

GREYFRIARS ROAD

6/15/2007

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Groundwater and Wastewater Services File Imaging Project
May 2007
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Sylvia Daniel 6485A

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Environmental Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
A. Preston Howard, Jr., P.E., Director

DEHNR

JUL 25 1994

OFFICE OF THE HEALTH DIRECTOR BY

July 14, 1994

Mr. Wilson Martin
Air Drilling Company
2736 Commerce Boulevard
Statesville, North Carolina 28677

Subject: Request for Variance - NORTH CAROLINA WELL CONSTRUCTION STANDARDS
Rule 15A NCAC 2C.0107(a)(2)(N)- Required Separation of Well from Surface Water Body
Crescent Resources, Inc : Lot #9, 17246 GreyFriar's Cove
Mecklenburg County, North Carolina

Dear Mr. Wilson:

This is in response to your letters of June 20 and July 11, 1994, requesting approval of a variance from the referenced Rule, which requires a 50 foot separation between water wells and surface water bodies. You stated in those letters that the subject well could not be constructed in accordance with that Rule because (a) of limited space on the lot for the location of a well that would meet other regulatory requirements for location of a residential structure and septic tank waste disposal facility, and (b) the platting of the lot for well, house and septic tank was made prior to the December 1, 1992 effective date of the referenced Rule.

Factors which would act to mitigate any potential problems which could adversely affect human health and/or the effective operation of this well, as a result of not meeting the regulatory requirements, are as follows:

1. Galvanized casing will be used;

2. The casing will be seated at least twenty (20) feet down into consolidated rock;

3. The bottommost string of casing shall be provided with a drive shoe meeting the specifications of Rule 15A NCAC 2C.0107(d)(1)(F);

4. Prior to any disinfection of the completed well, a sample of the supply water shall be collected and analyzed for the presence of harmful bacteria. If the water analysis indicates the presence of harmful bacteria, the well will not be considered to be in accordance with 15A NCAC 2C until the problem is remediated or the well properly abandoned; and

5. A copy of this variance and of the laboratory analysis of the well water shall be attached to the required WELL CONSTRUCTION RECORD (Form GW-1, copy attached).

Based on my review of the available information and recommendations by our staff, it is my finding that the combination of factors specified above are sufficient to satisfy the conditions for approval of a variance as defined in 15A NCAC 2C.0118.

On that basis, and with the additional requirement that you notify Mooresville Regional Office, at 704/ 663-1699 at least 24 hours prior to completion of well construction activities are begun,] the requested variance is hereby granted.

The granting of this variance does not affect any of the other requirements of the WELL CONSTRUCTION STANDARDS or of the requirements of any other applicable laws or rules.

Sincerely,

Arthur Mouberry, P.E.
Chief, Groundwater Section

Attachment

CC: Mr. Stephen M. Schreiner
Barbara Christian, Mooresville Regional Office
Environmental Health, Mecklenburg County Health Department
Groundwater Section files

\airdrill.var

STATE OF NORTH CAROLINA

COUNTY OF Mecklenburg

INSPECTION AND MAINTENANCE

THIS AGREEMENT is made and entered into this 6 day of June, 1995 by and between Dick Faulkner (hereinafter the "Owner") and Richard Abernathy (hereinafter the "Contractor").

WITNESSETH

WHEREAS, the Owner owns or controls the property upon which a ground absorption sewage treatment system (hereinafter "system") is installed, such system being designated a Type IV system under the Rules for Sanitary Sewage Collection, Treatment and Disposal found at 15A N.C. Admin. Code 18A.1900 et seq.; and

WHEREAS, 15A N.C. Admin. Code 18A.1961 requires a contract to be executed between the system owner and a management entity prior to the issuance of an Operation Permit for said system; and

WHEREAS, 15A N.C. Admin. Code 18A.1961 requires that a condition of the Operation Permit for said system be that a properly executed contract between the system owner and a management entity shall be in effect for as long as the system is in use; and

WHEREAS, the Contractor is a management entity of a type authorized by 15A N.C. Admin. Code 18A.1961 to manage a Type ___ system.

NOW THEREFORE, in consideration of the premises and of the mutual covenants and promises contained in this Agreement, it is hereby agreed by and between the Owner and the Contractor as stipulated below.

1. The Contractor's Obligations. The Contractor shall perform the following services on the Owner's system located at 17246 Kingfisher Rd Davidson NC

a. The Contractor shall inspect the system at least at the frequency required in Table V(b) of 15A N.C. Admin. Code 18A.1961(b) for a Type IV System.

b. The Contractor shall perform the following routine maintenance procedures in accordance with the conditions of the Operation Permit:

(1) [from operation permit]
(2)
(3)

c. The Contractor shall report the results of its inspections to the local health department at the frequency specified in Table V(b) of 15A N.C. Admin. Code 18A.1961(b) for a Type IV System.

d. If an inspection indicates the need for system repairs, the Contractor shall notify the local health department within 48 hours of the inspection.

e. The Contractor shall notify the Owner of needed repairs which are outside of the scope of routine maintenance described in subparagraph (b) above. The Contractor shall perform necessary repairs to the system at the request of the Owner and shall be entitled to payment therefor at the Contractor's normal charge for services and materials.

f. The Contractor shall employ or shall contract with a certified operator(s) if required by Table V(b) of 15A N.C. Admin. Code 18A.1961(b) for a Type IV System.

g. The Contractor shall respond to a request for a nonscheduled service or maintenance call within 24 hours after receipt of such request.

2. The Owner's Obligations.

a. The Owner shall pay to the Contractor the sum of $250 per year for periodic inspections, routine maintenance procedures and periodic reports. The annual fee may be amended upon sixty (60) days advance notice to the Owner but may not be increased more than ____ percent per year. The Owner shall pay to the Contractor his normal and customary fees for any work performed on the system as a result of nonscheduled service or maintenance calls. All fees are due and payable within thirty (30) days of billing. Payments due to the Contractor and unpaid by the Owner after thirty (30) days shall accrue interest from the due date until paid at a rate of ____ percent per month.

b. Within 30 days of receipt of notice of needed repairs pursuant to paragraph 1.e. above, the Owner shall request the Contractor to complete needed repairs or shall provide to the Contractor evidence that the needed repairs were satisfactorily completed by another entity.

c. The Owner shall provide the Contractor with such access to the system as is reasonably necessary for the Contractor to comply with the terms of this Agreement.

3. Term. This Agreement shall remain in effect until terminated.

a. Automatic Termination.
This agreement shall automatically terminate if the Operation Permit for the system is revoked and all appeals of the revocation are exhausted or time for taking an appeal has passed.

b. Termination by Mutual Consent.
The Parties may mutually agree to terminate this Agreement by giving written notice of termination by mutual consent to the local health department thirty (30) days in advance of the date of termination.

c. Termination by the Owner.
The Owner may terminate this Agreement by giving notice to the Contractor and to the local health department thirty (30) days in advance of the date of termination.

d. Termination by the Contractor.

(1) The Contractor may terminate this Agreement for cause by giving written notice of intent to terminate this Agreement to the Owner and to the local health department thirty (30) days in advance of the date of termination. Cause shall be defined as:

(a) failure to remit payment for any bill for services performed under and in accordance with this Agreement if said bill is not paid within thirty (30) days of receipt by the Owner of the bill. If said bill is paid after notice of termination is given but prior to the date of termination of this Agreement, this Agreement shall continue in effect; or

(b) failure of the Owner to provide to the Contractor authorization to complete needed repairs or satisfactory evidence that needed repairs to the system were completed by another entity within 30 days of receipt of notice of needed repairs pursuant to paragraph 1.e. above. If said authorization to complete needed repairs or evidence of completion of said repairs is provided after notice of termination is given but prior to the date of termination of this Agreement, this Agreement shall continue in effect;

(c) failure of the Owner to allow the Contractor such access to the system as is reasonably necessary in order for the Contractor to comply with the terms of this Agreement.

(2) The Contractor may not terminate this Agreement without cause, but may assign its rights and duties under this Agreement as provided in paragraph 4, below.

4. Assignment.

a. Assignment by the Owner. The Owner shall notify the Contractor of the name and address of any purchaser of the property on which the system is located. The Owner shall also notify any purchaser of the property on which the system is located of the existence of this Agreement and shall assign all rights and duties under this Agreement to said purchaser.

b. Assignment by the Contractor. The Contractor may assign its rights and duties under this Agreement to another management entity which is qualified pursuant to 15A N.C. Admin. Code 18A.1961 to manage a Type

IV system upon thirty (30) days written notice to the Owner and to the local health department.

5. Use of Subcontractors. The Contractor may subcontract with such manufacturers, suppliers and contractors as it deems desirable to perform any of the Contractor's duties under this Agreement. The Contractor shall at all times remain responsible for the performance of and payment for all work performed by all subcontractors.

6. Representations. The Parties represent to each other that each has the power, authority and legal right to enter into and perform its obligations as set forth in this Agreement.

7. Regulatory Amendments. References in this Agreement to sections of the Administrative Code shall include such rules as they may be amended in the future.

8. No Implied Waiver. The waiver by either Party of a default or a breach by the other Party of any provision of this Agreement shall not operate or be construed to operate as a waiver of any subsequent default or breach. The failure at any time of either Party to enforce any provision of this Agreement (a) shall not be construed to be a waiver of such provisions, or of any other provision; and (b) shall not in any way affect the validity of this Agreement, or any part of this Agreement, or the right of either Party thereafter to enforce each and every provision of this Agreement.

9. Notice. Every notice required under this Agreement shall be in writing and shall be deemed sufficiently given if delivered in person or sent by certified or registered mail, return receipt requested, postage prepaid to the Party to be notified and addressed as follows:

To the Owner: Rick Faulkner 17246 Griffin Rd
Mooresville, NC

To the Contractor: Richard Abernethy 1397 Brawley Sch
Mooresville, NC

To the Local Health Department:
700 N Main St Unit 211 Davidson 28036

The date of any Notice shall be the date of personal delivery or the date shown on the return receipt as the date of delivery or attempted delivery, as the case may be. Changes in the respective addresses to which notice may be directed may be made from time to time by either Party by notice to the other party.

10. Place of Agreement. This Agreement and any questions concerning its validity, construction or performance shall be governed by the laws of the State

of North Carolina, notwithstanding the place of execution, or the order in which the signatures of the Parties are affixed.

11. Entire Agreement and Amendment. This Agreement supersedes all prior negotiations, agreements and understandings between the Parties with respect to the subject matter hereof and constitutes the entire Agreement between the Parties with respect to the subject matter hereof. To be effective, any amendment or modification to this Agreement must be in writing and must be signed by the Parties.

12. Severability. In the event that any provision of this Agreement shall, for any reason, be determined to be invalid, illegal or unenforceable in any respect, the Parties shall negotiate in good faith and agree to such amendments, modifications or supplements of or to this Agreement or such other appropriate actions as shall, to the maximum extent practicable in light of such determination, implement and give effect to the intentions of the Parties as reflected in this Agreement, and the other provisions of this Agreement shall, as so amended, modified, supplemented or otherwise affected by such action, remain in full force and effect.

IN TESTIMONY WHEREOF, the Parties hereto have executed this Agreement in duplicate originals, one of which is retained by each of the Parties, the day and year first above written.

Richard Faulkner
(Owner)

Attest:

Kathleen A Faulkner

Richard Abernathy
(Contractor)

Attest:

Robyn Abernathy

(hr:mecontract.gm)

APPLICATION FOR AN IMPROVEMENT PERMIT

HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
1200 BLYTHE BOULEVARD
CHARLOTTE, NC 28203
PHONE (704) 376-4603

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

(OFFICE USE ONLY)
FILE: 646854
TC: 001-353-40
SERIAL: № 20510 ☒ L ☐ CRT

JOB LOCATION

① ADDRESS: 17246 (STREET NO.) Coney (STREET) Furnace ② FILE:
③ JURISDICTION: ④ TAX PARCEL NO.: 001-35-340
⑤ SUBDIVISION: ⑥ LOT: 9 ⑦ BLOCK:

OWNER

⑧ NAME: Crescent Resources (FIRST) Inc. (MIDDLE) (LAST)
⑨ MAILING ADDRESS: P O Box 30817
⑩ CITY: Charlotte ⑪ STATE: N.C. ⑫ ZIP: 28230
⑬ PHONE: (WORK) 382-2410 ⑭ (HOME)

REQUEST

This request is for a(n):

⑮ ☒ New permit
⑯ ☐ Repair or alteration permit
⑰ ☐ Authorization for mobile home exchange
⑱ ☐ Other (specify)

DESIGN CRITERIA

System will serve:

⑲ ☒ Residence ⑳ ☐ Mobile home ㉑ ☐ Business or place of public assembly
㉒ Number of bedrooms? 3 ㉕ Type?
㉓ Maximum occupancy? 6 ㉖ Maximum number of employees?
㉔ Basement? ☒ yes ☐ no ㉗ Maximum number of seats?

WATER SUPPLY

㉘ Water supply from (present or proposed):

A ☒ Individual well
B ☐ Municipal system
C ☐ Community well
D ☐ Community system

㉙ The undersigned, 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: Tony C Gowan, CPSS
Date: 3-23-90

IMPROVEMENT PERMIT

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 Sanitary Sewage Collection, 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 permit is issued by this Department.

... This permit is not transferable, and shall become null and void 36 months from the date of issuance.

Environmentalist — Date
Director or Authorized Section Head — Date: 6-28-90

*This permit must be signed by the Director of Mecklenburg County Health Department or an authorized section head in order to be valid.

CERTIFICATE OF COMPLETION/OPERATION PERMIT

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

FILE: 6485-A DATE: 4-27-95

TC: 001-353-53 ☐ L ☑ CRT

SERIAL № 16255

Name of Owner DICK FAULKNER Juris.: _____

Address of Property 17246 GREY FRIARS

Inspection Data:

Tank Material PCC

Total Length of Drainfield 200

Number of Lines 3 @ 67

Cover Depth 6"

Water Supply Source well

Distance to Water Source ≈ 57'

Excavation Inspected 4-27-95

Tank(s) Inspected 4-27-95

Wash Line Inspected _____

High Water Alarm Inspected 4-27-95

PLOT

Design 1995 PPBPS TYPE IV CTR# F.J. ERVIN

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: _____

Kelly Powell
Environmental Health Specialist

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

INSTALLATION, CONSTRUCTION, ALTERATION, AND/OR REPAIR APPROVAL

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

FILE: 9485-A DATE: 4-20-95

TC: 001-353-53 ☐ L

SERIAL No. 16496

Permission is hereby given to ✓ Install or Construct, _____ Alter or Repair the individual septic tank wastewater treatment system with subsurface, soil absorption, effluent discharge as specified herein at the described location. This permit is granted based upon the information supplied in the application dated 6-11-94. All work shall be completed on or before 5-20-95, after which date this permit shall be null and void. The system shall meet all of the construction requirements of I5A NCAC 18A. 1900 which are in effect on the date of the granting of this permit. A Certificate of Completion or an Operation Permit must be obtained from the Mecklenburg County Health Department before any system can be covered up or placed into service. The issuance of this permit does not in any way guarantee that the system anticipated to be constructed will operate properly, or relieve any person now or hereafter owning, controlling or using such system from any liability resulting from the failure of the system to operate properly.

INSTALL w/ PLAN ON FILE

PLOT OF SYSTEM

Liquid Capacity of Septic Tank 1500 gallons

Liquid Capacity of Dosing Tank ✓ gallons

Tank Construction PCC

Trench Depth 30

Absorption and/or Nitrification Lines:

Trench Width 2 feet

Trench Walls Scored and Porous 4 SIDES

Total Line Length 200 feet

Number of Lines 3

Depth of Stone SAME 24" inches

Distance from House 5' + feet

Distance from Property Line 10' + feet

Distance from Well 100' + feet

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

NAME OF OWNER CRESCENT RESOURCES

LOCATION OF PROPERTY 17246 GREY FRIARS RD

Comments: INSTALL W/ PLAN ON FILE DATED 4-20-95

Environmental Health Specialist

4-20-95

CRESCENT RESOURCES, INC.

GREYFRIAR COVE - LOT #9

17246 GREYFRIARS ROAD

MECKLENBURG COUNTY - NORTH CAROLINA

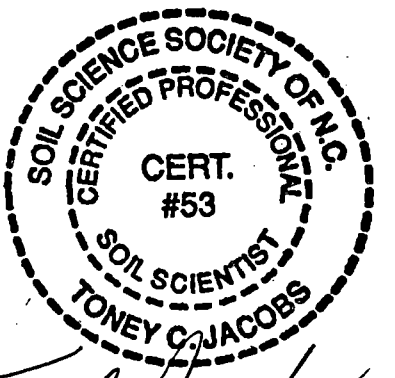
FILE #6485A

by

Toney C. Jacobs, CPSS
Consulting Soil Scientist
215 Broadbill Drive
Mooresville, N. C. 28115

To: Kelly Randall, R.S.
Mecklenburg County Health Department-IWWS
Charlotte, N. C.

Mr. Steve Schreiner
Crescent Resources, Inc
P.O. Box 1003
Charlotte, N. C. 28201



Toney C. Jacobs, CPSS

17246 Greyfriars Road - Greyfriar Cove Lot #9

LOW-PRESSURE DISTRIBUTION T & J PANEL SYSTEM

Design Considerations

This system is proposed for a single family residential lot of 0.49 acres in a developed rural community of single family homes in northern Mecklenburg County (Meck Neck) along Lake Norman. This is a waterfront lot. Because of the 50' setback, there is approximately 0.11 Ac which is unusable. The system is designed for a 3 bedroom home to be served by an individual well between the house and lake, 25' from each.. Because the property was platted in 1990, the proposed drainfield does require a 100% repair area. The requirement to preserve this repair area along with the possible consequences of failure have been discussed with the buyer. The soil on most of the tract is of a suitable quality (provisionally suitable) for ground absorption. Overall, the soil has a light clay texture.

Because of limited space, the panel block system with pressure distribution is considered best suited and permittable. A caution to the installer includes no cutting or leveling, except by fill to the surface. Small areas to be filled and then leveled are shown on the site plan. The need for a French drain is not indicated.

Location

The approximately 1/2 Ac building lot is on the right at the end of Greyfriars Road, off Brawley School Road, Mecklenburg County, N. C.

Reference

(1) *Design and Installation of Low Pressure Wastewater Treatment Systems*, by Craig Cogger, Bobby L. Carlisle, Dennis Osborne, and Ed Holland. UNC Sea Grant UNC-SC-82-03, May 1982.

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

(3) *Design, Installation and Maintenance of the T & J Panel Wastewater Treatment System for Sanitarians and Septic Tank Installers,* 1988.

Recommendation

Two hundred and one (201) lineal feet of Pressure T & J lines with a 200' repair.

Ownership Responsibility for a LPP System

Conservation measures should by 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). Shower head should also have restrictions or be of low volume design.

(b) Develop conservative water use habits. If weekends are a time of significantly more water use and week days are less, system should be reworked with timer rather than floats for flow equalization.

(c) Monitor and maintain the system as necessary for proper operation. A Certificate of Completion will require a maintenance contract to be filed with the Mecklenburg County Health Department. It is recommended that the owner aggressively utilize this requirement because of its importance to system longevity. The management entity (certified Operator) should be a part of installation process. If installed by other, it would be best if operator was consulted for a preclosure inspection.

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. County inspector should allow additional inspection time because of complexity of system and need for exacting levels.

Components of System

1. Two compartment septic tank - 1500 gal.
2. Pumping tank - 1500 gal.
3. Submersible effluent pump and level controls - SSOMA certified
4. High water alarm signals which are UL approved
5. Supply pipe
6. Gate valves
7. Laterals with LPP distribution and T & J Panels in ground absorption trenches, 2 feet wide, level end to end, and placed to the exact relative level specifications in plan. If the installer does not understand this or its importance, he should call either the designer or sanitarian. He should not begin construction until certain of all requirements.

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 low area(s) with clean imported loam from off-site and tamp to surrounding compaction and look.

3. After fill is placed, install trenches per cited reference material and this plan. There should be one hole near the center of each panel, pointed up. Top grade on pipes to be "level" from end to end and vertically from manifold, and checked by sanitarian. Installer must check setback to well before line is completed and maintain minimum 50' separation. (Note: This is a three valve designed system.)

4. All joints in lateral manifold piping shall be watertight connections to insure that the only source of water seepage from the system is through the orifices as designed. Carefully install manifold and lateral network according to the attached designed layout. Protect valves with valve box. A larger diameter protective sleeve with cap or approved box with lid shall be placed over the turned up lateral and positioned level with the ground surface (so as not to be damaged by mowing machine). Turn-up with two 45 degree ells, not one 90. Area around pipe should be stabilized with crushed stone, both inside and outside of riser. Stone allows for infiltration of waste and wash water when system is maintained.

5. Carefully backfill manifold trenches to grade with clean clay soil fill material which is carefully placed and compacted.

6. 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. This is approximately one tenth acre.

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 its height. Locate the septic tank at such height as to provide approximately 8" of cover soil over top of the tank.

8. The dosing tank shall consist of an approved 1500 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 type cover. There must be a seal (masonry or seal rope) between well tile and top of tank.

9. All piping and fitting shall be SCH 40 PVC. Glue for all PVC pipe joints shall be as

recommended by the pipe manufacturer. Note: On the distal end of each lateral turn-up should be 2 each, 45 degree elbows, rather than one 90 to facilitate maintenance.

10. Pump: The submerged pump shall be ME 40 manufactured by Myers, or equal, 115 or 230 v/l phase; capable of pumping 32 gallons per minute at a 14.9' of head.

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

12. 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. This should be "management entity".

13. 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 and rope or other non-corrodible material should be attached to the pump; and the 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.

14. 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 manufacturers 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 mounted outside of the pumping chamber, a minimum of 1 foot above finished grade. This must be secured to prevent damage from normal yard use and maintenance. The receptacle must not be located inside the pumping chamber due to the corrosive and explosive gasses that may form from the sewage. 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 should meet State and local code requirements. A lightning arrester is recommended to protect the pump and controls from electrical surges.

15. 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 a 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.

16. Pressure Head Adjustment: The pressure head must be adjusted to match that specified in the design. The pressure head is measured as the height liquid will rise above the turn-up elbow when the pump is running. To adjust the head:

(a) Glue a 4' length of pipe (preferable clear) to a threaded adapter that will screw onto the turn-up adapters. (Call this the "test tube".)

(b) Replace the turn-up cap with the "test tube".

(c) Adjust the gate valves until the effluent reaches the desired height in the "test tube". This may also be done with a weep hole in solid pipe at the desired height. Strive to be within 1/8" accuracy. Remember to include the distance below the ground surface to the lateral line when measuring the height. The pressure head should be as specified for each line. This is the height above the lateral where the liquid should be in the temporary "test tube".

17. Final Landscaping: After the system is installed, the distribution field should be shaped to shed rainwater and be free of low areas to insure that the system will not be overloaded with excess rainwater and runoff.

Concluding Note:

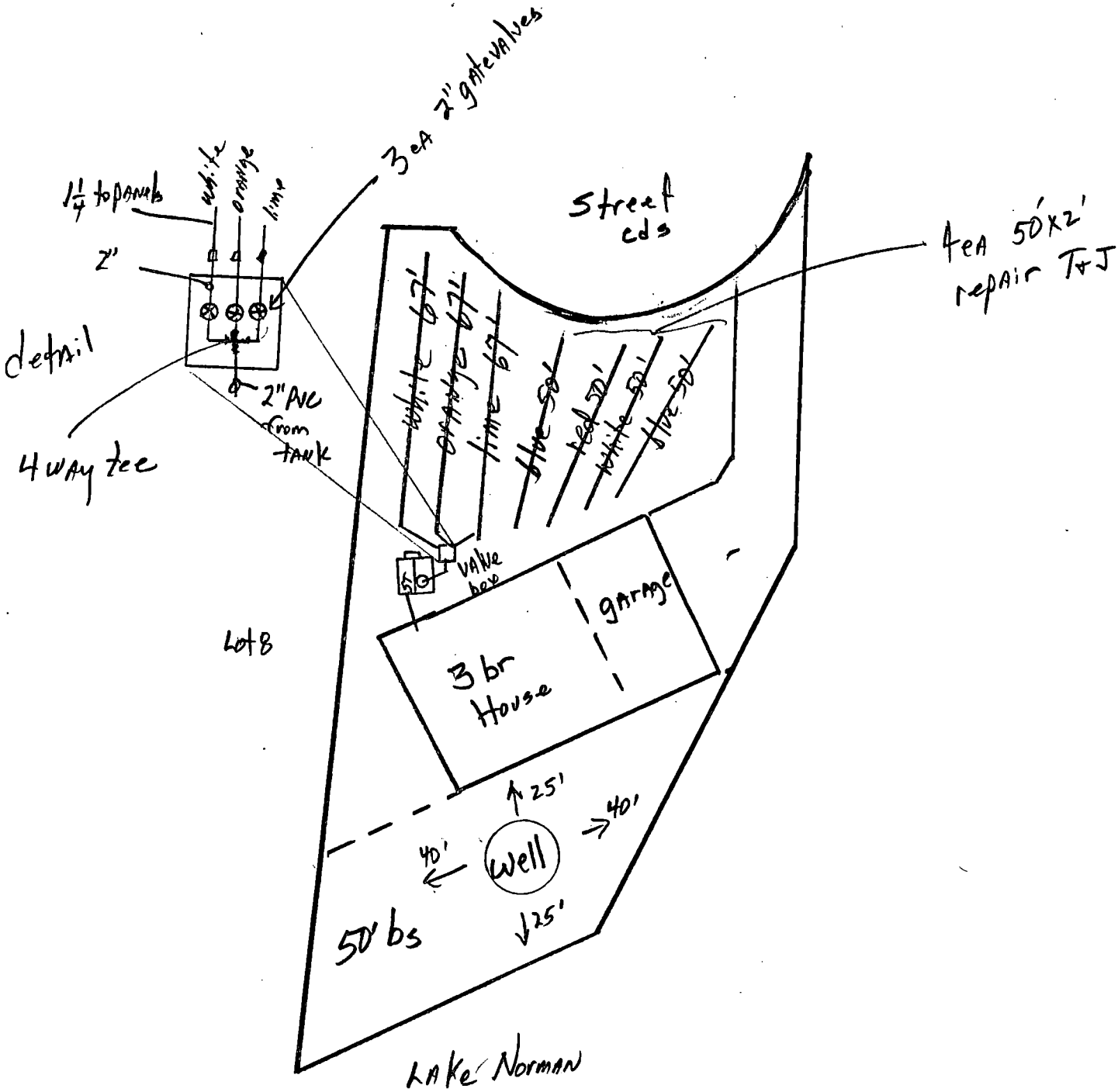
This plan was done to facilitate permitting by the Mecklenburg County Health Department by an agent of the developer. Any additions, or additional requirement(s), or deletions to enhance design or workability which will facilitate a permit are welcomed and may be made by note on this plan without returning 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 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. If there are questions, please give me a call.

Design Specifications

17246 Greyfriars Road - Greyfriars Cove Lot #9

Daily design flow:	360 gpd. - 3 bedroom house
Septic tank size:	1500 gal. (2 compartments)
Pumping tank size:	1500 gal.
Effluent loading rate:	0.30 gpd/sf conventional
Total length and diameter of supply manifold	app. 40 lf-2" sch 40 PVC
Number and length of laterals	3 lines of 67' each end fed or 201 lf of 1 1/4" sch 40 PVC. Repair 4 lines of 50 with same configuration
Hole size:	See table
Hole spacing:	1 per panel
Total number of holes:	45(one in each T&J Panel near the center with the hole turned up)
Flow rate through the system:	22.5 gpm
Elevation head:	7.4'
Pressure head:	3.0'
Friction head:	2.0'
20% contingency design	2.5'
Total head:	14.9'
Pump requirements:	22.5 gpm at 14.9' of head; use Myers "ME40" pump or equivalent with compatible electrical
Dosing volume:	158 gal - 2.3 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)
Pump run per dose	approx. 5.0 min.by measure
Check valve:	No
Syphon break hole:	No

Lot 9 Greyfriars



1" = 40'

Distribution Specifications Lot 9

Line	Color	Length	Ground Surface elevation	hole size "	hole spacing "	design head	flow/hole gpm	# holes # panels	flow/line gpm
4	white	67	799.5	5/32	54"	3.0	0.5	15	7.5
	orang	67	798.6	"	"	3.0	"	15	7.5
	line	67	798.4	"	"	3.0	"	15	7.5
		201						45	22.5
3	blue	50	798	5/32	54	3.0		11	5.5
	red	50	797.6	"	"	3.0		11	5.5
	white	50	797	"	"	3.0		11	5.5
	blue	50	797	"	"	3.0		11	5.5
		200							22

Ground surface top line 792.5

" tank bottom 785.1

7.4

Dose volume 45 x 3.5 = 158

Sta.	B.S.	H.I.	F.S. or Grade Rod	Elev. or Planned Elev.	
TBM	0.3	800.3		800'	back telephone ferm
A	white		7.8	792.5	} [illegible]
B	orange		6.7	793.6	
C	yellow		5.6	794.7	
D	blue		4.8	795.5	
E	lime		4.3	796.0	} grys
F	white		3.7	796.6	
G	red		3.4	796.9	
T			4.8	795.5	nail
ground TANK			15.2	785.1	

GPO : 1960 OF—550816

COUNTY HEALTH DEPARTMENT

(SEPTIC TANK) IMPROVEMENTS PERMIT AND CERTIFICATE OF COMPLETION
(Ground Absorption Sewage Disposal System -- G. S. Chapter 130-A-Article 11)

OWNER OR CONTRACTOR _____ DATE _____ PERMIT NO. _____

PHONE: Business _____ Home _____

LOCATION _____

_____ S. R. No. _____

SUBDIVISION NAME _____ LOT NO. _____ SECTION OR BLOCK NO. _____

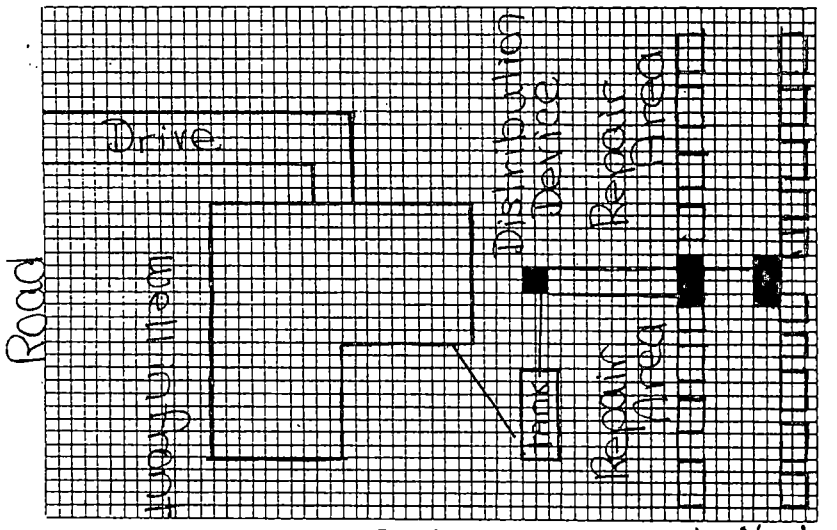
House (✓) Mobile Home ( ) Business ( ) Other _____

No. Bedrooms 3 No. Bathrooms 2 1/2
Garbage Disposal Unit n/A Yes ( ) No ( )
Auto. Dishwasher Yes (✓) No ( )
Auto. Wash. Machine Yes (✓) No ( )
Site Suitable Yes (✓) No ( )

Character & Porosity of Soil clay loam over clay
Percolation Rate 8.4 gal/ft²/day
Topography 6% slope
Depth to Water Table > 60"
Rock or other impervious formations none

Lot Area _____

_____ Basement with Plumbing _____ Basement without Plumbing ✓ No Basement



Size of Tank 1000 Gals.
Nitrification Field:
No. of Lines (2) 75' lines of
Sq. Ft. 900 Linear Ft. 150 panels
Depth of Stone in Lines 24" of Sand
Water Supply: Individual (✓)
Public ( )

Installed by _____

I understand and agree to install septic tank system as specified on this Improvements Permit.

Signed: _____

IMPROVEMENTS PERMIT BY _____

COMMENTS: 2 lines with 17 panels each line. flow split by flow divider. 2' wide and 75' long each split. in middle by D-box. 25 tons sand

CERTIFICATE OF COMPLETION BY _____ DATE _____

EXISTING SYSTEM CHECKED BY: _____ DATE _____

CONSTRUCTION MUST COMPLY WITH ALL OTHER APPLICABLE STATE AND LOCAL REGULATIONS.

Permit is VOID if any unauthorized changes are made in installation of system and/or if any false information is supplied in making Improvements Permit.

Health Dept. Copy: White Inspection Dept. Copy: Yellow Sanitarian's Copy: Pink Owner's Copy: Gold

COUNTY HEALTH DEPARTMENT

(SEPTIC TANK) IMPROVEMENTS PERMIT AND CERTIFICATE OF COMPLETION
(Ground Absorption Sewage Disposal System -- G. S. Chapter 130-A-Article 11)

OWNER OR CONTRACTOR _____ DATE _____ PERMIT NO. _____

PHONE: Business _____ Home _____

LOCATION _____

_____ S. R. No. _____

SUBDIVISION NAME _____ LOT NO. _____ SECTION OR BLOCK NO. _____

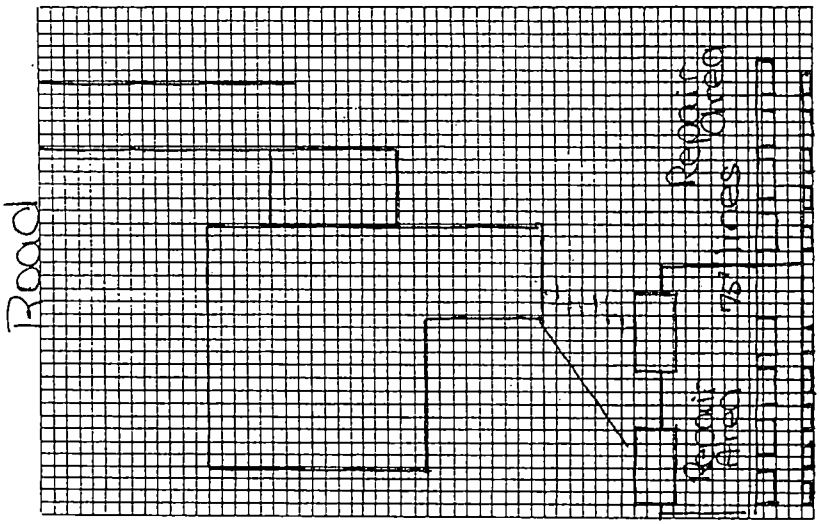
House (✓) Mobile Home ( ) Business ( ) Other _____

No. Bedrooms 3 No. Bathrooms 2 1/2
Garbage Disposal Unit N/A Yes ( ) No ( )
Auto. Dishwasher Yes (✓) No ( )
Auto. Wash. Machine Yes (✓) No ( )
Site Suitable Yes (✓) No ( )

Character & Porosity of Soil clay loam over clay
Percolation Rate 0.4 gal/ft²/day
Topography gently slope
Depth to Water Table >60"
Rock or other impervious formations _____

Lot Area 20,000

_____ Basement with Plumbing _____ Basement without Plumbing ✓ No Basement Pressure Distribution



Plot of System

Size of Tank 1,000 septic / 1000 pump Gals.
Nitrification Field:
No. of Lines 2 (75') lines of T & J
Sq. Ft. 900 Linear Ft. 150
Depth of Stone in Lines 24" sand
Water Supply: Individual ( )
Public ( )

Installed by _____

I understand and agree to install septic tank system as specified on this Improvements Permit.

Signed: _____

IMPROVEMENTS PERMIT BY _____

COMMENTS: pump sized by head 2-4' at turn up

CERTIFICATE OF COMPLETION BY _____ DATE _____

EXISTING SYSTEM CHECKED BY: _____ DATE _____

CONSTRUCTION MUST COMPLY WITH ALL OTHER APPLICABLE STATE AND LOCAL REGULATIONS.

Permit is VOID if any unauthorized changes are made in installation of system and/or if any false information is supplied in making Improvements Permit.

Health Dept. Copy: White Inspection Dept. Copy: Yellow Sanitarian's Copy: Pink Owner's Copy: Gold

DATE 6/13/94

TO: CHARLOTTE-MECKLENBURG BUILDING STANDARDS
PERMIT ISSUING SECTION

FROM: MECKLENBURG COUNTY ENGINEERING

JURISDICTION Meck

001-353-53
PARCEL NUMBER

17246 Greyfriars Rd
ASSIGNED STREET ADDRESS (ADDRESS OF RECORD)

lot 9
EXISTING STREET ADDRESS (IF DIFFERENT FROM ASSIGNED)

NA
PROJECT NAME (IF APPLICABLE)

THE ABOVE DESCRIBED LOCATION HAS BEEN CHECKED CONCERNING:

1. SUBDIVISION REGULATIONS	✓ APPROVED 6/13/94 Pmc	____ NOT APPROVED
2. FLOODWAY REGULATIONS	✓ APPROVED	____ NOT APPROVED
3. WATERSHED PROTECTION	✓ APPROVED	____ NOT APPROVED
4. COMMERCIAL DRAINAGE PLAN	✓ APPROVED	____ NOT APPROVED
5. PUBLIC UTILITY EASEMENT	____ PRESENT	✓ NOT PRESENT
6. PROPERTY FRONTS ON THOROUGHFARE	____ YES	✓ NO
7. DRIVEWAY PERMIT REQUIRED	____ YES	✓ NO
8. DOES PROJECT CONFLICT WITH ROAD PROJECT?	____ YES	✓ NO

REMARKS: S. Tryon & Derita FLOODWAY Mec 6/10/94
ELEVATION CERTIFICATE REQUIRE

NOTE: THIS FORM MUST BE TURNED IN AT THE CASHIERS OFFICE WHEN PAYING PERMIT FEE. CERTIFICATE OF OCCUPANCY WILL NOT BE GRANTED UNTIL TRANSPORTATION DIVISION GRANTS FINAL APPROVAL ON DRIVEWAY(S).

ALL OTHER FORMS OBSOLETE

☐ NEW ADDRESS

SIGNED: Pmc

REVISED 1/91

PP 300.00 check # 2108 6/13/94 PS

6485A

INDIVIDUAL WATER AND WASTEWATER SYSTEMS PROGRAM
APPLICATION FOR SERVICES

file # 6485A

[ ] CRT

Mecklenburg County Health Dept.
Environmental Health Division
c/o Hal Marshall Ctr., Suite 211
700 N. Tryon St.
Charlotte, NC 28202

(704)336-5102

PERSON FILING APPLICATION:
NAME: Crescent Resources (last) (first) (mi)
ADDRESS: Box 1003 PHONE: (__) 663-6905
CITY: Charlotte STATE: ZIPCODE:

Date: 6-11-94

PROPERTY OWNER:
NAME: same as above (last) (first) (mi)
ADDRESS: _____ PHONE: (__) _____
CITY: STATE: ZIPCODE:

PROPERTY INFORMATION (FROM ENGINEERING FORM):
TAX/PARCEL NUMBER: #001-353-53
STREET ADDRESS: 1724 e Graefriars Rd
ZONING: _____

Township (check one):
[X] 0 Mecklenburg County [ ] 2 Davidson [ ] 4 Pineville [ ] 6 Huntersville
[ ] 1 Charlotte [ ] 3 Cornelius [ ] 5 Matthews [ ] 7 Mint Hill

SUBDIVISION OR MOBILE HOME PARK NAME: Grayfriars

LOT NUMBER: #9 LOT SIZE (in acres): .50

TYPE APPLICATION (check one):
[ ] SOIL TEST - INDIVIDUAL LOT (D)
[X] NEW CONSTRUCTION ON VACANT LOT - 4 BEDROOMS OR LESS (N)
[ ] EXCHANGE MOBILE HOME - SAME # BEDROOMS (Y)
[ ] ADDITION - INCREASE ROOMS/OCCUPANCY/MOBILE HOME SIZE (A or M)
[ ] COMMERCIAL OR INDUSTRIAL (N)
[ ] SOIL TEST DEVELOPMENT (P)
[ ] ADDITION - GARAGE OR RENOVATION/NO MAJOR CHANGES (X)
[X] MODIFIED /ALTERNATIVE/ OR RESIDENCE > 4 BEDROOMS (Z)
[ ] REPAIR TO SYSTEM (R)

RESIDENTIAL PROPERTY (Type Building, check one):
[ ] SINGLE MOBILE HOME (S) [X] HOUSE (H) [ ] MULTIPLE FAMILY (U)
[ ] DOUBLE WIDE (D) [ ] MODULAR HOME (M) [ ] OTHER _____ (O)

NUMBER BEDROOMS: 3 NUMBER OCCUPANTS: 6
SYSTEM CLASSIFICATION: gravity panel

COMMERCIAL/INDUSTRIAL PROPERTY:
Type Business _____ # Employees ___ Per Shift ___ ___ ___
Industrial Wastes (Y/N) ___
Underground Storage Tanks On Property (Y/N) ___ Type _____

WATER SUPPLY (check one):
[ ] Community (C) [ ] Shared Well (S)
[ ] Municipal (M) [ ] Other 'spring' (O)
[X] Private Well (P)

FUTURE ADDITIONS - ALL PLANNED ADDITIONS MUST BE ENTERED (check all that apply):
[ ] Swimming Pool [ ] Jacuzzi [ ] Stable/Barn [ ] Workshop [ ] None
[ ] Garage [ ] Storage Building [ ] Deck/Patio [ ] Bedrooms [ ] Other

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: Toney Jacobs, CPSS Date: 6-11-94

NOTICE:

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 Sanitary Sewage Collection, 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 permit is not transferable.

... PPBPS TYPE IV

CERTIFIED OPERATOR REQUIRED

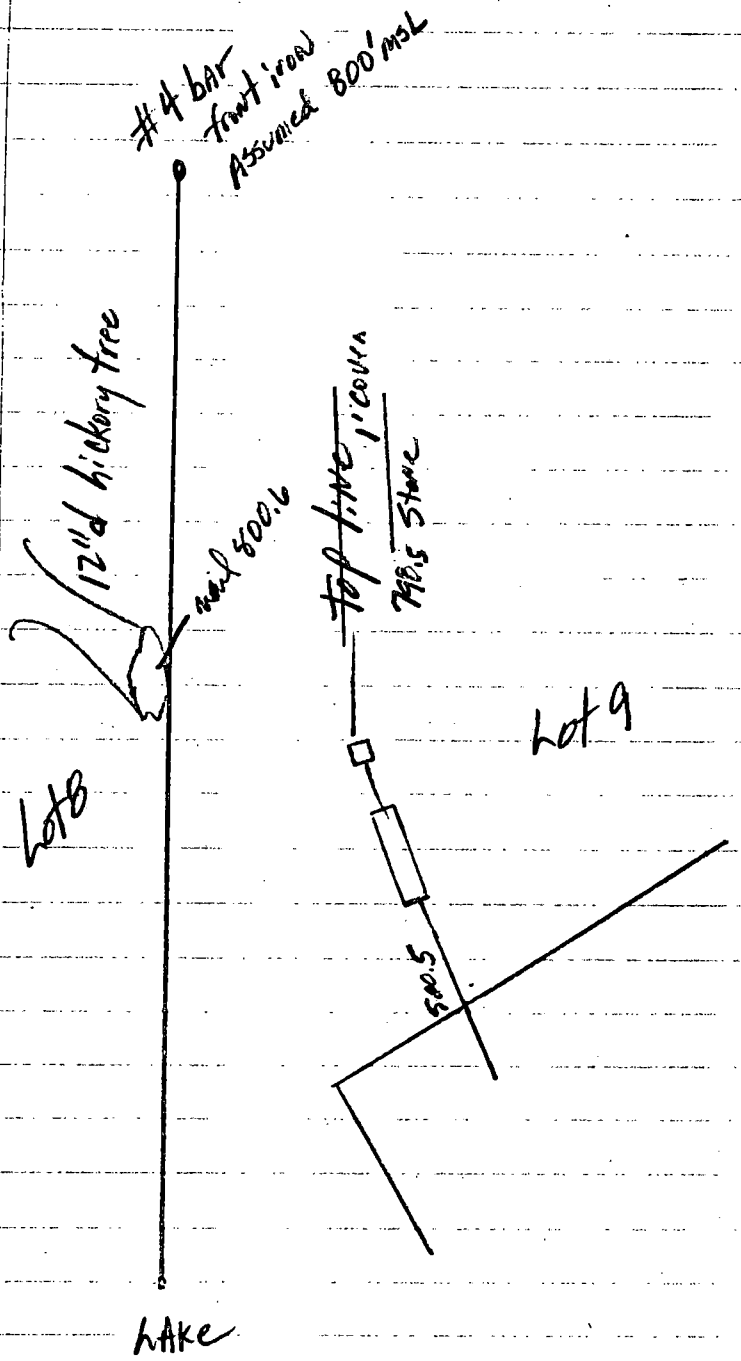
AGREEMENT FORM ON FILE

[X] IMPROVEMENT PERMIT - VALID 60 MONTHS FROM ISSUANCE
[ ] MOBILE HOME EXCHANGE APPROVAL - VALID 6 MONTHS FROM ISSUANCE
[ ] ADDITION/RENOVATION APPROVAL - VALID 1 YEAR FROM ISSUANCE

Environmental Ist Date
Kelly Randall 7-9-94
Director or Authorized Section Head Date

WWATER : 122791

Elevations Sheet



Lot 9 Grey Friars

Sta.	B.S.	H.I.	F.S. or Grade Rod	Elev. or Planned Elev.
Ft. rebar #4				
[illegible]	3.0	803.0		800.0
nail in tree			2.4	800.6
white line surface			3.5	799.5
pipe out both invert ⌀4"				800.5
ground surface At house			5.1	797.9
	bottom cut		7.6 >	existing grade

SCS-29 (3-60)

GPO : 1960 OF—550816

COUNTY HEALTH DEPARTMENT

(SEPTIC TANK) IMPROVEMENTS PERMIT AND CERTIFICATE OF COMPLETION
(Ground Absorption Sewage Disposal System -- G. S. Chapter 130-A-Article 11)

OWNER OR CONTRACTOR _____ DATE _____ PERMIT NO. _____

PHONE: Business _____ Home _____

LOCATION _____

_____ S. R. No. _____

SUBDIVISION NAME _____ LOT NO. _____ SECTION OR BLOCK NO. _____

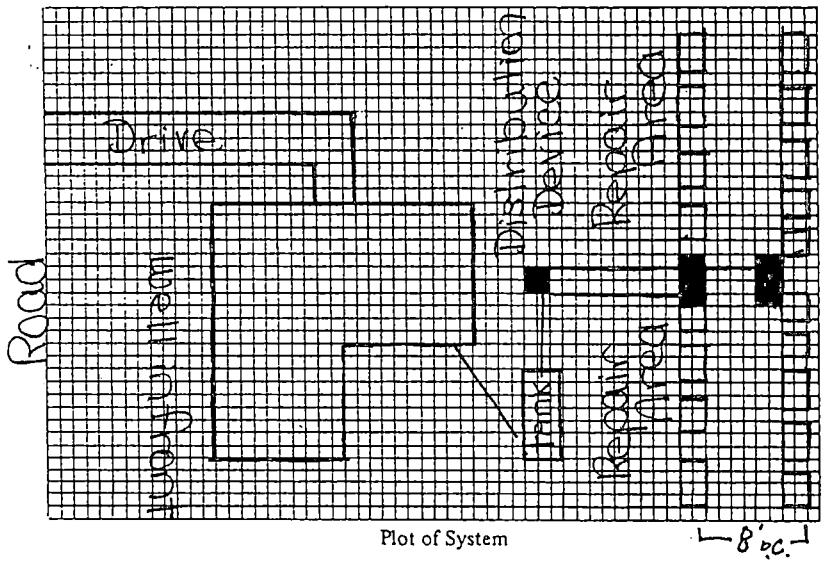
House (✓) Mobile Home ( ) Business ( ) Other _____

No. Bedrooms 3 No. Bathrooms 2 1/2
Garbage Disposal Unit N/A Yes ( ) No ( )
Auto. Dishwasher Yes (✓) No ( )
Auto. Wash. Machine Yes (✓) No ( )
Site Suitable Yes (✓) No ( )

Character & Porosity of Soil clay loam over clay
Percolation Rate 0.4 gal/ft²/day
Topography (0% slope
Depth to Water Table > 60"
Rock or other impervious formations none

Lot Area _____

_____ Basement with Plumbing _____ Basement without Plumbing ✓ No Basement



Plot of System

Size of Tank 1000 Gals.
Nitrification Field:
No. of Lines (2) 75' lines of
Sq. Ft. 900 Linear Ft. 150' of panels
Depth of Stone in Lines 24" of Sand
Water Supply: Individual (✓)
Public ( )

Installed by _____

I understand and agree to install septic tank system as specified on this Improvements Permit.

Signed: _____

IMPROVEMENTS PERMIT BY _____

COMMENTS: 2 lines with 17 panels each line. flow split by flow divider. 2' wide and 75' long each split. in middle by D-box. 25 tons sand

CERTIFICATE OF COMPLETION BY _____ DATE _____

EXISTING SYSTEM CHECKED BY: _____ DATE _____

CONSTRUCTION MUST COMPLY WITH ALL OTHER APPLICABLE STATE AND LOCAL REGULATIONS.

Permit is VOID if any unauthorized changes are made in installation of system and/or if any false information is supplied in making Improvements Permit.

Health Dept. Copy: White Inspection Dept. Copy: Yellow Sanitarian's Copy: Pink Owner's Copy: Gold

COUNTY HEALTH DEPARTMENT

(SEPTIC TANK) IMPROVEMENTS PERMIT AND CERTIFICATE OF COMPLETION
(Ground Absorption Sewage Disposal System -- G. S. Chapter 130-A-Article 11)

OWNER OR CONTRACTOR _____ DATE _____ PERMIT NO. _____

PHONE: Business _____ Home _____

LOCATION _____

_____ S. R. No. _____

SUBDIVISION NAME _____ LOT NO. _____ SECTION OR BLOCK NO. _____

House (✓) Mobile Home ( ) Business ( ) Other _____

No. Bedrooms 3 No. Bathrooms 2 1/2

Garbage Disposal Unit N/A Yes ( ) No ( )

Auto. Dishwasher Yes (✓) No ( )

Auto. Wash. Machine Yes (✓) No ( )

Site Suitable Yes (✓) No ( )

Lot Area 20,000

Character & Porosity of Soil clay loam over clay

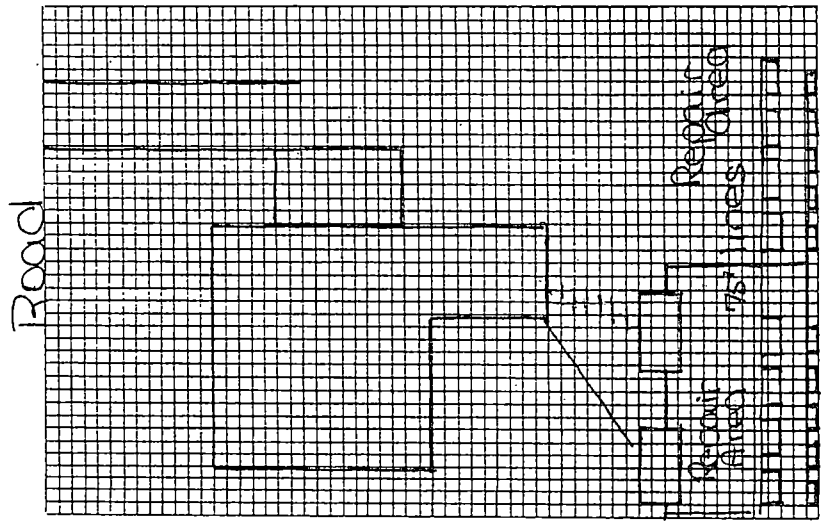
Percolation Rate 0.4 gal/ft²/day

Topography 6% Slope

Depth to Water Table >60"

Rock or other impervious formations _____

_____ Basement with Plumbing _____ Basement without Plumbing ✓ No Basement Pressure Distribution



Plot of System

Size of Tank 1,000 septic / Gals.

Nitrification Field: 1600 pump

No. of Lines 2 (75') lines of Tee

Sq. Ft. 900 Linear Ft. 150

Depth of Stone in Lines 24" sand

Water Supply: Individual ( )
Public ( )

Installed by _____

I understand and agree to install septic tank system as specified on this Improvements Permit.

Signed: _____

IMPROVEMENTS PERMIT BY _____

COMMENTS: pump sized by head 2-4' at turn up

CERTIFICATE OF COMPLETION BY _____ DATE _____

EXISTING SYSTEM CHECKED BY: _____ DATE _____

CONSTRUCTION MUST COMPLY WITH ALL OTHER APPLICABLE STATE AND LOCAL REGULATIONS.

Permit is VOID if any unauthorized changes are made in installation of system and/or if any false information is supplied in making Improvements Permit.

Health Dept. Copy: White Inspection Dept. Copy: Yellow Sanitarian's Copy: Pink Owner's Copy: Gold

Drawn By: Crescent Resources
Mail To: Environmental Health Dept.

REAL ESTATE BOOK 6301 PAGE 0306

PRESENTED FOR REGISTRATION
90 JUN 26 PM 3:40
ANNE A. POWERS
REGISTER OF DEEDS
MECKLENBURG CO. N.C.

000300

FILE NO. 6485A

Parcel: 001-353-40

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

ACKNOWLEDGEMENT OF REQUEST BY OWNER FOR RECLASSIFICATION OF SITE FROM "UNSUITABLE" TO "PROVISIONALLY SUITABLE" UNDER 10 NCAC 10A .1948(c)

The undersigned, Crescent Resources, Inc.,

owner of property located at 17246 Greyfriars Road .

("the site") and described in an instrument recorded in Book 3822 at Page 289, Mecklenburg Public Registry, hereby acknowledges that he applied to the Mecklenburg County Department of Environmental Health ("the Department") for a permit to install a septic tank sewage disposal system on the site; that the Department evaluated the site for suitability for such a system in accordance with the regulations promulgated by the North Carolina Commission for Health Services as 10 NCAC 10A .1934 et seq; that the Department originally classified the site as "unsuitable" pursuant to the standards set forth in the regulations; that the undersigned requested pursuant to 10 NCAC 10A .1948(c) that the Department reclassify the site as "provisionally suitable" in light of the particular septic tank system proposed by the undersigned; that the Department considered various studies, data and other information which indicate to the Department that the septic tank system proposed by the undersigned can reasonably be expected to function satisfactorily and thus that the findings specified in 10 NCAC 10A .1948(c)(1), (2), and (3) can be made; and that the Department therefore reclassified the site as "provisionally suitable" and issued an appropriate permit for such proposed septic tank system.

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

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

The undersigned further agrees for his heirs and assigns that, in the event any septic tank system installed under authority of the aforesaid permit fails to perform adequately in any respect, he will take whatever measures are required to correct same; or if such is impossible he will discontinue use of said system immediately.

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

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

This 22nd day of June, 1990.

Crescent Resources, Inc. (SEAL)

By: R. B. Dienst (SEAL)
Vice President

Attest:
Ethelene S. Williams
Assistant Secretary

STATE OF NORTH CAROLINA
COUNTY OF MECKLENBURG

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

WITNESS my hand and notarial seal, this _____ day of _____, 198___.

_____ Notary Public

FEE

My Commission Expires: _____

CASH 8.00

23:15 #0110 000

06/26/90

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

I, Sharon C. Arrowood, a Notary Public for said County and State, do hereby certify that Ethelene G. Williams personally came before me this day and acknowledged that he is asst. secretary of Crescent Resources, Inc., and that by authority duly given and as the act and deed of said corporation, the foregoing instrument was signed in its name by its Vice President, ~~Robert~~ B. Dienst, sealed with its corporate seal and attested by Assistant Secretary.

WITNESS my hand and notarial seal, this 22nd day of June, ~~XXX~~1990

Sharon C. Arrowood
Notary Public

My Commission Expires: 10/13/93

ANNE A. POWERS, REGISTER OF DEEDS

By _____ Deputy - Register of Deeds

State of North Carolina, County of Mecklenburg

The foregoing Certificate(s) of Sharon C. Arrowood

Notary(ies) Public 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.

REAL ESTATE
BOOK PAGE
6301 0307

1.00
7.00
8.00

Mecklenburg County
Health Department

May 10, 1990

Crescent Resources, Inc.
PO Box 30818
Charlotte, NC 28230

RE: Property located at 17246 Greyfriars
FILE: 6485A
PARCEL: 001-353-40

Gentlemen:

Receipt of your plans for a modified waste disposal system for the property referenced above is acknowledged.

Your plans for the modified system for the above property as submitted are approved with the following comments:

- The well should be located 100 feet or no less than 50 feet away from any part of the sewage disposal system and repair area.
- Water saving plumbing devices and low flush toilets should be installed when constructing the residence.
- Occupants to utilize maximum water conservation measures wherever possible.
- Effectively rake and lime all trench sidewalls.
- Landscaping of repair area to be undisturbed. No grading, shaping, or altering in anyway.

Upon execution and recording with the Register of Deeds Office, Mecklenburg County, of the enclosed "Septic Tank Agreement Form", an Improvements Permit may be issued by this office.

Sincerely,

Gene Vaughan

Gene Vaughan, R.S., Supervisor
On Premises Waste Disposal & Water Supply

GV/kat

Enclosures - 3 Septic Tank Agreement Forms

Date: 3/26/90

DESIGN SPECIFICATIONS FOR ON-SITE WASTE SYSTEM

Address: Lot 9 Greyfriars Cove

General Description: Pressure Distribution PABBS

Daily design waste flow: 360 gpd
Effluent loading rate: 0.3 gpd/sf
Square footage: 1200 eq'
Septic tank size: 1500 gal. (2 compartments)
Pumping tank size: 1000 gal.

Initial Installation

Line	# Panels	# Hole(s) Per Panel	Size Hole	Line Head	Line Length	Hole Flow	Line Flow
A	15	1	5/32	3.0	67	0.5	7.5
B	15	1	5/32	3.0	67	0.5	7.5
C	15	1	5/32	3.0	67	0.5	7.5
D			5/32				
E							
F							
G							
H							
Totals	45				200		22.5
Required 100% Repair							
I	8	1	5/32	3.0	34	0.5	4.0
J	15	1	"	"	67	"	7.5
K	15	1	"	"	67	"	7.5
L	7	1	"	"	33	"	3.5
M							
N							
O							
P							
Totals	45				200		22.5

CALCULATIONS FOR PUMPED SYSTEMS:

Friction loss: supply line = 90 LF of 1/2 inch x 3.3 loss/100 = 3.0
lateral line = 67 LF of 1/4 inch x .76 loss/100 = 5
fittings = x .2 = .7
total 4.2

Head:
pressure head = 3.0
friction head = 4.2
elevational head = 11.0
TDH = 18.2
20% margin = (18.2/.8 = = 22.8 ft.)
TOTAL DESIGN HEAD= 22.8

A UL or SSPMA listed effluent or sewage pump sized to deliver a minimum of 45 gallons per minute at 22.8 feet of head.
Pump size for system no Pump size for system and repair yes
Dosing volume ~~or time~~: 162 gal
Check valve: yes
Syphon break hole: no
Note: Each line shall have a globe or gate valve at the start of the line for pressure adjustment. "Noted ⊗ "

Date: 3/23/90

From: Toney C. Jacobs
Consulting Soil Scientist
Rt. 2 Box 280
Troutman, N. C. 28166

To: Crescent Resources, Inc.
P.O. Box 30817
Charlotte, N. C. 28230

Subject: Lot 9 Greyfriars Rd.

System type: 16 inch T & J Panel System with pressure distribution

This system is designed for a three bedroom house at an application rate of 0.3 gpd. 360/.3 = 1200/3 = 400 LF of conventional drainfield multiplied by .5 = 200 LF of 16 inch T & J Panel System. This system shall be installed in accordance with all state and local rules and regulations and in compliance with manufacturer's installation guidelines. Installer should have a thorough working knowledge of Design and Installation of Low-Pressure Pipe Waste Treatment Systems by Cogger, et.al. - UNC Sea Grant Publication -UNC SG-8203.

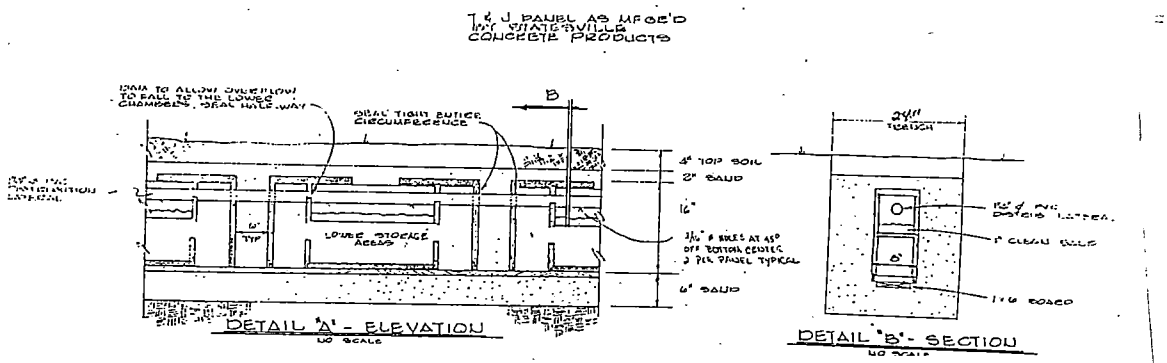
The house representation is for septic calculations only, and corners should not be considered for actual construction.

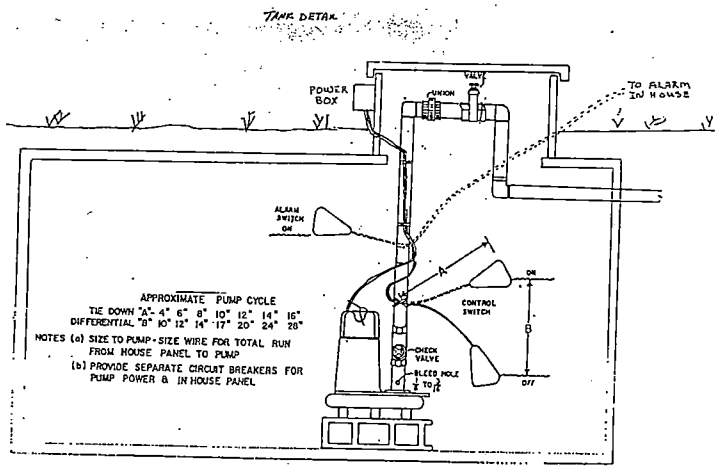
DESIGN SPECIFICS OF THIS SYSTEM MAY BE FOUND IN:

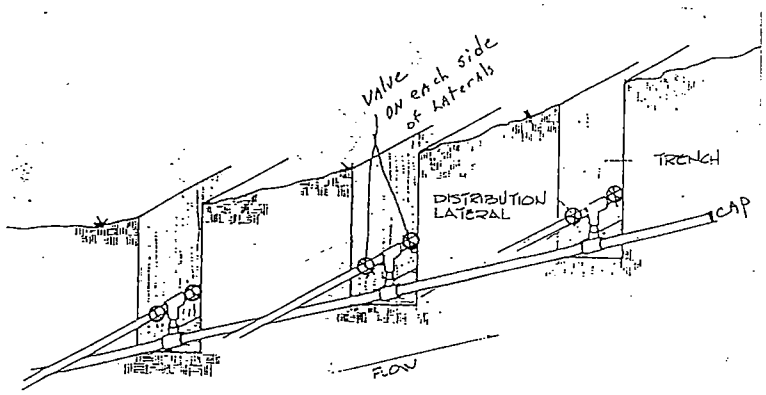
1. DESIGN AND INSTALLATION OF LOW-PRESSURE PIPE WASTE TREATMENT SYSTEMS by: Craig Cogger; Bobby L. Carlisle; Dennis Osborne; Ed Holland. Published by: UNC Sea Grant Pub. UNC-SC-82-03. May, 1982.

2. DESIGN, INSTALLATION AND MAINTENANCE OF THE T & J PANEL WASTEWATER TREATMENT SYSTEM FOR SANITARIANS AND SEPTIC TANK INSTALLERS. Available through Statesville Concrete Products Co., Statesville, N. C. 1-800-222-2577.

DESIGN DETAILS

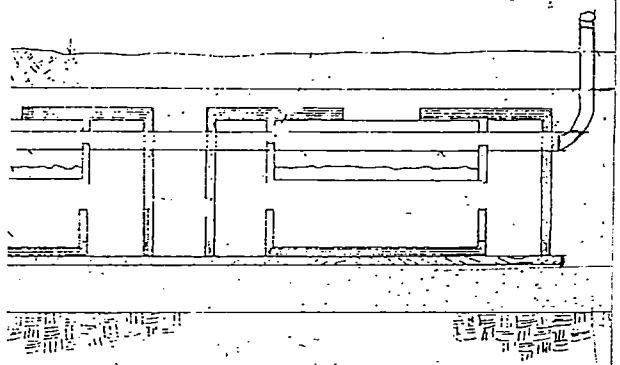






A PUMPING UPHILL

END OF LINE DETAIL



Mecklenburg County
Health Department

February 9th, 1990

Crescent Resources, Inc.
PO Box 30817
Charlotte, NC 28230

RE: Property located at Greyfriars Rd.
FILE: 6485A
PARCEL: 00135340

Dear Sir:

At your request, a field investigation was conducted on the property designated above for the purpose of determining site suitability for the installation of a ground absorption sewage disposal system. The property was found to contain a limited area of soils which were classified as PROVISIONALLY SUITABLE for such an installation. A copy of the Site Evaluation Report (Serial Number 17596) is enclosed for your information.

Should you desire to file for permission to install a ground absorption sewage disposal system, please submit an Application For An Improvement Permit with an ACCURATELY dimensioned plot plan detailing the location of current and/or proposed buildings, wells and sewage disposal systems to this office. The plan will be reviewed and if it is found that the area of provisionally suitable soils is adequate for the proposed construction, an Improvement Permit will be issued by this Department.

If I may be of assistance, please do not hesitate to contact me.

Very truly yours,

Gene Vaughan, R.S., Supervisor
On Premises Waste Disposal & Water Supply

Enclosure

Environmental Health Division
1200 Blythe Boulevard • Charlotte, North Carolina 28203 • (704) 376-4603

MECKLENBURG COUNTY HEALTH DEPARTMENT
SITE EVALUATION REPORT
SERIAL NUMBER 17596

File: 6485A

Parcel: 00135340

Action 1

PC

Location: Greyfriars Rd.

Subdivision:

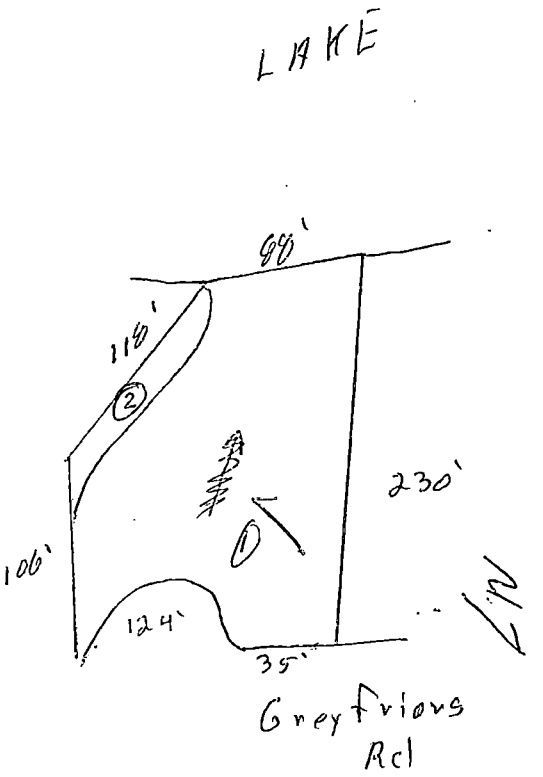
Lot: H-9 Block: Acres: .5

Owner:
Address: Crescent Resources, Inc.
PO Box 30817
Charlotte, NC 28230

Comments: 100% Repair
Slope direction arrow
changed after site visit
5-14-90 -WAM

Described by: William A. Marks

Date: 2-9-90



***** EVALUATION KEY *****

S = Suitable U = Unsuitable
PS = Provisionally Suitable
The "Area Classification" below indicates the suitability of areas in the diagram.

FACTORS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6
Topography	(S) PS U 2-12%	S PS (U) complex slopes	S PS U	S PS U	S PS U	S PS U
Texture	S (PS) U Clay	S PS U —	S PS U	S PS U	S PS U	S PS U
Structure	S (PS) U Blocky	S PS U —	S PS U	S PS U	S PS U	S PS U
Drainage	(S) PS U 7-48" to water	S PS U —	S PS U	S PS U	S PS U	S PS U
Depth	S (PS) U 7-36"	S PS U —	S PS U	S PS U	S PS U	S PS U
Restrictive Horizons	(S) PS U 7-48"	S PS U —	S PS U	S PS U	S PS U	S PS U
Available Space	S (PS) U limited	S PS U	S PS U	S PS U	S PS U	S PS U
Other (specify)	S PS U	S PS U	S PS U	S PS U	S PS U	S PS U
Soil Group/Series	IV Cecil-Urban	complex slopes				
Area Classification	S (PS) U	S PS (U)	S PS U	S PS U	S PS U	S PS U

APPLICATION FOR SOIL INVESTIGATION

HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
1200 BLYTHE BOULEVARD
CHARLOTTE, NC 28203
PHONE (704) 376-4603

(OFFICE USE ONLY)

FILE: 6485A

TC: _____

☒ PC ☐ REPT

sub 6477A
boundary adj

JOB LOCATION

① ADDRESS: Greyfriars Road - Meck Neck

② SUBDIVISION: N/A ③ LOT: H-9 ④ BLOCK: _____

⑤ PARCEL REFERENCE: BOOK NO.: _____ PAGE NO.: _____ PARCEL NO.: 01-353-40

⑥ DEED REFERENCE: BOOK NO.: _____ PAGE NO.: _____

OWNER

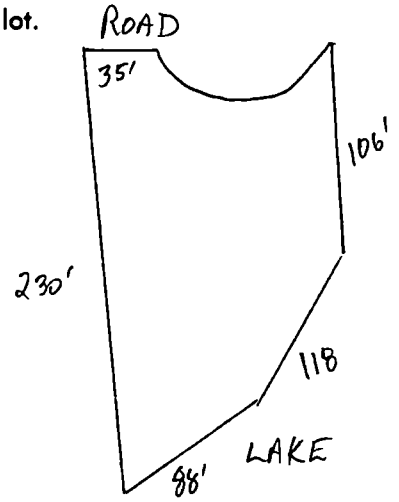
⑦ NAME: CRESCENT (FIRST) RESOURCES (MIDDLE), INC. (LAST)

⑧ MAILING ADDRESS: PO Box 30817

⑨ CITY: Charlotte ⑩ STATE: N.C. ⑪ ZIP: 28230

⑫ PHONE: (WORK) 372-3012 (HOME) _____

⑬ Accurately diagram and dimension lot.



⑭ The undersigned, 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: Terry C Jarrett, CPSS

Date: 1-22-90

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

WHITE - HEALTH DEPARTMENT'S COPY • CANARY - ENVIRONMENTALIST'S COPY • PINK - OWNER'S COPY

PROPOSED PLOT PLAN

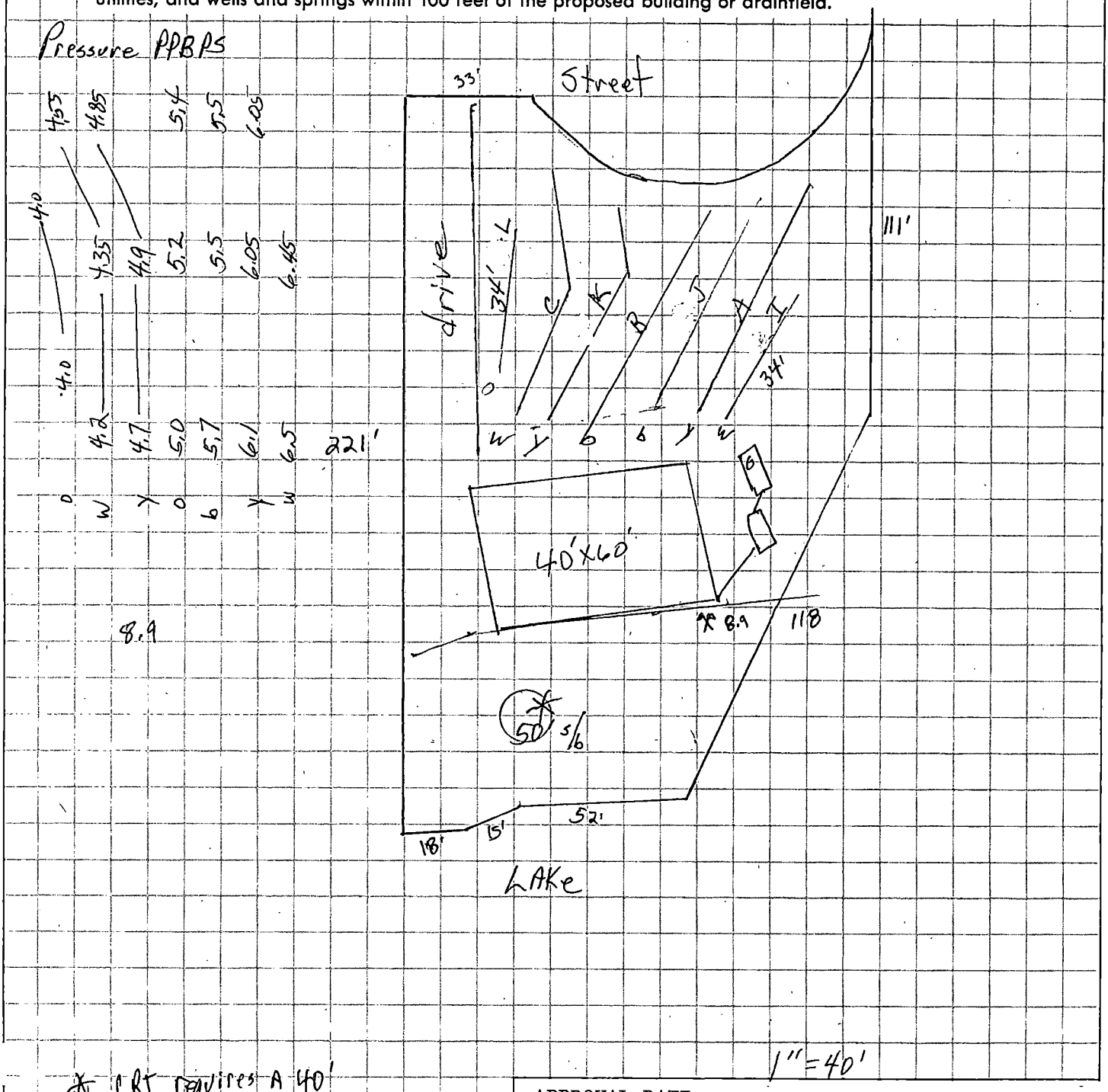
Lot 9

HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
1200 BLYTHE BOULEVARD
CHARLOTTE, NC 28203
PHONE (704) 376-4603

FILE: _____

TC: _____

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.



1" = 40'

* CRI requires a 40' set back from side lines

APPROVAL DATE _____

White - Health Department's Copy Canary - Environmentalist's Copy Pink - Owner's Copy