38 Block: _____ Section: _____

LSS Report Provided: Yes ☑ No ☐

If yes, name and license number of LSS: Samuel Ashley Rollans - #1231

New ☑ Repair ☐ Expansion ☐ System Relocation ☐

Proposed Structure: 3BR Residence

Proposed Wastewater System Type: PPBPS - Low Pressure (Initial) PPBPS - Low Pressure (Repair)

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

Proposed Design Daily Flow: 360 GPD Proposed LTAR (Initial): 0.3 Proposed LTAR (Repair): 0.25

Design Wastewater Strength: ☑ domestic ☐ high strength ☐ industrial process

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

Pump Required: ☑ Yes ☐ No ☐ May be required based upon final location and elevations of facilities

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

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

Drainfield location meets requirements of Rule .1945: Yes ☑ No ☐

Drainfield location meets requirements of Rule .1950: 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:

Licensed Soil Scientist Print Name: Samuel Ashley Rollans

Licensed Soil Scientist Signature: Samuel A Rollans Date: 9/27/22

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

See attached site sketch

County: Iredell

CONSTRUCTION AUTHORIZATION FOR G.S. 130A-335(a2)/SL2022-11

PIN/Lot Identifier: 4649490827

Issued To: HH Wiltshire Holdings, LLC

Property Location: 118 Carson Lane, Troutman NC 28166

AOWE/PE Plans/Evaluations Provided: Yes ☑ No ☐ If yes, name and license number of AOWE/PE: Samuel Ashley Rollans 10027

Facility Type: 3 BR Residence

☑ New ☐ Expansion ☐ Repair System Relocation ☐

Basement? ☐ Yes ☑ No Basement Fixtures? ☐ Yes ☐ No

Type of Wastewater System** PPBPS - Low Pressure (Initial) PPBPS - Low Pressure (Repair)

Design Daily Flow: 360 GPD Wastewater Strength: ☑ domestic ☐ high strength ☐ industrial process

Session Law 2014-120 Section 53, Engineering Design Utilizing Low-flow Fixtures and Low-flow Technologies? ☐ Yes ☑ No

Installation Requirements/Conditions

Septic Tank Size: 1,000 gallons Total Trench/Bed Length: 200 feet Trench/Bed Spacing: 6 feet on center

Drainfield square footage: 600 Trench/Bed Width: 36 inches LTAR: 0.3 gpd/ft²

Soil Cover: 6min inches Slope Adjusted Maximum Trench/Bed Depth: 32"-Lo Sat inches

Aggregate Depth: ___ inches above pipe ___ inches below pipe ___ inches total

Pump Tank Size (if applicable): 1,000 gallons Requires more than 1 pump? ☐ Yes ☑ No

Pump Requirements: 24/26 ft. TDH vs. 18.923 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 [.1937(h)]: Yes ☐ No ☑

Easement, Right-of-Way, or Encroachment Agreement Required [.1938(j)]: ☐ Yes ☑ No

Declaration of Restrictive Covenants: ☐ Yes ☑ No

****If applicable:**

I understand the system type specified is different from the type specified on the application. I accept the specifications of this permit.

Owner/Legal Representative Print Name: ___

Owner/Legal Representative Signature: ___ Date: ___

Pre-Construction Conference Required: Yes ☐ No ☑

Conditions: ___

The construction and installation requirements of Rules .1950, .1952, .1954, .1955, .1956, .1957, 1958, and .1959 are incorporated by reference into this permit and shall be met. Systems shall be installed in accordance with the attached system layout.

AOWE/PE Print Name: Samuel Ashley Rollans

AOWE/PE Signature: Samuel A Rollans Date: 9/27/22

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

See attached site sketch

10027 E

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

www.soilandforestryservices.com

Project#: 20-0091
September 27th, 2022

HH Wiltshire Holdings, LLC
Attn: *Paul Penninger*
Email: ppeninnger@nesthomes.com

RE: Soil & Site Evaluation for a 3 Bedroom Residence on Lot 38 Wiltshire Creek Subdivision, 0.903 ac Parcel, PIN# 4649490827, 118 Carissa Lane, Troutman, NC 28166.

Mr. Penninger:

At your request Soil & Forestry Services of the Carolinas (S&FS) has performed soil/site evaluations on parcel noted above. The Lot size is noted on the attached survey map & soil evaluation form. The purpose of our work was to identify soil areas with potential to support subsurface wastewater disposal systems and provide design details for Session Law submittal to Iredell County Health Department.

Site Conditions

At the time of our evaluation land cover on the property was partially cleared and partially wooded. There is an existing house under construction and significant grading/cutting occurred to level the front portion of the property to start the house. This impacted the designated septic areas from the existing septic permit significantly. The approximate location of the cutbank is illustrated on our Site Plan. Existing topography within the evaluated areas was moderate slope and level (from grading) near the house site. Property lines and corners were marked at the time of the evaluation by Jordan-Grant Surveying. The surveyor provided an Autocad File of a survey as a basemap. The proposed septic layout was located via Survey/tape measures and used to produce the attached *Site Plan*. The house envelope was from the original septic design that was permitting previously. The existing structure is within this footprint.

Methodology

We evaluated soil areas through the use of backhoe pits. Soil morphological conditions including color, texture, structure, etc. were reviewed in the field with five pit locations on the property flagged and located via GPS. Three of the five backhoe pits are located in or adjacent to the proposed septic layout. Soil suitability was determined by referencing 15A NCAC 18A.1900 "Laws and Rules for Sewage Treatment and Disposal Systems". *Soil & Site Evaluation Forms* were utilized to record the soil morphological data for each pit. The house envelope was located via survey. An on ground layout of

additional line was performed using a laser level. The previous septic layout was trimmed back to meet the 15 foot setback to the cutbank (>2'). Pin flag locations of the layout were also located by tape measures. Detailed system & repair information is summarized in the following paragraph for this Lot.

118 Carissa Lane (*See Attached Design*)
The septic layout for this lot (9' centers) yielded a total of 467 linear feet of line. The primary system is proposed as 200 linear feet of PPBPS (50% Reduction) drainfield with low pressure distribution. Trench depth (Low Side) is specified at 32 inches. The repair system is proposed as 200 linear feet of PPBPS (50% Reduction) drainfield with low pressure distribution. There is 264 linear feet available for repair. Trench depth (Low Side) is specified at 32 inches. **This Saprolite System will require well to be permitted/installed 100'+ to any portion of the system.**

Session Law Requirements

All information needed to issue the IP must be submitted with the application. The application shall include all information described in 15A NCAC 18A .1937(d) and be accompanied by a signed and dated statement from the applicant (owner or owner's legal representative) that reads as follows:

"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)."

Owner Date

Print Name Tim Carr
Signature Tim Carr 10/11/2022

The LSS evaluation shall include a statement bearing the LSS seal and signature that reads as follows:

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

Disclaimer
This report reflects the findings of S&FS, PA. *This LSS evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2)."* Any site modifications that impact the proposed septic areas on the site may nullify this design for 118 Carissa Ln. System design requirements and site requirements shall be adhered to for installation and Operations Permits to be issued by the local Health Department. If you have questions regarding these requirements a Pre-Construction meeting should be scheduled to discuss. Please contact S&FS if you have any questions regarding this report or the attached information. S&FS also offers septic system inspection, wetland delineation and forestry services.

Sincerely,

LICENSED SOIL SCIENTIST Samuel A. Rollans 1231 STATE OF NORTH CAROLINA

S. Ashley Rollans, LSS
Attachment: *Septic Design*

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

www.soilandforestryservices.com

Attached is a proposed design for a PPBPS System with Low Pressure Distribution for a 3 bedroom single family residence at 118 Carissa Ln., Troutman, (PIN# 4649490827), Iredell County, NC.

Information for the Installer---------- 1

Design Information

Design Specifications---------- 2-3

Layout Specifications---------- 4

System Tapsheet---------- 5

Site Plan/System Plan---------- 6

Calculations---------- 7

Profile Descriptions---------- 8-9

Septic Application---------- ONLINE

Agent Authorization---------- ONLINE

Green Sheet---------- ONLINE

LICENSED SOIL SCIENTIST
Samuel A. Roberts
1231
SOUTH CAROLINA

September 27, 2022
Project #: 20-0091
Design By: Soil & Forestry Services of the Carolinas, PA

LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant:	HH Wiltshire Holdings LLC
Current Address:	P.O. Box 3965 Mooresville NC 28117
Phone:	704.202.1524
County:	Iredell
Location:	118 Carissa Lane Troutman, NC 28166
Source of Wastewater Flow:	3 Bedroom Single Family Residence
Estimated Gallons Per Day Flow:	360 gpd
System Flow:	18.92 gpm

Design Specifications

Drainfield Size:	200
Loading Rate (gpd/ft.^{2}):	0.3-0.35
Depth of Gravel in Trench:	NA (PPBPS)
Gravel Size:	NA (PPBPS)
Max Trench Depth (LOW SIDE):	32 in.. Repair 32 in. Trench Depth
Trench Width:	24 in
Septic Tank Size:	1000
Pump Tank Size:	1000
Estimated Supply Line Length:	130
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	22.62
Dosing Volume:	165.60
Supply Manifold:	N/A
Supply Manifold Length:	N/A
Supply Manifold Volume:	N/A
Recommended Float Controls:	SJE Sensor Float Control Switches as Required for Control Panel or County Approved Equivalents
Recommended Control Panel:	SJE-Rhombus Model 112 (NEMA 4x) Control Panel or County Approved Control Panel.
Pressure Head:	2 ft
Friction Head:	1.09
Elevation Head:	18.00
Total Dynamic Head:	24.26
Threaded Union:	In Tank
Gate Valves:	1 in Tank 1 per lateral
Check Valves:	In Tank
Anti-Siphon Hole:	NA
Additional Comments:	Soil suitability was performed by Soil & Forestry Services of the Carolinas, PA

118 Carissa Lane

LP PPBPS

DESIGN FLOW (gpd):	360
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.3-0.35
TOTAL AREA TRENCH BOTTOM:	400
TOTAL LATERAL LENGTH:	200
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	200
SUPPLY LINE LENGTH:	130
TOTAL DYNAMIC HEAD:	24.26
MANIFOLD SIZE:	N/A
DOSING VOLUME:	165.60
PUMP TANK DRAW DOWN*:	7.9
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	1000

**Pump tank draw down based on a volume basis of 21 gallons per inch. Draw down may vary among pump tank manufacturers.*

Layout Specifications - 118 Carissa Ln-Lot 38

Project #: 20-0091

LAYOUT FOR 3 BEDROOM HOME

September 27, 2022

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM							
HOUSE	RIGHT FRONT				909.00		
PUMP TANK					907.13		
INSTR. 1							
1	RED				927.87	23	23
2	ORANGE				925.63	44	44
3	YELLOW				923.13	67	67
4	***BLUE***				***920.20***	***80***	***77***
5	***PINK***				***917.45***	**76**	**76**
6	***RED***				***915.69***	***47***	***47***
7	ORANGE				913.16	18	**18**
8	WHITE				910.95	7	7
9	RED					27	27
10	ORANGE					37	37
11	YELLOW					41	41
					Total	**467**	**464**

	LINE LENGTH	DESIGN LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION	(LOW SIDE) TRENCH DEPTH
* *System*	*200*	*0.300*	MOD. CONV.	*0.3-0.35*	**PPBPS**	**LOW PRESSURE**	32"
Repair	264	*0.250*	MOD. CONV.	*0.250*	**PPBPS**	LOW PRESSURE	32"

Notes.

**All measures in feet

LP PPBPS TAPSHEET - 118 Carissa Ln.- Lot 38

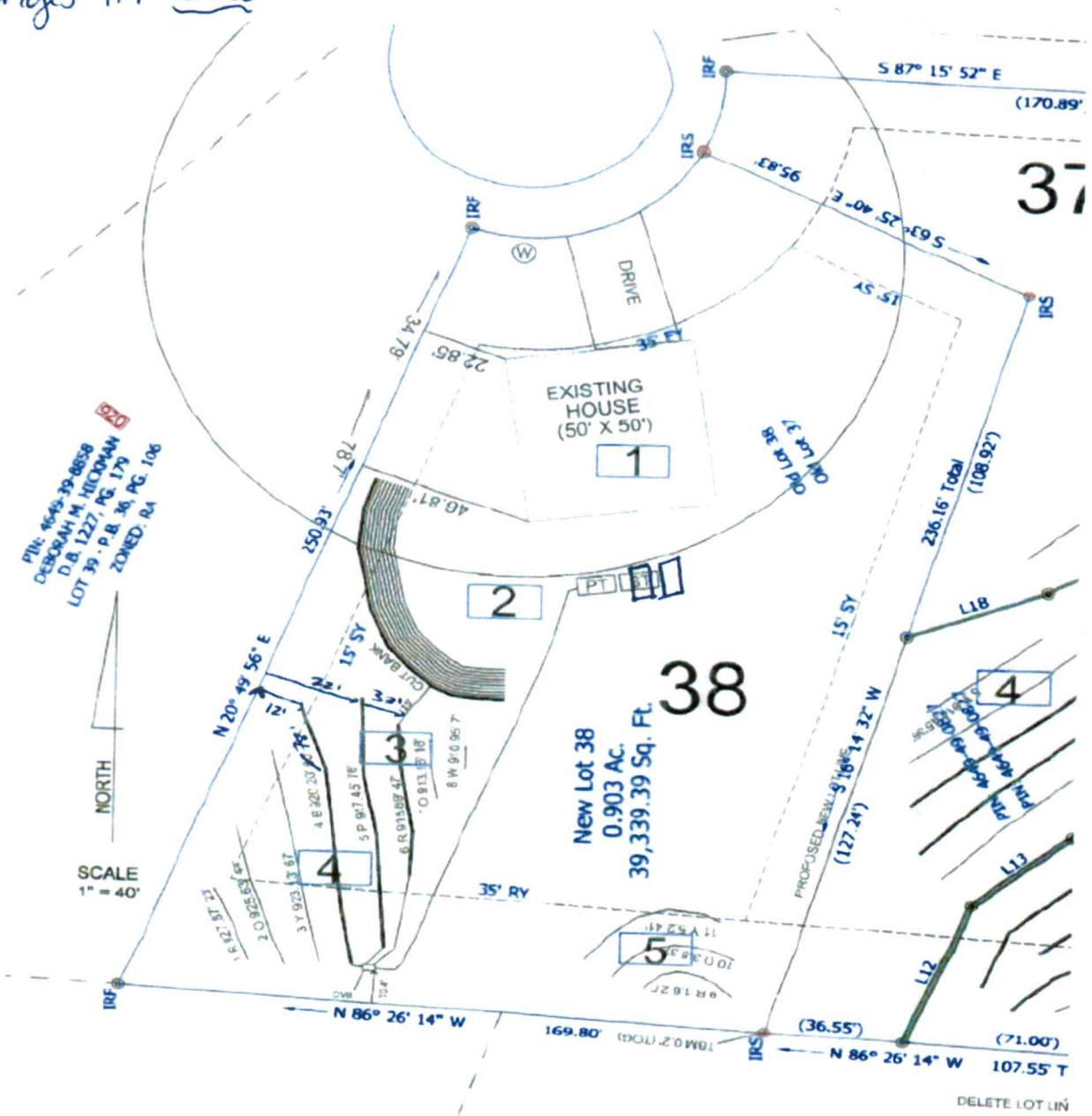
SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	Number of Panels
4	ORANGE	920.20	77	0.156	0.41	154	18
5	YELLOW	917.45	76	0.156	0.41	152	18
6	BLUE	915.69	47	0.156	0.41	94	11

	total	feet =	200	gal/min =	18.923077		46
			Des. Flow	240			
			Pump Run=	8.78			
			soil LTAR	0.3			
			LTAR +5%	0.315			
			LTAR with mod.	0.6			
			LTAR with mod.. + 5%	0.63			

.156 equals 5/32 inch hole

See as built
changes in blue



CALCULATIONS

Location	118 Carissa Ln Troutman, NC 28166	
Project Number	20-0091	
Lot No	38	
No of Bedrooms	3	
Design Flow	360	$^{gal}/_{day}$
LTAR	0.3	$^{gal}/_{ft^2 day}$
HPPBPS? (YES OR NO)	YES	
Supply Line Length	130	ft.
Supply Line Volume	22.62	gal
Required Feet of Line	200	ft
Amount of Line from Layout	200	ft.
Gallons per Minute	18.92308	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Pump Tank Capacity	1000	gal.
Panel Volume	3.6	gal.
# of Panels	46	
Dosing Volume	165.60	gal.

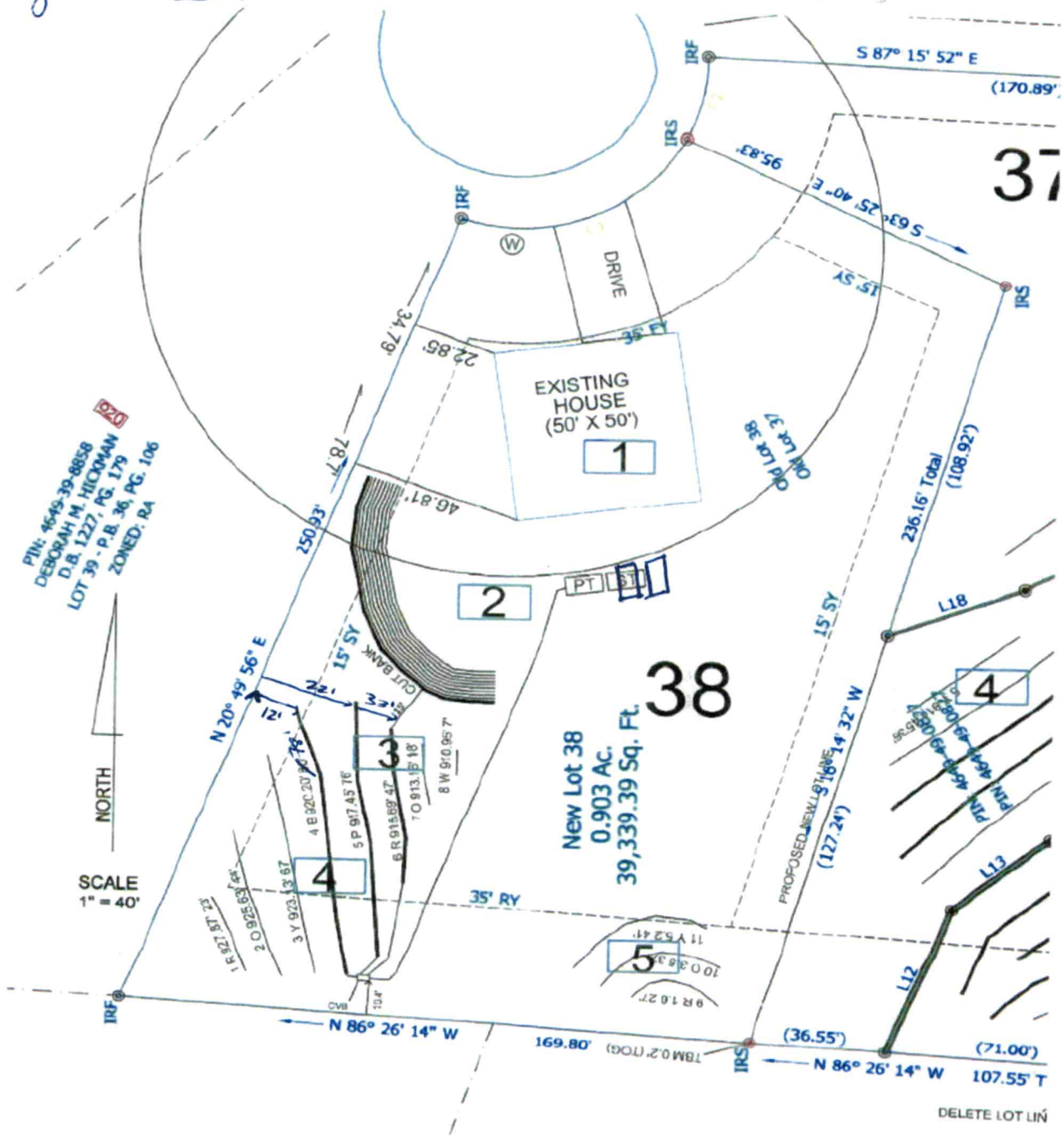
Note: Dosing Volume based on 100% of # of panels times 3.6 gal/panel

Tank Draw Down	7.9	*Generic Draw Down of 21 gal.per in*
Pump Run Time	8.75	minutes
Elevation Head	18	ft
Pressure Head	2	ft
Friction Factor	0.84	ft/100 ft. *(From the interpolater.)*
Friction Head	1.09	ft
Total Dynamic Head (+15%)	24.26	ft.

FRICTION FACTOR INTERPOLATER
2" SCH 40 PVC

GPM	f
20	0.84
	-0.86
25	1.27
	-1.28
30	1.78
	-1.76
35	2.37
	-2.25
40	3.03
43.07	3.48
45	3.77
48.14	4.28
50	4.58
57.11	5.89
60	6.42

See as built
changes in blue



CALCULATIONS

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2" SCH 40 PVC

GPM	f
20	0.84
	-0.88
25	1.27
	-1.28
30	1.78
	-1.76
35	2.37
	-2.25
40	3.03
43.07	3.48
45	3.77
48.14	4.28
50	4.58
57.11	5.89
60	6.42