IREDELL COUNTY HEALTH DEPARTMENT

Statesville Office (704) 878-5305 Mooresville Office (704) 660-3625 PERMIT # 223511

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

PIN # 4626787432

APPLICANT/OWNER: Moser Bros. Enterprises APPLICANT ADDRESS: 119 Barber Lp Mooresville, NC

SITE ADDRESS: 364 Beech Tree Rd Mooresville, NC 28117 PHONE: 7046349703 ALT. PHONE

SITE DIRECTIONS: Brawley School Rd TR Blume TL Beechtree lot on right @ King's Cross

SUBDIVISION: Frank Mangum SECTION: — LOT # 11 LOT AREA: 1.33 Acres DESIGN FLOW: 450 gpd SAP CONTROLLED: ☐ YES ☒ NO L.T.A.R.: .3

Septic Tank	1000 (gal)	STB	Infiltrator	Date:		☒ New System	☐ Repair	☐ Expansion	System Type: I II III IV V VI		☒ Residence	No. Bedrooms	4	Water Supply			
Pump Tank	1000 (gal)	PT	Infiltrator	Date:		System Description: LPPPBPS					☐ Business	No. Persons	8	☒ Private			
Pump Make	Liberty	Model	290	Serial #		Repair System Description: LPPPBPS					☐ Other	No. Employees		☐ Public			
# Nitrification Fields	1	# Lines	5	Linear Ft	267	Maintenance Agreement Required:	☒ YES	☐ NO			☐ Slab	☐ Crawl Space		☐ Community			
Trench Width	24"	Trench Bottom Depth(Low side)	30"	Gravel Depth	N/A		☐ GRAVITY	☒ PRESSURE			☒ Basement w/ plumbing			☐ Basement w/o plumbing			

Comments / Conditions: Divert storm/surface water away from Septic.

INITIAL SITE SKETCH

See attached, approved Septic plan by Soil & Forestry Services of the Carolinas, PA (dated 12/6/17)

AS BUILT SKETCH

	Date	Initials
Drain Lines Checked	1-10-18	KW
Tanks Checked	1-10-18	KW
Pressure Manifold or Valve Box Checked		BB
Pressure Head Set		BB
Electrical Checked		
Floats Set		BB
Alarm Checked		BB
Maintenance Contract Y / N		
Comments:	Rec'd 2/8/18 BA - Entered OP	
** not Acm's Waiting on Maintnce Contract		

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**

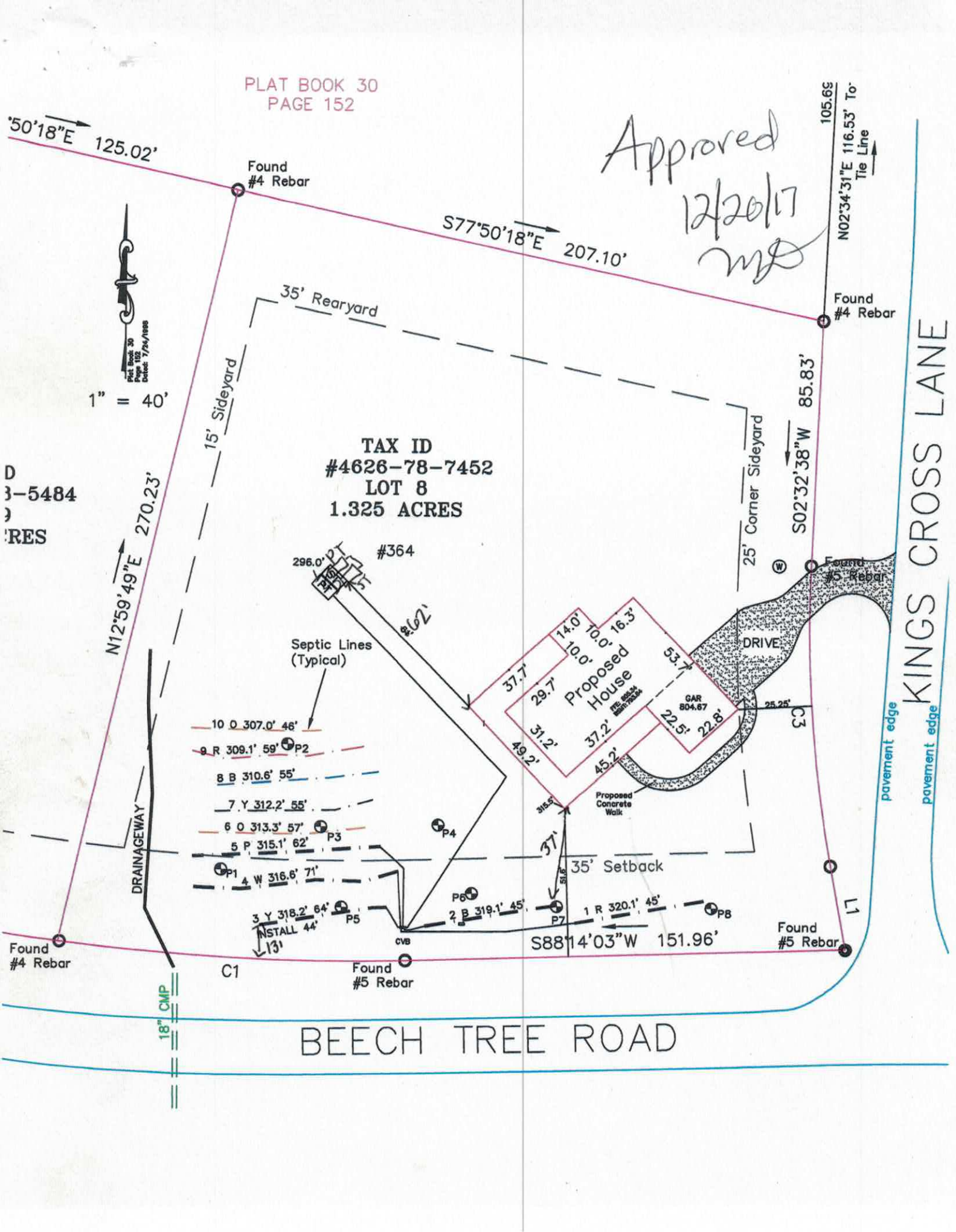
☐ **IMPROVEMENT PERMIT** *with plat valid without expiration.* ☒ **IMPROVEMENT PERMIT** *with site plan valid for 60 mos.* ☒ **AUTHORIZATION TO CONSTRUCT** *valid for period equal to IMPROVEMENT PERMIT--not to exceed 60 mo.*

Owner / Applicant Signature: George B Moser Date: 12/27/17 Installed by: Richard Abernathy

IMPROVEMENT PERMIT by: Maria Dalton Date: 12/20/17 OPERATION PERMIT by: Benjamin Buttrill Date: 2/2/2018

AUTHORIZATION TO CONSTRUCT by: Maria Dalton Date: 12/20/17 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.


PLAT BOOK 30
PAGE 152
Approved
12/20/17
'50'18"E 125.02'
Found
#4 Rebar
S77°50'18"E 207.10'
105.65
N02°34'31"E 116.53' To
Tie Line
Found
#4 Rebar
35' Rearyard
15' Sideyard
1" = 40'
TAX ID
#4626-78-7452
LOT 8
1.325 ACRES
N12°59'49"E 270.23'
25' Corner Sideyard
S02°32'38"W 85.83'
Found
#5 Rebar
KINGS CROSS LANE
#364
296.0'
Septic Lines
(Typical)
DRIVE
Proposed
House
GAR
804.67
Proposed
Concrete
Walk
25.25'
C3
pavement edge
pavement edge
DRAINAGEWAY
10 O 307.0' 46'
9 R 309.1' 59'
8 B 310.6' 55'
7 Y 312.2' 55'
6 O 313.3' 57'
5 P 315.1' 62'
4 W 316.6' 71'
3 Y 318.2' 64'
2 B 319.1' 45'
1 R 320.1' 45'
P1
P2
P3
P4
P5
P6
P7
P8
INSTALL 44'
13'
CVB
35' Setback
S88°14'03"W 151.96'
Found
#4 Rebar
C1
Found
#5 Rebar
Found
#5 Rebar
L1
18" CMP
BEECH TREE ROAD

Soil & Forestry Services of the Carolinas, PA
PO Box 832 Mooresville, NC 281

Attached is a proposed design for a PPBPS Septic System with Low Pressure distribution for a 4 bedroom single family residence on a 1.325 acre parcel 364 Beech Tree Road, Iredell County, North Carolina.

Contents: **Page**

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

Design Information
- Design Specifications---------- 2-3
- Layout Specifications---------- 4
- System Tapsheet---------- 5

Site Plan/System Plan---------- 6
Calculations---------- 7
Septic Application---------- 10-11
Agent Authorization---------- 12
Expedited Review Process Checklist---------- 13
Environmental Health Requirements---------- 14
Zoning Permit & Receipt---------- 15
- Submitted

December 6, 2017
Project #: 01-3090
Design By: Soil& Forestry Services
Owner: Elielson & Kera Mondez 105 North Shore Drive Mooresville, NC 28117
PIN 4626787432 Phone:



12/14/17

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.
- The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original natural grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement.
- Installation of the system shall be during dry conditions in order to protect the soil structure.
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied glue applied to weld all joints.
- Where required by the county health department, post installation inspections by the designer must be scheduled 5 week days in advance.
- Trenches shall be carefully excavated so the bottom is within 2" from the highest to . the lowest points of elevation within the trench. If the bottom elevation needs adjusting after it has been trenched, it will be done by removing high points rather than filling low points. It is extremely important to insure that trenches are not over excavated during initial trenching. All fine grading within the trench will be hand done with a shovel. No loose material will be left in the trench
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral.
- No heavy equipment shall be used on the field during or after installation. The use of a small loader (i.e. Bobcat) or a trencher (i.e. Ditch Witch 2300/2310) may be used for installation.
- Elevations at pinflag locations should be checked by the installer prior to beginning trenches.
- 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.
- Iredell County has approval to move tanks or central valve box

LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Applicant:	Moser Bros. Enterprises
Current Address:	119 Barber Loop Mooresville, NC 28117
Phone:	704.634.9703
County:	Iredell
Location:	364 Beech Tree Road

Approved
12/20/17

Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Gallons Per Day Flow:	480 gpd
System Flow:	24.6

Design Specifications

Drainfield Size:	267
Loading Rate (gpd/ft.^{2}):	0.3
Depth of Gravel in Trench:	NA (PPBPS)
Gravel Size:	NA (PPBPS)
Trench Depth:	30 in., Repair 30 in. Trench Depth
Trench Width:	24 in.
Septic Tank Size:	1000
Pump Tank Size:	1000
Estimated Supply Line Length:	152
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	26.45
Dosing Volume:	144.72
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:	2.71
Elevation Head:	30.00
Total Dynamic Head:	39.91
Threaded Union:	In Tank
Gate Valves:	1 in Tank 1 per lateral
Check Valves:	In Tank
Anti-Siphon Hole:	NA
Additional Comments:	

364 Beech Tree Road
LP PPBPS

DESIGN FLOW (gpd):	480
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.3
TOTAL AREA TRENCH BOTTOM:	534
TOTAL LATERAL LENGTH:	267
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	266.6666667
SUPPLY LINE LENGTH:	152
TOTAL DYNAMIC HEAD:	39.91
MANIFOLD SIZE:	N/A
DOSING VOLUME:	144.72
PUMP TANK DRAW DOWN*:	6.9
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	1000

Approved
12/20/17

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

Approved 12/20/17

364 BEECH TREE ROAD

Project #: 01-3090

LAYOUT FOR 4 BEDROOM HOME

December 6, 2017

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM							
INSTR. 1							
HOUSE CNR					315.50		
P. TANK					296.00		
1	***RED***				***320.10***	***45***	***45***
2	***BLUE***				***319.10***	***45***	***45***
3	***YELLOW***				***318.20***	***64***	***44***
4	***WHITE***				***316.60***	***71***	***71***
5	***PINK***				***315.10***	***62***	***62***
6	ORANGE				313.30	57	57
7	YELLOW				312.20	55	55
8	BLUE				310.60	55	55
9	RED				309.10	59	56
10	ORANGE				307.00	46	44

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
** System*	*267*	*0.300*	*MOD.*	*0.300*	*PPBPS*	LOW PRESSURE
Repair	267	0.300	*MOD.*	0.300	*PPBPS*	LOW PRESSURE

Notes:

****Elevations based on prior survey**

**All measures in feet

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

LP PPBPS TAPSHEET -364 Beech Tree Road

Approved 12/20/17 MD

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	Number of Panels
1	RED	320.10	45	0.156	0.41	90	10
2	BLUE	319.10	45	0.156	0.41	90	10
3	YELLOW	318.20	44	0.156	0.41	88	10
4	WHITE	316.60	71	0.156	0.41	142	16
5	PINK	315.10	62	0.156	0.41	124	14
							60
	total	feet =	267	gal/min =	24.6		

Des. Flow	480
Pump Run=	5.88
soil LTAR	0.3
LTAR +5%	0.315
LTAR with mod.	0.6
LTAR with mod.. + 5%	0.63

.156 equals 5/32 inch hole

CALCULATIONS

Location	264 Beech Tree Road	
Project Number	01-3090	
Lot No:	8	
No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.3	$^{gal}/_{ft^2\ day}$
PPBPS? (YES OR NO)	YES	
Supply Line Length	152	ft.
Supply Line Volume	26.448	gal.
Required Feet of Line	266.6667	ft.
Amount of Line from Layout	267	ft.
Gallons per Minute	24.6	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Pump Tank Capacity	1000	gal.
Panel Volume	3.6	gal.
# of Panels	60	
Dosing Volume	144.72	gal.

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

Tank Draw Down	6.9	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	5.88	minutes
Elevation Head	30	ft.
Pressure Head	2	ft.
Friction Factor	1.78	ft./100 ft. *(From the interpolater.)*
Friction Head	2.71	ft.
Total Dynamic Head (+15%)	39.91	ft.

Approved
12/20/17

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

RECEIVED DEC 15 2017

IREDELL COUNTY HEALTH DEPARTMENT *ENVIRONMENTAL HEALTH DIVISION*

(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)

Paid $225.00

1. APPLICATION FOR: ___ Improvement Permit ✓ Authorization To Construct ___ Existing System Inspection

********* INTERMEDIATE RELAYOUT ✓ #223511

2. 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 check ( ) beside whichever is submitted if applicable ✓ Custom Site Plan, Scaled no more than 1 Inch = 60 Feet

3. Applicant Information:

Applicant Name	Mailing Address	Home Phone #	Alternate Phone #
Moser Bros, Enterprises	119 Barber Loop Mooresville NC 28117		704 634 9703
Owner Name	**Mailing Address**	**Home Phone #**	**Alternate Phone #**
Erie Bon, Kera Monder	105 North Shore dr. Mooresville NC 28117		

4. Property Information:

Street Address	Subdivision Name	Section/Phase and Lot Number
364 Beech Tree Rd M'ville	Frank E Mangum	11

Driving Directions: Brawley School Right on Blume Left on Beech Tree Lot at Intersection of Beech Tree & Kings Xing

5. RESIDENTIAL Site Development Information: *(Check or Complete ALL that apply)*

(✓) New, Single Family Residence
( ) New, Multi-Family Residence
( ) Expansion of Existing Septic System
( ) Repair To Failing Septic System due to _____
( ) Other _____

Maximum Number of Bedrooms 4
Maximum Number of Occupants 8
If Expansion, Current Number of Bedrooms ___

( ) Crawl Space Foundation?
( ) Concrete Slab Foundation?
(✓) Basement w/Plumbing?
( ) Basement w/out Plumbing?

IF Non-Residential Site Development: Type of Business _____
Square Footage of Building _____
Maximum Number of Employees _____
Maximum Number of Seats _____

6. Proposed Water Supply:

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

7. Desired Septic System Type: *(You may rank in order of preference, if any)* ( ) EXISTING SYSTEM installed _____ *Year*

( ) Alternative ( ) Conventional ( ) Innovative (✓) Modified Conventional ( ) Other _____

8. Please Answer The Following ( ) Yes (✓) No Does the site contain any jurisdictional wetlands?
To The Best of Your Ability: ( ) Yes (✓) No Is any non-domestic sewage (i.e. industry) 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.

9. Signature: W Cly 12/6/17

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

AUTHORIZATION TO ACT AS AGENT FOR OWNER

Any application/document/permit requiring a signature must be signed by the property owner or their authorized agent. This form shall be provided by the owner to allow specified individuals to act as agents for the owner. This form allows the specified individuals to sign or receive any application/document/permit on behalf of the owner. This form allows the authorized agent to make decisions on behalf of the owner pertaining to modifications of permits in the field. It is the responsibility of the owner to assure that any/all permit conditions specified on permits issued by this Division are followed.

I, Kera Mowder, am the legal owner of the property located at 364 Beech Tree Rd. Mooresville, identified as PIN(Parcel Identification Number) 4626787432, located in Iredell County, North Carolina.

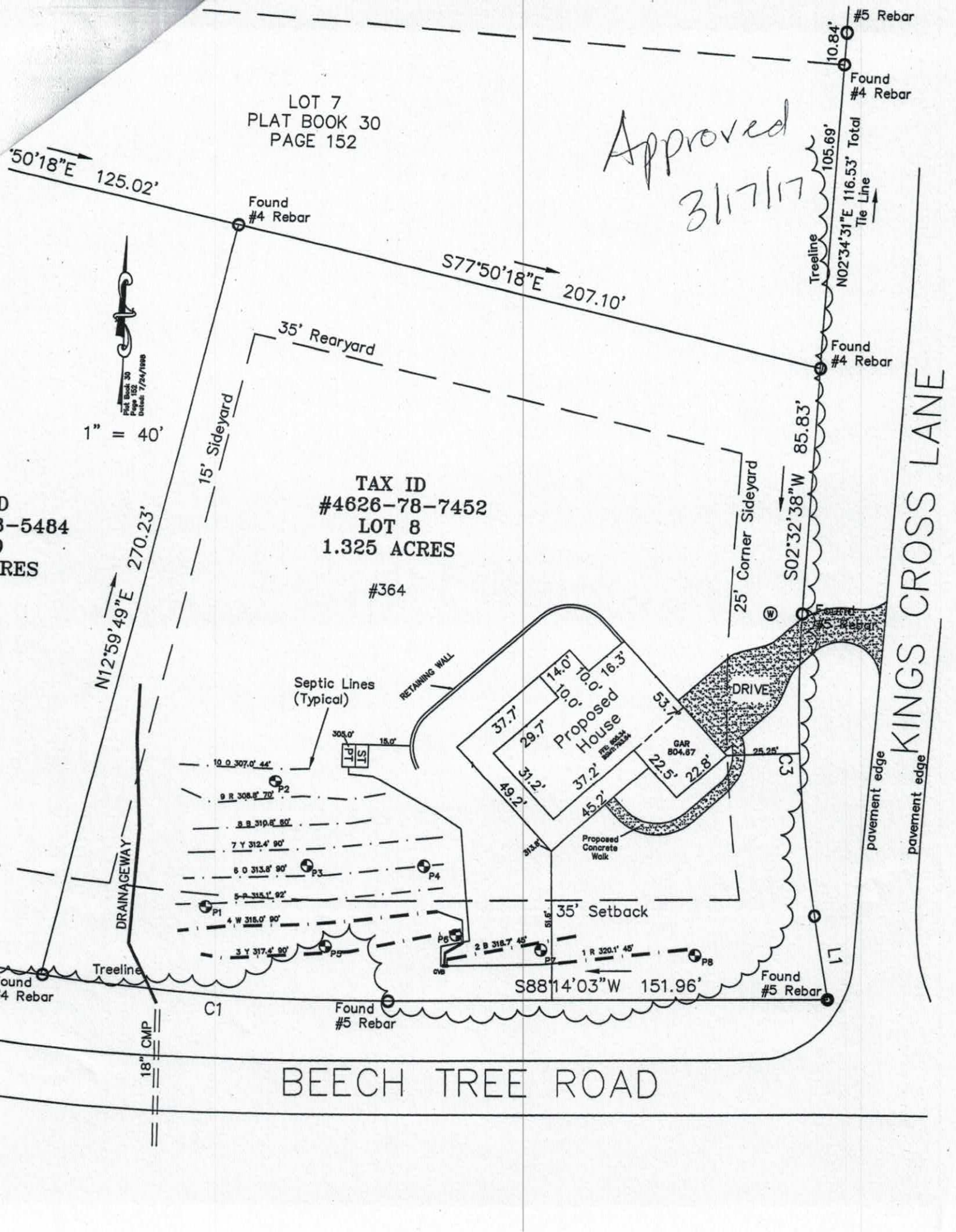
I do hereby authorize (print authorized agent/company name) George B Moser, Moser Bros. Enterprises, Inc. _____, _____, _____, to act as an agent on my behalf in applying for/signing/obtaining any of the documents described below.

1. Improvement Permit (IP)/ Authorization to Construct (AC).
2. Application for soil-site evaluation (new/repair).
3. Application/permit for water well/well abandonment.
4. Application for existing system.
5. Application for Improvement Permit (IP)/ Authorization to Construct (AC).

I agree to abide by any and all decisions and/or conditions between the agent acting on my behalf and the Iredell County Department of Public Health, Environmental Health Division. This form must be fully executed before the individual's specified above will be recognized as the authorized agent.

Kera Mowder — Signature of Owner — 12/12/17 — Date

George B Moser — Signature of Witness — 12/12/17 — Date


LOT 7
PLAT BOOK 30
PAGE 152
Approved
3/17/17
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Found
#4 Rebar
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Septic Lines
(Typical)
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Proposed
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37.7'
29.7'
31.2'
49.2'
37.2'
45.2'
22.5'
22.8'
53.7'
14.0'
10.0'
16.3'
10.0'
25.25'
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Concrete
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pavement edge
pavement edge
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BEECH TREE ROAD