ICHD - ENVIRONMENTAL HEALTH DIVISION

Statesville Office (704) 878-5305 Mooresville Office (704) 660-3625

PERMIT # OSWP-2023-29878

PIN # 4762-30-9722 BLDR-2023-33024

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

PPLICANT / OWNER: Adams Homes APPLICANT ADDRESS:

TE ADDRESS: 191 MOUNTAIN ISLAND DR, STATESVILLE, NC 28677 PHONE: ALT. PHONE:

TE DIRECTIONS: SAP CONTROLLED: YES ☐ NO ☑

UBDIVISION: North Lake SECTION: 3 LOT #: 52 LOT AREA: 0.54 DESIGN FLOW: 360 L.T.A.R.: 0.275

eptic Tank: 1000 (gal)	STB: 7100	Date: 10/10/23	☑ New System ☐ Repair ☐ Expansion	System Type: III	☑ Residence	No. Bedrooms: 3	Water Supply: Municipal Water
ump Tank: 1000 (gal)	PT: 3603	Date: 10/28/23	System Description: Pressure Manifold 25% reduction		☐ Business	No. Persons: 6	
ump Make: Zoeller	Model: BN152	Serial #:	Repair System Description: Pressure Manifold 50% reduction		☐ Other	No. Employees:	
Nitrification Fields: 1	# Lines: 4	Linear Ft.: 328	Maintenance Agreement Required: ☐ YES ☑ NO		☑ Slab	☐ Crawl Space	
ench Width: 36	Trench Bottom Depth (Low side): 26		Gravel Depth:	☐ GRAVITY ☑ PRESSURE	☐ Basement w/ Plumbing	☐ Basement w/o Plumbing	

omments / Conditions: This Improvement Permit is issued pursuant to G.S. 130A-335 (a2) and (a3) using the signed and sealed LSS/LG evaluation(s) ttached here. This Construction Authorization is issued pursuant to G.S. 130A-335(a2) and (a5) using the signed and sealed plans or evaluations attached here.

INITIAL SITE SKETCH

AS BUILT SKETCH

Lines, tanks, PH, floats, alarm 12/6/23 DP

As Built Attached

SH 12/27

- Alarm not working 12/27 ✓ 1/4/23
- Drainage needs to be diverted away from tanks before OP
- Electrical-✓

Water diverted from tanks 1/4/23

rmit 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.

wner / Applicant Signature: Date:

IPROVEMENT PERMIT by: Date: 7/26/2023

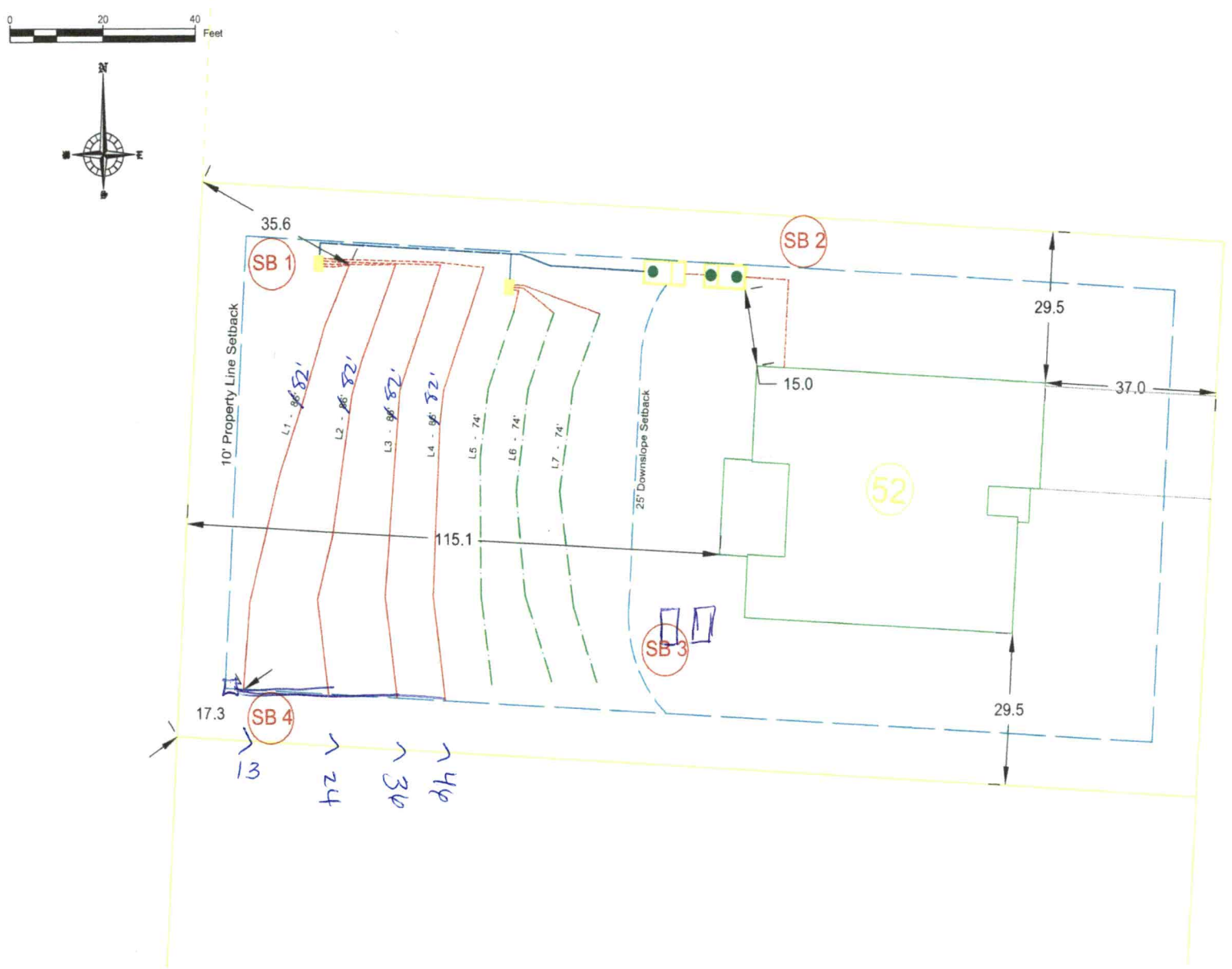
UTHORIZATION TO CONSTRUCT by: Date: 7/26/2023

Installed By: Precision Excavation

OPERATION PERMIT by: Date: 1/4/24

Existing System Inspected By: Date:

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



PROPERTY LAYOUT

SOURCE: AWT Inc.

AWT
Engineers and Soil Scientists
Agri-Waste Technology, Inc.
501 N. Salem Street, Suite 203
Apex, North Carolina 27502
919-859-0999
www.agriwaste.com

Adam's Homes
Lot 52

Project Location:
191 Mountain Island Dr
Statesville, NC 28677
Iredell County
PIN: 4752309722.000

Project Owner:
Adam's Homes
3000 Gulf Breeze Parkway
Gulf Breeze, FL 32563
704-361-5437
bcashion@adamshomes.com

For Permitting Purposes

REV.	ISSUED DATE	DESCRIPTION

SHEET TITLE

Property Layout

DRAWN BY:	CREATED ON:
T. Bostic	06/27/2023
REVISED BY:	REVISED ON:
####	####
RELEASED BY:	RELEASED ON:
####	####

DRAWING NUMBER

WW-2

General Drainfield Notes:

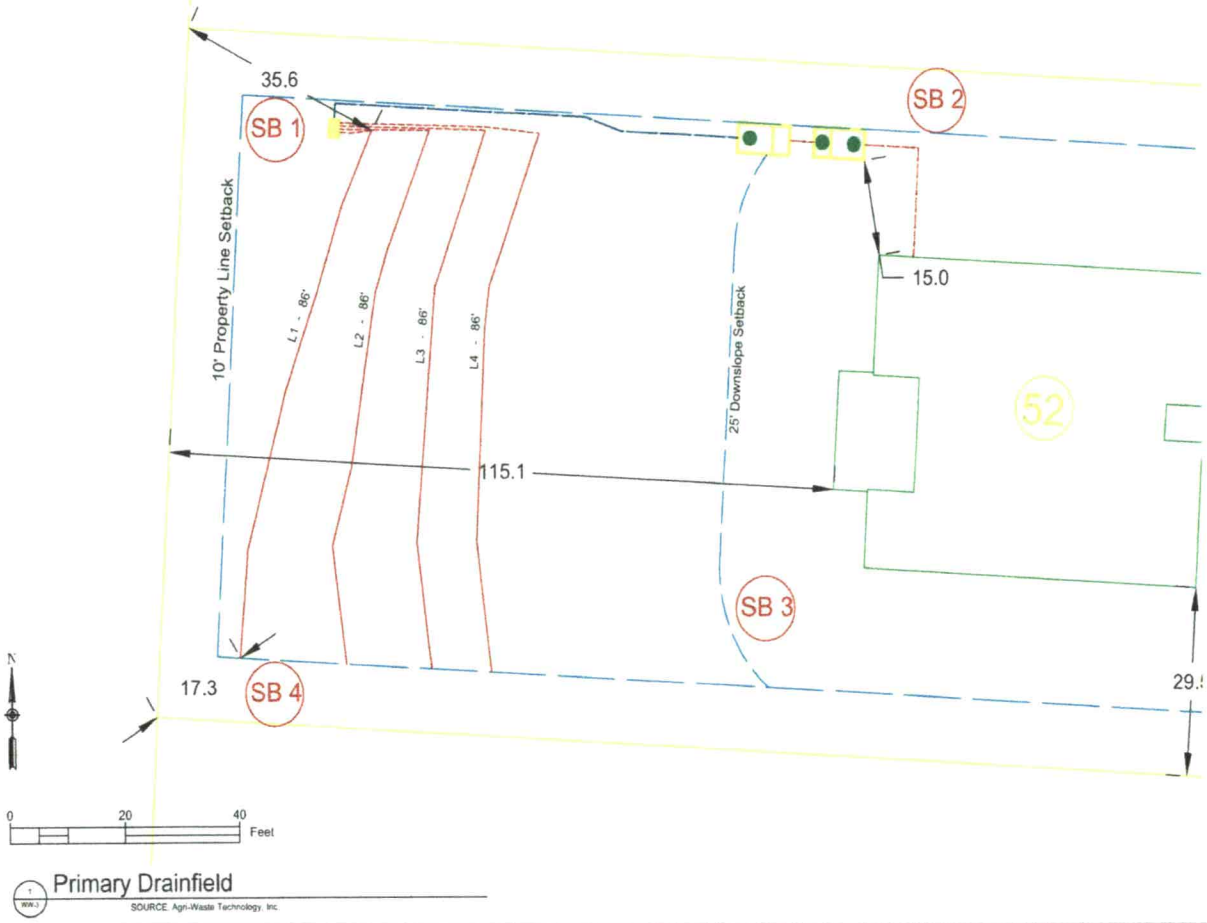
1. Clear all trees less than 8" in diameter (measured at a height 3' from soil surface) from the drainfield.
2. Vegetation that will re-grow from a cut stump shall be stumped or pulled from the ground. Stumps shall not be pushed over.
3. Drainfield area shall be cleared of all leaves, pine straw, debris, etc. The accumulated material shall be removed from the drainfield.
4. In clayey soils, sides of trenches shall be raked and limed per manufacturer's instructions.
5. Supply lines shall be installed with a minimum of 18" cover.
6. The trenches shall be backfilled appropriately so that no low areas are present.
7. Apply lime over the drainfield area as needed. Seed fine fescue over the drainfield at the rate recommended by the seed manufacturer. Hand rake the seed into the soil surface. Straw the seeded area at the rate of 1.5-2 bales per 1000 sq. ft.

DRAINFIELD INFO. - **Primary**

Proposed Type of System/Distribution: ***Pump to Pressure Manifold using Chambers***

Line No.	Flag Color	Line Length (ft)	Tap	Flow (gpm)	Flow/Foot (gpm/ft)	Line L.T.A.R.
1	red	86	1/2in SCH 80	5.48	0.064	0.349
2	orange	86	1/2in SCH 80	5.48	0.064	0.349
3	yellow	86	1/2in SCH 80	5.48	0.064	0.349
4	blue	86	1/2in SCH 80	5.48	0.064	0.349
	Total	**344**	**Total**	**21.92**	**Avg.**	**0.349**

Note:
Primary drainfield is chambers.



Primary Drainfield
SOURCE: Agri-Waste Technology, Inc.

AWT
Engineers and Soil Scientists
Agri-Waste Technology, Inc
501 N. Salem Street, Suite 203
Apex, North Carolina 27502
919-319-0959
www.agriwaste.com

Adam's Homes
Lot 52

Project Location:
191 Mountain Island Dr
Statesville, NC 28677
Iredell County
PIN 4762309722.000

Project Owner:
Adam's Homes
3000 Gulf Breeze Parkway
Gulf Breeze, FL 32563
704-361-5437
bcashion@adamshomes.com

For Permitting Purposes

REV.	ISSUED DATE	DESCRIPTION

SHEET TITLE
Primary Drainfield

DRAWN BY: T. Bostic	CREATED ON: 06/27/2023
REVISED BY: ####	REVISED ON: ####
RELEASED BY: ####	RELEASED ON: ####

DRAWING NUMBER
WW-3

ICHD - ENVIRONMENTAL HEALTH DIVISION

Statesville Office (704) 878-5305 Mooresville Office (704) 660-3625

PERMIT # OSWP-2023-29878

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

PIN # 4762-30-9722

PPLICANT / OWNER: Adams Homes APPLICANT ADDRESS:

TE ADDRESS: 191 MOUNTAIN ISLAND DR, STATESVILLE, NC 28677 PHONE: ALT. PHONE:

TE DIRECTIONS: SAP CONTROLLED: YES ☐ NO ☑

UBDIVISION: North Lake SECTION: 3 LOT #: 52 LOT AREA: 0.54 DESIGN FLOW: 360 L.T.A.R.: 0.275

eptic Tank: 1000 (gal)	STB:	Date:	☐ New System ☐ Repair ☐ Expansion	System Type: III	☑ Residence	No. Bedrooms: 3	Water Supply: Municipal Water
ump Tank: 1000 (gal)	PT:	Date:	System Description: Pressure Manifold 25% reduction		☐ Business	No. Persons: 6	
ump Make:	Model:	Serial #:	Repair System Description: Pressure Manifold 50% reduction		☐ Other	No. Employees:	
Nitrification Fields: 1	# Lines: 4	Linear Ft.: 328	Maintenance Agreement Required: ☐ YES ☑ NO		☑ Slab	☐ Crawl Space	
ench Width: 36	Trench Bottom Depth (Low side): 26		Gravel Depth:	☐ GRAVITY ☑ PRESSURE	☐ Basement w/ Plumbing	☐ Basement w/o Plumbing	

omments / Conditions: This Improvement Permit is issued pursuant to G.S. 130A-335 (a2) and (a3) using the signed and sealed LSS/LG evaluation(s) ttached here. This Construction Authorization is issued pursuant to G.S. 130A-335(a2) and (a5) using the signed and sealed plans or evaluations attached here.

INITIAL SITE SKETCH

AS BUILT SKETCH

OK to switch tanks to opposite side as long as manifold is also switched

rmit 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.

wner / Applicant Signature: Date: Installed By:

IPROVEMENT PERMIT by: Date: 7/26/2023 OPERATION PERMIT by: Date:

UTHORIZATION TO CONSTRUCT by: Date: 7/26/2023 Existing System Inspected By: Date:

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

DocuSign Envelope ID: B96CA5BB-9DF0-45BF-B899-70F8D9C1A55C

Engineers and Soil Scientists

Agri-Waste Technology, Inc.
501 N. Salem Street, Suite 203
Apex, North Carolina 27502
919-859-0669
www.agriwaste.com

July 18, 2023

To: Applicant
185, 191, 217, 221, 225, 229 & 233 Mountain Island Drive
Statesville, NC 28677
Iredell County
Parcel/PIN: 4762309621.000, 4762309722.000, 4762319254.000, 4762319464.000,4762319574.000, 4762319674.000, , 4762410704.000

Re: Site/Soil Investigation for Iredell County
Parcel/PIN: 4762309621.000, 4762309722.000, 4762319254.000, 4762319464.000, 4762319574.000, 4762319674.000, , 4762410704.000

I, Adam Homes(as agent Bob Cashion) - Change Order (*applicant name, print*), acknowledge that "the LSS Evaluation attached to this application is to be used to produce design and construction features for permitting in accordance with SL 2022-11/S372."

Applicant Signature: DocuSigned by: Adam Homes(as agent Bob Cashion) - Change Order

Date: 7/18/2023

Sincerley,

Chris McGee, LSS
Soil Scientist
Agri-Waste Technology, Inc.

NCDHHS

Permit #: OSWP-2023-29878

This Section for Local Health Department Use Only

Initial submittal received: 7/20/2023 (*Date*) by BB (*Initials*)

G.S. 130A-335(a3) states the following:

When an applicant for an Improvement Permit submits to a local health department an Improvement Permit application, the permit fee charged by the local health department, the common form developed by the Department, and a soil evaluation pursuant to subsection (a2) of this section, the local health department shall, within five business days of receiving the application, conduct a completeness review of the submittal. A determination of completeness means that the Improvement Permit includes all of the required components. If the local health department determines that the Improvement Permit is incomplete, the local health department shall notify the applicant of the components needed to complete the Improvement Permit. The applicant may submit additional information to the local health department to cure the deficiencies in the Improvement Permit. The local health department shall make a final determination as to whether the Improvement Permit is complete within five business days after the local health department receives the additional information from the applicant. If the local health department fails to act within any period set out in this subsection, the applicant may treat the failure to act as a determination of completeness. The Department shall develop a common form for use as the Improvement Permit.

The review for completeness of this Improvement Permit was conducted in accordance with G.S. 130A-335(a3). This Improvement Permit is determined to be:

☐ Incomplete (If box is checked, information in this section is required.)

The following items are missing:

_____

_____

Copies of this were sent to the LSS and the Applicant on _____ (*Date*)

State Authorized Agent: _____ Date: _____

☑ Complete

State Authorized Agent: Benjamin A. Botkins Date: 7/26/2023

This Improvement Permit is issued pursuant to G.S. 130A-335 (a2) and (a3) using the signed and sealed LSS/LG evaluation(s) attached here. The issuance of this permit by the Health Department in no way guarantees the issuance of other permits. The permit holder is responsible for checking with appropriate governing bodies in meeting their requirements. This permit is subject to revocation if the site plan, plat, or the intended use changes. The Improvement Permit shall not be affected by a change in ownership of the site. This permit is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit.

The Department, the Department's authorized agents, and the local health departments shall be discharged and released from any liabilities, duties, and responsibilities imposed by statute or in common law from any claim arising out of or attributed to evaluations, submittals, or actions from a licensed soil scientist or licensed geologist pursuant to GS 130A-335(a2).

Improvement Permit Expiration Date: 7/26/2028

See attached site sketch

Permit #: OSWP-2023-29878

This Section for Local Health Department Use Only

Initial submittal received: 7/20/2023 (*Date*) by BB (*Initials*)

G.S. 130A-335(a5) states the following:

When an applicant for a Construction Authorization, or an Improvement Permit and Construction Authorization together, submits a Construction Authorization, or an Improvement Permit and Construction Authorization application together, the permit fee charged by the local health department, the common form developed by the Department, and any necessary signed and sealed plans or evaluations conducted by a person licensed pursuant to Chapter 89C of the General Statutes as a licensed engineer or a person certified pursuant to Article 5 of Chapter 90A of the General Statutes as an Authorized On-Site Wastewater Evaluator, the local health department shall, within five business days of receiving the application, conduct a completeness review of the submittal. A determination of completeness means that the Construction Authorization or Improvement Permit and Construction Authorization includes all of the required components. If the local health department determines that the Construction Authorization or Improvement Permit and Construction Authorization is incomplete, the local health department shall notify the applicant of the components needed to complete the Construction Authorization or Improvement Permit and Construction Authorization. The applicant may submit additional information to the local health department to cure the deficiencies in the Construction Authorization or Improvement Permit and Construction Authorization. The local health department shall make a final determination as to whether the Construction Authorization or Improvement Permit and Construction Authorization is complete within five business days after the local health department receives the additional information from the applicant. If the local health department fails to act within any period set out in this subsection, the applicant may treat the failure to act as a determination of completeness. The applicant may apply for the building permit for the project upon the decision of completeness of the Construction Authorization or Improvement Permit and Construction Authorization by the local health department or if the local health department fails to act within five business days. The Authorized On-Site Wastewater Evaluator or licensed engineer submitting the evaluation pursuant to this subsection may request that the local health department revoke or suspend the Construction Authorization or Improvement Permit and Construction Authorization for cause. Upon written request of the Authorized On-Site Wastewater Evaluator or licensed engineer, the local health department shall suspend or revoke the Construction Authorization or Improvement Permit and Construction Authorization pursuant to G.S. 130A-23. The Department shall develop a common form for use as the Construction Authorization.

The review for completeness of this Construction Authorization was conducted in accordance with G.S. 130A-335(a5). This Construction Authorization is determined to be:

☐ Incomplete (If box is checked, information in this section is required.)

The following items are missing: _____

_____

Copies of this were sent to the AOWE/PE and the Applicant on _____ (*Date*)

State Authorized Agent: _____ Date: _____

☑ Complete

State Authorized Agent: Benjamin A. Botkins Date of Issuance: 7/26/2023

This Construction Authorization is issued pursuant to G.S. 130A-335(a2) and (a5) using the signed and sealed plans or evaluations attached here. This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes. The Construction Authorization shall not be affected by a change in ownership of the site. This Construction Authorization is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit.

The Department, the Department's authorized agents, and the local health departments shall be discharged and released from any liabilities, duties, and responsibilities imposed by statute or in common law from any claim arising out of or attributed to plans, evaluations, preconstruction conference findings, submittals, or actions from a person licensed pursuant to Chapter 89C of the General Statutes as a licensed engineer or a person certified pursuant to Article 5 of Chapter 90A of the General Statutes as an Authorized On-Site Wastewater Evaluator in GS 130A-335(a2), (a5), and (a7). The Department, the Department's authorized agents, and the local health departments shall be responsible and bear liability for their actions and evaluations and other obligations under State law or rule, including the issuance of the operations permit pursuant to GS 130A-337.

Construction Authorization Expiration Date: 7/26/2028

See attached site sketch

County: Iredell

IMPROVEMENT PERMIT FOR G.S. 130A-335(a2)/SL2022-11

PIN/Lot Identifier: 4762-30-9722

Issued To: Adams Homes

Property Location: 191 Mountain Island Drive, Statesville, NC 28677

Subdivision: NorthLake Lot #: 52 Block: _____ Section: _____

LSS Report Provided: Yes ☒ No ☐

If yes, name and license number of LSS: Jeff Vaughan, 1227

New ☒ Repair ☐ Expansion ☐ System Relocation ☐

Proposed Structure: Single family residence

Proposed Wastewater System Type: Pressure Manifold 25% Reduction (Initial) Pressure Manifold 50 % Reduction (Repair)

Fill System: ☐ Yes ☒ No If yes, specify: ☐ New ☐ Existing (when adding more than 6 inches of fill to system area please provide a fill plan)

Proposed Design Daily Flow: 360 GPD Proposed LTAR (Initial): 0.275GPD/ft2 Proposed LTAR (Repair): 0.275GPD/ft2

Design Wastewater Strength: ☒ domestic ☐ high strength ☐ industrial process

Number of bedrooms: 3 Number of Occupants: 6 Other: _____

Pump Required: ☒ Yes ☐ No ☐ May be required based upon final location and elevations of facilities

Artificial Drainage Required: ☐ Yes ☒ No If yes, please specify details: _____

Type of Water Supply: ☐ Private well ☐ Public well ☒ Municipal Supply ☐ Spring ☐ Other: _____

Drainfield location meets requirements of Rule .1945: Yes ☒ No ☐

Drainfield location meets requirements of Rule .1950: Yes ☒ No ☐

Permit valid for: ☒ Five years [site plan submitted pursuant to GS 130A-334(13a)] ☐ No expiration [plat submitted pursuant to GS 130A-334(7a)]

Permit conditions:

Licensed Soil Scientist Print Name: Jeff Vaughan

Licensed Soil Scientist Signature: _____ Date: 6/30/2023

The LSS evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2).

See attached site sketch

County: Iredell

CONSTRUCTION AUTHORIZATION FOR G.S. 130A-335(a2)/SL2022-11

PIN/Lot Identifier: 4762-30-9722

Issued To: Adams Homes

Property Location: 191 Mountain Island Drive, Statesville, NC 28677

AOWE/PE Plans/Evaluations Provided: Yes ☒ No ☐ If yes, name and license number of AOWE/PE: Jeff Vaughan, 10003E

Facility Type: Single Family Residence

☒ New ☐ Expansion ☐ Repair System Relocation ☐

Basement? ☐ Yes ☒ No Basement Fixtures? ☐ Yes ☒ No

Type of Wastewater System** Pressure Manifold 25% Reduction (Initial) Pressure Manifold 50% Reduction (Repair)

Design Daily Flow: 360 GPD Wastewater Strength: ☒ domestic ☐ high strength ☐ industrial process

Session Law 2014-120 Section 53, Engineering Design Utilizing Low-flow Fixtures and Low-flow Technologies? ☐ Yes ☒ No

Installation Requirements/Conditions

Septic Tank Size: 1000 gallons Total Trench/Bed Length: 328 feet Trench/Bed Spacing: 9 feet on center

Drainfield square footage: 984 Trench/Bed Width: 36 inches LTAR: 0.275 gpd/ft²

Soil Cover: 6+ inches Slope Adjusted Maximum Trench/Bed Depth: 26 inches

Aggregate Depth: _____inches above pipe _____inches below pipe _____inches total

Pump Tank Size (if applicable): 1000 gallons Requires more than 1 pump? ☐ Yes ☒ No

Pump Requirements: 24.06 ft. TDH vs. 23.95 GPM Grease Trap Size (if applicable): NA gallons

Distribution Method: ☐ Serial ☐ D-Box or Parallel ☒ Pressure Manifold(s) ☐ LPP ☐ Other: _____

Artificial Drainage Required: Yes ☐ No ☒ If yes, please specify details: _____

Legal Agreements *(If the answer is "Yes" to any type of legal agreements, please attach a copy of the agreement.)*

Multi-party Agreement Required [.1937(h)]: Yes ☐ No ☒

Easement, Right-of-Way, or Encroachment Agreement Required [.1938(j)]: ☐ Yes ☒ No

Declaration of Restrictive Covenants: ☐ Yes ☒ No

****If applicable:**

I understand the system type specified is different from the type specified on the application. I accept the specifications of this permit.

Owner/Legal Representative Print Name: _____

Owner/Legal Representative Signature: _____ Date: _____

Pre-Construction Conference Required: Yes ☐ No ☒

Conditions: _____

The construction and installation requirements of Rules .1950, .1952, .1954, .1955, .1956, .1957, .1958, and .1959 are incorporated by reference into this permit and shall be met. Systems shall be installed in accordance with the attached system layout.

AOWE/PE Print Name: Jeff Vaughan

AOWE/PE Signature: _____ Date: 6/30/2023

This AOWE/PE submittal is pursuant to and meets the requirements of G.S. 130A-335(a2) and (a5).

See attached site sketch

AGRITEC-01 GKROHL

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 3/14/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Hartsfield & Nash Agency, Inc.
10405 Ligon Mill Rd., Ste H
Wake Forest, NC 27587

CONTACT NAME: Connie Garkalns
PHONE (A/C, No, Ext): (919) 556-3698 FAX (A/C, No): (919) 556-8758
E-MAIL ADDRESS: Connie@hartsfield-nash.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Selective Insurance Company of the Southeast	39926
INSURER B : ACCIDENT FUND INSURANCE COMPANY OF AMERICA	10166
INSURER C : Evanston Insurance Company	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
Agri-Waste Technology Inc
501 N. Salem St Ste 203
Apex, NC 27502

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY							
	CLAIMS-MADE X OCCUR			S 2253659	1/18/2023	1/18/2024	EACH OCCURRENCE	$ 2,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 300,000
							MED EXP (Any one person)	$ 10,000
							PERSONAL & ADV INJURY	$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 4,000,000
	POLICY X PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$ 4,000,000
	OTHER:							$
A	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO			S 2253659	1/18/2023	1/18/2024	BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
A	X UMBRELLA LIAB X OCCUR						EACH OCCURRENCE	$ 2,000,000
	EXCESS LIAB CLAIMS-MADE			S 2253659	1/18/2023	1/18/2024	AGGREGATE	$ 2,000,000
	DED RETENTION $							$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N						X PER STATUTE OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N (Mandatory in NH)	N/A		100003072	1/18/2023	1/18/2024	E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
C	Prof & Pollution			MKLV3ENV103400	8/22/2022	8/22/2023	Each Claim	5,000,000
A	Leased / Rented			S 2253659	1/18/2023	1/18/2024	Equipment	25,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

***This is ONLY For Informational Purposes
Contact Agency for Specific Holder info to be added
****

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
Gina Krohl

© 1988-2015 ACORD CORPORATION. All rights reserved.
The ACORD name and logo are registered marks of ACORD

Engineers and Soil Scientists

Agri-Waste Technology, Inc.
501 N Salem Street, Suite 203, Apex, NC 27502
agriwaste.com | 919.859.0669

Soil Suitability for Domestic Sewage Treatment and Disposal Systems
191 Mountain Island Drive, Statesville, NC. 28677
Iredell County PIN: 4762-30-9722

PREPARED FOR: Adams Homes, Client

PREPARED BY: Jeff Vaughan, Licensed Soil Scientist
Trevor Hackney, Environmental Scientist

DATE: June 30, 2023

Soil suitability for domestic sewage treatment and disposal systems was evaluated on May 19. 2023, for the property located at 191 Mountain Island Drive, Statesville, NC. Trevor Hackney and Nathan Estevez of Agri-Waste Technology, Inc. (AWT) conducted the soil evaluation. This evaluation was done to facilitate permitting for a three-bedroom home. This report and attached documents were prepared *to this application is to be used to issue an Improvement Permit in accordance with G.S. 130A-335(a2) and (a3). The LSS evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2).*

A drawing of the site plan, septic layout, and boring locations is included in Attachment 1. Profile descriptions for each boring are included in Attachment 2. Additional documentation about the property is included in Attachment 3.

The total property area is approximately 0.54 acres. The property is entirely open field. The home is proposed near the front of the property. The proposed system is behind the home and will be a pressure manifold 25% reduction primary system with a pressure manifold 50% reduction repair system.

Soil Suitability for Domestic Sewage Treatment and Disposal Systems
The drawing in Attachment 1 details the property boundaries (as surveyed by David B. Jordan & Associates, PLLC), soil boring locations, and layout of drain field trenches (Completed by AWT). Soil borings were examined to determine soil suitability for on-site sewage disposal systems in accordance with 15A 18A .1900 Rules for Sewage Treatment and Disposal Systems. These borings were advanced with a hand auger.

A septic layout was performed to demonstrate available space (.1945). The layout in Attachment 1 indicates there is available space for a three-bedroom primary and repair system.

The proposed LTAR (Long Term Acceptance Rate) by AWT is 0.275 GPD/ft^2. The soils on this property are group IV soils within the distribution and treatment zone as used to define the LTAR. Since usable soil depths meet or exceed 38" AWT is recommending the use of innovative style trench to utilize the 25% reduction for the initial system. With an LTAR of 0.275 GPD/ft^2, 328 linear feet of innovative trench are necessary to support a three-bedroom home primary system. The maximum trench bottom should not exceed 26". The attached drawing proves that 344 linear feet of trench can be installed for the primary system. The repair system will be a horizontal panel block style system. The attached drawings prove that 222 linear feet of panel block trench can be installed for the repair system with the proposed home location.

Any disturbances or grading done in the usable area will change the potential of using the area designated for a drain field. Prior to moving forward with building on the property, Iredell County Environmental Health Department should be contacted to complete the necessary review of this documentation to issue an IP (Improvement Permit) for the property and the CA (Construction Authorization).

Conclusions

An IP (Improvement Permit) and CA (Construction Authorization) for this property can be issued with the site plan that is in Attachment 1. A CA permit will be required in order to secure a building permit for the property. The county issues an Operation Permit after the system has been installed to meet the specifications of the Authorization to Construct. Additional septic layouts have been or will be performed as needed. It will be critical to not disturb any of the proposed septic area or there is a risk that the IP and CA will be revoked. The LSS/AOWE Evaluation and attached documents were prepared *to this application is to be used to issue an Improvement Permit in accordance with G.S. 130A-335(a2) and (a3). The LSS/AOWE evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2)*

We appreciate the opportunity to assist you in this matter. Please contact us with any questions, concerns, or comments.

Sincerely,

Jeff Vaughan

Trevor Hackney

Attachment 1: Site Plan/Drawing

LOT 52

Project Location

191 Mountain Island Dr
Statesville, NC 28677
Iredell County
PIN: 4762309722.000

Project Owner

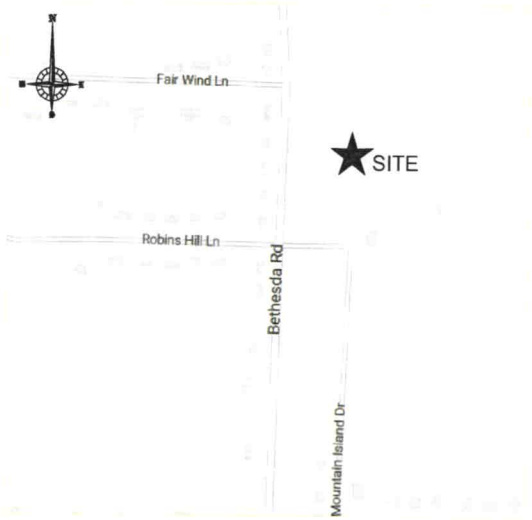
Adam's Homes
3000 Gulf Breeze Parkwasy
Gulf Breeze, FL 32563
704-361-5437
bcashion@adamshomes.com

Project Consultant

Jeff Vaughan, L.S.S
(919) 367-6313
Trevor Hackney
(704) 268-9160
Agri-Waste Technology, Inc.
501 N. Salem Street, Suite 203
Apex, NC 27502
(919) 859-0669
(919) 233-1970 Fax

System Overview

Single Family Residence
Three (3) Bedroom, 360 gpd
Pressure Manifold
Accepted/Innovative Trench Product



VICINITY MAP

Sheet Index

Sheet 1	Cover Sheet
Sheet 2	Property Layout
Sheet 3	Primary Layout
Sheet 4	Repair Layout
Sheet 5	Detail Sheet
Sheet 6	Detail Sheet
Sheet 7	Excavation Safety

AWT
Engineers and Soil Scientists
Agri-Waste Technology, Inc.
501 N. Salem Street, Suite 203
Apex, North Carolina 27502
919-859-0669
www.agriwaste.com

Adam's Homes
Lot 52

Project Location:
191 Mountain Island Dr
Statesville, NC 28677
Iredell County
PIN: 4762309722.000

Project Owner:
Adam's Homes
3000 Gulf Breeze Parkwasy
Gulf Breeze, FL 32563
704-361-5437
bcashion@adamshomes.com

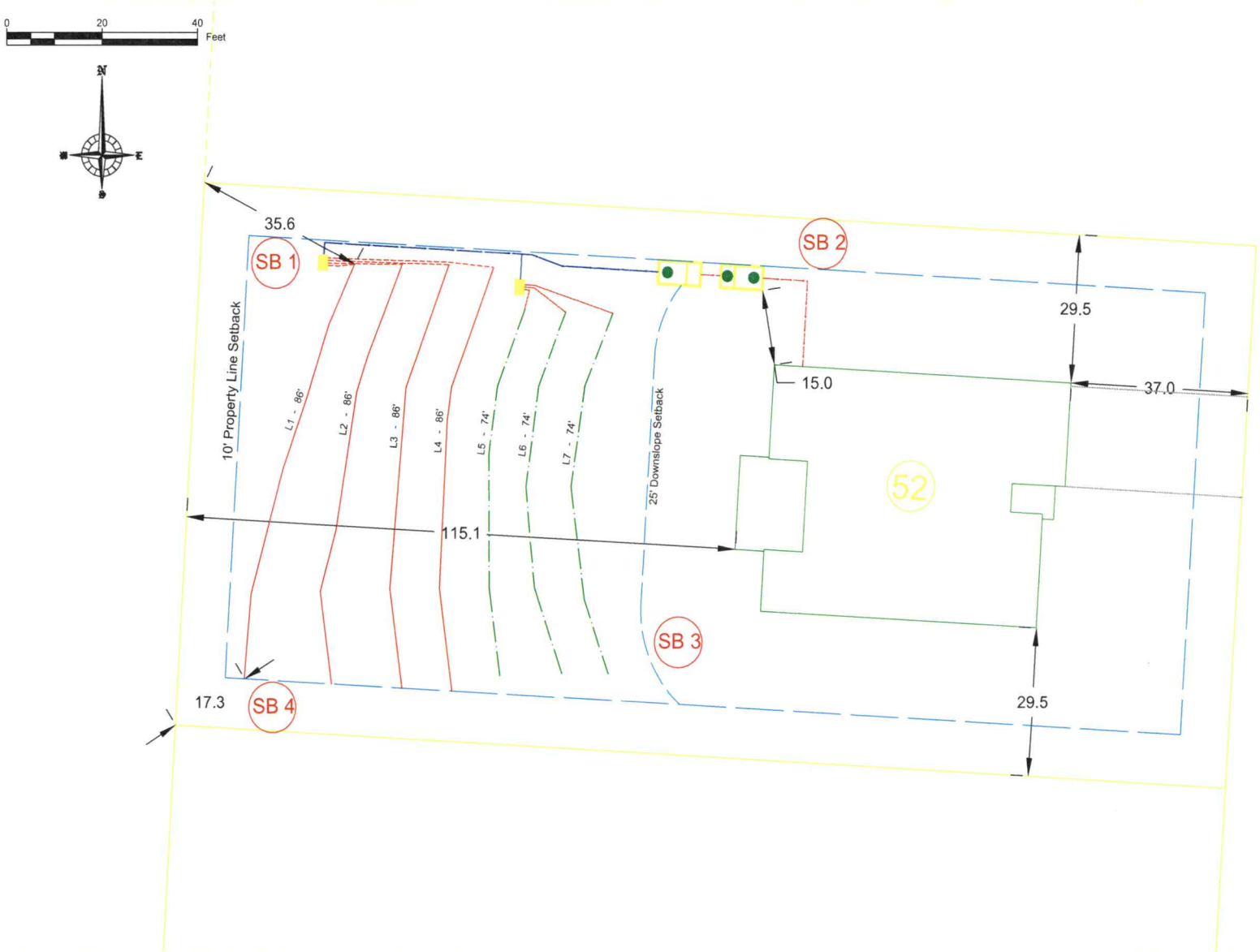
For Permitting Purposes

REV.	ISSUED DATE	DESCRIPTION

SHEET TITLE
Cover Sheet

DRAWN BY:	CREATED ON:
T. Bostic	06/27/2023
REVISED BY:	REVISED ON:
####	####
RELEASED BY:	RELEASED ON:
####	####

DRAWING NUMBER
WW-1



1 WW-2 PROPERTY LAYOUT

SOURCE: AWT Inc.

AWT
Engineers and Soil Scientists
Agri-Waste Technology, Inc.
501 N. Salem Street, Suite 203
Apex, North Carolina 27502
919-859-0669
www.agriwaste.com

Adam's Homes
Lot 52

Project Location:
191 Mountain Island Dr
Statesville, NC 28677
Iredell County
PIN: 4762309722.000

Project Owner:
Adam's Homes
3000 Gulf Breeze Parkwasy
Gulf Breeze, FL 32563
704-361-5437
bcashion@adamshomes.com

For Permitting Purposes

REV.	ISSUED DATE	DESCRIPTION

SHEET TITLE

Property Layout

DRAWN BY:	CREATED ON:
T. Bostic	06/27/2023
REVISED BY:	REVISED ON:
####	####
RELEASED BY:	RELEASED ON:
####	####

DRAWING NUMBER

WW-2

General Drainfield Notes:

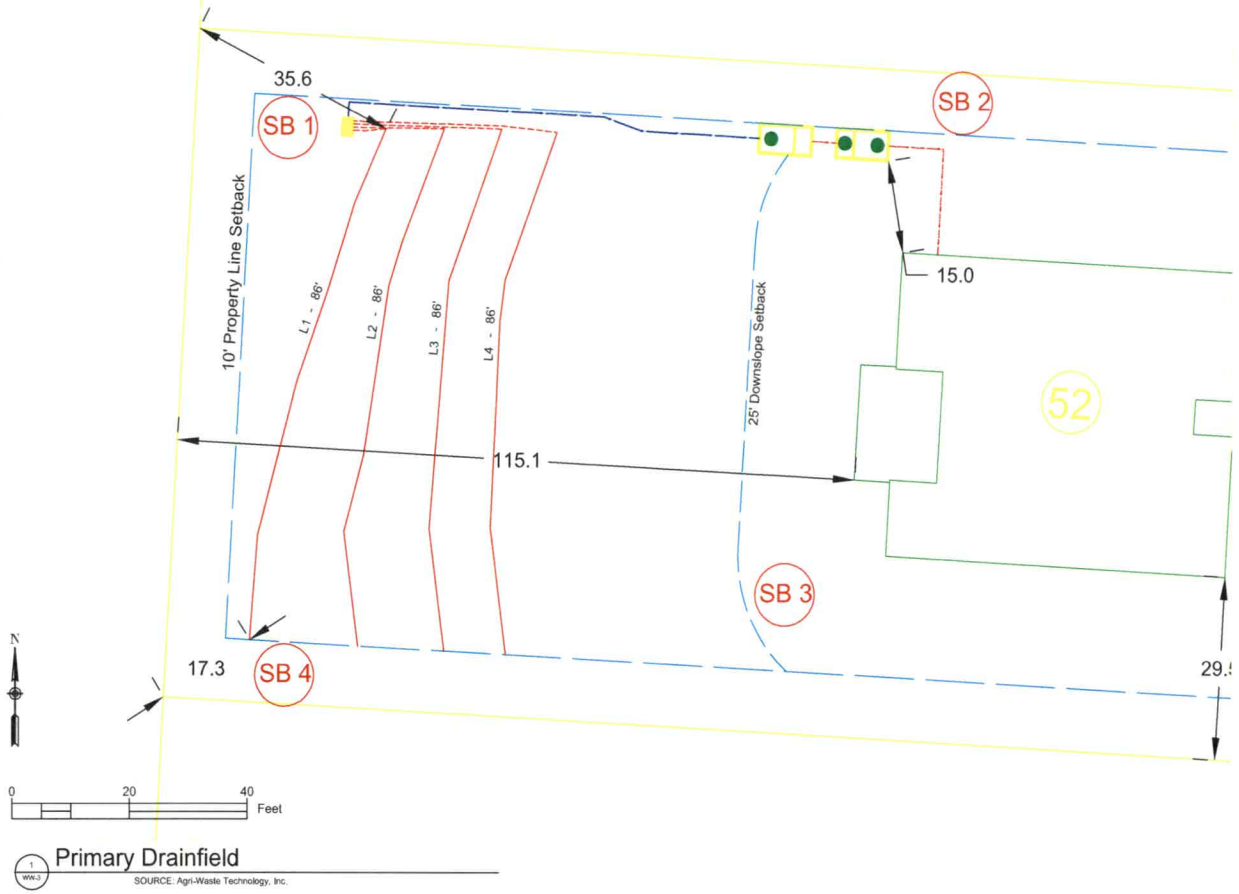
1. Clear all trees less than 8" in diameter (measured at a height 3' from soil surface) from the drainfield.
2. Vegetation that will re-grow from a cut stump shall be stumped or pulled from the ground. Stumps shall not be pushed over.
3. Drainfield area shall be cleared of all leaves, pine straw, debris, etc. The accumulated material shall be removed from the drainfield.
4. In clayey soils, sides of trenches shall be raked and limed per manufacturer's instructions.
5. Supply lines shall be installed with a minimum of 18" cover.
6. The trenches shall be backfilled appropriately so that no low areas are present.
7. Apply lime over the drainfield area as needed. Seed fine fescue over the drainfield at the rate recommended by the seed manufacturer. Hand rake the seed into the soil surface. Straw the seeded area at the rate of 1.5-2 bales per 1000 sq. ft.

DRAINFIELD INFO. - **Primary**

Proposed Type of System/Distribution: ***Pump to Pressure Manifold using Chambers***

Line No.	Flag Color	Line Length (ft)	Tap	Flow (gpm)	Flow/Foot (gpm/ft)	Line L.T.A.R.
1	red	86	1/2in SCH 80	5.48	0.064	0.349
2	orange	86	1/2in SCH 80	5.48	0.064	0.349
3	yellow	86	1/2in SCH 80	5.48	0.064	0.349
4	blue	86	1/2in SCH 80	5.48	0.064	0.349
	Total	**344**	**Total**	**21.92**	**Avg.**	**0.349**

Note:
Primary drainfield is chambers.



Primary Drainfield
SOURCE: Agri-Waste Technology, Inc.

AWT
Engineers and Soil Scientists
Agri-Waste Technology, Inc.
501 N. Salem Street, Suite 203
Apex, North Carolina 27502
919-859-0669
www.agriwaste.com

Adam's Homes
Lot 52

Project Location:
191 Mountain Island Dr
Statesville, NC 28677
Iredell County
PIN: 4762309722.000

Project Owner:
Adam's Homes
3000 Gulf Breeze Parkwasy
Gulf Breeze, FL 32563
704-361-5437
bcashion@adamshomes.com

For Permitting Purposes

REV.	ISSUED DATE	DESCRIPTION

SHEET TITLE
Primary Drainfield

DRAWN BY:	CREATED ON:
T. Bostic	06/27/2023
REVISED BY:	REVISED ON:
####	####
RELEASED BY:	RELEASED ON:
####	####

DRAWING NUMBER
WW-3

General Drainfield Notes:

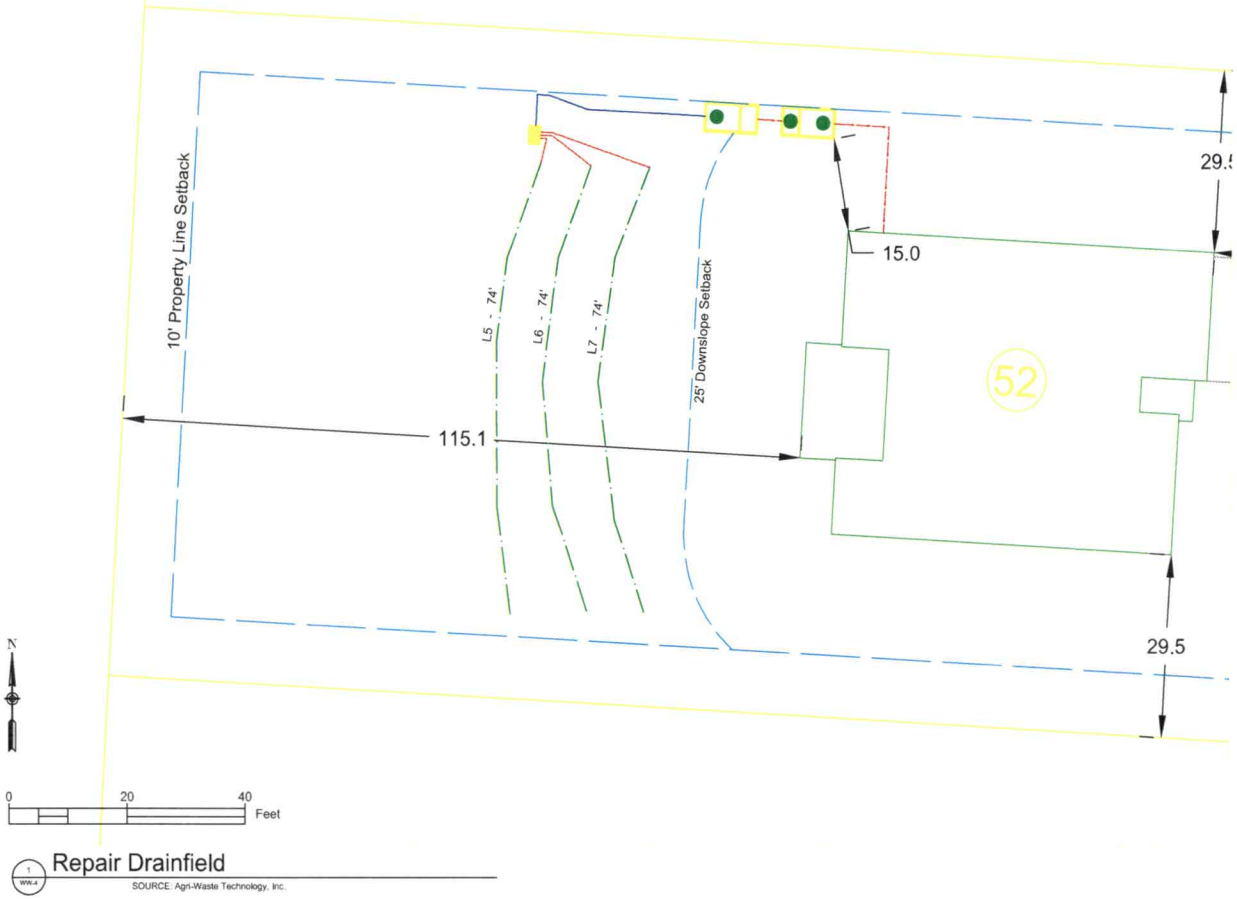
1. Clear all trees less than 8" in diameter (measured at a height 3' from soil surface) from the drainfield.
2. Vegetation that will re-grow from a cut stump shall be stumped or pulled from the ground. Stumps shall not be pushed over.
3. Drainfield area shall be cleared of all leaves, pine straw, debris, etc. The accumulated material shall be removed from the drainfield.
4. In clayey soils, sides of trenches shall be raked and limed per manufacturer's instructions.
5. Supply lines shall be installed with a minimum of 18" cover.
6. The trenches shall be backfilled appropriately so that no low areas are present.
7. Apply lime over the drainfield area as needed. Seed fine fescue over the drainfield at the rate recommended by the seed manufacturer. Hand rake the seed into the soil surface. Straw the seeded area at the rate of 1.5-2 bales per 1000 sq. ft.

DRAINFIELD INFO. - **Repair**

Proposed Type of System/Distribution: ***Pump to Pressure Manifold using PPBPS, Horizontal***

Line No.	Flag Color	Line Length (ft.)		Flow (gpm)	Flow/Foot (gpm/ft)	Line L.T.A.R.
5	purple	73.7	1/2in SCH 40	7.11	0.096	0.543
6	red	73.7	1/2in SCH 40	7.11	0.096	0.543
7	orange	73.7	1/2in SCH 40	7.11	0.096	0.543
	Total	**221**	**Total**	**21.33**	**Avg.**	**0.543**

Note:
Repair distribution is pressure manifold utilizing horizontal panel block.



Repair Drainfield

SOURCE: Agri-Waste Technology, Inc.

AWT
Engineers and Soil Scientists
Agri-Waste Technology, Inc.
501 N. Salem Street, Suite 203
Apex, North Carolina 27502
919-859-0669
www.agriwaste.com

Adam's Homes
Lot 52

Project Location:
191 Mountain Island Dr
Statesville, NC 28677
Iredell County
PIN: 4762309722.000

Project Owner:
Adam's Homes
3000 Gulf Breeze Parkway
Gulf Breeze, FL 32563
704-361-5437
bcashion@adamshomes.com

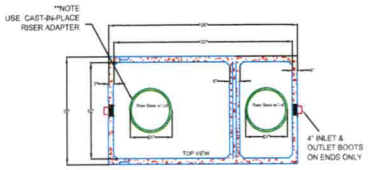
For Permitting Purposes

REV.	ISSUED DATE	DESCRIPTION

SHEET TITLE
Repair Drainfield

DRAWN BY: T. Bostic	CREATED ON: 06/27/2023
REVISED BY: ####	REVISED ON: ####
RELEASED BY: ####	RELEASED ON: ####

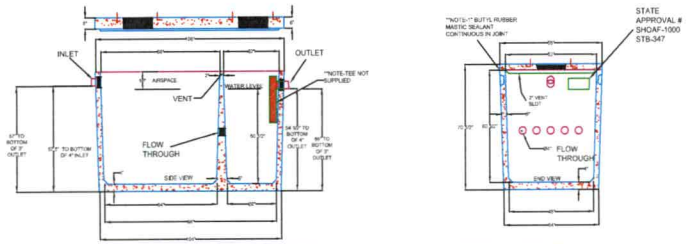
DRAWING NUMBER
WW-4



SHOAF PRECAST SEPTIC INC.	
4130 WEST US HWY 64	
LEXINGTON, NC 27295	
PHONE (336) 787-5826	
FAX (336) 787-2826	
WWW.SHOAFPRECAST.COM	
SHOAF-1,000 SEPTIC TANK	
STB-347 NON TRAFFIC	
LIQUID CAPACITY-1,084 GALLONS/AIRSPACE-10"	
TANK HEIGHT-67.4"	
BOTTOM OF TANK TO CENTER OF INLET-56.5"	
BOTTOM OF TANK TO CENTER OF OUTLET-59"	
LENGTH TO WIDTH RATIO-2 TO 1	
SIZE OF INLET & OUTLET-3" OR 4" PIPE	
TYPE OF INLET & OUTLET-POLYLOCK OR EQUAL (MEETS ASTM C-923)	
CONCRETE PSI-4000; TANK WEIGHT- 10,500 LBS.	
REINFORCEMENT PER STATE CODE	
8" LID W/ EXTRA REBAR / DESIGNED 5FT OF MAXIMUM BURIAL DEPTH	

MODEL: TS 1000 STB
NON TRAFFIC
5FT MAX. BURIAL DEPTH
1000 Gallon Septic Tank

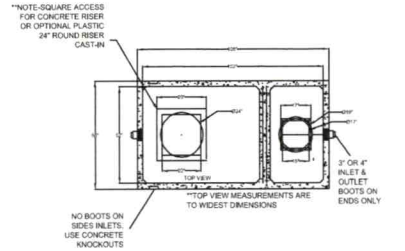
SCALE - N.T.S.



Septic Tank

1 / WW-5

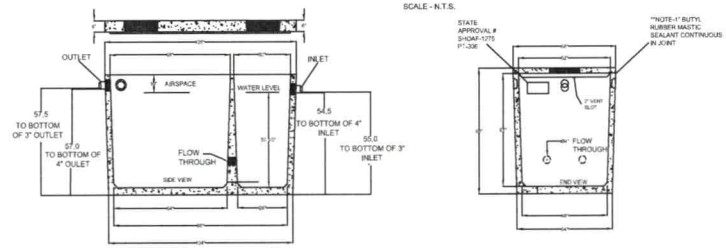
SOURCE: Shoaf Precast Septic, Inc.



SHOAF PRECAST SEPTIC INC.	
4130 WEST US HWY 64	
LEXINGTON, NC 27295	
PHONE (336) 787-5826	
FAX (336) 787-2826	
WWW.SHOAFPRECAST.COM	
SHOAF-1,275 PUMP TANK	
PT-306 NON TRAFFIC	
LIQUID CAPACITY-1,287 GALLONS INCLUDING 10" AIRSPACE	
GALLONS PER INCH-21.07 (AVERAGE)	
TANK HEIGHT-67.4"	
BOTTOM OF TANK TO CENTER OF INLET-56 1/2"	
BOTTOM OF TANK TO CENTER OF OUTLET-59"	
LENGTH TO WIDTH RATIO-2 TO 1	
SIZE OF INLET & OUTLET-3" OR 4" PIPE	
TYPE OF INLET & OUTLET-POLYLOCK OR EQUAL (MEETS ASTM C-923)	
CONCRETE PSI-4000; TANK WEIGHT- 10,500 LBS.	
REINFORCEMENT PER STATE CODE	
EXTRA REBAR USED / DESIGNED FOR 5FT OF MAXIMUM BURIAL DEPTH	

MODEL: TS 1275 PT
NON TRAFFIC
5FT BURIAL DEPTH
1275 Gallon Pump Tank

SCALE - N.T.S.

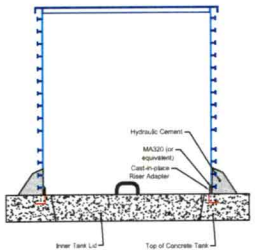


Pump Tank (or equiv. tank with 1-day storage)

2 / WW-5

SOURCE: Shoaf Precast Septic, Inc.

Access Riser to Extend 6 Inches Above Finished Grade.



RISER INSTALLATION INSTRUCTIONS:

1. Prep Adapter Channel & Riser
   - 1.1. Roughen the bonding surfaces of the adapter and riser with sandpaper.
   - 1.2. Use a clean cloth and acetone or alcohol to clean the bonding surfaces of the adapter and riser. The bonding surfaces must be clean and dry for a good fit and watertight joint. Let the acetone or alcohol dry completely.
2. Apply Adhesive
   - 2.1. Apply a bead of methacrylate adhesive to the outside of the adapter. One 7-oz packet of MA320 adhesive is typical for one 24" riser.
3. Install Riser
   - 3.1. If the riser has penetrations, align the riser correctly.
   - 3.2. Firmly press the riser onto the adapter until the bottom of the riser is resting on the concrete (cast-in-adapters) or the adapter flange (bolted-down adapters). Twist the riser back and forth slightly to fully seat it on to create a good bond.
   - 3.3. Apply a bead of methacrylate adhesive to the inside of the access riser-adapter joint.
   - 3.4. Use a tongue depressor, putty knife, or clean cloth to make a continuous fillet on the inside of the access riser-adapter joint.
   - 3.5. Apply hydraulic cement to bond outer riser wall and top of tank.
4. Ensure inner lid is in place and secured.

FOR RISER WALL PENETRATIONS	
Grommet Size, Inches (Nominal IPS Pipe Size)	Hole Saw Size, Inches
1/2	1
3/4	1 1/4
1	1 9/16
1 1/4	1 3/4
1 1/2	2 1/8
2	2 3/4
3	3 7/8
4	5

Riser Safety Nets

3 / WW-5

SOURCE: SIM-TECH, Inc.

NOTES

1. Installation to follow all NC DHHS and Iredell County applicable rules and regulations.
2. Iredell County to perform construction inspections and final system certification.
3. Septic Tank to have approved effluent filter.
4. Contractor to abide by all safety regulations during system installation.
5. Contractor shall backfill around all access areas such that storm water is shed away from potential entry points.
6. Invert elevations of all components to be verified in field by contractor to insure proper operation.
7. All system piping to be SCH40 PVC (except where noted).
8. All gravity elbows to be long radius or long sweeping type elbows.
9. Actual installation and placement of treatment system to be overseen by Contractor.
10. Tanks to be set on 6" minimum gravel base. Use #5 or #57 stone for base.
11. Contractor to seed and/or mulch disturbed areas to coincide with existing landscape. Area shall not be left with uncovered soil.
12. Mount Control Panel a minimum of 24" above grade.
13. Power to panel to be installed by licensed electrician per code. One 15-amp circuit and one 20-amp circuit with individual neutrals to be run from house to control panel.
14. All risers to have cast-in-place tank adapters and be single-piece riser. Risers to extend 6" above soil surface and be designed to prevent surface water inflow.
15. Backfill around tank(s) shall be gravel or tank hole shall be over-excavated a minimum of 2' in all directions to allow for mechanical tamping of backfill.
16. All penetrations to be sealed.
17. Spigot to be located on outside of building within 50' of tanks.
18. All pressure lines to maintain 18" min. cover.
19. Contractor to adjust tank placement to meet site constraints.

AWT
Engineers and Soil Scientists
Agri-Waste Technology, Inc.
501 N. Salem Street, Suite 203
Apex, North Carolina 27502
919-859-0669
www.agriwaste.com

Adam's Homes
Lot 52

Project Location:
191 Mountain Island Dr
Statesville, NC 28677
Iredell County
PIN: 4762309722.000

Project Owner:
Adam's Homes
3000 Gulf Breeze Parkway
Gulf Breeze, FL 32563
704-361-5437
bcashion@adamshomes.com

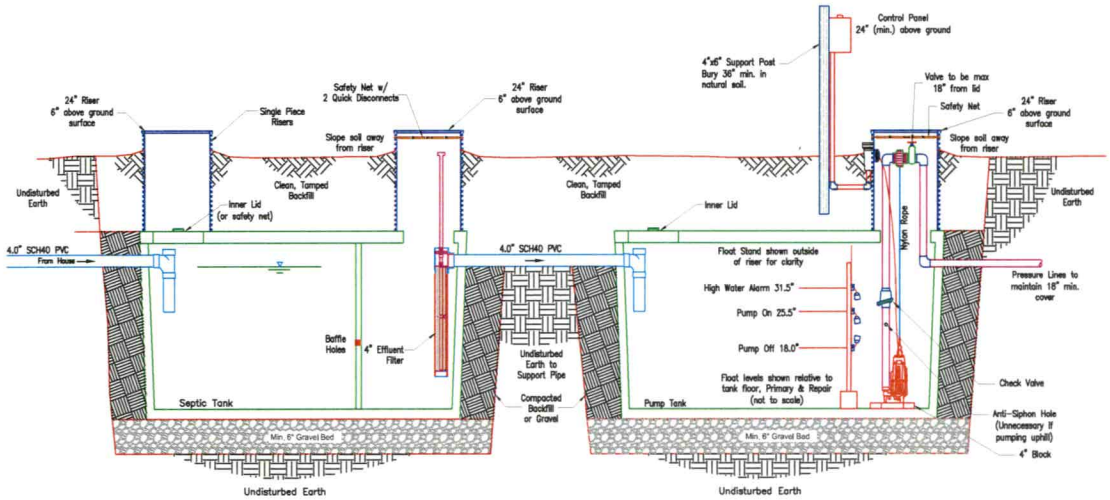
For Permitting Purposes

REV.	ISSUED DATE	DESCRIPTION

SHEET TITLE
Detail Sheet 1

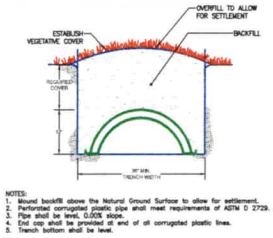
DRAWN BY: T. Bostic	CREATED ON: 06/27/2023
REVISED BY: ####	REVISED ON: ####
RELEASED BY: ####	RELEASED ON: ####

DRAWING NUMBER
WW-5



1 WW-6 SYSTEM PROFILE VIEW

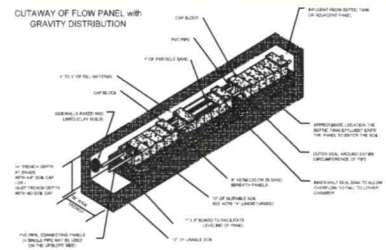
N.T.S.



NOTES:
1. Mound backfill above the Natural Ground Surface to allow for settlement.
2. Perforated corrugated plastic pipe shall meet requirements of ASTM D 2729.
3. Pipe shall be level, 0.00% slope.
4. End cap shall be provided at end of all corrugated plastic lines.
5. Trench bottom shall be level.

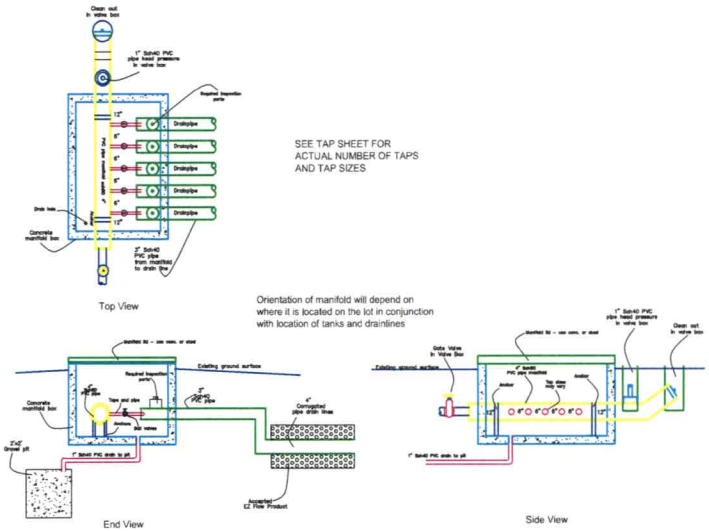
2 WW-6 TRENCH X-SECTION (Primary)

N.T.S. Source: AWT



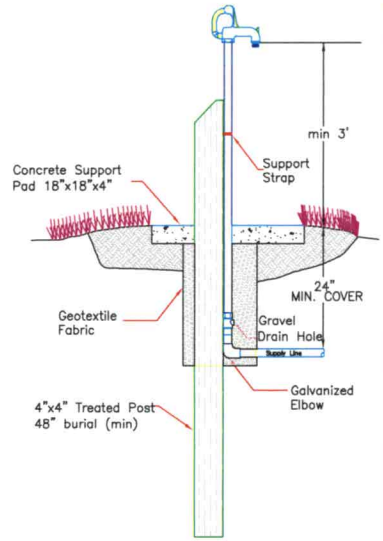
3 WW-6 TRENCH X-SECTION (Repair)

N.T.S. Source: AWT



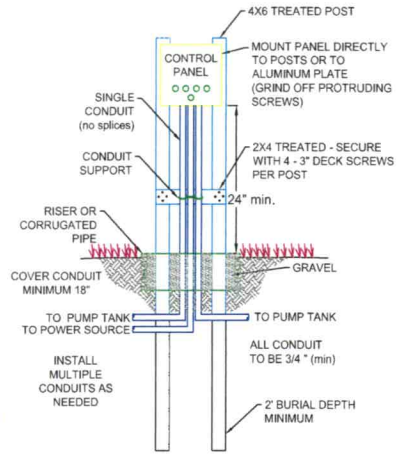
4 WW-6 PRESSURE MANIFOLD INSTALLATION (Typical) - For Illustration Only

N.T.S. SOURCE: AWT



5 WW-6 YARD HYDRANT (if required)

N.T.S. SOURCE: AWT



6 WW-6 CONTROL PANEL SUPPORT

N.T.S. SOURCE: AWT

AWT
Engineers and Soil Scientists
Agri-Waste Technology Inc.
501 N. Salem Street, Suite 203
Apex, North Carolina 27502
919-859-0669
www.agriwaste.com

Adam's Homes
Lot 52

Project Location:
191 Mountain Island Dr
Statesville, NC 28677
Iredell County
PIN: 4762309722.000

Project Owner:
Adam's Homes
3000 Gulf Breeze Parkway
Gulf Breeze, FL 32563
704-361-5437
bcashion@adamshomes.com

For Permitting Purposes

REV.	ISSUED DATE	DESCRIPTION

SHEET TITLE
Detail Sheet 2

DRAWN BY:	CREATED ON:
T. Bostic	06/27/2023
REVISED BY:	REVISED ON:
####	####
RELEASED BY:	RELEASED ON:
####	####

DRAWING NUMBER
WW-6

Trenching and Excavation Safety

The employer must comply with the trenching and excavation requirements of 29 CFR 1926.651 and 1926.652 or comparable OSHA-approved state plan requirements.

Inspection of Excavations

OSHA standards require that a competent person inspect trenches daily and as conditions change before worker entry to ensure elimination of excavation hazards. A competent person is an individual who is capable of identifying existing and predictable hazards or working conditions that are hazardous, unsanitary, or dangerous to workers, soil types and protective systems required, and who is authorized to take prompt corrective measures to eliminate these hazards and conditions.

Access and Egress

OSHA standards require safe access and egress to all excavations, including ladders, steps, ramps, or other safe means of exit for employees working in trench excavations 4 feet (1.22 meters) or deeper. These devices must be located within 25 feet (7.6 meters) of all workers.

Recommendations

Heavy equipment and trucks should stay as far as possible from the edge of any trench.
Always use pads under stabilizers to minimize ground pressures that could lead to failures.

(b) Definitions

"Cemented soil" means a soil in which the particles are held together by a chemical agent, such as calcium carbonate, such that a hand-size sample cannot be crushed into powder or individual soil particles by finger pressure.

"Cohesive soil" means clay (fine grained soil), or soil with a high clay content, which has cohesive strength. Cohesive soil does not crumble, can be excavated with vertical sideslopes, and is plastic when moist. Cohesive soil is hard to break up when dry, and exhibits significant cohesion when submerged. Cohesive soils include clayey silt, sandy clay, silty clay, clay and organic clay.

"Dry soil" means soil that does not exhibit visible signs of moisture content.

"Fissured" means a soil material that has a tendency to break along definite planes of fracture with little resistance, or a material that exhibits open cracks, such as tension cracks, in an exposed surface.

"Granular soil" means gravel, sand, or silt (coarse grained soil) with little or no clay content. Granular soil has no cohesive strength. Some moist granular soils exhibit apparent cohesion. Granular soil cannot be molded when moist and crumbles easily when dry.

"Layered system" means two or more distinctly different soil or rock types arranged in layers. Micaceous seams or weakened planes in rock or shale are considered layered.

"Moist soil" means a condition in which a soil looks and feels damp. Moist cohesive soil can easily be shaped into a ball and rolled into small diameter threads before crumbling. Moist granular soil that contains some cohesive material will exhibit signs of cohesion between particles.

"Plastic" means a property of a soil which allows the soil to be deformed or molded without cracking, or appreciable volume change.

"Saturated soil" means a soil in which the voids are filled with water. Saturation does not require flow. Saturation, or near saturation, is necessary for the proper use of instruments such as a pocket penetrometer or sheer vane.

"Soil classification system" means, for the purpose of this subpart, a method of categorizing soil and rock deposits in a hierarchy of Stable Rock, Type A, Type B, and Type C, in decreasing order of stability. The categories are determined based on an analysis of the properties and performance characteristics of the deposits and the characteristics of the deposits and the environmental conditions of exposure.

"Stable rock" means natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed.

"Submerged soil" means soil which is underwater or is free seeping.

"Type A" means cohesive soils with an unconfined, compressive strength of 1.5 ton per square foot (tsf) (144 kPa) or greater. Examples of cohesive soils are: clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. Cemented soils such as caliche and hardpan are also considered Type A.

However, no soil is Type A if:

(i) The soil is fissured; or
(ii) The soil is subject to vibration from heavy traffic, pile driving, or similar effects; or
(iii) The soil has been previously disturbed; or
(iv) The soil is part of a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or greater; or
(v) The material is subject to other factors that would require it to be classified as a less stable material.

"Type B" means:

(i) Cohesive soil with an unconfined compressive strength greater than 0.5 tsf (48 kPa) but less than 1.5 tsf (144 kPa); or
(ii) Granular cohesionless soils including: angular gravel (similar to crushed rock), silt, silt loam, sandy loam and, in some cases, silty clay loam and sandy clay loam.
(iii) Previously disturbed soils except those which would otherwise be classed as Type C soil.
(iv) Soil that meets the unconfined compressive strength or cementation requirements for Type A, but is fissured or subject to vibration; or
(v) Dry rock that is not stable; or
(vi) Material that is part of a sloped, layered system where the layers dip into the excavation on a slope less steep than four horizontal to one vertical (4H:1V), but only if the material would otherwise be classified as Type B.

"Type C" means:

(i) Cohesive soil with an unconfined compressive strength of 0.5 tsf (48 kPa) or less, or
(ii) Granular soils including gravel, sand, and loamy sand; or
(iii) Submerged soil or soil from which water is freely seeping; or
(iv) Submerged rock that is not stable, or
(v) Material in a sloped, layered system where the layers dip into the excavation or a slope of four horizontal to one vertical (4H:1V) or steeper.

"Unconfined compressive strength" means the load per unit area at which a soil will fail in compression. It can be determined by laboratory testing, or estimated in the field using a pocket penetrometer, by thumb penetration tests, and other methods.

"Wet soil" means soil that contains significantly more moisture than moist soil, but in such a range of values that cohesive material will stump or begin to flow when vibrated. Granular material that would exhibit cohesive properties when moist will lose those cohesive properties when wet.

(c) Requirements

(1) Classification of soil and rock deposits. Each soil and rock deposit shall be classified by a competent person as Stable Rock, Type A, Type B, or Type C in accordance with the definitions set forth in paragraph (b) of this appendix.

(2) Basis of classification. The classification of the deposits shall be made based on the results of at least one visual and at least one manual analysis. Such analyses shall be conducted by a competent person using tests described in paragraph (d) below, or in other recognized methods of soil classification and testing such as those adopted by the American Society for Testing Materials, or the U.S. Department of Agriculture textural classification system.

(3) Visual and manual analyses. The visual and manual analyses, such as those noted as being acceptable in paragraph (d) of this appendix, shall be designed and conducted to provide sufficient quantitative and qualitative information as may be necessary to identify properly the properties, factors, and conditions affecting the classification of the deposits.

(4) Layered systems. In a layered system, the system shall be classified in accordance with its weakest layer. However, each layer may be classified individually where a more stable layer lies under a less stable layer.

(5) Reclassification. If, after classifying a deposit, the properties, factors, or conditions affecting its classification change in any way, the changes shall be evaluated by a competent person. The deposit shall be reclassified as necessary to reflect the changed circumstances.

(d) Acceptable visual and manual tests

(1) Visual tests. Visual analysis is conducted to determine qualitative information regarding the excavation site in general, the soil adjacent to the excavation, the soil forming the sides of the open excavation, and the soil taken as samples from excavated material.

(i) Observe samples of soil that are excavated and soil in the sides of the excavation. Estimate the range of particle sizes and the relative amounts of the particle sizes. Soil that is primarily composed of fine-grained material material is cohesive material. Soil composed primarily of coarse-grained sand or gravel is granular material.
(ii) Observe soil as it is excavated. Soil that remains in clumps when excavated is cohesive. Soil that breaks up easily and does not stay in clumps is granular.
(iii) Observe the side of the opened excavation and the surface area adjacent to the excavation. Crack-like openings such as tension cracks could indicate fissured material. If chunks of soil spall off a vertical side, the soil could be fissured. Small spalls are evidence of moving ground and are indications of potentially hazardous situations.
(iv) Observe the area adjacent to the excavation and the excavation itself for evidence of existing utility and other underground structures, and to identify previously disturbed soil.
(v) Observe the opened side of the excavation to identify layered systems. Examine layered systems to identify if the layers slope toward the excavation. Estimate the degree of slope of the layers.
(vi) Observe the area adjacent to the excavation and the sides of the opened excavation for evidence of surface water, water seeping from the sides of the excavation, or the location of the level of the water table.
(vii) Observe the area adjacent to the excavation and the area within the excavation for sources of vibration that may affect the stability of the excavation face.

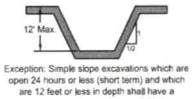
(2) Manual tests. Manual analysis of soil samples is conducted to determine quantitative as well as qualitative properties of soil and to provide more information in order to classify soil properly.

(i) Plasticity. Mold a moist or wet sample of soil into a ball and attempt to roll it into threads as thin as 1/8-inch in diameter. Cohesive material can be successfully rolled into threads without crumbling. For example, if at least a two inch (50 mm) length of 1/8-inch thread can be held on one end without tearing, the soil is cohesive.
(ii) Dry strength. If the soil is dry and crumbles on its own or with moderate pressure into individual grains or fine powder, it is granular (any combination of gravel, sand, or silt). If the soil is dry and falls into clumps which break up into smaller clumps, but the smaller clumps can only be broken up with difficulty, it may be clay in any combination with gravel, sand or silt. If the dry soil breaks into clumps which do not break up into small clumps and which can only be broken with difficulty, and there is no visual indication the soil is fissured, the soil may be considered unfissured.
(iii) Thumb penetration. The thumb penetration test can be used to estimate the unconfined compressive strength of cohesive soils. (This test is based on the thumb penetration test described in American Society for Testing and Materials (ASTM) Standard designation D2488 - "Standard Recommended Practice for Description of Soils (Visual - Manual Procedure)".) Type A soils with an unconfined compressive strength of 1.5 tsf can be readily indented by the thumb; however, they can be penetrated by the thumb only with very great effort. Type C soils with an unconfined compressive strength of 0.5 tsf can be easily penetrated several inches by the thumb, and can be molded by light finger pressure. This test should be conducted on an undisturbed soil sample, such as a large clump of spoil, as soon as practicable after excavation to keep to a minimum the effects of exposure to drying influences.If the excavation is later exposed to wetting influences (rain, flooding), the classification of the soil must be changed accordingly.
(iv) Other strength tests. Estimates of unconfined compressive strength of soils can also be obtained by use of a pocket penetrometer or by using a hand-operated shearvane.
(v) Drying test. The basic purpose of the drying test is to differentiate between cohesive material with fissures, unfissured cohesive material, and granular material. The procedure for the drying test involves drying a sample of soil that is approximately one inch thick (2.54 cm) and six inches (15.24 cm) in diameter until it is thoroughly dry:
(A) If the sample develops cracks as it dries, significant fissures are indicated.
(B) Samples that dry without cracking are to be broken by hand. If considerable force is necessary to break a sample, the soil has significant cohesive material content. The soil can be classified as an unfissured cohesive material and the unconfined compressive strength should be determined.
(C) If a sample breaks easily by hand, it is either a fissured cohesive material or a granular material. To distinguish between the two, pulverize the dried clumps of the sample by hand or by stepping on them. If the clumps do not pulverize easily, the material is cohesive with fissures.If they pulverize easily into very small fragments, the material is granular.

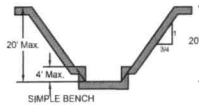
EXCAVATIONS IN TYPE A SOILS

All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of ¾:1.

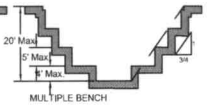




Exception: Simple slope excavations which are open 24 hours or less (short term) and which are 12 feet or less in depth shall have a maximum allowable slope of ½:1

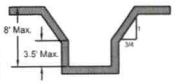


SIMPLE BENCH

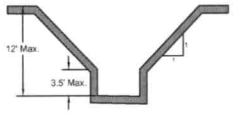


MULTIPLE BENCH

All benched excavations 20 feet or less in depth shall have a maximum allowable slope of ¾:1 and maxium bench dimensions as follows:

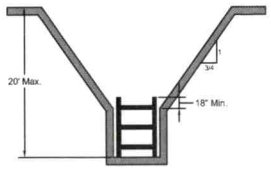


All excavations 8 feet or less in depth which have unsupported vertically sided lower portions shall have a maximum vertical side of ¾ feet.



All excavations more than 8 feet but not more than 12 feet in depth with unsupported vertically sided lower portions shall have a maximum allowable slope of 1:1 and a maximum vertical side of ¾ feet.

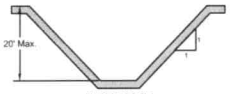
All excavations 20 feet or less in depth which have vertically sided lower portions that are supported or shielded shall have a maximum allowable slope of ¾:1. The support or shield system must extend at least 18 inches above the top of the vertical side.



All other simple slope, compound slope, and vertically sided lower portion excavations shall be in accordance with the other options permitted under § 1926.652(b).

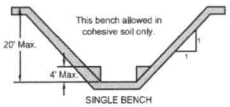
EXCAVATIONS IN TYPE B SOILS

All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1.

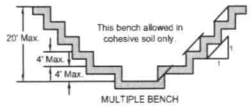


SIMPLE SLOPE

All benched excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1 and maxium bench dimensions as follows:

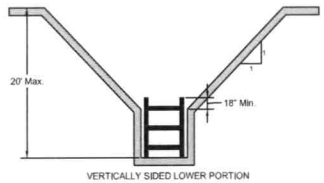


SINGLE BENCH



MULTIPLE BENCH

All excavations 20 feet or less in depth which have vertically sided lower portions that are supported or shielded shall have a maximum allowable slope of 1:1. The support or shield system must extend at least 18 inches above the top of the vertical side.

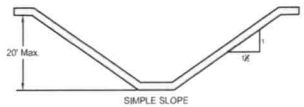


VERTICALLY SIDED LOWER PORTION

All other sloped excavations shall be in accordance with the other options permitted in § 1926.652(b).

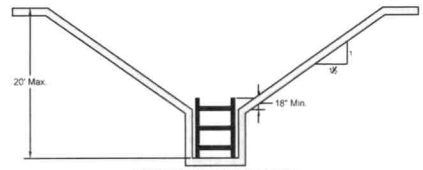
EXCAVATIONS IN TYPE C SOILS

All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1½:1.



SIMPLE SLOPE

All excavations 20 feet or less in depth which have vertically sided lower portions that are supported or shielded shall have a maximum allowable slope of 1½:1. The support or shield system must extend at least 18 inches above the top of the vertical side.

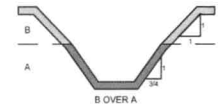


VERTICALLY SIDED LOWER PORTION

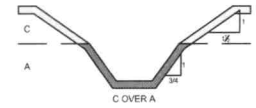
All other sloped excavations shall be in accordance with the other options permitted in § 1926.652(b).

EXCAVATIONS IN LAYERED SOILS

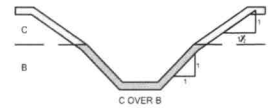
All excavations 20 feet or less in depth made in layered soils shall have a maximum allowable slope for each layer as set forth below.



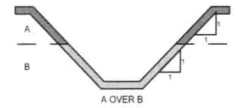
B OVER A



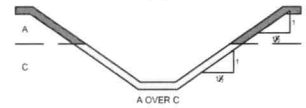
C OVER A



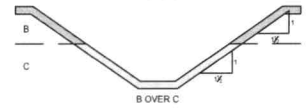
C OVER B



A OVER B



A OVER C



B OVER C

All other sloped excavations shall be in accordance with the other options permitted in § 1926.652(b).

AWT
Engineers and Soil Scientists
Agri-Waste Technology, Inc.
501 N. Salem Street, Suite 203
Apex, North Carolina 27502
919-859-0669
www.agriwaste.com

Adam's Homes
Lot 52

Project Location:
191 Mountain Island Dr
Statesville, NC 28677
Iredell County
PIN: 4762309722.000

Project Owner:
Adam's Homes
3000 Gulf Breeze Parkway
Gulf Breeze, FL 32563
704-361-5437
bcashion@adamshomes.com

For Permitting Purposes

REV.	ISSUED DATE	DESCRIPTION

SHEET TITLE

Excavation Safety

DRAWN BY:	CREATED ON:
T. Bostic	06/27/2023
REVISED BY:	REVISED ON:
####	####
RELEASED BY:	RELEASED ON:
####	####

DRAWING NUMBER

WW-7

Septic System Design - Summary Page

Engineers and Soil Scientists

Agri-Waste Technology, Inc.
501 N Salem Street, Suite 203, Apex, NC 27502
agriwaste.com | 919.859.0669

Project: LSS Permit
Property: 191 Mountain Island Dr
Statesville, NC 28677
Subdiv.: Northlake
Lot #: 52

Date: 6/27/2023
County: Iredell
Permit #:

Project Manager:
Jeff Vaughan, PhD, LSS
jvaughan@agriwaste.com
919-859-0669

Engineer:
Trent Bostic
tbostic@agriwaste.com

Owner: Adam's Homes
Address: 3000 Gulf Breeze Parkway
Gulf Breeze, FL 32563
Phone: 704-361-5437
Email: bcashion@adamshomes.com

EHS:

Type of System: III b
PIN: 4762309722

Soil Parameters

Soil Evaluation By:

-

Special Conditions/Notes:

LTAR: 0.275 gpd/ft^2

Design Parameters

Type of Establishment: Residence, 5 or fewer bedrooms
Unit: Bedroom
# of Units: 3

Septic Tank Specifications

Min. Tank Capacity: 900 gal
Actual Tank Volume: 1,064 gal
Tank Manufacturer: Shoaf
Tank Model: TS 1000 STB 5ft Burial Depth

	Exterior	Interior	
Length:	108.0	102.0	in.
Width:	58.0	52.0	in.
Depth:	70.5	60.5	in.

Primary Drainfield Specifications

Type of Distribution: Parallel Pressure Manifold
Trench Media: Chambers
Trench Width: 3 ft
Trench Depth: in.
(or as specified on permit)

Trench Bottom Area: 1309 ft^2
Minimum Drain Line: 327 ft
Actual Drain Line: 344 ft
Number of Lines: 4
Minimum Line Spacing: 9 ft O.C.

Wastewater Treatment System Design Calculations

Project: LSS Permit
Location: 191 Mountain Island Dr
Statesville, NC 28677
County: Iredell

Septic Tank Sizing

Daily Flow Estimate:

Unit	# of Units	Flow/Unit	Flow/Day
Bedroom	3	120	360
			0
			0
		Q=	360 gpd

Septic Tank Minimum Capacity: Per NCAC T15A:18A .1952(b)(1):

For individual residences with 3 or fewer bedrooms,

Minimum Liquid Capacity (V)= 900 gal

Septic Tank Specs:

Manufacturer: Shoaf
Model: 1000 STB 5ft Burial Dep
Volume: 1,064 gal
Weight: 10,500 lbs

	Exterior	Interior	
Length:	108.0	102.0	in.
Width:	58.0	52.0	in.
Depth:	70.5	60.5	in.

Shape of Risers: Circular
Diameter: 2.00 ft

Pump Tank Storage & Float Settings

Project: LSS Permit
Location: 191 Mountain Island Dr
Statesville, NC 28677
County: Iredell

Tank Manufacturer	Shoaf
Tank Model	TS 1275 PT 5' Burial

Interior Height (in.)	**60.5** in.	
Avg. Storage	**21.07** gal/in.	

Primary System

Elevations, measured from bottom towards top (0 = Interior Bottom of Tank):

Top of pump (including 4" block)	16.1 in.	(Pump height = 12 1/8")
Pump Off	18.0 in.	
Pump On	25.5 in.	(set for dose volume)
Alarm On	31.5 in.	(6 in. above On Float)
Emergency Storage Available		
Pump Tank	611 gal	
Days of Storage	1.70 days	

(determined from "interior top of tank" - "High Water Alarm")

Repair System

Elevations, measured from bottom towards top (0 = Interior Bottom of Tank):

Top of pump (including 4" block)	16.1 in.	(Pump height = 12 1/16")
Pump Off	18.0 in.	
Pump On	29.0 in.	(set for dose volume)
Alarm On	35.0 in.	(6 in. above On Float)
Emergency Storage Available		
Pump Tank	537 gal	
Days of Storage	1.49 days	

(determined from "interior top of tank" - "High Water Alarm")

ELEVATIONS

Project: LSS Permit
Location: 191 Mountain Island Dr
Statesville, NC 28677
County: Iredell

Benchmark	0	
BM Elev	0 ft	
Septic Tank	1,064 gal	
Ground Surface		868.00 ft
Depth of Soil Cover	26 in.	2.17 ft
Overall Ht of Tank	70.5 in.	5.88 ft
Elev, Base of Tank		859.96 ft
Ht to 4" Inlet Invert	57 in.	4.75 ft
Elev, 4" Inlet Invert		864.71 ft
Ht to 4" Outlet Invert	54.5 in.	4.54 ft
Elev, 4" Outlet Invert		864.50 ft
Gravel Base	6 in.	0.50 ft
Elev, Bot of Excavation		859.46 ft
Pump Tank	1287 gal	
Ground Surface		869.00 ft
Depth of Soil Cover	42 in.	3.50 ft
Overall Ht of Tank	70.5 in.	5.88 ft
Elev, Base of Tank		859.63 ft
Ht to 4" Inlet Invert	57 in.	4.75 ft
Elev, 4" Inlet Invert		864.38 ft
Ht to 2" Outlet Invert	58 in.	4.83 ft
Elev, 2" Outlet Invert		864.46 ft
Gravel Base	6 in.	0.50 ft
Elev, Bot of Excavation		859.13 ft
ST Inlet Pipe		
Grade @ Stub-out		867 ft
Depth of Stub-out, top		1.5 ft
Elev, Stub-out Invert		865.15 ft
Elev @ ST Inlet Invert		864.71 ft
Length		15 ft
Slope		2.9 %
Pipe, ST to PT		
ID	4 in.	0.33 ft
OD	4.5 in.	0.38 ft
Elev, ST Outlet Invert		864.50 ft
Elev, PT Inlet Invert		864.38 ft
Length		4 ft
Slope		3.1 %
Cover over inlet pipe		2.94 ft
Pump Reqmt.		
Floor Thickness	4 in.	0.33 ft
Elev, Pump Tank Floor		859.96 ft
Pump Block Ht.	4 in.	0.33 ft
Elev, Pump Intake		860.29 ft
Grade @ Primary Manifold		873.00 ft
Grade @ Repair Manifold		871.00 ft
Min. Cover	18 in.	1.50 ft
Max Elev, Primary		871.50 ft
Max Elev, Repair		869.50 ft
Elev Diff, Primary		11.21 ft
Elev Diff, Repair		9.21 ft

Drainfield Design

Project	LSS Permit
Location	191 Mountain Island Dr Statesville, NC 28677
County	Iredell

Drainfield Sizing

Primary

LTAR	0.275 gpd/ft^2		
Daily Design Flow	360 gpd	**Type of Drainfield Media**	Chambers
Req. Drainfield Area	1,309 ft^2	**Required Drainline**	
Trench Width, Eff.	3 ft	**After 25% Reduction**	327 ft
Required Drainline	436 ft	**Minimum Line Spacing**	9 ft (O.C.)

Repair

LTAR	0.275 gpd/ft^2		
Daily Design Flow	360 gpd	**Type of Drainfield Media**	PPBPS, Horizontal
Req. Drainfield Area	1,309 ft^2	**Required Drainline**	
Trench Width, Eff.	3 ft	**After 50% Reduction**	218 ft
Required Drainline	436 ft	**Minimum Line Spacing**	8 ft (O.C.)

Drainfield Layout

Line	Use	Flag Color	Elevation (ft)	Line Length (ft)	Used as Primary (ft)	Used as Repair (ft)
1	Layout Line	red			86.0	
2	Layout Line	orange			86.0	
3	Layout Line	yellow			86.0	
4	Layout Line	blue			86.0	
5	Layout Line	purple				73.7
6	Layout Line	red				73.7
7	Layout Line	orange				73.7
8	Layout Line					
9	Layout Line					
10	Layout Line					
11	Layout Line					
12	Layout Line					
13	Layout Line					
14	Layout Line					
15	Layout Line					
16	Layout Line					
17	Layout Line					
18	Layout Line					
19	Layout Line					
20	Layout Line					
			Total	0	344	221
			Count	0	4	3

Note: Line length totals are shown to the nearest foot.

For Chambers or Low-profile Chambers:

Effective trench lengths are shown. Add 1' for total installation length.

PRESSURE MANIFOLD DESIGN (Primary)

Site Information

Project: LSS Permit
Location: 191 Mountain Island Dr
Statesville, NC 28677
County: Iredell

Design Information

Estimated Daily Flow	360	gal/day
L.T.A.R. (from Iredell Co.)	0.275	gal/day/ft^2
L.T.A.R. + 5%	0.289	gal/day/ft^2
Trench Width	3	ft.
Line Length Required	436	ft.
Length after 25% Reduction	327	ft
L.T.A.R. Reduced	0.367	gal/day/ft^2
L.T.A.R. Reduced + 5%	0.385	gal/day/ft^2

DRAINFIELD INFO. - **Primary**

Proposed Type of System/Distribution: ***Pump to Pressure Manifold using Chambers***

Line No.	Flag Color	Line Length (ft)	Tap	Flow (gpm)	Flow/Foot (gpm/ft)	Line L.T.A.R.
1	red	86	1/2in SCH 80	5.48	0.064	0.349
2	orange	86	1/2in SCH 80	5.48	0.064	0.349
3	yellow	86	1/2in SCH 80	5.48	0.064	0.349
4	blue	86	1/2in SCH 80	5.48	0.064	0.349
	Total	**344**	**Total**	**21.92**	**Avg.**	**0.349**

Note: Line lengths are calculated in 4'4" increments to reflect use of PPBPS product.

Total Run Time	16.42	min.	
Drainfield Capacity	224.6	gal	
% of Drainfield Cap	70.4%		(Req. Range 66-75%)
Dose Volume	158.0	gal/dose	
Run Time/Dose	**7.2**	**minutes**	Range 5-7 minutes unless uphill, checked
Volume/depth	21.07	gal/in.	(Per tank manufacturer's specifications)
Estimated Drawdown	7.50	in.	

Manifold Box

Number of Taps	4	with	0	Split(s)	
Manifold Length	3.5	ft.	(approximate)		

PRESSURE MANIFOLD SYSTEM DESIGN (Repair)

Site Information

Project: LSS Permit
Location: 191 Mountain Island Dr
Statesville, NC 28677
County: Iredell

Design Information

Estimated Daily Flow	360	gal/day
L.T.A.R. (from Iredell Co.)	0.275	gal/day/ft^2
L.T.A.R. + 5%	0.289	gal/day/ft^2
Trench Width	3	ft.
Line Length Required	436	ft.
Length after 50% Reduction	218	ft
L.T.A.R. Reduced	0.550	gal/day/ft^2
L.T.A.R. Reduced + 5%	0.578	gal/day/ft^2

DRAINFIELD INFO. - **Repair**

Proposed Type of System/Distribution: ***Pump to Pressure Manifold using PPBPS, Horizontal***

Line No.	Flag Color	Line Length (ft.)		Flow (gpm)	Flow/Foot (gpm/ft)	Line L.T.A.R.
5	purple	73.7	1/2in SCH 40	7.11	0.096	0.543
6	red	73.7	1/2in SCH 40	7.11	0.096	0.543
7	orange	73.7	1/2in SCH 40	7.11	0.096	0.543
	Total	**221**	**Total**	**21.33**	**Avg.**	**0.543**

Note: Line lengths are calculated in 4'4" increments to reflect use of PPBPS product.

Total Run Time	16.88	min.	
Drainfield Capacity	367.2	gal	
% of Drainfield Cap	63.1%		(Max. 101.4% to not exceed 7.2 gal/panel)
Dose Volume	231.7	gal/dose	
Run Time/Dose	**10.9**	**minutes**	Time to deliver max. 7.2 gal/panel
Volume/depth	21.07	gal/in.	(Per tank manufacturer's specifications)
Estimated Drawdown	11.00	in.	

Manifold Box

Number of Taps	3	with	0	Split(s)	
Manifold Length	3.0	ft.	(approximate)		

PUMP DESIGN

System (initial/repair): **Primary**

Project: LSS Permit
Location: 191 Mountain Island Dr
Statesville, NC 28677
County: Iredell

Friction Losses

Suction Head	0	ft	*(submersible 0)*
Elev. Difference (highest point from pump)	11.21	ft	
Design Pressure At Outlet	2	ft	

Supply Line - 1.25" Schedule 40 PVC

Pipe Diameter, Nominal	1.25	in.		
Pipe Diameter (ID)	1.36	in.	Flow	21.92 gpm
Pipe Length	100	ft	Velocity	4.84 ft/sec
Pipe Length for Fittings	10	ft		Meets requirement that 2 ft/s < v < 5 ft/s.
Equivalent Length	110	ft		
Estimated Friction Loss in Supply Line			7.36	ft
Friction Loss - Taps/Special Fittings			3.5	ft
TOTAL			**24.06**	**ft.**

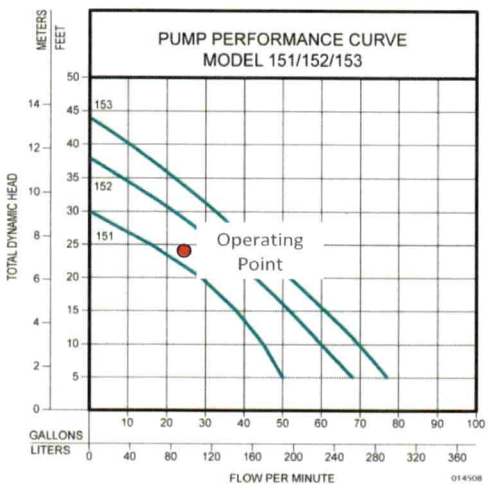
Flow for Anti-Siphon Hole

Hole Diameter	3/16	in.
Hole Flowrate	2.03	gpm

Pump Efficiency	0.7	*(assumed, typical)*
Motor Efficiency	0.9	*(assumed for electric pumps)*
Flow	**23.95**	**gpm**
Required Horsepower	0.23	hp
TDH	**24.06**	**ft**

Pump Selection

Manufacturer:	Zoeller
Model:	N152
Horsepower:	**0.4**



PUMP DESIGN

System (initial/repair): **Repair**

Project: LSS Permit
Location: 191 Mountain Island Dr
Statesville, NC 28677
County: Iredell

Friction Losses

Suction Head	0 ft		*(submersible 0)*
Elev. Difference (highest point from pump)	9.21 ft		
Design Pressure At Outlet	2 ft		

Supply Line - *2.0" Schedule 40 PVC*

Pipe Diameter, Nominal	1.25 in.		
Pipe Diameter (ID)	1.36 in.	Flow	21.33 gpm
Pipe Length	68 ft	Velocity	4.71 ft/s
Pipe Length for Fittings	6.8 ft		Meets requirement that 2 ft/s < v < 5 ft/s.
Equivalent Length	74.8 ft		
Estimated Friction Loss in Supply Line		4.76 ft	
Friction Loss - Taps/Special Fittings		3.5 ft	
TOTAL		**19.46 ft.**	

Flow for Anti-Siphon Hole

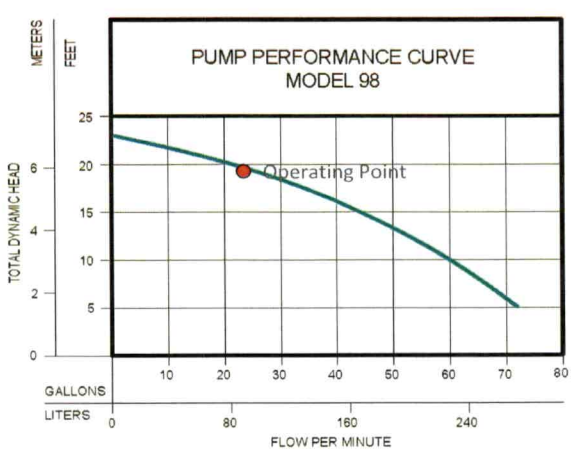
Hole Diameter	3/16 in.
Hole Flowrate	1.83 gpm

Pump Efficiency	0.7	*(assumed, typical)*
Motor Efficiency	0.9	*(assumed for electric pumps)*
Flow	**23.16 gpm**	

Required Horsepower 0.18 hp
TDH **19.46 ft.**

Pump Selection

Manufacturer:	Zoeller
Model:	N98
Horsepower:	**0.5**



Septic Tank Buoyancy Calculation

Project: LSS Permit
Location: 191 Mountain Island Dr
Statesville, NC 28677
County: Iredell

Tank Size (nominal) 1064 gal

Properties/Assumptions:

Min. liquid level to be maintained in tank at all times after initial installation.

Min. depth to water table	12.0	in.	from ground surface
Effluent Density	62.4	lb/ft^3	(Specific Weight of Water)
Concrete Density	142.6	lb/ft^3	
Soil App. Sp. Grav.	1.3		*(typical value)*
Soil Cover Over Tank	12	in.	(minimum)
Additional Cover	14	in.	for pipe grade
Unsubmerged wt of soil	81.1	lb/ft^3	
Submerged wt of soil	49.9	lb/ft^3	50% Porosity Assumed

Tank Dimensions (from supplier):

		Exterior		*Interior*		
		Top	Bottom	Top	Bottom	
Tank	Length	108.0	104.0	102.0	98.0	in.
	Width	58.0	54.0	52.0	48.0	in.
	Height	64.5	(w/o lid)	60.5		in.
Lid	Length	108.0	in.			
	Width	58.0	in.			
	Height	6.0	in.			

Area of Riser Openings 6.28 ft^2

Permanent Liquid Depth in Tank 0.0 in. 0.00 ft

Tank Weight 10,500 lb (per manufacturer)

Buoyancy Force Calculation:

Buoyancy Force Specific Weight of Water x Displaced Volume

Displaced Volume	250.7	ft^3 *
Buoyancy Force	**15,644**	**lb.**

Weight Calculation:

Tank Weight	10500	lb		
Water Weight in Tank	0	lb	Volume	0.0 ft^3 *
Soil Weight Over Tank	5187	lb		
Soil Friction Force	4611	lb		
Total Weight	**20,297**	**lb**		

Factor of Safety = 1.30

Note: Total weight must be greater than buoyancy force so that tank will not float during high water table conditions.

** Volume calculated by the prismoidal formula.*

Pump Tank Buoyancy Calculation

Project: LSS Permit
Location: 191 Mountain Island Dr
Statesville, NC 28677
County: Iredell

Tank Size (nominal) 1287 gal

Properties/Assumptions:

Min. liquid level to be maintained in tank at all times after initial installation.

Min. depth to water table	12	in.	from ground surface
Effluent Density	62.4	lb/ft^3	(Specific Weight of Water)
Concrete Density	142.6	lb/ft^3	
Soil App. Sp. Grav.	1.3		*(typical value)*
Soil Cover Over Tank	12	in.	(minimum)
Additional Cover	30	in.	for pipe grade
Unsubmerged wt of soil	81.1	lb/ft^3	
Submerged wt of soil	49.9	lb/ft^3	50% porosity assumed

Tank Dimensions (from supplier):

		Exterior Top	Exterior Bottom	Interior Top	Interior Bottom	
Tank	Length	108.0	104.0	102.0	98.0	in.
	Width	58.0	54.0	52.0	48.0	in.
	Height	64.5	(w/o lid)	60.5		in.
Lid	Length	108.0	in.			
	Width	58.0	in.			
	Height	6.0	in.			

Area of Riser Openings 3.14 ft^2

Permanent Liquid Depth in Tank 0.0 in. 0.00 ft

Tank Weight 10500 lb (per manufacturer)

Buoyancy Force Calculation:

Buoyancy Force Specific Weight of Water x Displaced Volume

Displaced Volume	251.2	ft^3 *
Buoyancy Force	**15,676**	**lb**

Weight Calculation:

Tank Weight	10500	lb		
Water Weight in Tank	0	lb	Volume	0.0 ft^3 *
Soil Weight Over Tank	8311	lb		
Soil Friction Force	4611	lb		
Total Weight	**23,422**	**lb**		

Factor of Safety = 1.49

Note: Total weight must be greater than buoyancy force so that tank will not float during high water table conditions.
** Volume calculated by the prismoidal formula.*

Attachment 2: Soil Boring Description Sheets

COUNTY: Iredell Co.__

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

CLIENT: Adams Homes
ADDRESS: (Lot 52) 191 Mountain Island Rd. Statesville, NC. 28677
APPLICATION DATE_____
DATE EVALUATED: 5/19/23
PROPOSED FACILITY: Single Family Residence PROPOSED DESIGN FLOW (.1949): 360 GPD PROPERTY SIZE: .54 ac
LOCATION OF SITE (Lot 52) 191 Mountain Island Rd.Statesville, NC. 28677 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)		OTHER PROFILE FACTORS				PROFILE CLASS & LTAR
			.1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	.1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	
SB 1	6%	0-8"	SCL; WSBK	SS; SP; FR	-	42"	-	-	Provisionally Suitable 0.275
		8-34"	C; SBK	SS; SP; FI					
		34-42"	CL; WSBK	SS; SP; FR					
SB 2	5%	0-30"	C; SBK	SS; SP; FI	-	40"	-	Saprolite	Provisionally Suitable 0.275
		30-40"	CL; WSBK	SS; SP; FR					
		40+"	SCL; MA	SS; SP; FR					
SB 3	4%	0-27"	C; SBK	SS; SP; FI	-	40"	-	Saprolite	Provisionally Suitable 0.275
		27-40"	CL; WSBK	SS; SP; FR					
		40+"	SCL; MA	SS; SP; FR					
SB 4	6%	0-6"	SCL; WSBK	SS; SP; FR	-	45"	-	-	Provisionally Suitable 0.275
		6-45"	C; SBK	SS; SP; FI					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	Provisionally Suitable	Provisionally Suitable
System Type(s)	Pressure Manifold 25% Reduction	Pressure Manifold 50% Reduction
Site LTAR	0.275 GPD/Ft^2	0.275 GPD/Ft^2

OTHER FACTORS (.1946): _____
SITE CLASSIFICATION (.1948): _____

EVALUATED BY: Trevor Hackney
OTHER(S) PRESENT: Nathan Estevez

LEGEND

use the following standard abbreviations

LANDSCAPE POSITION	GROUP	SOIL TEXTURE	CONVENTIONAL .1955 LTAR*	LPP .1957 LTAR*	MINERALOGY/ CONSISTENCE	STRUCTURE
CC (Concave Slope)	I	S (Sand)	1.2 - 0.8	0.6 - 0.4	SEXP (Slightly Expansive)	G (Single Grain)
CV (Convex Slope)		LS (Loamy Sand)			EXP (Expansive)	M (Massive)
D (Drainage Way)						CR (Crumb)
DS (Debris Slump)	II	SL (Sandy Loam)	0.8 - 0.6	0.4 - 0.3		GR (Granular)
FP (Flood Plain)		L (Loam)				SBK (Subangular Blocky)
FS (Foot Slope)						ABK (Angular Blocky)
H (Head Slope)	III	Si (Silt)	0.6 - 0.3	0.3 - 0.15		PL (Platy)
L (Linear Slope)		SiCL (Silty Clay Loam)				PR (Prismatic)
N (Nose Slope)		CL (Clay Loam)				
R (Ridge)		SCL (Sandy Clay Loam)			**MOIST**	**WET**
S (Shoulder Slope)		SiL (Silt Loam)				
T (Terrace)					VFR (Very Friable)	NS (Non-sticky)
	IV	SC (Sandy Clay)	0.4 - 0.1	0.2 - 0.05	FR (Friable)	SS (Slightly Sticky)
		SiC (Silty Clay)			FI (Firm)	S (Sticky)
		C (Clay)			VFI (Very Firm v. Very Sticky)	VS (Very Sticky)
		O (Organic)	None	None	EFI (Extremely Firm)	NP (Non-plastic)
						SP (Slightly Plastic)
						P (Plastic)
						VP (Very Plastic)

*Adjust LTAR due to depth, consistence, structure, soil wetness, landscape, position, wastewater flow and quality.

NOTES

HORIZON DEPTH	In inches below natural soil surface
DEPTH OF FILL	In inches from land surface
RESTRICTIVE HORIZON	Thickness and depth from land surface
SAPROLITE	S(suitable) or U(unsuitable)
SOIL WETNESS	Inches from land surface to free water or inches from land surface to soil colors with chroma 2 or less - record Munsell color chip designation
CLASSIFICATION	S (Suitable), PS (Provisionally Suitable), or U (Unsuitable)

Evaluation of saprolite shall be by pits.

Long-term Acceptance Rate (LTAR): gal/day/ft^2

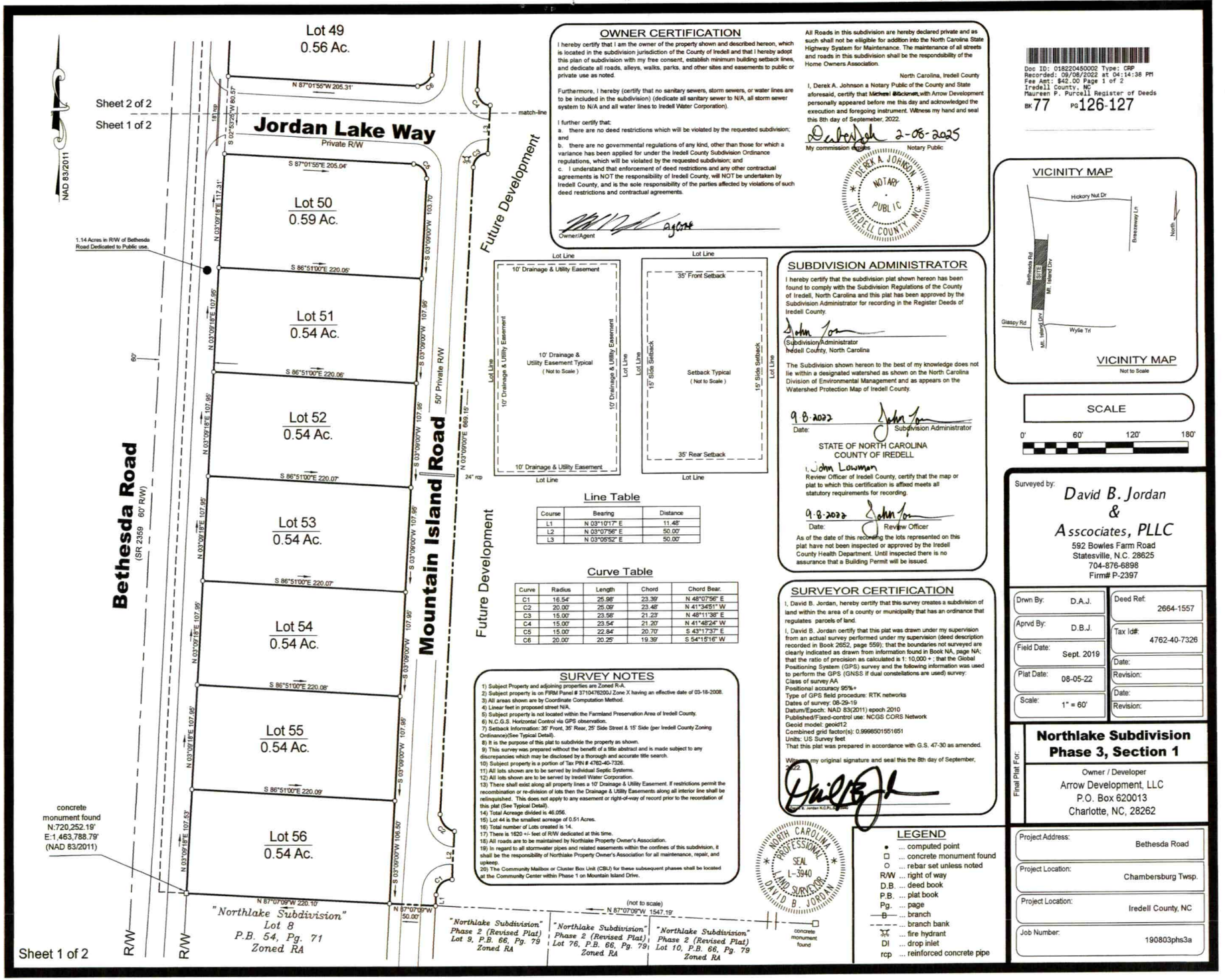
Show profile locations and other site features (dimensions, reference or benchmark, and North).



COMMENTS:

Attachment 3: Additional Documentation

BK 77 PG 127



OWNER CERTIFICATION

I hereby certify that I am the owner of the property shown and described hereon, which is located in the subdivision jurisdiction of the County of Iredell and that I hereby adopt this plan of subdivision with my free consent, establish minimum building setback lines, and dedicate all roads, alleys, walks, parks, and other sites and easements to public or private use as noted.

Furthermore, I hereby (certify that no sanitary sewers, storm sewers, or water lines are to be included in the subdivision) (dedicate all sanitary sewer to N/A, all storm sewer system to N/A and all water lines to Iredell Water Corporation).

I further certify that:
a. there are no deed restrictions which will be violated by the requested subdivision; and
b. there are no governmental regulations of any kind, other than those for which a variance has been applied for under the Iredell County Subdivision Ordinance regulations, which will be violated by the requested subdivision; and
c. I understand that enforcement of deed restrictions and any other contractual agreements is NOT the responsibility of Iredell County, will NOT be undertaken by Iredell County, and is the sole responsibility of the parties affected by violations of such deed restrictions and contractual agreements.

Owner/Agent

All Roads in this subdivision are hereby declared private and as such shall not be eligible for addition into the North Carolina State Highway System for Maintenance. The maintenance of all streets and roads in this subdivision shall be the respondsibility of the Home Owners Association.

North Carolina, Iredell County

I, Derek A. Johnson a Notary Public of the County and State aforesaid, certify that ~~Michael Dickinson~~ with Arrow Development personally appeared before me this day and acknowledged the execution and foregoing instrument. Witness my hand and seal this 8th day of Septemeber, 2022.

My commission expires 2-08-2025 Notary Public

DEREK A. JOHNSON NOTARY PUBLIC IREDELL COUNTY, NC

Doc ID: 018220450002 Type: CRP
Recorded: 09/08/2022 at 04:14:36 PM
Fee Amt: $42.00 Page 1 of 2
Iredell County, NC
Maureen P. Purcell Register of Deeds
BK 77 PG 126-127

VICINITY MAP

VICINITY MAP
Not to Scale

SCALE

0' 60' 120' 180'

Line Table

Course	Bearing	Distance
L1	N 03°10'17" E	11.48'
L2	N 03°07'56" E	50.00'
L3	N 03°05'52" E	50.00'

Curve Table

Curve	Radius	Length	Chord	Chord Bear.
C1	16.54'	25.98'	23.39'	N 48°07'56" E
C2	20.00'	25.09'	23.48'	N 41°34'51" W
C3	15.00'	23.58'	21.23'	N 48°11'36" E
C4	15.00'	23.54'	21.20'	N 41°48'24" W
C5	15.00'	22.84'	20.70'	S 43°17'37" E
C6	20.00'	20.25'	19.39'	S 54°15'16" W

SURVEY NOTES

1) Subject Property and adjoining properties are Zoned R-A.
2) Subject property is on FIRM Panel # 3710476200J Zone X having an effective date of 03-18-2008.
3) All areas shown are by Coordinate Computation Method.
4) Linear feet in proposed street N/A.
5) Subject property is not located within the Farmland Preservation Area of Iredell County.
6) N.C.G.S. Horizontal Control via GPS observation.
7) Setback Information: 35' Front, 35' Rear, 25' Side Street & 15' Side (per Iredell County Zoning Ordinance)(See Typical Detail).
8) It is the purpose of this plat to subdivide the property as shown.
9) This survey was prepared without the benefit of a title abstract and is made subject to any discrepancies which may be disclosed by a thorough and accurate title search.
10) Subject property is a portion of Tax PIN # 4762-40-7326.
11) All lots shown are to be served by individual Septic Systems.
12) All lots shown are to be served by Iredell Water Corporation.
13) There shall exist along all property lines a 10' Drainage & Utility Easement. If restrictions permit the recombination or re-division of lots then the Drainage & Utility Easements along all interior line shall be relinquished. This does not apply to any easement or right-of-way of record prior to the recordation of this plat (See Typical Detail).
14) Total Acreage divided is 46.056.
15) Lot 44 is the smallest acreage of 0.51 Acres.
16) Total number of Lots created is 14.
17) There is 1620 +/- feet of R/W dedicated at this time.
18) All roads are to be maintained by Northlake Property Owner's Association.
19) In regard to all stormwater pipes and related easements within the confines of this subdivision, it shall be the responsibility of Northlake Property Owner's Association for all maintenance, repair, and upkeep.
20) The Community Mailbox or Cluster Box Unit (CBU) for these subsequent phases shall be located at the Community Center within Phase 1 on Mountain Island Drive.

SUBDIVISION ADMINISTRATOR

I hereby certify that the subdivision plat shown hereon has been found to comply with the Subdivision Regulations of the County of Iredell, North Carolina and this plat has been approved by the Subdivision Administrator for recording in the Register Deeds of Iredell County.

Subdivision Administrator
Iredell County, North Carolina

The Subdivision shown hereon to the best of my knowledge does not lie within a designated watershed as shown on the North Carolina Division of Environmental Management and as appears on the Watershed Protection Map of Iredell County.

9.8.2022 Date: Subdivision Administrator

STATE OF NORTH CAROLINA
COUNTY OF IREDELL

I, John Lowman Review Officer of Iredell County, certify that the map or plat to which this certification is affixed meets all statutory requirements for recording.

9.8.2022 Date: Review Officer

As of the date of this recording the lots represented on this plat have not been inspected or approved by the Iredell County Health Department. Until inspected there is no assurance that a Building Permit will be issued.

SURVEYOR CERTIFICATION

I, David B. Jordan, hereby certify that this survey creates a subdivision of land within the area of a county or municipality that has an ordinance that regulates parcels of land.

I, David B. Jordan certify that this plat was drawn under my supervision from an actual survey performed under my supervision (deed description recorded in Book 2652, page 559); that the boundaries not surveyed are clearly indicated as drawn from information found in Book NA, page NA; that the ratio of precision as calculated is 1: 10,000 + ; that the Global Positioning System (GPS) survey and the following information was used to perform the GPS (GNSS if dual constellations are used) survey:
Class of survey AA
Positional accuracy 95%+
Type of GPS field procedure: RTK networks
Dates of survey: 08-29-19
Datum/Epoch: NAD 83(2011) epoch 2010
Published/Fixed-control use: NCGS CORS Network
Geoid model: geoid12
Combined grid factor(s): 0.9998501551651
Units: US Survey feet
That this plat was prepared in accordance with G.S. 47-30 as amended.

Witness my original signature and seal this the 8th day of September, 2022.

David B. Jordan N.C.P.L.S. L-3940

NORTH CAROLINA PROFESSIONAL SEAL L-3940 LAND SURVEYOR DAVID B. JORDAN

LEGEND

- ● ... computed point
- □ ... concrete monument found
- ○ ... rebar set unless noted
- R/W ... right of way
- D.B. ... deed book
- P.B. ... plat book
- Pg. ... page
- —B— ... branch
- - - - ... branch bank
- ⋈ ... fire hydrant
- DI ... drop inlet
- rcp ... reinforced concrete pipe

Surveyed by:
David B. Jordan & Asscociates, PLLC
592 Bowles Farm Road
Statesville, N.C. 28625
704-876-6898
Firm# P-2397

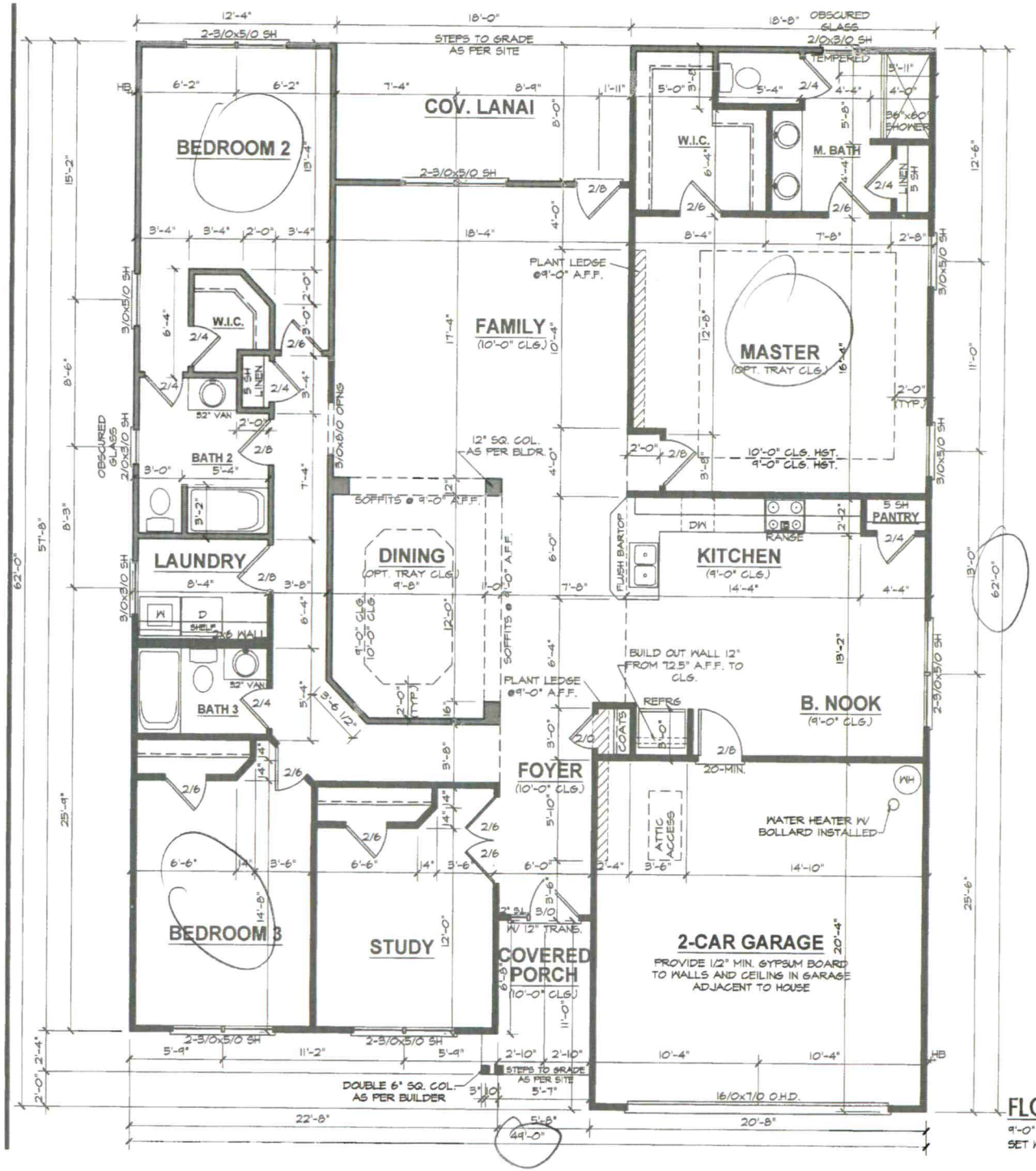
Drwn By:	D.A.J.	Deed Ref:	2664-1557
Aprvd By:	D.B.J.	Tax Id#:	4762-40-7326
Field Date:	Sept. 2019	Date:	
Plat Date:	08-05-22	Revision:	
Scale:	1" = 60'	Date:	
		Revision:	

Final Plat For:

Northlake Subdivision Phase 3, Section 1

Owner / Developer
Arrow Development, LLC
P.O. Box 620013
Charlotte, NC, 28262

Project Address:	Bethesda Road
Project Location:	Chambersburg Twsp.
Project Location:	Iredell County, NC
Job Number:	190803phs3a



FLOOR PLAN

9'-0" (NOM.) CLG. HST. U.N.O.
SET WINDOWS @ 7'-0" U.N.O.

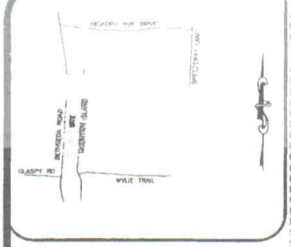
SCALE: 1/4"=1'-0"

ADAMS HOMES AEC, LLC

2316 "A" FE (R) NR5203

DATE DRAWN
3/1/2023
PROJECT
5872
REVISIONS

SHEET
3



VICINITY MAP (NTS)

LEGEND
AC=AIR CONDITIONING UNIT
AG=ABOVE GROUND
BOC=BACK OF CURB
BG=BELOW GROUND
CATV=CABLE TV
CB=CATCH BASIN
CVRD=COVERED
DW=CONC. DRIVEWAY
EB=ELECTRIC BOX
EM=ELECTRIC METER
EOP=EDGE OF PAVEMENT
EP=ELECTRIC PEDESTAL
FH=FIRE HYDRANT
ICV=IRRIGATION CONTROL VALVE
LP=LIGHT POLE
MTR=METER
N/F=NOW OR FORMERLY
PO=PORCH
PP=POWER POLE
RCP=REINFORCED CONC PIPE
R/W=RIGHT OF WAY
SCO=CLEANOUT
SW=SIDEWALK
TP=TELEPHONE PEDESTAL
TF=TRANSFORMER
WM=WATER METER
WV=WATER VALVE
○ EIP=EXISTING IRON PIPE
◉ IRON PIPE SET
○ EIR=EXISTING IRON ROD

NORTH CAROLINA PROFESSIONAL SEAL L-4817 LAND SURVEYOR NICHOLAS M. FRENCH

THIS EXHIBIT MAP IS OF AN EXISTING PARCEL OR PARCELS OF LAND AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET.

NICHOLAS M. FRENCH, PLS L-4817 DATE

THIS MAP IS ONLY INTENDED FOR THE PARTIES AND PURPOSES SHOWN. THIS MAP IS NOT FOR RECORDATION. NO TITLE REPORT PROVIDED.

THIS MAP MAY NOT BE A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS AND HAS NOT BEEN REVIEWED FOR COMPLIANCE WITH RECORDING REQUIREMENTS FOR PLATS.

GENERAL NOTES:

1. ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES IN U.S. SURVEY FEET UNLESS OTHERWISE NOTED.

2. AREAS SHOWN HEREON WERE COMPUTED USING THE COORDINATE METHOD.

3. LINES NOT SURVEYED ARE SHOWN AS DASHED LINES FROM INFORMATION REFERENCED ON THE FACE OF THIS SURVEY.

4. PROPERTY MAY BE SUBJECT TO ANY/ALL EASEMENTS AND RESTRICTIONS OF RECORD. THIS SURVEY IS A CORRECT REPRESENTATION OF THE LAND PLATTED AND OR DEEDED AND HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. A NORTH CAROLINA LICENSED ATTORNEY-AT-LAW SHOULD BE CONSULTED REGARDING CORRECT OWNERSHIP, WIDTH AND LOCATION OF EASEMENTS, AND OTHER TITLE QUESTIONS REVEALED BY TITLE EXAMINATION.

5. DRIVEWAY IMPERVIOUS CALCULATION SHOWN HEREON CALCULATED TO THE FRONT PROPERTY LINE/RIGHT-OF-WAY.

6. THIS PARCEL IS NOT LOCATED WITHIN A FLOOD HAZARD ZONE AS INDICATED ON CID NO. 370313 PANEL 4762, SUFFIX J IREDELL COUNTY WITH AN EFFECTIVE DATE OF 03/18/2008.

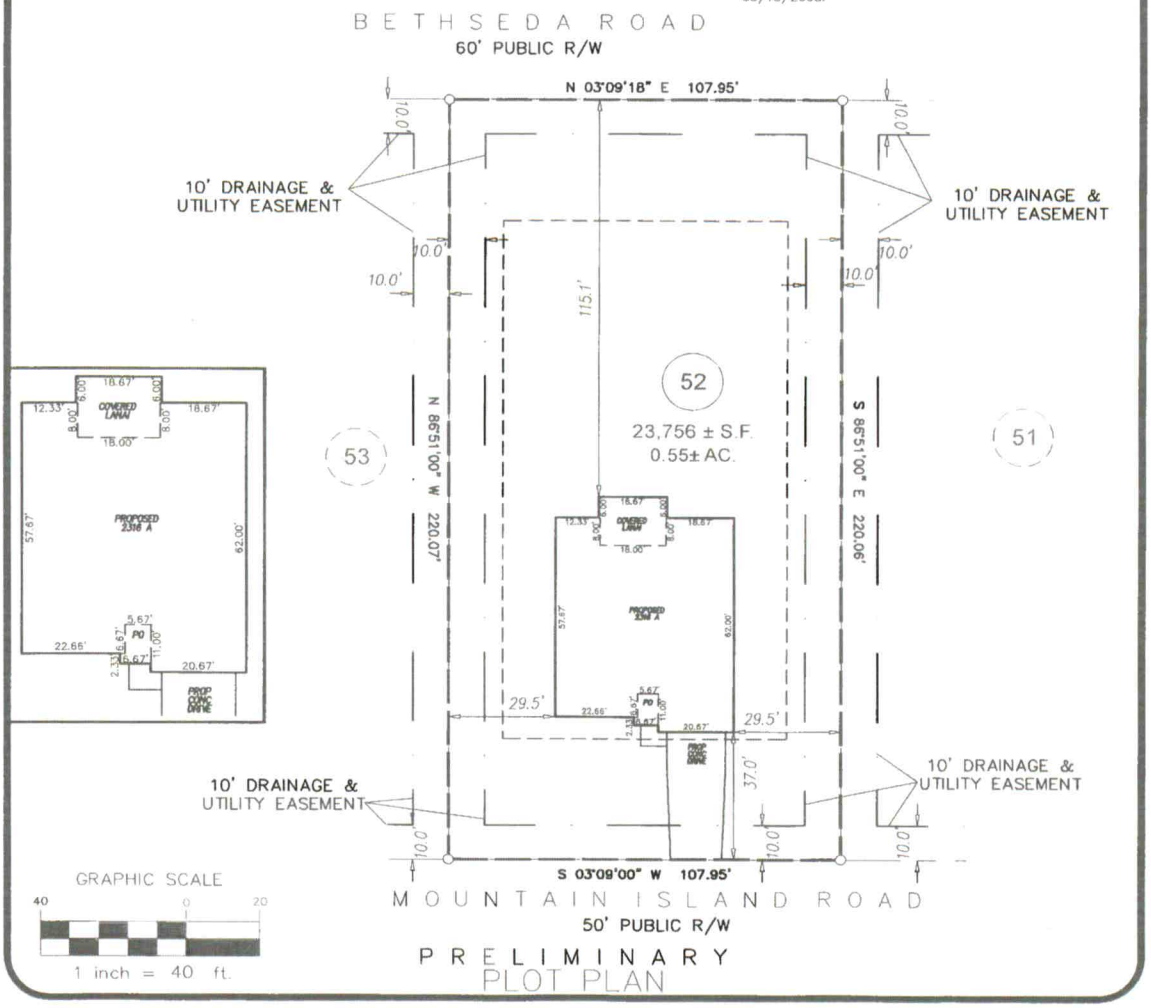
SETBACKS PER PB 77 PG 126-127

FRONT	35'
SIDE	15'
REAR	35'

IMPERVIOUS AREA

HOUSE	3,043 SQ.FT.
DRIVE TO R/W	565 SQ.FT.
WALK	39 SQ.FT.
TOTAL	3,647 SQ.FT.

PLAT NORTH
PB 77, PG 126-127



GRAPHIC SCALE
40 0 20
1 inch = 40 ft.

PRELIMINARY PLOT PLAN

PROJECT:	NORTHLAKE PHASE 3
DRAWN BY:	SEER
SURVEYED BY:	N/A
SCALE:	1"=40'
FIELD WORK:	N/A
DWG DATE:	03-06-2023

FOR
ADAMS HOMES
191 MOUNTAIN ISLAND DRIVE
LOT 52 NORTHLAKE SUBDIVISION PHASE 3
CHAMBERSBURG TWP., IREDELL CO., NC
P.B. 77, PG. 126-127

ECLS GLOBAL, INC
U.S. VETERAN-OWNED
19 N MCKINLEY ST
COATS, NC 27521
910.897.3257 ECLSGLOBALINC.COM
910.897.2329 (FAX) CO#C-4175

IREDELL COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH

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, Arrow Development LLC c/o Rebecca Zoher, am the legal owner(s) of the property located at Lot 52, (191 Mountain Island Dr), identified as PIN (Parcel Identification Number) Portion of 4762407325.000, located in Iredell County, North Carolina.

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

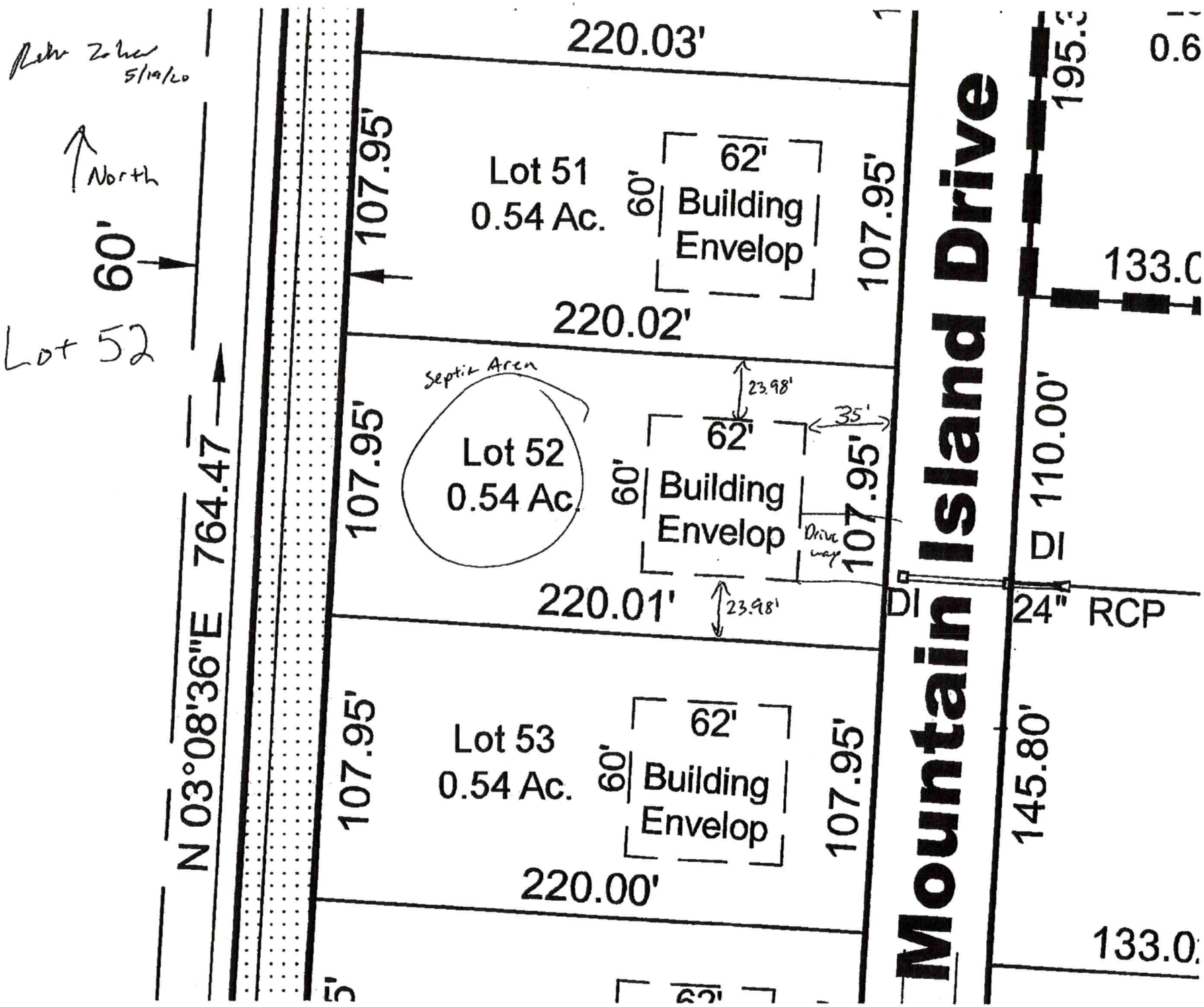
Rebecca Zoher 5/19/20 John Tuttle 5/19/20

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


Peter Zahn 5/19/20
North
60'
Lot 52
N 03°08'36"E 764.47
220.03'
107.95'
Lot 51
0.54 Ac.
60'
62'
Building Envelop
107.95'
220.02'
Septic Area
23.98'
35'
107.95'
Lot 52
0.54 Ac.
60'
62'
Building Envelop
Drive way
107.95'
220.01'
23.98'
107.95'
Lot 53
0.54 Ac.
60'
62'
Building Envelop
107.95'
220.00'
Mountain Island Drive
195.3
0.6
133.0
110.00'
DI
DI
24" RCP
145.80'
133.0


Fair Wind Ln
Robins Hill Ln
Bethesda Rd
Glaspy Rd
Reuben Dr
Jeremy Ln
Kidd Ct
Nanny Pats Ln
Mountain Island Dr
Wylie Trl
Northlake Dr
Breezeway Ln
Mosark Ln
Lot 52
Northlm

IREDELL COUNTY · NC

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

APPLICATION NUMBER
307662 Issue Date:

Permit Type: ZONING

Parcel Number	Street Address	Jurisdiction
4762407325.000		Iredell County

Owner Information	Applicant Information
Name: ARROW DEV LLC	Name: ARROW DEV LLC
Address:	Address:
,	,
Phone:	Phone:

Use Requested	Zone Code
Single Family Dwelling	RA

Lot Acreage	F Setback	B Setback	L Setback	R Setback	Watershed	Flood Zone
0	35	35	15	15	N/A	NO

Remarks
SFD 191 MOUNTAIN ISLAND LOT 52

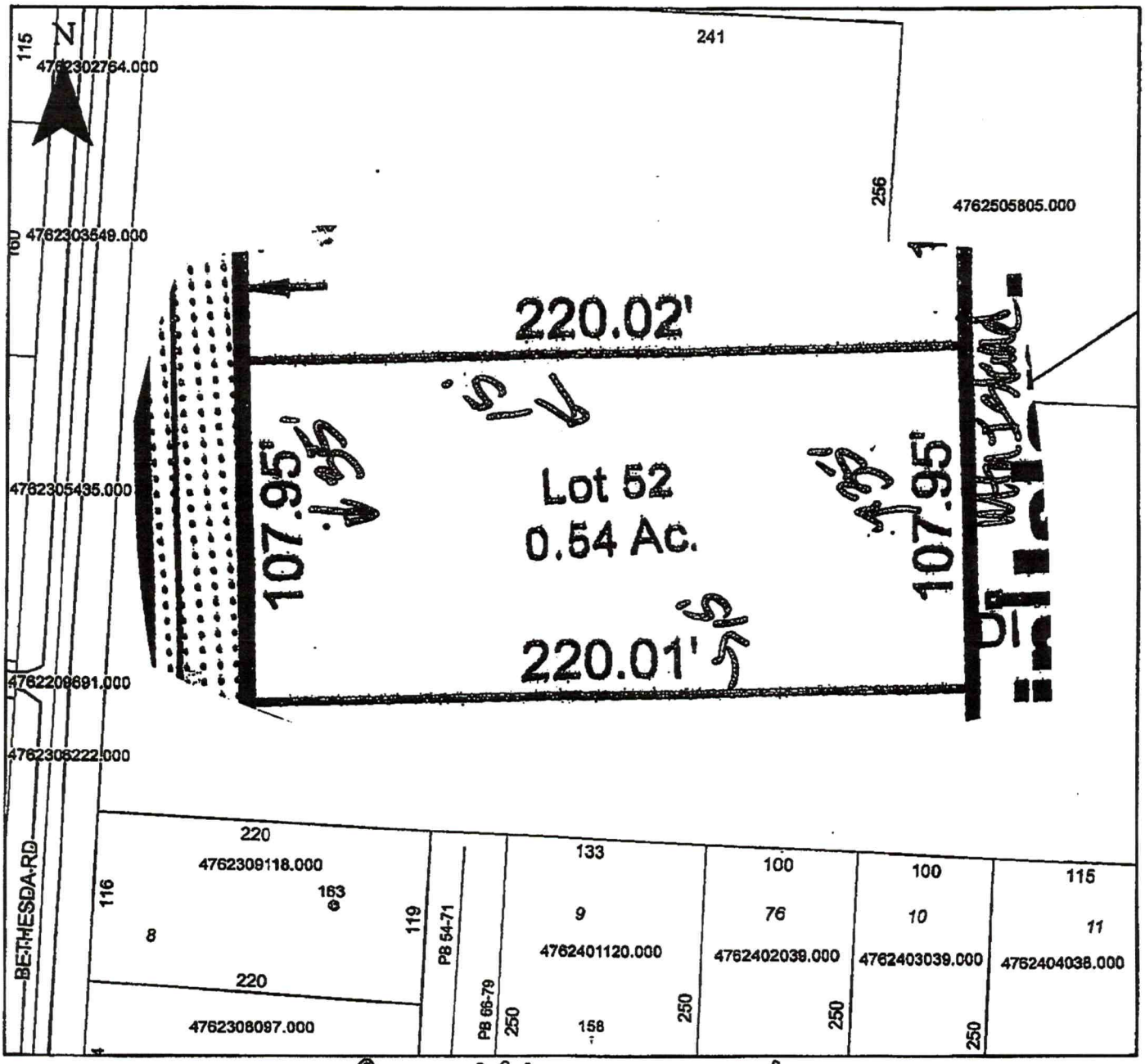
The applicant certifies that there are no deed restrictions, contractual agreements or governmental regulations of any kind that interfere with or prohibit the use of the property or the use for which this permit is requested. The applicant further acknowledges that enforcement of deed restrictions,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

Date: 05/21/2020

Signature of Owner/Contractor

Permit Number	307662	TOTAL FEES:	$77.25

ZONING DISCLAIMER



Property Address 191 Mtn Island

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.

[redacted] 5/21/20

Applicant Date