IREDELL COUNTY HEALTH DEPARTMENT

Statesville Office (704) 878-5305 CC Mooresville Office (704) 660-3625 PERMIT # 300681

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

PIN # 4765807374.000

APPLICANT/OWNER: Henson Properties LLC APPLICANT ADDRESS: 185 Shelbourne Place Mooresville NC 28117.

SITE ADDRESS: 273 Lone Pine Rd Statesville NC 28625 PHONE: 760-522-7415 ALT. PHONE -

SITE DIRECTIONS: 64 E Right on Lone Pine Lot on left SAP CONTROLLED: ☐ YES ☒ NO

SUBDIVISION: Carson Creek SECTION: 1 LOT # 1 LOT AREA: 1.06 Acres DESIGN FLOW: 360 L.T.A.R.: .25

Septic Tank 1000 (gal) STB SHOAF 760 Date 5/2/22
Pump Tank 1000 (gal) PT SHOAF 363 Date 5/9/22
Pump Make - Model - Serial # -
Nitrification Fields 1 # Lines 6 Linear Ft 360
Trench Width 36 Trench Bottom Depth 30 in max Gravel Depth -

☑ New System ☐ Repair ☐ Expansion System Type: I II (III) IV V VI
System Description: Pressure manifold 25% Reduction
Repair System Description: Drip
Maintenance Agreement Required: ☐ YES ☑ NO
☐ GRAVITY ☑ PRESSURE

☑ Residence No. Bedrooms 3
☐ Business No. Persons 6
☐ Other No. Employees -
☐ Slab ☑ Crawl Space
☐ Basement w/plumbing ☐ Basement w/o plumbing

Water Supply: ☐ Private ☑ Public ☐ Community

Comments / Conditions: Manifold to Remain left From Property Line

INITIAL SITE SKETCH

AS BUILT SKETCH

foundation now basement w/ plumbing

As Built Attached

PM adjustments made, see as built & tap sheet for details. -get letter from Ashley approving.
- SEE ATTACHED EMAIL FROM ASHLEY ROLLANS DATED 8-24-2022

	Date	Initials
Drain Lines Checked	6/17/22	DW & 6/20/22 CW
Tanks Checked	6/17/22	DW
Pressure Manifold or Valve Box Checked	6/20/22	CW
Pressure Head Set	6-24-2022	CW
Electrical Checked	8-16-2022	BCW
Floats Set	6-24-2022	CW
Alarm Checked	8-16-2022	BCW
Maintenance Contract Y / (N)	8-16-2022	BCW

Needs letter to change PM & distribution 6/17/22

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 plan 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: [signature] Date: 6/29/21 Installed by: Frye Grading

IMPROVEMENT PERMIT by: Benjamin A Bufkin Date: 9/30/19 OPERATION PERMIT by: Bufkin E. White Date: 8-26-2022

AUTHORIZATION TO CONSTRUCT by: Benjamin A Bufkin Date: 6/28/22 Existing System Inspected by: Date:

FOR SEPTIC FINAL INSPECTION: CALL 704-664-3703 between 8am-9am the day the inspection is needed. Be sure to speak with an inpsector to confirm your inspection time.

PROPERTY ID #: 4765807137
COUNTY: Iredell

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

OWNER: Kenson Properties LLC
ADDRESS: 185 Shelborne Place, Mooresville NC 28117
PROPOSED FACILITY: 3BR Single Family PROPOSED DESIGN FLOW (.1949): 360 gpd
LOCATION OF SITE: 873 Bone Pine Rd, Statesville Lot 1 Statesville NC 28625
WATER SUPPLY: ☐ Private ☑ Public ☐ Well ☐ Spring ☐ Other
EVALUATION METHOD: ☐ Auger Boring ☑ Pit ☐ Cut

APPLICATION DATE
DATE EVALUATED: 6/4/19
PROPERTY SIZE: 1.06AC
PROPERTY RECORDED:
TYPE OF WASTEWATER: ☑ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
P 1	L/7%	0-9	BSL Gr	Fr SS SP		57			PS .25 to .35 ✓
		9-41	BRC wmsbk/ABK	F SS SP	Few/mC Fe Dep/ Ca R 23-35"				
		41-57	RBCL wmsbk	F SS SP	Few/mC Fe Dep/ Ca R 43 to 60"				
P 2	L/8%	0-15	BSL Gr	Fr SS SP		60			PS .1-.125 Full of H_2O to within 24 inches of top. Eval to 24 ✓
		15-47	BRC wmAbk	F SS P	C. Fe Dep/ @ 24-41" Ca R 43-60"				
		47-60	RBCL wmsbk/ABK	F SS SP	Few/mAD				
P 3	L/7%	0-11	BSL Gr	Fr SS SP		57			PS .1-.125 ✓
		11-21	RBCL wf sbk	Fr SS SP					
		21-40	BRCL/C wmsbk/Abk	Fr SS SP	C. Fe Dep/ Ca R 23@30"				
		40-59	AC wmAbk	F SS SP	C. Fe Dep/ Few Cmk's				
P 4	L/7%	0-9	BSL Gr	Fr SS SP		60			PS .225 ✓
		9-30	RC wf Abk/sbk	F SS P	Few Fe Dep/				
		30-60	RC wmsbk/Abk	F SS SP	Few Fe Dep/				

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	PS	PS
System Type(s)	Accepted	Innov. - Subs. Drip
Site LTAR	0.25	0.1

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948): PS
EVALUATED BY: S. Ashley Rollins
OTHER(S) PRESENT: Chad Wagner, Kody Neil, Mason Freeman

COMMENTS:

Updated February 2014 House Bat not marked.

SOIL/SITE EVALUATION

(Continuation Sheet-Complete all field in full)

PROPERTY ID #: 476580737 4
DATE OF EVALUATION: 6/4/19
COUNTY: Iredell

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
P5	L/8%	0-9	RBSCL w/ fsbk	FV SS SP	Few Mgn. Cx.	58		10YR 6/4 10YR/63	PS .25 Chroma & color inc.
		9-24	BRC w/msbk	F SS SP					
		24-56	RBC/SC w/msbk/massive	F SS SP	- Few Fe Depl. Few Mgn Cx.				

Bryant White

From: Ashley Rollans <ashleyrollans@gmail.com>
Sent: Wednesday, August 24, 2022 10:16 AM
To: Danielle Wieberg; Bryant White
Subject: Carson Creek Lot 1 - Pressure Manifold

Danielle and Bryant

I'm OK with the distribution change made to the septic system for Lor 1 Carson Creek.

Thanks

Ashley Rollans

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe. Report suspicious emails by clicking the "Report Phish" button.

3713 Lone Pine

PRESSURE MANIFOLD TAPSHEET - Carson Creek Lot 1

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/Tap	Trench Area	Line LTAR
2	ORANGE	94.50	~~56~~ 42	~~SCH 80 1/2~~ 1/2 SCH 40	~~5.48~~ 7.11	168	0.16
3	YELLOW	93.90	~~60~~ 42	~~SCH 80~~ 1/2	~~5.48~~	180	0.15
4	BLUE	94.50	~~60~~ 66	SCH 80 1/2	5.48	180	0.15
5	PINK	93.90	~~60~~ 66	SCH 80 1/2	5.48	180	0.15
6	RED	92.90	~~60~~ 70	SCH 80 1/2	5.48	180	0.15
7	ORANGE	92.20	~~64~~ 74	SCH 80 1/2	5.48	192	0.14

total	feet =	360	gal/min = 32.88
		Des. Flow	360
		Pump Run=	5.00
		soil LTAR	0.25
		LTAR +5%	0.2625
		LTAR with ACCEPTED	0.333333333
		LTAR with ACCEPTED + 5%	0.35

~~Discharge~~
Flow = 29.03
Run Time 5.166 min

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

www.soilandforestryservices.com

Attached is a proposed design for an Accepted (25% reduction) Septic System with Pressure Manifold distribution for a 3 bedroom single family residence at 273 Lone Pine Road, Carson Creek Subdivision Lot 1, PIN#: 4765807374

Contents: **Page**

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

Design Information
- Design Specifications---------- 2-3
- Layout Specifications---------- 4
- System Tapsheet---------- 5
- Pressure Manifold Diagram---------- 6

Site Plan/System Plan---------- 7

Calculations---------- 8

Profile Descriptions---------- 9-10

Zoning Permit & Receipt---------- 11-13

Application---------- 14-15

Agent Authorization Form---------- 16

Green Sheet---------- 17

Expedited Review Checklist---------- 18

August 23, 2019
Project No. 18-0134
Design By: Soil & Forestry Services of the Carolinas, PA

INFORMATION FOR THE INSTALLER:

- The permit should be read very carefully prior to bidding. The following are details that must be considered along with all other considerations.
- Tanks shall be approved by DHHS, and certification supplied by the manufacturer.
- The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original natural grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement.
- 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 glue applied to weld all joints.
- Trenches shall be carefully excavated so the bottom is within 2" 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 hand done with a shovel. No loose material will be left in the trench
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral.
- No heavy equipment shall be used on the field during or after installation. The use of a small loader (i.e. Bobcat) or a trencher (i.e. Ditch Witch 2300/2310) may be used for installation.
- Elevations at pinflag locations should be checked by the installer prior to beginning trenches.
- Pumptank riser should be 6" above grade, control panel should be 12" above grade.
- Septic tank riser shall be a minimum of 6" above finished grade.
- System is specified as an Accepted 25% reduction installation w/Pressure Manifold.
- Repair is specified as a drip irrigation.
- Iredell County HD has approval to move distribution device, tank, etc.
- **Culvert water at road must be diverted to meet 15' setback to drip repair areas.**

PRESSURE MANIFOLD SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant:	Kenson Properties LLC
Address:	185 Shelborne Place Mooresville, NC 28117
Phone:	760.522.7415
County:	Iredell
Location:	273 Lone Pine Road, Carson Creek Lot 1

Source of Wastewater Flow:	3 Bedroom Single Family Residence
Estimated Daily Wastewater Production:	360 gpd
System Flow:	32.88

Design Specifications

Drainfield Size:	360
Loading Rate:	0.25
Depth of Gravel in Trench:	NA (25% reduction)
Gravel Size:	NA (25% reduction)
Trench Depth:	30 in. REPAIR - 6 in.
Trench Width:	36 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:	164.56
Supply Manifold:	4 in. SCH 80 PVC
Supply Manifold Length:	4 ft. (minimum)
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:	2.31
Elevation Head:	16.00
Total Dynamic Head:	20.66
Threaded Union:	In Tank
Gate Valves:	1 in Tank 1 at Pressure Manifold
Check Valves:	In Tank
Anti-Siphon Hole:	NA
Additional Comments:	Soil suitability was performed by Soil & Forestry Services of the Carolinas, PA.

273 Lone Pine Road, Carson Creek Lot 1
PRESSURE MANIFOLD DESIGN

DESIGN FLOW:	360
SOIL APPLICATION RATE:	0.25
TOTAL AREA TRENCH BOTTOM:	1080
TOTAL LATERAL LENGTH:	360
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	360
SUPPLY LINE LENGTH:	130
TOTAL DYNAMIC HEAD:	20.66
MANIFOLD SIZE:	4 in.SCH 80 PVC
DOSING VOLUME:	164.56
PUMP TANK DRAW DOWN*:	7.8
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 - Lone Pine Meadows Lot 1

Project #: 18-0134

LAYOUT FOR 3 BEDROOM HOME

August 23, 2019

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		1.00			100.00		
HOUSE				10.60	90.30		
PUMP TANK				14.40	86.50		
INSTR. 1			100.9				
1	RED	EXTRA		3.00	97.90	54	0
2	***ORANGE***			***3.60***	***97.30***	***58***	***56***
3	***YELLOW***			***4.40***	***96.50***	***60***	***60***
4	***BLUE***			***5.00***	***95.90***	***62***	***60***
5	***PINK***			***6.20***	***94.70***	***68***	***60***
6	***RED***			***7.00***	***93.90***	***70***	***60***
7	***ORANGE***			***8.00***	***92.90***	***72***	***64***
8	PINK HATCH					3929 SF	3929 SF
					Total	444	360

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION
** System*	***360***	***0.250***	***ACCEPT.***	***0.250***	***25% RED***	***PRESSURE MANIFOLD***
Repair	3929 SF	0.100	DRIP	0.100	DRIP	LOW PRESSURE

Notes:

**All measures in feet

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

**Nitrification lines were located by GPS.

8

CALCULATIONS

Location 273 Lone Pine Road

Project Number 18-0134

Lot No: 1

No. of Bedrooms 3

Design Flow 360 $^{gal}/_{day}$

LTAR 0.250 $^{gpd/ft^2}$

25% RED.? (YES OR NO) YES

Supply Line Length 130 ft.

Supply Line Volume 22.62 gal.

Required Feet of Line 360 ft.
Amount of Line from Layout 360 ft.

Gallons per Minute 32.88 $^{gal}/_{min}$

Required Septic Tank Capacity 1000 gal.
Minimum Standard Tank Size 1000

Lateral Line Volume 235.08 gal.

Dosing Volume 164.56 gal.
Note: Dosing Volume based on 70% of lateral line volume

Tank Draw Down 7.8 *Generic Draw Down of 21 gal.per in.*

Pump Run Time 5.00 minutes

Elevation Head 16 ft.
Pressure Head 2 ft.
Friction Factor 1.78 ft./100 ft. *(From the interpolater.)*
Friction Head 2.31 ft.
Friction Head +15% 2.6611
Total Dynamic Head 20.66 ft.

FRICTION FACTOR INTERPOLATER
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