IREDELL COUNTY HEALTH DEPARTMENT

Statesville Office (704) 878-5305 | Mooresville Office (704) 660-3625 | PERMIT # 228240

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

PIN # 4615896240

APPLICANT/OWNER: Paul Crandall | APPLICANT ADDRESS: 415 Barber Loop

SITE ADDRESS: 415 Barber Loop Mooresville, NC | PHONE: 704-609-5257 | ALT. PHONE —

SITE DIRECTIONS: Brawley School Rd → R on Chuckwood → L on Barber Loop → lot on L | SAP CONTROLLED: initial ☑ YES ☑ NO repair

SUBDIVISION: CLT | SECTION: 7 | LOT # 102 | LOT AREA: .72 ac | DESIGN FLOW: 360 gpd | L.T.A.R.: .35

Septic Tank	1000	(gal)	STB 794	Date	12-26-17	☑ New System	☐ Repair	☐ Expansion	System Type: I II III IV V VI	☑ Residence	No. Bedrooms 3	Water Supply
Pump Tank	1000	(gal)	PT 283	Date	12-18-17	System Description: LP PPBPS				☐ Business	No. Persons 6	☑ Private
Pump Make	Liberty	Model	290	Serial #		Repair System Description: LP PPBPS				☐ Other	No. Employees	☐ Public
# Nitrification Fields	1	# Lines	5	Linear Ft	191'	Maintenance Agreement Required:	☑ YES	☐ NO		☐ Slab	☑ Crawl Space	☐ Community
Trench Width	24"	Trench Bottom Depth(Low side)	32"/36" high side	Gravel Depth	—		☐ GRAVITY	☑ PRESSURE		☐ Basement w/plumbing		☐ Basement w/o plumbing

Comments / Conditions: 3-16-18 drainlines cheaked by KW
1-26-18 Tanks cheaked by KW

4/29/2020 Cheaked pressure; elect. & alarm. MD

INITIAL SITE SKETCH

See attached site plan by Rollans Soil + Environmental Services

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.*

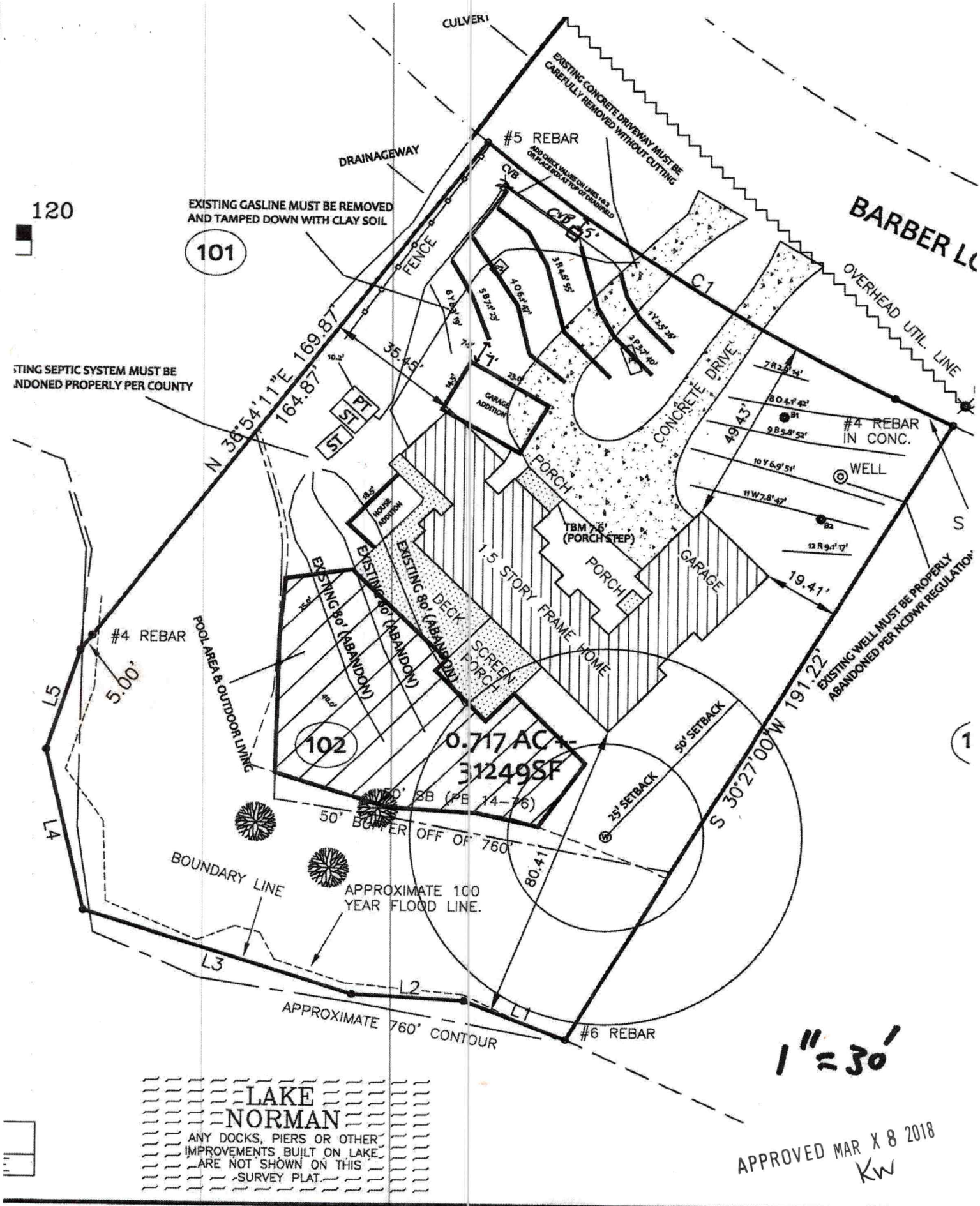
Owner / Applicant Signature: J. Crandall | Date: 3/8/18 | Installed by: Abernathy

IMPROVEMENT PERMIT by: Kayla Watson | Date: 3-8-18 | OPERATION PERMIT by: Marian Dobson | Date: 7/1/2020

AUTHORIZATION TO CONSTRUCT by: Kayla Watson | Date: 3-8-18 | 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.

	Date	Initials
Drain Lines Checked	3-16-18	KW
Tanks Checked	1-26-18	KW
Pressure Manifold or Valve Box Checked	4/29/20	MD
Pressure Head Set		
Electrical Checked		
Floats Set		
Alarm Checked		
Maintenance Contract Y / N	7/1/20	MD
Comments:		


CULVERT
EXISTING CONCRETE DRIVEWAY MUST BE CAREFULLY REMOVED WITHOUT CUTTING
#5 REBAR
DRAINAGEWAY
120
EXISTING GASLINE MUST BE REMOVED AND TAMPED DOWN WITH CLAY SOIL
101
FENCE
BARBER LC
OVERHEAD UTIL. LINE
C1
CONCRETE DRIVE
N 38°54'11"E 164.87'
35.4'
ST
PT
ST
GARAGE ADDITION
PORCH
HOUSE ADDITION
EXISTING 80' (ABANDON)
EXISTING 80' (ABANDON)
EXISTING 80' (ABANDON)
DECK
SCREEN PORCH
1.5 STORY FRAME HOME
TBM 7.6' (PORCH STEP)
PORCH
GARAGE
49.43'
#4 REBAR IN CONC.
WELL
19.41'
S 30°27'00"W 191.22'
EXISTING WELL MUST BE PROPERLY ABANDONED PER NCDWR REGULATION
#4 REBAR
5.00'
L5
L4
POOL AREA & OUTDOOR LIVING
102
0.717 AC +-
31249SF
50' BUFFER OFF OF 760'
50' SETBACK
25' SETBACK
80.41
BOUNDARY LINE
APPROXIMATE 100 YEAR FLOOD LINE.
L3
L2
L1
APPROXIMATE 760' CONTOUR
#6 REBAR
1" = 30'
LAKE NORMAN
ANY DOCKS, PIERS OR OTHER IMPROVEMENTS BUILT ON LAKE ARE NOT SHOWN ON THIS SURVEY PLAT.
APPROVED MAR X 8 2018
KW

LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant:	Paul Crandle
Current Address:	415 Barber Loop Mooresville, NC 28115
Phone:	704.609.5257
County:	Iredell
Location:	415 Barber Loop

Source of Wastewater Flow:	3 Bedroom Single Family Residence
Estimated Gallons Per Day Flow:	360 gpd
System Flow:	18.04

Design Specifications

Drainfield Size:	191
Loading Rate (gpd/ft.^{2}):	0.35
Depth of Gravel in Trench:	NA (PPBPS)
Gravel Size:	NA (PPBPS)
Trench Depth:	36 in., Repair 30 in. Trench Depth
Trench Width:	24 in.
Septic Tank Size:	1000
Pump Tank Size:	1000
Estimated Supply Line Length:	70
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	12.18
Dosing Volume:	103.72
Supply Manifold:	N/A
Supply Manifold Length:	N/A
Supply Manifold Volume:	N/A
Recommended Float Controls:	SJE Sensor Float Control Switches as Required for Control Panel or County Approved Equivalents
Recommended Control Panel:	SJE-Rhombus Model 112 (NEMA 4x) Control Panel or County Approved Control Panel.
Pressure Head:	2 ft.
Friction Head:	0.89
Elevation Head:	13.00
Total Dynamic Head:	18.27
Threaded Union:	In Tank
Gate Valves:	1 in Tank 1 per lateral
Check Valves:	In Tank
Anti-Siphon Hole:	NA
Additional Comments:	Soil suitability was performed by Rollans Soil & Environmental Services

APPROVED MAR 8 2018
KW

415 Barber Loop
LP PPBPS

DESIGN FLOW (gpd):	360
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.35
TOTAL AREA TRENCH BOTTOM:	382
TOTAL LATERAL LENGTH:	191
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	171.4285714
SUPPLY LINE LENGTH:	70
TOTAL DYNAMIC HEAD:	18.27
MANIFOLD SIZE:	N/A
DOSING VOLUME:	103.72
PUMP TANK DRAW DOWN*:	4.9
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	1000

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

APPROVED MAR X 8 2018
KW

415 BARBER LOOP

Project #: 01-3201

LAYOUT FOR 3 BEDROOM HOME

February 26, 2018

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		7.9	107.9		100.00		
INSTR. 1							
HOUSE CNR				7.90	99.70		
P. TANK				10.20	97.40		
1	***YELLOW***			***2.50***	***105.40***	***28***	***26***
2	***PINK***			***3.70***	***104.20***	***42***	***40***
3	***RED***			***4.60***	***103.30***	***60***	***55***
4	***ORANGE***			***6.10***	***101.80***	***47***	***47***
5	***BLUE***			***7.10***	***100.80***	***27***	***23***
6	YELLOW			8.30	99.60	19	19
TBM		7.6	107.6		100.00		
INSTR. 1							
HOUSE CNR				7.60	100.00		
P. TANK				15.00	92.60		
7	RED			2.90	104.70	14	14
8	ORANGE			4.10	103.50	42	42
9	BLUE			5.80	101.80	52	52
10	YELLOW			6.90	100.70	51	51
11	WHITE			7.80	99.80	47	47
12	RED			9.10	98.50	17	17
					Total	**418**	**407**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
** System*	*191*	*0.350*	*MOD.*	*0.35-0.4*	***PPBPS***	**LOW PRESSURE**
Repair	*242*	*0.300*	*MOD.*	*0.3-0.325*	***PPBPS***	**LOW PRESSURE**

Notes:

****Septic Lines located by Licensed Surveyor.**
**All measures in feet
**Nitrification lines are demonstrated on contour via colored pin flags

APPROVED MAR X 8 2018
KW

LP PPBPS TAPSHEET -415 BARBER LOOP

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	Number of Panels
1	*YELLOW*	*105.4*	*26*	*0.156*	*0.41*	*52*	*6*
2	*PINK*	*104.2*	*40*	*0.156*	*0.41*	*80*	*9*
3	*RED*	*103.3*	*55*	*0.156*	*0.41*	*110*	*13*
4	*ORANGE*	*101.8*	*47*	*0.156*	*0.41*	*94*	*11*
5	*BLUE*	*100.8*	*23*	*0.156*	*0.41*	*46*	*5*
	total	feet =	191	gal/min =	18.04		44

Des. Flow	360
Pump Run=	5.88
soil LTAR	0.35
LTAR +5%	0.3675
LTAR with mod.	0.7
LTAR with mod.. + 5%	0.735

.156 equals 5/32 inch hole

APPROVED MAR X 8 2018
KW

CALCULATIONS

Location 415 Barber Loop

Project Number 01-3201

Lot No: 102 CL&T

No. of Bedrooms 3

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

LTAR 0.35 $^{gal}/_{ft^2\,day}$

PPBPS? (YES OR NO) YES

Supply Line Length 70 ft.

Supply Line Volume 12.18 gal.

Required Feet of Line 171.4286 ft.
Amount of Line from Layout 191 ft.

Gallons per Minute 18.04 $^{gal}/_{min}$

Required Septic Tank Capacity 1000 gal.
Pump Tank Capacity 1000 gal.

Panel Volume 3.6 gal.
# of Panels 43
Dosing Volume 103.72 gal.

Note: Dosing Volume based on 67% of # of panels times 3.6 gal/panel

Tank Draw Down 4.9 *Generic Draw Down of 21 gal.per in.*

Pump Run Time 5.75 minutes

Elevation Head 13 ft.
Pressure Head 2 ft.
Friction Factor 1.27 ft./100 ft. *(From the interpolater.)*
Friction Head 0.89 ft.

Total Dynamic Head (+15%) 18.27 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

APPROVED MAR X 8 2018
KW

RECEIVED FEB 2 7 2018

IREDELL COUNTY DEPARTMENT of ENVIRONMENTAL HEALTH

APPLICATION FORM Int. Relayout - Paid $225.00

Application For: ( ) New Well Permit ( ) Well Repair Permit ( ) Well Abandonment
(✓) Septic Improvement Permit (✓) 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 #228240

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 ( ) Custom Site Plan, scaled no more than 1 inch = 60 feet

****

Applicant Information: **(PRINT CLEARLY)**

Applicant Name: Paul Crandall **Address:** 415 Bater Loop Mooresville NC **Zip:** 28117

Applicant Email: _____ **Phone:** 704-609-5257 **Alt. Phone:** _____

Owner Name: Same **Address:** Same **Zip:** _____

Owner Email: _____ **Phone:** _____ **Alt. Phone:** _____

****

Property Information:

Street Address: 415 Bater Loop Mooresville NC 28117

Subdivision Name: CLET **Section/Phase:** 7 **Lot Number:** 102

Driving Directions: Brawley, Rt on Chuckwood, Lt on Bater Loop, Lot on Left

****

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

( ) 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: 3
Maximum Number of Occupants: 6
(✓) Swimming Pool (future)
(✓) Other Addition/Structure: Garage/House Addition

CHECK FOUNDATION TYPE
(✓) Crawl Space Foundation
( ) Concrete Slab Foundation
( ) 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:** _____ **Number of Persons:** _____

( ) 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 (✓) No **Does the site contain any jurisdictional wetlands?**
( ) Yes (✓) No **Is any non-domestic sewage (i.e. industrial) to be generated?**
( ) Yes (✓) 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: _____ 2/26/18
Property owner or owner's legal representative signature (SIGNATURE REQUIRED) **DATE**

IMPROVEMENTS SHOWN ON
NOT BE SCALED OR RELIED
OR CONSTRUCTION WITHOUT
N OF ALL DIMENSIONS.

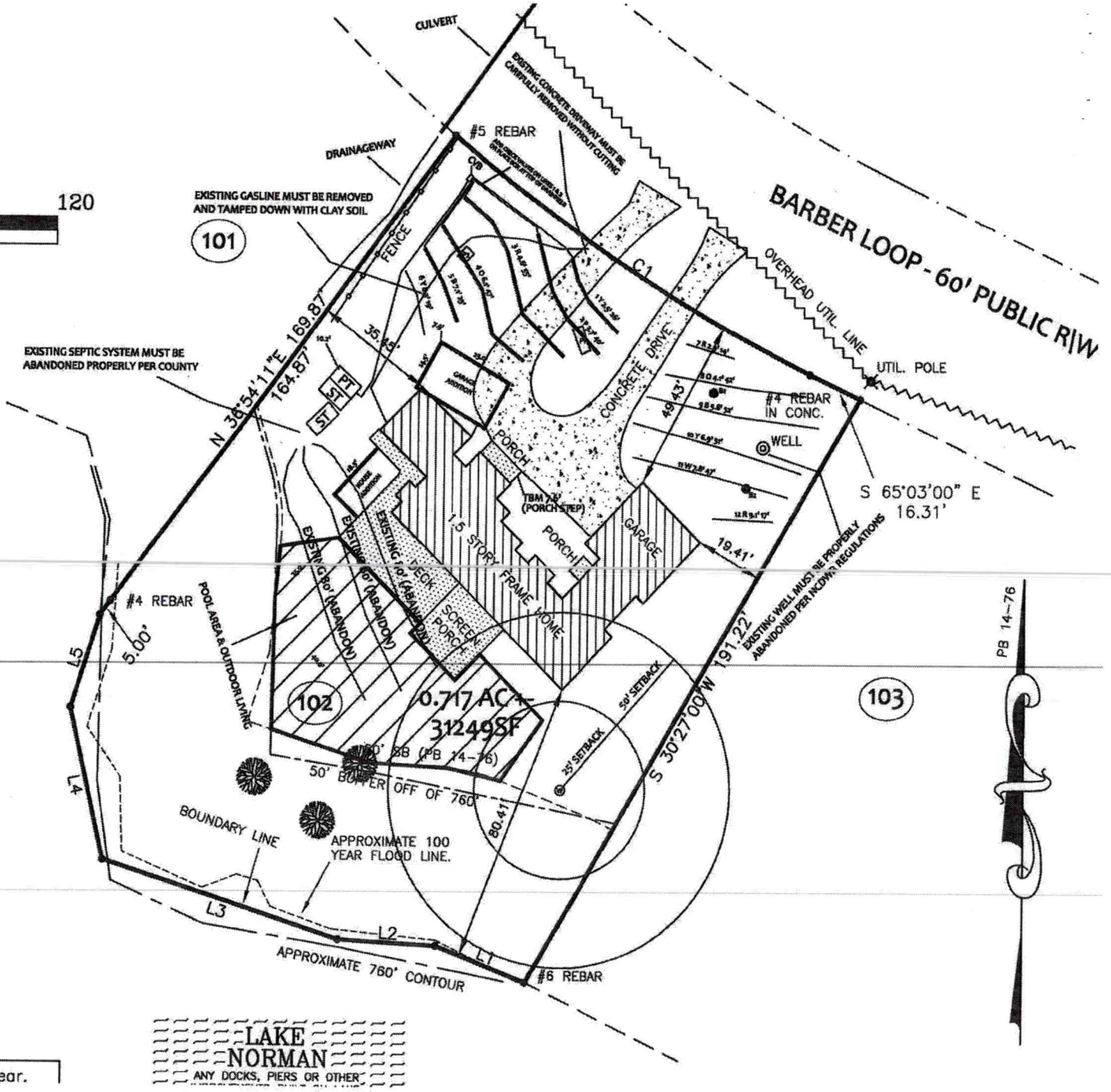
THIS FILE ARE FOR REFERENCE
BE USED FOR DESIGN WORK.

E RESIDENTIAL STRUCTURE
100 YEAR FLOOD PLAIN.
PROPERTY IS LOCATED IN A
LAIN.

0 40 80 120

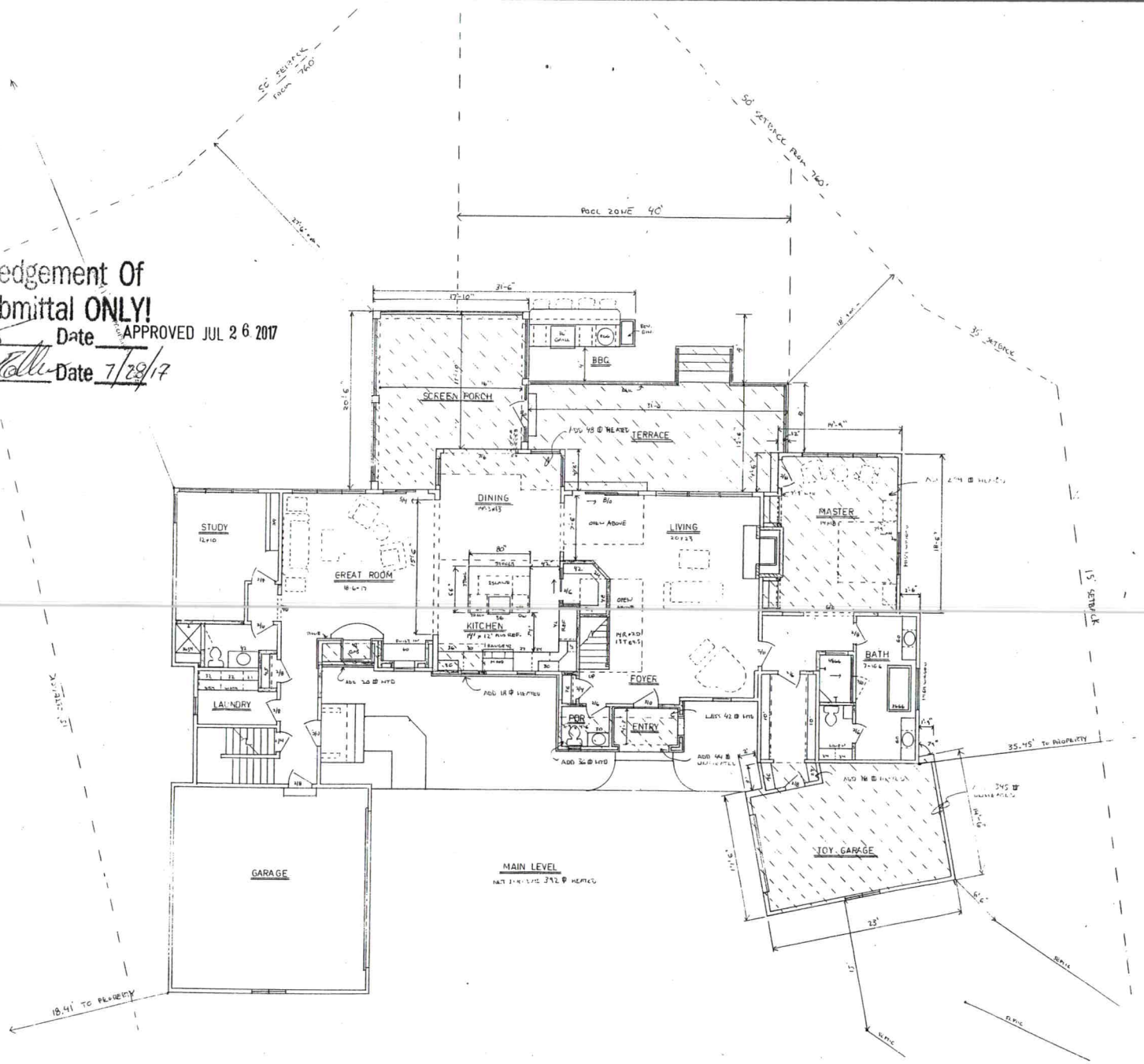
ALE – FEET

APPROVED MAR X 8 2018
KW



Bearing	Distance
68°42'00" W	27.95'
86°57'00" W	28.64'
72°28'00" W	72.06'
13°05'00" W	43.75'
17°53'00" E	27.51'

us	Length	Chord	Chord Bear.



Acknowledgement Of
Plans Submittal ONLY!

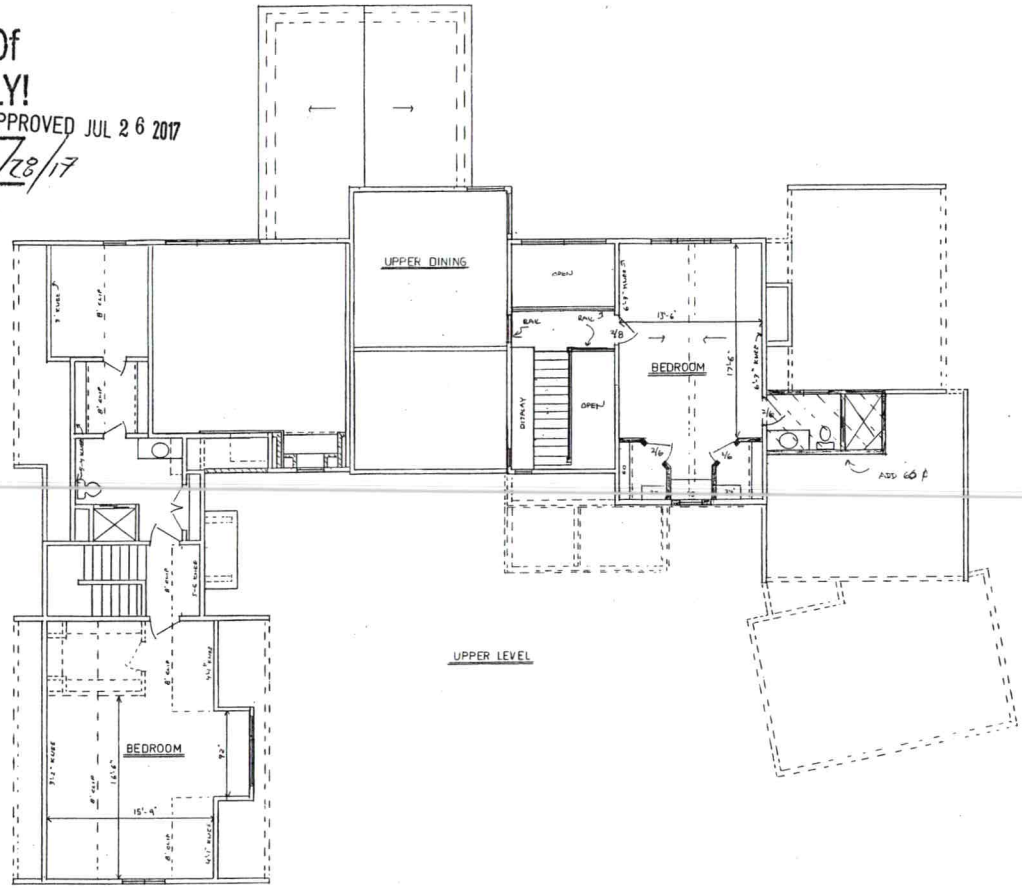
Date APPROVED JUL 2 6 2017

Date 7/28/17

Acknowledgement Of
Plans Submittal ONLY!

Date APPROVED JUL 2 6 2017

Date 7/28/17



UPPER LEVEL

WELL ABANDONMENT RECORD

1. Well Contractor Information:

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

4274
NC Well Contractor Certification Number

Mid-South Well & Pump LLC
Company Name

2. Well Construction Permit #: 226240
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: 9-20-17

5a. Well location:

Paul Crandall
Facility/Owner Name

Facility ID# (if applicable)

415 Barber Ln Mooresville, NC
Physical Address, City, and Zip

Iredell
County

4615-89-6240
Parcel Identification No. (PIN)

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

_____ N _____ 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: 145 (ft.)

6c. Borehole diameter: 6 (in.)

6d. Water level below ground surface: 26 (ft.)

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

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

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

For Internal Use ONLY:

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): 160 (gal.)

FOR WATER SUPPLY WELLS ONLY:

7c. Type of disinfectant used: Granular Chlorine

7d. Amount of disinfectant used: 6 oz

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:

50 Bags

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

Poured Bentonite Chips in well

8. Certification:

_____ 9-21-17
Signature of Certified Well Contractor or Well Owner — 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.

IREDELL COUNTY

PO Box 788
349 North Center St.
Statesville, NC 28677

APPLICATION NUMBER
228240
Issue Date: 06/26/2017

ZONING PERMIT

Residential

Parcel Number	Street Address	Jurisdiction
4615896240.000	415 BARBER LOOP, MOORESVILLE, NC	IREDELL COUNTY

Owner Information	Applicant Information
Owner: WILSON RICHARD D+PATRICIA	Applicant: ROLLANS SOIL & ENVIRON
Address: 651 VIEW POINT RD MOORESVILLE, NC 28741	Address: 470 NORTH BROAD STREET SUITE D MOORESVILLE, NC 28115
Phone:	Phone: 704-658-1723

Use Requested	Zone Code
SFD	RR

Lot Acreage	F Setback	B Setback	L Setback	R Setback	Watershed	Flood Zone
.720	35.00	50.00	15.00	15.00	CACL	AE

Remarks:

The applicant certifies that there are no deed restrictions, contractual agreements or governmental regulations of any kind that interfere with or prohibit the use of the property or the use for which this permit is requested. The applicant further acknowledges that enforcement of deed restrictions, plat conditions and other contractual agreements will not be undertaken by Iredell County and is the sole responsibility of the affected parties.

Applicant: _____ Date: 6/28/17

Permit Number	107316

TOTAL FEES:	$ 77.25