

15826 LAKE RIDGE RD

21721228

12/26/2007

duponbj

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

N.C Department of Environment and Natural Resources
Division of Environmental Health

INSPECTION OF ENGINEERED SUBSURFACE WASTEWATER SYSTEM

Mecklenburg County **Health Department**	**Name of Establishment**	1939B **Permit/Project No.**
15826 Lake Ridge Rd. **Location**	Residence **Type of Establishment**	480 GPD **Design Flow**
Howard E. Virkler **Owner/Agent**	12345 Steele Creek Rd. **Address**	**Phone**
N/A **Operator**	**Address**	**Phone**
IIIb **Type System**	March, 2008 **Next Inspection Due**	

	Yes	No	REMARKS
1. ESTABLISHMENT:			
Type, size, and sewage flow in accordance with permit?	☒	☐	
2. COLLECTION SYSTEM:			
No evidence of leaks into or out from sewer lines/manholes?	☒	☐	
Free of blockages/solids buildup in lines or manholes?	☒	☐	
3. TANKAGE (Grease Traps/Lift Stations/Septic/Dosing Tanks):			
Tank risers accessible and surface water diverted?	☒	☐	
Tanks and access manholes structurally sound, watertight?	☒	☐	
Sanitary tee(s) in good working condition?.....	☐	☐	
Tanks pumped, cleaned out as needed?.....	☒	☐	
4. RAW SEWAGE LIFT STATION (if present):			
Required pumps present, operating, and cycling properly	☐	☐	N/A
High-water alarm present and operating properly?	☐	☐	N/A
Floats/pipe/valves/disconnects in good condition?	☐	☐	N/A
5. EFFLUENT DOSING SYSTEM:			
Effluent appears clear, free of excess solids?	☒	☐	
PUMP SYSTEMS:			
Required pumps present, operating, and cycling properly?	☒	☐	
High-water alarm present and operating properly?	☒	☐	
Floats/pipe/valves/disconnects in good working condition?	☒	☐	
Control panel enclosure/components in good condition?	☒	☐	
Elapsed time readings: _____ _____ _____ _____			
SIPHON SYSTEMS:			
No evidence of overflow or siphon leakage?	☐	☐	N/A
Siphon(s) appear to be working/alternating properly?	☐	☐	N/A
Bells and vents free of debris and in good condition?	☐	☐	N/A
6. GROUND ABSORPTION FIELDS:			
No evidence of effluent surfacing/reaching surface waters?	☒	☐	
Minimal ponding in subsurface trenches?	☒	☐	
Surface water being effectively diverted away?	☒	☐	
Diversions/ditches/swales/tiles drains properly maintained?	☒	☐	
Line cover/vegetation adequate/maintained as needed?	☒	☐	
Protected from traffic, destructive uses?	☒	☐	
Distribution devices in good condition, working properly?	☒	☐	
Repair area properly reserved, maintained?	☒	☐	
LOW PRESSURE PIPE DRAIN FIELDS:			
Turnups/cleanouts/valves intact and accessible?	☐	☐	N/A
No effluent standing in lower laterals?	☐	☐	N/A
Laterals free of excess solids, cleaned out as needed?	☐	☐	N/A
Pressure head is properly adjusted?	☐	☐	N/A

OVERALL CONDITION AND OPERATION OF SYSTEM No effluent surfacing

Improvement **SUMMARY OF IMPROVEMENTS NEEDED:** **Repair Within (Days)**

DATE: 3/13/03 SIGNED: David Cornelius, RSI AGENT
Division of Environmental Health

DENR 3702 (Revised 3/98) On-Site Wastewater Section (Review 12/98)

N.C Department of Environment and Natural Resources
Division of Environmental Health

INSPECTION OF ENGINEERED SUBSURFACE WASTEWATER SYSTEM

Mecklenburg County
Health Department

15826 Lake Ridge Rd.
Location

Howard E. Virkler
Owner/Agent

N/A
Operator

IIIb
Type System

Name of Establishment

Residence
Type of Establishment

12345 Steele Creek Rd.
Address

Address

March, 2008
Next Inspection Due

1939B
Permit/Project No.

480 GPD
Design Flow

Phone

Phone

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Tanks and access manholes structurally sound, watertight?	☒	☐	
Sanitary tee(s) in good working condition?.....	☐	☐	
Tanks pumped, cleaned out as needed?.....	☒	☐	
4. RAW SEWAGE LIFT STATION (if present):			
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Protected from traffic, destructive uses?	☒	☐	
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Repair area properly reserved, maintained?	☒	☐	
LOW PRESSURE PIPE DRAIN FIELDS:			
Turnups/cleanouts/valves intact and accessible?	☐	☐	N/A
No effluent standing in lower laterals?	☐	☐	N/A
Laterals free of excess solids, cleaned out as needed?	☐	☐	N/A
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Improvement	Repair Within (Days)

DATE: 3/13/03 SIGNED: David Cornelius, RSI AGENT
Division of Environmental Health

DENR 3702 (Revised 3/98) On-Site Wastewater Section (Review 12/98)

SUMMARY OF IMPROVEMENTS NEEDED (cont.)

Improvement	Repair Within (Days)

INTENT TO SUSPEND OR REVOKE PERMIT

This is to notify you of intent to suspend/revoke your operation permit/certificate of completion 60 days from this date for the following
(circle one) *(circle one)*

violations: _____
[Law or Rule(s)]

If suspended, the operation permit or certificate of completion remains suspended until violations are corrected. A hearing will be held prior to suspension or revocation if you file a petition for a hearing with the Office of Administrative Hearings, P. O. Drawer 27447, Raleigh, NC 27611-7447, in writing within the number of days specified above of your intent to attend the hearing. If you do not petition the Office of Administrative Hearings, the operation permit or certificate of completion will be suspended or revoked.

IMMEDIATE SUSPENSION OR REVOCATION OF PERMIT

This is to notify you of immediate suspension/revocation of your operation permit/certificate of completion for the following violations:
(circle one) *(circle one)*

_____
[Law or Rule(s)]

If suspended, the permit or certificate remains suspended until the violations are corrected. You will be notified of the day and location of a hearing on this suspension or revocation by a hearing officer from the Office of Administrative Hearings.

This the _____ day of _____, 19 _____.

_____ Agent
DIVISION OF ENVIRONMENTAL HEALTH

INSTRUCTIONS

Purpose: Article 11 of Chapter 130A requires the Commission for Health Services to adopt rules governing the design, construction, and operation of on-site wastewater systems. 15A NCAC 18A .1937 specifies that the local health department shall determine whether systems with an Operation Permit are operating properly at a frequency specified in Rule .1961, Table V(a), and that systems which exceed 3,000 gallons per day and other systems which are required to be designed by a professional engineer shall be reinspected annually. This form is developed to be used in making inspections of engineered subsurface wastewater systems.

Preparation: Local environmental health specialists shall complete the form every time they conduct an inspection. Prepare an original and two copies for:

1. Original to be left with the responsible person.
2. Copy for the local health department.
3. Copy for the On-Site Wastewater Section, Division of Environmental Health.

In the event the permit is suspended or revoked, complete the portion above.

Disposition: This form may be destroyed in accordance with Standard 7, Inspection Records, of the *Records Disposition Schedule* published by the N.C. Division of Archives and History.

Additional forms may be ordered from: On-Site Wastewater Section
Division of Environmental Health
P. O. Box 29594
Raleigh, NC 27626-0594
(Courier 52-01-00)

COPY

INSPECTION STATEMENT
MECKLENBURG COUNTY HEALTH DEPARTMENT

$85
ck# 4037
3/14/03

Howard E. Virkler
12345 Steele Creek Rd.
Charlotte, NC 28210

Please Make Check Payable To:

Mecklenburg County Health Department
700 N. Tryon Street Suite 211
Charlotte, NC 28202

Note: THIS COMPLETED FORM MUST ACCOMPANY PAYMENT!

DESCRIPTION OF PROPERTY

Name	Site Address	Tax Parcel	File Number	System Type
Howard E. Virkler	15826 Lake Ridge Rd.	21721228	1939B	IIIb
				Total Amount Due: $85.00

Please use the following space below, to make any corrections to property information.

Name HOWARD E. VIRKLER

Site Address 15826 LAKE RIDGE ROAD
CHARLOTTE, NC 28278

# of Bedrooms 4

THIS PROPERTY WILL SOON BE SERVICED BY CMUD WATER & SEWER AS SOON AS THE POLLARDS LINES OPEN FOR SERVICE.

BILL INFORMATION

Billing Date: 2/10/03

Payment Due Date: 3/10/03

Direct Questions Concerning This Bill to .....*(704) 336-5571*

☑ *Please check if you have a well.*

Make Check Payable To Mecklenburg County Health Department
Your Cancelled Check Is Your Receipt

DO NOT SEND CASH

0743

1939B

Dx 3/26/03

Parcel Ownership Summary

Parcel ID #: 21721228 GIS ID #: 21721228

Owner Name:	HOWARD E VIRKLER
Mailing Address:	12345 STEELE CREEK RD CHARLOTTE, NC 28210

Property Characteristics

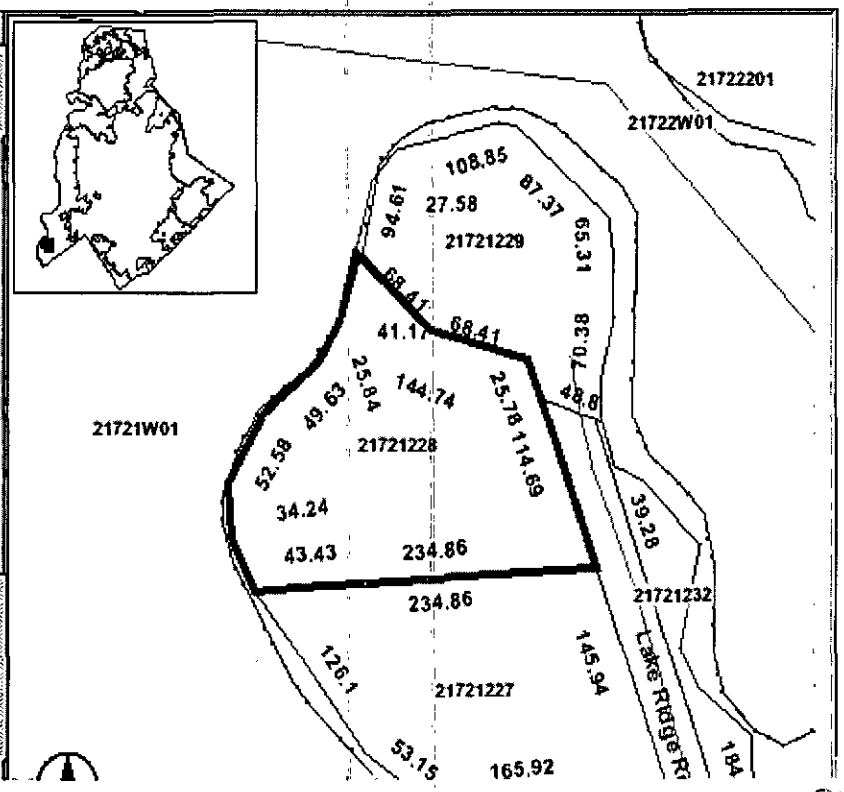
Legal Desc.:	L27 M30-515
Land Area:	1 WF
Fire District:	24-STEELE CREEK #2
Special District:	FIRE SERVICE A
Account Type:	INDIVIDUAL
Municipality:	0-MECKLENBURG COUNTY-UNINCORP.
Property Use:	SINGLE-FAM

Deed Reference(s) and Sales Price

- (12/7/1994) $0.00

Situs Addresses Tied to This Parcel

15826 LAKE RIDGE RD



*DRAINFIELD LOCATED AT LANGSTON & LAKE RIDGE RD

(W) PAID #85 ON 3/4/03

FIRST NOTICE MAILED ON 2/10/03

STEELE CRK N. CAD

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	655.89'	104.04'	52.13'	103.93'	S59°24'20"W	09°05'20"
C2	657.12'	150.08'	75.37'	149.75'	N70°40'34"W	13°05'08"
C3	657.12'	57.70'	28.87'	57.68'	N79°44'04"W	05°01'52"
C4	176.15'	192.05'	106.82'	182.68'	N51°01'00"W	62°28'00"
C5	70.00'	58.87'	31.30'	57.15'	N04°18'34"E	48°11'09"
C6	50.00'	152.76'	1156.27'	99.91'	N59°07'17"W	175°02'52"
C7	60.00'	165.09'	303.74'	117.73'	S50°25'24"E	157°39'05"
C8	60.00'	50.46'	26.93'	48.99'	S04°18'34"W	48°11'09"
C9	166.15'	181.14'	100.76'	172.31'	S51°01'00"E	62°28'00"
C10	667.12'	60.90'	30.47'	60.88'	S79°38'05"E	05°13'51"

PLAT NORTH
P.B. 17, PG. 503
DATED: 3-1-97

STATE OF NORTH CAROLINA
MECKLENBURG COUNTY

I certify that this map was drawn from an actual survey made under my supervision.
The unadjusted error of closure as calculated is 1:10,000+
Boundaries not surveyed, if any, are noted. Deed descriptions are recorded in Book AS SHOWN, Page

Witness my hand and seal this 7th day of NOVEMBER, 1997

James R. Hobbs
Registered Land Surveyor
L-3703

Lot 27
pipe run

NORTH CAROLINA REGISTERED SEAL L-3703 LAND SURVEYOR JAMES R. HOBBS

WARD E. VIRKLER
D.B. 8537, PG. 973
REC. LOT 28
SECTION 42
P.B. 17, PG. 503
REF. DWG. L.W. 42C

KLER BENT

DOUGLAS K. HILL
& WIFE
DEBRA P. HILL
D.B. 4108, PG. 0008
REC. LOT 26
SECTION 42
P.B. 17, PG. 503
REF. DWG. L.W. 42C

DUKE ENERGY CORPORATION
(WYLIE PROJECT)
(Wm. BOYD)
CAT-69, D.B. 553, PG. 10

Wm. C. PARLIER
& WIFE
N. C. PARLIER
D.B. 4012, PG. 639
REC. LOT 25
SECTION 42
P.B. 17, PG. 503
REF. DWG. L.W. 42C

CRESCENT RESOURCES, INC.
(Wm. BOYD)
CAT-69, D.B. 553, PG. 10
CAT-490, D.B. 3146, PG. 165
REC. LOT 25A
SECTION 42
P.B. 17, PG. 503
REF. DWG. L.W. 42C

CAROLINAS CENTERS LLC
P.B. 25, PG. 276
D.B. 7606, PG. 475
CAT. DWG. 638
REQUEST: 31843
(Wm. BOYD)
CAT-69, D.B. 553, PG. 10
CAT-490, D.B. 3146, PG. 165

AREA WITHIN 10' SEWER LINE EASEMENT
= 0.236 ACRES (10,287 SQ.FT.)

AREA =
1.290 ACRES
TAX ID: 217-166-01

1.222 ACRES
(CAROLINA CENTERS LLC)
(Wm. BOYD)
CAT-69, D.B. 553, PG. 10
CAT-490, D.B. 3146, PG. 165

CAROLINAS CENTERS LLC
P.B. 25, PG. 276
D.B. 7606, PG. 475
CAT. DWG. 638
REQUEST: 31843
(Wm. BOYD)
CAT-69, D.B. 553, PG. 10
CAT-490, D.B. 3146, PG. 165

CAROLINAS CENTERS LLC
P.B. 25, PG. 276
D.B. 7606, PG. 475
CAT. DWG. 638
REQUEST: 31843
(SALLIE ANDERSON, ET AL.)
CAT-48, D.B. 560, PG. 217
CAT-490, D.B. 3146, PG. 165

0.098 ACRE
(CAROLINA CENTERS LLC)
(SALLIE ANDERSON, ET AL.)
CAT-48, D.B. 560, PG. 217
CAT-490, D.B. 3146, PG. 165

LAKE RIDGE ROAD (60' ROAD R/W.)

LANGSTON DRIVE (60' ROAD R/W.)

TO CLUB ROAD & N.C. HWY. 49

EXISTING 30' ROAD R/W. LIMIT

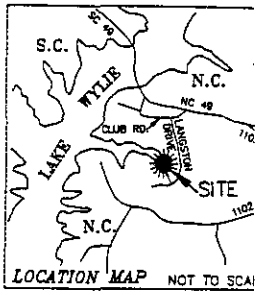
EXISTING 60' ROAD R/W. LIMIT

10' SEWER EASEMENT

P/L FOLLOWS ROAD R/W. LIMIT

C/L INTERSECTION

LOCATION MAP NOT TO SCALE



LEGEND
S SURVEYED
S NOT SURVEYED
LINES
DISTRIBUTION LINE
(OVERHEAD)
#4 REBAR(S) PK(S)
#4 REBAR(F) PK(F)
#5 REBAR(S) CON. MON.(F)
#5 REBAR(F) CON. MON.(S)
RETAIL POWER POLE

NOTE: ALL DISTANCES ARE HORIZONAL DISTANCES UNLESS OTHERWISE NOTED.

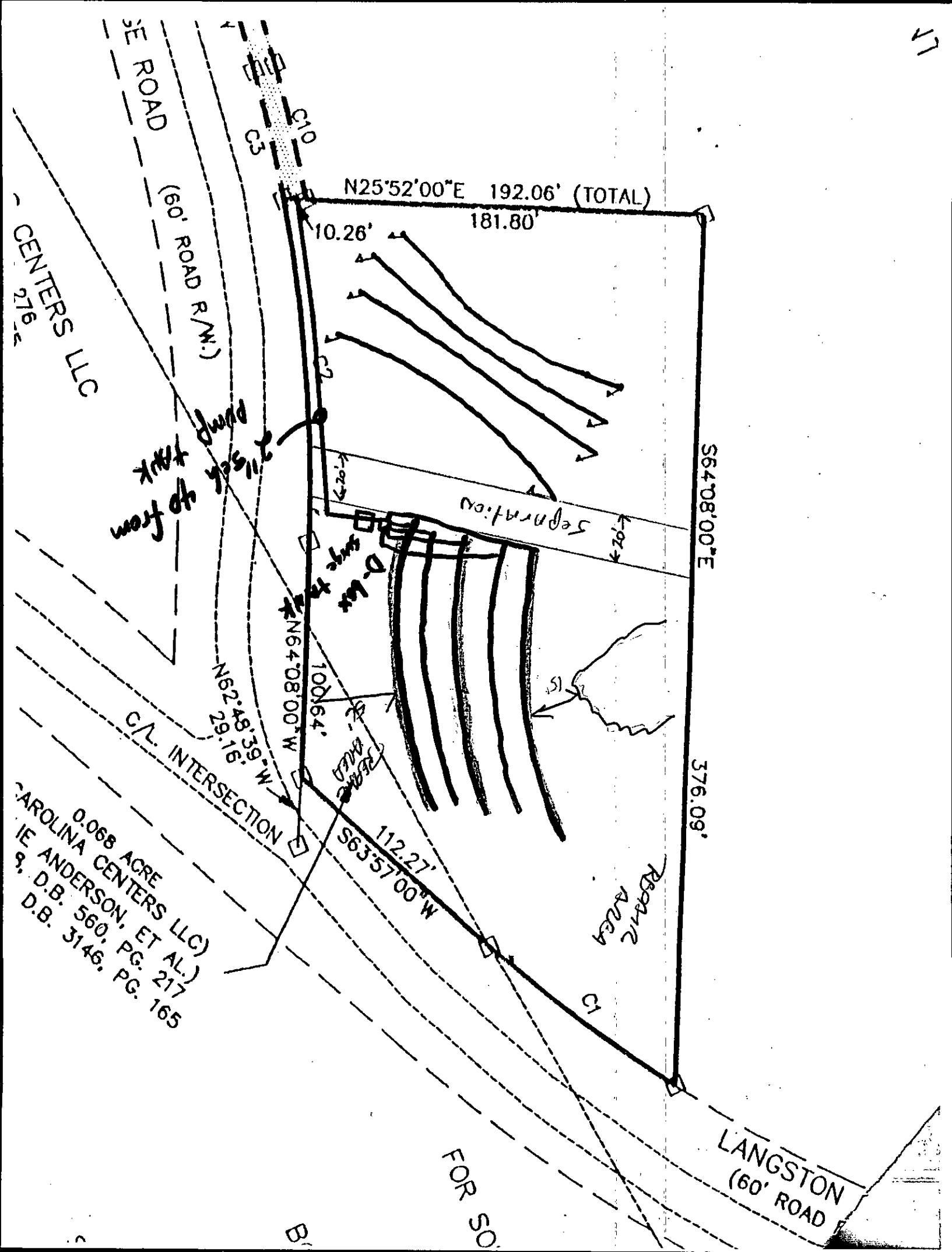
NOTE: AREA BY COORDINATE COMPUTATION.

NOTE: PROPERTY SUBJECT TO ANY VALID & ENFORCEABLE EASEMENTS, RESTRICTIONS & RIGHTS OF WAY OF RECORD.

REVISED: 11-3-97
10' SEWER EASEMENT
CHANGED AT 30' R/W.

FOR SOURCE OF TITLE REFER TO D.B.K. 7606, PG. 475.
PROPERTY OWNED BY
CAROLINA CENTERS LLC
WYLIE DEVELOPMENT
BOUNDARY SURVEY OF SEPTIC LOT FOR ADDITION TO
REC. LOT 27 - SECTION 42
AND 10' SEWER EASEMENT
STEELE CREEK TOWNSHIP
MECKLENBURG COUNTY, N.C.
SCALE: 1" = 100'
BOOK: 2305
OCTOBER 9, 1997
REQUEST: 96784

100 50 0 100 200 30
SCALE IN FEET


SE ROAD (60' ROAD R/W.)
CENTERS LLC
276
C10
C3
C2
C1
N25°52'00"E 192.06' (TOTAL)
181.80'
10.26'
S64°08'00"E
376.09'
N64°08'00"W
100.64'
N62°48'39"W
29.16'
112.27'
S63°57'00"W
20'
20'
Septmal:ou
Pump
Pump house
D-Box
Septic Area
Repair Area
C/L INTERSECTION
0.068 ACRE
(CAROLINA CENTERS LLC)
TO IE ANDERSON, ET AL.)
D.B. 560, PG. 217
D.B. 3146, PG. 165
LANGSTON
(60' ROAD
FOR SO

February 10, 2003

MECKLENBURG COUNTY
Health Department

Howard E. Virkler
12345 Steele Creek Road
Charlotte, NC 28210

Dear Mr. and Mrs. Virkler:

The North Carolina Administrative Code requires routine maintenance and inspections of certain septic tank systems that utilize pumps. Our records indicate that the required inspection of the Type IIIb septic system, which serves as the wastewater treatment and disposal system for the residence located at 15826 Lake Ridge Rd. is due.

> In accordance with Section .1900 of the North Carolina Administrative Code, North Carolina Department of Environment and Natural Resources, Division of Environmental Health, On-Site Wastewater Section, Subchapter 10A, Sanitation, states in part: " System management in accordance with Tables V(a) and V(b) of this Rule shall be required for all systems installed or repaired after July 1, 1992."

This department will be making inspections on all systems that fall under this requirement. The fee for this service is $85.00. In addition, if you have a well, a bacterial sample will be collected to help assess the quality of your water supply source. The water analysis will be performed at no additional cost.

The inspection program and the water analysis are very important initiatives intended to protect the public's health while improving and preserving our groundwater resources. We highly recommend and prefer that you contact our office to make an appointment for the inspection of your system. If we have not heard from you by February 26, 2003 we will proceed with our inspection activities on your property. You will be apprised of our assessments and recommendations for the continued efficient operation of your septic tank system.

To set up an appointment for an inspection, or if you should have any questions regarding this matter, please feel free to contact me at (704) 336-5571.

Sincerely,

David Cornelius, R.S.I., Coordinator
Managed Systems Program
Individual Water and Wastewater Systems

Enclosure: Inspection Statement

INSPECTION STATEMENT
MECKLENBURG COUNTY HEALTH DEPARTMENT

Howard E. Virkler
12345 Steele Creek Rd.
Charlotte, NC 28210

Please Make Check Payable To:

Mecklenburg County Health Department
700 N. Tryon Street Suite 211
Charlotte, NC 28202

Note: THIS COMPLETED FORM MUST ACCOMPANY PAYMENT!

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				Total Amount Due: $85.00

Please use the following space below, to make any corrections to property information.

Name _____

Site Address _____

_____

# of Bedrooms _____

BILL INFORMATION

Billing Date: 2/10/03

Payment Due Date: 3/10/03

Direct Questions Concerning This Bill to .....(704) 336-5571

☐ *Please check if you have a well.*

Make Check Payable To Mecklenburg County Health Department
Your Cancelled Check Is Your Receipt

DO NOT SEND CASH

CERTIFICATE OF COMPLETION/OPERATION PERMIT

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

FILE: 19395 DATE: 3/26/98

TC: 217-212-28 ☐ L ☒ CRT

SERIAL Nº 17417

9255A (112)

Name of Owner Howard Virklee Juris.:

Address of Property 15826 Lake Ridge Rd.

Inspection Data:

Tank Material PCC

Total Length of Drainfield '

Number of Lines 5 @ 108 ' Main

Cover Depth

Water Supply Source NOT INSTALLED YET WELL

Distance to Water Source

Excavation Inspected 4/14/98

Tank(s) Inspected 3/26/98

Wash Line Inspected

High Water Alarm Inspected 7/7/99 TBW

EXCAVATION INSPECTED BY JUDY KISER

PLOT

Design 1500 ST, 2000 PT, TONEY JACOBS PLAN CTR# RCS

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: Type III 4 3 bedroom

7/7/99 Electrical component Inspection only by Philo Walker

7/14/99 Left message for Tony Jacobs regarding septic system Inspection completion

Joni E Higgins R.S.
Environmental Health Specialist

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

Permit Number: 1939B

CONDITIONS OF IMPROVEMENT PERMIT

Tax Number: 217-212-28

- 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

.3 Long-term acceptance rate	480 Max gallons/day wastewater flow	1600 Absorption Area (sq ft)	9 Trench spacing (min. on centers)
yes Serviced by private well	1500 Gallon septic tank	480 Total trench length (ft)	36" Maximum trench depth (At least 12" of provisionally suitable soil must remain between trench bottom and unsuitable soil conditions)
4 Bedrooms in residence	1000 Gallon pump tank	12" Depth of stone	

Any surface waters present: yes Type: Minimum separation distance: 1950 (3) + (4)

Site modifications required:

Additional Conditions:
1. EASEMENTS RECORDED & DOCUMENTED.
2. COPY OF ABANDONMENT OF WELL WILL BE NECESSARY PRIOR TO INSTALLATION.
3. THERE SHALL BE NO CHANGES TO THIS PERMIT.
4. PLAN DESIGN BY TONEY JACOBS

Repair Area System Type Type (circle one): I II (III) IV V VI	✓ Conventional (PUMP-TO) ___ 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

1600 Absorption Area (Sq ft) 535 Total Trench Length (Ft)	12 Depth of Stone Trench	9 Trench spacing (min. on centers)	42" 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.

Dave Higgins Burney 11-14-97
DEHNR Authorized Agent Date

Owner/Agent Signature 11/14/97
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

CLK#502 P.D in full

FEE: 101.00 AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION
DATE: 11/14/97 VOID SIXTY (60) MONTHS FROM DATE OF ISSUANCE

DATE: 11-14-97 PERMIT NO: 217-212-28
PARCEL NO: 1939B

JOB LOCATION ADDRESS: 15826 Lake Ridge Rd.
PROPERTY OWNER: Howard Vinkler
BUILDING CONTRACTOR:
SUBDIVISION NAME:
AUTHORIZATION ISSUED BY: Dawn Hayes Burris R.S. DATE: 11-14-97
DEHNR AUTHORIZED AGENT

AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NO. 1939B, 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: ① Copy of well abandonment completion required prior to installation approval.
② This permit is valid for 5 years from date of issuance.

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.

SIGNATURE OF OWNER/OWNER'S REPRESENTATIVE — DATE 11/14/97

NO TITLE OPINION RENDERED AND
NO CLOSING HELD BY PREPARING ATTORNEY

COPY

FILE COPY	
FILED FOR REGISTRATION	DOC. # 59
DATE 11/14/97	TIME 9:51
BOOK 9351	PAGE 633
STAMPS 40.00	REC FEE 60.00
JUDITH A. GIBSON REGISTER OF DEEDS MECKLENBURG COUNTY, NC	

Recording Time, Book and Page

Purchase Price: $20,000.00

Revenue Stamps: $40.00

Tax Lot No.: _____ Parcel Identifier No. 217-161-01 (P/O 217-212-32; to be made a P/O 217-212-28

Verified by _____ County on the _____ day of _____, 19__

by _____

Mail after recording to: Grantee

This instrument was prepared by: Mark L. Childers, Attorney at Law

Brief description for the Index: 1.290 acre tract on Lake Ridge Road and Langston Drive, Mecklenburg County, NC

*** NORTH CAROLINA SPECIAL WARRANTY DEED ***

THIS DEED made this 14th day of November, 1997, by and between

GRANTOR	GRANTEE
CAROLINA CENTERS, LLC AND CRESCENT RESOURCES, INC. P. O. Box 1003 Charlotte, NC 28201-1003	HOWARD E. VIRKLER c/o Virkler Company 12345 Steele Creek Road Charlotte, NC 28273

This property was conveyed to Grantor as "Crescent Land and Timber Corp." Grantor's name was changed effective August 1, 1989, Crescent Resources, Inc., by Articles of Amendment filed in the office of the South Carolina Secretary of State and by Application f Amended Certificate of Authority filed in the office of the North Carolina Secretary of State.

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall inclu singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, has a by these presents does grant, bargain, sell and convey unto the Grantee in fee simple, all that certain lot or parcel of land situated in Ste Creek Township, Mecklenburg County, North Carolina and more particularly described as follows:

BEING all of that certain tract of land containing 1.290 acres, more or less, which is located in Steele Creek Township, Mecklenbu County, North Carolina, at the northwest corner of the intersection of the 60 foot right of way for Lake Ridge Road and the 60 foot rig of way for Langston Drive, as shown on a certain survey prepared by Duke Energy Corporation dated October 9, 1997 and revis November 3, 1997, said survey being attached hereto as Exhibit A and incorporated herein by reference, reference to said survey bei made for a more particular description of said tract.

TOGETHER WITH an easement through, under and across that certain 10 foot wide strip of land containing 0.236 acre which ru between Lot 27, Section 42 of Crescent Resources, Inc.'s Lake Wylie Recreation Lots (See Plat Book 17, Page 503, Mecklenburg Cour Registry) and the above described 1.290 acre tract of land, said easement to be for the purposes of installing, maintaining, repairing a using a sewer line and appurtenant equipment for the flowage, pumping and transporting of sewage from said Lot 27 and Lot 28, Secti 42 to the septic sewer nitrification field on the above-described 1.290 acre tract, said easement being more fully depicted and describ on the certain survey prepared by Duke Energy Corporation dated October 9, 1997 and revised November 3, 1997, said survey bei attached hereto as Exhibit A incorporated herein by reference.

AND BEING a portion of the land conveyed to Grantor as follows: From Crescent Resources, Inc. to CLT Development Corp. recorded in Book 7592, Page 832 and Crescent Resources, Inc. and CLT Development Corp. to Carolina Centers, LLC recorded in Book 7606, Page 475; and Timber Deed recorded in Book 8074, Page 687, all of the Mecklenburg County Registry.

This conveyance is made subject to the following covenant and restriction which shall run with the land and be binding upon Grantee Grantee's heirs and assigns. Said reservation and restriction may be modified or abrogated at any time by and with mutual written consen of the Grantor or its successors and the then current owner or owners of the lot herein conveyed. Nothing herein shall be held to impose any restriction on any land of Grantor not hereby conveyed.

The 1.290 acre tract of land hereinabove conveyed (hereinafter "Property") shall be used by the Grantee, Grantee's heirs and assigns, only for the purpose for installing, maintaining, using a septic sewer nitrification field serving only Recreation Lot 27 and Lot 28, Section 42 Lake Wylie, as shown on plat dated August 22, 1975, recorded in Plat Book 17, Page 503, in the office of the Register of Deeds fo Mecklenburg County. Grantee, Grantee's heirs and assigns, shall have the right to construct, install, excavate, build, maintain, operate remove and re-install a septic sewer nitrification field and related equipment on the Property. Following any earth disturbing activity o the Property, Grantee, Grantee's heirs and assigns, shall promptly and reasonably restore any portion of the surface of the Property s disturbed and shall stabilize the disturbed area by planting and maintaining appropriate ground cover. Grantee, Grantee's heirs and assigns shall maintain the Property in a clean and safe condition and shall be responsible for mowing the grass or other ground cover locate thereon. No building, structure, equipment, vehicles or other personal property or improvements may be placed upon or stored upon th Property other than the septic system nitrification field as set forth herein.

In the event the septic nitrification field to be constructed on the Property is no longer needed to serve the said Lot 27 and Lot 28, Sectic 42 above described, then in such event, the Property may be used for residential purposes subject to the following additional covenan and restrictions: This tract conveyed herein shall become a part of Lot 27, Section 42, Lake Wylie Recreation Lots and shall be subje to all easements, reservations, conditions and restrictions set out in the deed conveying Lot 27, Section 42, to Howard E. Virkler and wif Susan I. Virkler, as appears of record in Book 6501, Page 722, Mecklenburg County Registry.

By accepting this deed Grantee signifies his understanding that Duke Power Company has certain privilege and easemen affecting the property hereby conveyed which include the right, privilege and easement of backing, ponding, raising, flooding or divertir the waters of the Lake Wylie and its tributaries upon and over said property, as more specifically described in the deed from Duke Pow Company to the Grantor recorded in the office of the Register of Deeds in the aforesaid County.

This conveyance is made subject to those certain flood easements to Duke Power Company (now Duke Energy) to flood to t 580 ft. contour line reserved in Deed Book 3146, Page 165, Mecklenburg County Registry; and subject to that certain 10 ft. sew easement as shown on the attached plat.

TO HAVE AND TO HOLD the aforesaid tract of land and all privileges and appurtenances thereto belonging to said Grant and Grantee's heirs, successors and assigns, to their only use and behoof forever, except that this conveyance is made subject to t easements, reservations, conditions and restrictions set out above and to all other conditions, easements, reservations and restrictions record.

And the said Grantor for itself and its successors and assigns covenants with the said Grantee and Grantee's heirs, successors a assigns, that it is seized of said premises in fee and has right to convey the same in fee simple; that the same is free and clear from encumbrances and that it will warrant and defend the title against the lawful claims of all persons claiming by, under and through Grant except for the exceptions hereinafter stated except this conveyance is made subject to the reservations, easements, conditions a restrictions set out above or of record and to the taxes for the current year which Grantee hereby assumes and agrees to pay.

IN WITNESS WHEREOF, the Grantor has hereunto set his hand and seal, or if corporate, has caused this instrument to be signed in its corpor name by its duly authorized officers and its seal to be hereunto affixed by authority of its Board of Directors, the day and year first above written.

CAROLINA CENTERS, LLC

By: Crescent Resources, Inc.
Member and Manager

By: Ronald M. Bost
Ronald M. Bost
Its: Sr. Vice President

ATTEST: Ethelene G. Williams
Assistant Secretary

(SEAL)

CRESCENT RESOURCES, INC.

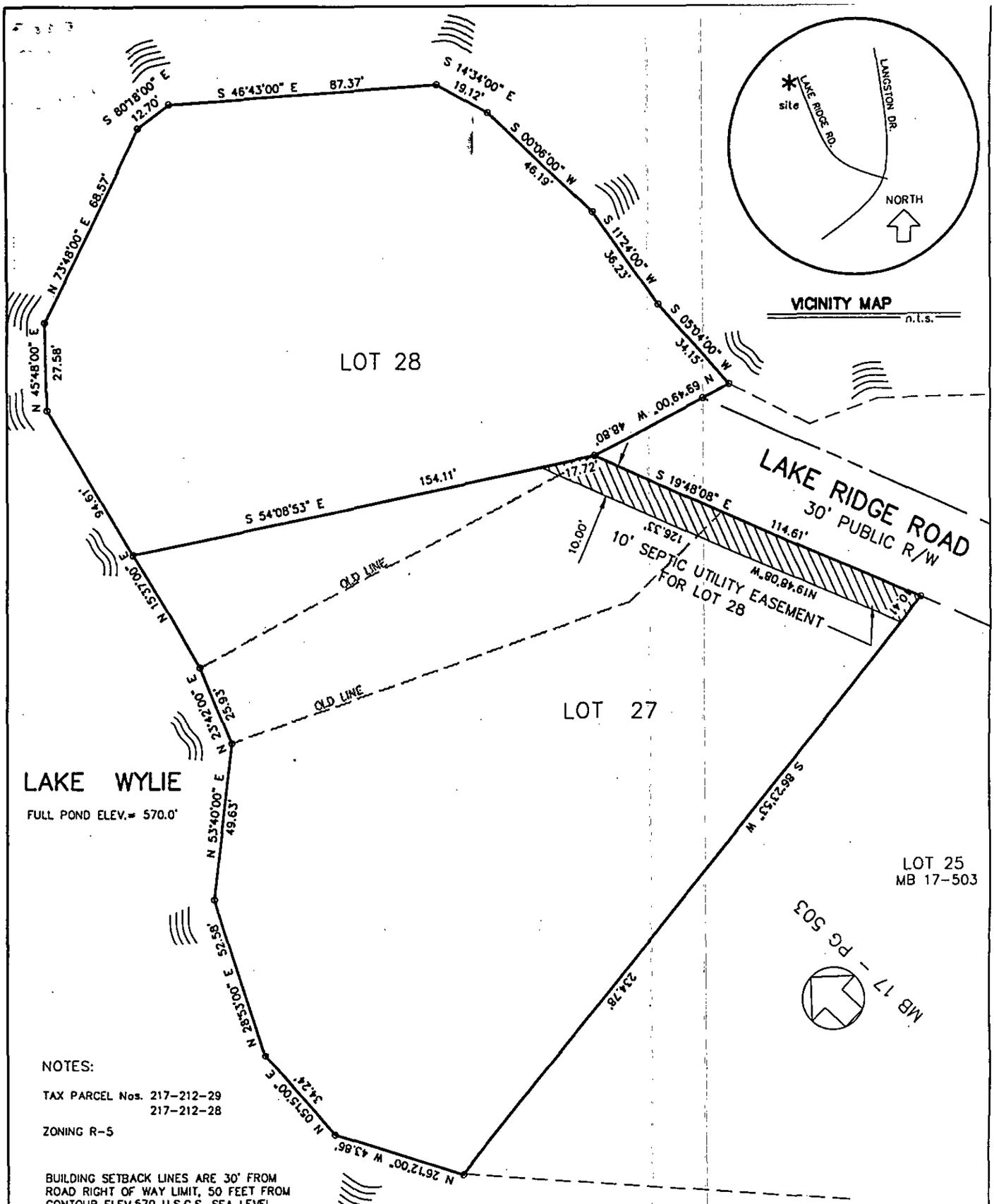
By: Richard C. Ranson
Richard C. Ranson
Chairman and Chief Executive Officer

ATTEST: Ethelene G. Williams
Assistant Secretary

(SEAL)

NORTH CAROLINA, MECKLENBURG COUNTY

I, a Notary Public of the County and State aforesaid, certify t Ethelene G. Williams personally came before me this day and acknowledged t he is Assistant Secretary of CRESCENT RESOURCES, INC., Member and Manager CAROLINA CENTERS, LLC, a North Carolina limited liability company, and that authority duly given and as the act of the corporation, the foregoing instrument was sign



VICINITY MAP
n.t.s.

NOTES:

TAX PARCEL Nos. 217-212-29
217-212-28

ZONING R-5

BUILDING SETBACK LINES ARE 30' FROM ROAD RIGHT OF WAY LIMIT, 50 FEET FROM CONTOUR ELEV.570 U.S.G.S. SEA LEVEL DATUM, AND 10 FEET FROM SIDE LOT LINE. PER MB 17-PG 503

THIS PROPERTY MAY BE SUBJECT TO EASEMENTS AND OR RIGHTS-OF-WAY EITHER RECORDED OR IMPLIED.

F.E.M.A.- F.I.R.M. INFORMATION

COMMUNITY-PANEL NUMBER 370158 0170 B
ZONE X, A
MAP REVISED: FEBRUARY 3, 1993

THIS MAP IS NOT A CERTIFIED SURVEY AND NO RELIANCE MAY BE PLACED IN ITS ACCURACY.

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

Review Officer _____ Date 11/14/97

FLOOD STATEMENT

THIS IS TO CERTIFY THAT THE LOCATION OF THE SUBJECT PROPERTY HAS BEEN CHECKED AGAINST AREA FEMA/FIRM MAPS AND THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT A PORTION OF THE SUBJECT PROPERTY IS LOCATED IN A SPECIAL FLOOD HAZARD AREA A OR B, HOWEVER NO PORTION OF THE DWELLING STRUCTURE IS LOCATED IN A SPECIAL FLOOD HAZARD AREA.

LEGEND

O	PROPERTY CORNER
F	FOUND
S	SET
#4b	No. 4 REBAR
#5b	No. 5 REBAR
CM	CONTROL MONUMENT
R/W	RIGHT OF WAY

0" 1" SCALE: 1" = 40 '

Lucas-Forman Incorporated
Land Surveying
Planning & Engineering
4000 Stuart Andrew Boulevard
Charlotte, North Carolina 28217
P.O. Box 11386 28220-1386
(704) 527-6626 Fax 527-9640

SEPTIC UTILITY EASEMENT EXHIBIT
of
15832 LAKE RIDGE ROAD
Charlotte, Mecklenburg County, N.C.

LOT 27&28 BLOCK ____ MAPBOOK 17 PAGE 503
SUBDIVISION ____
DEED REFERENCE: 6350-269
for
HOWARD VIRKLER

DRAWN: DATE: 11-13-97 REV. 0
UPDATE:

SEAL

PRELIMINARY PLAT
NOT FOR RECORDATION, CONVEYANCES, OR SALES

JOB# 97409 FILE# 551

in name by Ronald M. Bost, Sr. Vice President, sealed with its corporate seal and attested by her as its Assistant Secretary.

Witness my hand and official stamp or seal, this 14th day of November, 1997.

My Commission Expires: _____

_____
Notary Public

NORTH CAROLINA, MECKLENBURG COUNTY

I, a Notary Public of the County and State aforesaid, certify that Ethelene G. Williams personally came before me this day and acknowledged that he is Assistant Secretary of CRESCENT RESOURCES, INC., a South Carolina corporation and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in name by Richard C. Ranson, Chief Executive Officer, sealed with its corporate seal and attested by her as its Assistant Secretary.

Witness my hand and official stamp or seal, this 14th day of November, 1997.

My Commission Expires: _____

_____
Notary Public

The foregoing Certificate(s) of _____ is/are certified to be correct. This instrument and this certificate are duly registered at the date and time and in the Book and Page shown on the first page hereof.

_____ REGISTER OF DEEDS FOR _____ COUNTY

By: _____ Deputy/Assistant-Register of Deeds

Mecklenburg County
Health Department

TELECOPIER TRANSMITTAL COVER SHEET

NOTICE

THE INFORMATION CONTAINED IN THIS TELECOPY MAY BE PRIVILEGED AND/OR CONFIDENTIAL AND IS INTENDED ONLY FOR THE USE OF THE PERSON TO WHOM IT IS ADDRESSED. IF THE READER OF THIS MESSAGE IS NOT THE INTENDED RECIPIENT (OR SUCH RECIPIENT'S EMPLOYEE OR AGENT), YOU ARE HEREBY NOTIFIED NOT TO READ, DISTRIBUTE OR COPY THE MATERIALS ATTACHED HERETO WITHOUT THE PRIOR WRITTEN CONSENT OF THE SENDER. IF YOU HAVE RECEIVED THIS TELECOPY IN ERROR, PLEASE NOTIFY THE SENDER BY TELEPHONE CALL AND RETURN THE ORIGINAL TELECOPY TO US BY MAIL AND WE WILL REIMBURSE YOU FOR THE REQUIRED POSTAGE. THANK YOU.

TO: Todd Ledger TELECOPIER # (704) 849-9337
Ledger General Contractors

FROM: Toni Bunney DATE 11.3.97
TWWS Program

NUMBER OF PAGES TRANSMITTED: 5 (including cover sheet)

COMMENTS:
Per your request

If you do not receive all pages, please call us as soon as possible at the following number: (704)336-5102.

[X] Original will not follow [ ] Original will follow via:

[ ] U.S. Mail [ ] Hand Delivery [ ] ____

Environmental Health Division
700 North Tryon Street • Suite 211 • Charlotte, North Carolina 28202-2236

FEE: 200.00 CK # 2514 APPLICATION FOR IMPROVEMENT PERMIT FOR RESIDENTIAL SITE INDIVIDUAL WATER AND WASTEWATER SYSTEMS PROGRAM 2nd Site Evaluation $75.00 check 6/9/97 1 ICRT

DATE: 5/28/97 JC

TYPE APPLICATION: X NEW SYSTEM ~~X~~ 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 #: 19393

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION:

TAX/PARCEL NUMBER: 217-212-28

STREET ADDRESS: ~~15832~~ LAKE RIDGE RD 15826

SUBDIVISION OR MOBILE HOME PARK NAME:

LOT NUMBER: 27 / SECTION 42 / MB 17 / Pg 503

TYPE OF BUILDING (CHECK ONE):

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

TOWNSHIP (CHECK ONE):

X 0 MECKLENBURG
___ 1 CHARLOTTE
___ 2 DAVIDSON
___ 3 CORNELIUS
___ 4 PINEVILLE
___ 5 MATTHEWS
___ 6 HUNTERSVILLE
___ 7 MINT HILL
1 STEEL CREEK TOWNSHIP

HEATED SQUARE FOOTAGE: 7000

NUMBER OF BEDROOMS: 4 NUMBER OF OCCUPANTS: 4

CLOSING DATE _____

FOUNDATION FOR RESIDENCE:

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

IF EXPANSION/ALTERATION OF EXISTING SYSTEM, DESCRIBE THE PROPOSED BUILDING ADDITION: Additional Brms in new House
REMOVING EXISTING HOUSE AND REPLACE W/NEW HOUSE

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

WATER SUPPLY (CHECK ONE):
___ COMMUNITY (C)
___ MUNICIPAL (M)
X 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: HOWARD VIRKLER

NAME: VIRKLER (LAST) HOWARD (FIRST) (MI)

ADDRESS: 15832 LAKE RIDGE RD

CITY: STATE: NC ZIP:

DAYTIME PHONE: ( ) 704 - 849-9339

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:

NAME: (LAST) (FIRST) (MI)

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: [signature] DATE: 5/28/97

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: 1939B

TC: 217-212-28

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.

SEE ATTACHED DWG.

OWNER/AGENT SIGNATURE

DATE 5/28/97

APPROVAL DATE _____

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

Mecklenburg County
Health Department

July 23, 1997

Howard Vickler
15832 Lake Ridge Road
Charlotte, NC 28214

Re: 15826 Lake Ridge Road
File: 1939B (tax parcel 217-212-28)

Dear Mr. Vickler:

Receipt of the plans and specifications for a ground absorption system of sewage disposal for the above property is hereby acknowledged. Upon receipt of the information, a review was made of the material on file and a soil/site evaluation was conducted. The plan was then reviewed in conjunction with provisions of 15 NCAC 18A, .2900, "Laws and Rules for Sanitary Sewage Collection, Treatment and Disposal".

The results of the evaluation, a copy of which is attached, indicate that the site is **UNSUITABLE** for installation of a ground absorption sewage system for the following reasons:

.1943 SOIL DEPTH
(a) Soil depth - saprolite 6 inches - 24" deep from soil surface.

.1945 AVAILABLE SPACE
(a) Sites shall have sufficient available space to permit the installation and proper functioning of ground absorption sewage treatment and disposal systems, based upon the square footage of nitrification field required for the application rate determined in accordance with these Rules.
(b) Sites shall have sufficient available space for a repair area equal to the area determined in Rule .1945 (a) of this Section.

Due to the limitations on your site, this Department is not aware of any modifications or alternative measures that can be implemented to upgrade the classification from "unsuitable" to "provisionally suitable." Your application for an improvement permit must, therefore, be denied.

You have the right to an informal review of this decision by the environmental health supervisor of this health department and also by the regional staff of the Department of Environment, Health, and Natural Resources. You should contact the health department to arrange for this further review.

Environmental Health Division
700 North Tryon Street • Suite 211 • Charlotte, North Carolina 28202-2236

You may also wish to obtain the services of a private consultant to collect site-specific data and submit such data and a system design to the health department for technical review. A site may be reclassified to provisionally suitable provided written documentation, including engineering, hydrogeologic, geologic, or soil studies indicates to the local health department that a proposed septic tank system or a proposed alternative system can reasonably be expected to function satisfactorily.

The substantiating data from these studies must indicate that:

A. The effluent (wastewater) will receive adequate treatment;

B. The effluent (wastewater) will not contaminate any ground water or surface water; and

C. The effluent (wastewater) will not be exposed on the ground surface or be discharged to surface waters where it could come into contact with people, animals or vectors.

Finally, you may wish to utilize the Applicability Rule .1962 of NC code for Laws & Rules For Sewage Treatment and Disposal Systems which states: The provisions of this Section shall not apply to properly functioning sewage collection, treatment and disposal systems in use or for which a valid permit to install a system has been issued prior to July 1, 1977. There is an existing three-bedroom residence on this lot with a septic tank system. At the time of our meeting, the septic system showed no visible signs of malfunction. You may utilize this system by abandoning this house, building a new three bedroom house and maintaining 5 feet off the septic system with the building foundation.

Please call 336-5572 or write this office if you have questions or need additional assistance.

Sincerely,

Toni Higgins Bunney, R.S.
Individual Water and Wastewater Systems

Enclosure

PROPOSED PLOT PLAN

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

FILE: 1939B

TC: 217-212-28

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.

SEE ATTATCHED DWG.

OWNER/AGENT SIGNATURE

DATE 5/28/97

APPROVAL DATE _____

White - Health Department's Copy

Canary - E.H.S. Copy

Pink - Owner's Copy

GRAVITY DISTRIBUTION CONVENTIONAL SYSTEM

PUMPED TO OFF-SITE EASEMENT

FOR

15826 LAKE RIDGE ROAD (LOT 27)

MECKLENBURG COUNTY, NORTH CAROLINA

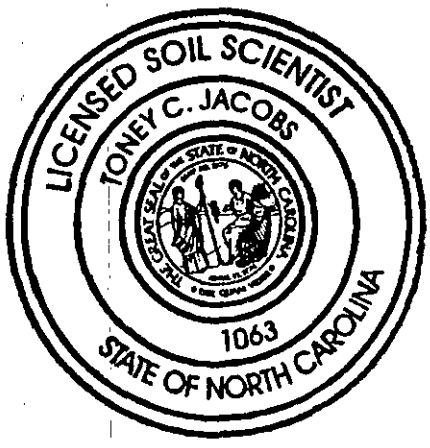
MCHD FILE NO. 1939B TAX ID NO. 217-212-28

by

Toney C. Jacobs & Associates, Inc.
Consulting Soil Scientists
168 Broadbill Drive
Mooresville, N.C. 28115

November 6, 1997





To: Ms. Toni Bunney, R.S.
Mecklenburg County Health Dept.
Charlotte, NC

Mr. Howard Virkler
12345 Steele Creek Rd.
Charlotte, N. C.

Toney C. Jacobs, CPSS

15826 Lake Ridge Rd - Lot 27

GRAVITY DISTRIBUTION CONVENTIONAL SYSTEM

Design Considerations

The proposed system is for a new 4-bedroom waterfront home on a 0.56-acre lot in a rural area of single family homes in southern Mecklenburg County along Lake Wylie. Until recent weeks there was a small home on the lot served by a ground absorption system. The lot was thoroughly investigated by 12 backhoe pits in the hope of finding usable soil or saprolite and none could be found. Due to an aggressive site plan which includes a large home, parking pad, garage, and unsuitable soil the lot will not support an on-site septic system; therefore, the owner, Mr. Howard Virkler, has purchased an easement parcel for a septic area (maps enclosed). This provisionally suitable area is approximately 1050' up the street from the lot and was the closest provisionally suitable septic area. The property was recorded prior to January 1983; however, because of the added septic the 100% repair area is now required and shown in this plan.

Soils were evaluated by both Mr. Bill Marlin of the Mecklenburg County Health Department and Toney C. Jacobs & Associates. The system layout was by Toney C. Jacobs & Associates. The site was sufficiently sized to accommodate a conventional gravel trench system with gravel or chamber repair should such be needed. It is planned that a second Improvements Permit will be requested for a part of this parcel and greater than 20' away to serve an existing home on lot 28, also owned by Mr. Virkler. This request will be concurrent with this permit. The lot, easement, septic easement, and septic system drainfield were flagged in the field as shown in Figure 1. The system will be pumped to a surge tank, gravity to d-box, and conventional system, using 5 x 108' lines. During construction and tree removal precautions should be taken to prevent damaging the system area. System location was chosen to give a wide aerial window (≈130') and to disturb as few specimen trees as possible. The pump supply line is on an easement supplied by CRI and not DOT right-of-way. Supply pipe will have > 36" of cover and be schedule 80 leakproof PVC while in the road section near the lake, and one off-site well and schedule 40 PVC in the woods run. Setbacks to the lake and well are observed for leakproof pipe. The pipes must be pressure tested to specifications included with this plan.

Mecklenburg County
Health Department

TELECOPIER TRANSMITTAL COVER SHEET

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TO: Todd Ledger TELECOPIER # (704) 849-9337
Ledger General Contractors

FROM: Tori Bunney DATE 11.3.97
TWWS Program

NUMBER OF PAGES TRANSMITTED: 5 (including cover sheet)

COMMENTS: Per your request

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[X] Original will not follow [ ] Original will follow via:

[ ] U.S. Mail [ ] Hand Delivery [ ] ____

State of North Carolina
Department of Environment,
Health and Natural Resources
Mooresville Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary

DEHNR

DIVISION OF ENVIRONMENTAL MANAGEMENT

Well Abandonment Procedures

The State of North Carolina has rules which dictate the manner in which wells are to be permanently sealed or abandoned. This document is intended to provide you with information regarding proper abandonment procedures.

FOR DRILLED WELLS:

15A NCAC 2C .0113(a)(2) requires that drilled wells (such as 2 or 6-inch diameter casing) be abandoned in accordance with the following procedures:

(1) The entire depth of the well should be sounded before it is sealed to insure freedom from obstructions that may interfere with the sealing operation.

(2) The well shall be thoroughly disinfected with chlorine prior to sealing.

(3) The well may be filled with cement, sand or gravel opposite the zones of consolidated rock. The top of the sand or gravel fill shall be at least five feet below the top of the consolidated rock, which is usually the casing depth. The remainder of the well shall be filled with cement grout only.

(4) The outer well casing must be grouted to a minimum depth of 20 feet or removed prior to abandonment.

FOR BORED OR DUG WELLS:

15A NCAC 2C .0113(a)(2)(E) requires that a bored well be permanently abandoned by completely filling the well to land surface with cement grout or clean, dry clay compacted in place. The well must be thoroughly disinfected with chlorine prior to being filled.

FOR ALL ABANDONED WELLS:

15A NCAC 2C .0114(b)(1) requires that any person abandoning any well shall submit a record of abandonment to this Department within a period of thirty (30) days after completion of the abandonment.

Attached you will find a well abandonment record and a chlorination table for your use in the abandonment of wells. Should you have any further questions regarding well abandonment, please call the Mooresville Regional Office, Groundwater Section at (704) 663-1699. CHUCK + PEGGY. —

November, 1993

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT, HEALTH, AND NATURAL RESOURCES
GROUNDWATER SECTION

Chlorine Table for Sterilization of Wells
(Based on Seventy Percent (70%) Available Chlorine)

Well Diameter	2 in.		4 in.		6 in.		8 in.		12 in.	
Feet of Water in Well	Amount of 70% Chlorine needed to produce a residual of at least 100 parts per million in the well.									
	Amt. in Granular Form	Number of Tablets	Amt. in Granular Form	Number of Tablets	Amt. in Granular Form	Number of Tablets	Amt. in Granular Form	Number of Tablets	Amt. in Granular Form	Number of Tablets
1	1 Tbls.	1	1 Tbls.	1	1 Tbls.	1	1 Tbls.	1	1 Tbls.	1
2	1 Tbls.	1	1 Tbls.	1	1 Tbls.	1	1 Tbls.	1	1 Tbls.	1
3	1 Tbls.	1	1 Tbls.	1	1 Tbls.	1	1 Tbls.	1	1 Tbls.	2
4	1 Tbls.	1	1 Tbls.	1	1 Tbls.	1	1 Tbls.	2	1 Tbls.	3
5	1 Tbls.	1	1 Tbls.	1	1 Tbls.	1	1 Tbls.	2	1 Tbls.	4
10	1 Tbls.	1	1 Tbls.	1	1 Tbls.	2	1 Tbls.	4	2 Tbls.	7
20	1 Tbls.	1	1 Tbls.	1	1 Tbls.	4	2 Tbls.	7	¼ Cup	14
30	1 Tbls.	1	1 Tbls.	2	2 Tbls.	6	3 Tbls.	10	⅓ Cup	22
40	1 Tbls.	1	1 Tbls.	2	2 Tbls.	7	½ Cup	14	½ Cup	30
50	1 Tbls.	1	1 Tbls.	3	3 Tbls.	9	¼ Cup	18	⅔ Cup	39
100	1 Tbls.	2	2 Tbls.	6	¼ Cup	17	½ Cup	35	1¼ Cup	77
200	1 Tbls.	4	3 Tbls.	12	½ Cup	35	1¼ Cup	70	3 Cup	144
300	2 Tbls.	7	¼ Cup	17	1 Cup	55	2 Cup	105	1 Qt.	231
400	3 Tbls.	9	½ Cup	21	1¼ Cup	73	2½ Cup	140	1¼ Qt.	308
500	3 Tbls.	11	½ Cup	28	1¾ Cup	91	3 Cup	175	2 Qt.	385

Tbls. = Tablespoon
Qt. = Quart
Gal. = Gallon

CHLORINE TABLE FOR STERILIZATION OF WELLS

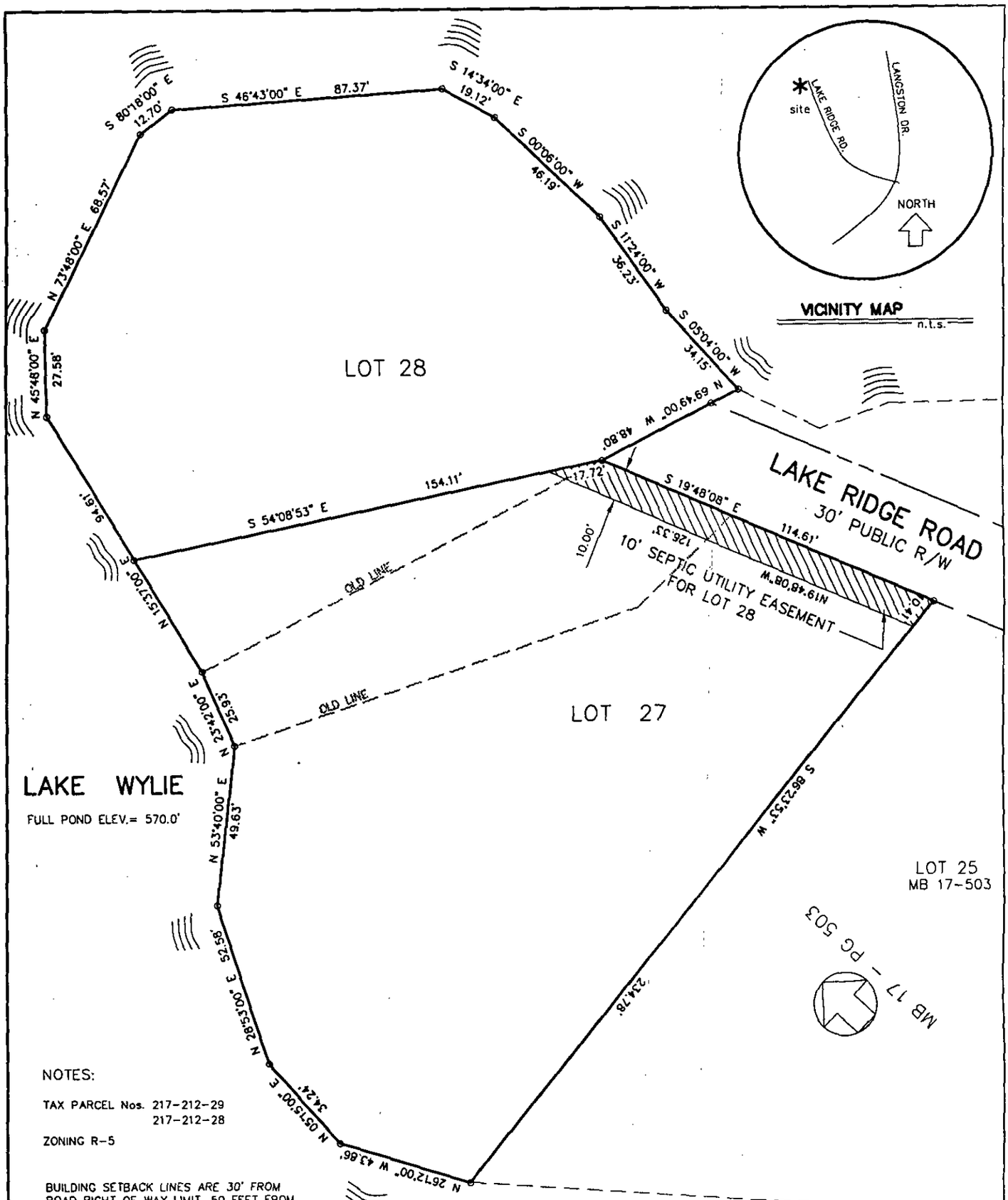
(Based on Seventy Percent (70%) Available Chlorine)

Well Diameter	18 in.		20 in.		24 in.		30 in.		36 in.	
Feet of Water in Well	Amount of 70 % Chlorine needed to produce a residual of at least 100 parts per million in the well.									
	Amount in Cups	Number of Tablets	Amount in Cups	Number of Tablets	Amount in Cups	Number of Tablets	Amount in Cups	Number of Tablets	Amount in Cups	Number of Tablets
1	¼ Cup	2	¼ Cup	2	¼ Cup	3	¼ Cup	5	¼ Cup	7
2	¼ Cup	3	¼ Cup	4	¼ Cup	6	¼ Cup	10	¼ Cup	14
3	¼ Cup	6	¼ Cup	7	¼ Cup	10	¼ Cup	15	½ Cup	21
4	¼ Cup	7	¼ Cup	9	¼ Cup	12	¼ Cup	20	½ Cup	28
5	¼ Cup	9	¼ Cup	11	¼ Cup	16	½ Cup	25	¾ Cup	34
10	¼ Cup	18	½ Cup	21	½ Cup	31	1 Cup	49	1¼ Cups	69
20	½ Cup	35	¾ Cup	44	1 Cup	62	2 Cups	101	2½ Cups	140
30	1 Cup	53	1¼ Cups	67	1½ Cups	95	2¾ Cups	146	1 Qt.	213
40	1½ Cup	73	1½ Cups	90	2 Cups	123	3½ Cups	196	1¼ Qt.	286
50	1¾ Cup	90	2 Cups	112	3 Cups	157	1 Qt.	246	1½ Qt.	353
100	3 Cups	179	1 Qt.	218	1½ Qt.	314	2¼ Qt.	493	3¼ Qt.	706
200	1¾ Cups	353	2 Qt.	437	2¾ Qt.	627	1¼ Gal.	986	1½ Gal.	1417
300	2¼ Cups	532	3 Qt.	655	1 Gal.	941	1½ Gal.	1473	2¼ Gal.	2122
400	3 Qt.	706	1 Gal.	874	1½ Gal.	1260	2¼ Gal.	1966	3 Gal.	2834
500	1 Gal.	885	1¼ Gal.	1092	1¾ Gal.	1574	2¾ Gal.	2458	4 Gal.	3539

WEIGHT FORMULA: Ounces = $\frac{\text{(ppm Chlorine residual) x (8.34) x (gallons of water) x (16)}}{\text{(1,000,000) x (percent chlorine)}}$

Measures:
7 Tablets = 1 Ounce
2 Cups = 1 Pint
2 Pints = 1 Quart
4 Quarts = 1 Gallon

NOTE: This table does not apply for chlorox, B.K. Powder or any other chlorine product with less than 70% available chlorine.



VICINITY MAP
n.t.s.

NOTES:

TAX PARCEL Nos. 217-212-29
217-212-28

ZONING R-5

BUILDING SETBACK LINES ARE 30' FROM ROAD RIGHT OF WAY LIMIT, 50 FEET FROM CONTOUR ELEV.570 U.S.G.S. SEA LEVEL DATUM, AND 10 FEET FROM SIDE LOT LINE. PER MB 17-PG 503

THIS PROPERTY MAY BE SUBJECT TO EASEMENTS AND OR RIGHTS-OF-WAY EITHER RECORDED OR IMPLIED.

F.E.M.A.- F.I.R.M. INFORMATION

COMMUNITY-PANEL NUMBER 370158 0170 B
ZONE X, A
MAP REVISED: FEBRUARY 3, 1993

FLOOD STATEMENT

THIS IS TO CERTIFY THAT THE LOCATION OF THE SUBJECT PROPERTY HAS BEEN CHECKED AGAINST AREA FEMA/FIRM MAPS AND THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT A PORTION OF THE SUBJECT PROPERTY IS LOCATED IN A SPECIAL FLOOD HAZARD AREA A OR B, HOWEVER NO PORTION OF THE DWELLING STRUCTURE IS LOCATED IN A SPECIAL FLOOD HAZARD AREA.

THIS MAP IS NOT A CERTIFIED SURVEY AND NO RELIANCE MAY BE PLACED IN ITS ACCURACY.

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

Review Officer

11/14/97
Date

LEGEND

O	PROPERTY CORNER
F	FOUND
S	SET
#4b	No. 4 REBAR
#5b	No. 5 REBAR
CM	CONTROL MONUMENT
R/W	RIGHT OF WAY

0" 1" SCALE: 1" = 40'

Lucas-Forman Incorporated
Land Surveying
Planning & Engineering
4000 Stuart Andrew Boulevard
Charlotte, North Carolina 28217
P.O. Box 11386 28220-1386
(704) 527-6626 Fax 527-9640

SEPTIC UTILITY EASEMENT EXHIBIT
of
15832 LAKE RIDGE ROAD
Charlotte, Mecklenburg County, N.C.

LOT 27&28 BLOCK ___ MAPBOOK 17 PAGE 503
SUBDIVISION ___
DEED REFERENCE: 6350-269
for
HOWARD VIRKLER

DRAWN: | DATE: 11-13-97 | REV. 0
UPDATE:

SEAL

PRELIMINARY PLAT
NOT FOR RECORDATION, CONVEYANCES, OR SALES

JOB# 97409 | FILE# 551

(b) Sites shall have sufficient available space for a repair area equal to the area determined in Rule .1945 (a) of this Section.

Due to the limitations on your site, this Department is not aware of any modifications or alternative measures that can be implemented to upgrade the classification from "unsuitable" to "provisionally suitable." Your application for an improvement permit must, therefore, be denied.

You have the right to an informal review of this decision by the environmental health supervisor of this health department and also by the regional staff of the Department of Environment, Health, and Natural Resources. You should contact the health department to arrange for this further review.

You may also wish to obtain the services of a private consultant to collect site-specific data and submit such data and a system design to the health department for technical review. A site may be reclassified to provisionally suitable provided written documentation, including engineering, hydrogeologic, geologic, or soil studies indicates to the local health department that a proposed septic tank system or a proposed alternative system can reasonably be expected to function satisfactorily.

The substantiating data from these studies must indicate that:

A. The effluent (wastewater) will receive adequate treatment;

B. The effluent (wastewater) will not contaminate any ground water or surface water; and

C. The effluent (wastewater) will not be exposed on the ground surface or be discharged to surface waters where it could come into contact with people, animals or vectors.

Finally, ~~you have the right to a formal appeal of this decision if you file a petition for a contested case hearing with the Office of Administrative Hearings, P. O. Drawer 27447, Raleigh, N. C. 27611-7447. A copy of a petition form will be provided to you upon request. The petition must be received by the Office of Administrative Hearings within 60 days after the date of this notice.~~ The hearing will be held in the ~~county in which your property is located.~~

~~If you file a petition for a hearing, you must send a copy of the petition to Mr. John C. Hunter, Office of General Counsel, P. O. Box 27687, Raleigh, North Carolina 27611-7687.~~

You may wish to utilize the Applicability Rule .1962 of the NC Code for Laws & Rules FOR Sewage Treatment and Disposal System which states: The provisions of this Section shall not apply to properly functioning sewage collection, treatment, and disposal systems in use or for which

a valid permit to install a system has been issued prior to July 1, 1997. ~~This means that no further testing~~ There is an existing three-bedroom residence on this lot with a septic tank system. ~~which appears to be~~ At the time of our testing, the septic system showed no visible signs of malfunction. You may utilize this system by abandoning this house, building a new three bedroom house and maintaining the 5 feet of the septic system with the building foundation.

DIS III 1

Mecklenburg County
Health Department

January 27, 1995

~~Martha C. Connell~~ Howard Vickler
~~5108 White Oak Road~~ 15832 Lake Ridge Rd.
~~Charlotte, NC 28210~~ NC 28214

Re: ~~7432 Cedarbrook Drive~~ 15826 Lake Ridge Rd.
File: ~~3340B (tax parcel 111-191-13,14)~~ 1939B (217-212-28)

Dear Ms. Connell:

Receipt of the plans and specifications for a ground absorption system of sewage disposal for the above property is hereby acknowledged. Upon receipt of the information, a review was made of the material on file and a soil/site evaluation was conducted. The plan was then reviewed in conjunction with provisions of 15 NCAC 18A, .2900, "Laws and Rules for Sanitary Sewage Collection, Treatment and Disposal".

The results of the evaluation, a copy of which is attached, indicate that the site is **UNSUITABLE** for installation of a ground absorption sewage system for the following reasons:

.1940 TOPOGRAPHY AND LANDSCAPE POSITION
(d) Complex slope patterns and slopes dissected by gullies and ravines shall be considered UNSUITABLE with respect to topography.

.1941 SOIL CHARACTERISTICS (MORPHOLOGY)
(3)(B) Expansive Clay Mineralogy - Soils which have either very firm or extremely firm moist soil consistence, or have either very sticky or very plastic wet soil consistence, are considered to have predominantly 2:1 clay minerals (including mixed mineralogy clays) and shall be considered UNSUITABLE as to clay mineralogy.

.1942 SOIL WETNESS CONDITIONS
(a) Soil wetness conditions as shallow as 6 inches from soil surface

.1943 SOIL DEPTH
(a) Soil depth - saprolite 6 inches - 24" deep from soil surface.

.1945 AVAILABLE SPACE
(a) Sites shall have sufficient available space to permit the installation and proper functioning of ground absorption sewage treatment and disposal systems, based upon the square footage of nitrification field required for the application rate determined in accordance with these Rules.

Department of Environment, Health, & Natural Resources
Division of Environmental Management
Groundwater Section
P.O. Box 28687 - Raleigh, N.C. 27611

WELL ABANDONMENT RECORD

CONTRACTOR REG. NO.

1. WELL LOCATION: (Show a sketch of the location on back of form.)

Nearest Town: CHARLOTTE County MECKLENBURG

15826 LAKERIDGE RD. LOT 27 Quadrangle No.
(Road, Community, Subdivision, Lot. No.)

2. OWNER: HOWARD VIERLER

3. ADDRESS: 15832 LAKERIDGE RD

4. TOPOGRAPHY: draw, (slope,) hilltop, valley, flat

5. USE OF WELL: DRINKING WATER DATE: UNTIL 10/15/97

6. TOTAL DEPTH: ~100' DIAMETER: 4"

7. CASING REMOVED:

feet	diameter
12'	4"

8. SEALING MATERIAL:

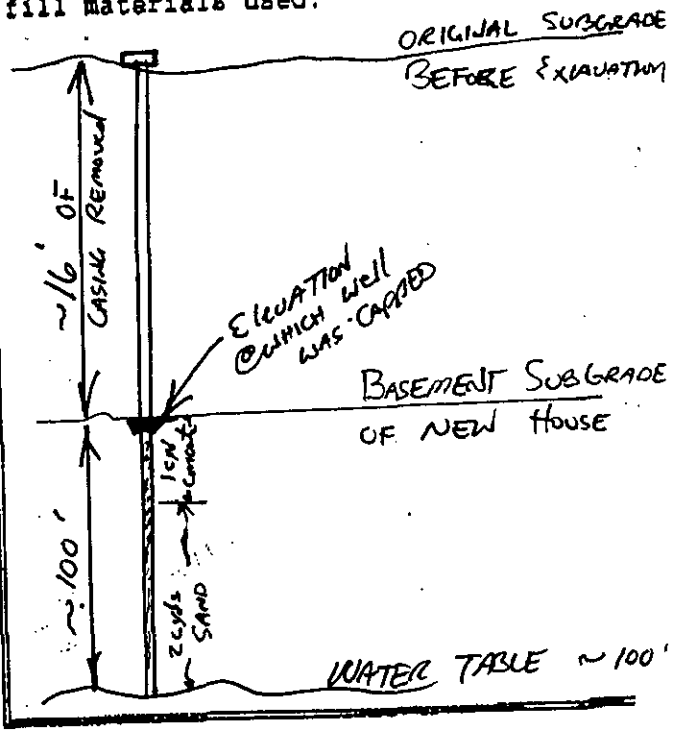
Neat cement	Sand cement
~~bags~~ of cement 1cyd	bags of cement
gals. of water	yds. of sand ~2
	gals. of water

Other
Type material

Amount

9. EXPLAIN METHOD EMPLACEMENT OF MATERIAL
POURED IN THE NECESSARY AMOUNT OF CHLORINE PER THE TABLES PROVIDED, SHOVELED IN APPROX. 2yds OF SAND AND 1yd OF CONCRETE.

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



I do hereby certify that this well abandonment record is true and exact.

Signature of Contractor or Agent Date 3/10/98

WELL LOCATION: Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.

Submit original to the Division of Environmental Management, one copy to the Driller, and one copy to the owner.
GW-30

LAKE RIDGE RD
125'
65'
ABANDONED WELL
LAKE WYLIE

Please call 336-~~5570~~ 5572 or write this office if you have questions or need additional assistance.

Sincerely,

~~Philo S. Walker R.S.~~

~~Philo S. Walker, R.S.~~ Toni Higgins Bunney, R.S.
Individual Water and Wastewater Systems

Enclosure

cc: Mark Cole

FEE: 240.00 CK # 2514
DATE: 5/28/97 JC

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

[ ] CRT

TYPE APPLICATION: ___ NEW SYSTEM X 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 #: 1998

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION:

TAX/PARCEL NUMBER: 217-212-28

STREET ADDRESS: ~~15832~~ LAKE RIDGE RD 15826

SUBDIVISION OR MOBILE HOME PARK NAME:

LOT NUMBER: 27 / SECTION 42 / MB 17 / Pg 503

TOWNSHIP (CHECK ONE):

X 0 MECKLENBURG
___ 1 CHARLOTTE
___ 2 DAVIDSON
___ 3 CORNELIUS
___ 4 PINEVILLE
___ 5 MATTHEWS
___ 6 HUNTERSVILLE
___ 7 MINT HILL
/ STEEL CREEK TOWNSHIP

TYPE OF BUILDING (CHECK ONE):

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

HEATED SQUARE FOOTAGE: 7000

NUMBER OF BEDROOMS: 4 NUMBER OF OCCUPANTS: 4

FOUNDATION FOR RESIDENCE:

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

CLOSING DATE

6/1 - MET W/ ARCHITECT + BLDR. BILL MARLIN ONSITE - SOILS LESS THAN 20" - REQUESTED BACKHOE PITS. WE RECOMMENDED UNCOVERING EXISTING TANK + SYSTEM TO ~~[illegible]~~ CONSIDER USE EXISTING SYSTEM. THEY ARE TO CONTACT WDI.

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

REMOVING EXISTING HOUSE AND REPLACE W/ NEW HOUSE 3NB, RS.

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

WATER SUPPLY (CHECK ONE):

___ COMMUNITY (C)
___ MUNICIPAL (M)
X 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: HOWARD VIRKLER

NAME: VIRKLER (LAST) HOWARD (FIRST) (MI)

ADDRESS: 15832 LAKE RIDGE RD

CITY: STATE: NC ZIP:

DAYTIME PHONE: ( ) 704 - 849-9339

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:

NAME: (LAST) (FIRST) (MI)

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: [signature] DATE: 5/28/97

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

Location

The lot is on the left of Lake Ridge Road (a gravel path) one lot from the end.

Reference

Laws and Rules for Ground Absorption Sewage Disposal Systems 15A NCAC 18A. .1900, NCDEHNR-DEH.

Recommendation

Five hundred and forty (540) lineal feet of dosed conventional lines using gravity distribution.

Ownership Responsibility

Conservation measures should be undertaken in plumbing fixture specifications to minimize the volume of wastewater entering the disposal system, including, but not limited to the following precautions:

(a) Provide water conserving plumbing fixtures within the facility. Waterclosets must be 1.6 gal. flush (per code). Showerhead should also have restrictions or be of low volume design.

(b) Develop conservative water use habits.

(c) Monitor and maintain the system as necessary for proper operation. An Operation Permit will not require a maintenance contract to be filed with the Mecklenburg County Health Department for the system. It is strongly recommended that a certified operator be used to monitor mechanical parts of the system to insure longevity and decrease major maintenance needs.

(d) Because Mr. Virkler expects to do some weekend entertaining, a 2000 gal. pump tank is being installed as a safety factor. In the future should needs dictate, this can be connected to a timer control to compensate for spate loading from weekend activities.

System must be properly installed by a *qualified* and *competent* contractor following the requirements of the Mecklenburg County Department of Environmental Health, DEH, the N.C. Building Code, Plumbing Code, and the Electrical Code. This plan, as any, is a guide to a minimum standard, but cannot take the place of experience and common sense.

Components of System

1. Two compartment septic tank - 1500 gal.
2. Pump tank 2000 gallons
3. Supply pipe (both Sch 40 and Sch 80 PVC)

4. Minimum 50 gal concrete surge tank
5. Speed lever box
6. 540' of conventional lines

Construction Sequence

1. Lines have been flagged as noted on drawing and in specifications.
2. Clear the area of all organic material with minimum soil disturbance (do not grade). Backfill any low areas with clean sandy loam to natural compaction and look. This includes stump holes.
3. Install trenches to approximately 36" trench bottom to DEH specifications.
4. Carefully backfill distribution trenches to grade with clean clay or clay loam soil fill material which is carefully placed and compacted.
5. The installation contractor shall stabilize the area of construction by planting with Kentucky 31 tall Fescue and mulching. Area to be limed and fertilized with 0.5 tons lime, 75 units of N, 150 units P, and 100 units of K per disturbed acre.
6. Final Landscaping: After the system is installed, the absorption field should be reshaped to shed rainwater and be free of low areas to insure that the system will not be overloaded with excess rainwater and run-on.
7. The septic tank shall consist of an approved 1500-gallon capacity reinforced, precast watertight, concrete tank with full baffle and shall have easy access to each chamber from ground level for inspection. The first chamber of the septic tank shall consist of 2/3 to 3/4 of the volume of the total tank and the baffle shall contain a horizontal opening across the tank at about midway. Locate the septic tank at such height as to provide approximately 8" of cover soil over top of the tank.
8. The dosing (pump) tank shall consist of an approved 2000-gallon capacity, reinforced, precast, watertight concrete tank without baffle and shall have a concrete mounting pad (concrete blocks) for accommodating the pump. Test for leakage per regulations. Provide access for entry into the tank directly over the pump location, and extending 6" above final grade. Use a 30" diameter concrete well casing or equivalent and concrete well cap or other approved securable type cover. There must be a seal (masonry or seal rope) between well tile and top of tank.
9. The supply pipe both under and adjacent to the street shall have a metal locator tape or wire should it have to be located. Where the pipe crosses under or parallel to the street it must have a minimum 36" of cover.

10. All piping and fitting shall be SCH 40 PVC, except near or on road ROW where it will be SCH 80 PVC. Glue for all PVC pipe joints shall be as recommended by the pipe manufacturer. Verify all glue quality before beginning. Old or incorrect glue will not meet pressure test.

11. Pump: The submerged pump shall be Model 4186 FlowMaster, non-automatic manufactured by Zoeller Pump Co. or equal, 230 v/l phase; capable of pumping 35 gallons per minute at 84.6' of head.

12. Pump controls and alarm to meet specifications of .1952, all being compatible.

13. A "Warning Sign" shall be located within the house to inform the occupants of action to take in case the "High Water Alarm" is activated. This sign shall contain the name, address, telephone number, and emergency telephone number of the person to contact upon malfunction of the system.

14. Pump and Controls: Details of pump installation are shown in the plan. The pump must be placed on concrete blocks on the bottom of the tank. This prevents the pumping of any solid particles which can clog the pipe system. A piece of nylon rope or other non-corrodible material should be attached to the pump and the outlet pipe for lifting the pump in and out of the chamber. Controls should be fastened to a "tree" or the outlet pipe with clamps or brackets supplied by the manufacturer. The lower level control or "pump-off" must be positioned above the pump, so that the pump remains submerged at all times. The level control "pump-on" is positioned to pump a specified volume of effluent. The high water control float is then mounted about 3" above the upper pump-on control. (Note: Care must be taken to insure that floats do not become fouled by other components in the tank, such as the electric power cord or the lifting rope. It is highly recommended that a telescoping "tree" be used for floats to facilitate adjustments.) The pump outlet pipe should be connected to the supply manifold with a threaded PVC union (or dresser coupling) to allow quick removal.

15. Electrical Connections: The pump and high water alarm must be placed on separate electrical circuits. (If the pump circuit fails, the alarm must still be able to operate). Follow the manufacturer recommendations for the proper fuses or circuit breakers. All electrical connections must be made outside the pumping chamber. Power cords from the pumps and controls should be plugged into a NEMA 4X approved outdoor receptacle. This must not be located inside the pumping chamber due to the corrosive and explosive gasses that may form from the sewage. This box must be a

minimum of 1' above finished grade. A control box may be mounted on the side of the house, but if this is used a longer pump cord must be ordered with the pump. Some level control switches have a box built into the housing, but are more expensive than the plug-in devices. Wiring between the pumping chamber and the station must meet State and local code requirements. A lightning arrester is recommended to protect the pump and controls from electrical surges.

16. Proper Operation Check: After all components have been installed and connected, the system should be checked for proper operation. With electrical power turned off, fill the pumping chamber with water from garden hose until the liquid rises to the level of the high-water alarm float. Turn on the electrical power. The alarm light should go on in the house, and the pump should start operating. The alarm light should go off when the liquid reaches the lowest float control. Be sure the pump is still completely submerged.

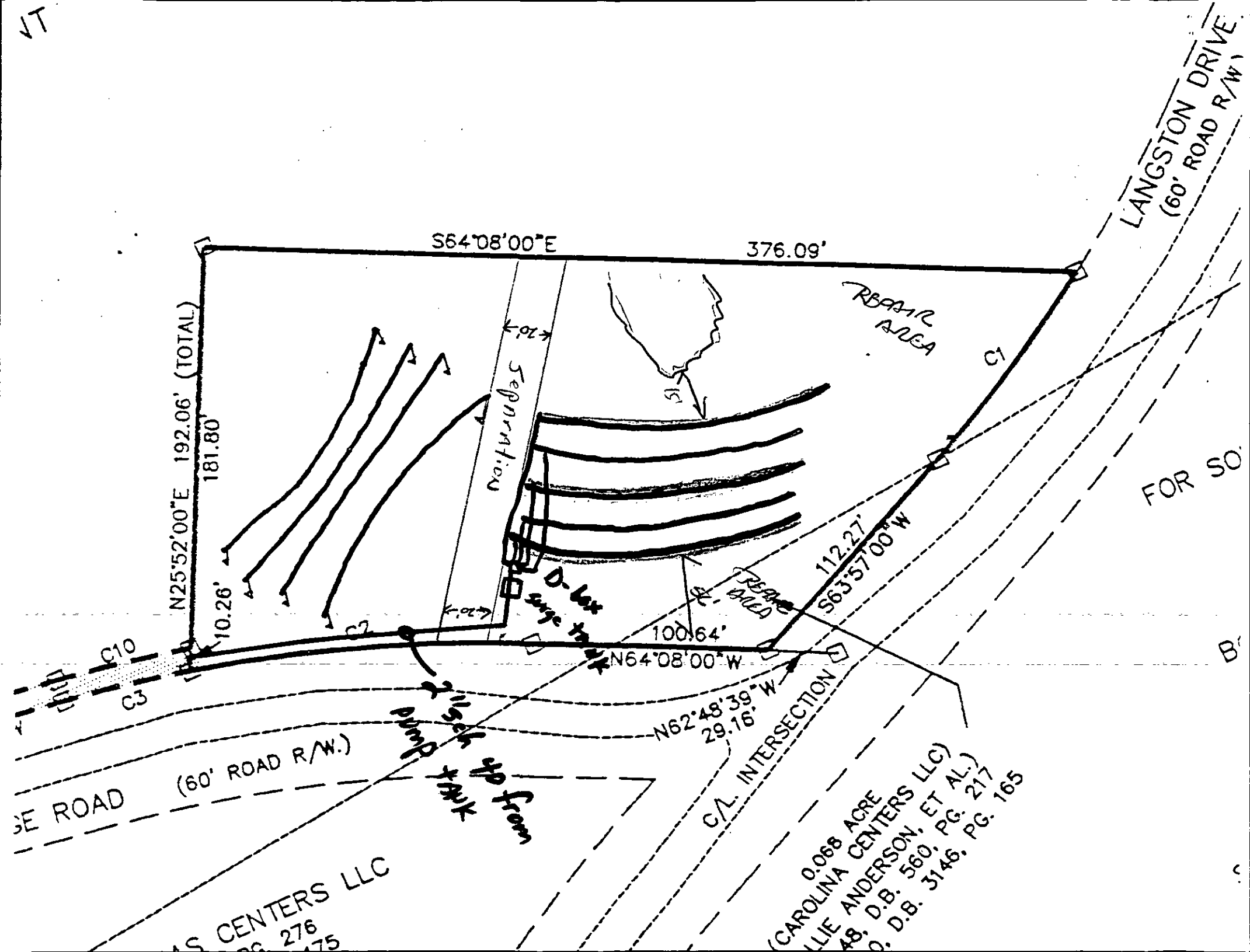
17. With someone at the surge tank, turn pump on and set gate valve at surge tank to deliver 15-20 gpm. Because of distance to field, radio or telephone communications will be required to set this value.

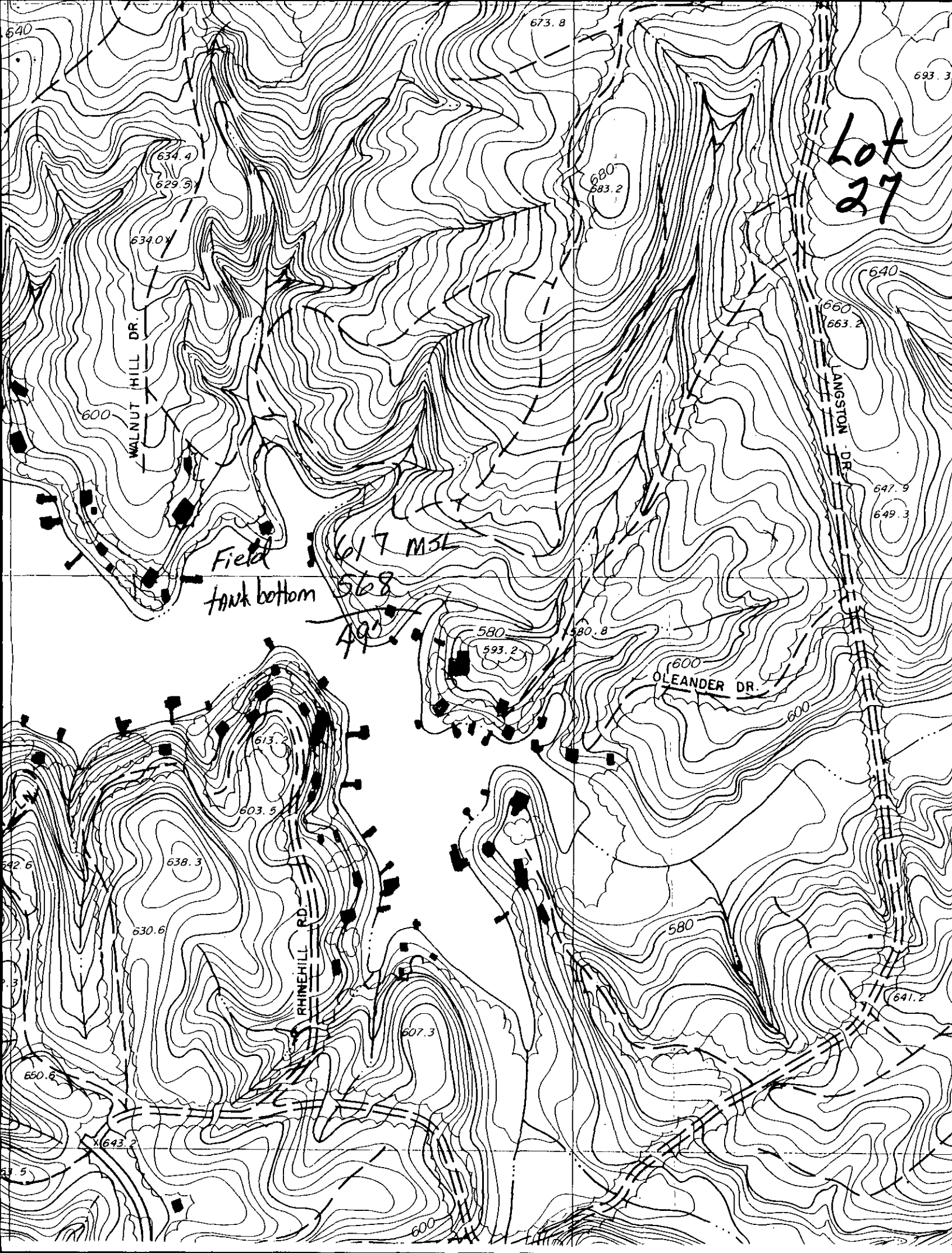
Concluding Note:

This plan was done to facilitate permitting by the Mecklenburg County Health Department by an agent of the owner. Any additions, or additional requirement(s), or deletions to enhance design or workability which will facilitate a permit are welcomed and may be made by note on this plan without returning entire design. The designer realizes that a plan with as many details as this can be changed and/or improved upon. The installer must realize that this is an exact plan and must be followed and installed with exacting measurements. Should the installer desire a change, it must be approved by the health department in writing. Final inspection will also require more time and detail than a conventional system. As pressure checks or other inspections are required, they will be billed to owner or agent at the current hourly rate. If there are questions, please give me a call.

Design Specifications
15826 Lake Ridge Road

Daily design flow:	480gpd.
Septic tank size:	1500 gal. (2 compartments)
Pumping tank size:	2000 gal.
Effluent loading rate:	0.3gpd/sf initial system repair the same
Total length and diameter of supply line:	app. 1200 lf-2" 40 PVC
Number and length of laterals:	5 @ 108' long
Speed lever control:	5 required
Flow rate through the system:	approx. 20 gpm
Elevation head:	49.0'
Pressure head:	3.0'
Friction head:	18.5'
15% contingency	14.1'
Total head:	84.6'
Pump requirements:	35 gpm at 84.6' of head; use Zoeller 4186 1½hp pump or equivalent with compatible electrical
Dosing volume:	240 gal. - 2.0 doses/day at design flow
Depth of water pumped per dose:	calculated to specific tank by measure or dealer engineering specifications(1 cubic ft. of water equals 7.48 gals.)
Pump run per dose:	approx. 12.0 min. (run time control of dose)
Check valve:	Yes – pipe volume replaced at each dose 16.24 x 12 = 195 gal.
Siphon break hole:	No
Alarm and electrical:	mounted on post as detailed or side of house as single box with both light and horn alarm. All to be NEMA 4X.


S64°08'00"E
376.09'
LANGSTON DRIVE
(60' ROAD R/W)
N25°52'00"E 192.06' (TOTAL)
181.80'
10.26'
REPAIR AREA
C1
C2
C3
C10
112.27'
S63°57'00"W
100.64'
N64°08'00"W
N62°48'39"W
29.16'
REPAIR AREA
0.068 ACRE
(CAROLINA CENTERS LLC)
LLIE ANDERSON, ET AL.)
48, D.B. 560, PG. 217
O. D.B. 3146, PG. 165
C/L INTERSECTION
(60' ROAD R/W.)
CENTERS LLC
276
175


Lot 27
WALNUT HILL DR.
RHINEHILL RD.
LANGSTON DR.
OLEANDER DR.
Field
617 MSL
tank bottom
568
49'
673.8
693.3
634.4
629.3
634.0
680
683.2
640
660
663.2
600
647.9
649.3
580
593.2
580.8
600
613.2
603.5
638.3
630.6
580
641.2
607.3
650.6
643.2
600

"Quality Pumps Since 1939"

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.

MAIL TO: P.O. BOX 16347 • Louisville, KY 40256-0347
SHIP TO: 3649 Cane Run Road • Louisville, KY 40211-1961
(502) 778-2731 • 1 (800) 928-PUMP • FAX (502) 774-3624

SECTION: 2.20.060
FM0659
0296
Supersedes
0795

"185" - "186" - "188" - "189" Single Seal Series
"4185" - "4186" - "4188" - "4189" Double Seal Series
"191" Single Seal Drip Pump

HIGH HEAD

"FLOW MATE"

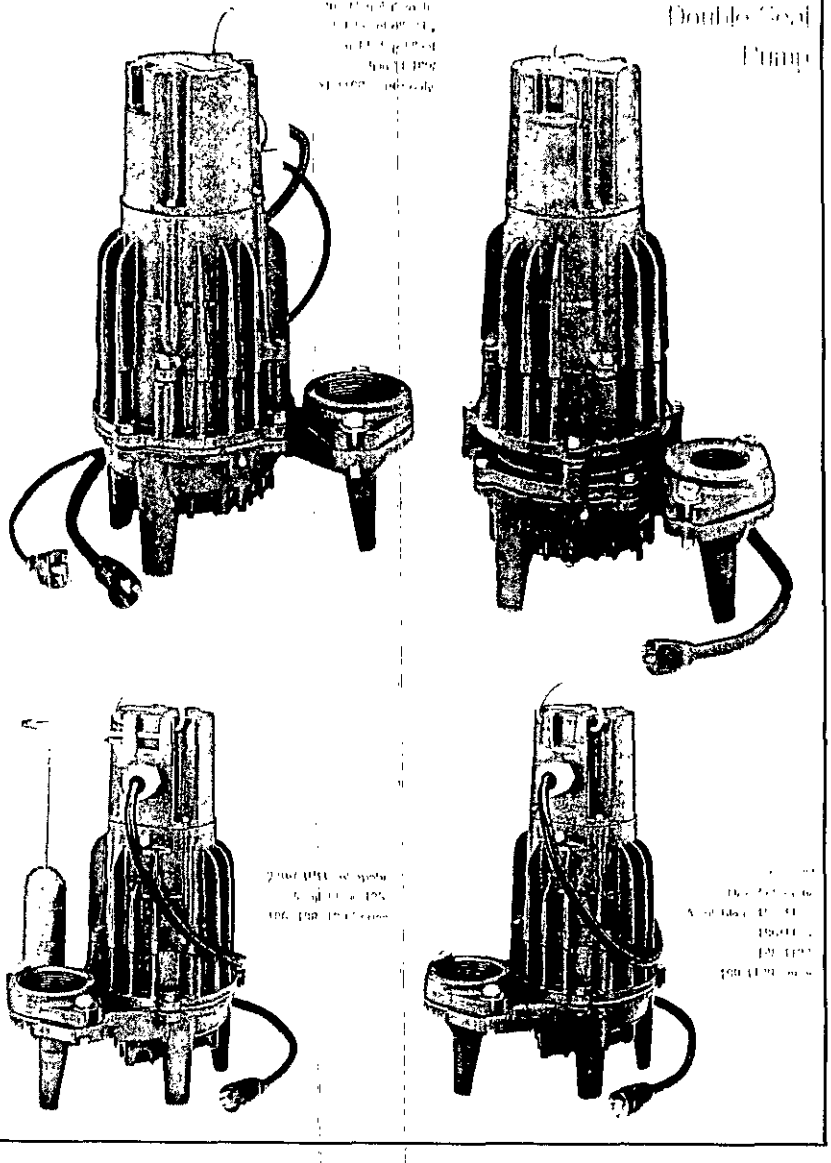
FOR SEPTIC TANK • LOW PRESSURE PIPE (LPP)
AND ENHANCED FLOW STEP SYSTEMS

EFFLUENT

OR DEWATERING PUMP • SUBMERSIBLE

1½" NPT DISCHARGE STANDARD • 2" or 3" FLANGE AVAILABLE

SSPMA MEMBER
SUMP AND SEWAGE PUMP MFRS. ASSN.
SSPMA Specification #SC-1225



COMPARE THESE FEATURES

- Non-clogging vortex impeller design bronze class 88-8-0-4 (180 Series).
- Closed impeller design (191 Series).
- Float operated, submersible (NEMA 6) 2 pole mechanical switch.
- Durable cast construction. Cast iron switch case, base, motor and pump housing. No sheet metal parts to rust or corrode.
- Stainless steel screws, bolts, float rod, handle, guard, arm and seal assembly.
- 20' UL-listed 3-wire neoprene cord and plug. Extra cord lengths available in 25-35-50 foot length only.
- Motor - 60 cycle, 3450 RPM, oil filled, hermetically sealed, automatic reset, thermal overload protected (1 PH only).
- Maximum temperature for effluent or dewatering 130° F. 54°. C.
- Variable level control systems available.
- Square Ring & Gasket - Neoprene.
- Shaft Seal - Stainless steel carbon & ceramic rotary.
- Upper sleeve bearing and lower ball bearing running in bath of oil.
- All 180/4180 series pass ¾-inch solids (sphere). Model 191 pump passes ⅜- inch solids (sphere).
- On point 14" • Off point 5" (automatic units).
- Major width 12¾" • Height 18 9/16". (Single seal pumps)
- 1½" NPT discharge with 2" or 3" flange available. (Model 191 is not availiable with 3" flange)

MODELS 4185-4186-4188-4189 DOUBLE SEAL PUMPS (non-cable only)

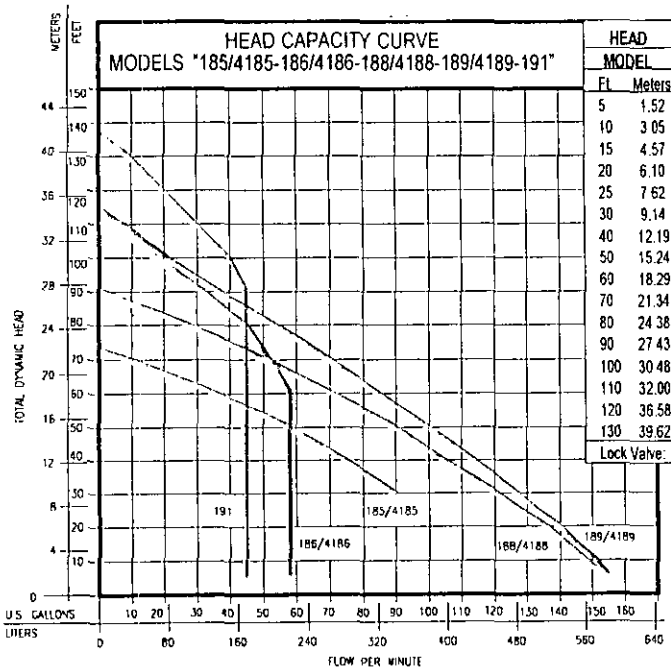
- Protects motor from seal leaks.
- Moisture sensors available for early warning of seal failure. (Optional)
- Improved bearing lubrication.
- Helps eliminate seal and bearing damage from dry runs.
- Major width 12 ¾". Height 20 7/16".

Note: The sizing of effluent systems normally requires variable level float(s) controls and properly sized basins to achieve required pumping cycles.

AUTOMATIC UNITS NOT RECOMMENDED FOR USE IN EFFLUENT SYSTEMS

*NOTE: No UL Listing for 200/208 1 Phase Pumps or Double Seal Series
See Back Page for UL & CSA Listings

Non-Automatic Model for variable level systems

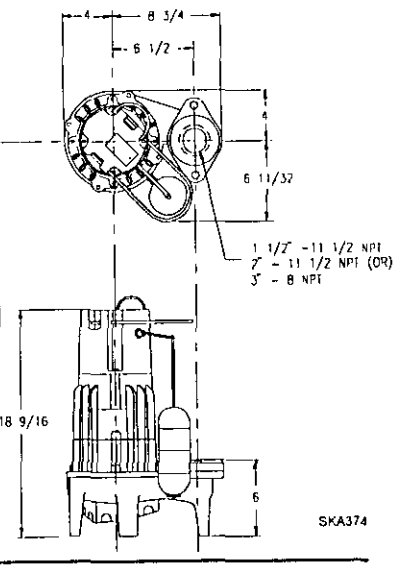


HEAD		CAPACITY UNITS/MIN									
MODEL		185/4185		186/4186		188/4188		189/4189		191	
Ft.	Meters	Gal.	Ltr.	Gal.	Ltr.	Gal.	Ltr.	Gal.	Ltr.	Gal.	Ltr.
5	1.52			58	220	155	587	155	587	45	170
10	3.05			58	220	148	560	151	572	45	170
15	4.57			58	220	142	537	145	549	45	170
20	6.10			58	220	136	515	140	530	45	170
25	7.62			58	220	128	484	133	503	45	170
30	9.14	90	340	58	220	121	458	127	481	45	170
40	12.19	75	283	58	220	105	397	114	431	45	170
50	15.24	58	219	58	220	90	341	100	379	45	170
60	18.29	36	136	58	220	71	269	85	322	45	170
70	21.34	10	38	52	197	51	193	70	265	45	170
80	24.38			45	170	28	106	54	204	45	170
90	27.43			32	121	2	8	37	140	45	170
100	30.48			18	68			21	79	40	151
110	32.00			7	26			8	30	30	114
120	36.58									20	76
130	39.62									10	38
Lock Valve:		73'		115'		91'		112'		137'	

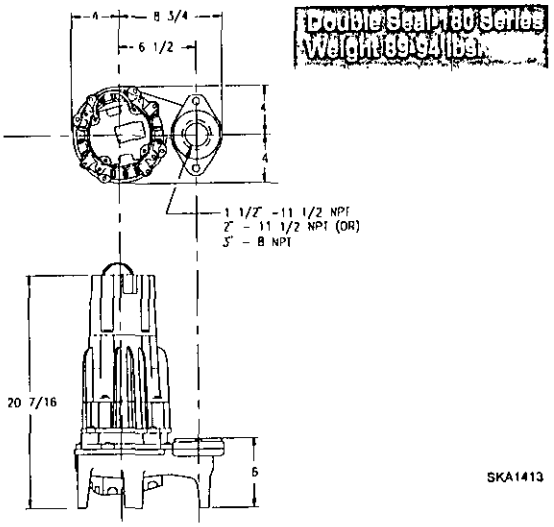
009903

WARNING: Model 185 should not be subjected to heads less than 30 feet TDH.

Single Seal 180 Series
Automatic Design
Weight: 82-89 lbs.



Double Seal 180 Series
Weight: 89-94 lbs.



185 MODELS	4185 MODELS	Standard all models - 20 ft. cord - 1 H.P.		Control Selection			Listings***	
Single Seal	Double Seal**	Volts - Ph		Mode	Amps	Simplex	Duplex	CSA	UL
D185	---	230	1	Auto	9.8	1 or 1 & 9		Y	Y
E185	E4185	230	1	Non	9.8	2 or 2 & 8	3 or 5 & 6	Y(2)	Y
* H185	---	200-208	1	Auto	11.5	1 or 1 & 9		N	N
* I185	* I4185	200-208	1	Non	11.5	2 & 8	3 or 5 & 6	N	N
* F185	* F4185	230	3	Non	7.4	2 & 4	3 & 4 or 5 & 6	Y	Y
* J185	* J4185	200-208	3	Non	7.5	2 & 4	3 & 4 or 5 & 6	Y	Y
* G185	* G4185	460	3	Non	3.7	2 & 4	3 & 4 or 5 & 6	Y	Y
* BA185	---	575	3	Non	3.3	2 & 4	3 & 4 or 5 & 6	Y	N

186 MODELS	4186 MODELS	Standard all models - 20 ft. cord - 1½ H.P.		Control Selection			Listings***	
Single Seal	Double Seal**	Volts - Ph		Mode	Amps	Simplex	Duplex	CSA	UL
D186	---	230	1	Auto	13.7	1 or 1 & 9		N	N
E186	E4186	230	1	Non	13.7	2 or 2 & 8	3 or 5 & 6	N	N
* F186	* F4186	230	3	Non	8.6	2 & 4	3 & 4 or 5 & 6	N	N
* G186	* G4186	460	3	Non	4.6	2 & 4	3 & 4 or 5 & 6	N	N

188 MODELS	4188 MODELS	Standard all models - 20 ft. cord - 1½ H.P.		Control Selection			Listings***	
Single Seal	Double Seal**	Volts - Ph		Mode	Amps	Simplex	Duplex	CSA	UL
D188	---	230	1	Auto	13.3	1 or 1 & 9		N	Y(1)
E188	E4188	230	1	Non	13.3	2 or 2 & 8	3 or 5 & 6	Y(2)	Y(1)
* H188	---	200-208	1	Auto	16.8	1 or 1 & 9		N	N
* I188	* I4188	200-208	1	Non	16.8	2 & 7	3 or 5 & 6	N	N
* F188	* F4188	230	3	Non	8.9	2 & 4	3 & 4 or 5 & 6	Y	Y
* J188	* J4188	200-208	3	Non	10.3	2 & 4	3 & 4 or 5 & 6	Y	Y
* G188	* G4188	460	3	Non	4.6	2 & 4	3 & 4 or 5 & 6	Y	Y
* BA188	---	575	3	Non	3.5	2 & 4	3 & 4 or 5 & 6	Y	N

189 MODELS	4189 MODELS	Standard all models - 20 ft. cord - 1½ H.P.		Control Selection			Listings***	
Single Seal	Double Seal**	Volts - Ph		Mode	Amps	Simplex	Duplex	CSA	UL
(3) D189	---	230	1	Auto	16.6	1 or 1 & 9		N	Y(1)
(3) E189	(3) E4189	230	1	Non	16.6	2 & 7	3 or 5 & 6	Y(2)	Y(1)
(3) XE189	(3) XE4189	230	1	Auto	16.6	2 & 8		Y	Y
* H189	---	200-208	1	Auto	20.5	1 & 9		N	N
* I189	* I4189	200-208	1	Non	20.5	2 & 7	3 or 5 & 6	N	N
* F189	* F4189	230	3	Non	11.2	2 & 4	3 & 4 or 5 & 6	Y	Y
* J189	* J4189	200-208	3	Non	13.2	2 & 4	3 & 4 or 5 & 6	Y	Y
* G189	* G4189	460	3	Non	6.0	2 & 4	3 & 4 or 5 & 6	Y	Y
* BA189	---	575	3	Non	5.8	2 & 4	3 & 4 or 5 & 6	Y	N

191 MODEL	Standard all models - 20 ft. cord - 2 H.P.		Control Selection			Listings***	
Single Seal	Volts - Ph		Mode	Amps	Simplex	Duplex	CSA	UL
E191	---	230	1	Non	14.5	2 or 2 & 8	3 or 5 & 6	N	N

* No Molded Plug
** Double Seal pumps are available with optional moisture sensors. Seal Fail indicator light available in NEMA 1 or NEMA 4X control panels.
*** Currently no UL or CSA listing on Double Seal Pumps.
(1) UL Listed unit available with 20 Amp Plug.
(2) CSA Approval without plug cap
(3) 20 Amp Outlet, P/N 10-0060 must be used.

SELECTION GUIDE

1. Integral float operated mechanical switch, no external control required.
2. Single piggyback wide angle variable level switch, or double piggyback variable level switch. Refer to FM0477.
3. Mechanical alternator "M-Pak" 10-0072 or 10-0075
4. Combination starter. Refer to FM0514.
5. See FM0712 for correct model of Electrical Alternator "E-Pak".
6. Variable level control switch 10-0225 used as control activator with E-Pak duplex (3) or (4) float system.
7. See FM0486 for correct control panel model.
8. 4 hole "J-Pak", junction box, for watertight connection or wired-in simplex or 2 pump operation. P/N 10-0002.
9. 2 hole "J-Pak", junction box, for watertight connection or splice. P/N 10-0003.

CAUTION

All installation of controls, protection devices and wiring should be done by a qualified licensed electrician. All electrical and safety codes should be followed including the most recent National Electric Code (NEC) and the Occupational Safety and Health Act (OSHA).

For information on additional Zoeller products refer to catalog on Combination Starter, FM0514; Piggyback Variable Level Switches, FM0477; Electrical Alternator, FM0486; Mechanical Alternator, FM0495; Alarm Package, FM0513; Sump/Sewage Basins, FM0487; and Simplex Control Box, FM0732.

RESERVE POWERED DESIGN

For unusual conditions a reserve safety factor is engineered into the design of every Zoeller pump.

TCJ CONSULTING

SITE / SOIL EVALUATION

WRM + TCJ

JOB: Virchen CRI PHONE: _____ DATE: 7/11/97

LOCATION: _____ PIN: _____ COUNTY: _____ PROPERTY SIZE: _____

PROPOSED FACILITY: _____ WATER SUPPLY: On-Site Well__ Community__ Public__ EVALUATION: Auger Boring__ Pit__ Cut_____

WEATHER: _____ ANTECEDENT MOISTURE: _____ SURFACE WATER: _____

FACTORS	PROFILE 1	PROFILE 2	PROFILE 3	PROFILE 4
LANDSCAPE POSITION-%	LS	LS	LS	LS
HORIZON I DEPTH	0-4	0-14	0-5 A	0-11 A
Color - Munsell	red/br	red/br-br	br	li br
Texture	scl	scl	cl	sl, scl
Structure	g to m	g to m		
Consistence				
Boundary	clear	clear	grad	clear
HORIZON DEPTH II	4-29	14-46	5-17 E	4-25
Color - Munsell	red	red	br	red, red/gy
Texture	c	c	sl	c
Mottles	NA	NA	NA	NA
Structure	MA SAB	CM SAB	g	MF SAB
Consistence	f sp fr sp	fi sp fr sp C. Cont. duplum		
Boundary	gradual	grad		
HORIZON III DEPTH	29-48	46-61 BC	17-36	25-44
Color - Munsell	yel red	red/red c cl	red	red/yel, red
Texture	sc		c	cl
Mottles	silic to pm	silic to pr	NA	silic to pm
Structure	WF SAB	WF SAB	SM SAB	WF SAB
Consistence	friable dist lam		sp fr	
Boundary				
HORIZON IV DEPTH	48-59	61-74	36-57	44-52
Color - Munsell	yel red/gy li	red/yel/gy li, li sl	red/yel li c/sl cl	gy/yel/red sap
Texture	scl	sap	silic lic	fr sc cl
Mottles	red li		WF SAB	
Structure	g		friable sp sp	
Consistence	friable		57-65	
			sap	
			sc l	
Boundary				
SOIL WETNESS				
RESTRICTIVE HORIZON				
SAPROLITE				
LTAR				
CLASSIFICATION				

5.43 z1

LEGEND

LANDSCAPE POSITION
R - Ridge Interfluve
S - Shoulder
L - Linear slope
S - Foot slope
N - Nose slope
H - Head slope
Cc - Concave slope
Cv - Convex slope
T - Terrace
P - Flood Plain

TEXTURE
s - sand
ls - loamy sand
sl - sandy loam
l - loam
si - silt
sil - silt loam
sicl - silty clay loam
cl - clay loam
scl - sandy clay loam
sc - sandy clay
sic - silty clay
c - clay

CONSISTENCE
moist / wet
WET
Ns - non-sticky
Ss - slightly sticky
S - sticky
Vs - very sticky

Np - non-plastic
Sp - slightly plastic
P - plastic
Vp - very plastic

MOIST
vfr - very friable
fr - friable
fi - firm
vfi - very firm
efi - extremely firm

STRUCTURE
sg - single grain
m - massive
cr - crumb
gr - granular
sab - subangular blocky
ab - angular blocky
pl - platy
pr - prismatic

TCJ CONSULTING

SITE / SOIL EVALUATION

JOB:_____ PHONE:_____ DATE:_____

LOCATION:_____ PIN:_____ COUNTY:_____ PROPERTY SIZE:_____

PROPOSED FACILITY:_____ WATER SUPPLY: On-Site Well__ Community__ Public__ EVALUATION: Auger Boring__ Pit__ Cut_____

WEATHER: _____ ANTECEDENT MOISTURE:_____ SURFACE WATER: _____

FACTORS	PROFILE 5	PROFILE 6	PROFILE 7	PROFILE_
LANDSCAPE POSITION-%				
HORIZON I DEPTH	0-7 A	Mucky	more mucky	
Color - Munsell	10yr 5/2	pit	profile	
Texture	sl, sl		Pat 23	
Structure	m, fgr			
Consistence	fri			
	m non-st			
Boundary				
HORIZON DEPTH II	7-36			
Color - Munsell	10yr			
Texture	C			
Mottles				
Structure	m, sbk			
Consistence	fri, sp-ss, sp			
Boundary				
HORIZON III DEPTH	36-42			
Color - Munsell	10yr 5/6			
Texture	C			
Mottles				
Structure				
Consistence				
Boundary				
HORIZON IV DEPTH	42-54			
Color - Munsell	Mottled 10yr			
Texture	C			
Mottles				
Structure				
Consistence				
Boundary				
SOIL WETNESS				
RESTRICTIVE HORIZON				
SAPROLITE				
LTAR				
CLASSIFICATION				

LEGEND

LANDSCAPE POSITION
R - Ridge Interfluve
S - Shoulder
L - Linear slope
S - Foot slope
N - Nose slope
H - Head slope
Cc - Concave slope
Cv - Convex slope
T - Terrace
P - Flood Plain

TEXTURE
s - sand
ls - loamy sand
sl - sandy loam
l - loam
si - silt
sil - silt loam
sicl - silty clay loam
cl - clay loam
scl - sandy clay loam
sc - sandy clay
sic - silty clay
c - clay

CONSISTENCE
moist / wet

WET
Ns - non-sticky
Ss - slightly sticky
S - sticky
Vs - very sticky

Np - non-plastic
Sp - slightly plastic
P - plastic
Vp - very plastic

MOIST
vfr - very friable
fr - friable
fi - firm
vfi - very firm
efi - extremely firm

STRUCTURE
sg - single grain
m - massive
cr - crumb
gr - granular
sab - subangular blocky
ab - angular blocky
pl - platy
pr - prismatic

Toney C. Jacobs & Associates, Inc.
Consulting Soil Scientists
NCRCPS ARCPACS

168 Broadbill Drive
Mooresville, NC 28115
Phone (704) 663-6905
Fax (704) 662-9845

November 6, 1997

MEMORANDUM

To: Mr. Todd Leger, P.E.
Leger Corp.
234 Benton Woods
Matthews, NC 28105

Ms. Toni Bunney, R.S.
Mecklenburg County Health Dept.
Charlotte, N. C.

From: Toney C. Jacobs, CPSS

Ref: Construction and testing of septic force main (supply lines) to off-site easement areas For Howard Virkler

The following are overall requirements for individual single family force main lines:

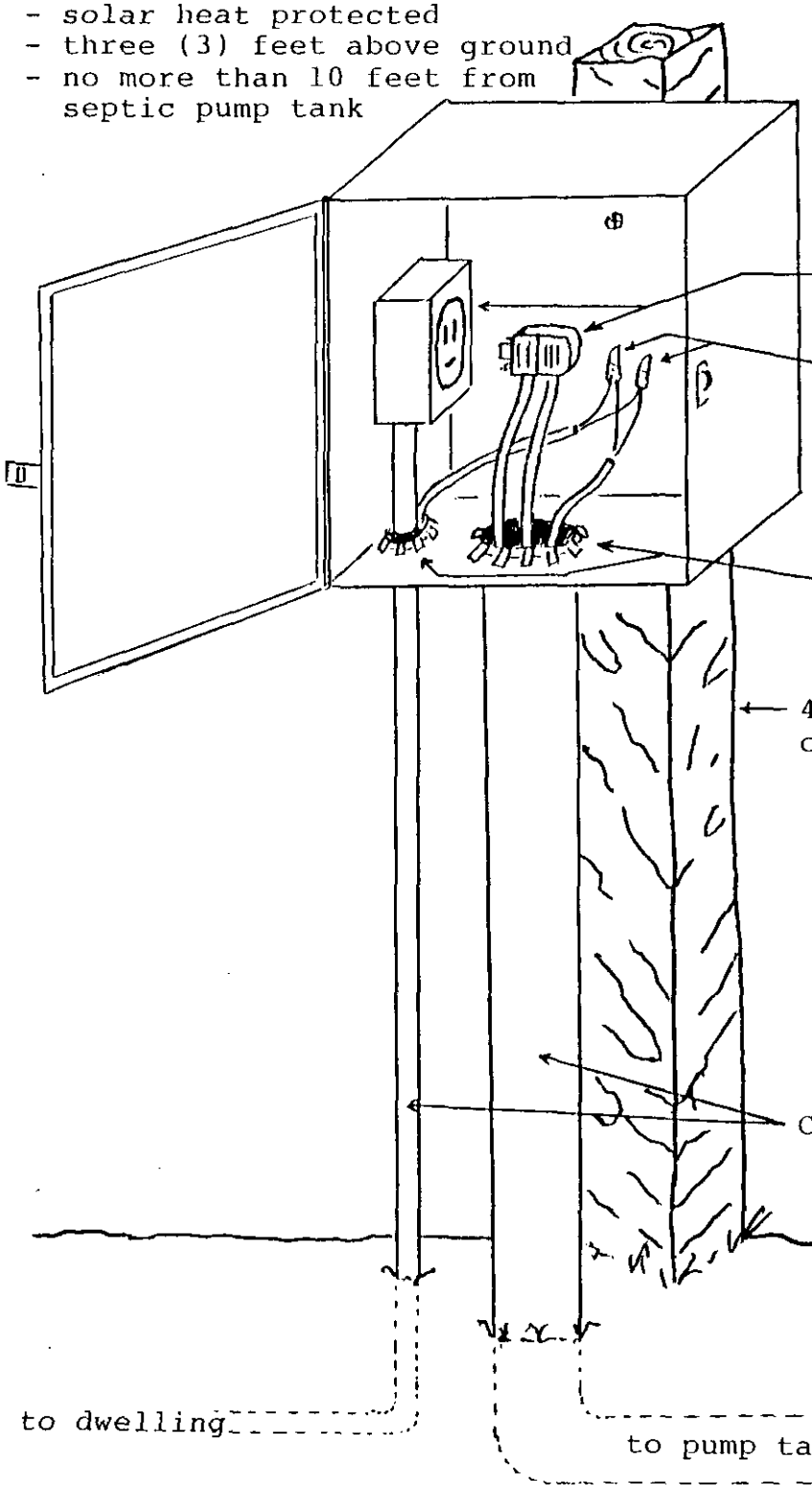
1. All material to be PVC schedule 40 or schedule 80 as shown on plan. Any variation of this must be approved in writing by the Mecklenburg County Health Department (MCHD).
2. All pipes to be 2" diameter as specified on plan.
3. Sewer pipes will be placed below and at 18" separation to perpendicular water line crossing if such exists.
4. At street crossings along parallel runs, lines will be greater than 36" (State requirement is 30"). At this depth there is no need for sleeves or metal pipes.
5. In sections with multiple pipe runs, color-code (spray paint) the pipe and riser both inside and out with same color. An "as-built" drawing with location and colors must be supplied

at testing. This includes Showing which pipe is on the right and which is on the left should maintenance be required.

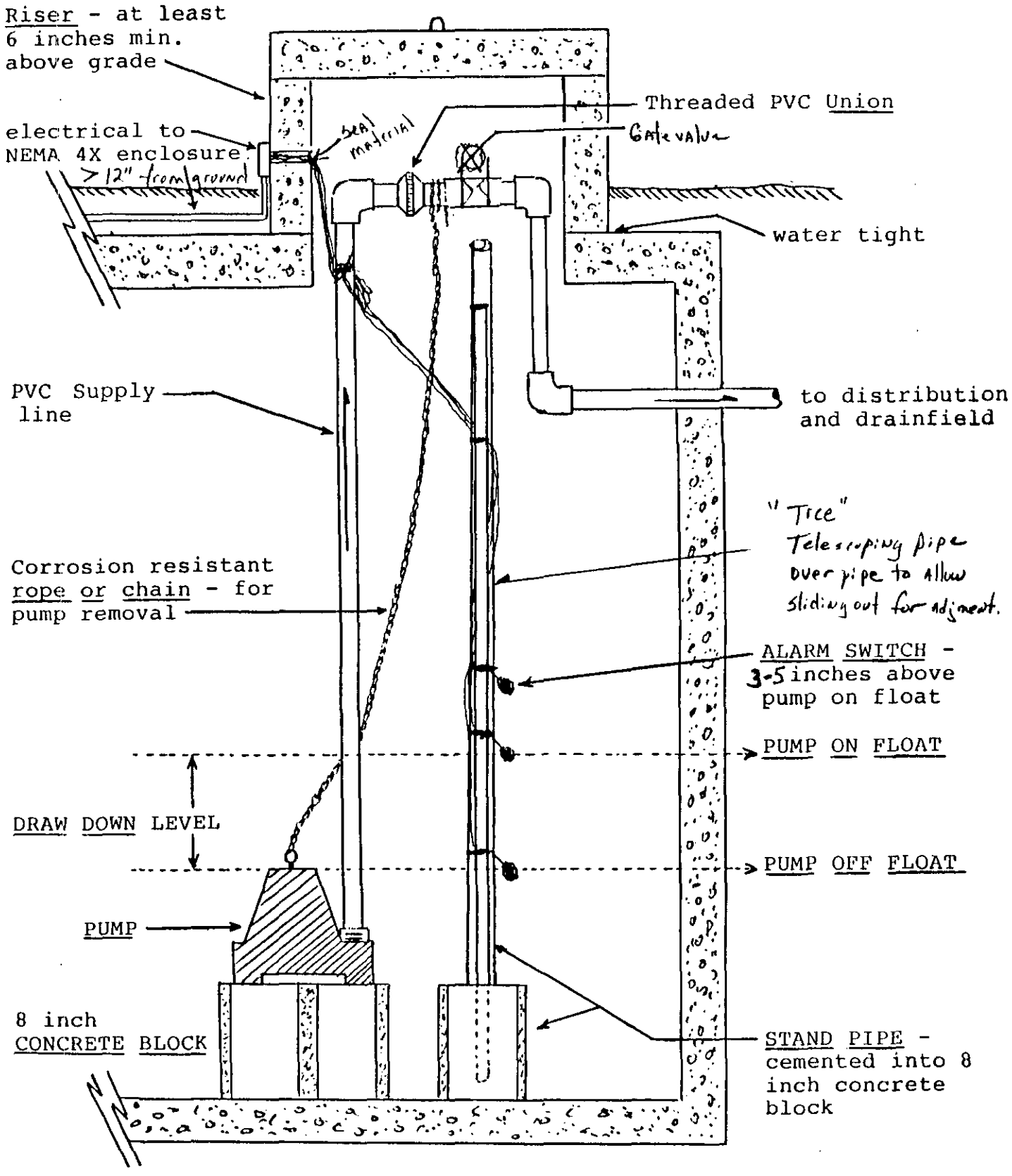
6. Sewer lines will be below storm drains with a minimum 1-foot separation should such exist.
7. After lines are installed and marked, they should be capped on both ends to keep water out which could freeze and damage pipe. While laying pipe, avoid getting dirt, debris, and excessive cuttings into pipe which will foul manifold or distribution system.
8. Prior to final acceptance or approval of system, lines must be pressure tested to engineering criteria. Arrange test 2 days in advance with Toney Jacobs (663-6905). The MCHD will be notified and may participate as desired.
9. Test pipes must be capped, there must be a filler orifice, and test gauge installed. Pipes must be filled with water and/or air from 40 to 50 psi and held > 24 hours without dropping below 40 psi.

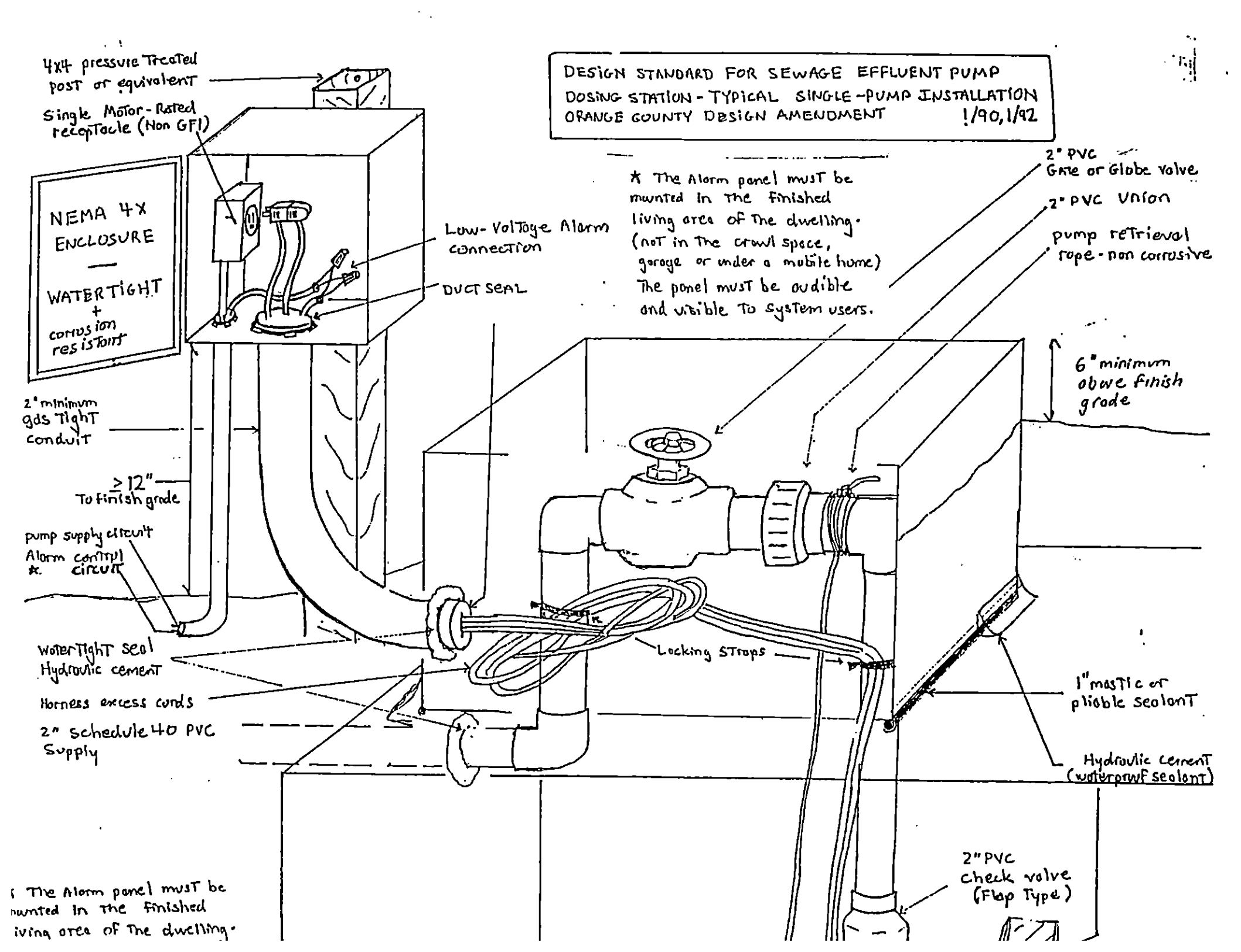
NEMA 4X ENCLOSURE must be:

- water tight
- corrosion resistant
- solar heat protected
- three (3) feet above ground
- no more than 10 feet from septic pump tank



PUMP DIAGRAM




DESIGN STANDARD FOR SEWAGE EFFLUENT PUMP
DOSING STATION - TYPICAL SINGLE-PUMP INSTALLATION
ORANGE COUNTY DESIGN AMENDMENT 1/90, 1/92
4X4 pressure Treated post or equivalent
Single Motor-Rated receptacle (Non GFI)
NEMA 4X ENCLOSURE — WATERTIGHT + corrosion resistant
Low-Voltage Alarm connection
DUCT SEAL
* The Alarm panel must be mounted in the finished living area of the dwelling. (not in the crawl space, garage or under a mobile home) The panel must be audible and visible to system users.
2" PVC Gate or Globe Valve
2" PVC Union
pump retrieval rope - non corrosive
6" minimum above finish grade
2" minimum gas Tight conduit
≥ 12" To finish grade
pump supply circuit
Alarm control * circuit
Watertight seal Hydraulic cement
Harness excess cords
2" schedule 40 PVC Supply
Locking Straps
1" mastic or pliable sealant
Hydraulic cement (waterproof sealant)
2" PVC check valve (Flap Type)
* The Alarm panel must be mounted in the finished living area of the dwelling.

CERTIFICATE OF COMPLETION/OPERATION PERMIT

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

FILE: 19395 DATE: 3/26/98

TC: 217-212-28 ☐ L ☒ CRT

SERIAL Nº 17417

9255A (112)

Name of Owner Howard Vickler Juris.:

Address of Property 15826 Lake Ridge Rd.

Inspection Data:

Tank Material PCC

Total Length of Drainfield '

Number of Lines 5 @ 108 ' Main

Cover Depth

Water Supply Source NOT INSTALLED YET WELL

Distance to Water Source

Excavation Inspected 4/14/98

Tank(s) Inspected 3/26/98

Wash Line Inspected

High Water Alarm Inspected 7/7/99 PSW

EXCAVATION INSPECTED BY JURY KISER

PLOT

Design 1500 ST, 2000 PT, Tony JACOBS PLAN CTR# RCS

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: Type III
4 3 bedroom

7/7/99 Electrical component Inspection only by Philo Walker

7/14/99 Left message for Tony Jacobs regarding septic system Inspection completion

Dani E. Higgins R.S.
Environmental Health Specialist

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

Permit Number: 1939B

CONDITIONS OF IMPROVEMENT PERMIT

Tax Number: 217-212-28

- 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	
.3 Long-term acceptance rate	480 Max gallons/day wastewater flow	1600 Absorption Area (sq ft)	9 Trench spacing (min. on centers)	
yes Serviced by private well	1500 Gallon septic tank	480 Total trench length (ft)	36" Maximum trench depth (At least 12" of provisionally suitable soil must remain between trench bottom and unsuitable soil conditions)	
4 Bedrooms in residence	1000 Gallon pump tank	12" Depth of stone		
Any surface waters present: yes Type:		Minimum separation distance: .1950 (3) + (4)		
Site modifications required:				
Additional Conditions: ① EASEMENTS RECORDED & DOCUMENTED. ② COPY OF ABANDONMENT OF WELL WILL BE NECESSARY PRIOR TO INSTALLATION. ③ THERE SHALL BE NO CHANGES TO THIS PERMIT. C ④ PLAN DESIGN BY TONEY JACOBS				
Repair Area System Type Type (circle one): I II (III) IV V VI	✓ Conventional (PUMP-TO) ___ 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	
1600 Absorption Area (Sq ft) 533 Total Trench Length (Ft)	12 Depth of Stone Trench	9 Trench spacing (min. on centers)	12" 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:

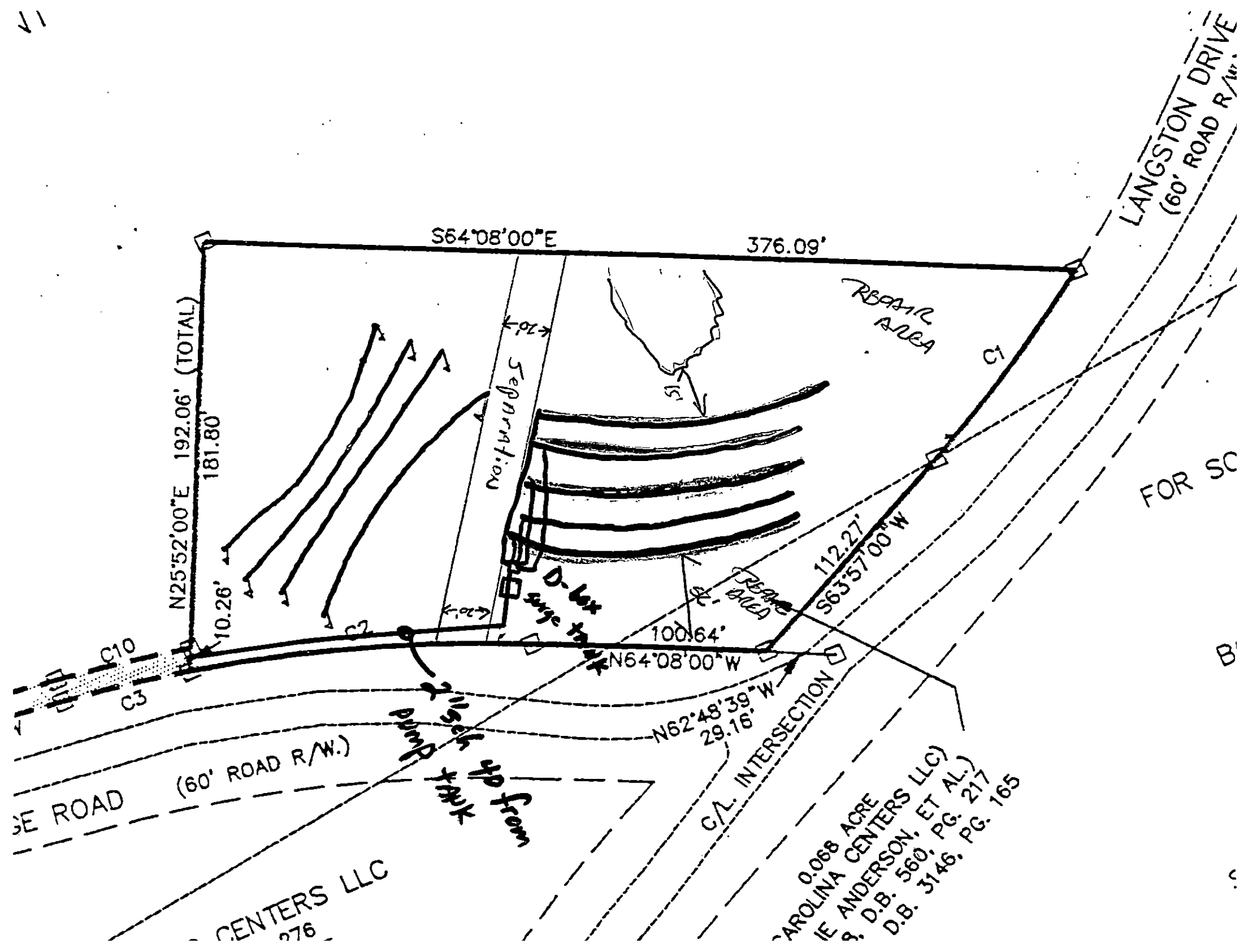
- No work shall be conducted on the septic tank system until an Installation, Construction, Alteration and/or Repair Approval is granted by this Department.
- This Improvement permit is transferable.

Dave Higgins Bunny 11-14-97
DEHNR Authorized Agent Date

Owner/Agent Signature 11/14/97 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


S64°08'00"E
376.09'
LANGSTON DRIVE
(60' ROAD R/W.)
REPAIR AREA
C1
N25°52'00"E 192.06' (TOTAL)
181.80'
10.26'
C2
C10
C3
Septic Tank
D-box
Septic Field
112.27'
S63°57'00"W
REPAIR AREA
100.64'
N64°08'00"W
N62°48'39"W
29.16'
2 Risers up from Tank
(60' ROAD R/W.)
C/L INTERSECTION
0.068 ACRE
CAROLINA CENTERS LLC)
E ANDERSON, ET AL.)
D.B. 560, PG. 217
D.B. 3146, PG. 165
CENTERS LLC
FOR SC