SUPERVISOR/ADMINISTRATIVE PROFESSIONAL CHECKLIST

☑ NEW SEPTIC ☐ REPAIR ☐ USE EXISTING ☐ MODIFIED PLOT PLAN ☐ ALTERATION

File Number: 12418B

Assigned Inspector: Patrick - April

☑ IP $250.00: 11/23/20 Initial/Date

☐ IP Commercial $450.00: _____ Initial/Date

☐ CA & OP $400.00: _____ Initial/Date

☐ Alteration Fees $300: _____ Initial/Date

☐ Modified Plot Plan Fees $100.00: _____ Initial/Date

☐ Use Existing Fees $100.00: _____ Initial/Date

☐ Use Existing Approved ☐ Use Existing Denied

☐ Send IP permit for signature: _____ ☐ Signature received: _____

☐ Floor plans reviewed

☐ Generate CA ☐ Approve as Noted in Winchester

☐ This site is served by septic and well. Verify each is complete before final hold is released

☐ This septic system requires a certified operation contract before final hold is released

☐ Certified operator contract is on file: _____

☐ Septic file complete: _____

☐ Release final hold in Winchester/ Accela: _____

Comments:

Permit issued - Please mail denial ltr HR

12418B | 16110

MECKLENBURG COUNTY
HEALTH DEPARTMENT

APPLICATION FOR A RESIDENTIAL SITE IMPROVEMENT PERMIT/ CONSTRUCTION AUTHORIZATION FOR AN ON-SITE WASTEWATER SYSTEM, NEW WELL INSTALLATION, OR REPAIR OF EXISTING WELL

1. **SEPTIC / TYPE APPLICATION:** ○ N/A ◉ NEW SYSTEM ○ ALTERATION ○ REPAIR ○ MODIFIED PLOT PLAN

2. **WELL / TYPE APPLICATION:** ○ N/A ○ NEW WELL ○ MAJOR REPAIR ○ ABANDONMENT

3. **JOB LOCATION INFORMATION:**

TAX PARCEL NUMBER: 19344181
STREET ADDRESS: 3020 Williams Rd
CITY: Matthews
STATE: NC ZIP: 28105
SUBDIVISION NAME: _____
LOT #: _____ LOT SIZE (acres): 1.571
TOWNSHIP:

○ MECKLENBURG ○ CORNELIUS ○ HUNTERSVILLE
○ DAVIDSON ○ CHARLOTTE ○ PINEVILLE
◉ MATTHEWS ○ MINT HILL

4. **BUILDING INFORMATION:**

BUILDING TYPE:

○ SINGLE MOBILE HOME ○ MODULAR HOME
○ DOUBLE WIDE ○ MULTIPLE FAMILY
◉ HOUSE ○ OTHER _____

HEATED SQUARE FOOTAGE: 2700
NUMBER OF BEDROOMS: 4
NUMBER OF OCCUPANTS: 4-6
FOUNDATION TYPE:

◉ CONCRETE SLAB ○ BASEMENT WITH PLUMBING
○ CRAWL SPACE ○ BASEMENT WITH NO PLUMBING

5. **IF PLANNING TO EXPAND OR ALTER THE EXISTING SEPTIC SYSTEM PLEASE COMPLETE THE FOLLOWING SECTION:** ☑ N/A

NUMBER OF BEDROOMS TO BE ADDED: _____ NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE: _____

6. **WATER SUPPLY:** ◉ MUNICIPAL ○ PRIVATE WELL ○ PUBLIC WELL ○ SHARED WELL ○ OTHER _____

7. **PROPOSED USE OF WELL:** ◉ N/A ○ IRRIGATION ○ POTABLE (DRINKING WATER) ○ OTHER _____

8. **PLEASE INDICATE AND RANK DESIRED SEPTIC SYSTEM TYPE(S) IN ORDER OF PREFERENCE** *(1-MOST DESIRED 5-LEAST DESIRED):*

☐ N/A ☐ ANY TYPE ☐ CONVENTIONAL ☐ ACCEPTED ☐ INNOVATIVE ☐ ALTERNATIVE ☑ OTHER unsure

8A. **RANK:** ____ ____ ____ ____ ____

9. **DO ANY OF THE FOLLOWING APPLY TO THE PROPERTY IN QUESTION? IF "YES" PLEASE ATTACH SUPPORTING DOCUMENTATION.**

BURIED CABLES, LANDFILLS, STUMPHOLES	○ YES ◉ NO	GRADING/SOIL REMOVAL PERFORMED	○ YES ◉ NO
EXISTING WASTEWATER (SEPTIC) SYSTEMS	○ YES ◉ NO	JURISDICTIONAL WETLANDS	○ YES ◉ NO
WELLS, SPRINGS, OR WATER LINES	◉ YES ○ NO	APPROVAL REQUIRED BY ANY OTHER PUBLIC AGENCY	○ YES ◉ NO
EASEMENTS OR RIGHT-OF-WAYS	○ YES ◉ NO	WASTEWATER OTHER THAN DOMESTIC SEWAGE	○ YES ◉ NO
CHEMICAL/PETROLEUM STORAGE TANKS	○ YES ○ NO	KNOWN UNDERGROUND CONTAMINATION	○ YES ◉ NO
WASTE STORAGE	○ YES ◉ NO	GROUNDWATER USE RESTRICTIONS/VARIANCES	○ YES ◉ NO

HAS 811 BEEN CONTACTED AND IDENTIFIED ANY UNDERGROUND UTILITIES ON THE PROPERTY IF YES, ○ YES ○ NO
PLEASE LIST TICKET REFERENCE NUMBER: 2531605052 VISIT BY DATE: Nov 18th

10. **WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED?** _____ ☑ UNKNOWN

11. **WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY?** _____ ☑ N/A

12. **PROPERTY OWNER:**

NAME: Emily Roush Richter
ADDRESS: 3026 Williams Rd
CITY: Matthews
STATE: NC ZIP: 28105
WORK PHONE: _____
MOBILE PHONE: 937-417-3868
FAX: _____
E-MAIL: emily.e.roush@gmail.com

13. **OWNER'S LEGAL REPRESENTATIVE, IF APPLICABLE:**

**Owner's Authorization form is required if legal representative is submitting application*

NAME: _____
ADDRESS: _____
CITY: _____
STATE: _____ ZIP: _____
WORK PHONE: _____
MOBILE PHONE: _____
FAX: _____
E-MAIL: _____

MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
3205 Freedom Drive, Suite 8000, Charlotte, NC 28208
OFFICE: 980-314-1680, FAX: 704-336-6894 Email: Wellreg@MecklenburgCountyNC.gov

Revised on: 4/20/17

14. SEPTIC SYSTEM PERMIT APPLICATION:

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. **I understand that if the information in the application is falsified, changed, or the site is altered, then the Improvement Permit and/or Construction Authorization shall be invalid. I understand that the permit is valid for either 60 months or without expiration depending upon documentation submitted. (complete site plan = 60 months; complete plat = without expiration)**

ER (Initial here for septic system applications)

15. WELL PERMIT APPLICATION:

If the information in this application is falsified, changed, or the site is altered, then the Well Permit shall become invalid. 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. The permit is valid for a period of twelve (12) months from the date of issuance.

_____ (Initial here for well applications)

16. APPLICATION SIGNATURE SECTION:

ONLY COMPLETE APPLICATIONS WILL BE PROCESSED. A proper signature is required in order to process your application. Please review the application carefully and sign in the space provided below. A PROPOSED PLOT PLAN is required to be submitted with each application.

Emily Ruchter

_____ 11/12/25

Property Owner's or Owner's Legal Representative Signature — Date

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OFFICE USE ONLY

O SURVEY PLAT TO SCALE SUBMITTED O SCALED SITE PLAN SUBMITTED O UN-SCALED SITE PLAN SUBMITTED

SEPTIC APPLICATION FEE RECEIVED: $ _____ DATE FEE RECEIVED: _____

WELL APPLICATION FEE RECEIVED: $ _____ DATE FEE RECEIVED: _____

APPLICATION PROCESSED BY: _____

GWS FILE NUMBER ASSIGNED: _____

APPLICATION ID NUMBER ASSIGNED: _____

COMMENTS:

MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
3205 Freedom Drive, Suite 8000, Charlotte, NC 28208
OFFICE: 980-314-1680, FAX: 704-336-6894 Email: Wellreg@MecklenburgCountyNC.gov

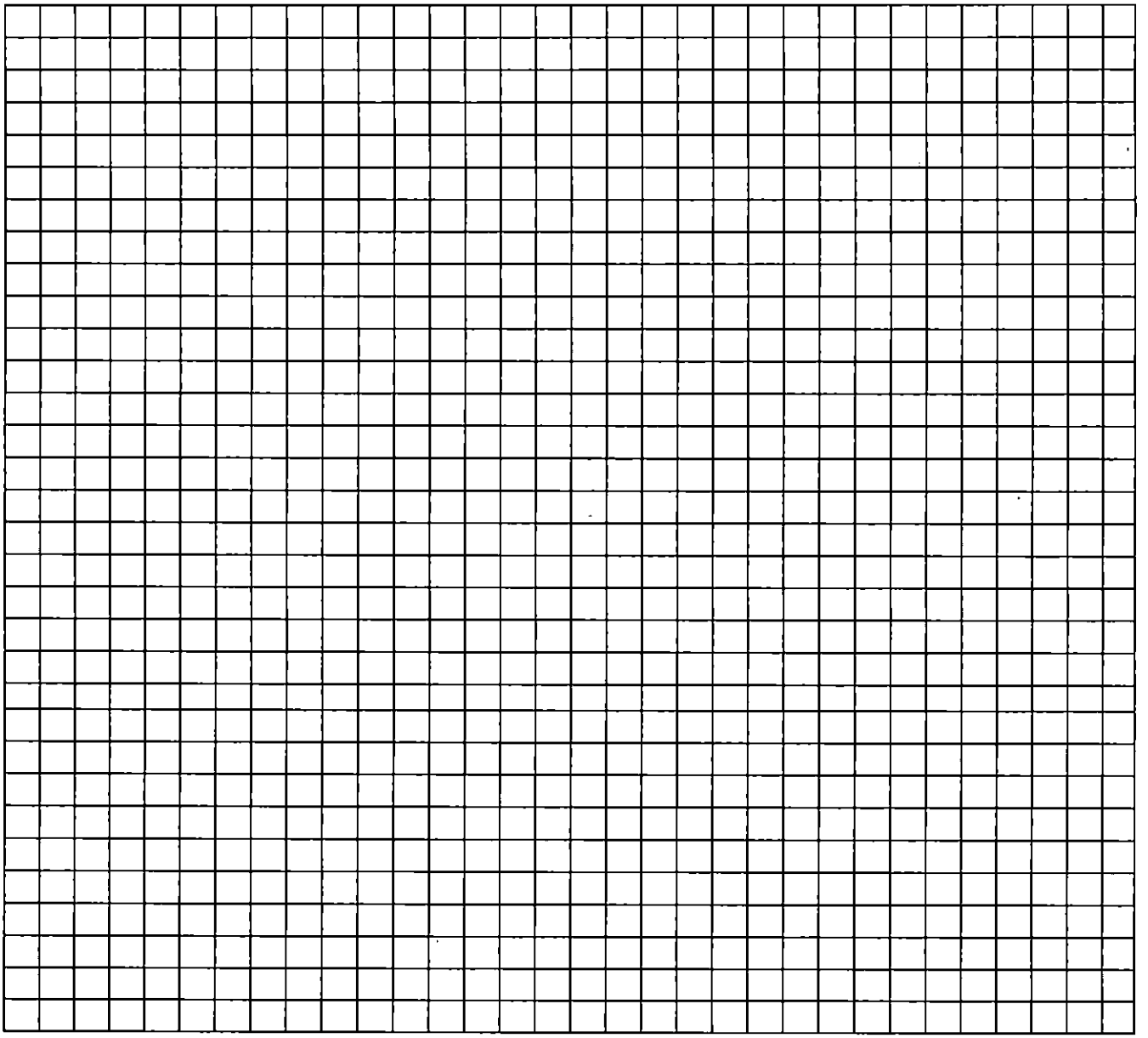
File #: _____

PROPOSED PLOT PLAN

A drawing showing the locations of the following items is required: existing and proposed property lines with dimensions, easements or right-of-ways, proposed building pad(s) or existing building footprint(s), all appurtenances (garage, driveway, deck, pool, etc.), location of existing or proposed well(s), location of existing or proposed sewer lines and sewage disposal systems, surface water bodies, and any aboveground or underground storage tanks. Provide names for all roads that adjoin the property.

Street Address: _____ Tax Parcel #: _____

Subdivision Name: _____ Lot #: _____

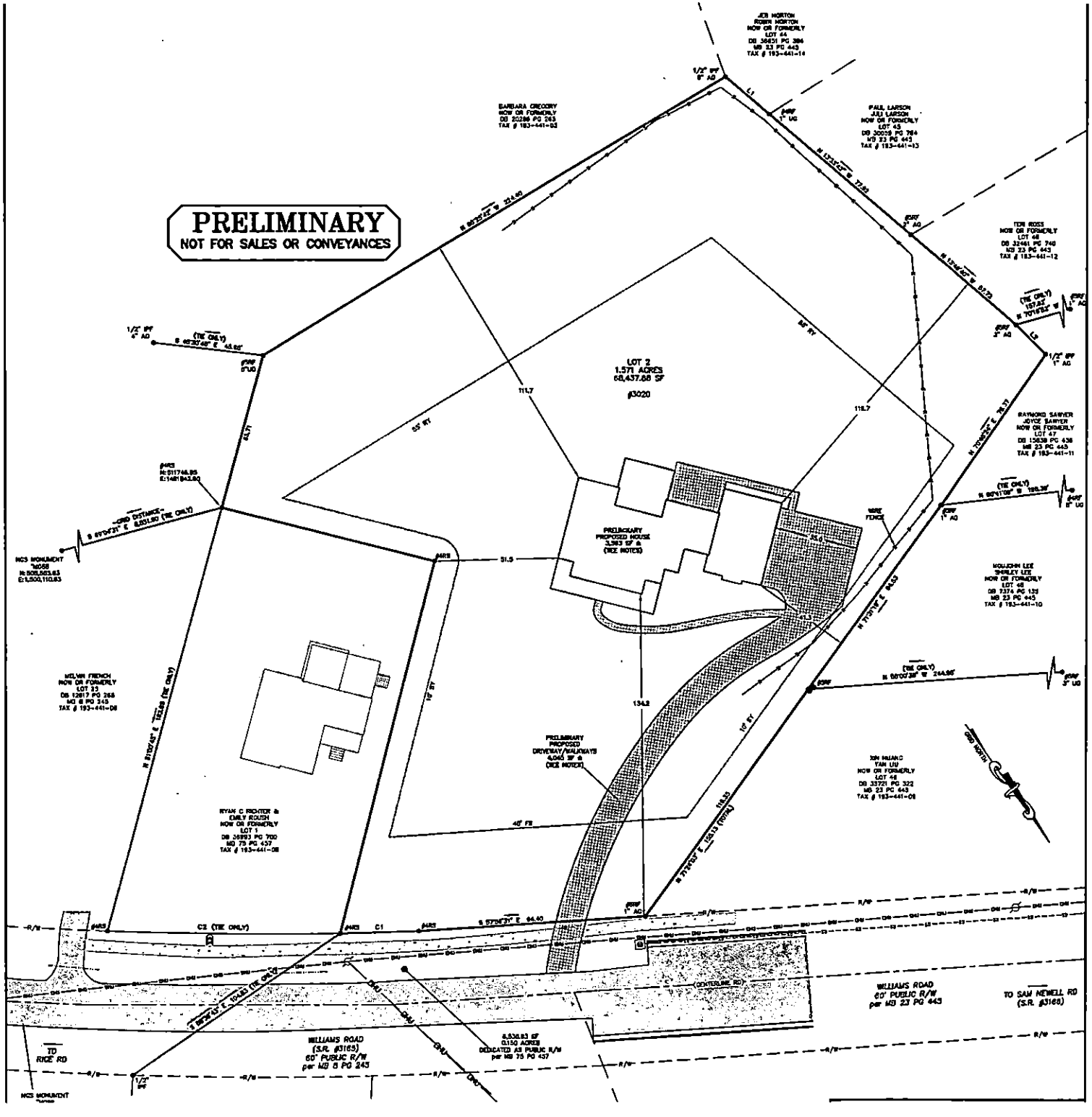


_____ _____

Property Owner's or Owner's Legal Representative Signature Date

MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
3205 Freedom Drive, Suite 8000, Charlotte, NC 28208
OFFICE: 980-314-1680, FAX: 704-336-6894 Email: Wellreg@MecklenburgCountyNC.gov

Revised on: 4/20/17


PRELIMINARY
NOT FOR SALES OR CONVEYANCES
LOT 2
1.571 ACRES
68,437.88 SF
#3020
PRELIMINARY PROPOSED HOUSE
PRELIMINARY PROPOSED DRIVEWAY/WALKWAYS
WILLIAMS ROAD
60' PUBLIC R/W
per MB 23 PG 445
TO SAM NEWELL RD
(S.R. #3165)
WILLIAMS ROAD
(S.R. #3165)
60' PUBLIC R/W
per MB 8 PG 245
TO RICE RD
NCS MONUMENT
GRID NORTH

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	01/23/26	**Amount:**	250.00
Receipt #:	158779	**Tendered:**	250.00
Check / Auth #:	VISA 0761	**Returned:**	0.00
Received By:	ALVARJS		

Account Information

Account #: 200000
Contractor: EMILY ROUSCH RITCHER
Attn: 3020 WILLIAMS RD
Address:
Address:
City/State/Zip: ,

Item	Description	Quantity	Unit Price	Total Price
0701	Improvment Permit App-Residen 3020 WILLIAMS RD	1	250.00	250.00

Permit#

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance

MECKLENBURG COUNTY
North Carolina
Public Health

Mecklenburg County Public Health

Kimberly Scott, DrPH, MPH
Interim Health Director

IMPROVEMENT PERMIT DENIAL

March 9, 2026

Ryan Richter & Emily Roush
3026 Williams RD
Matthews, NC 28105

Re: Application for Improvement Permit for property located at 3020 Williams RD, PID: 193-441-81,

Health Department file # 12418B

To Whom It May Concern:

The Mecklenburg County Health Department, Environmental Health Division, on 02/17/26 evaluated the above-referenced property at the site designated on the plat/site plan that accompanied your Improvement Permit application. According to your application the site is to serve a 4 bedroom residence with a design wastewater flow of 480 gallons per day. The evaluation was done in accordance with the laws and rules governing on-site wastewater systems in General Statutes 130A-333 to 345 and 15A NCAC 18E.

Based on the criteria set out in 15A NCAC 18E .0501 through .0602, the evaluation indicated that the site is **UNSUITABLE** for an on-site wastewater system. Therefore, we must deny your request for an Improvement Permit. A copy of the site evaluation is enclosed. The site is unsuitable based on the following:

- ☐ Unsuitable soil topography and/or landscape position (Rule .0502)
- ☒ Unsuitable soil characteristics (structure or clay mineralogy) (Rule .0503)
- ☒ Unsuitable soil wetness condition (Rule .0504)
- ☐ Unsuitable soil depth (Rule .0505)
- ☒ Unsuitable saprolite (Rule .0506)
- ☐ Presence of restrictive horizon (Rule .0507)
- ☐ Insufficient space for septic system and repair area (Rule .0508)
- ☐ Unsuitable for meeting required setbacks (Rule .0601 or .0602)
- ☐ Other (*Cite applicable rule*):_____

_____

_____

These severe soil or site limitations could cause premature system failure, leading to the discharge of untreated sewage on the ground surface, into surface waters, directly to ground water, or inside your structure.

The site evaluation included consideration of possible site modifications, as well as use of all possible systems approved under 15A NCAC 18E. However, the Health Department has determined that none of the above options will overcome the severe conditions on this site. A possible option might be a system designed to dispose of sewage to another area of suitable soil such as off-site to additional property.

For the reasons set out above, the property is currently classified UNSUITABLE, and no Improvement Permit shall be issued for this site in accordance with Rule .0509(a) and (d).

MECKLENBURG COUNTY
North Carolina
Public Health

Mecklenburg County Public Health

Kimberly Scott, DrPH, MPH
Interim Health Director

A site classified as UNSUITABLE may be classified as SUITABLE if written documentation is provided that meets the requirements of Rule .0509(b) or (c). A copy of this rule is enclosed. You may hire a consultant to assist you if you wish to try to develop a plan under which your site could be reclassified as SUITABLE.

You have the right to an informal review of this decision. You may request an informal review by the soil scientist or environmental health supervisor at the local health department. You may also request an informal review by the Department of Health and Human Services' Regional Soil Scientist. A request for informal review must be made in writing to the local health department.

You also have a right to a formal appeal of this decision. To pursue a formal appeal, you must file a petition for a contested case hearing with the Office of Administrative Hearings, 1711 New Hope Church Rd, Raleigh, NC 27609. To get a copy of a petition form, you may write the Office of Administrative Hearings, call the office at 984-236-1850, or download it from the OAH web site at http://www.oah.nc.gov. The petition for a contested case hearing must be filed in accordance with the provision of General Statutes 130A-24 and 150B-23 and all other applicable provisions of Chapter 150B. General Statute 130A-335(g) provides that your hearing will be held in the county where your property is located.

If you wish to pursue a formal appeal, you must file the petition form with the Office of Administrative Hearings **WITHIN 30 DAYS OF THE DATE OF THIS LETTER.** The date of this letter is 03/9/26. Meeting the 30-day deadline is critical to your formal appeal.

If you file a petition for a contested case hearing with the Office of Administrative Hearings, **you are required** by General Statute 150B-23 to serve a copy of your petition on the Registered Agent for the Department of Health and Human Services: Julie Cronin, Office of General Counsel, Department of Health and Human Services, 2001 Mail Service Center, Raleigh, N.C. 27699-2001.

Do not serve the petition on your local health department. Sending a copy of your petition to the local health department will not satisfy the legal requirement in General Statute 150B-23 that you send a copy to the Office of General Counsel, Department of Health and Human Services.

You may call or write the local health department if you need any additional information or assistance.

Sincerely,

April Bumgarner, REHS

April Bumgarner, REHS
Sr. Environmental Health Specialist
Groundwater & Wastewater Services | Public Health
Mecklenburg County Government
704-512-9831 | MeckNC.Gov

(2) a jurisdictional wetland as determined by the U.S. Army Corps of Engineers or DEQ, unless the proposed use is approved in writing by the U.S. Army Corps of Engineers or DEQ; and

(3) complex slope patterns, such as areas affected by erosion which have rills or evidence of drainage, and slopes dissected by gullies that prohibit the design, installation, maintenance, monitoring, or repair of the wastewater system.

(d) For all sites, except where a drip dispersal system is proposed, additional required soil depth based on slope correction shall be calculated using the following formula to determine site suitability for soil depth in accordance with Rule .0505 of this Section:

SD = MSD + (TW x S)

Where SD = soil depth required with slope correction, in inches
MSD = minimum soil depth, in inches
TW = proposed trench width, in inches
S = percent slope, in decimal form

History Note: *Authority G.S. 130A-335(e).*

15A NCAC 18E .0503 SOIL MORPHOLOGY

The soil morphology shall be evaluated in accordance with the following:

(1) Texture – The texture of each soil horizon in a profile shall be classified into 12 soil textural classes based upon the relative proportions of sand, silt, and clay sized mineral particles. The soil textural class shall be determined in the field by hand texturing samples of each soil horizon in the soil profile in accordance with the criteria in Guide to Soil Texture by Feel, Journal of Agronomic Education, USDA, NRCS. Table IV identifies the Soil Groups that shall be suitable with respect to texture.

Table IV. Soil Groups that are suitable with respect to texture

Soil Group	USDA Soil Textural Class	
I	Sands	Sand
		Loamy Sand
II	Coarse Loams	Sandy Loam
		Loam
III	Fine Loams	Silt
		Silt Loam
		Sandy Clay Loam
		Clay Loam
		Silty Clay Loam
IV	Clays	Sandy Clay
		Silty Clay
		Clay

Laboratory testing of the soil textural class may be substituted for field testing when the laboratory testing is conducted in accordance with ASTM D6913 and D7928. When laboratory testing of soil texture is proposed, the LHD shall be notified a minimum of 48 hours before samples are to be taken by the licensed professional, if required by G.S. 89C, 89E, or 89F. The authorized agent and the licensed professional shall be present when the samples are collected. Samples shall be representative of the soil horizon being evaluated for texture. Split samples shall be made available to the LHD when requested. The licensed professional shall document chain of custody and seal, sign, and date the first page of the report.

(2) Structure – Soil structure shall be determined in the field for each soil horizon in the soil profile and shall be classified and suitability determined in accordance with Table V. If an authorized agent determines that the soil structure cannot be determined from auger borings, pits shall be required.

Table V. Soil structure and associated suitability classification

Structure	Diameter	Classification
Granular	N/A	suitable
Blocky	≤ 1 inch or 2.5 cm	suitable
	> 1 inch or 2.5 cm	unsuitable
Platy	N/A	unsuitable
Prismatic	≤ 2 inches or 5 cm	suitable
	> 2 inches or 5 cm	unsuitable
Absence of structure: Single Grain	N/A	suitable
Absence of Structure: Massive -	N/A	unsuitable

no structural peds		

(3) Clay Mineralogy – Clay mineralogy shall be determined in the field by evaluation of moist and wet soil consistence in accordance with the USDA-NRCS Field Book for Describing and Sampling Soils. The clay mineralogy shall be classified and suitability determined in accordance with Table VI.

Table VI. Clay mineralogy field method results, associated mineralogy, and suitability classification

Soil Consistence	Mineralogy	Classification
Moist		
Loose, very friable	Slightly expansive	suitable
Friable, firm	Slightly expansive	suitable
Very firm or extremely firm	Expansive	unsuitable*
Wet		
Nonsticky, slightly sticky Nonplastic, slightly plastic	Slightly expansive	suitable
Moderately sticky Moderately plastic	Slightly expansive	suitable
Very sticky or very plastic	Expansive	unsuitable*

*If either the moist consistence or wet consistence is unsuitable then clay mineralogy is classified unsuitable.

(a) Laboratory testing of ACEC may be substituted for field testing to determine clay mineralogy. The laboratory testing shall be conducted in accordance with USDA-NRCS Soil Survey Laboratory Information Manual, Soil Survey Investigations Report No. 45, and Kellogg Soil Survey Laboratory Methods Manual, Soil Survey Investigation Report No. 42, page 229, or EPA Method 9080. Table VII shall be used to determine the clay mineralogy suitability when laboratory testing is used. When using laboratory testing to determine clay mineralogy, the clay content of the soil shall be greater than 35 percent and the organic matter component shall be less than 0.5 percent.

Table VII. Clay mineralogy laboratory method results, mineralogy, and associated suitability classification

ACEC in cmol/kg	Mineralogy	Classification
≤ 16.3	Slightly expansive	suitable
> 16.3	Expansive	unsuitable

(b) When laboratory testing of clay mineralogy is proposed, the LHD shall be notified a minimum of 48 hours before samples are to be taken by the licensed professional, if required by G.S. 89C, 89E, or 89F. The authorized agent and the licensed professional shall be present when the samples are collected. Samples shall be representative of the soil horizon being evaluated for clay mineralogy. Split samples shall be made available to the LHD when requested. The licensed professional shall document chain of custody and seal, sign, and date the first page of the report.

(4) Organic Soils - Organic soils shall be considered unsuitable.

History Note: *Authority G.S. 130A-335(e).*

15A NCAC 18E .0504 SOIL WETNESS CONDITION[15]

(a) SWC, such as those caused by a seasonal high-water table, a perched water table, tidal water, seasonally saturated soil, or by lateral water movement, shall be determined by field observations of soil wetness indicators as follows:

(1) the presence of colors with ~~a value 4 or more and~~ a chroma 2 or less using the Munsell Soil Color Book at greater than or equal to two percent of soil volume as redox depletions or as the matrix of a horizon. Colors of chroma 2 or less that are lithochromic features shall not be considered indicative of a SWC; or

(2) the observation or indication of saturated soils, a perched water table, or lateral water movement flowing into a bore hole, monitoring well, or open excavation above a less permeable horizon, that may occur without the presence of colors with a ~~value 4 or more or~~ chroma 2 or less at greater than or equal to two percent of soil volume as redox depletions or as the matrix of a horizon.

(3) The shallowest depth to SWC determined in this Paragraph shall be used.

(b) Initial site suitability as to SWC shall be determined by field observations of soil wetness indicators in accordance with Paragraph (a) of this Rule. Sites where the SWC is less than 12 inches below the naturally occurring soil surface, or less than 18 inches if more than six inches of Group I soils are present, shall be considered unsuitable with respect to SWC.

(c) Monitoring or modeling procedures as set forth in this Rule may be used to reclassify the site as suitable with respect to SWC.

(d) Monitoring or modeling procedures as set forth in this Rule shall be required when the owner proposes to use a wastewater system requiring a greater depth to a SWC than the depth observed by soil wetness indicators in accordance with Paragraph (a) of this Rule.

[15] Changed by S.L. 2023-77, Section 11.

(e) Modeling procedures as set forth in this Rule shall be required when the owner proposes to use sites with Group III or IV soils within 36 inches of the naturally occurring soil surface with artificial drainage, or on sites when fill is proposed to be used in conjunction with an artificial drainage system.

(f) Monitoring or modeling procedures may include the following:

(1) direct monitoring procedure as set forth in Paragraph (g) of this Rule;

(2) modeling procedure as set forth in Paragraph (h) of this Rule;

(3) monitoring and modeling procedure as set forth in Paragraph (i) of this Rule; or

(4) other modeling procedures as set forth in Paragraph (j) of this Rule.

(g) The direct monitoring procedure involves determining the SWC by observation of water surface elevations in wells during periods of high-water in accordance with the following:

(1) no later than 30 days prior to the start of the monitoring period, the owner shall notify the LHD of the intent to monitor water surface elevations by submitting a proposal prepared by a licensed professional, if required in G.S. 89C, 89E, or 89F, that includes a site plan, well and soil profile at each monitoring site, and a monitoring plan as follows:

(A) the site plan shall include the proposed sites for wastewater systems, the longitude and latitude of the site, the location of monitoring wells, and all drainage features that may influence the SWC. The site plan shall also specify any proposed fill and drainage modifications;

(B) the monitoring plan shall include the proposed number, installation depth, screening depth, soil and well profile, materials, and installation procedures for each monitoring well. A minimum of three water level monitoring wells shall be installed for water surface observation at each site. Sites handling systems with a DDF greater than 600 gpd shall have one additional well per 600 gpd increment. Well locations shall include portions of the initial and repair dispersal field areas containing the most limiting soil and site conditions. The monitoring plan shall also provide for monitoring of the water surface elevations in the wells and all precipitation at the site; and

(C) notification of whether the owner or a licensed professional will perform the monitoring, including the name of the licensed professional, if applicable.

(2) prior to installation of the monitoring wells, the authorized agent shall approve the plan. Plan approval shall be based upon a site visit and compliance with this Rule. If the plan is denied, a signed, written report shall be provided to the owner that describes the reasons for denial, the changes necessary for approval of the plan, and notice of the right to appeal under G.S. 130A-24 and 150B;

(3) wells shall extend a minimum of five feet below the naturally occurring soil surface, or existing ground surface for existing fill determined in accordance with Rule .0909(d) of this Subchapter, except that wells that extend down only 40 inches from the ground surface may be used if a continuous record of the water table is provided for a minimum of half of the monitoring period. One or more shallower wells may be required on sites where shallow lateral water movement or a perched SWC is anticipated based on the site investigation;

(4) the water elevation in the monitoring wells shall be recorded daily from January 1 to April 30, taken at the same time during the day, plus or minus three hours. Rain gauges shall be located within two miles of the site. Daily rainfall measurements shall also be recorded from December 1 through April 30; and

(5) the most recent information available from the SCO shall be used to determine the recurrence frequency of the total amount of rainfall at the site for the 120-day period ending April 15 based upon the site's historic rainfall record. This shall be done when the 120-day cumulative rainfall for the monitoring period ending on April 15 equals or exceeds the site's historic rainfall for the same period with a 30 percent frequency. The recurrence frequency shall be determined with one of the following methods:

(A) the licensed professional shall determine the 120-day SPI for April 15 by using the Integrated Water Portal located on the SCO's website at: http://climate.ncsu.edu/water/map. The licensed professional shall click on the map pixel that corresponds closest to the site's location. The Department will assist in obtaining this information upon request; or

(B) the recurrence frequency of the site's cumulative precipitation for the 120-day monitoring period ending on April 15 shall be determined for the site on a case-by-case basis from the most recent master grid provided to the Department by the SCO. The master grid contains probability distribution parameters that shall be used by the Department based upon guidance from the SCO. Based on the master grid, the Department shall derive the recurrence frequency values for the grid point that corresponds closest to the site's latitude and longitude.

(6) The SWC shall be determined by the shallowest level that is continuously saturated for the number of consecutive days during the January through April well monitoring period shown in Table VIII as follows:

TABLE VIII. Rainfall SPI and exceedance probability during monitoring season related to number of consecutive days of continuous saturation

April 15 SPI 120-day range	Recurrence frequency range 120-day cumulative April 15 rainfall	Number of consecutive days of continuous saturation for SWC
SPI -0.543 to 0	30% to 49.9% duration	3 days or 72 hours
SPI 0 to 0.545	50% to 69.9% duration	6 days or 144 hours

SPI 0.546 to 0.864	70% to 79.9% duration	9 days or 216 hours
SPI ≥ 0.865	80% to 100% duration	14 days or 336 hours

(7) If monitoring well data is collected during monitoring periods that span multiple years, the year that yields the shallowest SWC shall apply.

(h) The modeling procedure may be used to determine SWC by using DRAINMOD, a groundwater simulation model, to predict daily water levels over a minimum 30-year period using site-specific input parameters as outlined in the DRAINMOD User's Guide. The SWC shall be determined as the shallowest level predicted by DRAINMOD to be saturated for a 14-day continuous period between January 1 and April 30 with a recurrence frequency of 30 percent, an average of a minimum of nine years in 30, and in accordance with the following:

(1) weather input files shall consist of hourly rainfall and daily temperature data collected over the entire period of record but for a minimum of a 30-year period from a measuring station site, such as the National Weather Service or SCO. The measuring station used shall be the station located closest to the owner's site;

(2) soil and site inputs for DRAINMOD shall include the following:

(A) soil input file with the soil moisture characteristic curve and data for the soil profile that is closest to the described soil profile that is present on the site;

(B) soil horizon depths determined on site;

(C) site measured or proposed drain depth and spacing, and drain outlet elevation;

(D) in-situ Ksat measurements for a minimum of three representative locations on the site and at each location for the three most representative soil horizons within five feet of the surface. In-situ Ksat measurements shall be for one representative soil horizon at or above redoximorphic depletion features and two representative soil horizons at and below redoximorphic concentration features at each location on the site;

(E) all other model parameters based upon the DRAINMOD User's Guide; and

(F) a sensitivity analysis shall be conducted for the following model parameters: soil input files for a minimum of two other most closely related soil profiles; in-situ Ksat of each horizon; drain depth and spacing; and surface storage and depth of surface flow inputs.

The sensitivity analysis shall be used to evaluate the range of soil and site characteristics for choosing input parameters related to the soil profiles, Ksat input values based upon the range of in-situ Ksat values measured on the site, and inputs for surface and subsurface drainage features based upon the range of possible elevations and distances that occur or may occur after installation of improvements. The sensitivity analysis shall establish which parameters are most critical for determination of the depth to SWC. Conservative values for the most critical parameters shall be used in applying the model to the site;

(3) for sites designed to receive over 600 gpd, the SWC determination using DRAINMOD shall take into consideration the impact of wastewater application on the projected water table surface; and

(4) the groundwater simulation analysis shall be prepared and submitted to the LHD by licensed professionals, if required in G.S. 89C, 89E, or 89F, qualified to use DRAINMOD by training and experience. The LHD shall submit the groundwater simulation analysis to the Department for technical review prior to approval of the SWC determination.

(i) The monitoring and modeling procedure is a combination of the direct monitoring procedure and the modeling procedure. The SWC shall be determined as the shallowest level predicted by DRAINMOD to be saturated for a 14-day continuous period between January 1 and April 30 with a recurrence frequency of 30 percent, an average of a minimum of nine years in 30, and in accordance with the following:

(1) the procedures set forth in Paragraph (g) shall be used to monitor water surface elevation and precipitation. The rain gauges and monitoring wells required by Subparagraph (g)(4) shall use a recording device and a data file that is DRAINMOD compatible. The recording devices shall record rainfall hourly or daily and well water levels daily. The data file shall be submitted with the report to the LHD;

(2) DRAINMOD shall be used to predict daily water levels. The DRAINMOD modeling shall be in accordance with the following:

(A) weather input files shall be developed from daily temperature and hourly or daily rainfall data collected over a minimum 30-year period from a measuring station, such as the National Weather Service or SCO. The measuring station used shall be the station located closest to the site. Daily maximum and minimum temperature data for the December 1 through April 30 monitoring period shall be obtained from the closest available weather station;

(B) soil and site inputs for DRAINMOD, including a soils data file closest to the soil series identified, depths of soil horizons, in-situ Ksat of each horizon, depth and spacing of drainage features, and depression storage shall be selected in accordance with procedures outlined in the DRAINMOD User's Guide;

(C) inputs shall be based upon site-specific soil profile descriptions. Soil and site input factors shall be adjusted during the model calibration process to achieve the best possible fit as indicated by the least squares analysis of the daily observations over the whole monitoring period and to achieve the best possible match between the shallowest water table depth during the monitoring period that is saturated for 14 consecutive days, measured vs. predicted. The mean absolute deviation between measured and predicted values shall be no greater than six inches during the monitoring period;

(D) for sites intended to receive greater than 1,500 gpd, the SWC determination using DRAINMOD shall take into consideration the impact of wastewater application on the projected water table surface; and

(E) the DRAINMOD analysis shall be prepared and submitted to the LHD by licensed professionals, if required in G.S. 89C, 89E, or 89F, qualified to use DRAINMOD by training and experience. The LHD or owner may request a technical review by the Department prior to approval of the SWC determination.

The monitoring and modeling procedure may also be used to re-evaluate a SWC that was previously evaluated by the direct monitoring procedure.

(j) Modeling procedures other than those set forth in this Rule may be used to determine SWC upon approval by the Department. Other modeling procedures shall be approved if the following requirements are met:

(1) the modeling procedures use daily water levels or weather records over a 30-year period to predict future daily water levels;

(2) the proposed model and prediction are shown to be as accurate as the prediction from DRAINMOD, calculated in accordance with Paragraph (h) of this Rule; and

(3) documentation is provided in accordance with Rule .0509(c) of this Section.

(k) A report of the investigations made for the direct monitoring procedure, modeling procedure, or monitoring and modeling procedure in accordance with Paragraphs (g), (h), or (i) of this Rule shall be prepared prior to approval of the SWC determination. A request for technical review of the report by the Department shall include digital copies of monitoring data, model inputs, output data, and graphic results, as applicable.

History Note: *Authority G.S. ~~130A-335(e).~~ 130A-335(e); S.L. 2023-77, s.11.*

15A NCAC 18E .0505 SOIL DEPTH

(a) The soil depth shall be measured from the naturally occurring soil surface to rock, saprolite, or parent material.

(b) Soil depth to saprolite, rock, or parent material greater than or equal to 18 inches shall be suitable.

(c) Soil depth to saprolite, rock, or parent material less than 18 inches shall be unsuitable.

History Note: *Authority G.S. 130A-335(e).*

15A NCAC 18E .0506 SAPROLITE[16]

(a) Sites classified unsuitable due to depth to saprolite or other LC may be reclassified suitable in accordance with this Rule.

(b) Saprolite shall be evaluated for suitability by the LHD ~~Sites with saprolite shall be classified as suitable if an investigation of the site~~ using pits at locations approved by the authorized ~~agent~~ agent. An LSS, other than an LSS employed as an authorized agent, may use either borings or pits to evaluate saprolite. Sites with saprolite shall be classified as suitable if ~~confirms that~~ the following conditions are met:

(1) a 24-inch minimum vertical separation shall be maintained in saprolite from the infiltrative surface to an unsuitable LC, unless any of the vertical separation consists of a suitable soil horizon, in which case, the 24-inch separation may be calculated based on one inch of suitable soil being equivalent to two inches of saprolite; and

(2) the following physical properties and characteristics shall be present in the saprolite below the proposed infiltrative surface:

(A) the saprolite texture as determined in the field by hand texturing samples of each horizon shall be sand, loamy sand, sandy loam, loam, or silt loam;

(B) the clay mineralogy shall be suitable in accordance with Rule .0503(3) of this Section;

(C) greater than two-thirds of the saprolite by volume shall have a moist consistence of loose, very friable, friable, or firm;

(D) the saprolite wet consistence shall be nonsticky or slightly sticky and nonplastic or slightly plastic;

(E) the saprolite shall be in an undisturbed, naturally occurring state;

(F) the saprolite shall have no open and continuous joints, quartz veins, or fractures relic of parent rock; and

(G) laboratory determinations may be used to supplement field determinations. Split samples shall be made available to the LHD.

History Note: *Authority G.S. 130A-335(e); S.L. 2015-147, ~~s.3.~~ s.3; S.L. 2023-77, s.12.*

15A NCAC 18E .0507 RESTRICTIVE HORIZONS

(a) Soils in which restrictive horizons are three inches or more in thickness and at depths greater than or equal to 18 inches below the naturally occurring soil surface shall be suitable.

(b) Soils in which restrictive horizons are three inches or more in thickness and at depths less than 18 inches below the naturally occurring soil surface shall be unsuitable.

History Note: *Authority G.S. 130A-335(e).*

[16] Changed by S.L. 2023-77, Section 12.

Department of Health and Human Services
Environmental Health Section
On-site Water Protection Branch

Property ID: 19344181
Lot #:
File #: 12418b
AppID: 16110

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Owner: Emily Roush Richter
Applicant: Same
Address: 3020 Williams Rd.
Date Evaluated: 2/17/2026
Proposed Facility: 4 BR SFR
Design Flow (.0400): 480 GPD
Property Size: 1.57 ac.
Location of Site: See file
Property Recorded: After Jan. 1, 1983
Water Supply: [X] Public [ ] Single Family Well [ ] Spring [ ] Other:
Evaluation Method [X] Auger Boring [ ] Pit [ ] Cut
Type of Wastewater: [X] Domestic [ ] Industrial Process [ ] High Strength
FoundationType: [ ] Crawl Space [X] Slab [ ] Basement

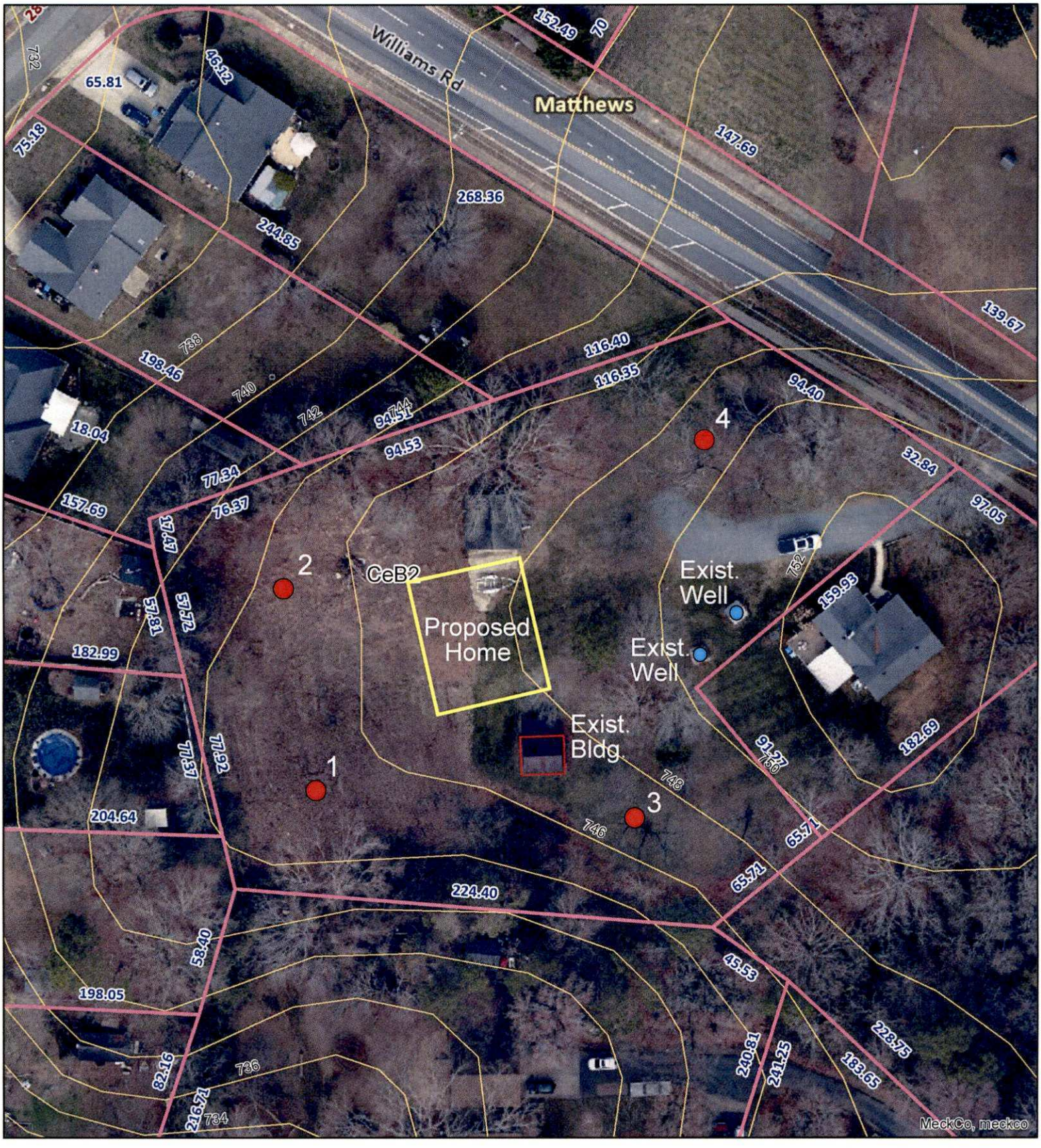
PROFILE #	.0502 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY .0503 Structure/ Texture	SOIL MORPHOLOGY .0503 Consistence/ Mineralogy	PROFILE FACTORS Matrix Soil Color	PROFILE FACTORS .0504 Soil Wetness/ Color	PROFILE FACTORS .0505 Soil Depth (IN.)	PROFILE FACTORS .0506 Sapro Class	PROFILE FACTORS .0507 Restr Horiz	General Comments / Other	0.0509 Profile Class & LTAR	0.0502 Slope Correction (Low Side of trench)
1	Broad N ~2%	0 - 3	Wk, Sbk, CL	Fr, S, P, Mixed	B	C: G Chroma 2 @ 3"+	33"	US	N/A		US	---
		3 - 12	Wk, Sbk, SiL	Fr, SS, SP	GB							
		12 - 33	Wk, Abk, SiC	VFi, VS, VP, Exp	G / YB							
		33 - 60	M, SiCL-SiL Sap.	Fr, SS, SP	G / YB	C: Bl & R mottles @ 12"+						
2	L ~3%	0 - 5	Wk, Sbk, SiL	Fr, SS, SP	GB	M: Chroma 2 deplet. @ 5"+	48"+	US	N/A	C: Sap. inclus. @ 17-37"	US	---
		5 - 37	Wk, Abk, SiC	VFi, VS, VP, Exp	R / YB							
		37 - 48	Wk, Abk, SiC & Sap.	mix Fi, VS, VP, Exp	YB							
3	L Just above H ~4%	0 - 9	Fill soil	CL/C/SiC	M / R / G	C-M: Chroma 2 deplet. throughout	NE	US	N/A		US	---
		9 - 30	Wk, Abk, SiC & Sap.	mix Fi, VS, VP, Exp	GB							
		30	Boring terminated									
4	S ~5%	0 - 3	Wk, Abk, SiC	Fr, SS, SP	B	C: Chroma 2 deplet. @ 5"+	36"+	US	N/A		US	---
		3 - 15	Wk, Abk, SiC	VFi, VS, VP, Exp	R / YB							
		15 - 23	Wk, Abk, C	VFi, VS, VP, Exp	GB							
		23 - 36	Wk, Abk, C & Sap.	mix VFi, VS, VP, Exp	M							
		36	Boring terminated									
5												

Description	Initial System	Repair System
Available Space (.0508)		
System Type(s)		
Site LTAR	US	
Maximum Trench Depth (low side of trench)		

Soil Evaluation By: P. Mitchell, REHS, LSS
Soil Classification (.0502 - .0507): US
Other(s) Present:
Site Classification (.0509): US

COMMENTS: Site is unsuitable due to expansive clay mineralogy, US saprolite, and soil wetness conditions present.

Soil & Site Evaluation Map



Map Created by: P. Mitchell
Date: 2/17/2026

PROPERTY INFO
Address: 3020 Williams Rd.
PID No.: 19344181

1 inch = 60 feet

Mecklenburg County
Groundwater & Wastewater Services