IREDELL COUNTY HEALTH DEPARTMENT

Statesville Office (704) 878-5305 Mooresville Office (704) 660-3625 PERMIT # 222533

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

PIN # 4636 778209

APPLICANT: ROLLANS SOIL / Brooks Henderson APPLICANT ADDRESS: PO BOX 832 MOORESVILLE

SITE ADDRESS: 154 OLD SQUAW RD - Msvl. PHONE: ALT. PHONE:

SITE DIRECTIONS: BSR - TL CANVASBACK - TR OLD SQUAW - ON RT IN CUL-DE-SAC

SUBDIVISION: MALLARD HEAD SECTION: 1 LOT # 45 LOT AREA: .47AC DESIGN FLOW: 480 L.T.A.R.: .3

Septic Tank 1000 (gal) STB 312 Date 10/12/17 ☑ New System ☐ Repair ☐ Expansion System Type: I II III IV V VI

Pump Tank (gal) PT Date System Description: GRAVITY 25% REDUCTION

Pump Make Model Serial # Repair System Description: HOP DRIP

Nitrification Fields 1 # Lines 7 Linear Ft: 424 Maintenance Agreement Required: ☐ YES ☑ NO

Trench Width 36" Max. Trench Bottom Depth 30" Gravel Depth N/A ☑ GRAVITY ☐ PRESSURE

☑ Residence No. Bedrooms 4 Water Supply

☐ Business No. Persons 8 ☑ Private

☐ Other No. Employees ☐ Public

☐ Slab ☑ Crawl Space ☐ Community

☐ Basement w/plumbing ☐ Basement w/o plumbing

Comments / Conditions:

6/7/17 Reviewed Floor plans in Compliance with Septic plan for 4 Bedrooms.
* Must keep house box within house box Shown on plan.

INITIAL SITE SKETCH

See Rollans Soil & Environmental's Design.

AS BUILT SKETCH

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

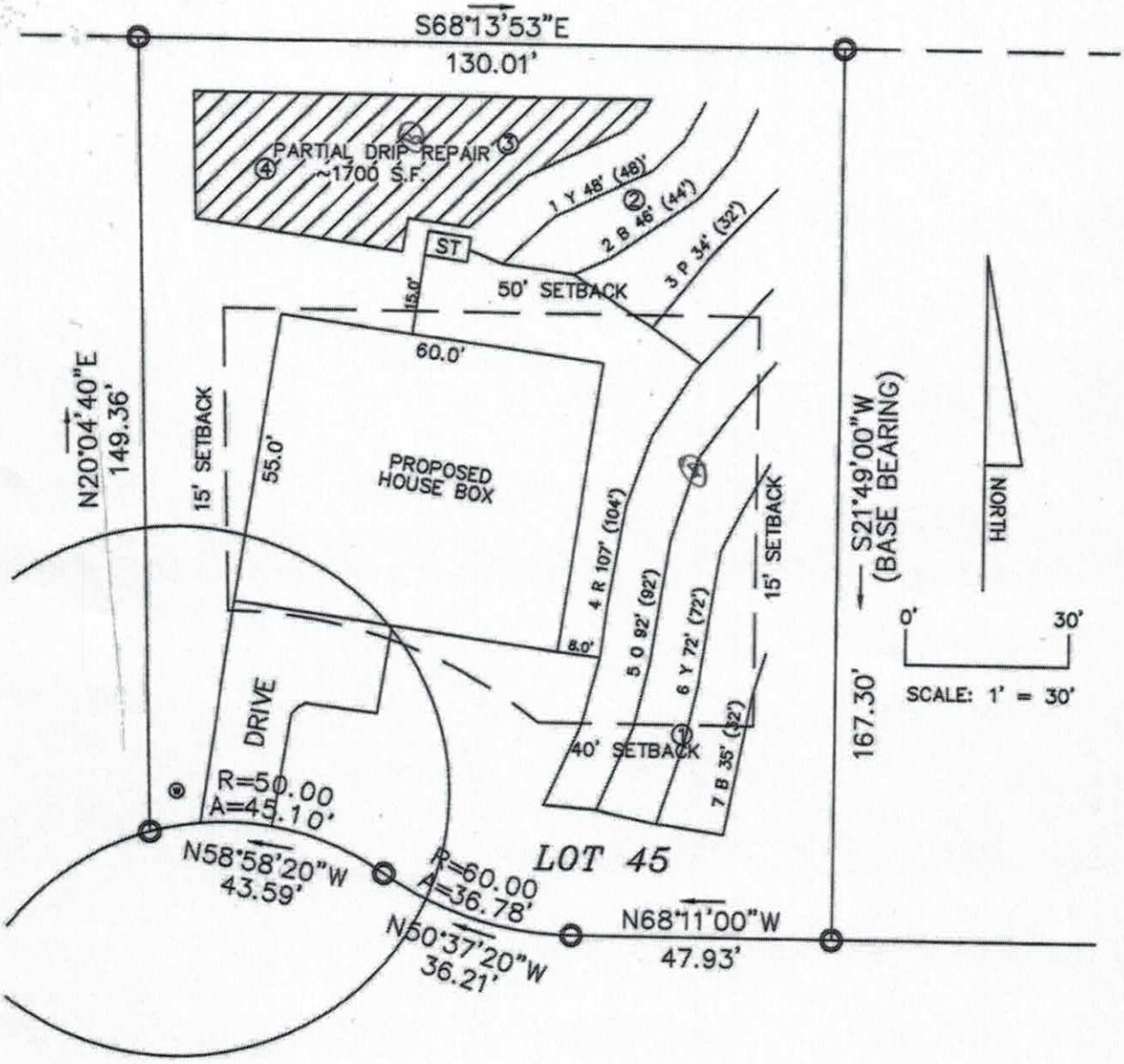
☐ IMPROVEMENT PERMIT with plat valid without expiration. ☑ IMPROVEMENT PERMIT with site plan valid for 60 mos. ☒ AUTHORIZATION TO CONSTRUCT valid for period equal to IMPROVEMENT PERMIT--not to exceed 60 mo.

Owner / Applicant Signature: Date: 11/15/16 Installed by: Russell Williams

IMPROVEMENT PERMIT by: Date: 11/9/16 OPERATION PERMIT by: Benjamin A Bartlett Date: 10/20/2017

AUTHORIZATION TO CONSTRUCT by: Maria Dotson Date: 6/7/17 Existing System Inspected by: Date:

Health Dept. Copy - WHITE Applicant (Final Approval) - YELLOW Applicant (Conditional Approval) - PINK



OLD SQUAW TRAIL
60' PUBLIC R/W

A- 0-16 RC SAM fr SSSP Scrp
16-46 RCL WSBK fr SSSP Scrp - common SAP
46-48 SAP .3 to 46"

(B) 0-32 RC SAM fr SSSP to SAP @ 32"
32-48 RCL WSBK fr SSSP
common SAP
.3

DELLINGER PRECAST

To Whom It May Concern:

Dellinger Precast Inc sold a 1,000 gallon septic tank to Waste Water Solutions at the following address, 154 Old Squaw Rd Mooresville, North Carolina. The following STB # should be applied to said tank. STB # 312.

If you have any further concerns, please feel free to contact me at any point.

Thank you,

Jeff Flowers

Dellinger Precast

Quality Control Manager

704-483-2868 O

704-200-0890 M

jeff@dellingerprecast.com

ROLLANS *Soil & Environmental Services, PA.*
P.O. Box 832 Mooresville, NC 28115 Phone: (704) 658-1723 Fax: (704) 278-0989

Ashley Rollans, NC Licensed Soil Scientist
Mobile: (704) 746-5046
Email: rollans.ashley@yahoo.com

Attached is a proposed design for an Accepted Septic System with gravity dist. for a 4 bedroom single family residence on Lot 45, Mallard Head Subd., at 154 Old Squaw Road, Mooresville (PIN 4636778209), Iredell County, North Carolina.

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LICENSED SOIL SCIENTIST Samuel A. Rollans 1291

10/24/16

October 24, 2016
Project #: 01-3254
Design By: Rollans Soil & Environmental Services, 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 NC DHHS, and certification supplied by the manufacturer.
- Tanks shall be water tested prior to installation.
- The installer shall be responsible to the owner for placement of the tanks and to 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.
- Where required by the county health department, post installation inspections by the designer must be scheduled 5 week days in advance.
- 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.
- Septic tank riser shall be a minimum of 6" above finished grade.
- System is specified as a gravity 25% reduction (Accepted) installation.
- Partial Repair is specified as a subsurface drip irrigation installation.
- **Underground power must be located near rear property line before installation begins.**
- **Lot is Repair Exempt - Plat date is September 6th, 1978.**

GRAVITY ACCEPTED SYSTEM FOR WASTEWATER TREATMENT

Applicant:	Rollans Soil
Address:	P.O. Box 832 Mooresville, NC 28115
Phone:	704.746.5046
County:	Iredell
Location:	Mallard Head Lot 45 PIN (4636778209)
Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Gallons Per Day Flow:	480
System Flow:	N/A

Design Specifications

Drainfield Size:	424	
Loading Rate (gpd/ft.^{2}):	0.3	
Depth of Gravel in Trench:	N/A	
Gravel Size:	N/A	
Trench Depth:	30 in.	Repair Trench Bottom 6 in.
Trench Width:	36 in.	
Septic Tank Size:	1000	
Estimated Supply Line Length:	10	
Supply Line Diameter:	4 in. SCH 40 PVC	
Supply Line Volume:	6.53	
Dosing Volume:	N/A	
Supply Manifold:	N/A	
Supply Manifold Length:	N/A	
Supply Manifold Volume:	N/A	
Recommended Float Controls:	N/A	
Recommended Control Panel:	N/A	
Pressure Head:	N/A	
Friction Head:	N/A	
Elevation Head:	N/A	
Total Dynamic Head:	N/A	
Threaded Union:	N/A	
Gate Valves:	N/A	
Check Valves:	N/A	
Anti-Siphon Hole:	N/A	
Additional Comments:	Soil suitability was performed by Rollans Soil & Environmental Services	

Mallard Head Lot 45

ACCEPTED SYSTEM

DESIGN FLOW (gpd):	480
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.3
TOTAL AREA TRENCH BOTTOM:	1272
TOTAL LATERAL LENGTH:	424
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	400
SUPPLY LINE LENGTH:	10
TOTAL DYNAMIC HEAD:	N/A
MANIFOLD SIZE:	N/A
DOSING VOLUME:	N/A
PUMP TANK DRAW DOWN*:	N/A
SEPTIC TANK SIZE:	1000

Layout Specifications - Mallard Head Lot 45

Project #: 01-3254

LAYOUT FOR 4 BEDROOM HOME

October 24, 2016

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM							
INSTR. 1							
1	*YELLOW*					*48*	*48*
2	*BLUE*					*46*	*44*
3	*PINK*					*34*	*32*
4	*RED*					*104*	*104*
5	*ORANGE*					*92*	*92*
6	*YELLOW*					*72*	*72*
7	*BLUE*					*35*	*32*
	PARTIAL DRIP REPAII					~1,700 S.F.	~1,700 S.F.
					Total	**431**	**424**

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION
** System*	*424*	*0.300*	*ACCEPT.*	*0.300*	*25% RED*	*GRAVITY*
Repair	~1,700 S.F.	0.125	INNOV.	0.125	SUBSURFACE DRIP	LOW PRESSURE

Notes: **All measures in feet

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

****Lot recorded in 1978 - REPAIR EXEMPT**

CALCULATIONS

Location 154 Old Squaw Road
Mooresville, NC 28117
Project Number 01-3254

Lot No: 45

No. of Bedrooms 4

Design Flow 480 $^{gal}/_{day}$

LTAR 0.300 $^{gal}/_{ft^2\ day}$

PPBPS? (YES OR NO) NO

Supply Line Length 10 ft.

Supply Line Volume 6.53 gal.

Required Feet of Line 400 ft.
Amount of Line from Layout 424 ft.

Gallons per Minute N/A $^{gal}/_{min}$

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

Panel Volume N/A gal.
# of Panels N/A
Dosing Volume N/A gal.

Tank Draw Down N/A

Pump Run Time

Elevation Head N/A ft.
Pressure Head N/A ft.
Friction Factor N/A ft./100 ft. *(From the interpolater.)*
Friction Head N/A ft.

Total Dynamic Head (+15%) N/A 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

DEPARTMENT OF HEALTH AND HUMAN SERVICES
DIVISION OF PUBLIC HEALTH, ENVIRONMENTAL HEALTH SECTION
ON-SITE WATER PROTECTION BRANCH

Sheet 1 of 1
PROPERTY ID #: 4636773209
COUNTY: Iredell

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

OWNER: Henderson Building Group
ADDRESS: P.O. Box 1409 Cornelius, NC 28031
PROPOSED FACILITY: 4BR
PROPOSED DESIGN FLOW (.1949): 480 GPD
LOCATION OF SITE: 154 Old Sawaw Road Mooresville NC 28117
WATER SUPPLY: ☐ Private ☐ Public ☑ Well ☐ Spring ☐ Other
EVALUATION METHOD: ☑ Auger Boring ☐ Pit ☐ Cut
TYPE OF WASTEWATER: ☑ Sewage ☐ Industrial Process ☐ Mixed

APPLICATION DATE: 10/25/16
DATE EVALUATED: 10/9/2016
PROPERTY SIZE: ± 0.47 ac
PROPERTY RECORDED: Yes

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
B1	L/7%	0-5	Bsl gr	FrSSSPSLP	-fsap	49	–	–	PS 0.3
		5-9	RBclwmsbk	" " " "					
		9-40	RCwmsbk	" " " "					
		40-49	RBclwmsbk	" " " "					
B2	L/6%	0-4	Blgr	FrSSSPSLKP	-f-csap	49	–	–	PS 0.3-.325
		4-29	RCwfsbk	" " " "					
		29-49	RBclwfsbk	" " " "					
B3	L/3%	0-5	Blgr	FrSSSPSLKP	-fsap	48	–	–	PS 0.3 .125 DRIP
		5-10	RBclwfsbk	" " " "					
		10-40	RCwmsbk	" " " "					
		40-48	RClwmsbk	" " " "					
B4	L/2%	0-3	Blgr	FrSSSPSLKP	-fsap	48	–	–	PS 0.3 .125 DRIP
		3-6	RBclwmsbk	" " " "					
		6-24	RCwmsbk	" " " "					
		24-48	RBclwmsbk	" " " "					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	PS	PARTIAL
System Type(s)	ACCEPTED	INNOV.
Site LTAR	0.3	0.125

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948): PS
EVALUATED BY: S. Ashley Rollins
OTHER(S) PRESENT: S. Wendell Overby

COMMENTS: Lot Platted in 1978 ; is Repair Exempt. Partial Repair Area Illustrated in Left Rear Corner of Lot.

Updated February 2014