IREDELL COUNTY HEALTH DEPARTMENT

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

PERMIT # AP 302011

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

APPLICANT/OWNER: Mike and Glad Hales | APPLICANT ADDRESS: 280 E

SITE ADDRESS: 306 Greenbay Rd Mooresville NC 28117

SITE DIRECTIONS: NC 150 W to L on Paradise Peninsula Rd, L on Gre

SUBDIVISION: CL and T | SECTION: 10 | LOT # 131

Septic Tank	1000 (gal)	STB	Date	☒ New System ☐ Repair ☐ Expa	
Pump Tank	1000 (gal)	PT	Date	System Description:	LP
Pump Make		Model	Serial #	Repair System Description:	LP
# Nitrification Fields	1	# Lines 3	Linear Ft 291	Maintenance Agreement Required:	☒
Trench Width	24"	Trench Bottom Depth(Low side)	30"	Gravel Depth	—

Comments / Conditions: Install lines on contour. Do not drive on, store material, or manipulate data in any way. All property Lines, corners and Buffers must be marked by a licened Surveyor

	Date	Initials
Drain Lines Checked	9/15/21	MD
Tanks Checked	3/29/21	PJB
Pressure Manifold or Valve Box Checked	9/15/21	MD
Pressure Head Set	4/27/21	BB
Electrical Checked	4/28/21	BB
Floats Set	4/28/21	BB
Alarm Checked	4/29/21	BB
Maintenance Contract Y / N	5/2/22	BB
Supply lines	9/15/21	MD

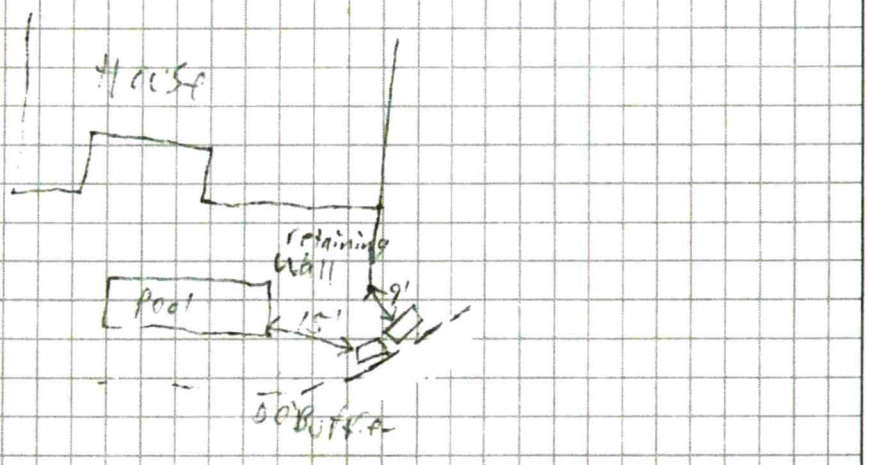
INITIAL SITE SKETCH

This permit is issued pursuant to Section 11 . (C) of S.L. 2018-114 using the signed and sealed LSS Evaluation by:

Wendell Overby

LSS # 1218

9/15/21 Checked drainlines, installed as shown Checked Supply lines. MD



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: Acceptance of Permit Recd Date: 5.8.2020 Installed by: Richard Abernathy

IMPROVEMENT PERMIT by: Patrick Bigle III Date: 4/23/2020 OPERATION PERMIT by: Brian Abbott Date: 5/2/22

AUTHORIZATION TO CONSTRUCT by: Patrick Bigle III Date: 10/15/2020 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.

IREDELL COUNTY HEALTH DEPARTMENT

Statesville Office (704) 878-5305 | HS Mooresville Office (704) 660-3625 | 11:00 | PERMIT # AP 302011

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

PIN # 4627767683

APPLICANT/OWNER: Mike and Glad Hales | APPLICANT ADDRESS: 280 Euclid Ave Winnetka IL 60093

SITE ADDRESS: 306 Greenbay Rd Mooresville NC 28117 | PHONE: (312) 420-0919 | ALT. PHONE —

SITE DIRECTIONS: NC 150 W to L on Paradise Peninsula Rd, L on Greenbay Rd, L to on R | SAP CONTROLLED: ☐ YES ☒ NO

SUBDIVISION: CL and T | SECTION: 10 | LOT # 131 | LOT AREA: 1.02 acres | DESIGN FLOW: 480 GPD | L.T.A.R.:

Septic Tank	1000 (gal)	STB	Date	☒ New System	☐ Repair	☐ Expansion	System Type: I II III IV V VI	☒ Residence	No. Bedrooms 4
Pump Tank	1000 (gal)	PT	Date	System Description: LPPPBPS				☐ Business	No. Persons 8
Pump Make		Model	Serial #	Repair System Description: LPPPBPS				☐ Other	No. Employees
# Nitrification Fields	1	# Lines 3	Linear Ft 291	Maintenance Agreement Required:	☒ YES	☐ NO		☐ Slab	☐ Crawl Space
Trench Width	24"	Trench Bottom Depth(Low side)	30"	Gravel Depth —	☐ GRAVITY	☒ PRESSURE		☒ Basement w/plumbing	☐ Basement w/o plumbing

Water Supply: ☒ Private ☐ Public ☐ Community

Comments / Conditions: Install lines on contour. Do not drive on, store material, or manipulate data in any way. All property Lines, corners and Buffers must be marked by a licened Surveyor during time of installation and inspection.

INITIAL SITE SKETCH

This permit is issued pursuant to Section 11 . (C) of S.L. 2018-114 using the signed and sealed LSS Evaluation by:

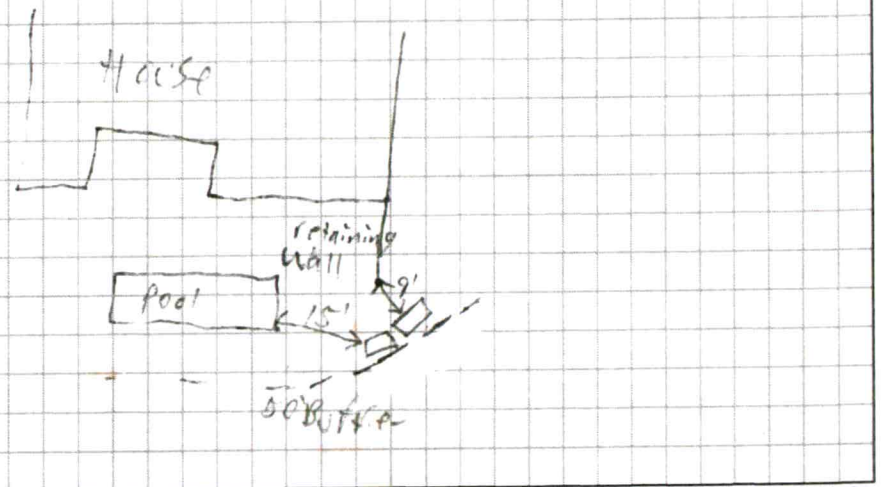
Wendell Overby

LSS # 1218

AS BUILT SKETCH

3/24/2021: Tank Location checked. Tanks were deeper than 3' in ground but area is to be graded. Tank depth will have to be reconfirmed before they are signed off on. Foundation drain or retaining wall cannot extend any further.

9/15/21 Checked drainlines, installed as shown Checked Supply lines. mp



...plied 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 site plan* valid for 60 mos. ☒ AUTHORIZATION TO CONSTRUCT valid for period equal to IMPROVEMENT PERMIT--not to exceed 60 mo.

...it Reid Date: 5.8.2020 Installed by: Richard Abernathy

Date: 4/23/2020 OPERATION PERMIT by: Date:

Date: 10/15/2020 Existing System Inspected by: Date:

...am-9am the day the inspection is needed. Be sure to speak with an inspector to confirm your inspection time

IREDELL COUNTY HEALTH DEPARTMENT

Statesville Office (704) 878-5305 | Mooresville Office (704) 660-3625 | PERMIT # AP 302011

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

APPLICANT/OWNER: Mike and Glad Hales | APPLICANT ADDRESS: 280 E

SITE ADDRESS: 306 Greenbay Rd Mooresville NC 28117

SITE DIRECTIONS: NC 150 W to L on Paradise Peninsula Rd, L on Gre

SUBDIVISION: CL and T | SECTION: 10 | LOT # 131

Septic Tank	1000 (gal)	STB	Date	☒ New System ☐ Repair ☐ Expa	
Pump Tank	1000 (gal)	PT	Date	System Description:	LP
Pump Make		Model	Serial #	Repair System Description:	LP
# Nitrification Fields	1	# Lines 3	Linear Ft 291	Maintenance Agreement Required:	☒
Trench Width	24"	Trench Bottom Depth(Low side)	30"	Gravel Depth	—

Comments / Conditions: Install lines on contour. Do not drive on, store material, or manipulate data in any way. All property Lines, corners and Buffers must be marked by a licensed Surveyor

	Date	Initials
Drain Lines Checked	9/15/21	MD
Tanks Checked	3/29/21	PTB
Pressure Manifold or Valve Box Checked	9/15/21	MD
Pressure Head Set		
Electrical Checked		
Floats Set		
Alarm Checked		
Maintenance Contract Y / N		

Supply lines 9/15/21 MD

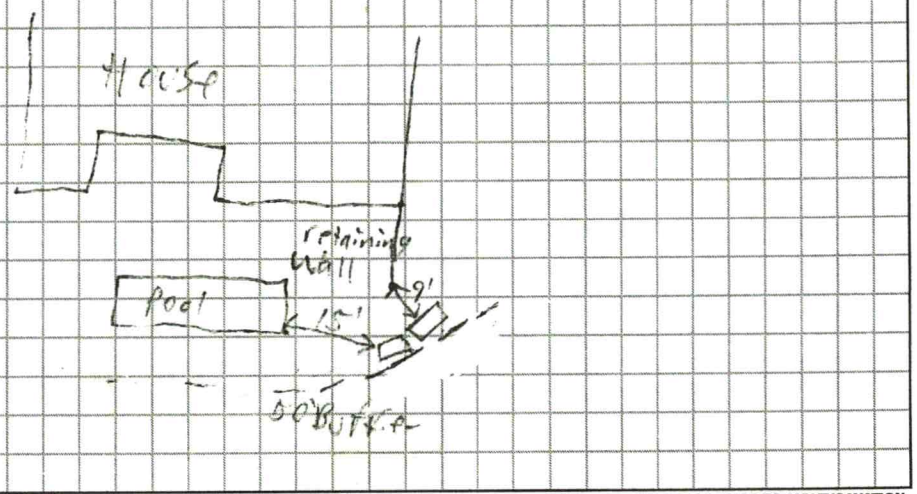
INITIAL SITE SKETCH

This permit is issued pursuant to Section 11 . (C) of S.L. 2018-114 using the signed and sealed LSS Evaluation by:

Wendell Overby

LSS # 128

9/15/21 Checked drainlines, installed as shown
Checked Supply lines. MD



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**

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Owner / Applicant Signature: Acceptance of Permit Recd Date: 5.8.2020 Installed by: Richard Abernathy

IMPROVEMENT PERMIT by: Patrick Bagley III Date: 4/23/2020 OPERATION PERMIT by: Date:

AUTHORIZATION TO CONSTRUCT by: Patrick Bagley III Date: 10/15/2020 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.

IREDELL COUNTY HEALTH DEPARTMENT

Statesville Office (704) 878-5305 | Mooresville Office (704) 660-3625 (HS 11:00) | PERMIT # AP 302011

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

PIN # 4627767683

APPLICANT/OWNER: Mike and Glad Hales | APPLICANT ADDRESS: 280 Euclid Ave Winnetka IL 60093

SITE ADDRESS: 306 Greenbay Rd Mooresville NC 28117 | PHONE: (312) 420-0919 | ALT. PHONE: —

SITE DIRECTIONS: NC 150 W to L on Paradise Peninsula Rd, L on Green bay Rd, L to on R | SAP CONTROLLED: ☐ YES ☒ NO

SUBDIVISION: CLandT | SECTION: 10 | LOT # 131 | LOT AREA: 1.02 acres | DESIGN FLOW: 480GPD | L.T.A.R.:

Septic Tank	1000 (gal)	STB		Date		☒ New System	☐ Repair	☐ Expansion	System Type: I II III IV V VI	☒ Residence	No. Bedrooms 4
Pump Tank	1000 (gal)	PT		Date		System Description: LPPPBPS				☐ Business	No. Persons 8
Pump Make		Model		Serial #		Repair System Description: LPPPBPS				☐ Other	No. Employees
# Nitrification Fields	1	# Lines	3	Linear Ft	291	Maintenance Agreement Required:	☒ YES	☐ NO		☐ Slab	☐ Crawl Space
Trench Width	24"	Trench Bottom Depth(Low side)	30"	Gravel Depth	—		☐ GRAVITY	☒ PRESSURE		☒ Basement w/plumbing	☐ Basement w/o plumbing

Water Supply: ☒ Private ☐ Public ☐ Community

Comments / Conditions: Install lines on contour. Do not drive on, store material, or manipulate data in any way. All property Lines, corners and Buffers must be marked by a licened Surveyor during time of installation and inspection.

INITIAL SITE SKETCH

This permit is issued pursuant to Section 11 . (C) of S.L. 2018-114 using the signed and sealed LSS Evaluation by:

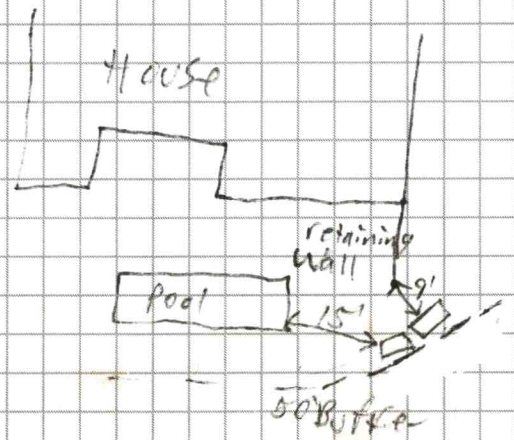
Wendell Overby

LSS # 218

AS BUILT SKETCH

3/29/2021: Tank Location checked. Tanks are deeper than 3' in ground but area is to be graded. Tank depth will have to be certified before they are signed off on. Foundation drain on retaining wall cannot extend anywhere.

9/15/21 Checked drainlines, installed as shown Checked Supply lines. MD



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Owner / Applicant Signature: Acceptance of Permit Recvd Date: 5.8.2020 Installed by: Richard Abernathy

IMPROVEMENT PERMIT by: Patrick D Bgle III Date: 4/23/2020 OPERATION PERMIT by: Date:

AUTHORIZATION TO CONSTRUCT by: Patrick D Bgle III Date: 10/15/2020 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 #: 4627767683
COUNTY: Iredell

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Michael Hales APPLICATION DATE
ADDRESS: 280 Euclid Ave, Winnetka, IL 60093 DATE EVALUATED: 12/6/19
PROPOSED FACILITY: New residence PROPOSED DESIGN FLOW (.1949): 480 PROPERTY SIZE: 1.02
LOCATION OF SITE: 306 Greenbay Road, Mooresville, NC PROPERTY RECORDED: 3/12/76
WATER SUPPLY: x ☐ Private ☐ Public x☐ Well ☐ Spring Other
EVALUATION METHOD: ☐ Auger Boring x ☐ Pit ☐ Cut TYPE OF WASTEWATER: x ☐ Sewage ☐ Industrial Process ☐ Mixed

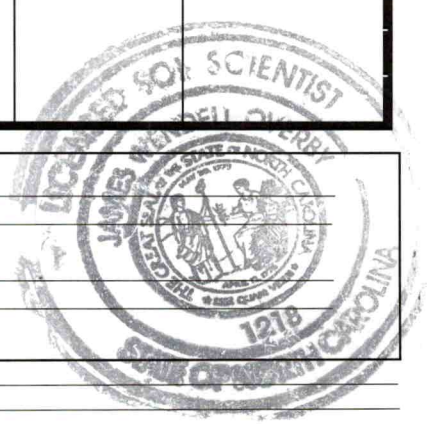
PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941)		OTHER PROFILE FACTORS				PROFILE CLASS & LTAR
			.1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	.1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	
1	L / 3%	0-14	FILL		N/A	52	PS	0-23	.3 > 23"
		14-23	Gravel/Fill						
		23-38	R C WMA/S	Fi SS SP					
		38-52	R CL WFS	Fr SS SP					
		52-72	VAR SL Mass	Fr NS NP					
2	L / 3%	0-8	B SL WFGr	Fr SS SP	N/A	60	PS	N/A	.3
		8-29	R C MMA/S	Fi SS SP					
		29-60	R CL WFS	Fr SS SP f/c sap					
		60-72	VAR L Mass	VFr NS NP					
3	L / 3%	0-8	B SCL WFGr	Fr SS SP	N/A	43	PS	N/A	.3-.4
		8-26	R C WFS	Fr SS SP					
		26-43	BR CL WMS	Fr SS SP c sap					
		43-58	VAR SL Mass	VFr SS SP					
4	L / 3%	0-5	B SL WFGr	Fr SS SP	N/A	60	N/A	N/A	.3
		5-9	YB SCL WFS	Fr SS SP					
		9-30	R C WMA/S	Fr SS SP					
		30-42	RB CL WMS	Fr SS SP few sap					
		42-60	RB CL WFS	Fr SS SP c sap					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	267	267
System Type(s)	PPBPS	PPBPS
Site LTAR	.3	.3

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948): PS

EVALUATED BY: Overby, Rollans
OTHER(S) PRESENT:

COMMENTS:



SOIL/SITE EVALUATION

(Continuation Sheet)

PROPERTY ID #: 4627767683
DATE OF EVALUATION: 12/6/19
COUNTY: iredell

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941)		OTHER PROFILE FACTORS				PROFILE CLASS & LTAR
			.1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	.1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	
5	L / 3%	0-8	B SL WFGr	Fr SS SP	N/A	68"	N/A	N/A	.3
		8-12	YB SCL WMS	Fr SS SP					
		12-36	R C WMA/S	Fr SS SP					
		36-68	BR CL WFS	Fr SS SP c sap					
				35"-55"sap inclusion					
6	L / 3%	0-5	DB SL WFGr	Fr SS SP	N/A	50"	PS	N/A	.3
		5-27	R C WFS	Fi SS P					
		27-50	BR CL WMS	Fr SS SP c sap					
		50-70	VAR SL Mass	VFr NS NP					
7	L / 3 %	0-9	DB SL WFGr	Fr SS SP	N/A	52"	N/A	N/A	.3
		9-52	R C WMS	Fr SS P					
		52-67	BR CL WFS	Fr SS SP c sap					

COMMENTS: _____



REFERENCE:

BEING ALL OF LOT 131 - SECTION 10 - OF THE CRESCENT LAND & TIMBER SUBDIVISION RECORDED IN P.B. 15, PG. 14 - IREDELL COUNTY REGISTRY.

ZONING

SUBJECT PROPERTY IS ZONED RR - IREDELL COUNTY ZONING JURISDICTION

PROPERTY IS SUBJECT TO A 25' FRONT YARD - (FY), 15' SIDE YARD - (SY) & 50' LAKE YARD / BUFFER - (LY) MINIMUM BUILDING SETBACK LINE PER IREDELL COUNTY ZONING ORDINANCE

NOTES

PROPERTY SUBJECT TO ANY FACTS THAT MAY BE DISCLOSED BY A FULL AND ACCURATE TITLE SEARCH.

PROPERTY SUBJECT TO EASEMENTS AND RIGHTS OF WAY OF RECORD AND THOSE NOT OF RECORD, IF ANY EXIST.

AREA BY COORDINATE COMPUTATION.

PROPERTY MAY BE SUBJECT TO GOVERNMENTAL ORDINANCES, ZONING AND OTHER REGULATIONS CONCERNING THE DIVISION AND DEVELOPMENT OF REAL ESTATE.

NO SUBTERRANEAN SURVEY PERFORMED AT THIS SITE.

LEGEND:

ECM - EXISTING CONCRETE MARKER
EIP - EXISTING IRON PIPE
EIR - EXISTING IRON REBAR
IRS - IRON REBAR SET
COB - COMPOST BIN
NTS - NOT TO SCALE
CB - CATCH BASIN
R/W - RIGHT OF WAY
- LIGHT POLE
- POWER POLE

Four (4) Bedroom PPBPS Septic System Design using LPP Distribution for 306 Greenbay Road, Mooresville

Contents: **Page**

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

Design Information

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

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

System Flow---------- 5

Site Plan---------- 6

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

LPP Trench Schematic__---------- 8

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

Agent Authorization---------- 11

Floor Plans---------- 12-13

Pre-1977 Survey Plat---------- 14

Owner: Michael & Glad Hales

280 Euclid Avenue, Winnetka, IL 60093

(312) 420-0919

Job #19-1120

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 DHH, 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
- 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.
- Elevations at pinflag locations should be checked by the installer prior to beginning
- Pump tank 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 specified as LPP PPBPS type**
- **Repair specified as LPP PPBPS type**
- **System trench depth specified at 30"**
- **System trenches installed on 8' minimum; 2' wide trenches**
- **Rake and lime trenches as per manufacturer's specs**
- **Existing well and septic system to be abandoned.**

APPROVED APR 2 3 2020

PJB

PPBPS LPP DOSED SYSTEM
FOR WASTEWATER TREATMENT

Applicant:	Michael Hales
Phone:	
County:	Iredell
Location:	306 Greenbay Road

Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Daily Wastewater Production:	480 gpd
System Flow:	27.53 gpm

Design Specifications

Drainfield Size:	291 lf
Loading Rate:	0.275 gpd/ft.^{2}
Depth of Gravel in Trench:	n/a
Gravel Size:	n/a
Trench Depth:	30 in
Trench Width:	24 in.
Septic Tank Size:	1000
Pump Tank Size:	1000
Estimated Supply Line Length:	176 lf
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	30.62 gal
Dosing Volume:	241.20 gal

Recommended Float Controls:	SJE Sensor Float Control Switches as Required for Control Panel or County Approved Equivalents

Pressure Head:	2 ft.
Friction Head:	2.66 ft
Elevation Head:	18.00 ft
Total Dynamic Head:	23.06 ft
Threaded Union:	In Tank
Gate Valves:	1 in Tank: 1 per lateral
Check Valves:	In Tank
Anti-Siphon Hole:	n/a
Recommended Pump:	Zoeller Model 152 or County Approved

APPROVED APR 2 3 2020

PJB

306 Greenbay Road
LPP PPBPS System

DESIGN FLOW:	480	gpd
SOIL APPLICATION RATE:	0.275	gpd/ft.^{2}
TOTAL AREA TRENCH BOTTOM:	582	sf
TOTAL LATERAL LENGTH:	291	lf
NUMBER OF FIELDS:	1	
LATERAL LENGTH REQUIRED PER FIELD:	291	lf
SUPPLY LINE LENGTH:	176	lf
TOTAL DYNAMIC HEAD:	23.06	gpm
DOSING VOLUME:	241.20	gal
PUMP TANK DRAW DOWN*:	11.5	in
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.*

APPROVED APR 2 3 2020

PJB

306 Greenbay Road

Layout for a 4 bedroom home **Feb 20**

LINE #	FLAG COLOR	BS	HI	FS	ELEV	FLAGGED LENGTH	DESIGN LENGTH
TBM							
INSTR. 1							
HOUSE					776.0		
TANK					768.0		
			SYSTEM				
1	Pink				781.0	70	56
2	Red				780.6	118	118
3	Orange				780.4	117	117
			REPAIR				
4	Blue				780.2	40	40
5	Yellow				780.0	114	110
6	Blue				779.2	124	110
7	Red				779.1	37	31
8	Pink				779.0	70	0
9	Red				778.0	44	0

	LINE LENGTH	LTAR GPD/FT	SYSTEM TYPE	REDUCTION TYPE	DIST	TRENCH DEPTH
SYSTEM	291	0.275	PPBPS	50%	LPP	30
REPAIR	291	0.275	PPBPS	50%	LPP	30

Notes:
- **TBM is assumed to be 100'
- **All measures in feet
- **Nitrification lines are demonstrated on contour via colored pin flags
- **BS and FS indicate rod readings

APPROVED APR 2 3 2020

PJB

306 Greenbay Road

SYSTEM FLOW

DESIGN SPECIFICATIONS

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench A	Number of Panels
1	PINK	781	56	0.156	0.41	112	13
2	RED	780.6	118	0.156	0.41	236	27
3	ORANGE	780.4	117	0.156	0.41	234	27
							67
	total	**feet =**	**291**	**gal/min =**	**27.53**		
			Des. Flow	**480**			
			Pump Run=	**8.78**			
			soil LTAR	**0.275**			
			LTAR with mod.	**0.55**			
			.156 equals 5/32 inch hole				

APPROVED APR 2 3 2020

PJB

CALCULATIONS

Location: 306 Greenbay Road

Project Number 19-1120

Lot No:

No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.275	$^{gal}/_{ft^2\ day}$
Accepted? (YES OR NO)	No	
Supply Line Length	176	ft.
Supply Line Volume	30.624	gal.
Required Feet of Line	291	ft.
Amount of Line from Layout	291	ft.
Gallons per Minute	27.53	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Panel Volume	3.6	gal.
# of Panels	67	
Dosing Volume	241.20	gal.

Note: Dosing volume based on # of panels x 3.6 gal/panel

Tank Draw Down	11.5	in.
		Generic Draw Down of 21 gal.per in.
Pump Run Time	8.76	minutes
Elevation Head	18	ft.
Pressure Head	2	ft.
Friction Factor	1.51	ft./100 ft. *(From the interpolater.)*
Friction Head	2.66	ft.
Friction Head +15%	3.05624	
Total Dynamic Head	23.06	ft.

FRICTION FACTOR INTERPOLATER
2" SCH 40 PVC

GPM	*f*
20	0.84
	-0.88
25	1.27
27.4	1.51
30	1.78
	-1.76
35	2.37
37	2.63
40	3.03
42.7	3.43
45	3.77
46.51	4.01
50	4.58
57.11	5.89
60	6.42

APPROVED APR 23 2020

PJB

N.C. Department of Health and Human Services
Division of Public Health
Environmental Health Section

2049500120
Identification Number

04/26/2022
Date Issued

Status Code: I

PUBLIC SWIMMING POOL OPERATION PERMIT

Permission is granted to WINDING FOREST HOA (*Owner or Operator*) of WINDING FOREST HOA POOL (*Name of Public Swimming Pool*)

to operate a public swimming pool as defined in G.S. 130A-280 and 15A NCAC 18A .2500 at

231 WINDING FOREST DR, TROUTMAN, NC 28166
Street Address of Pool Location

Iredell
County

Type of Pool: (*check one*)

- [X] Swimming Pool
- [ ] Wading pool
- [ ] Spa
- [ ] Specialized
- [ ] Other (describe) _____

Signed: _____ Agent
N.C. Department of Health and Human Services
Environmental Health Section

Expiration Date: 10/31/2022

Remarks: Night swimming prohibited.

INSTRUCTIONS

Purpose: General Statute 130A-281 states "No public swimming pool may be opened for use unless the owner or operator has obtained an operation permit issued by the Department". General Statute 130A-282 requires the Commission for Public Health to adopt rules including requirements for application review, expiration, renewal, and revocation or suspension of an operating permit. Those rules are contained in 15A NCAC 18A .2500.

This form is to be used as the permit specified above.

Preparation: Local environmental health specialists shall issue a permit every time a new or reissued permit is indicated. Prepare an original and one copy for:

1. Original given to pool owner or operator.
2. Copy for the local health department.

In the event the permit/transitional permit is suspended or revoked, complete the Suspension/Revocation form (EHS 4009B).

Disposition: This form may be destroyed in accordance with Standard 8.B.6., Inspection Records, of the *Records Disposition Schedule* published by the N.C. Division of Archives and History.

Additional forms may be ordered from: Environmental Health Section
1632 Mail Service Center
Raleigh, NC 27699-1632
(Courier 52-01-00)

EHS 3962 (Revised 7/12)

J.C. Moore
Maintenance Contract

State of North Carolina

Permit Number 207011

County of Iredell

THIS AGREEMENT is made and entered into this the 29th day of April, 2022 by and between Michael Hale (hereinafter the "Owner") and J.C. Moore (hereinafter the "Contractor").

WITNESSETH

WHEREAS, the Owner owns or controls the property upon which a ground absorption sewage treatment system (hereinafter "system") is installed, such system being designated a Type IVA system under the Rules for Sanitary Sewage Collection, Treatment and Disposal found at 15A N.C. Admin. Code 18A. 1900 et seq.; and

WHEREAS, 15A N.C. Admin. Code 18A. 1961 requires a contract to be executed between the system owner and a management entity prior to the issuance of an Operation Permit for said system; and

WHEREAS, 15A N.C. Admin. Code 18A. 1961 requires that a condition of the Operation Permit for said system be that a properly executed contract between the system owner and a management entity shall be in effect for as long as the system is in use; and

WHEREAS, the Contractor is a management entity of a type authorized by 15A N.C. Admin. Code 18A. 1961 to manage a Type IV-A system.

NOW THEREFORE, in consideration of the premises and of the mutual covenants and promises contained in this Agreement, it is hereby agreed by and between the Owner and the Contractor as stipulated below.

1. The Contractor's Obligations. The Contractor shall perform the following services on the owners systems located at 306 Greenbay Rd Mooresville, NC 28117

A. The Contractor shall inspect the system at least at the frequency required in Table V (b) of 15A N.C. Admin. Code 18A. 1961 (b) for a Type IV-A system.

B. The Contractor shall perform the following routine maintenance procedures in accordance with the conditions of the Operation Permit.

(1) Inspect the structural integrity and maintain all of the physical and mechanical components of the system.
(2) Inspect the performance and condition of the drain field.
(3) Flush and clean the laterals of the system.
(4) Check and set pressures in the system.
(5) Check and adjust pump delivery rate of the system.
(6) Clean septic tank filter if applicable and accessible.
(7) Perform any other requirements of the Operations Permit.

C. The Contractor shall report the result of its inspections to home Owner after each inspection and to the local Health Department at the frequency specified in Table V (b) of 15A N.C. Admin. Code 18A. 1961 (b) for a Type ☑ System.
- A

D. If an inspection indicates the need for system repairs, the Contractor shall notify the local Health Department within 48 hours of the inspection.

E. The Contractor shall notify the Owner of needed repairs, which are outside the scope of routine mainteriance described in subparagraph (b) above. The Contractor shall perform necessary repairs to the system that require the use of hand tools only at the request of the Owner and shall be entitled to payment therefore at the Contractors normal charge for services and materials. The Contractor shall not perform repairs that require the use of heavy equipment, electrical license or plumbing license.

2. The Owner's Obligations.

A. The Owner shall pay the Contractor upon signing this contract, the sum of for the first year of periodic inspections, routine maintenance procedures and periodic reports. The annual fee may be renewed at the end of each 12-month period. The annual fee may be amended upon sixty (60) days advance notice to the Owner but may not increase more that 20 percent per year. The Owner shall pay in the following methods.

( ) to be paid at the time of the signing of this agreement and to be paid before the second scheduled inspection.

(300)dollars to be paid at the time of the signing of this agreement.

B. The Owner shall pay to the Contractor his normal and customary fees for any work performed on the system @ 32 dollars per hour, with minimum of one hour, plus cost of material(s) as a result of nonscheduled service or maintenance calls. All fees for nonscheduled service or maintenance are due and payable within thirty (30) days of billing. Payments due to the Contractor and unpaid by the Owner after thirty (30) days shall accrue interest from the due date until paid at a rate of 1.5 percent per month.

C. The Owner shall keep the area of the septic system drain field properly mowed and protected from traffic. The Owner shall keep the designated repair area reserved for future repair to the septic system.

D. The Owner shall provide the Contractor with such access to the system as is reasonably necessary for the Contractor to comply with the terms of this Agreement.

3. Term: This Agreement shall remain in effect until termination.

A. Automatic Termination
This Agreement shall automatically terminate if the Operation Permit for the system is revoked and all appeals of the revocation are exhausted or time for taking an appeal has passed.

B. Termination by Mutual Consent
The Parties may mutually agree to terminate this Agreement by giving written notice of erminate by mutual consent to the local Health Department thirty (30) days in advance of the date of termination.

C. Termination by the Owner
The Owner may terminate this Agreement by giving notice to the Contractor and to the local health Department thirty (30) days in advance of the date of termination.

D. Termination by the Contractor

(1) The Contractor may terminate this Agreement for cause by giving written notice of intent to terminate this Agreement to the Owner and to the local Health Department thirty (30) days in advance of the date of termination. Cause shall be defined as:

(a) failure to remit payment for any bill for services performed under and in accordance with this Agreement if said bill is not paid within thirty (30) days of receipt by the Owner of the bill. If said bill is paid after notice of termination is given but prior to the date of termination of this Agreement this Agreement shall continue in effect; or

(b) failure of the Owner to allow the Contractor such access to the system as is reasonably necessary in order for the Contractor to comply with the terms of this Agreement.

(2) The Contractor may not terminate this Agreement without cause, but may assign its rights and duties under this Agreement as provided in paragraph 4 below.

4. Assignment

A. Assignment by the Owner. The Owner shall notify the Contractor of the name and address of any purchaser of the property on which the system is located. The Owner shall also notify any purchaser of the property on which the system is located of the existence of this Agreement and shall assign all rights and duties under this Agreement to said purchaser.

B. Assignment by the Contractor. The Contractor may assign its rights and duties under this Agreement to another management entity which is qualified pursuant to 15A N.C. Admin. Code 18A. 1961 to manage a Type IVA system upon thirty (30) days written notice to the Owner and the local Health Department.

5. Representations

The Parties represent to each other that each has the power, authority, and legal right to enter into and perform its obligations as set forth in this Agreement.

6. Regulatory Amendments

References in this Agreement to sections of the Administrative Code shall include such rules as they may be amended in the future.

7. No Implied Waiver

The waiver by either Party of a default or a breach by the other Party of any provision of this agreement shall not operate or be construed to operate as a waiver of any subsequent default or breach. The failure at any time of either Party to enforce any provision of this Agreement (a) shall not be construed to be waiver of such provisions, or of any other provision; and (b) shall not in any way affect the validity of this Agreement, or any part of this Agreement, or the right of either Party thereafter to enforce each and every provision of this Agreement.

8. Notice

Every notice required under this Agreement shall be in writing and shall be deemed sufficiently given if delivered in person or sent by mail and addressed as follows:

To the Owner: Michael Hales
306 Greenbay Rd
Mooresville NC 28117

To the Contractor: J.C. Neal
1227 Troutman Dr.
Statesville NC 28625

To the Local Health Department

Iredell Co Environmental Health
610 East Center St
Mooresville NC 28115

The date of any Notice shall be the date of delivery. Changes in the respective addresses to wh notice may be directed may be made from time to time by either Party by notice to the other Par

9 Place of Agreement

This Agreement and any questions concerning its validity, construction of and performance sha be governed by the laws of the State of North Carolina, notwithstanding the place of execution the order in which the signatures of the Parties are affixed.

10 Entire Agreement and Amendment.

This Agreement supersedes all prior negations, agreements and understandings between the Parties with respect to the subject matter hereof and constitutes the entire Agreement between the Parties with respect to the subject matter hereof. To be effective, any amendment or modification to this Agreement must be in writing and must be signed by the Parties.

11 Severability

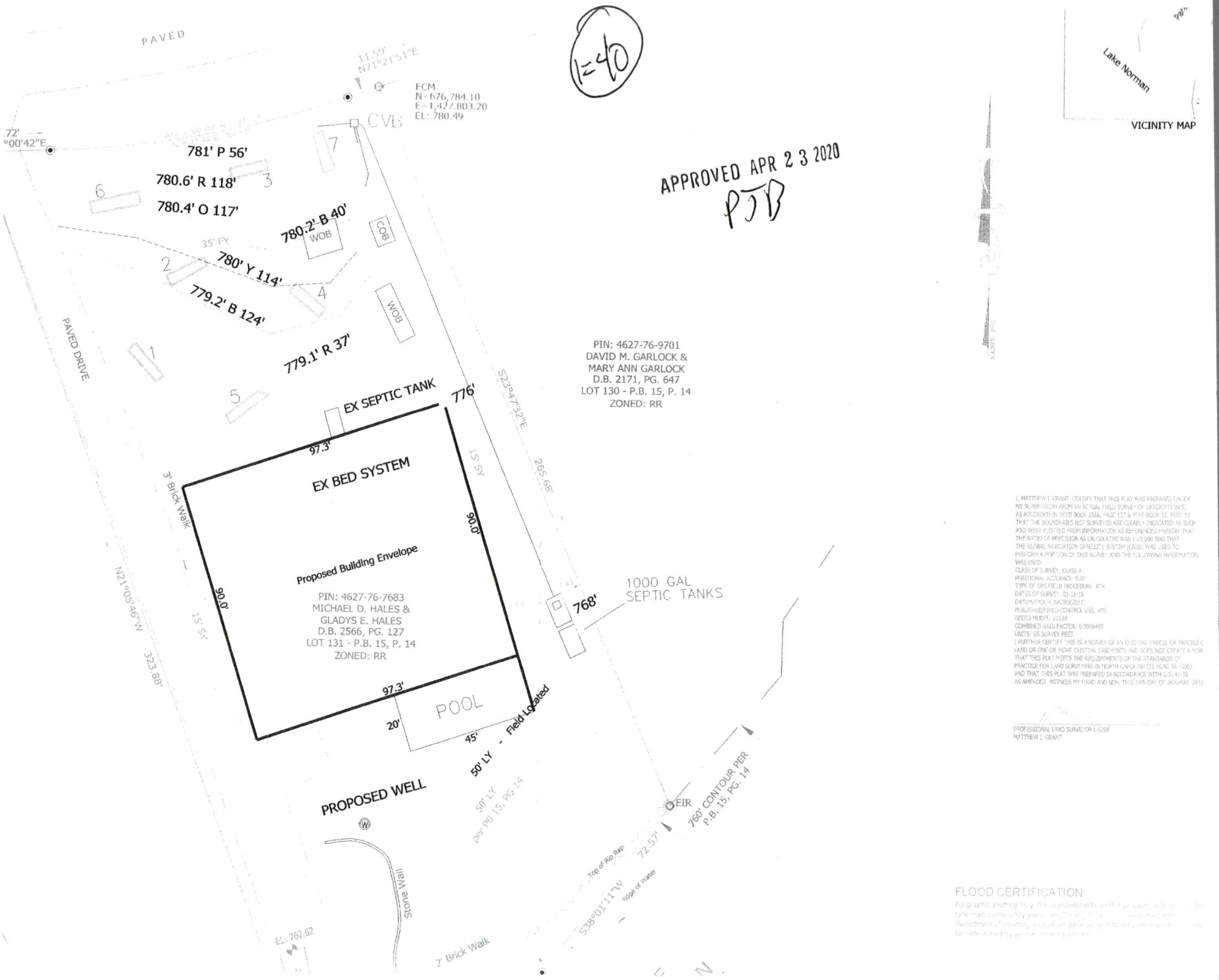
In the event that any provision of this Agreement shall, for any reason, be determined to be invalid, illegal or unenforceable in any respect, the Parties shall negotiate in good faith and agree to such amendments, modifications or supplements of or to this Agreement or such other appropriate actions as shall, to the maximum extent practicable in light of such determination implement and give effect to the intentions of the Parties as reflected in this Agreement and to other provisions of this Agreement shall as so amended, modified, supplemented or otherwise affected by such action, remain in full force and effect.

IN TESTIMONY WHEREOF, the Parties hereto have executed this Agreement in duplicat originals, one of which is retained by each of the Parties, the day and year first above written

(OWNER) for MICHAEL HALES

(CONTRACTOR) P. C. Moore

D 5

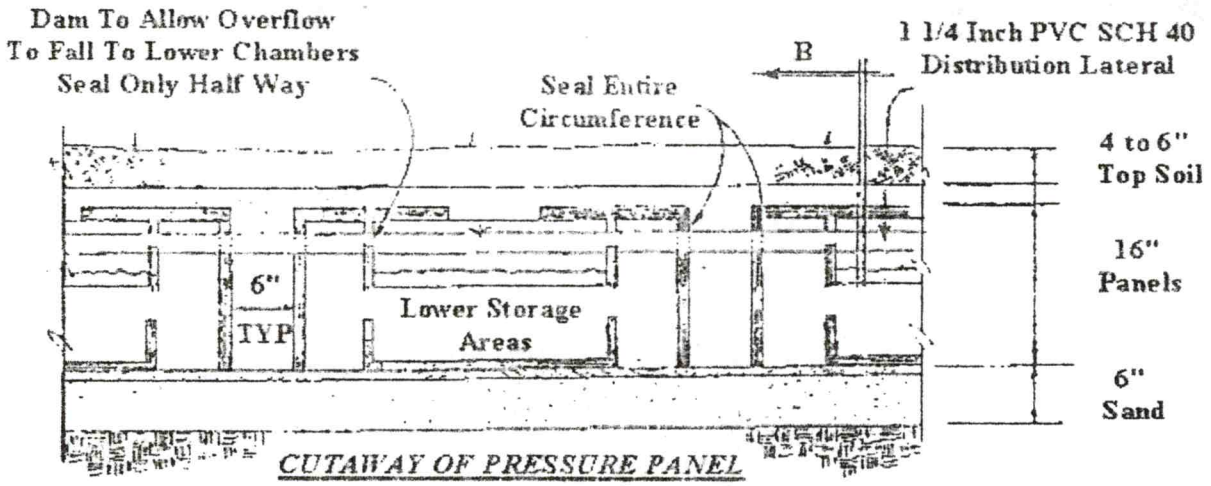

1=40
PAVED
11.59'
N71°21'51"E
ECM
N=676,784.10
E=1,427,803.20
EL: 780.49
CVB
72'
°00'42"E
781' P 56'
780.6' R 118'
780.4' O 117'
780.2' B 40'
WOB
COB
35' FY
780' Y 114'
779.2' B 124'
779.1' R 37'
WOB
PAVED DRIVE
EX SEPTIC TANK
776'
97.3'
EX BED SYSTEM
3' Brick Walk
90.0'
90.0'
Proposed Building Envelope
PIN: 4627-76-7683
MICHAEL D. HALES &
GLADYS E. HALES
D.B. 2566, PG. 127
LOT 131 - P.B. 15, P. 14
ZONED: RR
97.3'
POOL
20'
45'
50' LY - Field Located
15' SY
N21°05'46"W
323.88'
15' SY
S22°47'32"E
265.68'
PIN: 4627-76-9701
DAVID M. GARLOCK &
MARY ANN GARLOCK
D.B. 2171, PG. 647
LOT 130 - P.B. 15, P. 14
ZONED: RR
768'
1000 GAL
SEPTIC TANKS
PROPOSED WELL
50' LY
per PB 15, PG 14
EIR
760' CONTOUR PER
P.B. 15, PG. 14
Top of Rip Rap
72.57'
S38°01'11"W
Edge of Water
Stone Wall
EL: 762.62
2' Brick Walk
APPROVED APR 2 3 2020
PJB
Lake Norman
VICINITY MAP
I, MATTHEW L GRANT, CERTIFY THAT THIS PLAT WAS PREPARED UNDER
MY SUPERVISION FROM AN ACTUAL FIELD SURVEY OF (DESCRIPTION)
AS RECORDED IN DEED BOOK 2566, PAGE 127 & PLAT BOOK 15, PAGE 14
THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS SUCH
AND WERE PLOTTED FROM INFORMATION AS REFERENCED HEREON; THAT
THE RATIO OF PRECISION AS CALCULATED WAS 1:25,000 AND THAT
THE GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) WAS USED TO
PERFORM A PORTION OF THIS SURVEY AND THE FOLLOWING INFORMATION
WAS USED:
CLASS OF SURVEY: CLASS A
POSITIONAL ACCURACY: 0.01'
TYPE OF GPS FIELD PROCEDURE: RTK
DATES OF SURVEY: 01-11-15
DATUM/EPOCH: NAD83(2011)
PUBLISHED/FIXED-CONTROL USE: VRS
GEOID MODEL: GEO12B
COMBINED GRID FACTOR: 0.9998495
UNITS: US SURVEY FEET
I FURTHER CERTIFY THIS IS A SURVEY OF AN EXISTING PARCEL OR PARCELS O
LAND OR ONE OR MORE EXISTING EASEMENTS AND DOES NOT CREATE A NEW
THAT THIS PLAT MEETS THE REQUIREMENTS OF THE STANDARDS OF
PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56.1600)
AND THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30
AS AMENDED. WITNESS MY HAND AND SEAL THIS 14th DAY OF JANUARY, 2015
PROFESSIONAL LAND SURVEYOR L-5108
MATTHEW L GRANT
FLOOD CERTIFICATION

Panels With Pressure Distribution

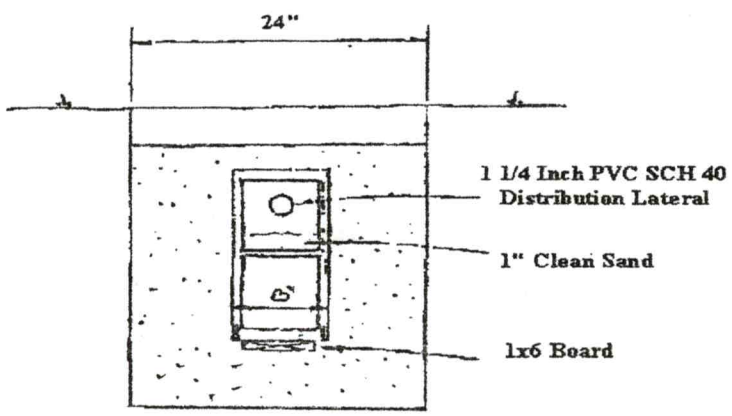
The LP Panel uses technology similar to that of Low Pressure Pipe (LPP) Systems. The tables and distribution design described in the LPP manual is applicable to the pressure Panel System. The system should be used with two to four feet of head. In many respects a LP Panel is similar to a LPP with the holes discharging into the panels.

The dosing cycle for the Panel System is designed to pump enough effluent to fill the top chambers of all the panels in the system. The top chamber of a 16 inch panel holds 3.6 gallons. When the system has 34 panels and all holes are the same size, then you would multiply 34 X 3.6 to get 122 gallons per dose cycle. The holes are drilled in the distribution pipe at the 10 and the 2 o'clock position. These are then placed so that the effluent is pumped into the top chamber of the panel. If the hole sizing changes in the system the pump cycle is set by the hole that is discharging the fastest.

All valves and turn-ups should be neatly capped, covered and labeled for future service. Pump tanks should be constructed as shown in the drawing on page 12 to allow for service and repairs.



CUTAWAY OF PRESSURE PANEL



SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

February 4, 2020

Iredell County Environmental Health
Attn: Heath Snow
349 N Center Street
Statesville, NC 28677

Re: Session Law 2018-114 Submittal for 306 Greenbay Road-Mooresville

Mr. Snow,

Attached please find sealed soil notes as well as site plans and design for a 4-bedroom modified conventional (PPBPS) system using LPP distribution. The design packet is submitted under Session Law 2018-114 (HB 374).

"The LSS Evaluation attached to this application is to be used to produce design and construction features for permitting in accordance with SL 2018-114 Section 11.(c)."

Owner: Michael Hales.: Glad E. Hales

Signature: Glad E. Hales

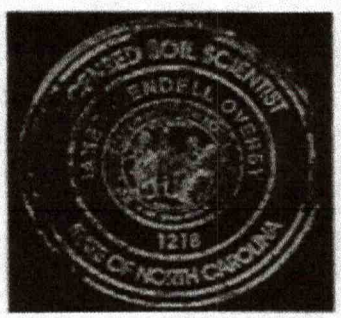
"The LSS Evaluation is being submitted pursuant to and meets requirements of SL 2018-114 Section 11.(c)."

Wendell Overby: LSS

Signature: [redacted] Wendell Cly

Seal:





	LOT 126	
97	S29-53W	67.24
98	S10-01W	50.88
99	S21-20W	43.00
100	LOT 126 TO LOT 130	
100	S20-55W	72.77
101	S22-47E	30.23
102	S50-14W	42.67
103	S19-15W	42.06
104	S84-24W	53.14
105		
106	S80-03W	134.06
107	N38-24W	47.38
107		
108	N66-17W	218.93
	LOT 130	
108	S82-56W	66.72
109	S08-37W	38.48
110	S33-11W	65.00
111	LOT 131	
111	S38-30W	72.67
112	S73-04W	91.21
113	LOT 132	
113	S81-16W	54.68
114	N64-02W	44.10
115	N26-10W	37.54
116	N60-48W	72.56
117	N83-38W	33.24
118		

CO. RD. NO. 1219 TO CO. RD. NO. 1211

CRESCENT LAND & TIMBER CORP.
(C. G. SMITH)
U. M. I. - 208

677.000

EXISTING ROAD R/W LIMIT

CO. RD. NO. 1218

BANTY ROAD

CO. RD. NO. 1219

N. 676,736.26
E. 1,427,426.32

S56-05E 12.21
R=185.78
Ac=118.88
N88-14E 41.63
R=371.58
R=108.02
N88-14E 24.72
N71-35E 11.58
N71-35E 153.95
N71-35E 106.36
R=634.60
A=877.58
N83-08E 532.42

LOT 133
LOT 132 1.14 ACRE
LOT 131 1.02 ACRE
LOT 130 0.68 ACRE
LOT 125
LOT 126 0.88 ACRE

SEE DWG. NO. C. F. 10-L

760 CONTOUR

SEE DWG. NO. C. F. 10 - J

REF. DWG. NO. 108-37

S. 800 R.W. LINE

TO MARSHALL

TO McGUIRE

R/W LINE

CRESCENT LAND & TIMBER CORP.
(B. A. TROUTMAN)
U. M. I. - 177

CRESCENT LAND & TIMBER CORP.
(DAVENPORT COLLEGE)
U. M. I. - 69-1

LAKE NORMAN

N. C. GRID

1,428,000

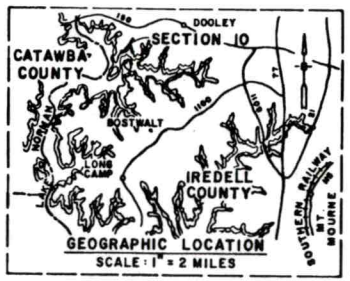
NOTES . . .

DUKE POWER COMPANY TO CRESCENT LAND & TIMBER CORP. DEED BOOK 481 PAGE 81. DATED MAY 1, 1968

BUILDING SETBACK LINES ARE 25 FEET FROM ROAD RIGHT OF WAY, 50 FEET FROM CONTOUR ELEVATION 760. U.S.G.S. SEA LEVEL DATUM AND 10 FEET FROM SIDE LOT LINE.

ALL STREET CORNER RADII ARE 20 FEET. PROPERTY LINE DISTANCES ARE COMPUTED TO POINT OF INTERSECTION AT STREET CORNERS.

PROPERTY LINES SHOWN WHICH FORM THE EDGE OF LAKE NORMAN FOLLOWS CONTOUR ELEVATION 760. (U.S.G.S. SEA LEVEL DATUM)



CRESCENT LAND & TIMBER CORP.
LAKE NORMAN
MAP OF
RECREATION LOTS
SECTION 10
LOTS 126-132
DAVIDSON TOWNSHIP
IREDELL COUNTY, N. C.

SCALE 1" = 100' MARCH 12, 1976
MISC. BOOK NO. 426,427,428,429 & 431 DWG. NO. C. F. 10 - K

IREDELL COUNTY HEALTH DEPARTMENT
JANE HINSON, RN BSN MS
HEALTH DIRECTOR

Public Health
Prevent. Promote. Protect.
Iredell County Health Department

ACKNOWLEDGEMENT OF ACCEPTANCE OF PERMIT DESIGN AND CONDITIONS

Any permit requiring a signature must have this form signed by the property owner or their authorized agent. Once this form is signed and returned to Environmental Health an official copy of the permit will be emailed to the email that you provide.

I. Michael Hales, am the legal owner or the agent of the property located at 306 Greenbay Rd Mooresville, identified as PIN(Parcel Identification Number) 4627767683, located in Iredell County, North Carolina.
Permit # AP 302011.

I do hereby agree to the permit design and the conditions of this permit.

Michael Hales 5/7/20
Signature of Owner/Authorized Agent Date

Heidi E. Hales 5/7/20
Signature of Witness Date

Mike.hales@kearney.com
email

WELL ABANDONMENT RECORD

For Internal Use ONLY:

1. Well Contractor Information:

KEN JOHNSON

Well Contractor Name (or well owner personally abandoning well on his/her property)

2608

NC Well Contractor Certification Number

AIR DRILLING, INC.

Company Name

2. Well Construction Permit #: 302011

List all applicable well construction permits (i.e. UIC, County, State, Variance, etc.) if known

3. Well use (check well use):

Water Supply Well:	
☐Agricultural	☐Municipal/Public
☐Geothermal (Heating/Cooling Supply)	■Residential Water Supply (single)
☐Industrial/Commercial	☐Residential Water Supply (shared)
☐Irrigation	
Non-Water Supply Well:	
☐Monitoring	☐Recovery
Injection Well:	
☐Aquifer Recharge	☐Groundwater Remediation
☐Aquifer Storage and Recovery	☐Salinity Barrier
☐Aquifer Test	☐Stormwater Drainage
☐Experimental Technology	☐Subsidence Control
☐Geothermal (Closed Loop)	☐Tracer
☐Geothermal (Heating/Cooling Return)	☐Other (explain under 7g)

4. Date well(s) abandoned: 9/30/20

5a. Well location:

SPIVEY CONSTRUCTION

Facility/Owner Name

CLT S10 6+131

Facility ID# (if applicable)

306 GREENBAY RD, MOORESVILLE 28117

Physical Address, City, and Zip

IREDELL

County

Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35° 34. 179 N 80° 42. 563 W

CONSTRUCTION DETAILS OF WELL(S) BEING ABANDONED

Attach well construction record(s) if available. For multiple injection or non-water supply wells ONLY with the same construction/abandonment, you can submit one form.

6a. Well ID#:

6b. Total well depth: 125 (ft.)

6c. Borehole diameter: 6 (in.)

6d. Water level below ground surface: (ft.)

6e. Outer casing length (if known): (ft.)

6f. Inner casing/tubing length (if known): (ft.)

6g. Screen length (if known): (ft.)

WELL ABANDONMENT DETAILS

7a. For Geoprobe/DPT or Closed-Loop Geothermal Wells having the same well construction/depth, only 1 GW-30 is needed. Indicate TOTAL NUMBER of wells abandoned:

7b. Approximate volume of water remaining in well(s): (gal.)

FOR WATER SUPPLY WELLS ONLY:

7c. Type of disinfectant used: HTH

7d. Amount of disinfectant used:

7e. Sealing materials used (check all that apply):

☐ Neat Cement Grout	☐ Bentonite Chips or Pellets
☐ Sand Cement Grout	☐ Dry Clay
☐ Concrete Grout	☐ Drill Cuttings
☐ Specialty Grout	☐ Gravel
☐ Bentonite Slurry	■ Other (explain under 7g)

7f. For each material selected above, provide amount of materials used:

48 BAGS HOLEPLUG

7g. Provide a brief description of the abandonment procedure:

POURED

8. Certification:

Ken Johnson

Signature of Certified Well Contractor or Well Owner

9/30/2020

Date

By signing this form, I hereby certify that the well(s) was (were) abandoned in accordance with 15A NCAC 02C .0100 or 2C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

9. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well abandonment details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

10a. For All Wells: Submit this form within 30 days of completion of well abandonment to the following:

**Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617**

10b. For Injection Wells: In addition to sending the form to the address in 10a above, also submit one copy of this form within 30 days of completion of well abandonment to the following:

**Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636**

10c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well abandonment to the county health department of the county where abandoned.

Recorded Easement w/ Duke.
And submitted w/ improvement permit

Type: CONSOLIDATED REAL PROPERTY
Recorded: 4/22/2020 12:07:16 PM
Fee Amt: $26.00 Page 1 of 6
Iredell County, NC
Ronald N. Wyatt Register of Deeds

BK 2692 PG 585 - 590

North Carolina

Iredell County

Site: 306 Greenbay Rd
Land Unit:
Project Number: 36067248

North Carolina
Distribution Encroachment Agreement
for Nitrification Field Encroachments

THIS NORTH CAROLINA DISTRIBUTION ENCROACHMENT AGREEMENT FOR NITRIFICATION FIELD ENCROACHMENTS ("Agreement"), made this 8th day of April, 2020, by and between **DUKE ENERGY CAROLINAS, LLC**, a North Carolina limited liability company ("Duke Energy"), and MICHAEL D. HALES and GLAD E. HALES ("Grantee").

- Grantee is the owner of a 1.02-acres of land situated in Davidson Township, Iredell County, North Carolina, and being the land described in a deed from James R. Regehr, Sr., and wife Silvia Hales Regehr to Michael D. Hales and Glad E. Hales, dated July 12, 2018, and recorded in Deed Book 2566, Page 127, Iredell County Registry (the "Property");

- Duke Energy has previously acquired a thirty foot (30) foot wide easement area over the Property on which easement area Duke Energy maintains and operates electrical facilities (the "Easement Area"); and

- Grantee desires to use a portion of the Easement Area for the construction, installation, operation, and maintenance of a nitrification field (the "Encroachment").

NOW, THEREFORE, in consideration of the premises and of the mutual covenants herein contained, Duke Energy, insofar as Duke Energy's rights are concerned, hereby authorizes Grantee, his heirs and assigns, ingress and egress to construct, install, operate, monitor, repair, and maintain the Encroachment within the Easement Area upon the following terms and conditions:

1. Grantee shall construct, install, operate and maintain the Encroachment as shown on a map, dated January 11, 2019, and entitled "Topographical Survey for: Michael D. Hales & Gladys Ericson Hales," which is attached hereto as **Exhibit A** and incorporated herein by reference (the "Map"). Other than removing the Encroachment, Grantee shall not alter or add to the Encroachment in any way without receiving prior written consent from Duke Energy. Should Grantee perform any work in the Easement Area without the prior written consent of Duke Energy, should it fail to perform the work in a manner consistent with the specifications approved by Duke Energy, or should the Encroachment threaten any Duke Energy facility, then Grantee shall be liable to Duke Energy for any costs Duke Energy incurs while remedying actual or potential threats to Duke Energy's facilities arising from such work.

2. This Agreement shall automatically terminate upon complete removal of the Encroachment by Grantee. Should the encroachment no longer be required for the facility it is designed to serve, this Agreement shall be terminable by Duke Energy upon ninety (90) days written notice of Duke Energy's desire to terminate.

Submitted electronically by "Duke Energy"
Submitted electronically by "Duke Energy"
in compliance with North Carolina statutes governing recordable documents
and the terms of the submitter agreement with the Iredell County Register of Deeds.

3. Duke Energy shall have the right to install at any time additional structures for the support of its present or future electric lines within the Easement Area. Duke Energy agrees to locate these additional structures, if reasonably possible, so as not to obstruct use of the Encroachment and in compliance with 15A NCAC 18A.1950.

4. Grantee may plant low-growing shrubbery on and around the Encroachment provided that Duke Energy shall have necessary access to its structures for maintenance purposes. Any trees or shrubs in the Easement Area shall not be permitted to reach a height of more than twelve (12) feet. If any such trees or shrubs do reach a height of more than twelve (12) feet, then Duke Energy shall have the right to remove them without removing the stumps if removal could damage system.

5. Grantee shall not place, or cause to be placed, a septic tank or any related device, constructed of any material type, in Duke Energy's Easement Area other than inert piping for septic draining purposes.

6. Grantee shall, upon request of Duke Energy and at no cost to Duke Energy, erect barriers around the Encroachment area or existing facilities owned or operated by Duke Energy. Barriers shall be of an acceptable size and construction to Duke Energy. Once installed to Duke Energy's specifications, Grantee shall not be liable for the costs of relocating or replacing any barrier that is later determined by Duke Energy to hinder its access to the facilities or Easement Area.

7. Grantee shall not utilize any equipment within Duke Energy's Easement Area in such a manner that any portion of said equipment would come any closer than fifteen (15) feet from any conductors of its electric lines. Grantee's operation of equipment and use of materials within Duke Energy's Easement Area shall adhere to applicable federal, state, and local laws, rules and regulations, including the guidelines set forth by the National Electrical Safety Code (NESC), the OSHA Standard for equipment minimum safe working distances, and the North Carolina Overhead High-Voltage Line Safety Act (OHVSA).

8. Grantee shall be liable for, and shall indemnify, protect, and save harmless Duke Energy from any taxes or assessments which may be levied for or as a result of the Encroachment.

9. Duke Energy shall not be liable for any damage to the Encroachment resulting from Duke Energy or its contractors in the construction, reconstruction, replacement, maintenance, or removal of Duke Energy's present or future facilities.

10. Grantee shall not do any digging, grading, or filling nearer than Three Foot (3 foot) to any of Duke Energy structures or anchors and any slopes within the Easement Area shall be no greater than a one to four ratio.

11. Grantee shall not do any filling or piling of earth on Duke Energy's Easement Area unless shown on the Map and approved by Duke Energy. The surface of the Easement Area shall be properly graded, raked, and seeded after construction of the Encroachments is complete.

12. Duke Energy may have facilities (e.g. counterpoise wires) buried in the vicinity of the Encroachment. Grantee shall exercise diligence to avoid damaging any underground facilities, will notify Duke Energy immediately if any damage does occur, and reimburse Duke Energy for the costs of any repairs made necessary by such damage.

13. The Encroachment is subject to the paramount right of Duke Energy at all times to make use of Duke Energy's entire Easement Area for the construction, maintenance, reconstruction, and operation of electric lines. In the future, Duke Energy may require, within the N.C.G.S. 130A statute and the 15A NCAC .1900 rules, the relocation or modification of the Encroachment, and Grantee shall comply with the demand at no cost to Duke Energy within ninety (90) days after receipt of the written demand.

14. This Agreement is effective only insofar as the easement rights of Duke Energy in the Easement Area are concerned; and Grantee shall obtain from others such permission sand permits as may be necessary from third parties.

15. Grantee assumes all risks incident to the Encroachment and does hereby release and shall indemnify, defend, and save harmless Duke Energy, its officers, directors, employees, contractors, and agents from and against claims, damages, demands, legal or administrative actions (formal or informal), expenses (including reasonable attorney's fees and court costs), and liability (whether or not such liability has been judicially determined) for loss of or damage to property of Grantee, Duke Energy or others, (including environmental damages and hazardous or toxic waste cleanup) and injuries to or death of all persons, howsoever resulting, by reason of Grantee's use of the Encroachment.

16. The recitals set forth at the opening of this Agreement are incorporated herein as if fully restated in this Section 16.

17. Should Grantee desire or be required to contact Duke Energy for any reason related to this Agreement it shall contact Duke Energy's customer service center and request to speak to the land services group.

18. This Agreement shall be governed by the laws of the state of North Carolina without regard to the conflicts of law provisions therein. The parties agree that the proper venue for any dispute related to this agreement are the courts located in county in which the Property is located, and the parties hereby submit to the jurisdiction thereof.

19. This Agreement contains the complete understanding of the parties and shall supersede any prior and contemporaneous communications, agreements, and assurances related to the subject matter of this Agreement. Any modification of this Agreement must be agreed to in writing and signed by the parties. The parties agree that the Easement shall remain in full force and effect. The only modifications to the terms thereof, caused by the Agreement, shall be those which are expressly stated in this Agreement.

20. The failure of Duke Energy in any one or more instances to insist upon compliance with any provision or covenant herein or to exercise any right or privilege herein shall not constitute or be construed as a waiver of such or any similar provision or covenant.

21. This Agreement shall be recorded at Grantee's sole expense.

[Remainder of Page Left Intentionally Blank]

IN WITNESS WHEREOF, Duke Energy and Grantee have caused this Agreement to be signed under seal in their names, as of the date first above written.

Witnesses:

DUKE ENERGY CAROLINAS, LLC (SEAL)
a North Carolina limited liability company

By: Ottis W Allen (SEAL)
Name: Ottis W Allen
Title: Mgr LS Regional

Name: _____

Name: _____

STATE OF NORTH CAROLINA
COUNTY OF Cabarrus

The foregoing document was acknowledged before me this 20 day of April 2020 ~~2019~~, by Ottis W. Allen, as Manager LS Regional of **DUKE ENERGY CAROLINAS, LLC**, a North Carolina limited liability company, who is personally known to me or who has produced Drivers License as identification.

Notary Public: _____ My Commission Expires: 11/07/2023

Printed Name: Christopher Lee Branch

[Affix Notary Seal Here]

CHRISTOPHER LEE BRANCH
My Commission Expires
NOTARY PUBLIC
November 7, 2023
CABARRUS COUNTY, NC

IN WITNESS WHEREOF, Duke Energy and Grantee have caused this Agreement to be signed under seal in their names, as of the date first above written.

Michael D. Hales (SEAL)
MICHAEL D. HALES

Glad E. Hales (SEAL)
GLAD E. HALES

Witnesses:

_____

Name: _____

_____

Name: _____

STATE OF NORTH CAROLINA
COUNTY OF _____

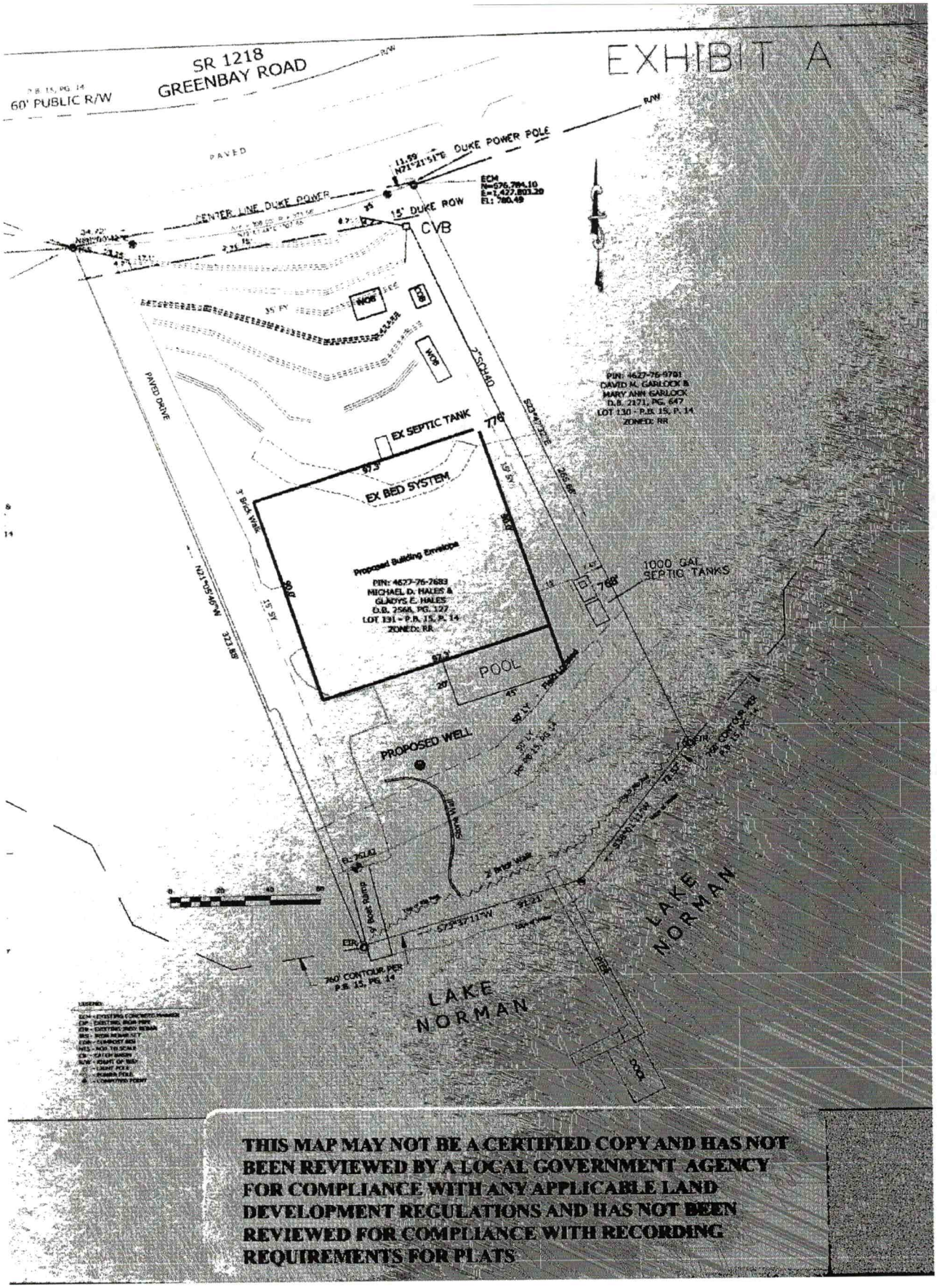
The foregoing document was acknowledged before me this 17TH day of April 2020, by Michael D. Hales & Glad E. Hales as _____ of _____, a _____, who is personally known to me or who has produced _____ as identification.

Notary Public: Miriam Barcenas My Commission Expires: May 25, 2020

Printed Name: Miriam Barcenas *[Affix Notary Seal Here]*

MIRIAM BARCENAS
Official Seal
Notary Public - State of Illinois
My Commission Expires May 25, 2020

Scanned with CamScanner



THIS MAP MAY NOT BE A CERTIFIED COPY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS AND HAS NOT BEEN REVIEWED FOR COMPLIANCE WITH RECORDING REQUIREMENTS FOR PLATS

RECEIVED SEP 2 9 2020

APPLICATION MUST BE FILLED OUT COMPLETELY & BE LEGIBLE OR IT WILL NOT BE PROCESSED

AP-302011

Iredell County Health Department – Environmental Health Division

PAGE 1: *APPLICATION FORM*

Application For: (X) New Well Permit ( ) Well Repair Permit ( ) Well Abandonment
( ) Septic Improvement Permit (X) Authorization to Construct ( ) Existing System Inspection ( ) Septic System Repair

THE ABOVE PERMIT DOCUMENTS WILL BECOME INVALID IF INFORMATION PROVIDED ON THIS APPLICATION IS FALSIFIED OR CHANGED, OR IF THE SITE IS ALTERED. THE IMPROVEMENT PERMIT IS VALID FOR EITHER 60 MONTHS OR WITHOUT EXPIRATION DEPENDING UPON DOCUMENTATION SUBMITTED. APPLICATION WITH SITE PLAN 60 MONTHS, APPLICATION WITH COMPLETE, SCALED PLAT WITHOUT EXPIRATION. SEE 15A NCAC 18A .1937(f) FOR DETAILS.

Page 2: *Site Plan Worksheet* form MUST accompany this application

The following optional attachments may also be submitted: ( ) Survey Plat, scaled no more than 1 inch = 60 feet
Place an (X) beside whichever is submitted if applicable (X) Custom Site Plan, scaled no more than 1 inch = 60 feet

Applicant Information: (PRINT CLEARLY)

Applicant Name: Brian McManus/Spivey Construction **Address:** PO Box 4268 Mooresville NC **Zip:** 28117

Applicant Email: brian@spiveyinc.com **Phone:** 704-746-4709 **Alt. Phone:**

Owner Name: Mike & Glad Hales **Address:** 306 Greenbay Rd Mooresville NC **Zip:** 28117

Owner Email: mike.hales@atkearney.com **Phone:** 312-420-0919 **Alt. Phone:**

Property Information:

Street Address: 306 Greenbay Rd, Mooresville NC 28117

Subdivision Name: **Section/Phase:** **Lot Number:**

Driving Directions: West on Highway 150. Left onto Paradise Peninsula Rd. Left on Greenbay Rd. Property on right (lake side)

Site Development Information: *(check or complete ALL that apply*

CHECK FOUNDATION TYPE

(X) New Single Family Residence
( ) New Multi-Family Residence
( ) Accessory Building
( ) Bedroom(s) Addition
( ) Repair to failing septic system ___ Tank ___ Drain lines Describe Problem:

Maximum Number of Bedrooms: 4
Maximum Number of Occupants: 8
(X) Swimming Pool
( ) Other Addition/Structure:

( ) Crawl Space Foundation
( ) Concrete Slab Foundation
(X) Basement with Plumbing
( ) Basement without Plumbing

Non-Residential Site Development: Type of Business:
Square Footage of Building: Max. Number of Employees: Max. Number of Seats/Beds/Other:

Water Supply: ( ) Replacement Well – Reason:
( ) Multi-connection Well Number of Houses: 1 Number of Persons: 8

(X) New Well ( ) Existing Well ( ) Community Well ( ) City Water ( ) Other Public Water

Desired Septic System Type: *(you may rank in order of preference)* Year existing system installed:
( ) No Preference ( ) Alternative ( ) Conventional ( ) Innovative ( ) Modified Conventional ( ) Other:

Please answer the following to the best of your ability:

( ) Yes (X) No Does the site contain any jurisdictional wetlands?
( ) Yes (X) No Is any non-domestic sewage (i.e. industrial) to be generated?
( ) Yes (X) No Is the site subject to approval by any other public agency?

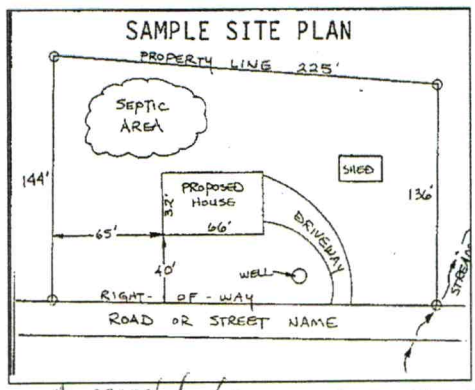
I have read this application and certify that the information provided herein is true, complete, and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed.

Signature: 9.29.2020

Property owner or owner's legal representative signature (SIGNATURE REQUIRED) DATE

IREDELL COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
PAGE 2: *SITE PLAN WORKSHEET*

SEE THE "SAMPLE SITE PLAN" BELOW. *INCOMPLETE SITE PLANS WILL BE RETURNED TO YOU FOR COMPLETION AND MAY RESULT IN A DELAY IN THE ISSUANCE OF YOUR SEPTIC SYSTEM PERMIT!!!*



Place an (X) beside each item as you complete the site plan:

- (X) Property Line measurements are clearly identified
- (X) All proposed structures are indicated
- (X) Front and side setbacks from property line
- (X) Preferred driveway location and well location
- (X) Area you prefer your septic system to be placed
- (X) North arrow, or other sufficient indicator of direction

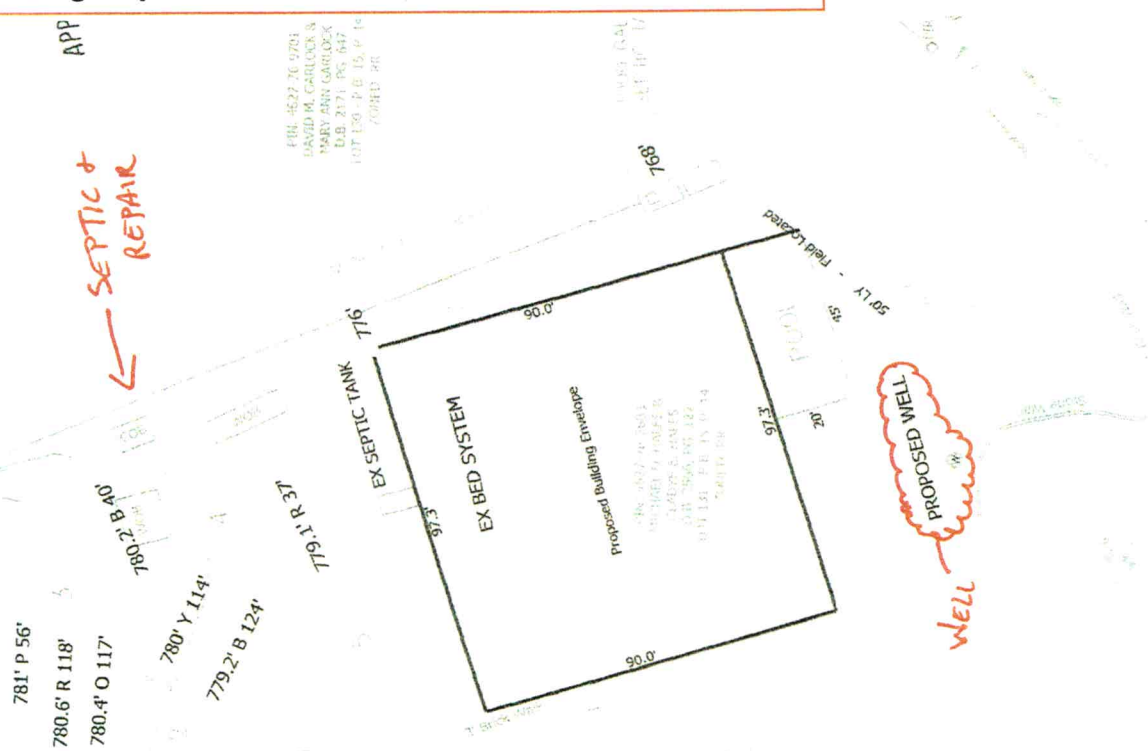
Circle N/A on the following if appropriate:

- Location of septic systems and wells within 100' of your property ~~N/A~~
- ✓ Location of easements and rights of ways on your property ~~N/A~~ - duke easement recorded during improvement permit
- Location of any designated wetlands on the property ~~N/A~~

USE THIS SPACE TO DRAW YOUR SITE PLAN

Show: proposed house or business footprint, wells, water lines, patios, pools and decks, and any other item that will occupy space on the site

See septic design by Wendell Overby on improvement permit



Signature: _____ 9.29.2020

Property owner or owner's legal representative signature (SIGNATURE REQUIRED) — DATE

Public Health

Public Health

IREDELL COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH

DOCUMENTATION TO AUTHORIZE AN OWNER'S LEGAL REPRESENTATIVE

Applications for permits require the "signature of the owner or owner's legal representative" (15A NCAC 18A .1937). If the owner does not sign the application himself or herself, they can submit any one of the following documents to designate their legal representative:

Power of Attorney, Real Estate Contract, Estate executor, Bankruptcy trustee, Court ordered guardianship

In the absence of the above documentation, the property owner may provide the local health department with documentation that designates a legal representative. A property owner may:

Complete this form to document his or her legal representative, or provide his or her own form that contains the information in this form.

If there are multiple property owners, then all property owners must sign the form that designates a legal representative.

By signing a form that designates a legal representative for purposes of 15A NCAC 18A .1937, the property owner authorizes that representative to act on their behalf in matters pertaining to the application and permitting process, including signing or receiving any application, document or permit. The owner retains full responsibility to meet all permit conditions specified by the local health department.

I, Glad Hales, am the legal owner(s) of the property located at 306 Greenbay Rd, Mooresville NC 28117, identified as
PIN (Parcel Identification Number) 4627767683, located in Iredell County, North Carolina.

I do hereby authorize **(print legal representative/company name)** Brian McManus/Renee Spivey/Willis Spivey, Spivey Construction Company, Inc, to act as an agent on my behalf in applying for/signing/obtaining any of the documents described below.

- Application for Improvement Permit (IP) / Authorization to Construct (AC)
- Improvement Permit (IP) / Authorization to Construct (AC)
- Application for soil site evaluation (new/repair)
- Application/permit for private drinking water well/well abandonment
- Application for Compliance Inspection

I agree to abide by all decisions and/or conditions between the legal representative acting on my behalf and the Iredell County Department of Public Health, Environmental Health Division.

Mark Hales 10/15/17

Signature of Owner(s) Date

Date

Signature of Witness

Please return this signed form to the appropriate office:

Mooresville - Environmental Health

[illegible]@co.iredell.nc.us

Fax: 704-662-3239

610 E. Center Avenue, Mooresville, NC 28115

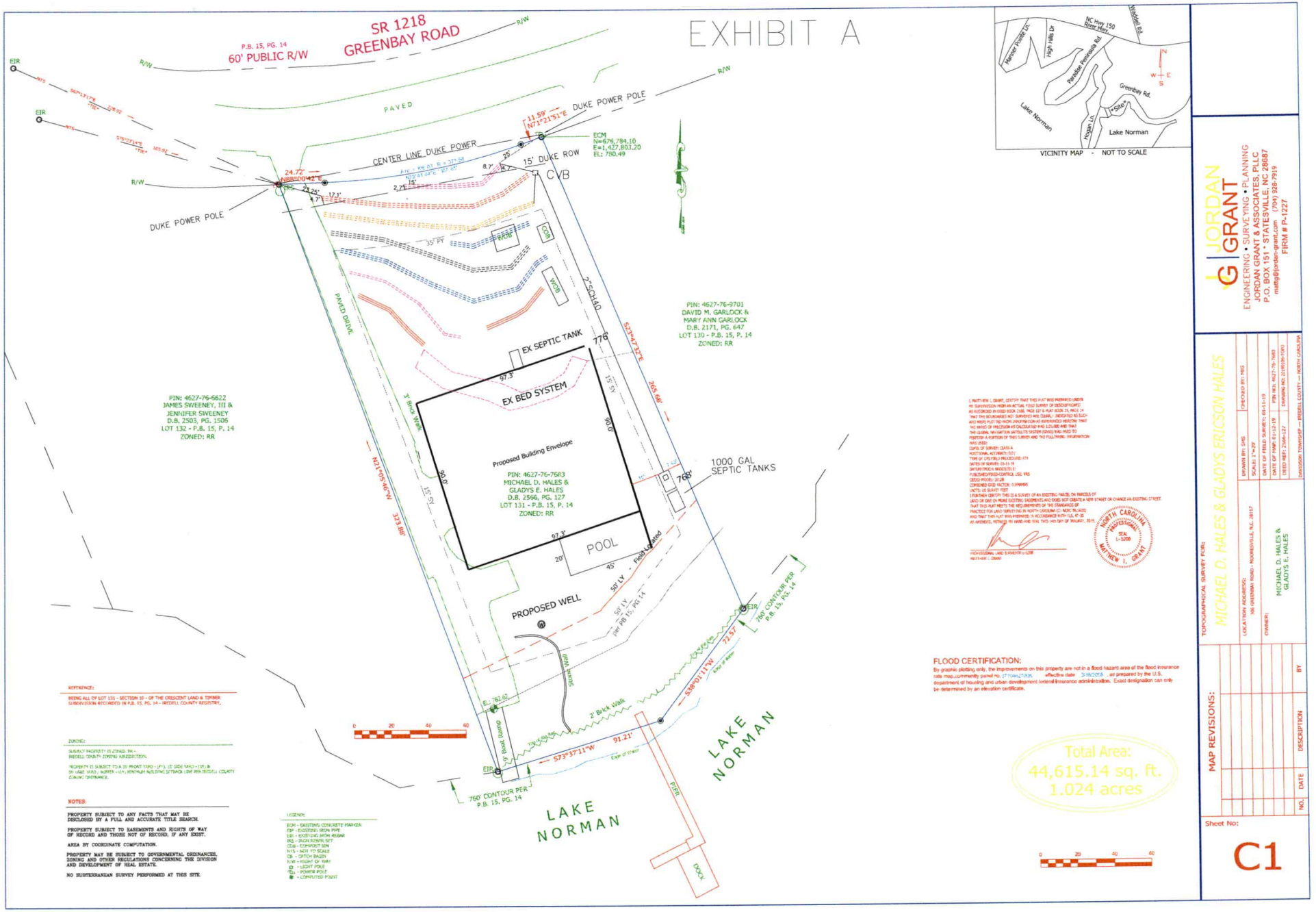
Statesville - Environmental Health

adrienne.sheats@co.iredell.nc.us

Fax: 704-871-3483

349 N. Center Street, Statesville, NC 28677

EXHIBIT A



VICINITY MAP - NOT TO SCALE

REFERENCE:

BEING ALL OF LOT 131 - SECTION 10 - OF THE CRESCENT LAND & TIMBER SUBDIVISION RECORDED IN P.B. 15, PG. 14 - IREDELL COUNTY REGISTRY.

ZONING:

SUBJECT PROPERTY IS ZONED: RR - IREDELL COUNTY ZONING JURISDICTION.

PROPERTY IS SUBJECT TO A 35' FRONT YARD - (FY), 15' SIDE YARD - (SY) & 35' REAR YARD - BUFFER - (RY), MINIMUM BUILDING SETBACK LINE PER IREDELL COUNTY ZONING ORDINANCE.

NOTES:

PROPERTY SUBJECT TO ANY FACTS THAT MAY BE DISCLOSED BY A FULL AND ACCURATE TITLE SEARCH.

PROPERTY SUBJECT TO EASEMENTS AND RIGHTS OF WAY OF RECORD AND THOSE NOT OF RECORD, IF ANY EXIST.

AREA BY COORDINATE COMPUTATION.

PROPERTY MAY BE SUBJECT TO GOVERNMENTAL ORDINANCES, ZONING AND OTHER REGULATIONS CONCERNING THE DIVISION AND DEVELOPMENT OF REAL ESTATE.

NO SUBTERRANEAN SURVEY PERFORMED AT THIS SITE.

LEGEND:

ECM - EXISTING CONCRETE MARKER
CIP - EXISTING IRON PIPE
EIR - EXISTING IRON REBAR
PKS - PK NAIL SET
CCM - COMPOST BIN
NTS - NOT TO SCALE
CB - CATCH BASIN
R/W = RIGHT OF WAY
- LIGHT POLE
- POWER POLE
- COMPUTED POINT

I, MATTHEW I. GRANT, CERTIFY THAT THIS PLAT WAS PREPARED UNDER MY SUPERVISION FROM AN ACTUAL FIELD SURVEY OF DESCRIPTIONS AS RECORDED IN DEED BOOK 2566, PAGE 127 & PLAT BOOK 15, PAGE 14 THAT THIS BOUNDARIES NO SURVEYED ARE CLEARLY INDICATED AS SUCH AND WERE PLOTTED FROM INFORMATION AS REFERENCED HEREON; THAT THE RATIO OF PRECISION AS CALCULATED WAS 1:25,000 AND THAT THE GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) WAS USED TO PERFORM A PORTION OF THIS SURVEY AND THE FOLLOWING INFORMATION WAS USED:

CLASS OF SURVEY: CLASS A
POSITIONAL ACCURACY: 0.07
TYPE OF GPS FIELD PROCEDURE: RTK
DATES OF SURVEY: 03-11-19
DATUM/EPOCH: NAD83(2011)
PUBLISHED/FIXED CONTROL USE: VRS
GEOID MODEL: 12GA
COMBINED GRID FACTOR: 0.999895
UNITS: US SURVEY FEET

I FURTHER CERTIFY THIS IS A SURVEY OF AN EXISTING PARCEL OR PARCELS OF LAND OR ONE OR MORE EXISTING EASEMENTS AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET. THAT THIS PLAT MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56.1600) AND THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED. WITNESS MY HAND AND SEAL THIS 14th DAY OF JANUARY, 2019.

PROFESSIONAL LAND SURVEYOR L-3208
MATTHEW I. GRANT

NORTH CAROLINA PROFESSIONAL SEAL L-3208 MATTHEW I. GRANT

FLOOD CERTIFICATION:

By graphic plotting only, the improvements on this property are not in a flood hazard area of the flood insurance rate map,community panel no. 3710461270K effective date 3/16/2009 , as prepared by the U.S. department of housing and urban development,federal insurance administration. Exact designation can only be determined by an elevation certificate.

Total Area:
44,615.14 sq. ft.
1.024 acres

JORDAN GRANT
ENGINEERING • SURVEYING • PLANNING
JORDAN GRANT & ASSOCIATES, PLLC
P.O. BOX 151 - STATESVILLE, NC 28687
matt@jordangrant.com (704) 528-7919
FIRM # P-1227

TOPOGRAPHICAL SURVEY FOR:
MICHAEL D. HALES & GLADYS ERICSON HALES

LOCATION ADDRESS(S): 106 GREENBAY ROAD - MOORESVILLE, N.C. 28117
OWNER(S): MICHAEL D. HALES & GLADYS E. HALES

DRAWN BY: SMS | CHECKED BY: MIG
SCALE: 1"=20'
DATE OF FIELD SURVEY: 03-11-19
DATE OF MAP: 03-12-19 | PIN NO.: 4627-76-7683
DEED REF.: 2566-127 | DRAWING NO.: 2019036-TOPO
DAVIDSON TOWNSHIP — IREDELL COUNTY — NORTH CAROLINA

MAP REVISIONS:

NO.	DATE	DESCRIPTION	BY

Sheet No:
C1