IREDELL COUNTY HEALTH DEPARTMENT

Statesville Office (704) 878-5305 | Mooresville Office (704) 660-3625 | PERMIT # 228083

SEPTIC IMPROVEMENT PERMIT / AUTHORIZATION TO CONSTRUCT / OPERATION PERMIT / EXISTING SYSTEM | PIN # 4614829298

APPLICANT/OWNER: Michael Decker | APPLICANT ADDRESS: 1845 Shoreline Dr. Lexington, NC

SITE ADDRESS: 124 Channel Point Ln. Mooresville, NC 28117 | PHONE: 336-624-9027 | ALT. PHONE ———

SITE DIRECTIONS: Brawley School Rd → R on Tuskarora Trail → L on Syllabub → R on Ballycastle → 1st on R | SAP CONTROLLED: ☑ YES ☐ NO

SUBDIVISION: CL&T | SECTION: 6 | LOT # 343 | LOT AREA: .87ac | DESIGN FLOW: 480gpd | L.T.A.R.: .35

Septic Tank	1000	(gal)	STB 760	Date 5/29	☑ New System	☐ Repair	☐ Expansion	System Type: I II III IV V VI	☑ Residence	No. Bedrooms 4	Water Supply
Pump Tank	1000	(gal)	PT 363.	Date 5/29.	System Description: LP PPBPS				☐ Business	No. Persons 8	☑ Private
Pump Make	Zoeller	Model	152-0005	Serial # 5718	Repair System Description: LP PPBPS				☐ Other	No. Employees ———	☐ Public
# Nitrification Fields	1	# Lines	3	Linear Ft 244'	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: Maintain 100' from any well. *Retaining wall cannot have a foundation drain near tanks. If foundation drain is installed, tanks MUST be relocated.

* Inline Pump* Line 2 the last 12ft has 6in of rise

INITIAL SITE SKETCH

See attached site plan by Rollans Soil & Environmental Services, PA

AS BUILT SKETCH

9-11-18: Needs maintenance contract

	Date	Initials
Drain Lines Checked	9-11-18	KW
Tanks Checked	8/10/18	BB.
Pressure Manifold or Valve Box Checked	9-11-18	KW
Pressure Head Set	9-11-18	KW
Electrical Checked	9-11-18	KW
Floats Set	9-11-18	KW
Alarm Checked	9-11-18	KW
Maintenance Contract (Y) N	12/17	KW
Comments: * Needs Inline Pump Filter. Line 2 - panels not level & tilted		

9-11-18 ✓ — line 2 needs to be checked per Ben

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**

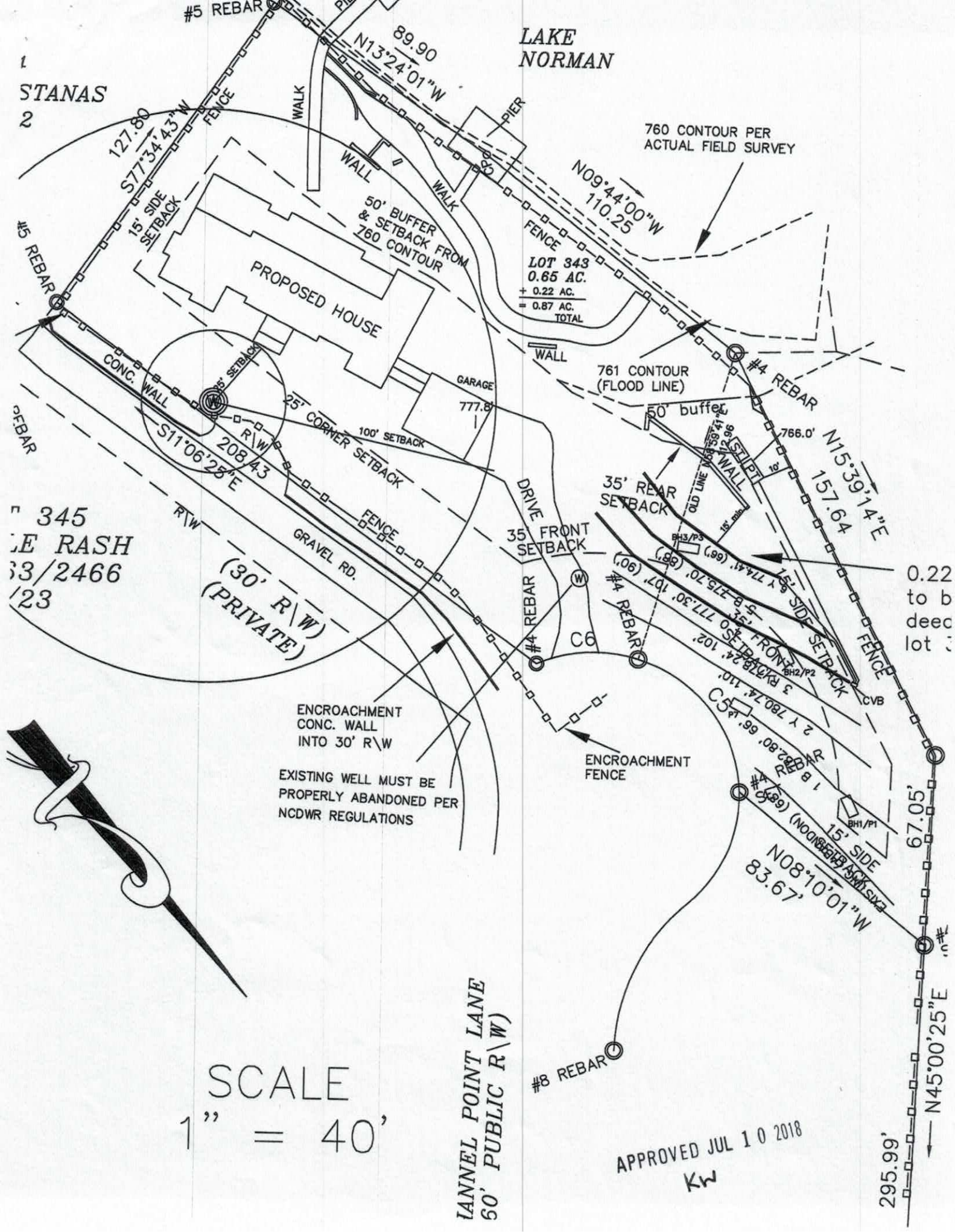
☐ **IMPROVEMENT PERMIT** *with plat valid without expiration.* ☑ **IMPROVEMENT PERMIT** *with site plan valid for 60 mos.* ☑ **AUTHORIZATION TO CONSTRUCT** *valid for period equal to IMPROVEMENT PERMIT--not to exceed 60 mo.*

Owner / Applicant Signature: Michael Decker | Date: 7-10-18 | Installed by: Tommy Frye Grading & Repair

IMPROVEMENT PERMIT by: Kayla Wilson | Date: 7-10-18 | OPERATION PERMIT by: Kayla Wilson | Date: 12-17-18

AUTHORIZATION TO CONSTRUCT by: Kayla Wilson | Date: 7-10-18 | 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 inspector to confirm your inspection time.


LAKE NORMAN
#5 REBAR
89.90
N13°24'01"W
WALK
PIER
760 CONTOUR PER ACTUAL FIELD SURVEY
N09°44'00"W
110.25
FENCE
127.80
S77°34'43"W
15' SIDE SETBACK
50' BUFFER & SETBACK FROM 760 CONTOUR
PROPOSED HOUSE
LOT 343
0.65 AC.
+ 0.22 AC.
= 0.87 AC. TOTAL
WALL
761 CONTOUR (FLOOD LINE)
#4 REBAR
50' buffer
766.0'
N15°39'14"E
157.64
SEPT
WALL
10'
OLD LINE
15' min.
35' REAR SETBACK
35' FRONT SETBACK
DRIVE
GARAGE
777.8'
25' SETBACK
CONC. WALL
25' CORNER SETBACK
100' SETBACK
R\W
208.43
S11°06'25"E
FENCE
GRAVEL RD.
(30' R\W)
(PRIVATE)
345
LE RASH
63/2466
123
#4 REBAR
C6
BH3/P3
15' SIDE SETBACK
BH2/P2
CVB
C5
#4 REBAR
ENCROACHMENT CONC. WALL INTO 30' R\W
ENCROACHMENT FENCE
EXISTING WELL MUST BE PROPERLY ABANDONED PER NCDWR REGULATIONS
BH1/P1
15' SIDE SETBACK
N08°10'01"W
83.67'
67.05'
#8 REBAR
N45°00'25"E
295.99'
SCALE
1" = 40'
CHANNEL POINT LANE
60' PUBLIC R\W)
APPROVED JUL 10 2018
KW

ROLLANS ***Soil & Environmental Services, PA.***
P.O. Box 832, Mooresville, NC 28115 Phone: (704) 746-5046 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 a PPBPS Septic System w/Low Pressure distribution for a 4 bedroom single family residence at 124 Channel Point Lane Mooresville, CL&T Lot # 343 (PIN# 4614920203), Iredell County, North Carolina.

Contents:

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Profile Descriptions	SUBMITTED
Zoning Permit & Receipt	SUBMITTED
Septic Application	8-9
Well Application	SUBMITTED
Agent Authorization	SUBMITTED
Voluntary Relinquishment Form	SUBMITTED
Expedited Review Process Checklist	10
Green Sheet	11
Operations Permit (Existing System)	SUBMITTED



7/3/18

July 3, 2018
Project #: 01-3173
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 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.
- Pumptank riser should be 6" above grade, control panel should be 12" above grade.
- Septic tank riser shall be a minimum of 6" above finished grade.
- System is specified as a PPBPS installation with low pressure distribution.
- Repair is specified as a PPBPS installation with low pressure distribution.
- Backfill 4 - 6" of material (County Approved) over panels, rake trench walls, lime side-walls, install trenches 24" wide and have no more than 1/4" fall in 10 feet.
- **Existing Drainfield to be properly abandoned per Iredell County Requirements**
- **Existing Well to be Abandoned per NCDWR Rules**

LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant:	Michael Decker
Current Address:	1845 Shoreline Drive Lexington, NC 27292
Phone:	336.624.9027
County:	Iredell
Location:	CL&T Lot 343

Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Gallons Per Day Flow:	480 gpd
System Flow:	22.96 gpm

Design Specifications

Drainfield Size:	244
Loading Rate (gpd/ft.^{2}):	0.35
Depth of Gravel in Trench:	NA (PPBPS)
Gravel Size:	NA (PPBPS)
Trench Depth:	36 in., Repair 36 in. Trench Depth
Trench Width:	24 in.
Septic Tank Size:	1000
Pump Tank Size:	1000

Estimated Supply Line Length:	80
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	13.92
Dosing Volume:	135.07
Supply Manifold:	N/A
Supply Manifold Length:	N/A
Supply Manifold Volume:	N/A

Recommended Float Controls:	SJE Sensor Float Control Switches as Required for Control Panel or County Approved Equivalents
Recommended Control Panel:	SJE-Rhombus Model 112 (NEMA 4x) Control Panel or County Approved Control Panel.

Pressure Head:	2 ft.
Friction Head:	1.02
Elevation Head:	16.30
Total Dynamic Head:	22.21

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

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KW

CL&T Lot 343
LP PPBPS

DESIGN FLOW (gpd):	480
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.35
TOTAL AREA TRENCH BOTTOM:	488
TOTAL LATERAL LENGTH:	244
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	228.5714286
SUPPLY LINE LENGTH:	80
TOTAL DYNAMIC HEAD:	22.21
MANIFOLD SIZE:	N/A
DOSING VOLUME:	135.07
PUMP TANK DRAW DOWN*:	6.4
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.*

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124 Channel Point Lane (CL&T LOT 343)

Project #: 01-3173

LAYOUT FOR 4 BEDROOM HOME

July 3, 2018

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM							
INSTR. 1							
HOUSE CNR (RIGHT FRONT GARAGE)					777.80		
P. TANK					766.00		
	EXISTING				ABANDON	68	68
1	BLUE				782.80	66	66
2	YELLOW				780.74	110	90
3	RED				778.24	102	90
4	*ORANGE*				*777.30*	*107*	*90*
5	*BLUE*				*775.70*	*88*	*88*
6	*YELLOW*				*774.41*	*66*	*66*
					Total	**539**	**490**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
** System*	*244*	*0.350*	*MOD.*	*0.350*	*PPBPS*	LOW PRESSURE
Repair	*246*	*0.350*	*MOD.*	*0.350*	*PPBPS*	LOW PRESSURE

Notes:

****All lines and elevations located/established by Licensed Surveyor**
**All measures in feet
**Nitrification lines are demonstrated on contour via colored pin flags

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LP PPBPS TAPSHEET -CL&T Lot 343

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	Number of Panels
4	*ORANGE*	*777.30*	*90*	*0.156*	*0.41*	*180*	*21*
5	*BLUE*	*775.70*	*88*	*0.156*	*0.41*	*176*	*20*
6	*YELLOW*	*774.41*	*66*	*0.156*	*0.41*	*132*	*15*
	total	feet =	244	gal/min =	22.96		56

Des. Flow	480
Pump Run=	5.88
soil LTAR	0.35
LTAR +5%	0.315
LTAR with mod.	0.6
LTAR with mod.. + 5%	0.63

.156 equals 5/32 inch hole

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CALCULATIONS

Location	124 Channel Point Lane	
Project Number	01-3173	
Lot No:	343	
No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.35	$^{gal}/_{ft^2\ day}$
PPBPS? (YES OR NO)	YES	
Supply Line Length	80	ft.
Supply Line Volume	13.92	gal.
Required Feet of Line	228.5714	ft.
Amount of Line from Layout	244	ft.
Gallons per Minute	22.96	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Pump Tank Capacity	1000	gal.
Panel Volume	3.6	gal.
# of Panels	56	
Dosing Volume	135.07	gal.

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

Tank Draw Down	6.4	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	5.88	minutes
Elevation Head	16.3	ft.
Pressure Head	2	ft.
Friction Factor	1.27	ft./100 ft. *(From the interpolater.)*
Friction Head	1.02	ft.
Total Dynamic Head (+15%)	22.21	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

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WELL ABANDONMENT RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

Michael W. Shaw

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

3232

NC Well Contractor Certification Number

ADVANCED Well Drilling LLC

Company Name

2. Well Construction Permit #: 228083

List all applicable well permits (i.e. County, State, Variance, Injection, 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: 8-30-2017

5a. Well location:

Michael Decker — Facility/Owner Name; Facility ID# (if applicable)

124 CHANNEL Point RD

Physical Address, City, and Zip

Iredell — County

4614-92-0203 — Parcel Identification No. (PIN)

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

35° 38.830' N 080° 51.099' 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: 385 (ft.)

6c. Borehole diameter: (in.)

6d. Water level below ground surface: 60 (ft.)

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

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

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

For Internal Use ONLY:

WELL ABANDONMENT DETAILS

7a. Number of wells being abandoned: 1

For multiple injection or non-water supply wells ONLY with the same construction/abandonment, you can submit one form.

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: 1 lbs

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:

3 YARDS

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

8. Certification:

Michael W. Shaw — Signature of Certified Well Contractor or Well Owner

8-30-2017 — 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.