ICHD - ENVIRONMENTAL HEALTH DIVISION

Statesville Office (704) 878-5305 | Mooresville Office (704) 660-3625 | PERMIT # **AP-322946**

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

PIN # 4639--64--5321

APPLICANT/OWNER: Northlake Developers, LLC | APPLICANT ADDRESS: 110 Nautical Point Ct. Mooresville, NC 286117

SITE ADDRESS: 138 Waterbury Dr., Mooresville NC 28117 | PHONE: 980-829-4090 | ALT. PHONE N/A

SITE DIRECTIONS: Perth Rd, Fern Hill Rd, Northington Woods Dr. | SAP CONTROLLED: ☐ YES ■ NO

SUBDIVISION: Northington Woods | SECTION: | LOT # 32 | LOT AREA: 0.691 ac | DESIGN FLOW: 480 | L.T.A.R.: 0.3

Septic Tank 1000 (gal) STB Infiltrator Date
Pump Tank (gal) PT Date
Pump Make Model Serial #
Nitrification Fields 1 # Lines 5 Linear Ft 270'
Trench Width 24" Trench Bottom Depth(Low side) 32" Gravel Depth N/A

■ New System ☐ Repair ☐ Expansion System Type: I II (III) IV V VI
System Description: PPBPS
Repair System Description: PPBPS
Maintenance Agreement Required: ☐ YES ■ NO
■ GRAVITY ☐ PRESSURE

■ Residence ☐ Business ☐ Other ☐ Slab ■ Crawl Space ☐ Basement w/plumbing ☐ Basement w/o plumbing
No. Bedrooms 4 | No. Persons 8 | No. Employees

Water Supply: ■ Private ☐ Public ☐ Community

Comments / Conditions: Per plan By Soil & Forestry Services of the Carolina, PA

INITIAL SITE SKETCH

This permit is issued pursuant to Section 11.(c) of SL 2018-114 using the signed and sealed LSS Evaluation attached here.

See plan by: Soil & Forestry Services of the Carolina, PA

AS BUILT SKETCH

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 time.

- Drain lines & tanks, 5/19/22 DW
  D-Box set
- MUST remove foundation drains on back of house per site plan ✓
  Good 6/27/22

As Built Attached

Permit can be suspended or revoked if any false information is supplied toward securing the permit / any unauthorized changes are made to the site / any unauthorized changes are made in the installation of the system. **CONTACT A LOCATOR SERVICE PRIOR TO ANY EXCAVATION**

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

Owner / Applicant Signature: Date: 12-15-21 Installed by: AJ Remodeling

IMPROVEMENT PERMIT by: Date: 11/9/21 OPERATION PERMIT by: D.mebery Date: 6/27/22

AUTHORIZATION TO CONSTRUCT by: D. mebery Date: 12/15/21 Existing System Inspected by: Date:

FOR SEPTIC FINAL INSPECTION: CALL 704-664-3703 between 8am-9am the day the inspection is needed.

PROPERTY ID #: 4639645321
COUNTY: Iredell

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

OWNER: Northlake Developers LLC — APPLICATION DATE: ____
ADDRESS: 110 Nautical Point CT, Mooresville NC 28117 — DATE EVALUATED: 7/30/21
PROPOSED FACILITY: 4BR — PROPOSED DESIGN FLOW (.1949): 480 gpd — PROPERTY SIZE: ____
LOCATION OF SITE: 138 Waterburg Drive — PROPERTY RECORDED: ____
WATER SUPPLY: ☐ Private ☐ Public ☒ Well ☐ Spring ☐ Other ____
EVALUATION METHOD: ☐ Auger Boring ☒ Pit ☐ Cut — TYPE OF WASTEWATER: ☒ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
P 1	L/16% 18%	0-6	BclwfsbK	FrSSSPSEXP		60"	PS		PS 0.3+
		6-36	RcwmsbK	FrSSSPSEXP					
		36-60	RClwfsbk	" " " "	-f-csap				
P 2	L/16% 18%	0-9	BslSL	FrSSSPSEXP		56	—	—	PS 0.3
		9-21	BsclwfsbK	" " " "					
		21-43	BRcwmsbk/AbK	" " " "					
		43-56	RBclwfsbk	" " " "	-fsap				
P 3	L/16-18%	0-11	BclwfsbK	FrSSSPSEXP		62	—	—	PS 0.3
		11-38	RcwmsbK/AbK	" " P "					
		38-62	RBclwfsbK	FrSSSPSEXP	-f-csap				
P 4	L/15%	0-10	BsclwfsbK	FrSSSPSEXP		50	—	—	PS .3-.325
		10-30	BRcwmsbK	" " " "					
		30-58	RBclwfsbK	" " " "	-fsap				

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	PS	PS
System Type(s)	PPBPS Gravity	PPBPS/Low Pressure
Site LTAR	0.3	0.3

OTHER FACTORS (.1946): ____
SITE CLASSIFICATION (.1948): PS
EVALUATED BY: S. Ashley Rollins
OTHER(S) PRESENT: Chad Wayne

COMMENTS: ____

Updated February 2014

SOIL/SITE EVALUATION

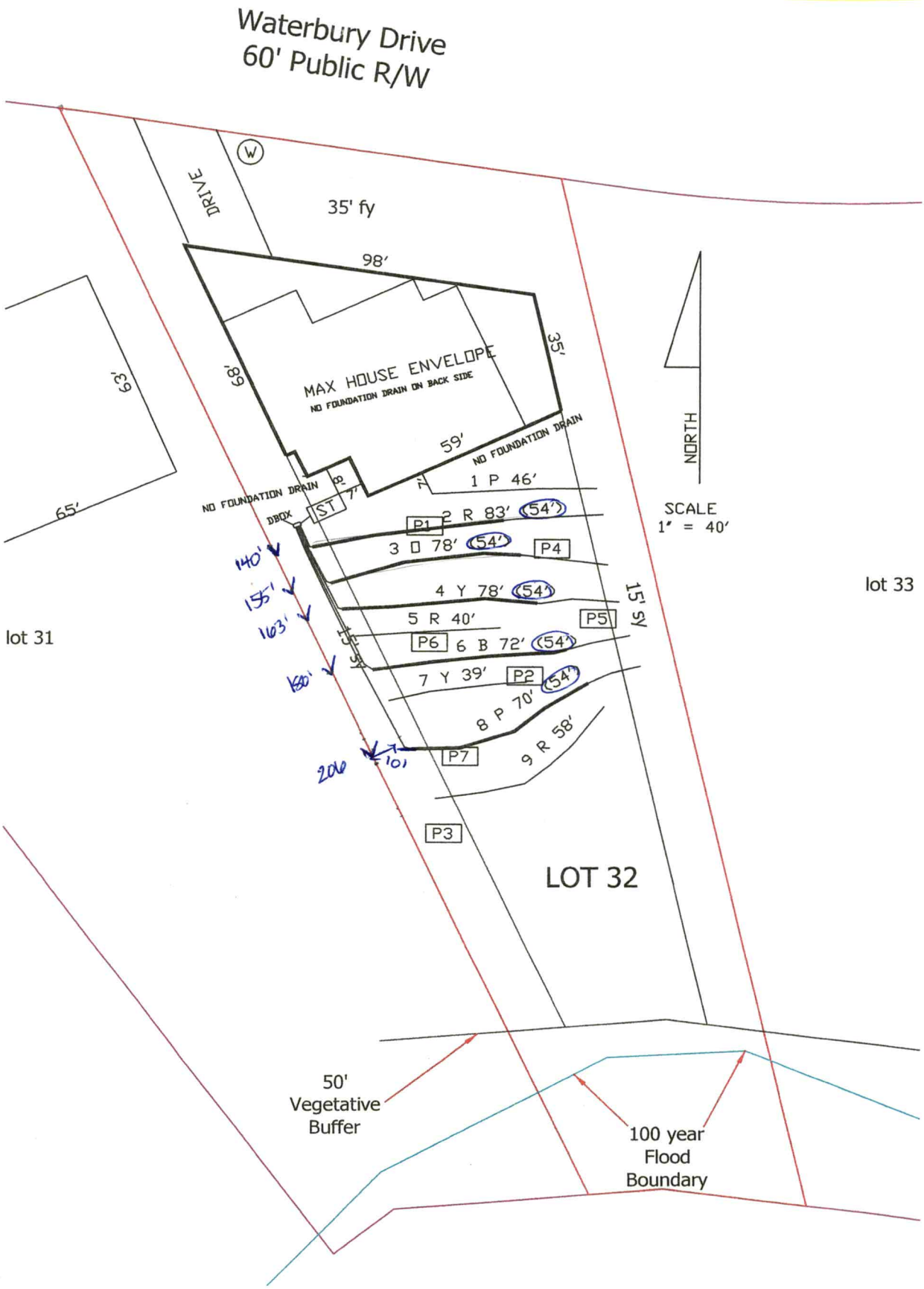
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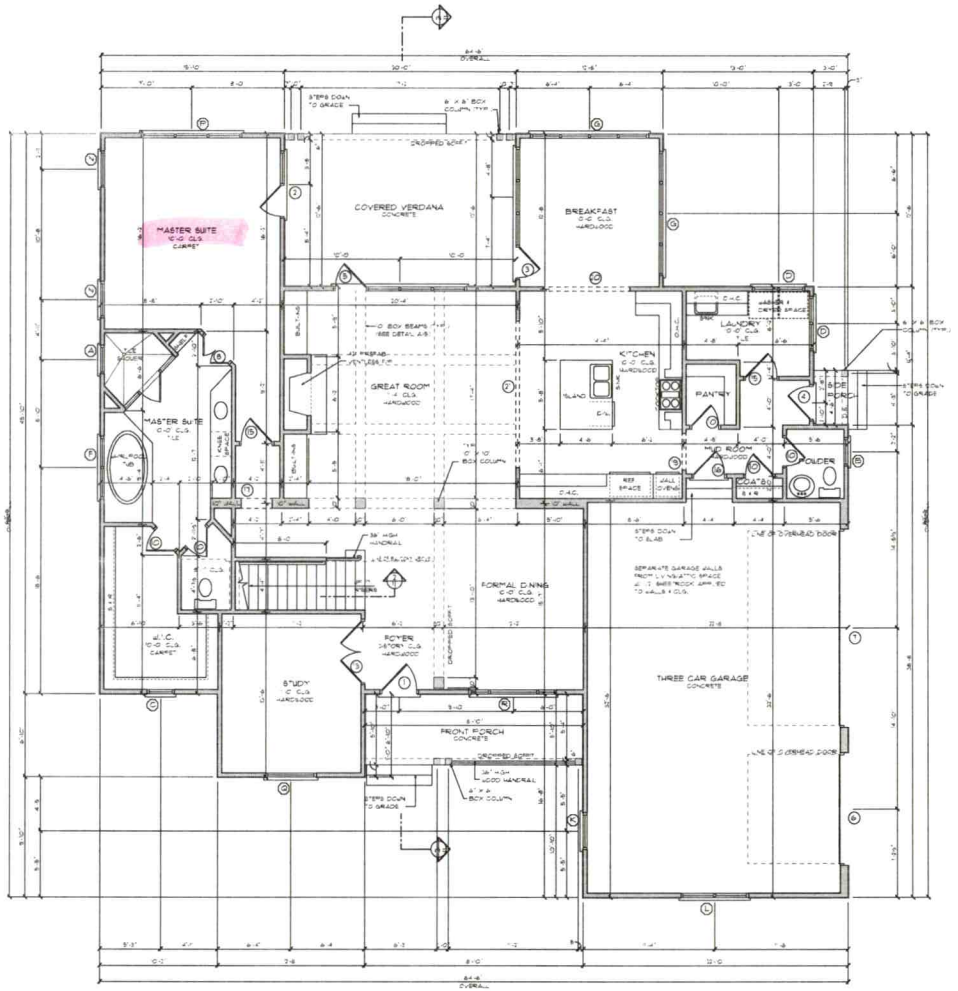
PROPERTY ID #: Same
DATE OF EVALUATION: Same
COUNTY: Same

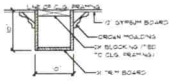
PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
P5	L/25%	0-10	BsclwfsbK	FrSSSPSEXP	- Fsap	55	—	—	A 0,3- ,325
		10-27	BRCLwMsbk	" " " "					
		27-55	RBclwmsbk	" " " "					
P6	L/16%	0-7	FILL		- F-C sap	56	—	—	PS 0,3- ,325
		7-9	BsclwfsbK	FrSSSPSEXP					
		9-31	BRCwMsbk	" " " "					
		31-63	RBClwfsbk	" " " "					
P7	L/16-18%	0-10	BsclwfsbK	FrSSSPSEXP		50	—	—	PS 0,3
		10-21	RBClwfsbk	" " " "					
		21-50	RCwMsbk	" " " "					

COMMENTS: _____

As Built


Waterbury Drive
60' Public R/W
DRIVE
W
35' fy
98'
68'
35'
63'
65'
MAX HOUSE ENVELOPE
NO FOUNDATION DRAIN ON BACK SIDE
59'
NO FOUNDATION DRAIN
NO FOUNDATION DRAIN
DBOX
ST
8'
7'
1 P 46'
2 R 83' (54')
P1
3 D 78' (54')
P4
4 Y 78' (54')
5 R 40'
P5
P6
6 B 72' (54')
7 Y 39'
P2
8 P 70' (54')
9 R 58'
P7
P3
140'
155'
163'
180'
206
10'
15' sy
15' sy
NORTH
SCALE
1" = 40'
lot 31
lot 33
LOT 32
50'
Vegetative
Buffer
100 year
Flood
Boundary





A/5 COFFERED CEILING DETAIL
SCALE : 1"=1'-0"

FIRST FLOOR NOTES

ALL ANGLED WALLS ARE 45 DEGREES OR 90 DEGREES UNLESS NOTED OTHERWISE.

ALL INTERIOR DOORS ARE 6" FROM WALL UNLESS DIMENSIONED OTHERWISE.

SEE SECOND FLOOR FRAMING PLAN FOR ALL SECOND FLOOR BEAM & FIRST FLOOR HEADER SIZES.

SQUARE FOOTAGE

FIRST FLOOR HEATED	2198
SECOND FLOOR HEATED	1484
TOTAL HEATED AREA	3682
FRONT PORCH	110
THREE CAR GARAGE	741
SIDE PORCH	13
COVERED VERANDA	250
FUTURE BONUS ROOM	371
TOTAL UNDER ROOF	5113

FIRST FLOOR PLAN
SCALE 1/4" = 1'-0"

Acknowledgement Of
Plans Submittal ONLY!

Date 12-15-21

Date 12/15/21

ELITE DESIGN GROUP
custom residential designs

8033 Corporate
Center Drive Suite 400
Charlotte, NC 28226
tel: 704-544-2771
fax: 704-544-2773

PROJECT:
PLAN # 3682

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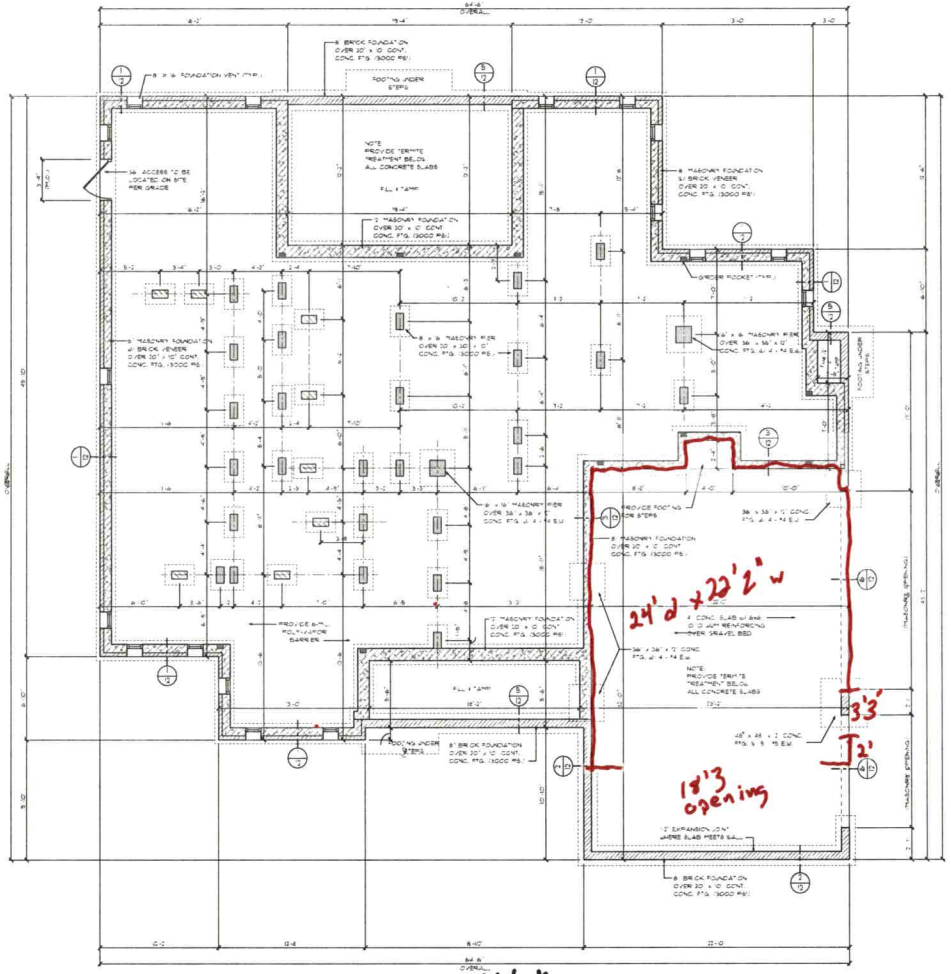
DATE:
02/21/2020

REVISIONS:
REV:
REV:

SHEET 5
OF 15

SILL PLATE TO FOUNDATION NOTE:

BOLT PRESSURE TREATED SILL PLATE TO FOUNDATION WALL W/ 1/2" DIA. BOLTS @ 72" ON CENTER & 12" FROM EACH END W/ EACH BOLT HAVING MIN. OF 7" EMBEDMENT (MAY USE FOUNDATION STRAPS WERE CODE PERMITS)



SECTION R408 UNDER-FLOOR SPACE

R408.1 VENTILATION. THE UNDERFLOOR SPACE BETWEEN THE BOTTOM OF THE FLOOR JOISTS AND THE EARTH UNDER ANY BUILDING (EXCEPT SPACE OCCUPIED BY A BASEMENT OR CELLAR) SHALL BE PROVIDED WITH VENTILATION OPENINGS THROUGH FOUNDATION WALLS OR EXTERIOR WALLS. THE MINIMUM NET AREA OF VENTILATION OPENINGS SHALL NOT BE LESS THAN ONE SQUARE FOOT FOR EACH 150 SQUARE FEET (0.67 M² FOR EACH 100 M²) OF UNDERFLOOR SPACE AREA. ONE SUCH VENTILATING OPENING SHALL BE WITHIN 3 FEET (914 MM) OF EACH CORNER OF SAID BUILDING.

R408.2 OPENINGS FOR UNDERFLOOR VENTILATION. THE MINIMUM NET AREA OF VENTILATION OPENINGS SHALL NOT BE LESS THAN 1 SQUARE FOOT (0.0929 M²) FOR EACH 150 SQUARE FEET (14 M²) OF UNDERFLOOR SPACE AREA. ONE SUCH OPENING SHALL BE WITHIN 3 FEET (914 MM) OF EACH CORNER OF THE BUILDING. OPENINGS SHALL BE COVERED FOR THEIR HEIGHT AND WIDTH WITH ANY OF THE FOLLOWING MATERIALS PROVIDED THAT THE LEAST DIMENSION OF THE COVERING SHALL NOT EXCEED 1/4 INCH (6.4 MM):

1. PERFORATED SHEET METAL PLATES NOT LESS THAN 0.070 INCH (1.8 MM) THICK.
2. EXPANDED SHEET METAL PLATES NOT LESS THAN 0.047 INCH (1.2 MM) THICK.
3. CAST IRON GRILLS OR GRATING.
4. EXTRUDED LOAD-BEARING BRICK VENTS.
5. HARDWARE CLOTH OF 0.035 INCH (0.89 MM) WIRE OR HEAVIER.
6. CORROSION-RESISTANT WIRE MESH WITH THE LEAST DIMENSION BEING 1/8 INCH (3.1 MM).

EXCEPTIONS:

1. WHERE WARRANTED BY CLIMATIC CONDITIONS, VENTILATION OPENINGS TO THE OUTDOORS ARE NOT REQUIRED IF VENTILATION OPENINGS TO THE INTERIOR ARE PROVIDED.
2. THE TOTAL AREA OF VENTILATION OPENINGS MAY BE REDUCED TO 1/9 OF THE UNDERFLOOR AREA WHERE THE GROUND SURFACE IS TREATED WITH AN APPROVED VAPOR RETARDER MATERIAL AND THE REQUIRED OPENINGS ARE PLACED SO AS TO PROVIDE CROSS-VENTILATION OF THE SPACE. THE INSTALLATION OF OPERABLE LOUVERS SHALL NOT BE PROHIBITED.
3. UNDERFLOOR SPACES USED AS SUPPLY PLENUMS FOR DISTRIBUTION OF HEATED OR COOLED AIR SHALL COMPLY WITH THE REQUIREMENTS OF THE NORTH CAROLINA MECHANICAL CODE.
4. VENTILATION OPENINGS ARE NOT REQUIRED WHERE CONTINUOUSLY OPERATED MECHANICAL VENTILATION IS PROVIDED AT A RATE OF 1 CFM (0.47 L/S) FOR EACH 50 SQUARE FEET (4.65 M²) OF UNDERFLOOR SPACE FLOOR AREA AND GROUND SURFACE IS COVERED WITH AN APPROVED VAPOR RETARDER MATERIAL.
5. VENTILATION OPENINGS ARE NOT REQUIRED WHEN THE GROUND SURFACE IS COVERED WITH AN APPROVED VAPOR RETARDER MATERIAL, THE SPACE IS SUPPLIED WITH CONDITIONED AIR AND THE PERIMETER WALLS ARE INSULATED IN ACCORDANCE WITH SECTION N1102.1.

FROM THE INTERNATIONAL RESIDENTIAL CODE (NORTH CAROLINA)

VENTILATION CALCULATIONS FOR CONTINUOUSLY OPERATED MECHANICAL VENTILATION

CRAWL SPACE AREA 2234 SQUARE FEET DIVIDED BY 50 SQUARE FEET EQUALS (44.68 CFM @ A RATE OF 1.0 CFM FOR EACH 50 SQUARE FEET)

PIER LEGEND:

- "D" BOTTOM OF DROPPED GIRDER
- "T" BOTTOM OF COMMON FLOOR @ 0'-0"

FOUNDATION NOTES

- ALL ANGLED WALLS ARE 45 DEGREES ON NO DEGREES UNLESS NOTED OTHERWISE!
- FOUNDATION WALL FOOTING TO BE 10" THICK BY 20" WIDE CONTINUOUS CONCRETE (3000 PSI MIN.) W/ (2) #4 CONT.
- GARAGE SLAB TO BE 4" THICK CONCRETE (3000 PSI MIN.) W/ 6x6 10/0 WWF
- SEE FIRST FLOOR FRAMING PLAN FOR ALL KNEE WALL FLOOR BEAM SIZES
- PROVIDE 6 MIL POLY VAPOR BARRIER & TERMITE TREATMENT BELOW ALL CONCRETE SLABS
- PROVIDE ADEQUATE FOUNDATION VENTILATION IN ACCORDANCE W/ STATE CODE

FOUNDATION PLAN
SCALE: 1/4" = 1'-0"

Acknowledgement Of Plans Submittal ONLY!

Date 12-15-21

Date 12/15/21

ELITE DESIGN GROUP
custom residential designs

8033 Corporate
Center Drive Suite 400
Charlotte, NC 28226
tel: 704-544-2771
fax: 704-544-2773

PROJECT:

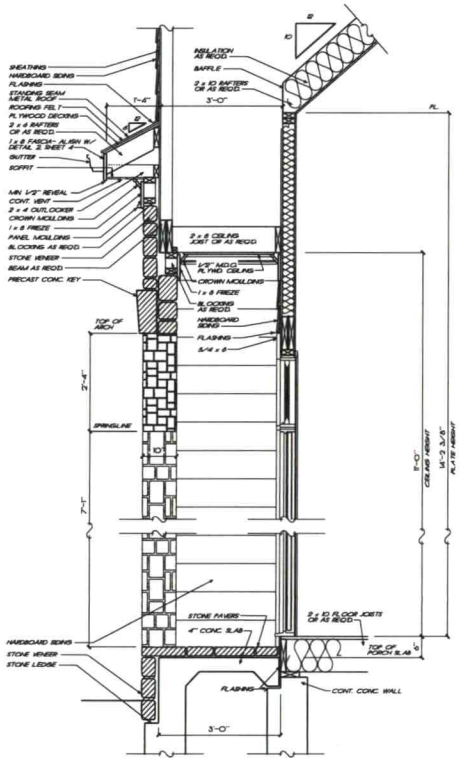
PLAN # 3682

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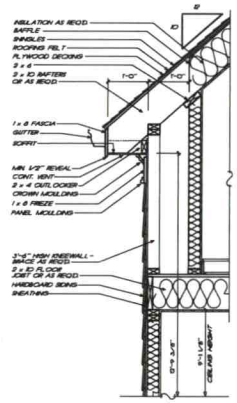
DATE:
02/21/2020

REVISIONS:
REV:
REV:

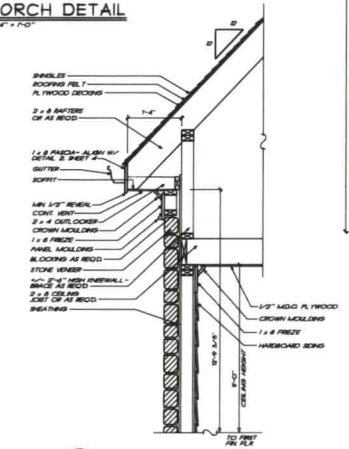
SHEET 3
OF 15



1/4 PORCH DETAIL
3/4" = 1'-0"

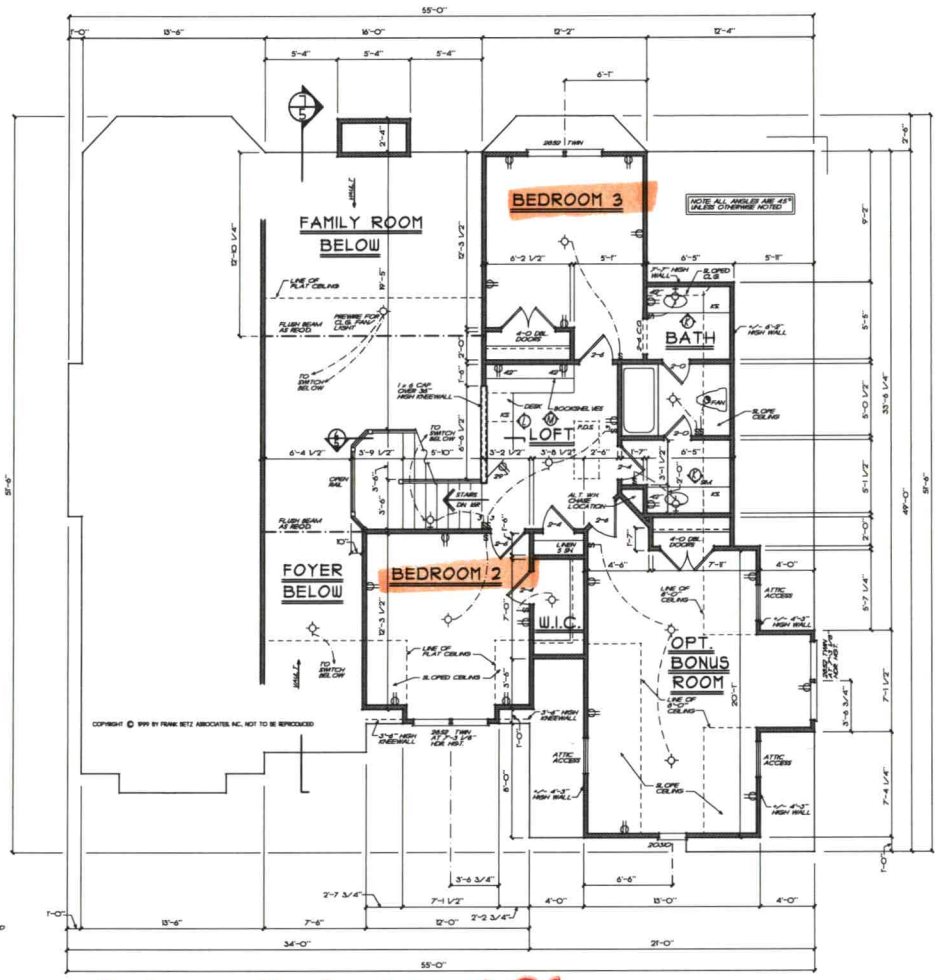


2/4 CORNICE DETAIL
3/4" = 1'-0"



3/4" = 1'-0"

NOTE: ALL CEILING JOISTS AND RAFTER SPACING TO BEAR ON LOAD BEARING WALLS DESIGNED TO CARRY LOAD TAKE ALL LEDGES AND TERMINATE AT FOUNDATION, AND BE SUPPORTED BY A SINGLE BEAM OR FOOTING DESIGNED TO CARRY LOAD.



SECOND FLOOR PLAN
1/4" = 1'-0"

FRANK BETZ ASSOCIATES, INC. ASSUMES NO LIABILITY FOR ANY CHANGES OR MODIFICATIONS MADE TO THESE PLANS BY OTHERS.

Acknowledgement Of Plans Submittal ONLY!

Date 12/15/21

Date 12/15/21

REVISIONS	DATE	BY
CLAS 20-99	11-05-99	JCF

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HOMEPLANS
Designed for Today's Market®
www.frankbetz.com

SECOND FLOOR PLAN

THE BUCKINGHAM

FRANK BETZ ASSOCIATES, INC.
DESIGNERS OF CUSTOM AND STOCK HOMEPLANS
3350 GEORGE BUSBEE PARKWAY
SUITE 190
KENNESAW, GEORGIA 30144
770-421-0888 888-717-3003

BY: MAB CK: KFW

DATE 3/1/99

SHEET: 4

OF: 5

RECEIVED NOV 8 - 2021

IREDELL COUNTY DEPARTMENT of ENVIRONMENTAL HEALTH

APPLICATION FORM Paid $500.00 AP-322946

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 Session Law

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: NorthLake Developers LLC **Address:** 110 Nautical Point Ct, Mooresville **Zip:** 28117

Applicant Email: bruce@titan.ae **Phone:** 980-829-4090 **Alt. Phone:**

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

Owner Email: Same **Phone:** Same **Alt. Phone:**

Property Information:

Street Address: 138 Waterbury Dr., Mooresville NC 28117

Subdivision Name: Northington Woods **Section/Phase:** **Lot Number:** 32

Driving Directions: Perth Rd, Fern Hill Rd, Northington Woods Dr.

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

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 (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: _____ 11/1/21
Property owner or owner's legal representative signature (SIGNATURE REQUIRED) DATE

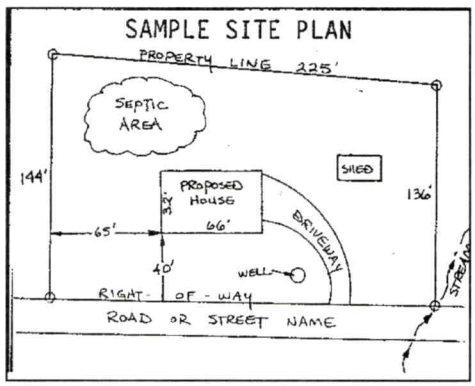
IREDELL COUNTY DEPARTMENT of ENVIRONMENTAL HEALTH

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 OR WELL 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**
- (X) **Preferred well location**
- (X) **Preferred septic system location**
- (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
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 Attached

Signature: Samuel A Rollins

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

11/1/21

DATE

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

www.soilandforestryservices.com

Project#: 21-0072
October 29th, 2021

NORTHLAKE DEVELOPERS, LLC
Attn: *Bruce Kososki*
Email: bruce@titan.ae

RE: Soil & Site Evaluation for a 4 Bedroom Residence at 138 Waterbury Drive (LOT 32 Northington Woods), Mooresville, NC 28117, PIN # (4639645321), Iredell County.

Mr. Kososki:

At your request Soil & Forestry Services of the Carolinas (S&FS) has performed soil/site evaluations on parcel noted above. The Lot size is noted on the attached survey map & soil evaluation form. The purpose of our work was to identify soil areas with potential to support subsurface wastewater disposal systems and provide design details for Session Law submittal to Iredell County Health Department.

Site Conditions

At the time of our evaluation land cover on the property was partially cleared and the remainder mixed hardwood/pine. Topography within the evaluated area was gentle slope near the house site and moderate slope near the proposed drainfield area. Property lines and corners were marked at the time of the evaluation by Jordan Grant Associates. The Surveyor provided an Autocad File of the survey as a basemap. The proposed septic layout was located via measuring tape/GPS and used to produce the attached *Site Plan*. The house envelope was located via tape measure by the client. The attached Survey provided has the maximum house envelope.

Methodology

We evaluated soil areas through the use of backhoe pits. Soil morphological conditions including color, texture, structure, etc. were reviewed in the field with seven boring locations on the property flagged and located via GPS. Six of the seven soil borings are located in the proposed septic layout. Soil suitability was determined by referencing 15A NCAC 18A.1900 "Laws and Rules for Sewage Treatment and Disposal Systems". *Soil & Site Evaluation Forms* were utilized to record the soil morphological data for each boring. The house envelope was located via survey. An on-ground layout of system and repair was performed using a laser level. Pin flag locations of the layout were also located by tape measure and GPS. Detailed system & repair information is summarized in the following paragraph for this Lot.

138 Waterbury Drive (*See Attached Design*)

The septic layout for this lot (8' centers) yielded a total of 564 linear feet of line. The primary system is proposed as 270 linear feet of Mod. Conv. (PPBPS 50% Reduction) drainfield with gravity distribution. Trench depth is specified at 32 inches. The repair system is proposed as 267 linear feet of PPBPS (50% Reduction) drainfield with low pressure distribution. Trench depth is specified at 32 inches. There is 294 linear feet of line available for repair.

Session Law Requirements

An LSS Evaluation may be submitted in conjunction with a complete application to the LHD. The application shall include all information described in 15A NCAC 18A .1937(d) and be accompanied by a signed and dated statement from the applicant (owner or owner's legal representative) that reads as follows:

"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 Date

Print Name Bruce Kososki

Signature _____ 11/04/2021

The LSS Evaluation shall include a statement bearing the LSS seal and signature that reads as follows:

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

Disclaimer

This report reflects the findings of S&FS, PA. *This LSS Evaluation is being submitted pursuant to and meets the requirements of SL 2018-114 Section 11.(c).* Any site modifications that impact the proposed septic areas at 138 Waterbury Drive, Mooresville, NC 28117 may nullify this design. System design requirements and site requirements shall be adhered to for installation and Operations Permits to be issued by the local Health Department. If you have questions regarding these requirements a Pre-Construction meeting should be scheduled to discuss. Please contact S&FS if you have any questions regarding this report or the attached information. S&FS also offers septic system inspection, wetland delineation and forestry services.

Sincerely,



S. Ashley Rollans, LSS

Attachment: *Septic Design*

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

www.soilandforestryservices.com

Attached is a proposed design for an Modified Conventional Septic System with gravity dist. for a 4 bedroom single family residence at 138 Waterbury Drive, PIN#(4639645321) Mooresville NC 28117, Iredell County, NC.

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LICENSED SOIL SCIENTIST
Samuel A. Rollins
1281
STATE OF NORTH CAROLINA

October 29, 2021
Project #: 21-0009
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 NC DHHS, and certification supplied by the manufacturer.
- Tanks shall be water tested prior to installation.
- The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original natural grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement.
- Installation of the system shall be during dry conditions in order to protect the soil structure.
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied glue applied to weld all joints.
- Where required by the county health department, post installation inspections by the designer must be scheduled 5 week days in advance.
- Trenches shall be carefully excavated so the bottom is within 2" from the highest to . the lowest points of elevation within the trench. If the bottom elevation needs adjusting after it has been trenched, it will be done by removing high points rather than filling low points. It is extremely important to insure that trenches are not over excavated during initial trenching. All fine grading within the trench will be hand done with a shovel. No loose material will be left in the trench
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral.
- No heavy equipment shall be used on the field during or after installation. The use of a small loader (i.e. Bobcat) or a trencher (i.e. Ditch Witch 2300/2310) may be used for installation.
- Elevations at pinflag locations should be checked by the installer prior to beginning trenches.
- Septic tank riser shall be a minimum of 6" above finished grade.
- System is specified as a gravity PPBPS installation.
- Repair is specified as a PPBPS with low pressure distribution installation.
- Rake trench walls, lime sidewalls, install trenches 24" wide and have no more than 1/4" fall in 10 feet.

GRAVITY PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Applicant:	Northlake Developers, LLC
Address:	110 Nautical Point Ct. Mooresville, NC 28117
Phone:	980.829.4080
County:	Iredell
Location:	138 Waterbury Drive Mooresville, NC 28117
Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Gallons Per Day Flow:	480
System Flow:	N/A

Design Specifications

Drainfield Size:	270	
Loading Rate (gpd/ft.^{2}):	0.3	
Depth of Gravel in Trench:	N/A	
Gravel Size:	N/A	
Max.Trench Depth (LOW SIDE):	32 in.	Repair Trench Bottom 32 in.
Trench Width:	24 in.	
Septic Tank Size:	1000	
Estimated Supply Line Length:	3	
Supply Line Diameter:	4 in. SCH 40 PVC	
Supply Line Volume:	1.31	
Dosing Volume:	N/A	
Supply Manifold:	N/A	
Supply Manifold Length:	N/A	
Supply Manifold Volume:	N/A	
Recommended Float Controls:	N/A	
Recommended Control Panel:	N/A	
Pressure Head:	N/A	
Friction Head:	N/A	
Elevation Head:	N/A	
Total Dynamic Head:	N/A	
Threaded Union:	N/A	
Gate Valves:	N/A	
Check Valves:	N/A	
Anti-Siphon Hole:	N/A	
Additional Comments:	Soil suitability was performed by Soil & Forestry Services of the Carolinas	

138 Waterbury Drive

PPBPS SYSTEM

DESIGN FLOW (gpd):	480
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.3
TOTAL AREA TRENCH BOTTOM:	540
TOTAL LATERAL LENGTH:	192
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	184.6154
SUPPLY LINE LENGTH:	3
TOTAL DYNAMIC HEAD:	N/A
MANIFOLD SIZE:	N/A
DOSING VOLUME:	N/A
PUMP TANK DRAW DOWN*:	N/A
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	N/A

Layout Specifications - 138 Waterbury Drive

Project #: 21-0072

LAYOUT FOR 4 BEDROOM HOME 10/29/2021

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM							
INSTR. 1							
1	PINK					46	46
2	***RED***					***83***	***54***
3	***ORANGE***					***78***	***54***
4	***YELLOW***					***78***	***54***
5	RED					40	40
6	***BLUE***					***72***	***54***
7	YELLOW					39	39
8	***PINK***					***70***	***54***
9	RED					58	58
					Total	564	453

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION	Low Side TRENCH DEPTH
** System*	*270*	*0.300*	**MOD. CONV**	*0.300*	***PPBPS***	***GRAVITY***	32"
Repair	294	0.300	MOD. CONV	0.300	PPBPS	LOW PRESSURE	32"

Notes: **All measures in feet

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

**Nitrification lines were GPS/tape measure located

GRAVITY PPBPS SPECIFICATIONS - 138 Waterbury Drive

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	# of Panels
2	***RED***	***N/A***	***54***	***N/A***	***N/A***	108	12
3	***ORANGE***	***N/A***	***54***	***N/A***	***N/A***	108	12
4	***YELLOW***	***N/A***	***54***	***N/A***	***N/A***	108	12
6	***BLUE***	***N/A***	***54***	***N/A***	***N/A***	108	12
8	***PINK***	***N/A***	***54***	***N/A***	***N/A***	108	12
						540	60

total	**feet =**	**270**	**gal/min =**	**N/A**
		Des. Flow	**480**	
		Pump Run=	**N/A**	
		soil LTAR	**0.3**	3
		LTAR +5%	**0.315**	
		LTAR with mod.	**0.6**	
		LTAR with mod.. + 5%	**0.63**	

CALCULATIONS

Location 138 Waterbury Drive
Mooresville, NC 28117
Project Number 21-0072

Lot No: 32

No. of Bedrooms 4

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

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

PPBPS? (YES OR NO) YES

Supply Line Length 3 ft.

Supply Line Volume 1.959 gal.

Required Feet of Line 266.6667 ft.
Amount of Line from Layout 270 ft.

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

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

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

Tank Draw Down N/A

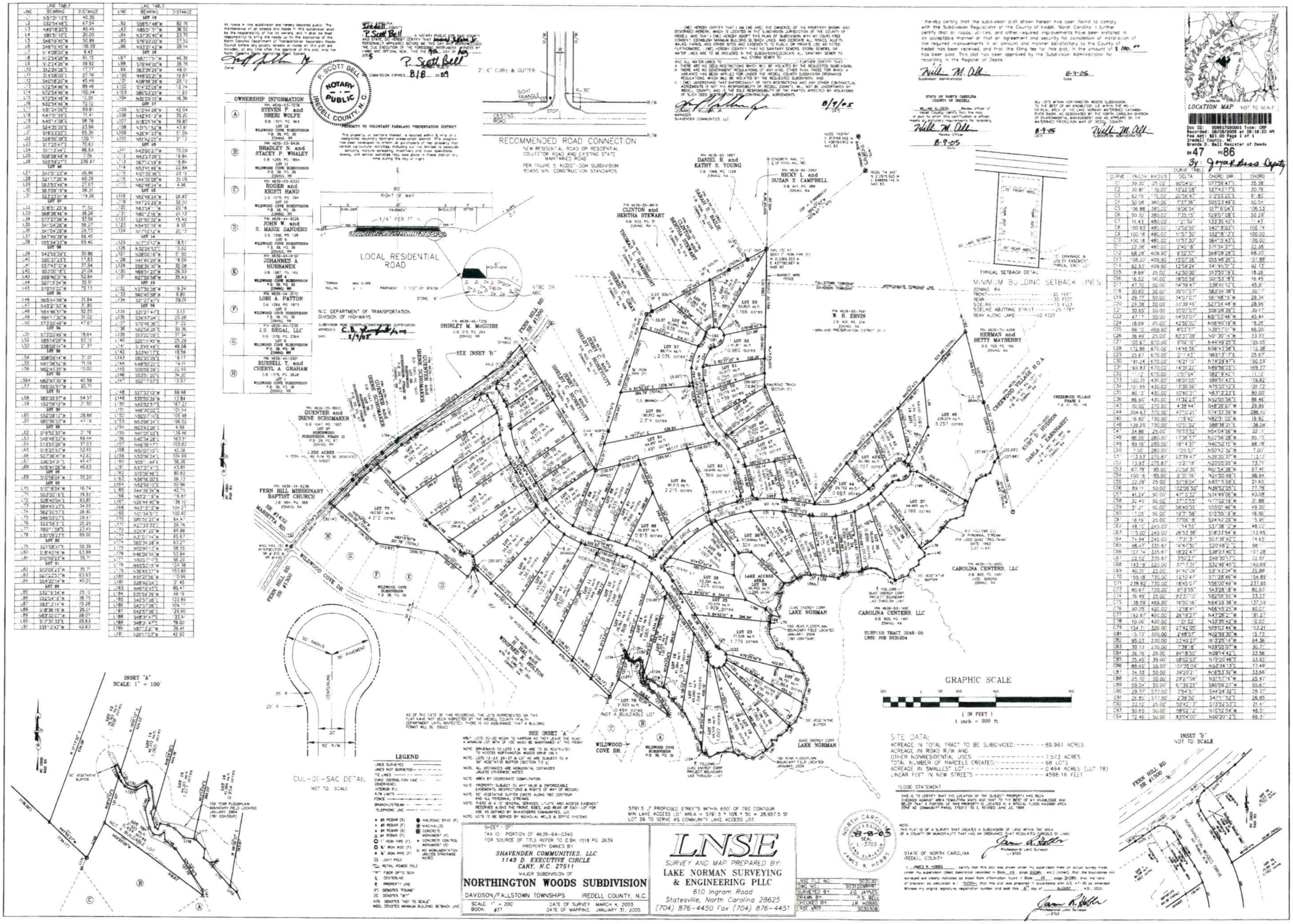
Pump Run Time

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

Total Dynamic Head (+15%) N/A ft.

FRICTION FACTOR
INTERPOLATER
2" SCH 40 PVC

GPM	*f*
20	0.84
	-0.88
25	1.27
	-1.28
30	1.78
	-1.76
35	2.37
	-2.25
40	3.03
43.07	3.48
45	3.77
48.14	4.28
50	4.58
57.11	5.89
60	6.42


NORTHINGTON WOODS SUBDIVISION
MAJOR SUBDIVISION OF
DAVIDSON/FALLSTOWN TOWNSHIPS IREDELL COUNTY, N.C.
SCALE: 1" = 200'
DATE OF SURVEY MARCH 4, 2003
DATE OF MAPPING JANUARY 31, 2005
PROPERTY OWNED BY
SHAVENDER COMMUNITIES, LLC
1143 D. EXECUTIVE CIRCLE
CARY, N.C. 27511
LNSE
SURVEY AND MAP PREPARED BY:
LAKE NORMAN SURVEYING & ENGINEERING PLLC
610 Ingram Road
Statesville, North Carolina 28625
(704) 876-4450 Fax (704) 876-4451
OWNERSHIP INFORMATION
STEVEN P. and SHERI WOLFE
BRADLEY N. and STACEY P. WHALEY
ROGER and KRISTI HAND
JOHN W. and S. MARIE SANDERS
JOHANNES A. HURBANEK
LORI A. PATTON
J.S. REGAL, LLC
RUSSELL T. and CHERYL A. GRAHAM
P. SCOTT BELL NOTARY PUBLIC IREDELL COUNTY, N.C.
RECOMMENDED ROAD CONNECTION
LOCAL RESIDENTIAL ROAD
N.C. DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS
FERN HILL RD. SR #1300
MARIETTA RD. SR #1432
FERN HILL MISSIONARY BAPTIST CHURCH
WILDWOOD COVE DR.
HOLTON LN.
SHIRLEY M. McGUIRE
GUENTER and IRENE SCHOMAKER
SHELBY C. and JERRY C. HONEYCUTT
THOMAS L. HAMBRIGHT
SHERRI C. GRAY
CLINTON and BERTHA STEWART
SARAH S. BAILIE
DANIEL R. and KATHY S. YOUNG
RICKY L. and SUSAN S. CAMPBELL
W. R. ERVIN
HERMAN and BETTY MAYBERRY
CREEKWOOD VILLAGE H.O.A.
KURT D. HUDSON
DARLA J. EARNHARDT
CAROLINA CENTERS, LLC
LAKE NORMAN
LAKE ACCESS AREA
SURPLUS TRACT 3248-05 LNSE JOB 3031204
MINIMUM BUILDING SETBACK LINES
TYPICAL SETBACK DETAIL
ZONING RA
FRONT 35 FEET
REAR 35 FEET
SIDELINE 15 FEET
SIDELINE ABUTTING STREET 25 FEET
REAR ALONG LAKE 50 FEET
GRAPHIC SCALE
(IN FEET)
1 inch = 200 ft.
SITE DATA:
ACREAGE IN TOTAL TRACT TO BE SUBDIVIDED 89.961 ACRES
ACREAGE IN ROAD R/W AND OTHER NONRESIDENTIAL USES 7.573 ACRES
TOTAL NUMBER OF PARCELS CREATED 68 LOTS
ACREAGE IN SMALLEST LOT 0.494 ACRES (LOT 78)
LINEAR FEET IN NEW STREETS 4598.16 FEET
FLOOD STATEMENT
CUL-DE-SAC DETAIL NOT TO SCALE
INSET "A" SCALE: 1" = 100'
INSET "B" NOT TO SCALE
LEGEND
LOCATION MAP NOT TO SCALE
NORTH CAROLINA PROFESSIONAL SEAL L-3703 LAND SURVEYOR JAMES R. HOBBS 8-8-05
STATE OF NORTH CAROLINA IREDELL COUNTY
Doc ID: 009517030001 Type: CRP
Recorded: 08/08/2005 at 09:18:20 AM
Fee Amt: $21.00 Page 1 of 1
Iredell County, NC
Brenda D. Bell Register of Deeds
BK 47 PG 86

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, NorthLake Developers LLC, am the legal owner(s) of the property located at 139 Waterbury Dr. Mooresville NC 28117, identified as PIN (Parcel Identification Number) 4639645321, located in Iredell County, North Carolina.

I do hereby authorize (**print legal representative/company name**) SFS/Ashley Rollins, _____, 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.

X _____	11/04/2021	_____	_____
Signature of Owner(s)	Date	Signature of Witness	Date

Please return this signed form to the appropriate office:

Mooresville - Environmental Health
ronda.hart@co.iredell.nc.us
Fax: 704-662-3239
610 E. Center Avenue, Mooresville, NC 28115

Statesville - Environmental Health
adrienne.shea@co.iredell.nc.us
Fax: 704-871-3483
349 N. Center Street, Statesville, NC 28677

IREDELL COUNTY

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

APPLICATION NUMBER
322946 Issue Date:

Permit Type: ZONING

Parcel Number	Street Address	Jurisdiction
4639645321.000	138 WATERBURY DR	Iredell County

Owner Information	Applicant Information
Name: NORTHLAKE DEVELOPERS LLC	Name: ROLLANS SOIL & ENVIRONMENTAL SERVICES
Address:	Address: 470 NORTH BROAD STREET SUITE D MOORESVILLE, NC 28115
Phone:	Phone: (704)658-1723

Use Requested	Zone Code
Single Family Dwelling	RA

Lot Acreage	F Setback	B Setback	L Setback	R Setback	Watershed	Flood Zone
0.691	35	50	15	15	WSIV-CA Catawba/Lake Norman	YES

Remarks
sfd

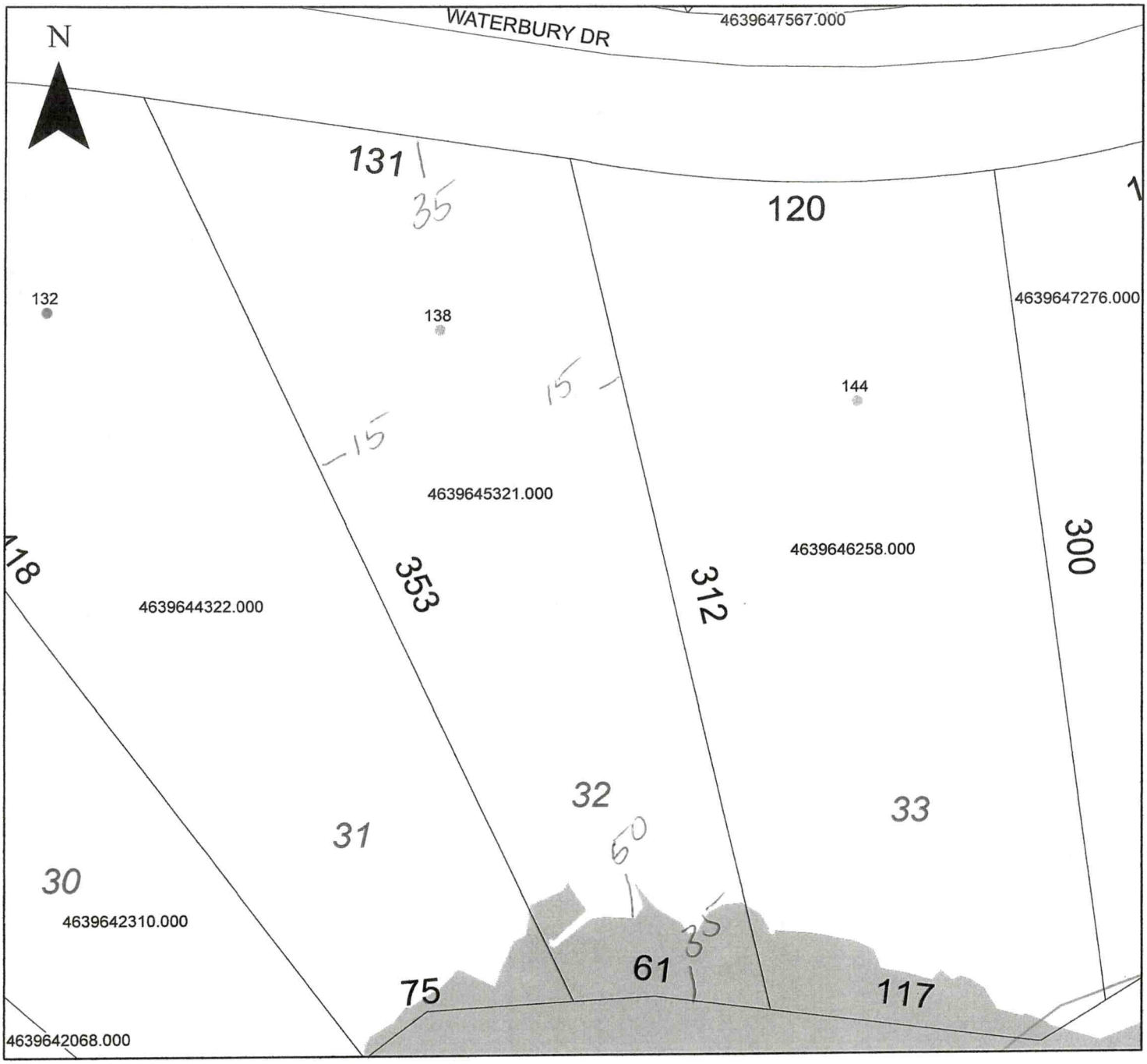
The applicant certifies that there are no deed restrictions, contractual agreements or governmental regulations of any kind that interfere with or prohibit the use of the property or the use for which this permit is requested. The applicant further acknowledges that enforcement of deed restrictions,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

Signature of Owner/Contractor

Date: 11/08/2021

Permit Number	322946	TOTAL FEES:	$77.25

ZONING DISCLAIMER



Property Address 138 Waterbury Dr.

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. Applicant further acknowledges that the 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.

Samuel A Keller

Applicant

11/8/22

Date