

16710 WATERMELON LN

21705114

12/31/2007

duponbj

Groundwater and Wastewater Services File Imaging Project
May 2007
Barcode Font = IDAutomationHC39M

CERTIFICATE OF COMPLETION/OPERATION PERMIT

HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 NORTH TRYON ST., SUITE 211
CHARLOTTE, NC 28202
PHONE (704) 336-5102

FILE: 2451B DATE: 8/18/00

TC: 217-051-14 ☒ L ☐ CRT

SERIAL Nº 18355

Name of Owner Marsha Grizzle Juris.: _____

Address of Property 16710 Watermelon Lane

Inspection Data:

Tank Material PCC

Total Length of Drainfield 300'

Number of Lines 3 @ 100'

Cover Depth 6"

Water Supply Source well

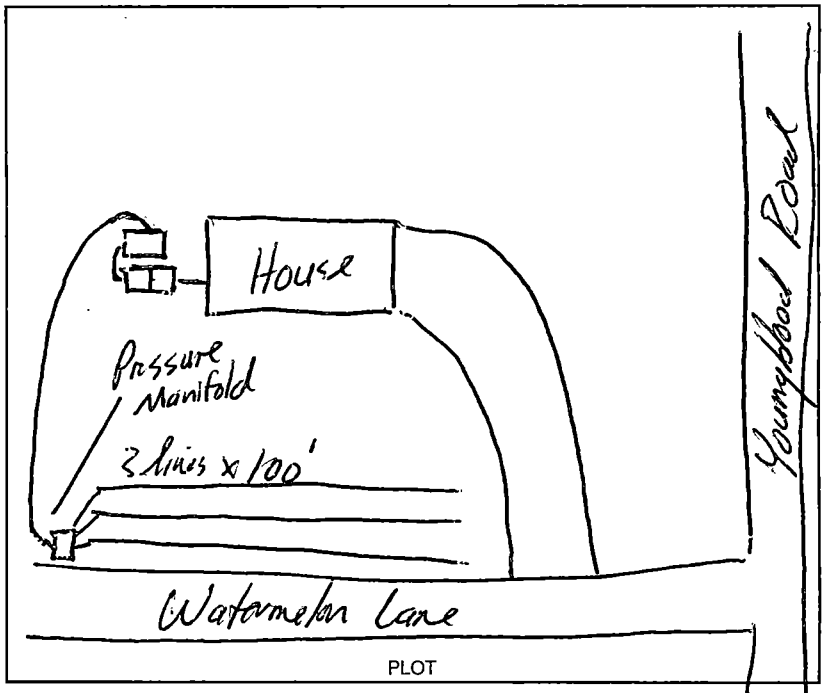
Distance to Water Source 75'

Excavation Inspected 8/18/00

Tank(s) Inspected 8/18/00

Wash Line Inspected NA

High Water Alarm Inspected 8/18/00



Design 2000, 1500ST, 1000DT, PZ, Con, 900SFT, PM CTR# Stanley

The undersigned has inspected the Septic Tank System described above, and certifies it has been

☒ installed or constructed ☐ altered or repaired

☐ in accordance with the permit issued ☒ as detailed in the plot above

and meets the provisions of I5A NCAC 18A. 1900, "Laws And Rules For Sewage Treatment and Disposal Systems" in effect on the date of issuance of the permit. This issuance of this

☐ Certificate of Completion ☒ Operation Permit

does not in any way guarantee that the system will operate properly or relieve any person now or hereafter owning, controlling, or using such system from any liability resulting from the failure of the system to operate properly. This document is issued subject to those restrictions and conditions shown on the permit(s) and the provisions of I5A NCAC 18A. 1990 in addition to those listed below under "COMMENTS." This document shall be null and void if any information contained in the application is untrue or if any additions are made to the property which would increase the requirements for said system.

Notice: Disturbance of the designated repair area may result in the suspension/revocation of this permit.

COMMENTS: 3 Bedroom House (0.4 CTAR)
3 lines x 100' x 3' trench x 12" Stone (NEMA 4X simplex control panel
Type IIIb system (Pressure Manifold)

Jimmy P. Meeks
Environmental Health Specialist

Mecklenburg County services are available without regard to ethnic origin, sex, or disability.

INSTALLATION, CONSTRUCTION, ALTERATION, AND/OR REPAIR APPROVAL

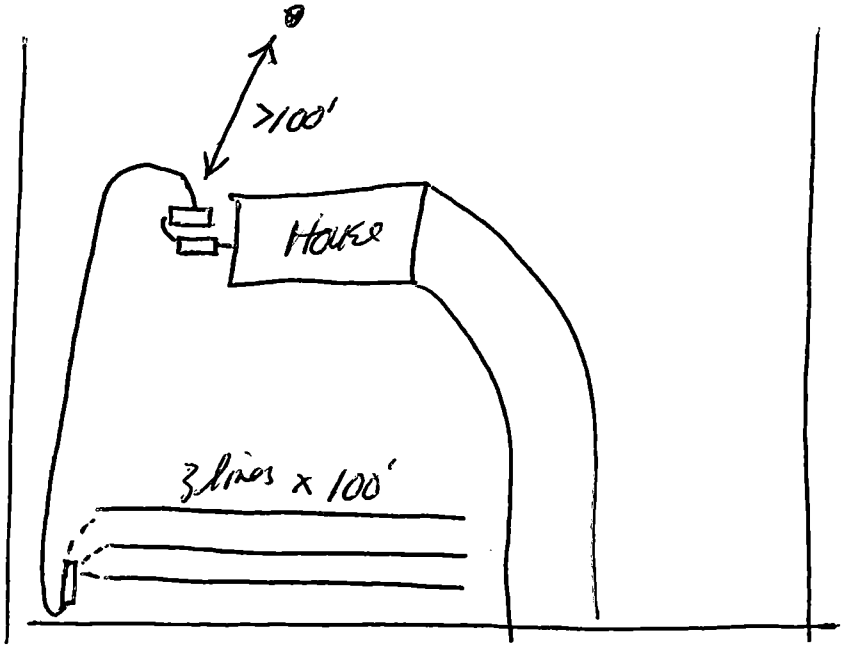
HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 NORTH TRYON ST., SUITE 211
CHARLOTTE, NC 28202
PHONE (704) 336-5102

FILE: 2451B DATE: 8/18/00

TC: 217-051-14 ☒ L

SERIAL No 18528

Permission is hereby given to ~~Install~~ or Construct, _____ Alter or Repair the individual septic tank wastewater treatment system with subsurface, soil absorption, effluent discharge as specified herein at the described location. This permit is granted based upon the information supplied in the application dated 8-26-99. All work shall be completed on or before 9/18/00, after which date this permit shall be null and void. The system shall meet all of the construction requirements of 15A NCAC 18A. 1900 which are in effect on the date of the granting of this permit. A Certificate of Completion or an Operation Permit must be obtained from the Mecklenburg County Health Department before any system can be covered up or placed into service. The issuance of this permit does not in any way guarantee that the system anticipated to be constructed will operate properly, or relieve any person now or hereafter owning, controlling or using such system from any liability resulting from the failure of the system to operate properly.



PLOT OF SYSTEM

Liquid Capacity of Septic Tank 1500 gallons

Liquid Capacity of Dosing Tank 1000 gallons

Tank Construction PCC

Trench Depth 18"

Absorption and/or Nitrification Lines:

Trench Width 3' feet

Trench Walls Scored and Porous yes

Total Line Length 300' feet

Number of Lines 3 @ 100'

Depth of Stone 12" inches

Distance from House >10' feet

Distance from Property Line >10' feet

Distance from Well >100' feet

NOTICE: This system shall not be installed while soils are in a wet condition.

NAME OF OWNER Marsha Greene

LOCATION OF PROPERTY 1610 Watermelon Lane

Comments: 3 Bedroom House

Install 3 lines x 100' x 3' x 12" Stone (Pressure Manifold)

Type III b

Menu 4X Simplex Control Panel

Tracy P. Mullen
Environmental Health Specialist

WHITE - HEALTH DEPARTMENT's COPY • CANARY - E.H.S. COPY • PINK - OWNER OR AGENT's COPY

ck#3727 PD 150.00 7/21/00 eRes Call Pauline Hall

FEE: 150.00 **AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION**
DATE: 8-26-99 **VOID SIXTY (60) MONTHS FROM DATE OF ISSUANCE** ACS

DATE: 8-25-99 PERMIT NO: 2451B
7010 Watermelon Lane PARCEL NO: 217-051-14
JOB LOCATION ADDRESS: ~~Youngblood Road~~
PROPERTY OWNER: Jack C. Huston Marsha Grizzle
BUILDING CONTRACTOR: _____
SUBDIVISION NAME: _____
AUTHORIZATION ISSUED BY: Larry B. Thompson Jr. L.S. DATE: 8-25-99
DEHNR AUTHORIZED AGENT

AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NO. _____, AND THE ATTACHED SITE PLAN WITH SYSTEM DETAILS. CONSTRUCTION AND INSTALLATION MUST ALSO MEET ALL REQUIREMENTS SET FORTH IN THE RULES GOVERNING SANITARY SEWAGE COLLECTION, TREATMENT, AND DISPOSAL AND ANY OTHER APPLICABLE RULES AND LAWS.

2. AN INSTALLATION, CONSTRUCTION, ALTERATION AND/OR REPAIR APPROVAL MUST BE SECURED PRIOR TO INSTALLATION OF THE SEPTIC TANK SYSTEM. THE INSTALLER OF THE SYSTEM SHALL BE A REGISTERED SEPTIC TANK CONTRACTOR WITH MECKLENBURG COUNTY HEALTH DEPARTMENT.

3. ANY ALTERATION IN SITE OR SOIL CONDITIONS (INCLUDING LOCATION OF STRUCTURES AND APPURTENANCES) OR MODIFICATION IN USE, DESIGN WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS AS SPECIFIED IN THE ASSOCIATED IMPROVEMENT PERMIT AND APPLICATION, MAY SUBJECT THIS AUTHORIZATION AND ASSOCIATED PERMIT(S) TO REVOCATION.

4. OTHER CONDITIONS: See Conditions Of Improvement Permit

OWNER CERTIFICATION

I CERTIFY THAT THERE HAVE BEEN NO ALTERATIONS IN SITE OR SOIL CONDITIONS OR MODIFICATIONS TO FACILITY, WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS FROM THOSE SPECIFIED IN THE ORIGINAL APPLICATION OR ASSOCIATED IMPROVEMENT PERMIT UNLESS AUTHORIZED IN WRITING BY THE MECKLENBURG COUNTY HEALTH DEPARTMENT. I ALSO UNDERSTAND THAT ANY SUCH ALTERATIONS, MODIFICATIONS, OR FALSE INFORMATION ARE GROUNDS FOR REVOCATION OF PERMITS AND AUTHORIZATION TO CONSTRUCT.

Marsha D. Grizzle 8-26-1999
SIGNATURE OF OWNER/OWNER'S REPRESENTATIVE DATE

MECKLENBURG COUNTY HEALTH DEPARTMENT
Environmental Health Fees

Requestor (please print): MARTHA GRIZZLE Phone #: Date Requested: 7/21/00 Date Filled:

Account Name: Cash Charge Account No.:

I certify that I am authorized to charge this account for this service:

Signature: Printed Name: Date:

T.C.	Qty	Description	Unit Cost	Total Cost
0701		Improvement Permit Application - Residential	$ 200.00	
0735		Improvement Permit Application - Commercial	$ 400.00	
0702		Optional Site Evaluations	$ 100.00	
0703	1	Installation and Final Approval	$ 150.00	150-
0704		Change in Plot Plan	$ 100.00	
0705		MH Exc/Add/Repl without System Modification	$ 100.00	
0706		MH Exc/Add/Repl with System Modification	$ 300.00	
0707		Site Consultation Visit	$ 100.00	
0734		Authorization for Wastewater System Construction	$ 150.00	
0708		Realty Closing - Conventional	$ 85.00	
0709		Realty Closing - FHA with water	$ 135.00	
0710		Additional Trips	$ 65.00	
0711		Well Water Analysis-Bacteriological with regular parameters	$ 50.00	
0712		Well Water Analysis -Nitrates and Nitrites	$ 15.00	
0714		Well Water Analysis - Organic Analysis	$ 200.00	
0715		Admin. Fee - Field Activity Letter	$ 25.00	
0718		Residential Pool Permit	$ 50.00	
0719		Public Pool Permit - operating	$ 240.00	
0720		Seasonal Pool Permit - operating	$ 120.00	
0736		Pool Late Fee	$ 120.00	
0733		Permit to Construct a Public Pool	$ 200.00	
0721		Home Day Care Evaluation and Permit	$ 70.00	
0722		Home Day Care Evaluation and Annual Fee	$ 40.00	
0723		Eval and Report Non-Permit Facility	$ 50.00	
0724		Private Pool Testing	$ 15.00	
0731		Garbage Hauler Permit - (1-9 vehicles)	$ 30.00	
0736		Garbage Hauler Permit - (each over 9)	$ 20.00	
0725		Document Copies	$ 0.05	

Payment received by: JMW Date: 7/21/00 Total: 150-

16710 Watermelon Ln. Filt # 2451C

4/2000

White-AUDIT Canary-CUSTOMER Pink-DIVISION

FEE: _____

DATE: _____

APPLICATION FOR IMPROVEMENT PERMIT FOR RESIDENTIAL SITE INDIVIDUAL WATER AND WASTEWATER SYSTEMS PROGRAM

I I CRT

TYPE APPLICATION: ___ NEW SYSTEM ___ EXPANSION/ ALTERATION OF EXISTING SYSTEM ___ REPAIR OF EXISTING SYSTEM

NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT,
HEALTH, AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

FILE #: 2451 B

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION:

TAX/PARCEL NUMBER: 217-051-114

STREET ADDRESS: WATERMELON LANE

SUBDIVISION OR MOBILE HOME PARK NAME:

LOT NUMBER:

TYPE OF BUILDING (CHECK ONE):

___ SINGLE MOBILE HOME(S)
___ DOUBLE WIDE (D)
✓ HOUSE (H)
___ MODULAR HOME (M)
___ MULTIPLE FAMILY (U)
___ OTHER (O)

HEATED SQUARE FOOTAGE: 1920

NUMBER OF BEDROOMS: 3

NUMBER OF OCCUPANTS: 2

TOWNSHIP (CHECK ONE):

✓ 0 MECKLENBURG
___ 1 CHARLOTTE
___ 2 DAVIDSON
___ 3 CORNELIUS
___ 4 PINEVILLE
___ 5 MATTHEWS
___ 6 HUNTERSVILLE
___ 7 MINT HILL

FOUNDATION FOR RESIDENCE:

___ WITHOUT BASEMENT
___ ON SLAB
X CRAWL SPACE
___ WITH BASEMENT /PLUMBING
___ WITH BASEMENT /NO PLUMBING

CLOSING DATE _____

IF EXPANSION/ALTERATION OF EXISTING SYSTEM, DESCRIBE THE PROPOSED BUILDING ADDITION:

WILL THERE BE A HOME BUSINESS IN THE RESIDENCE: ___ YES ✓ NO TYPE: _____

WATER SUPPLY (CHECK ONE):

___ COMMUNITY (C)
___ MUNICIPAL (M)
✓ PRIVATE WELL (P)
___ SHARED WELL (S)
___ OTHER 'SPRINGS' (O)

IF ANY OF THE FOLLOWING ARE LOCATED ON THE PROPERTY, PLEASE SHOW LOCATION ON PLAT:

BURIED CABLES, LANDFILLS, STUMPHOLES ___ YES ✓ NO
EXISTING WASTEWATER SYSTEMS ___ YES ✓ NO
EASTMENTS OR RIGHT-OF-WAYS ___ YES ✓ NO
WELL, SPRINGS OR WATERLINES ___ YES ✓ NO
DESIGNATED WETLANDS ___ YES ✓ NO

PROPERTY OWNER:	LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:
NAME: (LAST) Austin (FIRST) Jack (MI) C	NAME: (LAST) Grizzle (FIRST) Marsha (MI) T.
ADDRESS: 16400 Youngblood Road	DAYTIME PHONE: (704) 335-0898
CITY: Charlotte STATE: NC ZIP: 28278	771 Sedge Field Court
DAYTIME PHONE: ( ) —	Charlotte, N.C. 28209

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? _____

An Improvement Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes agents of the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

SIGNED: Marsha T. Grizzle DATE: 8-26-99

MECKLENBURG COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
c/o HAL MARSHALL CTR., SUITE 211, 700 N. TRYON ST., CHARLOTTE, N.C. 28202., (704) 336-5102

Permit Number: 24515 Tax Number: 217-051-14

- The IMPROVEMENT PERMIT is subject to revocation if site plans or the intended use change. There is to be NO grading, filling or disturbance of the soil in the area of the septic tank system or repair area.
- CONSTRUCTION AUTHORIZATION must be obtained prior to receiving a Building Permit. The Construction Authorization is NOT transferable. Do not clear, grade, fill or disturb soil prior to obtaining a Construction Authorization.
- Domestic-type wastewater only. No industrial process wastewater may be discharged into the system.

Basement	___ Yes	___ No	___ Partial Basement	
Type Primary Wastewater System Type (circle one): I II (III) IV V VI	✓ Conventional ___ Prefabricated, permeable block panel system ___ Shallow Placed Conventional	___ Low Pressure Pipe ___ Large Diameter Pipe ___ Fill ___ Other	___ Innovative or Experimental: ___ IWWS-93-1 ___ IWWS-93-2 ___ IWWS-94-1	
.4 Long-term acceptance rate	360 Max gallons/day wastewater flow	900 Absorption Area (sq ft)	9' Trench spacing (min. on centers)	
Yes Serviced by private well	1500 Gallon septic tank	300 Total trench length (ft)	30" Maximum trench depth (At least 12" of provisionally suitable soil must remain between trench bottom and unsuitable soil conditions)	
3 Bedrooms in residence	1000 Gallon pump tank	12" Depth of stone		
Any surface waters present:	Type:	Minimum separation distance:		
Site modifications required:				

Additional Conditions:
- Agreement form Required - .1948(d) plan
- Nema 4x simplex contgo/panel required
- Pressure manifold Required
- Type III B inspection required every 5 years (fees may be associated)

Repair Area System Type Type (circle one): I II (III) IV V VI	✓ Conventional ___ Prefabricated, permeable block panel system ___ Shallow Placed Conventional	___ Low Pressure Pipe ___ Large Diameter Pipe ___ Fill ___ Other	___ Innovative or Experimental: ___ IWWS-93-1 ___ IWWS-93-2 ___ IWWS-94-1	
900 Absorption Area (Sq ft) 300 Total Trench Length (Ft)	12" Depth of Stone Trench	9' Trench spacing (min. on centers)	30" Maximum Trench Depth	
For existing system, enter the year originally installed:				

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department has approved the Request for the Job Location contained in this document. This approval is granted in accordance with the provisions of Laws and Rules For Sewage, Treatment and Disposal in effect at the time of issuance of the permit and is subject to the following provisions:

- No work shall be conducted on the septic tank system until an Installation, Construction, Alteration and/or Repair Approval is granted by this Department
- This Improvement permit is transferable.

Larry B. Thompson, J.R.S. 8-25-99 — Maude D. Wright 8-26-99

DEHNR Authorized Agent — Date — Owner/Agent Signature — Date

MECKLENBURG COUNTY
HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
c/o HAL MARSHALL CTR.
SUITE 211
700 N. TRYON ST.
CHARLOTTE, N.C. 28202.
(704) 336-5102

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENTAL, HEALTH,
AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

2450 B

File Copy

Carlin Soil Consultants, Inc.
3024 Oak Ridge circle
Lincolnton, NC 28092
Phone: (704) 732 3584, Fax: (704) 732 3702

Fax Coversheet

From: Bill Carlin, Carlin Soil Consultants, Inc.

To: Larry Thompson, Mecklenberg co. Environmental Health Dept.

Ref: Proposal for septic system for Marsha Grizzle, Young Blood Rd. and Watermelon Lane

Comments: Enclosed is a Diagram of the proposed installation.

Number of pages including cover sheet (6)

Confidentiality Note: **The information contained in this facsimile is legally privileged and confidential information intended only for the use of the individual or entity named above. If the reader of this facsimile is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this telecopy is strictly prohibited. If you have received this telecopy in error, please notify us at the address noted above immediately via United States mail. If there are any problems with this transmission, please call the number on the above letterhead, as soon as possible.**

Carlin Soil Consultants, Inc.
3024 Oak Ridge circle
Lincolnton, NC 28092
Phone: (704) 732 3584, Fax: (704) 732 3702

Fax Coversheet

From: Bill Carlin, Carlin Soil Consultants, Inc.

To: Bill Marlin, Mecklenburg County, Environmental Health Dept

Ref: Hydraulic conductivity data and recommended septic System(s) location.

Comments: Bill please give me a call when you get this fax 732 3584.

Number of pages including cover sheet (5)

Confidentiality Note: The information contained in this facsimile is legally privileged and confidential information intended only for the use of the individual or entity named above. If the reader of this facsimile is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this telecopy is strictly prohibited. If you have received this telecopy in error, please notify us at the address noted above immediately via United States mail. If there are any problems with this transmission, please call the number on the above letterhead, as soon as possible.

Area B. Marsh Grass

SAMPLE DATA SHEET

Measurement No. 2 Conducted by Bill Cook

Location Young Blvd & Watingsdow Date 8-4-99

Weather Condition Warm Sunny Temperature 82

Horizon 16" Source of Water HT Distilled

Hole depth	66.04 cm	Measured (Actual) water level in hole
Distance between reference level and soil surface	+ 10.8 cm	Initial 12.7 cm
		Final 12.5 cm
Distance from the hole bottom to the reference level (D)	= 76.84 cm	Radius of the hole (r) 5 cm
Desired water depth in hole (H)	- 12.7 cm	Clock time
Constant-head tube setting (d)	= 64.14 cm (5.5")	Start saturation 11:12
		Steady-state reading

Reservoirs Used for Measurement of the Steady-State Flow Rate

Flow Measuring Reservoir Only ____ Conversion Factor (C.F.) = 20 cm^2

Both Flow Measuring and Main Reservoirs ✓ Conversion Factor (C.F.) = 105 cm^2

(To obtain flow volume multiply change in water level by the appropriate C.F. from above)

Clock Time h:min	Reservoir Reading cm	Δt min	Change in Water Level cm	Flow Volume cm^3	Q cm^3/min	Q cm^3/h	K_{sat} cm/h	
11:15	42.9							
11:30	41.4	15	1.5	157.5	10.5	630	.95	(1.8)
11:45	40.2	15	1.2	126	8.4	504	.77	(1.44)
12:00	39.2	15	1.0	105	7	420	.63	(1.2)
12:16	38.3	15	.9	94.5	6.2	378	.57	(1.08)
12:30	39.3	15	1.0	105	7	420	.63	(1.20)
12:45	38.4	15	.9	94.5	6.2	378	.57	(1.08)

Average of last three measurements: K_{sat} = .59 cm/h (1.12 LTAR) (other units

COMMENTS: _____

Drain fields

A. Unrestricted Flow area.

B. 1/2 area

The only area found suitable was immediately next to P/L. This area is disturbed from farming.

10 ft of P/L

60 ft from Road

Recommend 1 Thr. 4

Depth of lines 30"

Legend

Drain line

Riprap area

Carlin Soil Consultants Inc.
3024 Oak Ridge Circle
Lincolnton NC 28092
Phone (704) 732 3584, Fax (704) 732 3502

August 11, 1999

Mr. Bill Marlin
Environmental Health section
Mecklenburg County Health Dept.
700 North Tryon Street
Charlotte, NC 28202

Dear Mr. Marlin
Between August 5 and August 9 we conducted a site evaluation on the Austin property Located on the corner of Youngblood Rd and Watermelon Ln. The evaluation was done at the request of the prospective buyer Ms. Marsha Grizzle.

The soil proved to be unsuitable on most of the lot. We did find some soil at the rear of the property, which was thought to be provisionally suitable. This soil, sandy clay loam was found at 24 to 29 inches. This soil was present across the rear of the lot in a strip approximately 45 to 50 feet in width after allowing for the 10-foot buffer from the property line.

To confirm the quality of the soil we ran two Hydraulic Conductivity tests. Their locations Are marked on one of the enclosed diagrams. Test A had an unrestricted flow. Test B had a long-range acceptance rate if 1.12 gallons per square foot per day.

It is believed that the areas, which are indicated on the diagram, would be suitable for installation of septic systems with a recommended L.T.A.R. of .5 gal/sq.ft./day.

If there is any questions or if any further testing is required please contact me at 732 3584.

Sincerely
William P. Carlin R.S., L.S.S.

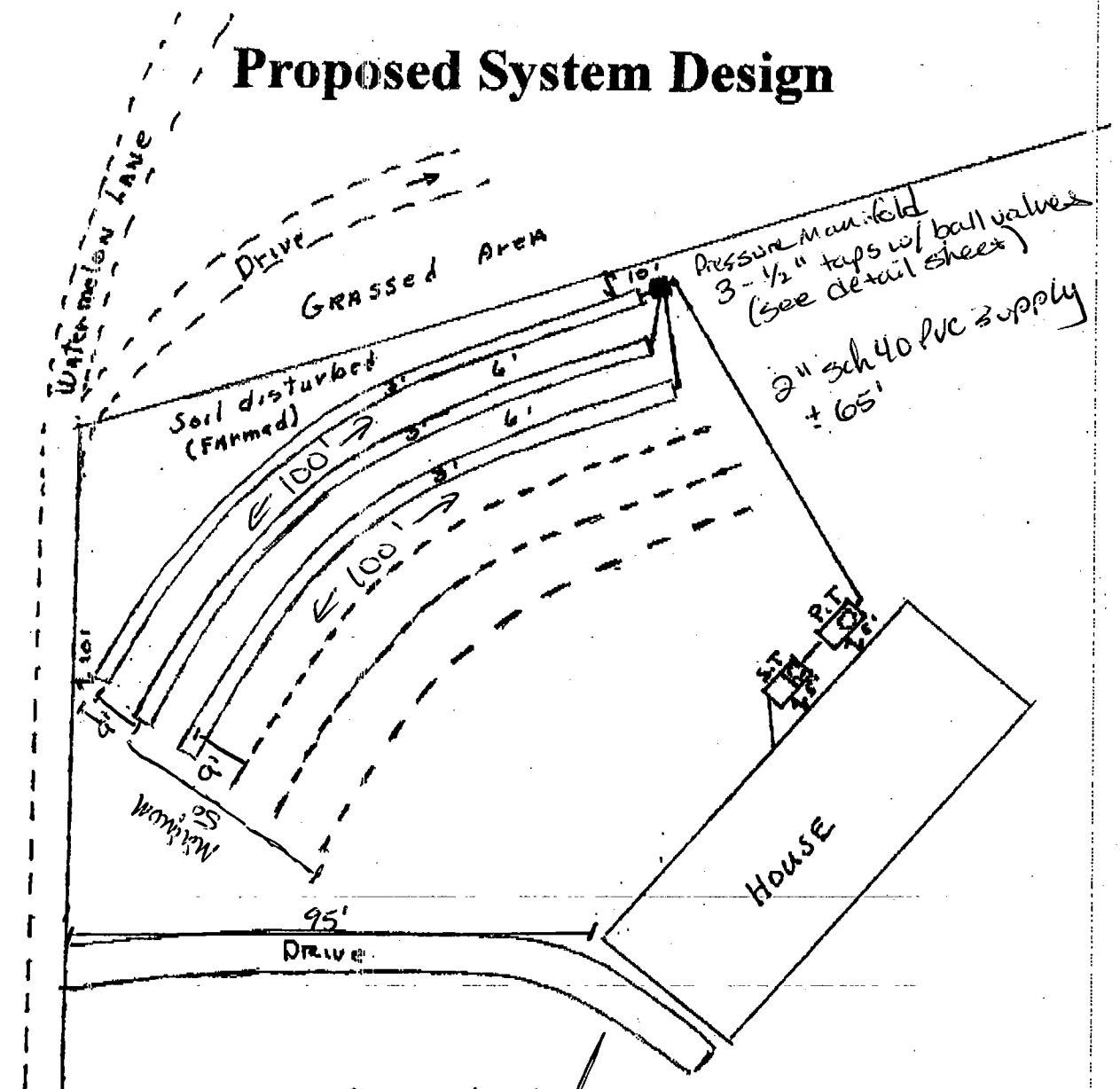
Registered Environmental Health Specialist (#866)
Licensed Soil Scientist (#1025)

Hydraulic Grad.

A. Unrestricted Flow

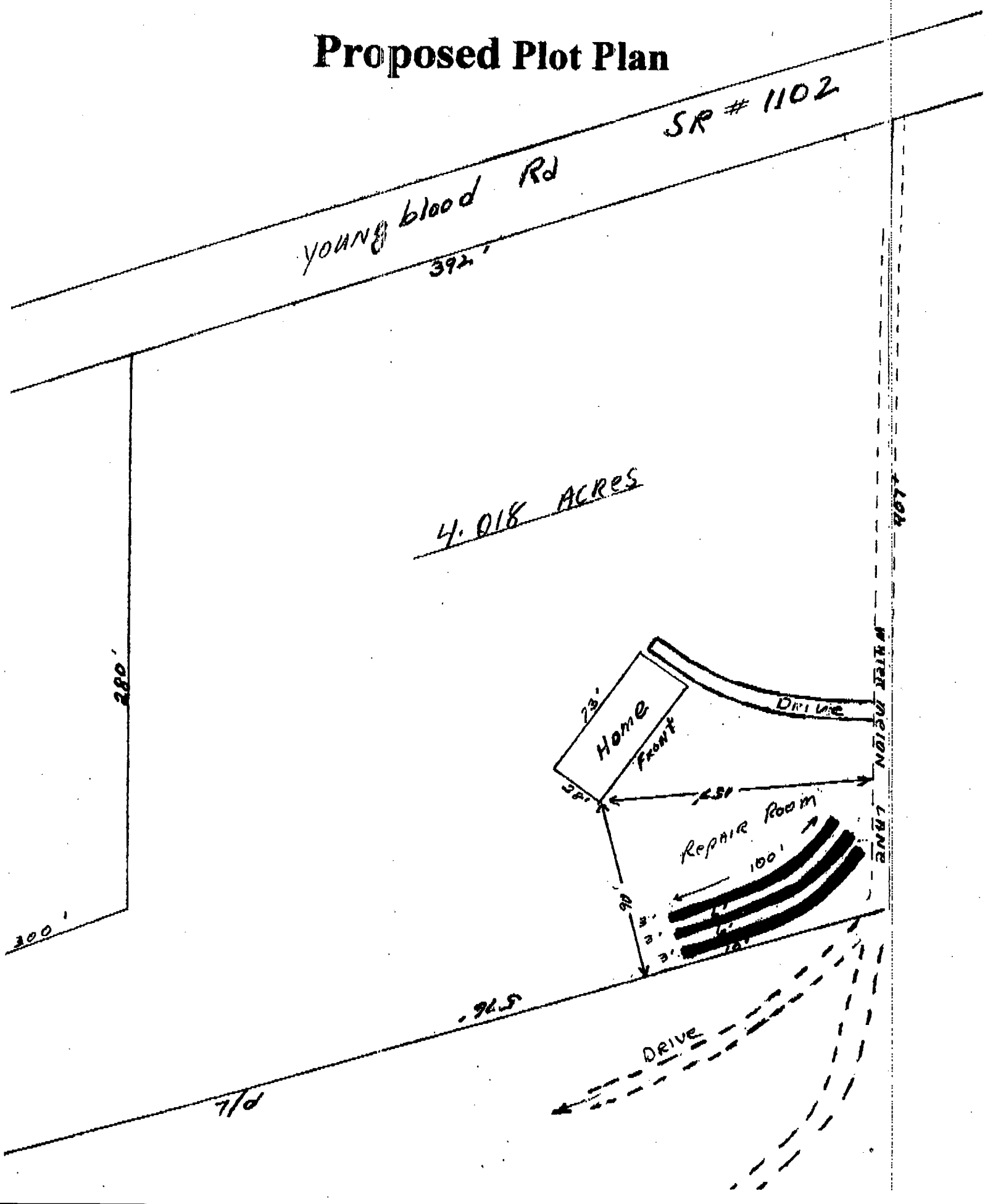
B. 1/2 Sat Sq Ft/ day

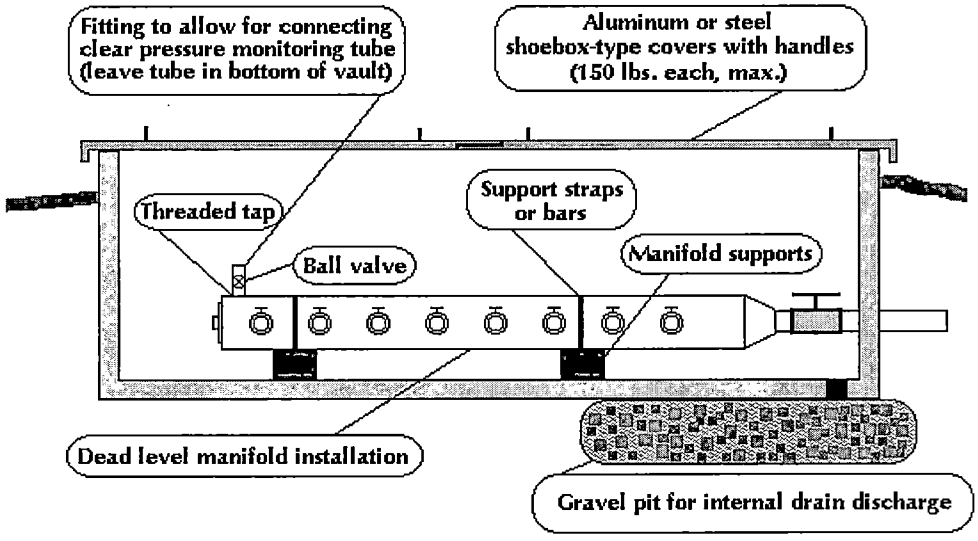
Proposed System Design



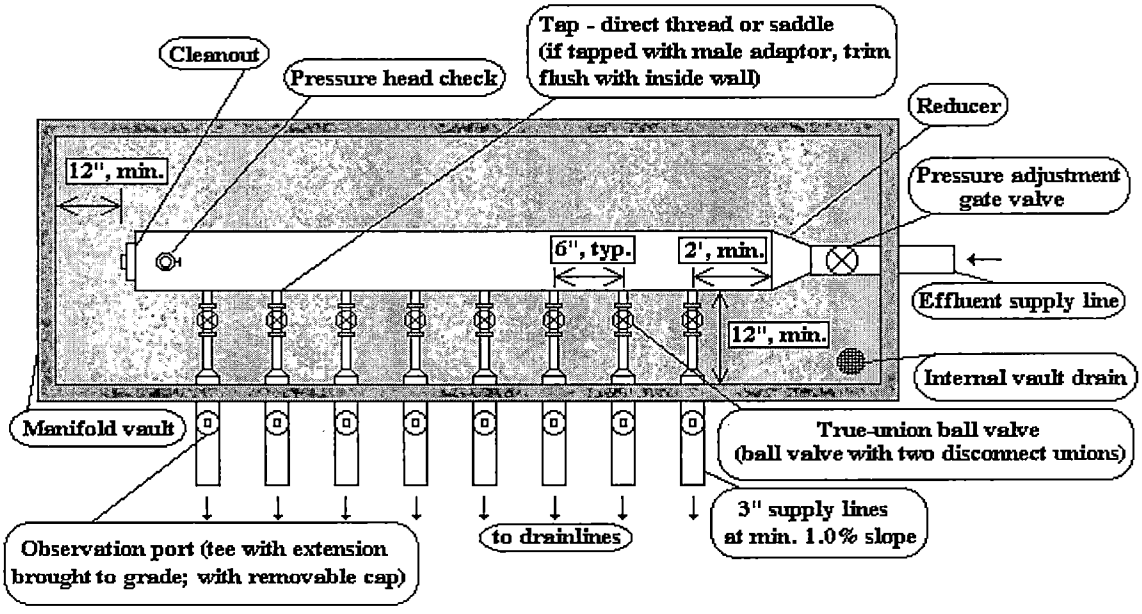
- 1500 gallon septic tank
- 1000 gallon pump tank w/ Nema 4x simplex control panel
- Pressure Manifold
- 3 - 3'w x 100'L x 30" deep drainlines / 12" stone
- Type III b system requires inspection by the Health Department every 5 years & fees are currently associated with this inspection.

Proposed Plot Plan





Profile View of Pressure Manifold for Sloping Site Installation (not to scale)



Plan View of Pressure Manifold for Sloping Site Installation (not to scale)

PRESSURE MANIFOLD DESIGN FOR GROUND ABSORPTION SEWAGE SYSTEMS

Steven J. Berkowitz
February, 1986

Large subsurface wastewater systems are being used more frequently as alternatives to discharging systems for many public and private facilities.

Dosing effluent periodically and uniformly throughout the drain field improves absorption field performance and increases field longevity (Otis et al. 1977, Harget et al. 1982). Low-pressure distribution of effluent in small diameter, perforated laterals has become a popular design alternative for achieving uniform distribution. Over 2,000 low-pressure pipe systems are now in use at single-family homes in North Carolina. A comprehensive design and installation manual for residential low-pressure pipe systems is available (Cogger et al. 1982). Design criteria and a simplified design procedure have also been published (Otis 1982). Available information, however, does not adequately address some key design parameters for the more extensive low-pressure pipe networks being planned and installed in North Carolina.

Pressure distribution manifolds feeding conventional gravity drain lines is another alternative being used in North Carolina to improve the distribution of effluent in large subsurface fields. This method is applied where soil conditions are favorable for conventional trenches and where the length of drain pipe required and degree of field slope would make it difficult to achieve uniform distribution between laterals in a low-pressure pipe network. Design criteria for such systems have not been previously available.

This paper sets forth some critical design parameters for pressure manifolds and laterals in large conventional and low-pressure pipe ground absorption sewage systems. The justification for these design parameters is presented elsewhere (Berkowitz, 1985).

PRESSURE MANIFOLDS FOR CONVENTIONAL DRAIN FIELDS

The traditional approach to dividing effluent between conventional trenches is with a gravity distribution box. While relatively simple in concept and design, distribution boxes have proven to be generally ineffective in uniformly distributing effluent, especially when the number of trenches to be dosed is large (Mitchell, 1983).

Pressure manifolds can be designed to more effectively split flow between separate conventional trenches while still under pressure from the dosing tank. Schematics are presented below of pressure manifolds designed for level (Fig. 1) and sloping (Fig. 2) sites.

Pressure manifolds must be installed level, although some deviations may not seriously impair flow uniformity. Protective accessible boxes are recommended to be constructed around pressure manifolds installed above the drain field on sloping sites. Note that

The author is: Steven J. Berkowitz, Environmental Engineer, Sanitation Branch, N. C. Division of Health Services, Raleigh, NC 27602-2091.

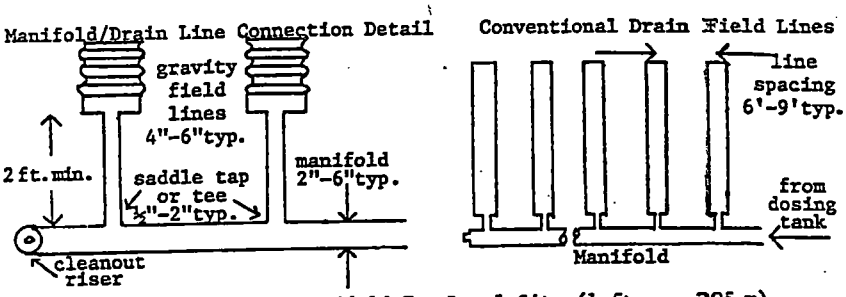


Fig. 1 Pressure Manifold For Level Site (1 ft. = .305 m)

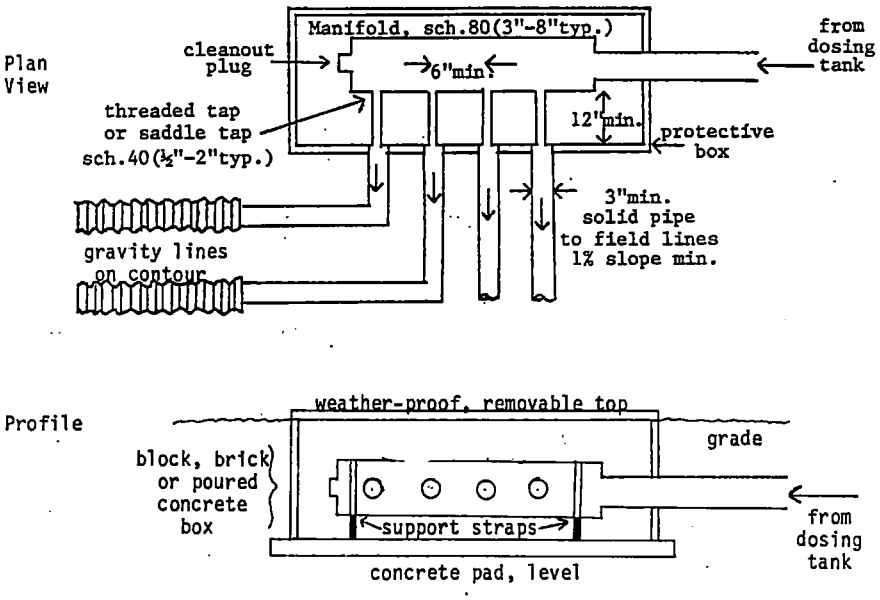


Fig. 2 Pressure Manifold For Sloping Sites

precautions against freezing may be necessary in cold regions if the system is subject to extended periods of disuse unless provisions are made to drain out the manifolds, since they will normally remain about half-full between dosing cycles.

Design criteria for pressure distribution manifolds and laterals are presented in Table 1. Shown are the maximum number of taps by differently sized laterals which can be made out of manifolds of varying sizes, while maintaining no more than a five-percent difference between flow rates into each lateral. An important further assumption is that 1 to 4 feet of pressure head are available at the lateral outlets. Design criteria are presented both for manifolds with lateral taps in one side and for manifolds with lateral taps in adjacent sides.

Recommended design steps utilizing these criteria are as follows:

1. Select Drain Field Configuration: Determine the required field size, number of laterals to be dosed from each pressure manifold, and desired lateral and tap spacing.

2. Choose Lateral Tap Size: For pump dosed systems, pick the largest pressure tap that can be adequately pressurized by a reasonably sized pump. Use the orifice equation[1] to compute required flow per tap, assuming at least 2 feet of pressure head at each lateral opening. Taps less than one-half-inch nominal size are not recommended. For siphon-dosed systems, select a tap size large enough to handle the maximum siphon discharge rate with the head available between the siphon outlet and the pressure manifold, while still maintaining a sufficient pressure head at the minimum siphon discharge rate.

3. Select Manifold Size: Given the desired lateral tap size and spacing, select from Table 1 the minimum size of manifold from which at least the desired number of taps can be made while staying within the five-percent flow variation limit. Selecting the next larger sized manifold will yield an even greater degree of flow distribution uniformity.

---

[1] Orifice equation: $Q = 11.79\ (d^2)\ (h^{\frac{1}{2}})$
where Q = flow from orifice, gallons per minute
d = diameter of orifice, inches
h = pressure head, feet

Table 1: Pressure Distribution Manifolds for Conventional Septic Systems; Manifold and Lateral Tap Size Criteria[a]

Tap Separation Distance (Feet)	Manifold Size (Inches)	Lateral Taps out of One Side of Manifold — Lateral Tap Size (inches) — Maximum Number of Taps						Lateral Taps out of Both Sides of Manifold — Lateral Tap Size (inches) — Maximum Number of Tap Pairs					
		½	3/4	1	1¼	1½	2	½	3/4	1	1¼	1½	2
0.5[b]	2	4	2					2					
	3	9	5	3	2			4	2				
	4	16	9	5	3	2		7	4	2			
	6	40+	21	12	7	5	3	18	10	6	3	2	
	8		38	22	12	9	5		17	10	6	4	2
3.0[c]	2	8	2					2					
	3	14	12	3	2			6	2				
	4	21	18	6	3	2		16	5	3			
	6	38	30	26	8	5	3	20+	19	7	3	2	
6.0[c]	2	5	4					4					
	3	9	7	6	2			7	3	2			
	4	14	11	9	4	2		10	9	3			
	6	27	20	17	14	7	3	19	15	13	4	3	
9.0[c]	2	4	3	3				3					
	3	7	6	5	2			6	5	2			
	4	12	9	7	6	3		8	7	6	2		
	6	22	16	13	11	10	4	15	12	10	5	3	

[a] Assumptions: 1 to 4 feet (.3 to 1.2 meters) head at lateral outlets; 5% maximum flow differential maintained between laterals; Hazen-Williams "C" factor of 140; taps are of Schedule 40 PVC and manifolds are of Schedule 80 PVC, with the following actual inside diameters:

	nominal pipe size (inches)								
	½	3/4	1	1¼	1½	2	3	4	6	8
	actual inside diameter: inches (millimeters)									
Taps	.622(19)	.824(25)	1.049(32)	1.38(42)	1.61(49)	2.067(63)				
Manifolds						1.939(59)	2.90(88)	3.826(117)	5.761(176)	7.625(232)

[b] Use for pressure manifold distribution box designed for sloping lots, located above highest field line.

[c] Use for pressure manifold on flat lots, located adjacent to end of each field line.

PRESSURE MANIFOLDS FOR LOW-PRESSURE PIPE DRAIN FIELDS

Low-pressure systems involve distributing effluent throughout the nitrification field within a pressurized manifold and small diameter lateral network. Effluent enters the nitrification trenches from orifices drilled into the distribution laterals (Fig. 3).

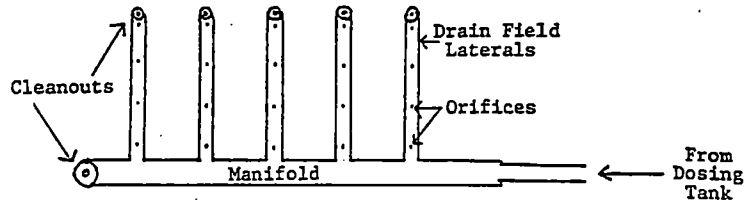


Fig. 3 Low-Pressure Pipe Drain Field

Pressure is generally maintained between 2 and 5 feet in the laterals to facilitate uniform distribution while minimizing scour outside of the orifices.

Critical design parameters for laterals are pipe diameter, lateral length, orifice size, and orifice spacing. In most low-pressure pipe applications in North Carolina, orifices range from 1/8-inch to 1/4-inch, with 5/32-inch orifices now recommended as the minimum size to use. Curves were developed which relate maximum lateral length to pipe diameter, orifice size, and spacing, based on yielding no more than a ten-percent difference between flow rates from each orifice (Fig. 4).

Critical design decisions for low-pressure system manifolds involve selecting the manifold diameter needed relative to the diameter of the laterals served and determining the maximum number of laterals which can be fed off a common supply manifold. Manifold design criteria are presented for the condition that the nitrification field is level and the manifold and laterals are on the same level (e.g.; laterals tee directly off from the manifold). Lateral spacing is assumed to be 5 feet, the most frequently used spacing for low-pressure pipe systems in North Carolina. Results are presented in Fig. 5 showing the maximum number of laterals of different sizes which can be supplied by a common manifold at varying mean lateral flow rates, while maintaining no more than 15-percent difference between flow rates into each lateral.

Results shown in Fig. 5 indicate that relatively few laterals can be served by small manifolds. It is uncertain, however, whether these criteria can be considered directly transferable to the more popular design whereby laterals are above the manifold, connected by short risers which tee off of the manifold and are elbowed or teed into each lateral. Under these conditions, more laterals than shown in Fig. 5 may in fact be fed by a common manifold while still maintaining relatively uniform flow distribution. Further research in this area is needed.

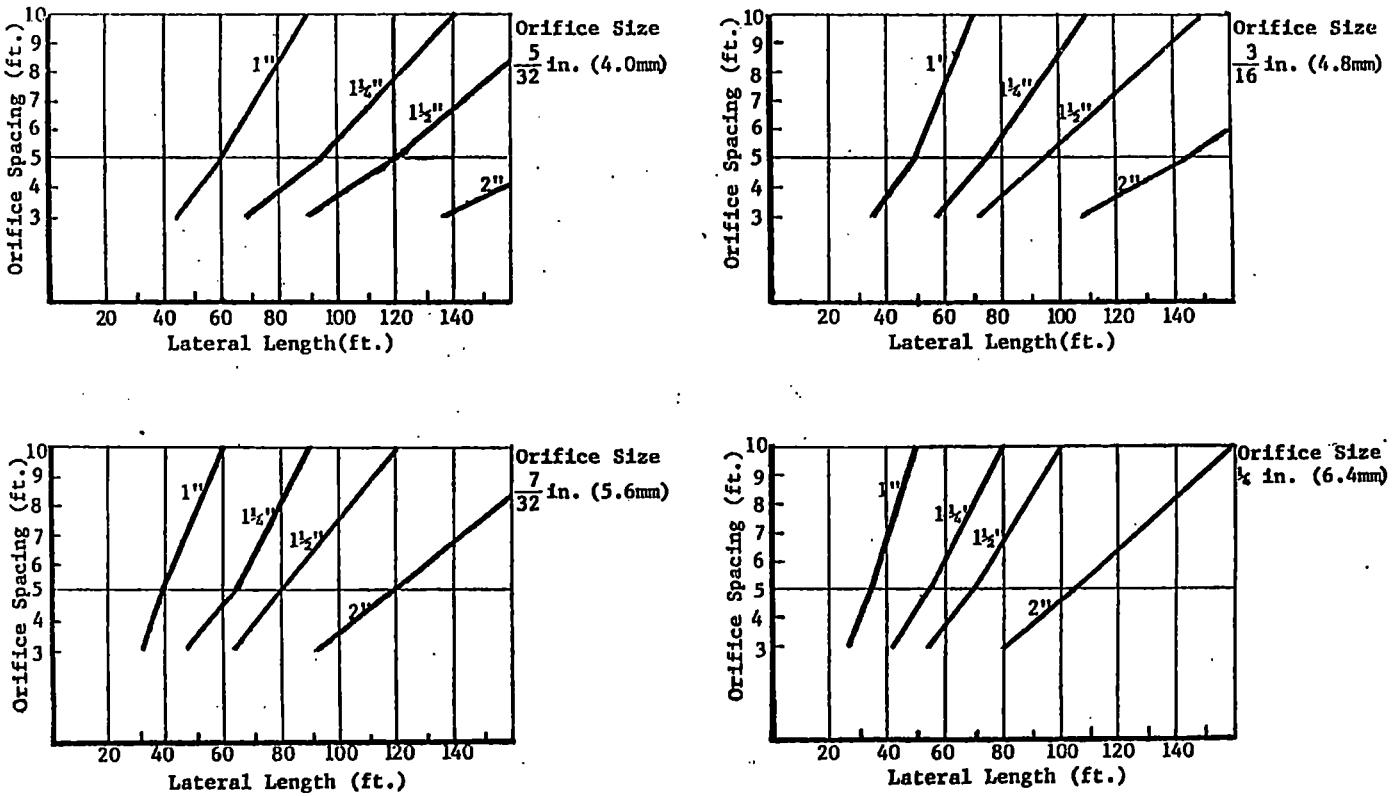


Fig. 4 Maximum Length of Different Sized Laterals For Low-Pressure Pipe Systems With Varying Orifice Sizes and Spacings (1 ft. = .305 m)

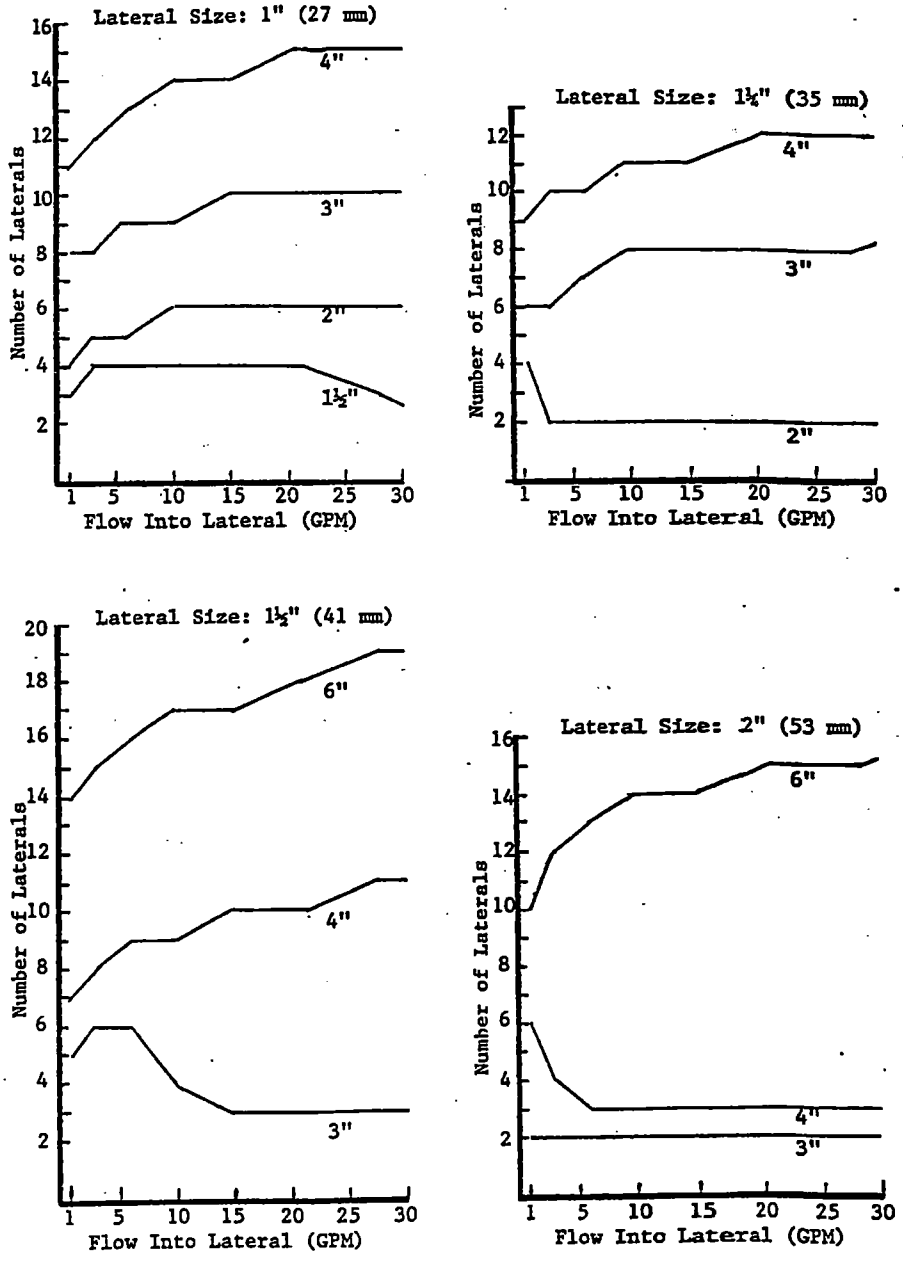


Fig. 5 Maximum Number of Different Sized Laterals For Low-Pressure Pipe Systems With Varying Sizes of Manifolds and Varying Rates of Flow Into Lateral (1 GPM = .0631 l/sec)

Recommended design steps using these criteria are as follows:

1. Select Drain Field Configuration: Determine the desired field size configuration, lengths of laterals, and location of supply manifolds.

2. Choose Orifice Size and Spacing: For pump dosed systems, select the largest orifice size and shortest orifice spacing resulting in a total number of orifices which can be adequately pressurized by a reasonably sized pump. Use the orifice equation to compute required flow per orifice, assuming at least 2 feet of pressure head at each orifice. Taps less than 5/32-inch and spacings greater than 10 feet are not recommended. For siphon-dosed systems, select an orifice size and spacing so that there are enough orifices of sufficient size to handle the maximum siphon discharge rate with the head available between the siphon outlet and the drain field, while still maintaining a sufficient pressure head at the minimum siphon discharge rate.

3. Choose Lateral Diameter: Given the desired lateral length and orifice size and spacing, select from Fig. 4 the minimum size of lateral from which at least the desired size and spacing of orifices can be used while staying within the 10-percent flow variation limit.

4. Select Manifold Size: Given the desired lateral size and lateral design flow rate, select from Fig. 5 the minimum size of manifold from which at least the desired number of laterals can be dosed while staying within the 15-percent flow variation limit.

5. Optimize Design: Repeat steps 1 through 4 above until a practical, workable manifold and lateral network design is obtained.

REFERENCES

1. Berkowitz, S. J. 1985. Pressure manifold design for large subsurface ground absorption sewage systems. In: On-Site Wastewater Treatment: Proceedings of the fourth national symposium on individual and small community sewage systems. Dec. 10 - 11, 1984. New Orleans. American Society of Agricultural Engineers.

2. Cogger, C., B. L. Carlile, D. Osborne and E. Holland. 1982. Design and installation of low-pressure pipe waste treatment systems. UNC Sea Grant College Pub. UNC-SG-82-03. 31p.

3. Mitchell, D. 1983. Nonuniform distribution by septic tank systems. 1982 southeastern on-site sewage treatment conference. N. C. Div. of Health Services, Raleigh, NC 37-45.

4. Otis, R. J. 1982. Pressure distribution design for septic tank systems. Jour. of the Env. Eng. Div., ASCE 108(1): 123-140.

5. Otis, R. J., J. C. Converse, B. L. Carlile and J. E. Witty. 1977. Effluent distribution. Home Sewage Treatment. ASAE Pub. 5-77. St. Joseph, Mich. 61-85.

Mecklenburg County
Health Department

Conditions of Improvement Permit

File Number: 2451 B
Site Address: Youngblood Road, tax parcel 217-051-14

1. The wastewater treatment and disposal system permitted is a .1948 (d) pump-to-conventional system designed by Carlin Soil Consultants, Inc. The septic system must be installed as designed and approved.
2. The system will require a single phase, simplex control panel with alarm. The control panel must have a Nema 4x weather proof rating.
3. A pressure manifold shall be used to distribute effluent to the conventional drain field trenches.
4. Septic and pump tanks must be installed in an area not subject to vehicular traffic. System installer must ensure that finished soil cover over the tanks will not be greater than 36 inches in depth. Soil cover greater than 36 inches will require reinforced tanks.
5. Nitrification trenches shall be constructed as level as possible but in no case shall the fall in a single trench bottom exceed one-fourth inch in 10 feet as determined by an engineer's level or equivalent.
6. Any changes in the site must be pre-approved by the Mecklenburg County Environmental Health Department.
7. The wastewater treatment and disposal drain field area, including the designated repair areas, shall not be used for any of the following:

    - Grading or filling
    - Parking or driving heavy equipment in the area or subjecting the site to possible soil compaction
    - Construction staging area
    - Installation of lawn irrigation components
    - Installation of underground utilities or cables of any type
    - Burial of any debris or material
    - Utilizing the area for gravesites
    - Diversion of storm water runoff into this area

8. Septic system installer must be registered with Mecklenburg County prior to meeting for the required pre-construction conference.
9. System installer will be required to operate the system at the time of the final inspection. Arrangements must be made to have the pump tank filled with water prior to the requested final inspection. The required pressure head of 2 feet will be adjusted at the pressure manifold at the time of the final inspection.
10. The system owner shall have the contents of the septic tank checked, and the contents of the tank removed, periodically from all compartments, to ensure proper operation of the system. The contents of the septic tank shall be pumped whenever the solids level is found to be more than 1/3 of the liquid depth in any compartment.
11. All septic tank riser and effluent filter rules will apply to this system. It is strongly recommended that access risers be added to both ends of the septic tank, extending to at least finish grade. This will allow periodic inspection of the solids level in the tank as well as help facilitate the periodic cleaning of the effluent bio-filter.
12. The local Health Department is required, by the State, to perform system reviews of Type IIIb systems at a minimum of every 5 years. The owner of the system is responsible for paying any inspection fees, as determined by the Board of County Commissioners, at the time of the required inspection.

FOR REGISTRATION JUDITH A. GIBSON
REGISTER OF DEEDS
MECKLENBURG COUNTY, NC
1999 AUG 26 01:56 PM
BOOK: 10717 PAGE: 42-45 FEE: $12.00
INSTRUMENT # 1999153630

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

WASTEWATER TREATMENT AND DISPOSAL SYSTEM DESIGN AGREEMENT: 15A NCAC 18A .1948 AND ANY OF THE FOLLOWING RULES: .1956; .1957(a); .1957(b); or .1957(c); OR .1969

FILE # 2451B
PARCEL # 217-051-14

The undersigned, MARSHA T. GRIZZLE, owner of property located at Youngblood Road parcel #, (the "site") and described in an instrument recorded in Book 217-051 at Page 14, Mecklenburg Public Registry, hereby acknowledges that the undersigned applied to the Mecklenburg County Health Department (the "Department") for a permit to install a septic tank sewage disposal system on the site; that the Department evaluated the site for suitability for such a system in accordance with the regulations promulgated by the North Carolina Commission for Health Services as 15A NCAC 18A .1900 et seq.; that the Department originally classified the site as "unsuitable" pursuant to the standards set forth in the regulations; that the undersigned requested that the Department reclassify the site as "provisionally suitable" in light of the particular septic tank system proposed by the undersigned; that the Department considered various studies, data, and other information which indicate to the Department that the septic tank system proposed by the undersigned is allowed by the rules; and that the Department therefore reclassified the site as "provisionally suitable" and issued an appropriate permit for such proposed septic tank system.

The undersigned further acknowledges that the proper design, construction, operation and maintenance of such septic tank system is the responsibility of the designer, owner, developer, installer, or user of the system, as applicable, and that neither the Department nor its officials, employees, or agents warrant or guarantee that the said system installed pursuant to the permit issued by the Department will function in a satisfactory manner for any given period of time or that the Department, its officials, employees or agents assume any liability for any damages of any kind which are caused, or which may be caused, by a malfunction of such system.

The undersigned further acknowledges that the following conditions will apply to the site:

- Any changes on the property may make the Improvement Permit Null and void and may make the Improvement Permit subject to revocation.

This instrument was prepared by: HEALTH DEPT
Mail after recording to: 771 SEDGEFIELD COURT
CHARLOTTE, N.C. 28209
MARSHA T. GRIZZLE

_____ (SEAL)
(Corporate Name)

By: _____

_____ President

ATTEST:

_____

_____ Secretary

(Corporate Seal)

Marsha T. Grizzle (SEAL)

_____ (SEAL)

_____ (SEAL)

_____ (SEAL)

STATE OF NORTH CAROLINA
COUNTY OF Mecklenburg

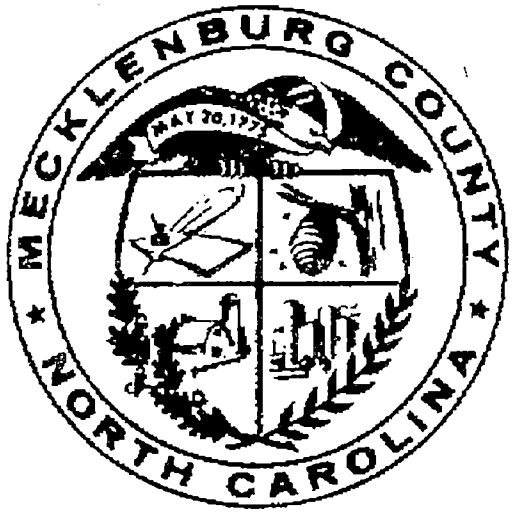
I, Mary M. James, a Notary Public for said County and State, do hereby certify that Marsha T. Grizzle personally appeared before me this date and acknowledged the due execution of the foregoing instrument.

WITNESS my hand and notarial seal, this 26 day of Aug, 1999.

Mary M. James
Notary Public

My Commission Expires:
8-2-00

MARY M. JAMES NOTARY PUBLIC MECKLENBURG COUNTY, N.C.



JUDITH A. GIBSON
REGISTER OF DEEDS , MECKLENBURG COUNTY
COUNTY & COURTS OFFICE BUILDING
720 EAST FOURTH STREET
CHARLOTTE NC 28202

****

Filed For Registration: 08/26/1999 01:56 PM

Book: RE 10717 Page: 42-45

Document No.: 1999153630

PRMIT 4 PGS $12.00

Recorder: SERENA ROSS

****

State of North Carolina, County of Mecklenburg

The foregoing certificate of MARY M. JAMES Notary is certified to be correct. This 26TH of August 1999

JUDITH A. GIBSON, REGISTER OF DEEDS By: Serena M. Ross
Deputy/Assistant Register of Deeds

****



1999153630

FEE: 100.00 CK # 1082
DATE: 3/30/98 GC

APPLICATION FOR IMPROVEMENT PERMIT FOR RESIDENTIAL SITE INDIVIDUAL WATER AND WASTEWATER SYSTEMS PROGRAM

[ ] CRT

TYPE APPLICATION: ___ NEW SYSTEM __ EXPANSION/ ALTERATION OF EXISTING SYSTEM ___ REPAIR OF EXISTING SYSTEM

NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT,
HEALTH, AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

FILE #: 24518

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION:

TAX/PARCEL NUMBER: 217-051-14 PO

STREET ADDRESS: Youngblood Rd

SUBDIVISION OR MOBILE HOME PARK NAME:

LOT NUMBER:

TYPE OF BUILDING (CHECK ONE):

___ SINGLE MOBILE HOME(S)
___ DOUBLE WIDE (D)
✓ HOUSE (H)
___ MODULAR HOME (M)
___ MULTIPLE FAMILY (U)
___ OTHER (O)

TOWNSHIP (CHECK ONE):

✓ 0 MECKLENBURG
___ 1 CHARLOTTE
___ 2 DAVIDSON
___ 3 CORNELIUS
___ 4 PINEVILLE
___ 5 MATTHEWS
___ 6 HUNTERSVILLE
___ 7 MINT HILL

HEATED SQUARE FOOTAGE: 2,000

NUMBER OF BEDROOMS: 3 | NUMBER OF OCCUPANTS: 2

CLOSING DATE May 29, 1998

FOUNDATION FOR RESIDENCE:

___ WITHOUT BASEMENT
___ ON SLAB
✓ CRAWL SPACE
___ WITH BASEMENT /PLUMBING
___ WITH BASEMENT /NO PLUMBING

IF EXPANSION/ALTERATION OF EXISTING SYSTEM, DESCRIBE THE PROPOSED BUILDING ADDITION:

WILL THERE BE A HOME BUSINESS IN THE RESIDENCE: ___ YES ✓ NO TYPE: _____

WATER SUPPLY (CHECK ONE):

___ COMMUNITY (C)
___ MUNICIPAL (M)
✓ PRIVATE WELL (P)
___ SHARED WELL (S)
___ OTHER 'SPRINGS' (O)

IF ANY OF THE FOLLOWING ARE LOCATED ON THE PROPERTY, PLEASE SHOW LOCATION ON PLAT:

BURIED CABLES, LANDFILLS, STUMPHOLES ___ YES ✓ NO
EXISTING WASTEWATER SYSTEMS ___ YES ✓ NO
EASTMENTS OR RIGHT-OF-WAYS ___ YES ✓ NO
WELL, SPRINGS OR WATERLINES ___ YES ✓ NO
DESIGNATED WETLANDS ___ YES ✓ NO

PROPERTY OWNER:	LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:
NAME: (LAST) Austin (FIRST) Jack (MI) C	NAME: (LAST) Pope (FIRST) Monte (MI) D
ADDRESS: 16400 Youngblood Rd	DAYTIME PHONE: (704) 921-3775
CITY: Charlotte STATE: NC ZIP: 28278	
DAYTIME PHONE: ( ) —	

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? _____

An Improvement Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes agents of the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

SIGNED: Monte Dean Pope DATE: 3/30/98

MECKLENBURG COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
c/o HAL MARSHALL CTR., SUITE 211, 700 N. TRYON ST., CHARLOTTE, N.C. 28202., (704) 336-5102

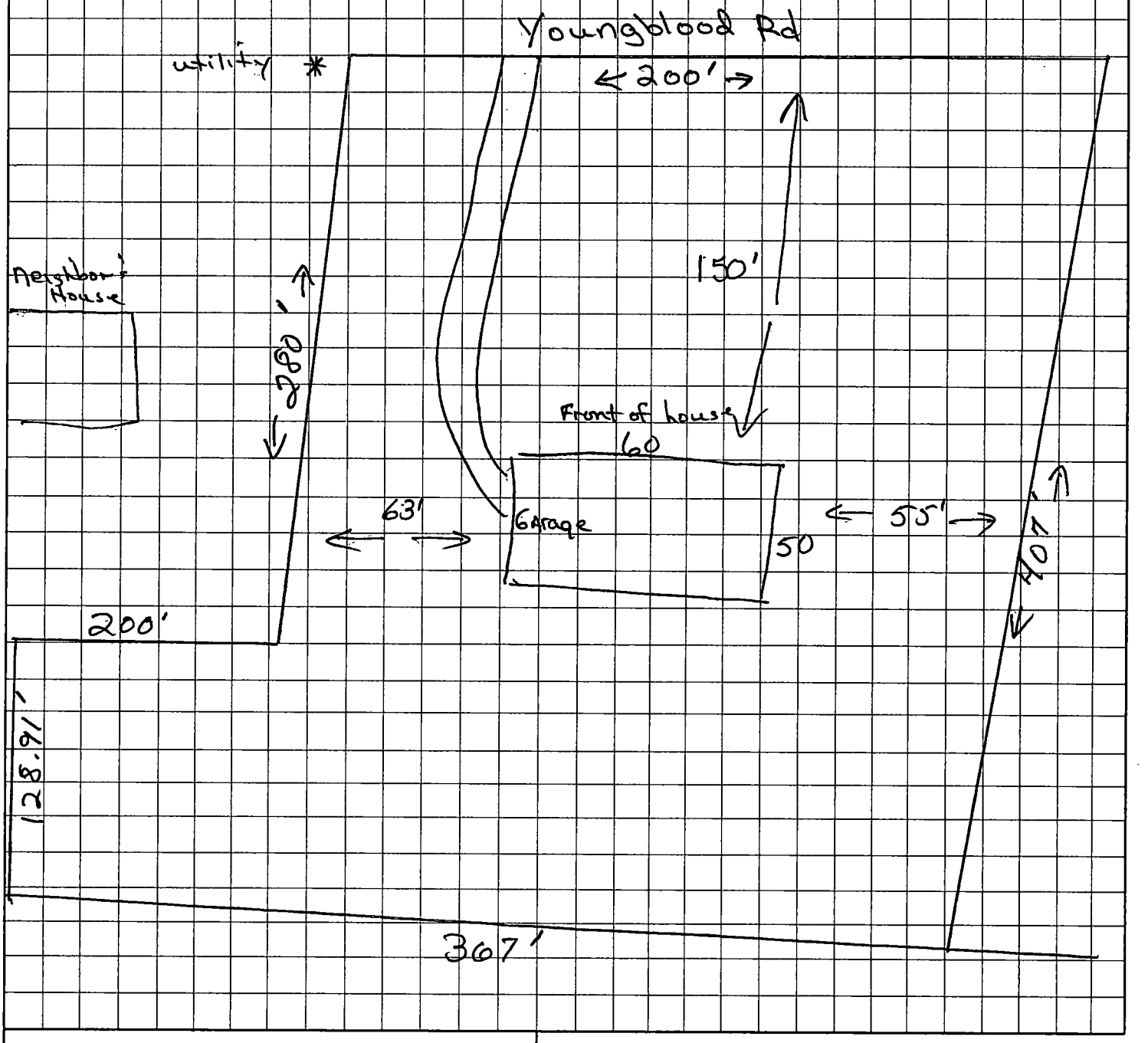
PROPOSED PLOT PLAN

HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 NORTH TRYON STREET
CHARLOTTE, NC 28202
PHONE (704) 336-5102

FILE: 2451B

TC: 217-051-14 PO

Draw in and name all roads adjoining the property. Draw in and accurately dimension the lot concerned. Accurately indicate property boundaries proposed and/or existing structures and driveways, underground utilities, and wells and springs within 100 feet of the proposed building or drainfield.



Monte Dale Pope
OWNER/AGENT SIGNATURE

DATE 4/6/98

APPROVAL DATE _____

White - Health Department's Copy Canary - E.H.S. Copy Pink - Owner's Copy

DEPARTMENT OF ENVIRONMENT, HEALTH, AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

100
#3

Sheet 1
PROPERTY ID #: 00217-051-74
Lot # :
File # : 24518

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Jackie C. Austin
APPLICANT: Monte D. Pope
DATE EVALUATED: 4-27-96
ADDRESS: 16400 Youngblood Rd, Chas.
PROPERTY SIZE: 2.2 A ±
PROPOSED FACILITY: residence
PROPOSED DESIGN FLOW (.1949): 360gpd
PROPERTY RECORDED:
LOCATION OF SITE: Youngblood Rd
WATER SUPPLY: ☐ Private ☐ Public ☑ Well ☐ Spring ☐ Other
EVALUATION METHOD: ☑ Auger Boring ☐ Pit ☐ Cut
TYPE OF WASTEWATER: ☑ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LAND-SCAPE POSITION/ SLOPE %	HORI-ZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	OTHER PROFILE FACTORS .1943 SOIL DEPTH	OTHER PROFILE FACTORS .1956 SAPRO CLASS	OTHER PROFILE FACTORS .1944 RESTR HORIZ	PROFILE CLASS & LTAR
	4/10 % slopes								
1	LS	0-12"	gr/sl	Fr/SEXP/NSNP	7 34" TO 50% wetness	34"	N/A	None	US IV
		12-34"	SBK/sc	Fr/SEXP/SP					
			apparent platy inclusion	Possible					
			Expansive @ 26"						
2	LS	0-6"	gr/sl	Fr/SEXP/NSNP	2.5Y 7/1 @ 30"	36"	N/A	None	US IV
		6-36"	SBK/sc	Fr/SEXP/SP					
			apparent platy inclusion	@ 29"					
3	LS	0-8"	gr/sl	Fr/SEXP/NSNP	7 36" TO 50% wetness	36"	N/A	None	US IV
		8-36"	SBK/sc	Fr/SEXP/SP					
			apparent platy Int. @ 26"						
4	LS	0-6"	gr/sl	Fr/SEXP/SSP	7 36" TO 50% wetness	36"	N/A	None	US
		6-15"	SBK-pl/sc	Fr-VFr/EXP/VSVP					
		15-36"	SBK/sc	Fr/SEXP/SP					
			apparent platy inc.						

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	US	US
System Type(s)		
Site LTAR		

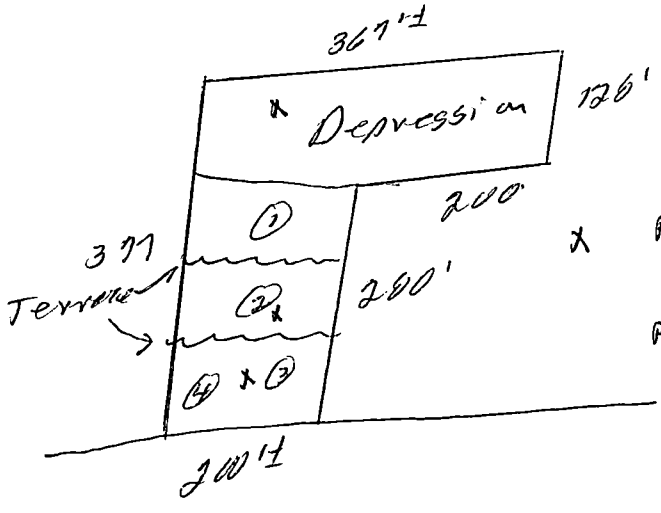
OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948): Unsuitable
EVALUATED BY: W.R. Mauldin 4-29-96
OTHER(S) PRESENT: LSS

FILE #2451B

COMMENTS 100% Repair. Would recommend investigation of borrow pits if improvement permit is pursued.

LANDSCAPE POSITION	GROUP	TEXTURE	.1955 LTAR	CONSISTENCE MOIST	CONSISTENCE WET
R-RIDGE	I	S-SAND	1.2-0.8		
S-SHOULDER SLOPE		LS-LOAMY SAND		VFR-VERY FRIABLE	NS-NON-STICKY
L-LINEAR SLOPE				FR-FRIABLE	SS-SLIGHTLYSTICKY
FS-FOOT SLOPE	II	SL-SANDY LOAM	0.8-0.6	FI-FIRM	S-STICKY
N-NOSE SLOPE		L-LOAM		VFI-VERY FIRM	VS-VERY STICKY
H-HEAD SLOPE				EFI-EXTREMELY FIRM	NP-NON-PLASTIC
CC-CONCLAVE SLOPE	III	SI-SILT	0.6-0.3		SP-SLIGHTLYSTICKY
CV-CONVEX SLOPE		SICL-SILTY CLAY LOAM			P-PLASTIC
T-TERRACE		CL-CLAY LOAM			VP-VERY PLASTIC
FP-FLOOD PLAIN		SCL-SANDY CLAY LOAM			
	IV	SC-SANDY CLAY	0.4-0.1		
		SIC-SILTY CLAY			
		O-ORGANIC			

STRUCTURE	MINERALOGY
SG-SINGLE GRAIN	SLIGHTLY EXPANSIVE
M-MASSIVE	
CR-CRUMB	EXPANSIVE
GR-GRANULAR	
SBK-SUBANGULAR BLOCKY	
ABK-ANGULAR BLOCKY	
PL-PLATY	
PR-PRISMATIC	



- Do not grade, cut, fill, pave, construct a building or deck, dig a well, install a swimming pool or otherwise cover or disturb the soil (except for planting and maintaining grass or other ground covers) in a manner which will adversely affect the repair area or area where the septic tank system is located.

- When a private certified operator is required, no improvement permit for the designated repair shall be issued unless there is a private certified operator to carry out this management program in the service area where the proposed system is to be located. (Refer to Rule .1961, "Maintenance of Sewage Systems," for further information.)

- Additional fees will be required according to the Mecklenburg County user fee schedule applicable at the time for the issuance of a repair permit for any subsequent repairs to the sewage treatment and disposal system or for installation of a replacement system.

- At the time repairs to the sewage treatment and disposal system are to be made or a replacement system installed, the regulations in effect at that time will govern the repairs or installation of a replacement system.

The undersigned further agrees for himself, his heirs and assigns that he shall indemnify and hold harmless the Department, its employees, and officials, as well as Mecklenburg County and its employees and officials, for any damages or other claims of any person or persons whatsoever arising out of the installation, operation, or failure of said septic tank system.

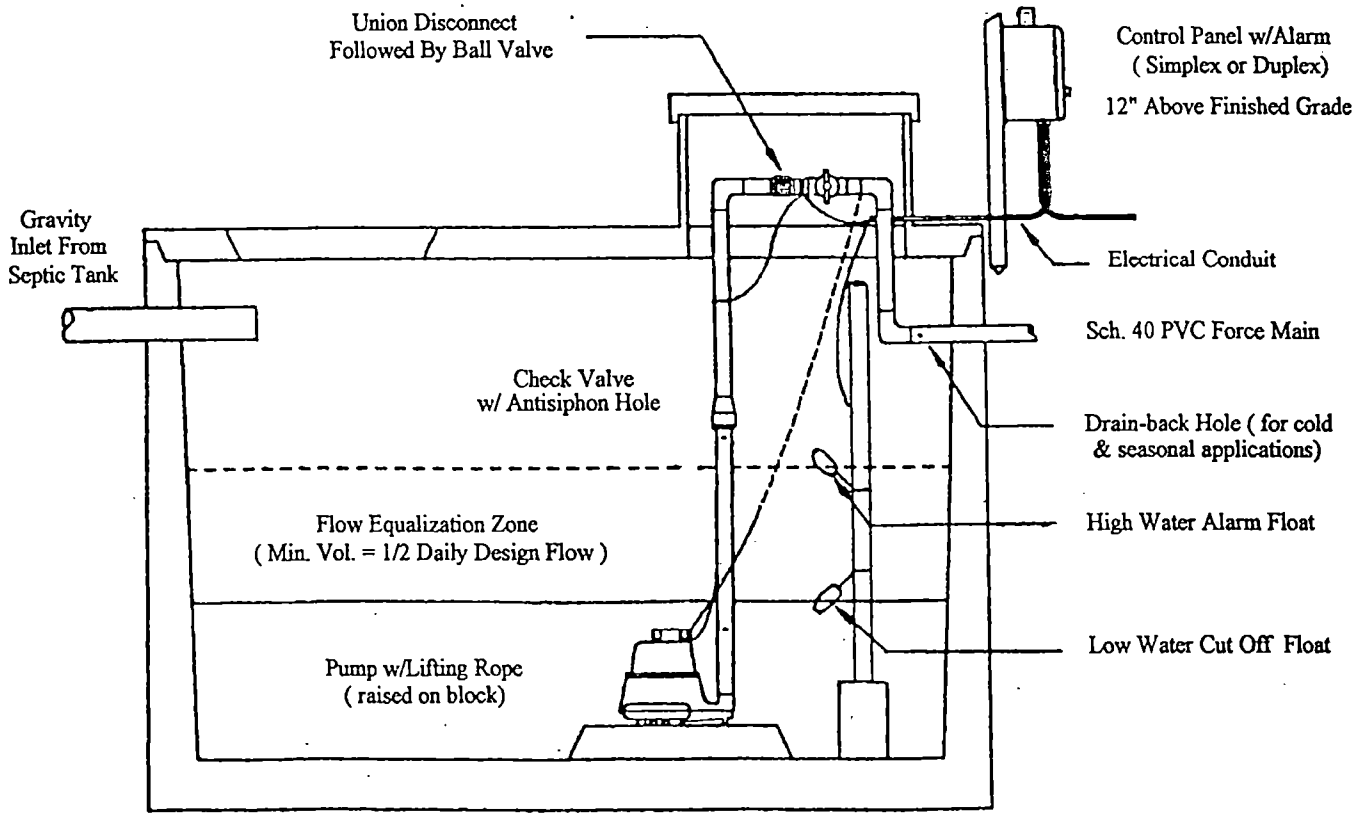
Use of the singular masculine pronoun forms herein shall be deemed to also include the plural and feminine forms as the context may require.

This document shall be placed on the public records of the Register of Deeds of Mecklenburg County and indexed therein under the Grantor Index in the name or names of the undersigned, and the foregoing acknowledgements shall henceforth be binding on all persons claiming any right, title, or interest in the site.

IN WITNESS WHEREOF, the undersigned has hereunto set his hand and seal, or if corporate, has caused this instrument to be signed in its corporate name by its duly authorized officers and its seal to be hereunto affixed by authority of its Board of Directors, this 24 day of Aug, 1999.

TYPICAL PUMP TANK DETAIL

1. Pump tank shall have an access manhole extending at least 6 inches above finished grade.
2. Pump and control circuits shall be provided with manual circuit disconnects within a watertight, corrosion-resistant, outside enclosure (NEMA 4X or equivalent) adjacent to the pump tank, securely mounted at least 12 inches above finished grade. The pump(s) shall be manually operable without requiring the use of special tools or entrance into the tank for testing purposes. Conductors shall be conveyed to the disconnect enclosure through waterproof, gasproof, and corrosion-resistant conduits, with no splices or junction boxes provided inside the tank. Wire grips, duct seal, or other suitable material shall be used to seal around wire and wire conduit openings inside the pump tank and disconnect enclosure.
3. The pump tank shall have a properly functioning high-water alarm. The alarm circuit shall be supplied ahead of any pump overload and short circuit protective devices. The alarm shall be audible and visible by system users and included in the pump and control enclosure (Simplex or Duplex Control Panel).
4. Float switch for the high water alarm shall be set no more than 3 inches above the high water level of pump cycle.
5. Pump floats should be set so that level of water at end of pump cycle is above the top of the pump.
6. Float switch tie downs to be made of corrosion resistant material, no tape or metal hose clamps.
7. Pump discharge shall have a check valve.
8. Anti-siphon hole (three-sixteenth inch) is required between the pump and the check valve.
9. Watertight testing will be required on two piece pump tanks.



2450 B

File Copy

Carlin Soil Consultants, Inc.
3024 Oak Ridge circle
Lincolnton, NC 28092
Phone: (704) 732 3584, Fax: (704) 732 3702

Fax Coversheet

From: Bill Carlin, Carlin Soil Consultants, Inc.

To: Larry Thompson, Mecklenberg co. Environmental Health Dept.

Ref: Proposal for septic system for Marsha Grizzle, Young Blood Rd. and Watermelon Lane

Comments: Enclosed is a Diagram of the proposed installation.

Number of pages including cover sheet (6)

Confidentiality Note: The information contained in this facsimile is legally privileged and confidential information intended only for the use of the individual or entity named above. If the reader of this facsimile is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this telecopy is strictly prohibited. If you have received this telecopy in error, please notify us at the address noted above immediately via United States mail. If there are any problems with this transmission, please call the number on the above letterhead, as soon as possible.

Carlin Soil Consultants, Inc.
3024 Oak Ridge circle
Lincolnton, NC 28092
Phone: (704) 732 3584, Fax: (704) 732 3702

Fax Coversheet

From: Bill Carlin, Carlin Soil Consultants, Inc.

To: Bill Marlin, Mecklenburg County, Environmental Health Dept

Ref: Hydraulic conductivity data and recommended septic System(s) location.

Comments: Bill please give me a call when you get this fax 732 3584.

Number of pages including cover sheet (5)

Confidentiality Note: The information contained in this facsimile is legally privileged and confidential information intended only for the use of the individual or entity named above. If the reader of this facsimile is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this telecopy is strictly prohibited. If you have received this telecopy in error, please notify us at the address noted above immediately via United States mail. If there are any problems with this transmission, please call the number on the above letterhead, as soon as possible.

Area B - Meadow Canyon

SAMPLE DATA SHEET

Measurement No. 2 Conducted by Bill Carle

Location Long Blvd at Waterline Date 5-4-99

Weather Condition Warm Sunny Temperature 82

Horizon 16" Source of Water HT Pond #1

Hole depth 66.04 cm

Distance between reference level and soil surface + 10.8 cm

Distance from the hole bottom to the reference level (D) = 76.84 cm

Desired water depth in hole (H) - 12.7 cm

Constant-head tube setting (d) = 64.14 cm (5.5")

Measured (Actual) water level in hole

Initial 12.7 cm

Final 12.5 cm

Radius of the hole (r) 5 cm

Clock time

Start saturation 11:12

Steady-state reading

Reservoirs Used for Measurement of the Steady-State Flow Rate

Flow Measuring Reservoir Only ____ Conversion Factor (C.F.) = 20 cm^2

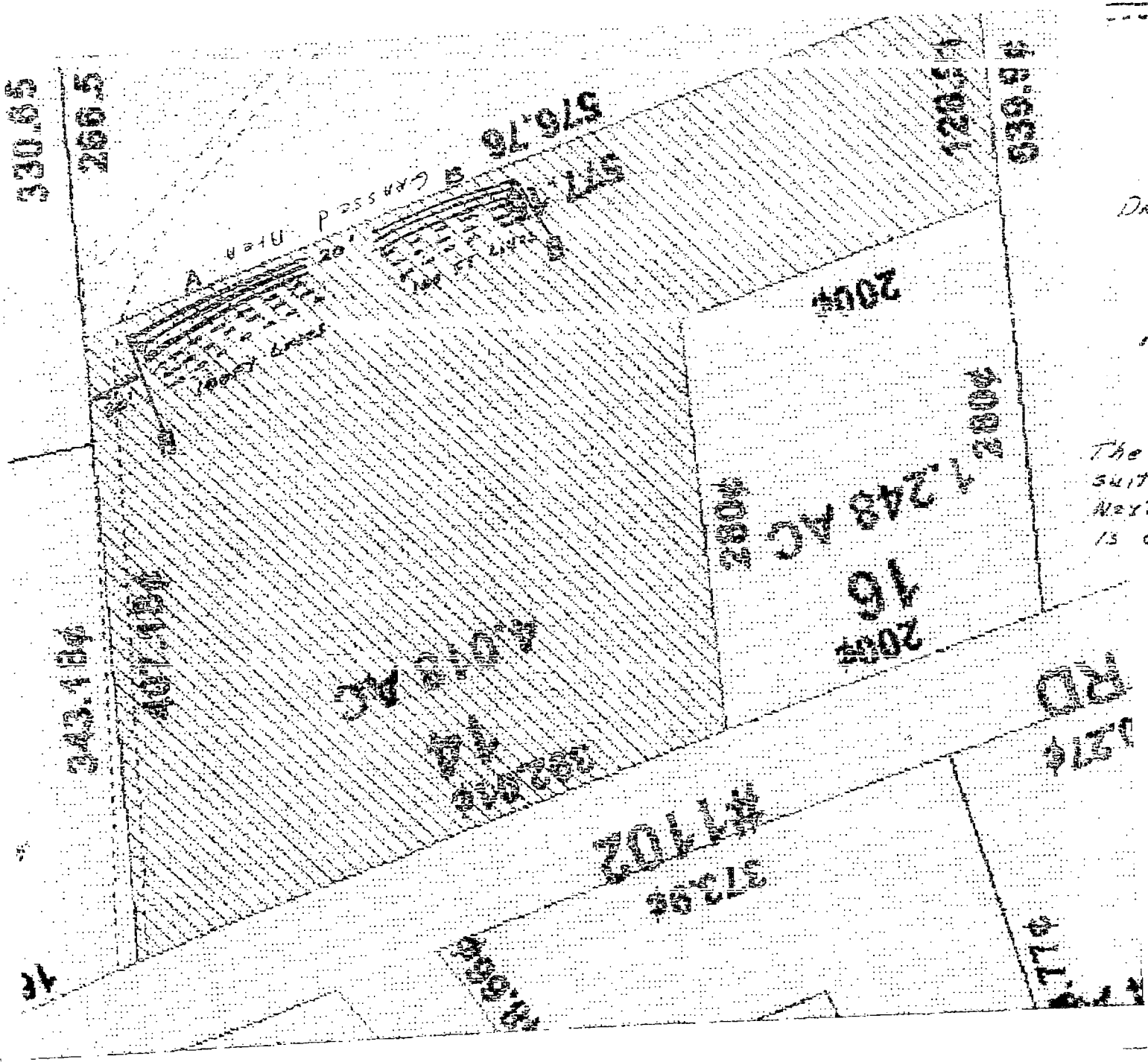
Both Flow Measuring and Main Reservoirs ✓ Conversion Factor (C.F.) = 105 cm^2

(To obtain flow volume multiply change in water level by the appropriate C.F. from above)

Clock Time h:min	Reservoir Reading cm	Δt min	Change in Water Level cm	Flow Volume cm^3	Q cm^3/min	Q cm^3/h	K_{sat} cm/h	
11:15	42.9							
11:30	41.4	15	1.5	157.5	10.5	630	.95	(1.0)
11:45	40.2	15	1.2	126	8.4	504	.77	(.8)
12:00	39.2	15	1.0	105	7	420	.63	(.7)
12:15	38.3	15	.9	94.5	6.2	378	.57	(.6)
12:30	39.3	15	1.0	105	7	420	.63	(.7)
12:45	38.4	15	.9	94.5	6.2	378	.57	(.6)

Average of last three measurements: K_{sat} = .59 cm/h (1.2 in/hr) (other units

COMMENTS: _____


Legend
Drain Line
Repair Area
Drain Fields
A. Unrestricted Flow
LTAR .
B. 1.2 LTAR
The only area found
suitable was immediatly
next to P/L . This area
is disturbed from farming .
10 FT off P/L
60 FT From Road
Recommend LTAR . 4
Depth of Lines 30"
Grass Path
20'
100' Level
516.76
20%
20%
20%
2,248 sq ft
16
S 30.65
266.5
N 30.65
266.5
S 43.1 E
S 43.1 E
S 75.25
S 75.25
N 75.25
N 75.25

Carlin Soil Consultants Inc.
3024 Oak Ridge Circle
Lincolnton NC 28092
Phone (704) 732 3584, Fax (704) 732 3502

August 11, 1999

Mr. Bill Marlin
Environmental Health section
Mecklenburg County Health Dept.
700 North Tryon Street
Charlotte, NC 28202

Dear Mr. Marlin
Between August 5 and August 9 we conducted a site evaluation on the Austin property Located on the corner of Youngblood Rd and Watermelon Ln. The evaluation was done at the request of the prospective buyer Ms. Marsha Grizzle.

The soil proved to be unsuitable on most of the lot. We did find some soil at the rear of the property, which was thought to be provisionally suitable. This soil, sandy clay loam was found at 24 to 29 inches. This soil was present across the rear of the lot in a strip approximately 45 to 50 feet in width after allowing for the 10-foot buffer from the property line.

To confirm the quality of the soil we ran two Hydraulic Conductivity tests. Their locations Are marked on one of the enclosed diagrams. Test A had an unrestricted flow. Test B had a long-range acceptance rate if 1.12 gallons per square foot per day.

It is believed that the areas, which are indicated on the diagram, would be suitable for installation of septic systems with a recommended L.T.A.R. of .5 gal/sq.ft./day.

If there is any questions or if any further testing is required please contact me at 732 3584.

Sincerely
William P. Carlin R.S., L.S.S.

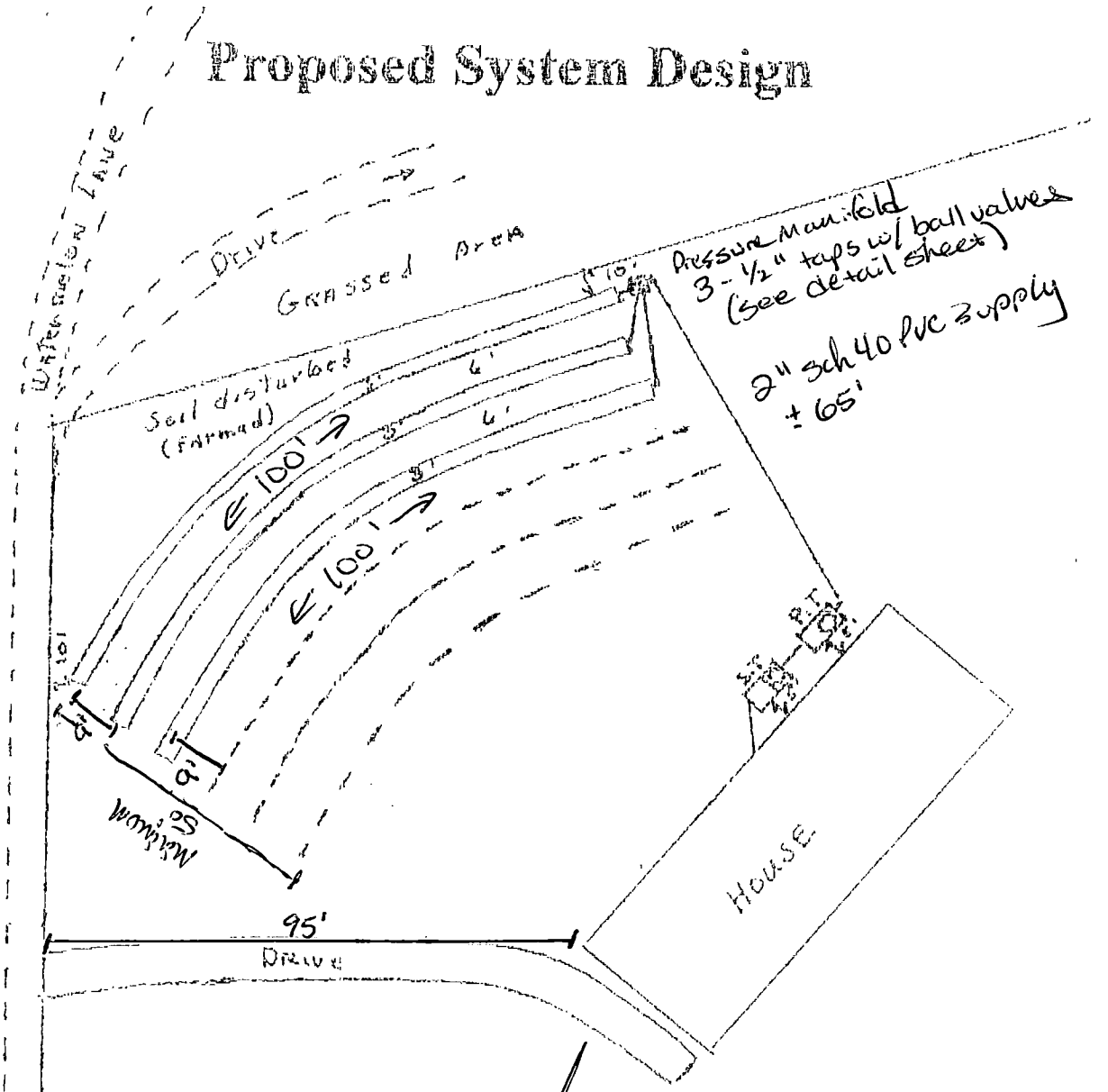
Registered Environmental Health Specialist (#866)
Licensed Soil Scientist (#1023)

Hydraulic Grad

A. Upstream Test Flow

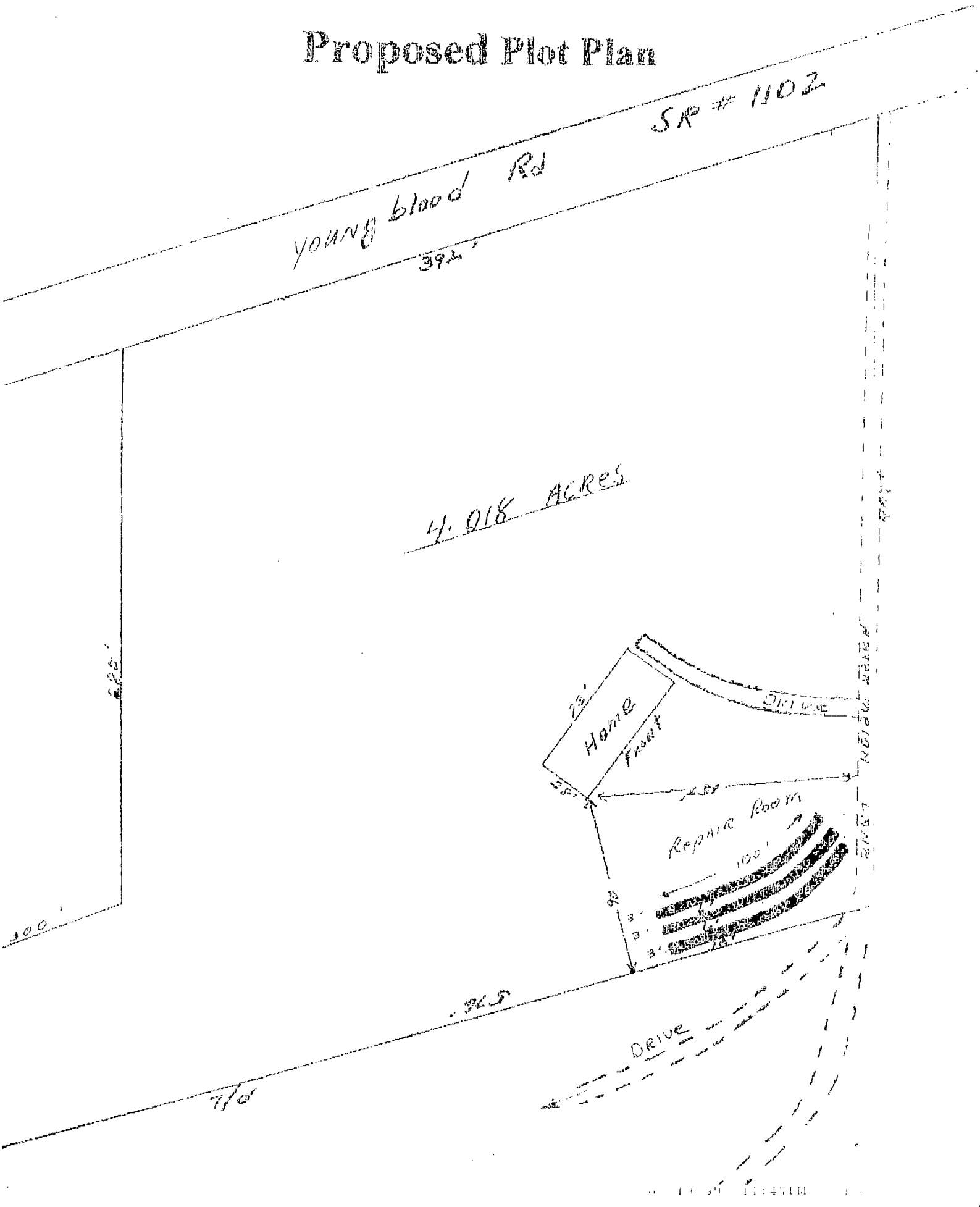
B. 1/2 and 1/5 Test Flow

Proposed System Design



- 1500 gallon septic tank
- 1000 gallon pump tank w/ Nema 4x simplex control panel
- Pressure Manifold
- 3 - 3'w x 100'l x 30" deep drainlines / 12" stone
- Type III b system requires inspection by the Health Department every 5 years & fees are currently associated with this inspection.

Proposed Plot Plan



Mecklenburg County
Health Department

April 30, 1998

Mr. Jack C. Austin
16400 Youngblood Road
Charlotte, NC 28278

Re: Youngblood Road
File: 2451B
Parcel: 217-051-14PO

Dear Mr. Austin:

Receipt of your Application for Improvement Permit for the above referenced property is acknowledged. A soil evaluation and a site visit have been conducted. The results of the evaluation indicated that the site is **UNSUITABLE** under Rules .1941 **SOIL CHARACTERISTICS (MORPHOLOGY)**, .1942 **SOIL WETNESS CONDITIONS**, .1943 **SOIL DEPTH** and .1945 **AVAILABLE SPACE**. For these reasons your Application for Improvement Permit is denied. A possible way to develop the site exists under Rule .1948(d) which reads as follows:

> A site classified as **UNSUITABLE** may be used for a ground absorption sewage treatment and disposal system specifically identified in Rules .1955, .1956, or .1957 of this Section or a system approved under Rule .1969 if written documentation, including engineering, hydrogeologic, geologic or soil studies, indicates to the local health department that the proposed system can be expected to function satisfactorily. Such sites shall be reclassified as **PROVISIONALLY SUITABLE** if the local health department determines that the substantiating data indicate that:
> (1) a ground absorption system can be installed so that the effluent will be non-pathogenic, non-infectious, non-toxic, and non-hazardous;
> (2) the effluent will not contaminate ground or surface water; and
> (3) the effluent will not be exposed on the ground surface or be discharged to surface waters where it could come in contact with people, animals, or vectors.

The State shall review the substantiating data if requested by the local health department.

Please be advised that you have the right to an informal review by this department. You also have the right to appeal under G.S. 130A-24, and to have the appeal held in Mecklenburg County.

If you have any questions regarding this matter, please call me at 336-5575.

Sincerely,

Kelly Randall, R.S., Soil Scientist
Individual Water and Wastewater Systems

cc: Dale Pope

Mecklenburg County
Health Department

Jack Austin
16400 Youngblood Dr.
Charlotte NC 28278

Re: Youngblood Rd.
File: 2451-B
Parcel: 217-051-14 Po

Receipt of your Application for Improvement Permit for the above referenced property is acknowledged. A soil evaluation and a site visit have been conducted. The results of the evaluation indicated that the site is UNSUITABLE under Rules over

. For these reasons your Application for Improvement Permit is denied. A possible way to develop the site exists under Rule .1948(d) which reads as follows:

> A site classified as UNSUITABLE may be used for a ground absorption sewage treatment and disposal system specifically identified in Rules .1955, .1956, or .1957 of this Section or a system approved under Rule .1969 if written documentation, including engineering, hydrogeologic, geologic or soil studies, indicates to the local health department that the proposed system can be expected to function satisfactorily. Such sites shall be reclassified as PROVISIONALLY SUITABLE if the local health department determines that the substantiating data indicate that:
> (1) a ground absorption system can be installed so that the effluent will be non-pathogenic, non-infectious, non-toxic, and non-hazardous;
> (2) the effluent will not contaminate ground or surface water; and
> (3) the effluent will not be exposed on the ground surface or be discharged to surface waters where it could come in contact with people, animals, or vectors.
>
> The State shall review the substantiating data if requested by the local health department.

Please be advised that you have the right to an informal review by this department. You also have the right to appeal under G.S. 130A-24, and to have the appeal held in Mecklenburg County.

If you have any questions regarding this matter, please call me at 336-5575.

Sincerely,

cc Dale Pope

Kelly Randall, R.S., Soil Scientist
Individual Water and Wastewater Systems

FEE: [illegible]

DATE: 3/30/98

APPLICATION FOR IMPROVEMENT PERMIT FOR RESIDENTIAL SITE INDIVIDUAL WATER AND WASTEWATER SYSTEMS PROGRAM

[ ] CRT

TYPE APPLICATION: ___ NEW SYSTEM ___ EXPANSION/ ALTERATION OF EXISTING SYSTEM ___ REPAIR OF EXISTING SYSTEM

NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT,
HEALTH, AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

COPY

FILE #: 2451B

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION:

TAX/PARCEL NUMBER: 217-051-14 PO

STREET ADDRESS: Youngblood Rd

SUBDIVISION OR MOBILE HOME PARK NAME:

LOT NUMBER:

TOWNSHIP (CHECK ONE):

- ✓ 0 MECKLENBURG
- ___ 1 CHARLOTTE
- ___ 2 DAVIDSON
- ___ 3 CORNELIUS
- ___ 4 PINEVILLE
- ___ 5 MATTHEWS
- ___ 6 HUNTERSVILLE
- ___ 7 MINT HILL

CLOSING DATE May 29, 1998

TYPE OF BUILDING (CHECK ONE):

- ___ SINGLE MOBILE HOME(S)
- ___ DOUBLE WIDE (D)
- ✓ HOUSE (H)
- ___ MODULAR HOME (M)
- ___ MULTIPLE FAMILY (U)
- ___ OTHER (O)

HEATED SQUARE FOOTAGE: 2,000

NUMBER OF BEDROOMS: 3 NUMBER OF OCCUPANTS: 2

FOUNDATION FOR RESIDENCE:

- ___ WITHOUT BASEMENT ON SLAB
- ✓ CRAWL SPACE
- ___ WITH BASEMENT /PLUMBING
- ___ WITH BASEMENT /NO PLUMBING

IF EXPANSION/ALTERATION OF EXISTING SYSTEM, DESCRIBE THE PROPOSED BUILDING ADDITION:

WILL THERE BE A HOME BUSINESS IN THE RESIDENCE: ___ YES ✓ NO TYPE: _____

WATER SUPPLY (CHECK ONE):

- ___ COMMUNITY (C)
- ___ MUNICIPAL (M)
- ✓ PRIVATE WELL (P)
- ___ SHARED WELL (S)
- ___ OTHER 'SPRINGS' (O)

IF ANY OF THE FOLLOWING ARE LOCATED ON THE PROPERTY, PLEASE SHOW LOCATION ON PLAT:

BURIED CABLES, LANDFILLS, STUMPHOLES	___ YES ✓ NO	WELL, SPRINGS OR WATERLINES	___ YES ✓ NO
EXISTING WASTEWATER SYSTEMS	___ YES ✓ NO	DESIGNATED WETLANDS	___ YES ✓ NO
EASTMENTS OR RIGHT-OF-WAYS	___ YES ✓ NO		

PROPERTY OWNER:

NAME: (LAST) Austin (FIRST) Jack (MI) C

ADDRESS: 16400 Youngblood Rd

CITY: Charlotte STATE: NC ZIP: 28278

DAYTIME PHONE: ( ) —

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:

NAME: (LAST) Pope (FIRST) Monte (MI) D

DAYTIME PHONE: (704) 921-3775

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? _____

An Improvement Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes agents of the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

SIGNED: Monte Dean Pope DATE: 3/30/98

MECKLENBURG COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
c/o HAL MARSHALL CTR., SUITE 211, 700 N. TRYON ST., CHARLOTTE, N.C. 28202., (704) 336-5102

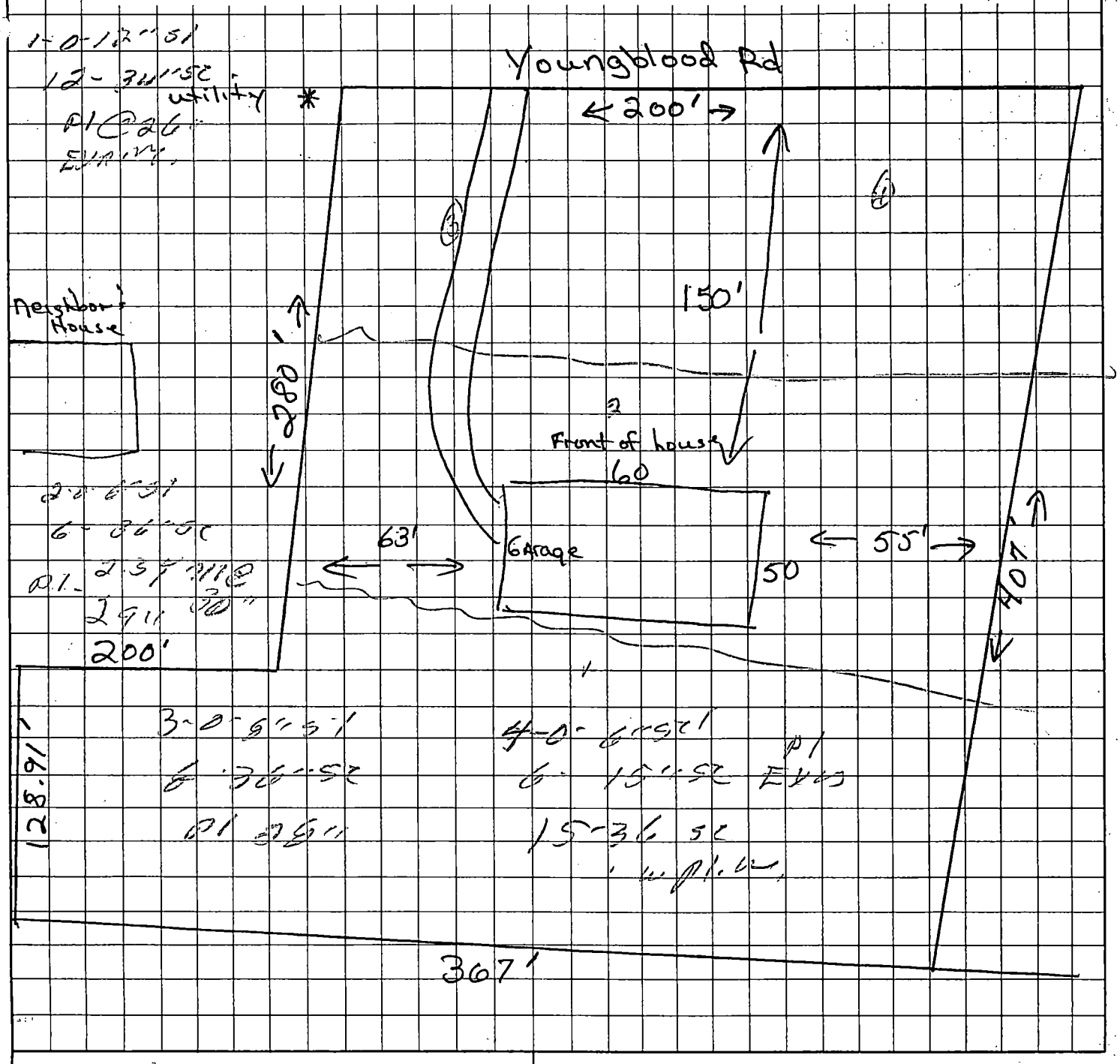
PROPOSED PLOT PLAN

HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 NORTH TRYON STREET
CHARLOTTE, NC 28202
PHONE (704) 336-5102

FILE: 2451B

TC: 217-051-14 PO

Draw in and name all roads adjoining the property. Draw in and accurately dimension the lot concerned. Accurately indicate property boundaries proposed and/or existing structures and driveways, underground utilities, and wells and springs within 100 feet of the proposed building or drainfield.



Monte Dale Pope
OWNER/AGENT SIGNATURE

DATE 4/6/98

APPROVAL DATE _____

White - Health Department's Copy Canary - E.H.S. Copy Pink - Owner's Copy

FAX

To: **Gwendolyn Craig**

From: **Dale Pope**

Subject: **Purchase Contract for Property Parcel # 217-051-14**

Date: **March 31, 1998**

 # Pages Including Cover: 3

Dear Ms. Craig,

Attached is a copy of my purchase contract for the land that I have applied to have a soil test done.

Thank you for your help yesterday. I will call Mr. Marlin as soon as I get the property staked.

Dale Pope
4605 Deanscroft Drive
Charlotte, N.C. 28226
(704) 543-1399

12. PROPERTY DISCLOSURE AND INSPECTIONS:

(a) Property Disclosure:

☒ Buyer has received a signed copy of the Residential Property Disclosure Statement prior to the signing of this Offer to Purchase and Contract.

☐ Buyer has NOT received a signed copy of the Residential Property Disclosure Statement prior to the signing of this Offer to Purchase and Contract and shall have the right to terminate or withdraw this contract without penalty upon receipt of the Residential Property Disclosure Statement provided such termination or withdrawal notice is hand delivered or mailed to Seller or Seller's Agent within three days following receipt of same.

☐ Exempt from Residential Property Disclosure Statement because (SEE GUIDELINES) N/A

☐ The Property is residential and was built prior to 1978 (Attach Lead-Based Paint or Lead-Based Paint Hazards Disclosure Addendum.)

(b) Property Inspection: Unless otherwise stated herein, or as otherwise provided on an inspection addendum attached hereto, Buyer shall have the option of inspecting or, obtaining at Buyer's expense, inspections to determine the condition of the Property. Unless otherwise stated herein, it is a condition of this contract that: (i) the built-in appliances, electrical system, plumbing system, heating and cooling systems, roof coverings (including flashing and gutters), doors and windows, exterior surfaces, structural components (including foundations, columns, chimneys, floors, walls, ceilings and roofs), porches and decks, fireplaces and flues, crawl space and attic ventilation systems (if any), water and sewer systems (public and private), shall be performing the function for which intended and shall not be in need of immediate repair; (ii) there shall be no unusual drainage conditions or evidence of excessive moisture adversely affecting the structure(s); and (iii) there shall be no friable asbestos or existing environmental contamination. Inspections must be completed on or before N/A. Buyer is advised to have any inspections made prior to incurring expenses for closing and in sufficient time to permit any required repairs to be completed by closing.

(c) Wood-Destroying Insects: Unless otherwise stated herein, Buyer shall have the option of obtaining, at Buyer's expense, a report from a licensed pest control operator on a standard form in accordance with the regulations of the North Carolina Structural Pest Control Committee, stating that there was no visible evidence of wood-destroying insects and containing no indication of visible damage therefrom. The report must be obtained in sufficient time so as to permit treatment, if any, and repairs, if any, to be completed prior to closing. All treatment required shall be paid for by Seller and completed prior to closing, unless otherwise agreed upon in writing by the parties. The Buyer is advised that the inspection report described in this paragraph may not always reveal either structural damage or damage caused by agents or organisms other than wood-destroying insects. If new construction, Seller shall provide a standard warranty of termite soil treatment.

(d) Repairs: Pursuant to any inspections in (b) and/or (c) above, if any repairs are necessary, Seller shall have the option of (i) completing them, (ii) providing for their completion, or (iii) refusing to complete them. If Seller elects not to complete or provide for the completion of the repairs, then Buyer shall have the option of (iv) accepting the Property in its present condition, or (v) terminating this contract, in which case all earnest monies shall be refunded. Unless otherwise stated herein, or as otherwise provided on an inspection addendum attached hereto, any items not covered by (b)(i), b (ii), b (iii) and (c) above are excluded from repair negotiations under this contract.

(e) Acceptance: CLOSING SHALL CONSTITUTE ACCEPTANCE OF EACH OF THE SYSTEMS, ITEMS AND CONDITIONS LISTED ABOVE IN ITS THEN EXISTING CONDITION UNLESS PROVISION IS OTHERWISE MADE IN WRITING.

13. REASONABLE ACCESS: Seller will provide reasonable access to Buyer or Buyer's representatives for the purposes of appraisal, inspection, and/or evaluation. Buyer may conduct a walk-through inspection of the Property prior to closing.

14. CLOSING: Closing shall be defined as the date and time of recording of the deed. All parties agree to execute any and all documents and papers necessary in connection with closing and transfer of title on or before MAY 29, 1998, at a place designated by Buyer. The deed is to be made to MONTE DALE POPE AND ELOISE B. POPE.

15. POSSESSION: Unless otherwise provided herein, possession shall be delivered at closing. In the event possession is NOT to be delivered at closing: ☐ a buyer possession before closing agreement is attached. OR, ☐ a seller possession after closing agreement is attached.

16. OTHER PROVISIONS AND CONDITIONS: (ITEMIZE ALL ADDENDA TO THIS CONTRACT AND ATTACH HERETO. SEE LIST OF STANDARD FORM ADDENDA AVAILABLE.)

16A. THIS OFFER IS CONTINGENT UPON THE ABILITY TO SUB-DIVIDE SUBJECT PROPERTY INTO TWO TRACTS, EACH MEETING THE REQUIREMENTS SET FORTH ON THE "ADDITIONAL PROVISIONS ADDENDUM" ATTACHED TO THIS CONTRACT.

16B. ADDITIONAL PROVISIONS ADDENDUM TO BE MADE A PART OF THIS CONTRACT.

17. RISK OF LOSS: The risk of loss or damage by fire or other casualty prior to closing shall be upon Seller. If the improvements on the Property are destroyed or materially damaged prior to closing, Buyer may terminate this contract by written notice delivered to Seller or Seller's agent and all deposits shall be returned to Buyer. In the event Buyer does NOT elect to terminate this contract, Buyer shall be entitled to receive, in addition to the Property, any of the Seller's insurance proceeds payable on account of the damage or destruction applicable to the Property being purchased.

18. ASSIGNMENTS: This contract may not be assigned without the written consent of all parties, but if assigned by agreement, then this contract shall be binding on the assignee and his heirs and successors.

19. PARTIES: This contract shall be binding upon and shall inure to the benefit of the parties i.e., Buyer and Seller and their heirs, successors and assigns. As used herein, words in the singular include the plural and the masculine includes the feminine and neuter genders, as appropriate.

20. SURVIVAL: If any provision herein contained which by its nature and effect is required to be observed, kept or performed after the closing, it shall survive the closing and remain binding upon and for the benefit of the parties hereto until fully observed, kept or performed.

21. ENTIRE AGREEMENT: This contract contains the entire agreement of the parties and there are no representations, inducements or other provisions other than those expressed herein. All changes, additions or deletions hereto must be in writing and signed by all parties. Nothing contained herein shall alter any agreement between a REALTOR® or broker and Seller or Buyer as contained in any listing agreement, buyer agency agreement, or any other agency agreement between them.

22. EXECUTION: This offer shall become a binding contract when signed by both Buyer and Seller. This contract is executed under seal in signed multiple originals, all of which together constitute one and the same instrument, with a signed original being retained by each party and each REALTOR® or broker hereto, and the parties adopt the word "SEAL" beside their signatures below.

IF YOU DO NOT UNDERSTAND THIS OFFER TO PURCHASE AND CONTRACT OR FEEL THAT IT DOES NOT PROVIDE FOR YOUR LEGAL NEEDS, YOU SHOULD CONSULT A NORTH CAROLINA REAL ESTATE ATTORNEY BEFORE YOU SIGN IT.

Buyer acknowledges having made an on-site personal examination of the Property prior to the making of this offer.

Buyer Monte Dale Pope (SEAL) Seller Mark C. Austin (SEAL)

SS/Tax ID# 240-92-8132 SS/Tax ID# 362-10-5578

Buyer Eloise B. Pope (SEAL) Seller Mae R. Aust (SEAL)

SS/Tax ID# 241-44-8131

OFFER TO PURCHASE AND CONTRACT

MONTE DALE POPE AND ELOISE B. POPE, as Buyer, hereby offers to purchase and JACK C. AUSTIN & wife, MAE R. AUSTIN, as Seller, upon acceptance of said offer, agrees to sell and convey, all of that plot, piece or parcel of land described below, together with all improvements located thereon and such fixtures and personal property as are listed below (collectively referred to as "the Property"), upon the following terms and conditions:

1. **REAL PROPERTY:** Located in the City of N/A, County of MECKLENBURG, State of North Carolina, being known as and more particularly described as: Street Address N/A Zip 28278
Legal Description: PARCEL # 217-051-14 (☒ All ☐ A portion of the property in Deed Reference: Book _____, Page No. _____, _____ County.)
NOTE: Prior to signing the Offer to Purchase and Contract, Buyer is advised to review Restrictive Covenants, if any, which may limit the use of the Property, and to read the Declaration of Restrictive Covenants, By-Laws, Articles of Incorporation, Rules and Regulations, and other governing documents of the owners' association and/or the subdivision, if applicable.

2. **FIXTURES:** The following items, if any, are included in the purchase price free of liens: any built-in appliances, light fixtures, ceiling fans, attached floor coverings, blinds and shades including window hardware, window and door screens, storm windows, combination doors, awnings, antennas, satellite dishes and receivers, burglar/fire/smoke alarms, pool and spa equipment, solar energy systems, attached fireplace screens, gas logs, fireplace inserts, electric garage door openers with controls, outdoor plants and trees (other than in movable containers), basketball goals, storage sheds, mailboxes, wall and/or door mirrors, and any items attached or affixed to the Property, EXCEPT the following items:
NONE

3. **PERSONAL PROPERTY:** The following personal property is included in the purchase price: NONE

4. **PURCHASE PRICE:** The purchase price is $50,000.00 (FIFTY THOUSAND DOLLARS) and shall be paid as follows:
(a) $1,000.00, EARNEST MONEY DEPOSIT by ☐ cash ☒ personal check ☐ bank check ☐ certified check ☐ other _____ to be deposited and held in escrow by RICK POE, ATTORNEY AT LAW BS escrow agent, until the sale is closed, at which time it will be credited to Buyer, or until this contract is otherwise terminated. In the event: (1) this offer is not accepted; or (2) any of the conditions hereto are not satisfied, then all earnest monies shall be returned to Buyer. In the event of breach of this contract by Seller, upon Buyer's request, all earnest monies shall be returned to Buyer, but such return shall not affect any other remedies available to Buyer for such breach. In the event this offer is accepted and Buyer breaches this contract, then all earnest monies shall be forfeited upon Seller's request, but receipt of such forfeited earnest monies shall not affect any other remedies available to Seller for such breach.
NOTE: In the event of a dispute between Seller and Buyer over the return or forfeiture of earnest money held in escrow by a broker, the broker is required by state law to retain said earnest money in the broker's trust or escrow account until a written release from the parties consenting to its disposition has been obtained or until disbursement is ordered by a court of competent jurisdiction.
(b) $N/A, ADDITIONAL EARNEST MONEY DEPOSIT to be paid to escrow agent no later than N/A.
(c) $N/A, BY ASSUMPTION of the unpaid principal balance and all obligations of Seller on the existing loan(s) secured by a deed of trust on the Property in accordance with the attached Loan Assumption Addendum.
(d) $N/A, BY SELLER FINANCING in accordance with the attached Seller Financing Addendum.
(e) $49,000.00, BALANCE of the purchase price in cash at closing.

5. **CONDITIONS:** (State N/A in each blank that is not a condition to this contract.)
(a) The Buyer must be able to obtain a loan commitment on or before N/A, effective through the date of closing, for a ☐ FHA ☐ VA (attach FHA/VA Financing Addendum) ☐ Conventional ☐ Other N/A loan at a ☐ Fixed Rate ☐ Adjustable Rate ☐ Other: N/A in the principal amount of N/A for a term of N/A year(s), at an interest rate not to exceed N/A % per annum, with mortgage loan discount points not to exceed N/A % of the loan amount. Buyer agrees to use his best efforts to secure such commitment. Buyer shall be responsible for all costs with respect to any loan obtained by Buyer, except if Seller is to pay any of the Buyer's loan closing costs including discount points, those costs are as follows: N/A
In the event Buyer fails to provide Seller with written evidence of the loan commitment within five days after receipt of a written request from Seller (but such request may not be made before the loan commitment date listed above), then Seller may terminate this contract unless Buyer waives the loan commitment condition.
(b) There must be no restriction, easement, zoning or other governmental regulation that would prevent the reasonable use of the real property for RESIDENTIAL purposes.
(c) The Property must be in substantially the same or better condition at closing as on the date of this offer, reasonable wear and tear excepted.
(d) All deeds of trust, liens and other charges against the Property, not assumed by Buyer, must be paid and satisfied by Seller prior to or at closing such that cancellation may be promptly obtained following closing. Seller shall remain obligated to obtain any such cancellations following closing.
(e) Title must be delivered at closing by GENERAL WARRANTY DEED unless otherwise stated herein, and must be fee simple marketable title, free of all encumbrances except: ad valorem taxes for the current year (prorated through the date of closing); utility easements and unviolated restrictive covenants that do not materially affect the value of the Property; and such other encumbrances as may be assumed or specifically approved by Buyer. The Property must have legal access to a public right of way.

6. **SPECIAL ASSESSMENTS:** Seller warrants that there are no governmental special assessments, either pending or confirmed, for sidewalk, paving, water, sewer, or other improvements on or adjoining the Property, and no owners' association special assessments, except as follows: NONE
(Insert "None" or the identification of such assessments, if any.) Seller shall pay all confirmed owners' association assessments and all confirmed governmental assessments, if any, and Buyer shall take title subject to all pending assessments, if any, unless otherwise agreed as follows: NONE

7. **PRORATIONS AND ADJUSTMENTS:** Unless otherwise provided, the following items shall be prorated and either adjusted between the parties or paid at closing: (a) Ad valorem taxes on real property shall be prorated on a calendar year basis through the date of closing; (b) Ad valorem taxes on personal property for the entire year shall be paid by the Seller unless the personal property is conveyed to the Buyer, in which case, the personal property taxes shall be prorated on a calendar year basis through the date of closing. (c) All late listing penalties, if any, shall be paid by Seller. (d) Rents, if any, for the Property shall be prorated through the date of closing. (e) Owners' association dues, and other like charges shall be prorated through the