

20405 STAGHORN CT

00171148

1/3/2008

duponbj

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

8/24/96 602

CERTIFICATE OF COMPLETION/OPERATION PERMIT

$150.00

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

FILE: 3604-B DATE: 5-6-96

TC: 001-111-19 ☐ L ☐ CRT

SERIAL Nº 16540

Name of Owner LELAND HELMS Juris.: _____

Address of Property 20405 STRATHMORE CT

Inspection Data:

Tank Material PCC

Total Length of Drainfield 200

Number of Lines 6 @ _____

Cover Depth 6"

Water Supply Source CMUD

Distance to Water Source NA

Excavation Inspected 5-6-96

Tank(s) Inspected 5-6-96

Wash Line Inspected —

High Water Alarm Inspected NA

PLOT

Design 1996, 1500 ST, MOD, PPBPS TYPE III CTR# Ican christian

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 15A 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 15A 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: _____

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: 3604 B DATE: 4-9-96

TC: 001-111-18 ☐ L

SERIAL Nº 16784

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 5-25-95. All work shall be completed on or before 5-9-96, 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.

PLOT OF SYSTEM

Liquid Capacity of Septic Tank 15 gallons

Liquid Capacity of Dosing Tank 1500 gallons

Tank Construction —

Trench Depth 30"

Absorption and/or Nitrification Lines:

Trench Width 2 feet

Trench Walls Scored and Porous Yes

Total Line Length 270 feet

Number of Lines 6

Depth of ~~Stone~~ SAND 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 Leland Helms

LOCATION OF PROPERTY 20905 Stughorn Ct

Comments: Install in accordance w/ Plan on file

Environmental Health Specialist

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

3604B
19670

INDIVIDUAL WATER AND WASTEWATER SYSTEMS PROGRAM
APPLICATION FOR SERVICES

PA 4/15 04
5/25/95
CK # 555
R 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

Date:

PERSON FILING APPLICATION:
NAME: Helms (last) Leland (first) (mi)
ADDRESS: 20401 Staghorn Ct PHONE: (__) 892-3074
CITY: Davidson STATE: NC ZIPCODE: 28036

PROPERTY OWNER:
NAME: Helms (last) Leland (first) (mi)
ADDRESS: 20401 Staghorn Ct PHONE: (704) 892-3074
CITY: Davidson STATE: NC ZIPCODE: 28036

PROPERTY INFORMATION (FROM ENGINEERING FORM):
TAX/PARCEL NUMBER: 001-114-44 7111-18
STREET ADDRESS: 20401 Staghorn Ct
ZONING: R-15

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

SUBDIVISION OR MOBILE HOME PARK NAME:

LOT NUMBER: LOT SIZE (in acres):

TYPE APPLICATION (check one):
☐ SOIL TEST - INDIVIDUAL LOT (D)
☒ 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)
☐ MODIFIED /ALTERNATIVE/ OR RESIDENCE > 4 BEDROOMS (Z)
☐ REPAIR TO SYSTEM (R)

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

NUMBER BEDROOMS: 4 NUMBER OCCUPANTS:

SYSTEM CLASSIFICATION:

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)
☒ 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: Leland Helms Date: 5-25-95

NOTICE:

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department has approved the 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.

...CPBPS TYPE III

AGREEMENT FORM ON FILE

EASEMENT ON FILE

☒ IMPROVEMENT PERMIT - VALID 60 MONTHS FROM ISSUANCE
☐ MOBILE HOME EXCHANGE APPROVAL - VALID 6 MONTHS FROM ISSUANCE
☐ ADDITION/RENOVATION APPROVAL - VALID 1 YEAR FROM ISSUANCE

Environmentalist Date

Kelly Randall 7-5-95
Director or Authorized Section Head Date

WATER : 12791

PROPOSED PLOT PLAN

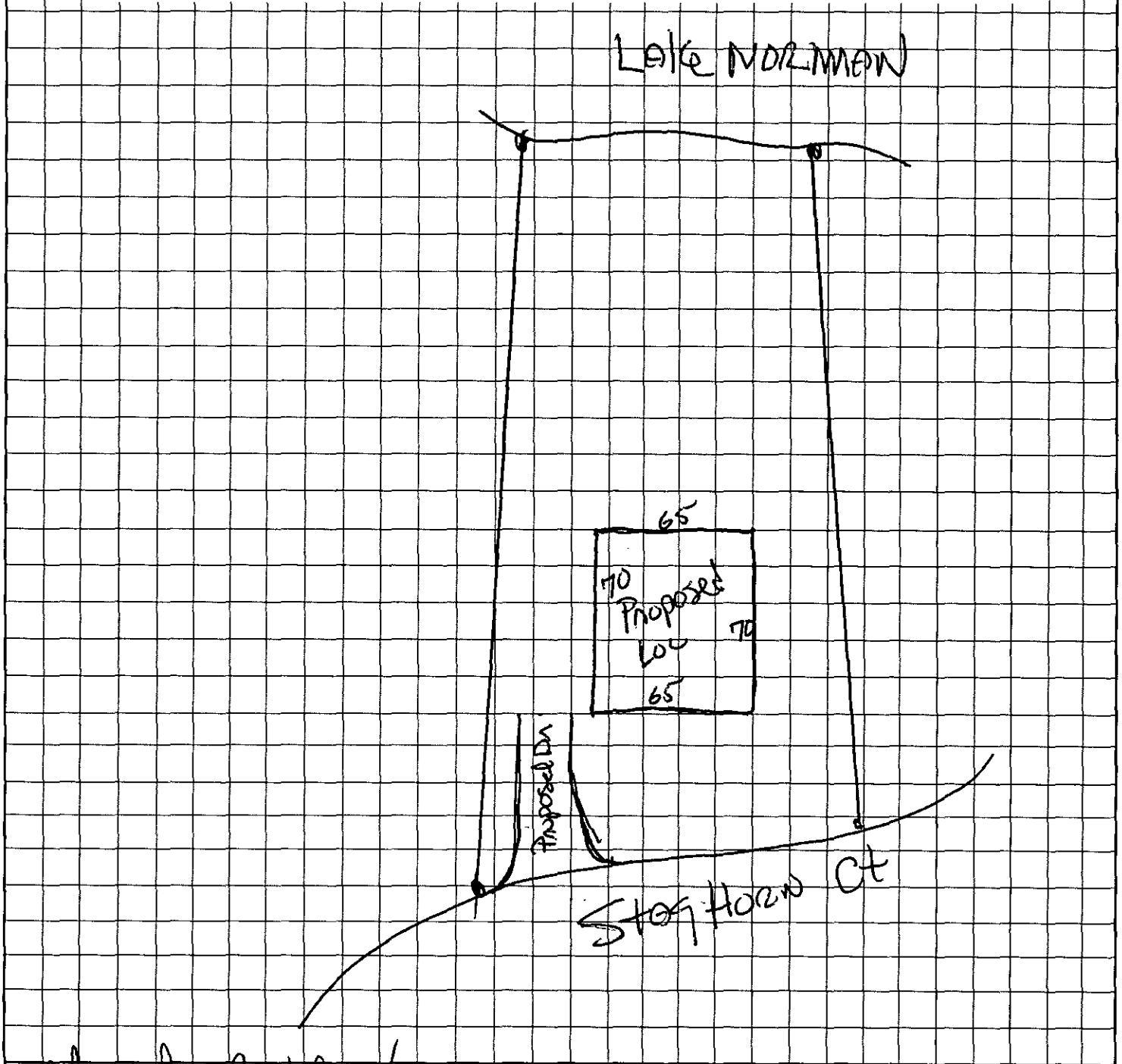
HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 NORTH TRYON STREET
CHARLOTTE, NC 28202
PHONE (704) 336-5102

3604B

FILE: ~~19670~~

TC: 001-114-44

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.



Michael W Burkhead /agent

OWNER/AGENT SIGNATURE

DATE 5-25-95

APPROVAL DATE _____

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

LELAND AND JOYCE HELMS

LOT____

20405 STAGHORN COURT

MECKLENBURG COUNTY-NORTH CAROLINA

MCHD FILE # 3604 B

by

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

June 17, 1995

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

Leland and Joyce Helms
20401 Staghorn Court
Davidson, N. C.



Toney C. Jacobs, CPSS

Helms lot - Staghorn Court
Gravity Distribution T & J Panel System

Design Considerations

This system is proposed for a newly subdivided single family lot of 0.5 acres in an established community of single family homes in northern Mecklenburg County along Lake Norman. This is a waterfront lot in a community of waterview and waterfront lots. The system is designed for a 4 bedroom home, presently to be served by CMUD water, but due to subdivision covenants has a well location designed to both .1900 and 2C requirements. Because the property was platted in 1995, 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 owners. The soil on all of the tract is of a suitable quality (provisionally suitable) for ground absorption. There are not evidences of cut or gullies from past activities. Topo is excellent. Overall, the soil has a light clay texture.

Because of limited space, the panel block system with gravity distribution is considered best suited and permittable. Neither a French drain nor a surface swail is indicated for this lot at this time.

Location

The approximately ½ Ac building lot is on the left near the beginning of Staghorn Ct., ~~near~~ the end of Bethel Church Road.

Reference Material

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

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

Recommendation

Two hundred and seventy (270) lineal feet of Gravity T & J lines with equal repair. Lines to be end fed so maximum run is 45 feet.

Ownership Responsibility for a T & J System

1. Two compartment septic tank - 1500 gal.
2. Supply pipe
3. One Tyson flow divider and two speed leveler boxes

4. Lateral of T & J Panels in ground absorption trenches, 2 feet wide, level end to end. 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 yard trees with minimum soil disturbance (do not grade). Backfill low area(s) from tree removal 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.
4. 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.
5. The septic tank shall consist of a 1500 gallon capacity reinforced, precast 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.
6. 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 property 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 installed with exacting measurements. Should the installer desire a change, it must be approved in writing by the health department. Final inspection will also require more time and detail than a conventional system. If there are questions, please give me a call.

Design Specifications

Helms lot - Staghorn Court

Daily design flow:	480 gpd - 4 bedroom house
Septic tank size:	1500 gal (2 compartments)
Effluent loading rate:	0.296 gpd/sf conventional
Number and length of laterals:	6 lines of 45' end fed
	Repair 272' of T & J Panel pressure dosed and
	valved for equal distribution
Total number of panels:	60

THIS IS TO CERTIFY THAT ON THE 15th DAY OF June 19 95 I, MAPPED THE PROPERTY SHOWN ON THIS PLAT. AND THAT THE TITLE LINES AND THE WALLS OF THE BUILDINGS IF ANY ARE SHOWN HEREON.

SIGNED Bobby J Raye
REGISTERED SURVEYOR

BOBBY J. RAYE
N.C.R.L.S.
627 EASTWAY DRIVE
CHARLOTTE, NC 28205

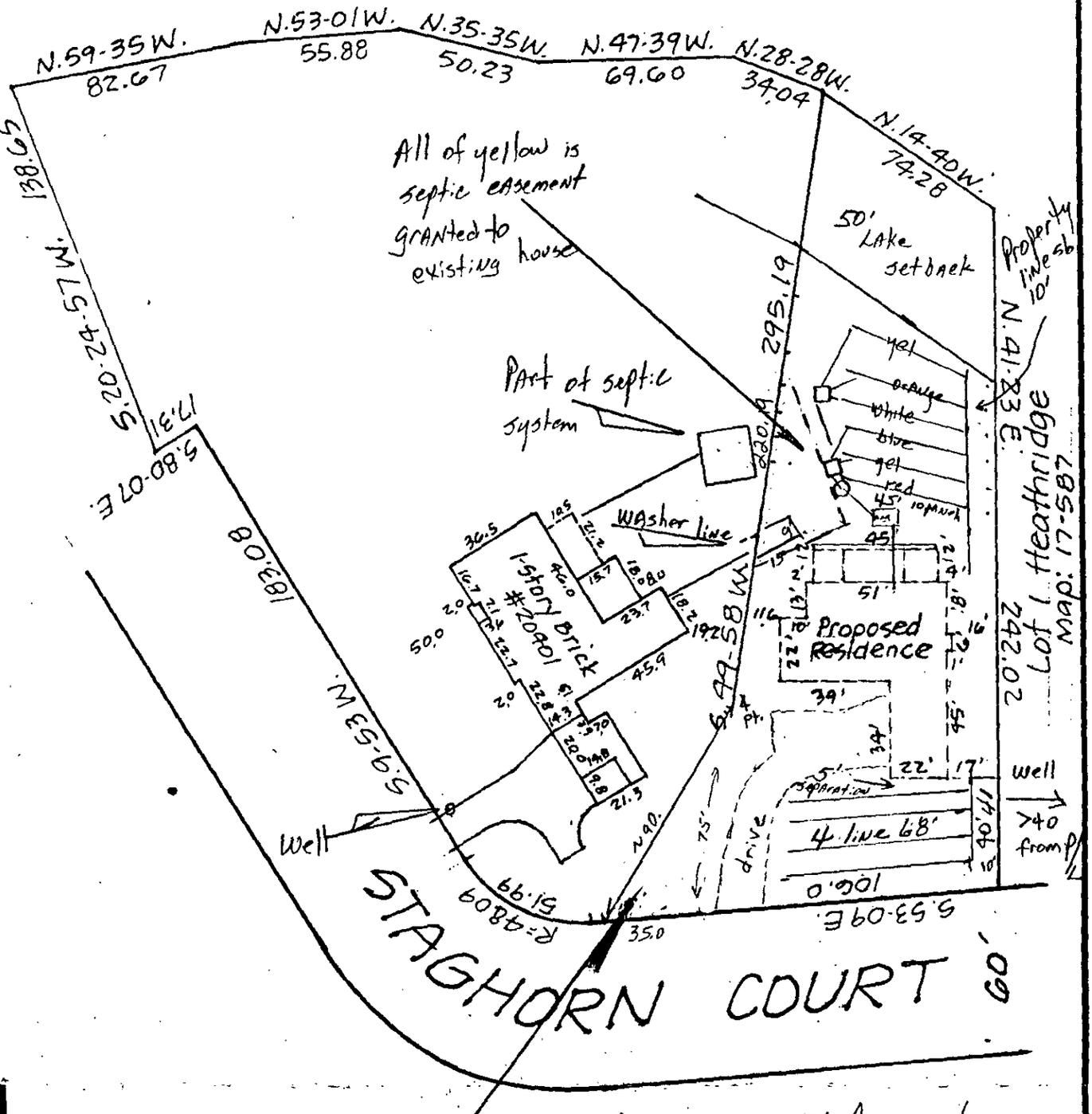
NORTH CAROLINA REGISTERED SEAL L1108 LAND SURVEYOR BOBBY J. RAYE



Ref. Map. 1587

Septic Plot Plan

Lake Norman



Map OF SURVEY

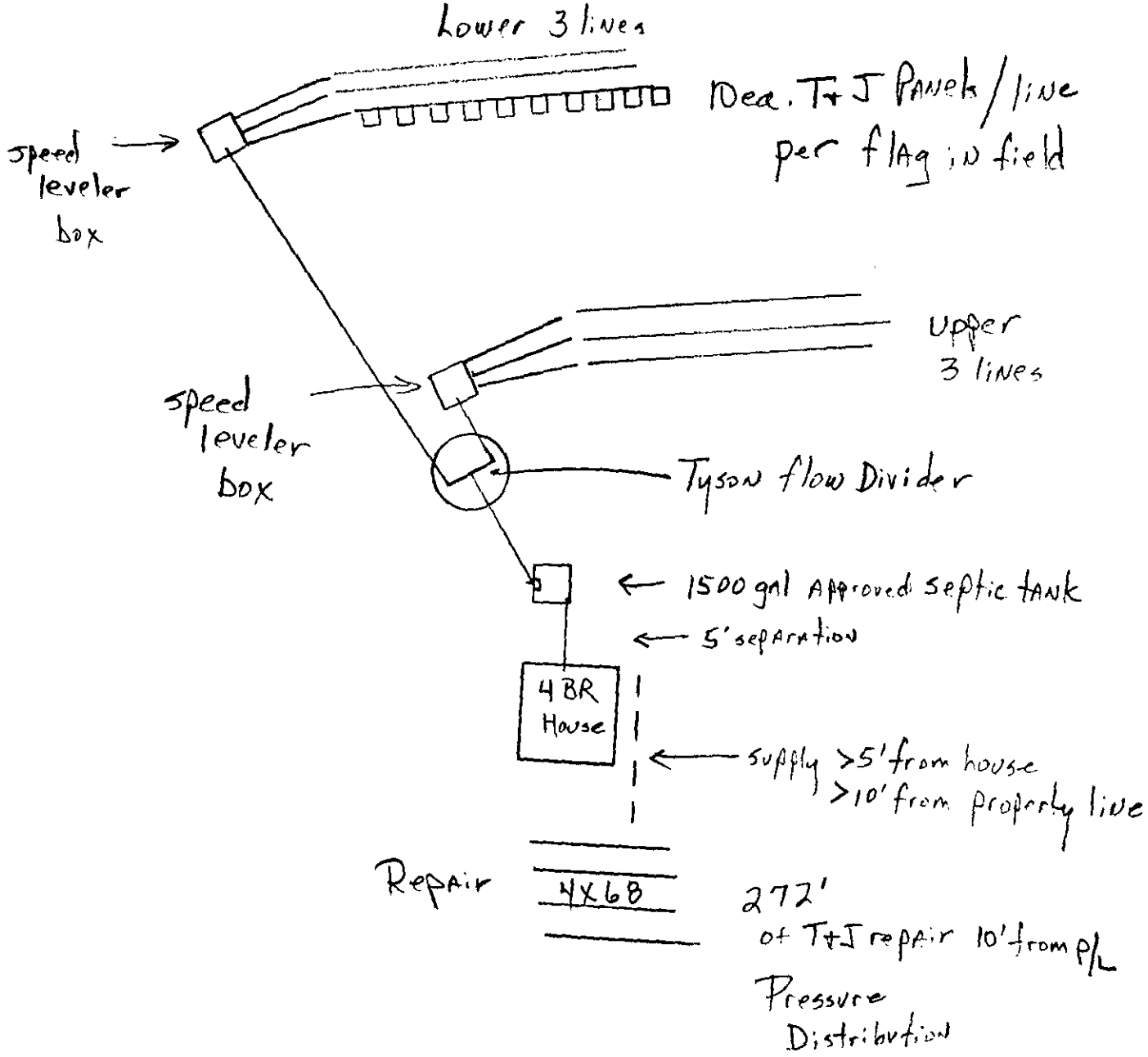
1.9 Acres Tract

SCALE 1"=50' Lemley Township, Mecklenburg Co., N.C.

THE PROPERTY OF Leland Helms and wife Joyce H.

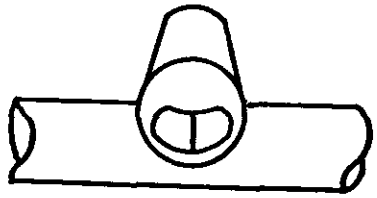
MAP RECORDED IN BOOK AT PAGE DEED RECORDED IN BOOK PAGE

Septic System Schematic

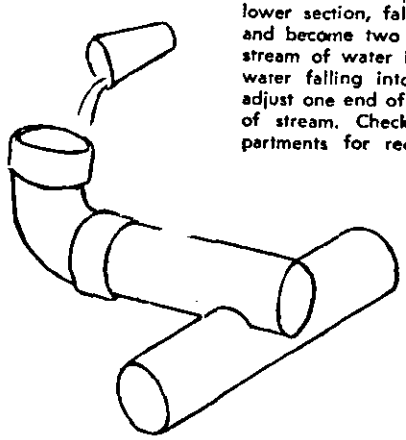


FLOW DIVIDER

"The Tee That Divides Equally"



DIRECTIONS: Place Flow Divider Tee about four feet from septic tank on a firm level base, either undisturbed hard clay or a concrete block. Drainage grade should be one-eighth to one-fourth inch per foot. Keep the Tee as near the top of the ground as possible. Water will enter the upper section of the Tee, run to the lower section, fall on the divider in the lower section and become two equal streams. TO TEST: Run a small stream of water in pipe from septic tank and observe water falling into lower portion of Tee. If necessary adjust one end of Tee so the water will divide at center of stream. Check with County or State Health Departments for required specifications.



A simple test for levelling the Flow Divider Tee: Before connecting the line from the septic tank, place the Flow Divider Tee on the level base at the correct position. Attach an ell on the entrance line of the Tee. With the ell on the ground, pour a cup of water into the ell. Raise the ell slowly until water flows over the divider. If needed, adjust the base under the Tee so the divider is centered under the small stream of water.

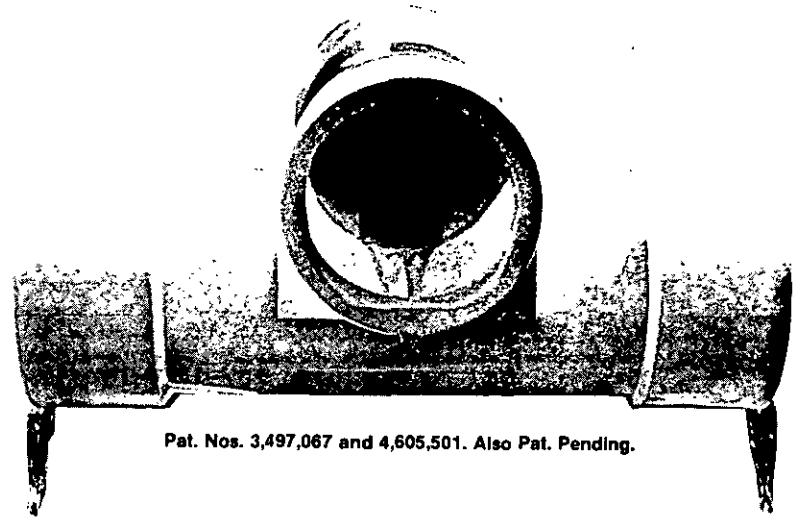
FLOW DIVIDER COMPANY

10621 Six Forks Rd. Raleigh, N.C. 27614

Phone (919) 847-5481

FLOW DIVIDER

"The Tee That Divides Equally"



Pat. Nos. 3,497,067 and 4,605,501. Also Pat. Pending.

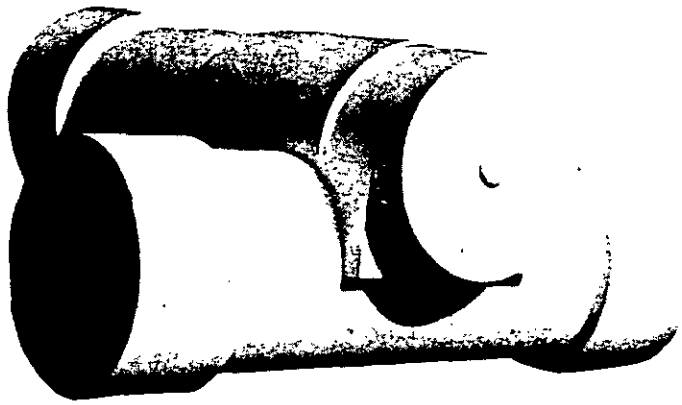
The Flow Divider Tee does a superb job dividing the effluent for the Septic Tank Fields. If the Tee becomes unlevel it will continue to divide near equal distribution, while the common distribution boxes would allow all the effluent to go out one line.

The Flow Divider Tee had its beginning in North Carolina, has been in use since 1972. It has proven itself to be reliable and is becoming more popular because of its reliability. The durable Flow Divider Tee consists of an injection molded PVC design using 4-inch Schedule 40 specifications.

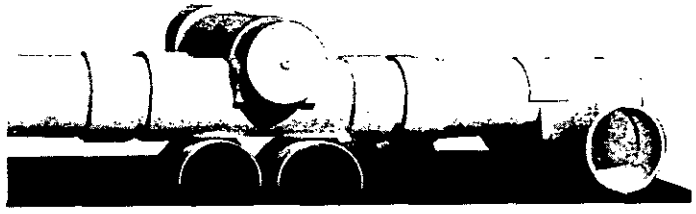
FLOW DIVIDER CO.

10621 Six Forks Rd. Raleigh, N.C. 27614

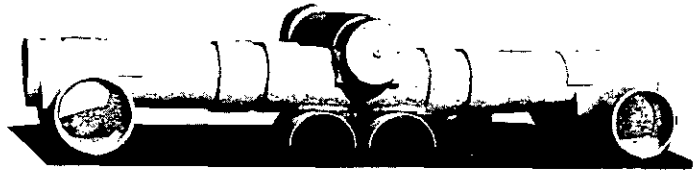
Phone (919) 847-5481



One Flow Divider Tee will divide water equally for two lines. This is used where two equal lines are needed.



Two Flow Divider Tees will divide water when all lines cannot be made equal. This will provide for 50% of water to go into one line and each of the two other lines will get 25% of the water.



Three Flow Divider Tees will divide water for four equal lines. After the water is separated into halves at the first water falls, then it passes through the next water fall and is split into quarters.

FLOW DIVIDER

"The Tee That Divides Equally"

Septic tank fields are designed to be balanced according to the water they are expected to receive. Equal fields use an equal number of feet of pipe and an equal amount of rock.

These fields have been designed and constructed to precision expecting to receive the water properly divided. But with the old distribution box the holes to release the water are about six or eight inches apart. This means that the distribution box must be perfectly level and have no problem to divide the water equally. Some of the failures of the distribution box are: one side settles more than the other, and something floating and blocking entrance of water into line.

The Flow Divider Tee will split the water exactly into halves. If one side settles a little more than the other the divider under the water fall holds to a position near the center of the water fall and the difference will be minimized. If something floats into the pipe and into the Flow Divider Tee it will be pushed out of the way by the flow of water. The Flow Divider Tee is guaranteed to make a reasonably accurate division of water under all of these conditions.

If the designers, installers and inspectors are going to the trouble to see that all the septic tank fields are properly balanced with rock and pipe, shouldn't the water for all these fields be properly balanced?

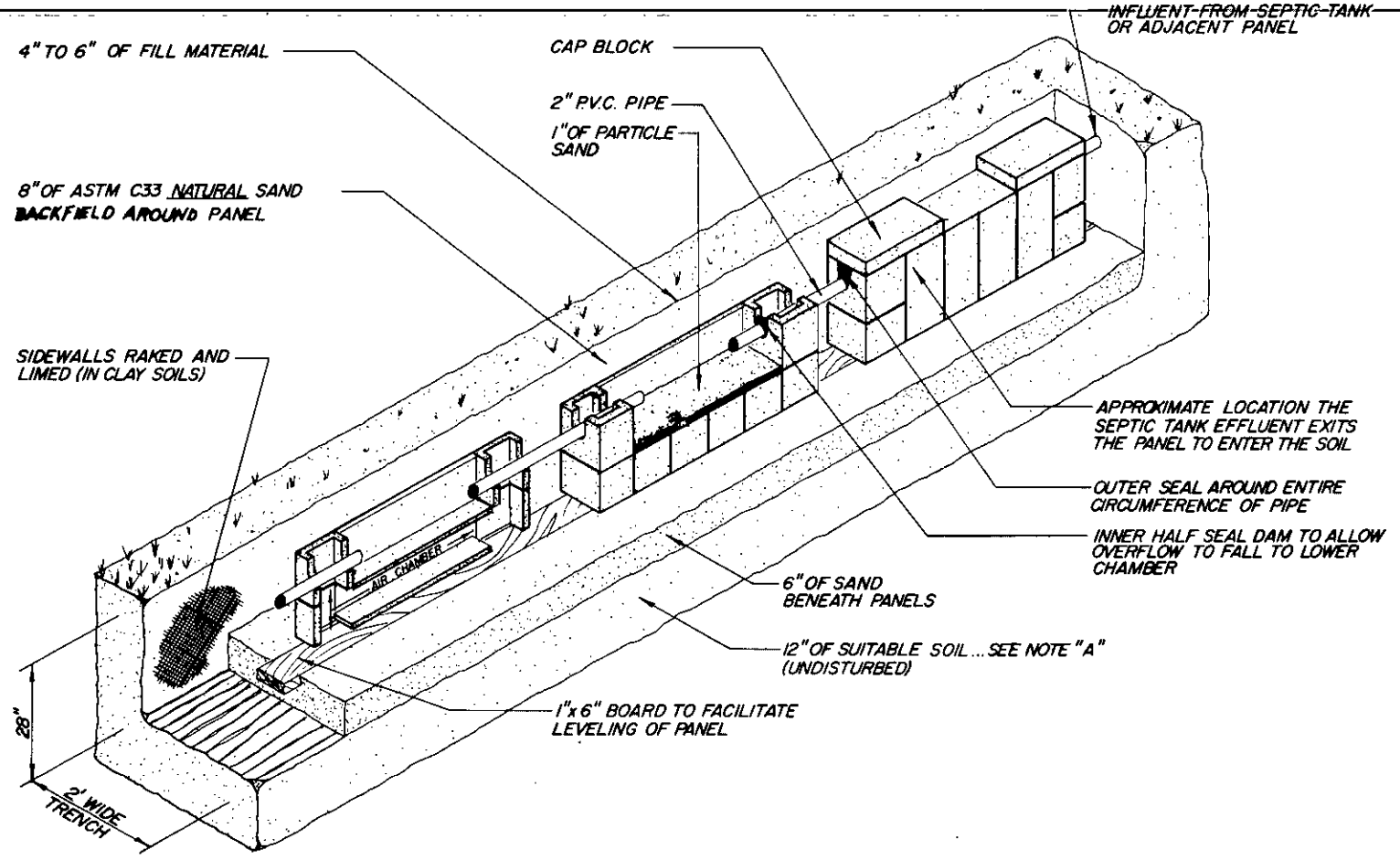
The Flow Divider Tee is a quality product of molded PVC designed to meet Schedule 40 specifications. It will accept 4-inch Schedule 40 PVC Pipe.

FLOW DIVIDER CO.

10621 Six Forks Rd. **Raleigh, N.C. 27614**

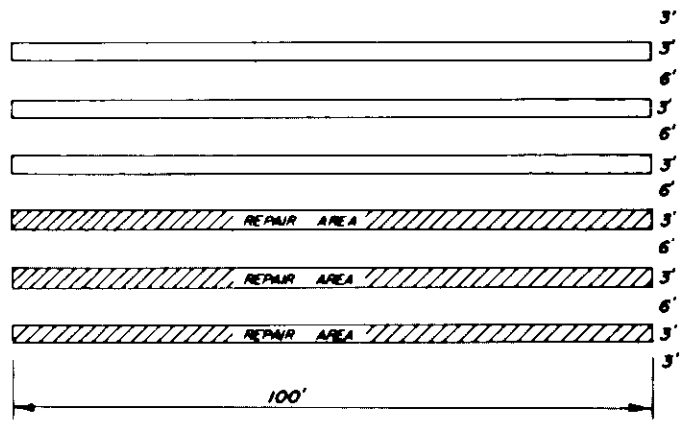
Phone (919) 847-5481

Isometric Drawing of A Segment of 16" T&J Panel System Drainfield



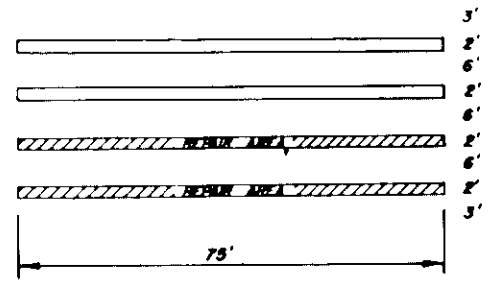
See the difference in a real space needed with the T&J Panel System Wastewater Treatment System when compared to a conventional tile/stone nitrification system.

Conventional System



A total suitable and usable area of 5400 square feet is needed for a conventional system.

T & J Panel System



A total suitable and usable area of 2400 square feet is needed for the T & J Panel System**.

*Typical 3 bedroom house in a clay soil with 0.4 gallon per day per foot square application rate with a design flow on 120 gallons per day per bedroom.

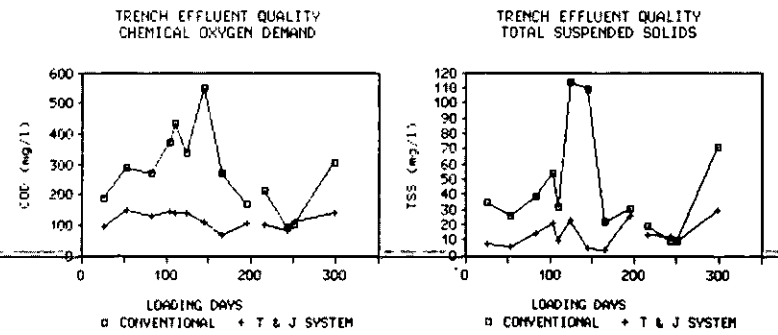
**The T & J Panel Wastewater Treatment System is included in the North Carolina Sewage regulations as a PPBPS as of August 1, 1988. This allows for a 50% reduction in lineal footage of trench with the 16 inch panel as illustrated above. (See note "A")
Note A - This reflects North Carolina Codes. Please check local codes and practices for your area.

Advantages of the T&J Panel System

- Effluent discharged closer to the ground surface
- Each panel works as individual unit
- Panel may be grouped where best soils are found
- Less soil distributed during installation
- Less catch basin effect
- Lines only 24" wide — more landscape flexibility
- Aerobic bacterial activity
- Easily installed — similar to conventional system
- Can be installed as modified mound system
- Lines can be inspected or serviced through lids
- Prefabricated panels delivered to job site

Environmentally Superior Effluent With The T&J Panel System

In a side by side test, both total suspended solids and chemical oxygen demand was reduced with the Panel System. The panels were loaded at 3.4 times that of the conventional system.

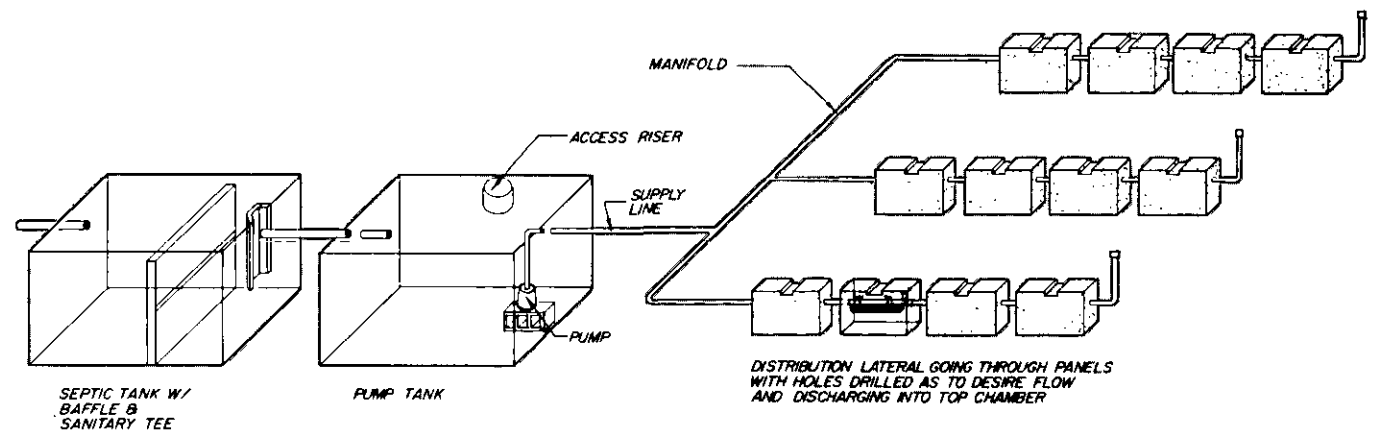


Total Suspended Solids Concentration for Effluent from Simulated Conventional and T&J System Trenches. (Note: Hydraulic Loading Rate for Conventional = 1.53 ca/day, for T&J = 5.27 ca/day.)

Chemical Oxygen Demand Concentration for Effluent from Simulated Conventional and T&J System Trenches. (Note: Hydraulic Loading Rate for Conventional = 1.53 ca/day, for T&J = 5.27 ca/day.)

Low Pressure Panels (LP Panel) - Alternative installation for the T&J Panel System.

The LP offers a high quality effluent with a uniform distribution of wastewater throughout the entire system.



- Uniform distribution of the effuent.
- Elimination of localized overloading.
- Works with 2-4 feet of pressure head.
- Dosing and resting cycles.
- Placing of the effluent into the sidewall near the surface—where the more porous soils are found.
- The aerobic action of the T&J Panel's design.
- The filtration of the effluent through the T&J Panel System and its sand backfill.

THE T.&J. PANEL
WASTEWATER TREATMENT SYSTEM

PATENT NUMBER 4013559

P.O. Box 288 • Statesville, North Carolina 28677
N.C. WATS 1-800-222-2577 • (704) 872-9566

There are many new developments in ground absorption sewage disposal system on the market today. The T&J Panel System is designed to make the most out of the least amount of space possible. This is made possible by the fuller use of the more porous top soil and the limited effect of evapotranspiration and the wicking action of the block as the effluent is kept close to the surface of the ground and fused through the pores of the block to the sidewall area of the drainfield lines. This more general distribution and wicking allows for the use of the entire sidewall area and helps prevent the sealing off of the bottom and lower sidewalls that often occurs in a conventional system.

A 16 inch high panel is 46 inches long, 8 inches wide, and weighs about 155 pounds. There is a 6 inch by 6 inch air chamber at each end of the panel which extends from top to bottom to ensure aerobic action in each level of the field lines. Each panel has a storage chamber just below the top chamber for storage during peak use periods. A 24 inch panel is also available for use in repair or specially engineered systems.

* *

Limited Warranty

The structural integrity of each T&J Panel, when installed in accordance with manufacturer's instructions, is warranted against defective materials and workmanship for one year from date of manufacture. Should a defect appear within the warranty period, purchaser must inform T&J Panel System of the defect before the warranty expires. T&J Panel System will supply a replacement unit. T&J Panel System's liability specifically excludes the cost of removal and/or installation of the panels. There are no other warranties with respect to the units, including no warranties of merchantability or of fitness for a particular purpose. The warranty does not extend to incidental, consequential, special or indirect damages. The company shall not be liable for penalties or liquidated damages, including loss of production and profits, labor and materials, overhead costs, or other loss or expense incurred by buyer. Specifically excluded from warranty coverage are: Damage to the panels due to ordinary wear and tear; alteration, accident, misuse, abuse or neglect of the panels; the panels being subjected to stresses greater than those prescribed in the installation instructions; the placement by buyer of improper materials into buyer's system; or any other event not caused by the company. Furthermore, in no event shall the company be responsible for any loss or damage to the buyer, the panels or any third party resulting from its installation or shipment. Buyer shall be solely responsible for ensuring that installation of the system is completed in accordance with all applicable laws, codes, rules and regulations. Any alteration of this warranty must be noted as "Warranty" in writing by the company.

Engineering and Test Data by Law Environmental Services and Ayers and Associates is available from the manufacturer at the address below.

THE T&J PANEL
WASTEWATER TREATMENT SYSTEM

PATENT NUMBER 4013559

P.O. Box 288 • Statesville, North Carolina 28677
N.C. WATS 1-800-222-2577 • (704) 872-9566

Distributed by

Serving people with a better quality system

When Your Problem in On-site Waste Is:



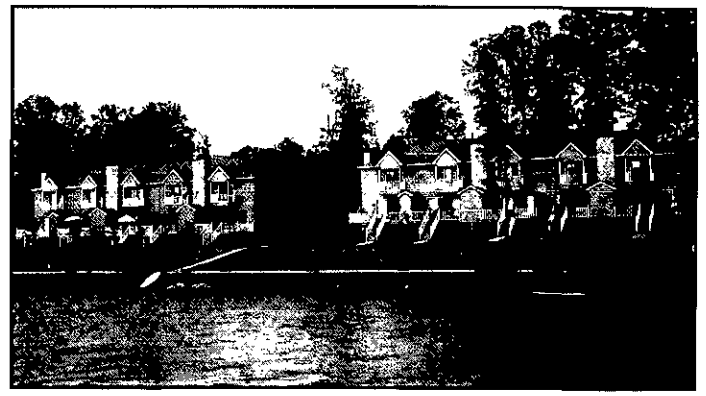
Topography and Vegetation



Special Landscaping Needs



Future Site Needs



Limited Suitable Area

Then consider the

T&J Panel Wastewater Treatment System

A Better Quality Effluent Than With Conventional Systems

Design, Installation and Maintenance

Of The

T & J Panel Wastewater Treatment System

For

Sanitarians

And

Septic Tank Installers

Although this manual is sectioned for specific user groups, we at T & J Panel suggest that you familiarize yourself with the complete manual. Fourth Edition.

Sanitarians

In the early days of the T & J Panel System, when it was still considered an experimental system, the primary reason for permitting the Panel System was because of insufficient space for a conventional system. Now with inclusion in the Sewage Regulations(10NCAC 10A .1956(3)(a)(ii)), the Panel System should be considered when a quality effluent may be needed, space is limited, usable soil is limited, or there are indications that at some future time space may be needed for other uses. When there is a trend for added development such as additions to homes, pools, or other special landscaping development the T & J Panel System may prevent insufficient space later. As an example, there was a subdivision where three of five homes in the same block added in-ground pools. Each of these pools impacted the existing nitrification lines. As a sanitarian, if you can foresee such a trend developing, discuss the Panel System with the home owner.

As noted in the regulations, the PPBPS is only permitted where soils are suitable for a conventional system, however, only one-half of the space is needed. The Panel System will allow the use of the best soils on the lot. This system may be gravity fed or pumped using the LP Panel system as described. Most of the concepts for a T & J Panel layout are the same as for a conventional system. The biggest differences are areal area needs and quality of effluent being introduced into the soil.

Conversion

A three bedroom house with a 0.4 gpd application rate. (First three steps are the same as the conventional line)

1) 120 gallons per bedroom x 3 bedrooms = 360 gallons per day design flow rate.

2) 360 flow rate/0.4 application rate = 900 sq. ft. of trench bottom.

3) 900 sq. ft./3 ft. wide trench = 300 lineal feet of conventional system.

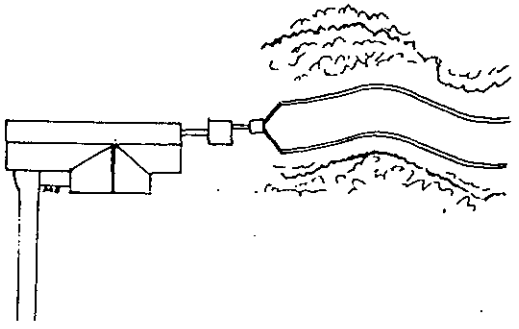
This conventional layout requires 2700 sq. ft. of area on the lot and equal space for repair for a total of 5400 sq. ft. of suitable and usable area. To calculate the T & J Panel system size, the above calculations must be made with an additional fourth step as described in 10NCAC 10A .1956 (3)(a)(ii)(B) for a PPBPS (the T & J Panel System)

4) 300 lineal feet of conventional system x 0.5 for a 16 inch high Panel system = 150 lineal feet of T & J Panel trench.

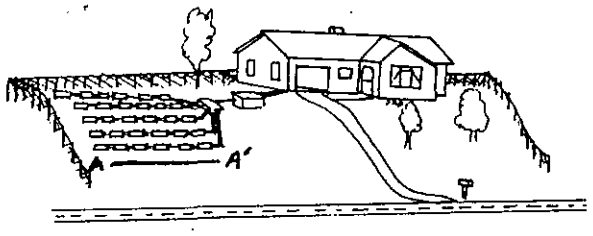
A Panel System requires only a 1200 sq. ft area on the lot for the system and equal area for repair. with the Panel System the installation and repair can go into the same space as the initial area required by a conventional gravel trench system.

Window Effect

Areal space should always be a consideration for any system, however, it is especially notable with the Panel System as with any system that reduces the size of the areal area drainfield. The following is a simplistic example of this concept.



RIGHT

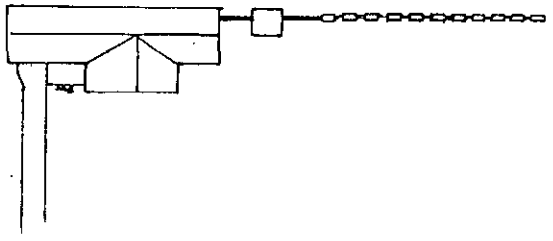


WRONG

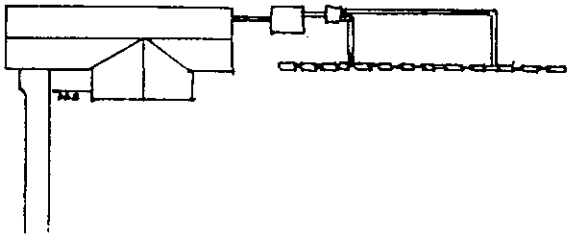
While both systems have the same lineal footage of trench the lower diagram is not a desireable design. The effluent must pass through the area A-A' which can cause a strain on that area and even a failure because of hydraulic overloading.

Distribution

Another extreme would be the use of a long single trench fed from only one end. In the first example, below the areal space is good and the chance of hydraulic overloading is greatly reduced. However downline distribution in the panel line will not give optimum treatment.



WRONG



RIGHT

In the lower example we see that the trench has been feed from multiple points. Because the Panel lines are put in as level as possible, never exceeding 1/4 inch of fall in 10 feet of run, they feed both ways equally. T & J recommends that no gravity line exceed 50 feet, unless it is fed from multiple points. In both of these examples, we are specifying the Panel System, but the logic applies to the conventional system as well.

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 _____

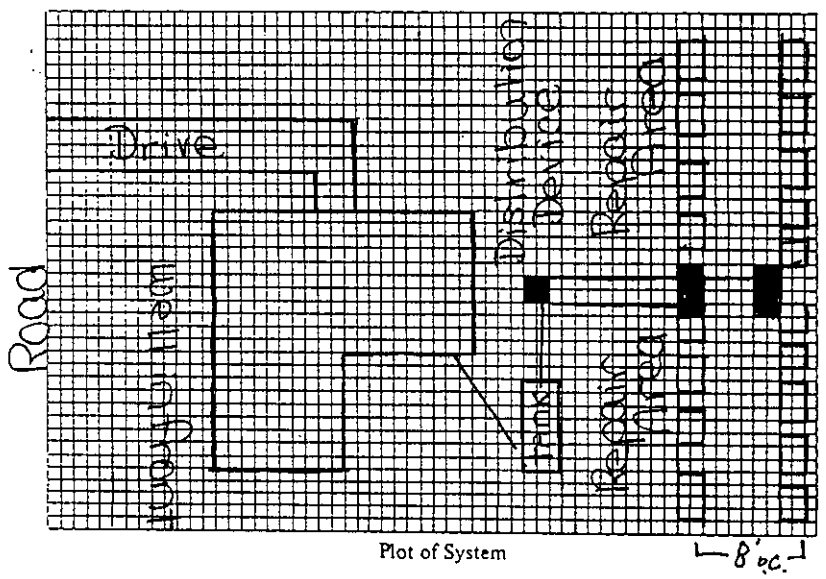
No. Bedrooms 3 No. Bathrooms 2 1/2

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 6% 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 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. _____

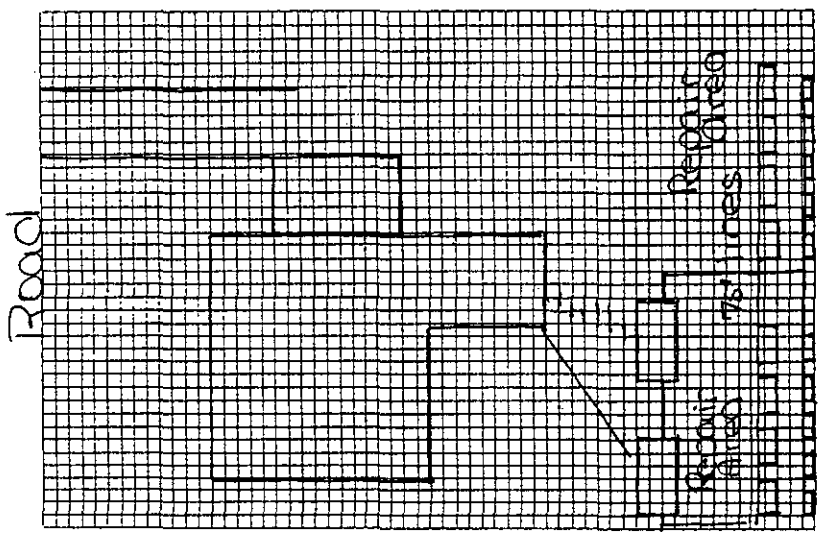
House (✓) Mobile Home ( ) Business ( ) Other _____

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 gdo slope
Depth to Water Table >100"
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
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

How Many Panels Do You Need?

To calculate the number of 16 inch high panels needed for a 150 foot line, multiply 150'x 12" = 1800" then divide by 52" which is 46 inches for the panel and 6 inches for the space between the panels in the trench. 1800" /52" = 34.6 panels, so you would call for 34 panels. (A material order chart is included in the installer section of this manual.) If there is to be more than one trench, the sizing of the lines should be as equal as possible with as close to the same number of panels in each trench as is practical. A permit will normally show the panel as small blocks on the line. The following two pages are sample copies of permits for Panel systems.

Gravity or Pressure

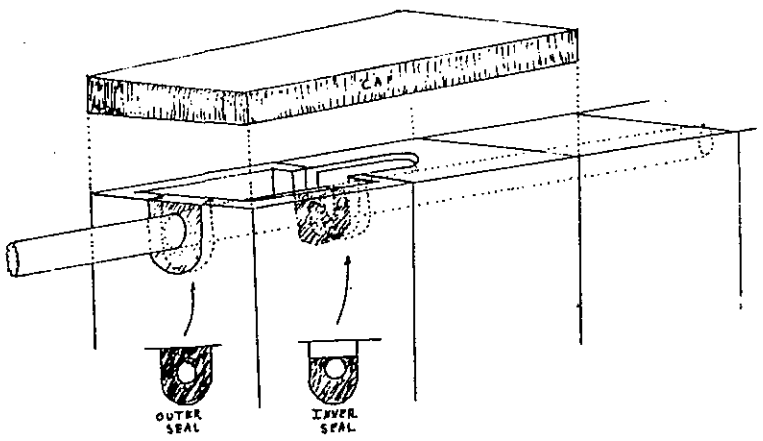
The T & J Panel System can be installed as either gravity or a low pressure distribution system. When designing a pressure system the principles of low pressure distribution are as described in the LPP manual. There is further discussion on pressure systems in the installer section of this manual. One of the attached permits is for a LP Panel drainfield.

Backfill

Backfill sand shall be a clean, washed, medium sand that is naturally occurring and falls within the gradation of ASTM C-33 specification. This specification is one that is used in the ready mix industry and is readily available in all areas. The second type of sand that you will need is a clean particle sand to coat the bottom of each panel's top chamber with a bed of sand one inch thick. This sand is a medium grade of sand blasting sand. Each one hundred pound bag should cover eight panels. Backfill sand calculations should be taken from the material sheet.

Tar Seals

The two drawings below illustrate the inner and outer seal. Note that while the outer seal is a complete seal, the inner seal is only up to the top of the connecting pipe. This is to allow for over flow of the effluent at peak use periods into the lower air chambers. At this point the air chambers become additional storage chambers for the effluent.



Trench Preparation

Trench grade should be established so that backfill cover will be four to six inches over the tops of the panels. (Note on severe slopes system depth should be adjusted to protect against brakeout of effluent) In clay type soils the trench side walls should be raked to bring slicked over areas back to as near to original structure as possible. A light dusting of lime on the side walls will help the system to continue the brake down of solids.

Final Inspection

The following list of points are things that an inspector should look for when issuing an completion permit.

1) Is depth of the panels within guidelines?

2) Are drain lines level or less than 1/4 inch fall in ten feet?

3) Have seals been properly constructed?

4) Was the proper sand used in the trench backfill?

5) If in clay type soils were the side walls raked and limed?

(For Pumped Systems)

6) Have pump size, head pressure, and dose cycle been properly sized and set?

(Set dose cycle for 3.6 gallons per 16 inch high panel.)

Installer

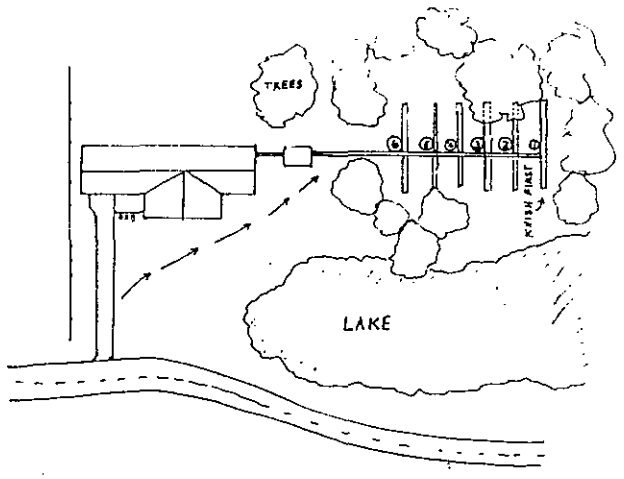
Generally, on level open land, a Panel System can be installed in about the same time as a conventional system; however, traditionally, Panel Systems have been installed where space and topography have restricted use of a conventional system. For this reason Panel System installations have required more time. Many installers enjoy the change of working with panels, not handling gravel, and the satisfaction of knowing a system is being installed where previously a conventional system was not possible.

Ordering Materials

Enclosed on following two pages you will find an order sheet for the T & J Panel System and a materials chart for 16 inch high Panel System. The distributor in your area will lead you through these sheets when ordering or pricing the system. For information on the distributor located closest to you call 1-800-222-2577 (inside N.C.) or 704-872-9566. After ordering, your panels will be shipped to the job site banded together on pallets.

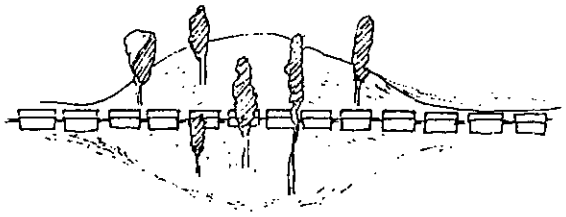
Installation Tips

Installation for multiple line systems should begin in the most confining area and be worked to the more open areas.

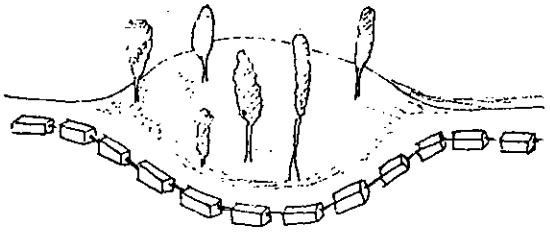


Above is an example of a multiple line installation. As you can see the installation should begin with the line marked 1 and proceed to 2, 3, then 4. This procedure will greatly ease material handling and backfilling. (Note sections of the drainlines should be left uncovered to allow for inspection of lines when area is confined and return access to lines is limited.)

On the following page are two examples of drain lines on sloping lots. The first drawing shows the drainline going through a slope making the center of the line deeper in the ground. This is not a desirable situation. The second drawing shows the drainline going around the slope keeping the trench depth and cover uniform for the entire length of the line. On slopes care should be given to avoid cutting away valuable top soil in an effort to make straight lines. Panel lines can be curved to almost any degree.



Wrong



Right

Digging The Trench

Start by shooting the grade and marking the contour. Then for a 16 inch panel add 28 inches to the shallowest or lowest grade that the trench must cross to obtain the trench bottom grade. Now dig the trench at the elevation derived, checking the grade frequently. The trench should be a minimum of two feet wide. With the trench open all sidewalls shall be raked to bring smeared areas back to their original structure before a light dusting of lime is applied. Now place a 6 inch layer of backfill sand in the trench and level to grade, then place a 1 x 4 or 6 inch board flat on it's side on top of the 6 inch layer of sand. Once more check the grade of the trench by shooting the top of the board. Once the grade boards have been set, the panels may be set into the ditch by hand or using the backhoe. Each panel weights about 155 pounds and placement by hand goes quickly. The panels should be placed about 6 inches apart in the trench to obtain equal spacing. Now place 10 to 12 pounds of clean particle sand (medium sand blasting sand) in the top chamber of each panel to form a bed of sand about one inch thick. Tar seal rope should be placed in the U outs to form seals as shown in earlier drawings. Once the tar rope is in place, a 24 inch section of two inch PR160 pipe is cut to span from the upper middle top chamber of the first panel to the upper middle chamber of the next panel. The tar seal rope that is used should be of tar or butyl that is soft and pliable to obtain a water tight seal. Now that the connection and sealing is complete a block cap is placed on each end of the panel covering all openings.(These will be delivered with the panels.) The cap block may well serve as an inspection port at some future date. The trench is ready to be backfilled to the top of the panel with the same backfill sand used in the trench bottom. With the sand to the top of the panel, trenches should be left for the sanitarian to inspect. Soil cover should be added after the final inspection.

Most Panel Systems are currently used due to space considerations and caution should be taken to preserve suitable soil structure and site conditions.

Materials Chart For 16 Inch Panels

Materials needed per panel:

- Three feet of half inch tar seal rope per panel.
- Two feet of two inch PR160 pipe per panel or same linear feet as line layout of pressure system of one and a quarter inch pipe. Add pipe for tie in of lines to tank and house.
- One hundred pounds of partical sand (sand blasting sand fine texture) per eight panels.
- Same linear feet of one by six boards as line length.
- Bag powder lime when in clay soils.

Panel and C-33 Sand fill

50 LF - 11 panels
8¼ tons sand

60 LF - 14 panels
10 tons sand

70 LF - 16 panels
11½ tons sand

80 LF - 18 panels
13¼ tons sand

90 LF - 21 panels
15 tons sand

100 LF - 23 panels
16½ tons sand

110 LF - 25 panels
18¼ tons sand

120 LF - 27 panels
20 tons sand

130 LF - 30 panels
21½ tons sand

140 LF - 32 panels
23 tons sand

150 LF - 34 panels
25 tons sand

160 LF - 37 panels
26½ tons sand

170 LF - 39 panels
28 tons sand

180 LF - 41 panels
30 tons sand

190 LF - 43 panels
31½ tons sand

200 LF - 46 panels
33 tons sand

T & J Panel Material Worksheet

Homeowner _____ County _____

Address _____

_____

Description of System _____

_____

_____

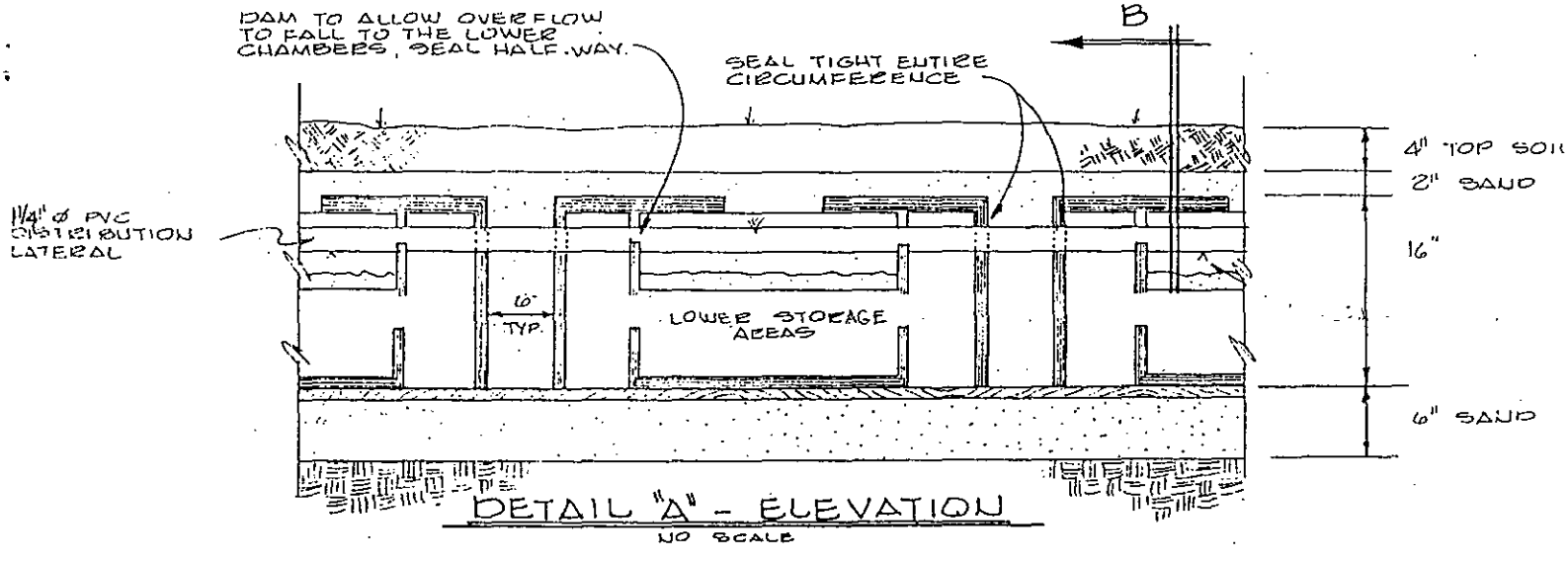
_____	T & J Panels _____ Inch (caps N/C)	_____
_____	2" Pipe	_____
_____	1 1/4" Pipe	_____
_____	Fittings for Pipe	_____
_____	Tar Seal Rope (3' per Panel)	_____
_____	Bag Partical Sand (100 lbs per 8 Panels)	_____
_____	Pallets (Returnable)	_____
_____	Screened Creek Sand (FM 2.3 to 3.0)	_____
_____	1x4 or 1x6 Boards	_____
_____	Power Lime	_____
_____	Sep Tank _____ Gallon	_____
_____	Tar Seal for Tank	_____
_____	4" PVC Pipe Schedule 40	_____
_____	Distrobution Box	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
	Sub-total	_____
	Delivery Charge	_____
	Tax	_____
	Total	_____

Panels With Pressure Distribution

The LP Panel uses Technology similar to that of Low Pressure Pipe (LPP) System. The tables and distribution design described in the LPP manual is applicable to the pressure Panel System. The system should be used with two to four feet of head. In many respects a LP Panel is similar to a LPP with the holes discharging into the panels.

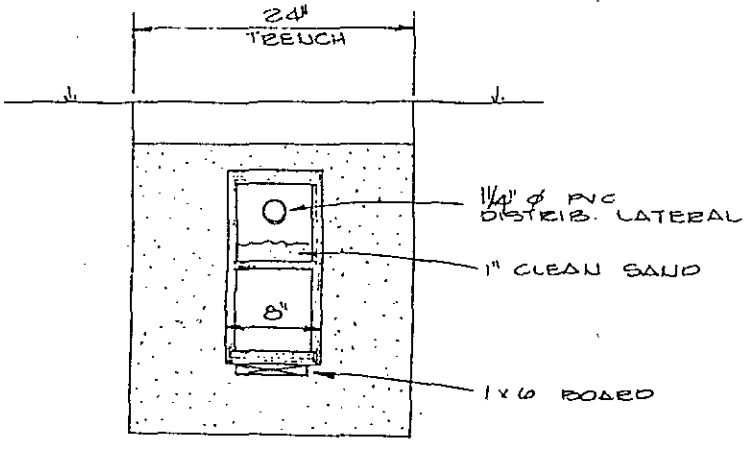
The dosing cycle for the Panel System is designed to pump enough effluent to fill the top chambers of all the panels in the system. The top chamber of a 16 inch panel holds 3.6 gallons. when the system has 34 panels and all the holes are the same size, then you would multiply 34 X 3.6 to get 122 gallon per dose cycle. The holes are drilled in the distribution pipe at the 10 and the 2 o'clock position. These are then placed so that the effluent is pumped into the top center chamber of the panel. If the hole sizing changes in the system the the pump cycle is set by the the hole that is discharging the fastest.

All valves and turn ups should be neatly capped, covered and labled for future service. Pump tanks should constructed as shown in the drawing as to allow for service and repairs.

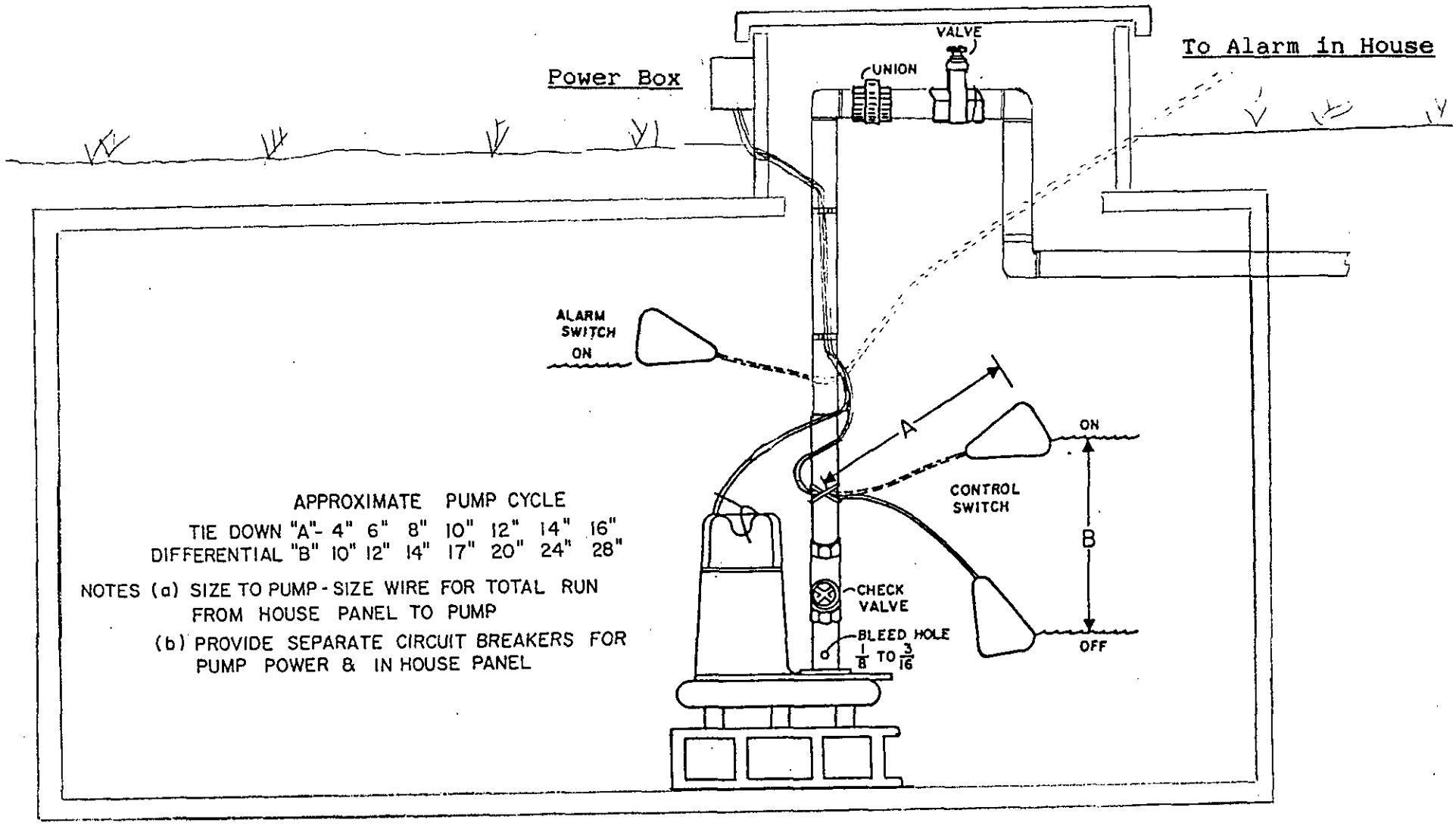


DETAIL "A" - ELEVATION

NO SCALE



DETAIL "B" - SECTION



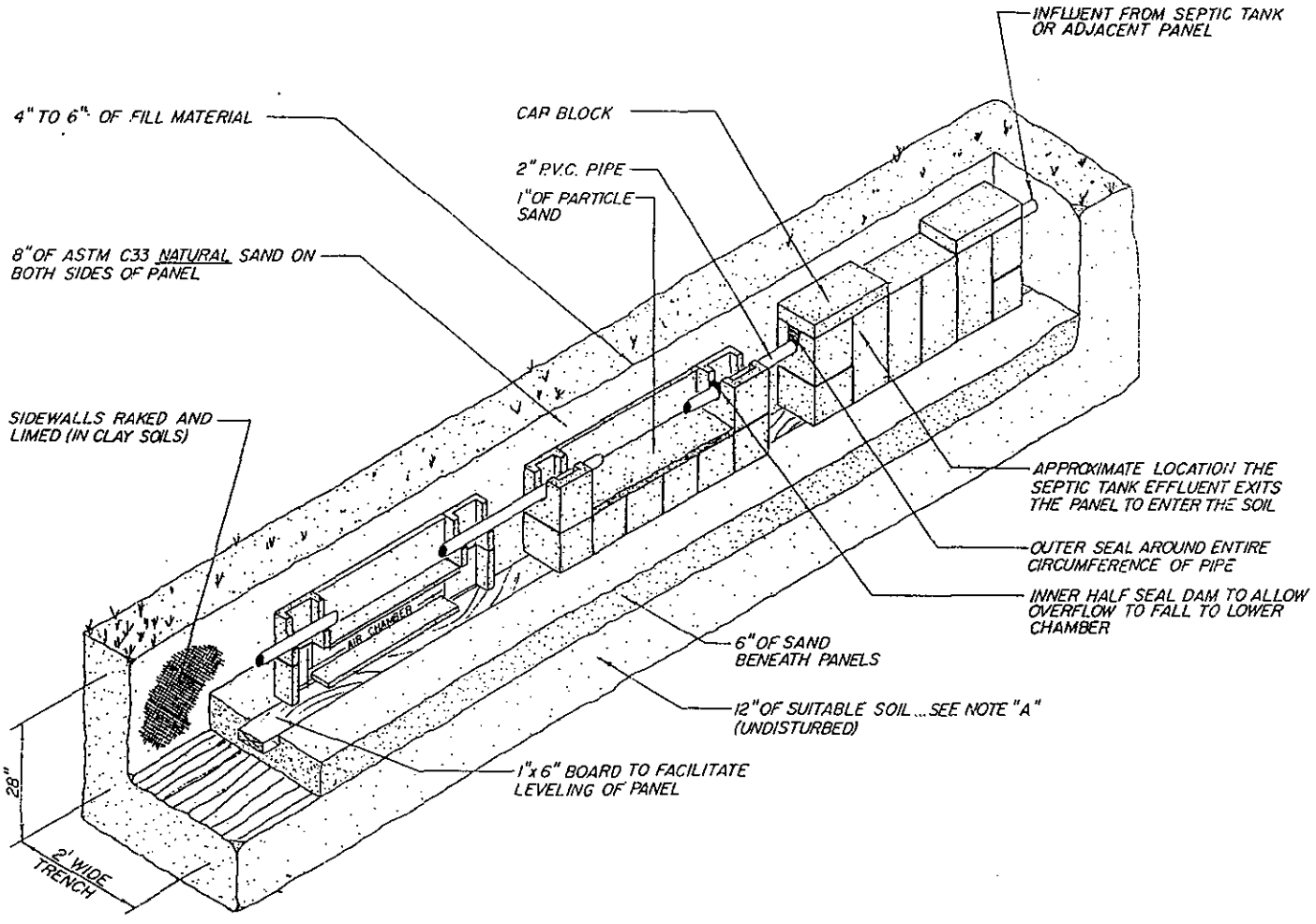
APPROXIMATE PUMP CYCLE

TIE DOWN "A"	4"	6"	8"	10"	12"	14"	16"
DIFFERENTIAL "B"	10"	12"	14"	17"	20"	24"	28"

NOTES (a) SIZE TO PUMP - SIZE WIRE FOR TOTAL RUN FROM HOUSE PANEL TO PUMP

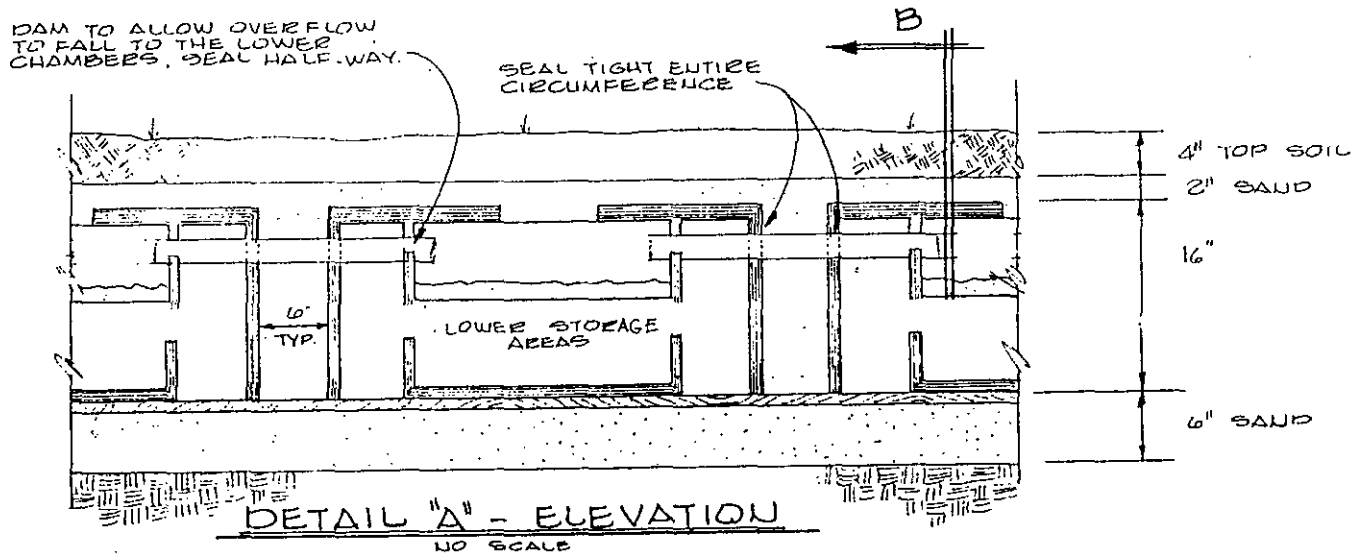
(b) PROVIDE SEPARATE CIRCUIT BREAKERS FOR PUMP POWER & IN HOUSE PANEL

Isometric Drawing of a Segment of 16" T & J Panel System Drainfield

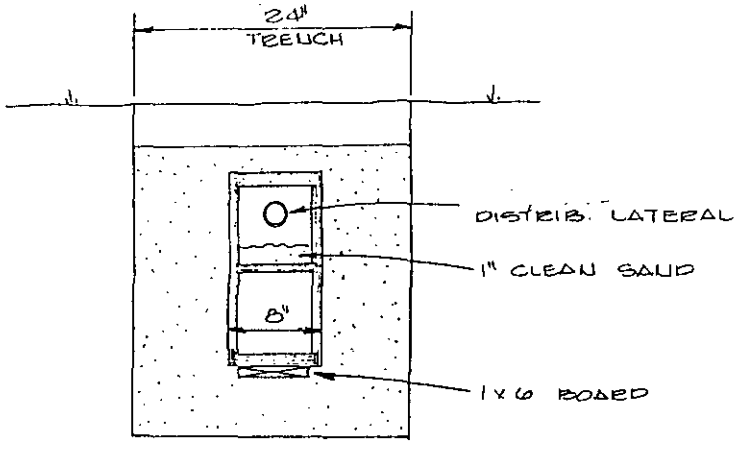


THE T. & J. PANEL
WASTE WATER TREATMENT SYSTEM
PATENT NUMBER 4013559

P.O. Box 288 • Statesville, North Carolina 28677
N.C. WATS 1-800-222-2577 • (704)872-9566



DETAIL "A" - ELEVATION
NO SCALE



DETAIL "B" - SECTION
NO SCALE

JUDITH A GIBSON REG OF DEEDS MECK NC
BK: 08197 PG: 0768/0769 #:0441 10.00
FILED FOR REGISTRATION 06/30/95 14:55

Drawn by and return to W. Chris Parnell, Box 67

STATE OF NORTH CAROLINA

COPY

COUNTY OF MECKLENBURG

SEPTIC TANK DRAIN FIELD EASEMENT AGREEMENT

THIS EASEMENT made this 29th day of June, 1995, by Leland Helms and wife, Joyce H. Helms as Grantor;

WITNESSETH:

WHEREAS, Grantor is owner of certain property located in Lemley Township, Mecklenburg County, North Carolina, said property being designated as Lots 2 and 3 of map entitled "Helms Property Map 1" and recorded in Map Book 26 at page 847 in the Office of the Register of Deeds for Mecklenburg County, North Carolina; and

WHEREAS, Grantor desires to designate an area of Lot 3 as a septic tank drain field area for the benefit of Lot 2 as shown on said map.

NOW, THEREFORE, Grantor hereby designates the following described parcel as a septic tank drain field area created for the benefit of Lot 2 hereinabove referred to:

> BEING a portion of Lot 3 of Helms property Map 1 as shown on map thereof recorded in Map Book 26 at page 847 in the Office of the Register of Deeds for Mecklenburg County, North Carolina and being more particularly described as follows: BEGINNING at a point in the common boundary line of Lots 2 and 3 as shown on map recorded in Map Book 26 at page 847, said beginning point located as follows from the common corner of said lots located in the right-of-way line of Staghorn Court: (1) S. 72-18-30 W. 89.67 feet to a point; and (2) S. 49-58 W. 50.0 feet to the point of beginning; thence from said point of beginning with the common boundary line of said Lots S. 49-58 W. 77.18 feet to a point; thence N. 17 E. 64.75 feet to a point; thence N. 73 W. 42.0 feet to the point and place of beginning.

The above described septic tank drain field area may be used by any owner of Lot 2 hereinabove referred to for the purpose of inspecting, maintaining, repairing and replacing a drain field located upon said area.

Said Easement is appurtenant to and shall run with the land designated Lot 2 on the above referred to recorded map.

IN WITNESS WHEREOF, Grantor has set their hands and seals all as of the day and year first above written.

GRANTOR:

Leland Helms (SEAL)
Leland Helms

Joyce H. Helms (SEAL)
Joyce H. Helms

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

I, W. Chris Barnett, a Notary Public of the County of Mecklenburg, State of North Carolina, do hereby certify that LELAND HELMS and wife, JOYCE H. HELMS personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal this 29th day of June, 1995.

Notary Public

My commission expires: 10-16-96

JUDITH A GIBSON REG OF DEEDS MECK NC
FILED FOR REGISTRATION 06/30/95 14:55
BK: 08197 PG: 0765/0767 #:0440 12.00

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

COPY

ACKNOWLEDGEMENT OF REQUEST BY OWNER FOR RECLASSIFICATION OF SITE FROM *"UNSUITABLE" TO "PROVISIONALLY SUITABLE"* UNDER 15A NCAC 18A .1948 AND ANY OF THE FOLLOWING RULES: .1956; .1957(a); .1957(b); or .1957(c)

FILE # 3604 B
PARCEL # 001-711-18

The undersigned, Leland Helms and wife, Joyce H. Helms, owner of property located at 20401 Staghorn Court, (the "site") and described in an instrument recorded in Book 3531 at Page 145, Mecklenburg Public Registry, hereby acknowledges that the undersigned applied to the Mecklenburg County Health Department (the "Department") for a permit to install a septic tank sewage disposal system on the site; that the Department evaluated the site for suitability for such a system in accordance with the regulations promulgated by the North Carolina Commission for Health Services as 15A NCAC 18A .1900 et seq.; that the Department originally classified the site as "unsuitable" pursuant to the standards set forth in the regulations; that the undersigned requested that the Department reclassify the site as "provisionally suitable" in light of the particular septic tank system proposed by the undersigned; that the Department considered various studies, data, and other information which indicate to the Department that the septic tank system proposed by the undersigned is allowed by the rules; and that the Department therefore reclassified the site as "provisionally suitable" and issued an appropriate permit for such proposed septic tank system.

The undersigned further acknowledges that the proper design, construction, operation and maintenance of such septic tank system is 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 acknowledges that the following conditions will apply to the site:

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

This instrument was prepared by: W. Chris Parnell, Attorney at Law
Mail after recording to: Leland Helms - 20401 Staghorn Court
Davidson, NC 28036

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

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

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

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

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

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.

IN WITNESS WHEREOF, the undersigned has hereunto set his hand and seal, or if corporate, has caused this instrument to be signed in its corporate name by its duly authorized officers and its seal to be hereunto affixed by authority of its Board of Directors, this 20th day of June, 1995.

_____ (SEAL)
(Corporate Name) Leland Helms

_____ (SEAL)
Joyce H. Helms

By: _____ _____ (SEAL)

_____ President _____ (SEAL)

ATTEST:

_____

_____ Secretary

(Corporate Seal)

STATE OF NORTH CAROLINA
COUNTY OF Mecklenburg

I, W. Chris Pearce, a Notary Public for said County and State, do hereby certify that Leland Helms and wife, Joyce H. Helms personally appeared before me this date and acknowledged the due execution of the foregoing instrument.

WITNESS my hand and notarial seal, this 20th day of June, 1995.

_____
Notary Public

My Commission Expires:
10-16-96

DATE 6/23/95

TO: CHARLOTTE-MECKLENBURG BUILDING STANDARDS
PERMIT ISSUING SECTION

FROM: MECKLENBURG COUNTY ENGINEERING

JURISDICTION Meck

001-711-18
PARCEL NUMBER

20405 Stagheen Ct
ASSIGNED STREET ADDRESS (ADDRESS OF RECORD)

EXISTING STREET ADDRESS (IF DIFFERENT FROM ASSIGNED)

NA
PROJECT NAME (IF APPLICABLE)

THE ABOVE DESCRIBED LOCATION HAS BEEN CHECKED CONCERNING:

1. SUBDIVISION REGULATIONS	**APPROVED**	**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: Stone & Dark

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: Pme

REVISED 1/91

Mecklenburg County
Health Department

June 20, 1995

Leland Helms
20401 Staghorn Court
Davidson, NC 28036

Dear Mr. Helms

Re: Proposed New lot on Staghorn Court
File: 3604B
Parcel: Portion of 002-711-18

Dear Mr. Helms:

Receipt of the plans and specifications for a conventional system of sewage treatment and disposal for the above property is hereby acknowledged. Upon receipt of the information, a review was made of the material on file and a site evaluation was conducted. The plan was then reviewed in conjunction with provisions of 15A NCAC 18A .1900 "Laws and Rules for Sewage Treatment and Disposal Systems." Our comments are listed below (see enclosed soil report):

An evaluation revealed that the existing sewage disposal system serving your residence located at 20401 Staghorn Court extends into this proposed lot. Rule .1950 Location of Sanitary Sewage System (a) states that "Every sanitary sewage treatment and disposal system shall be located at least the minimum horizontal distance from any property line, 10 feet."

The available area on the site is classified as UNSUITABLE according to rule:

> **.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 long-term acceptance rate determined in accordance with these Rules.
> (b) Sites shall have sufficient available space for a repair area separate from the area determined in Paragraph (a) of this Rule. The repair area shall be based upon the area of the nitrification field required to accommodate the installation of a replacement system as specified in Rule .1955, .1956, or .1957 of this Section. Prior to issuance of the initial Improvement Permit for a site, the local health department shall designate on the permit the original system layout, the repair area, and the type of replacement system.

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

You have the right to an informal review with this Department. If a satisfactory resolution is not obtained, you have the right to appeal the decision of this Department under G.S. 130A-24, and G.S. 150B-23(a).

Please contact me at 336-5573 if I may be of further assistance.

Sincerely,

Lisa B. Mialik

Lisa B. Mialik, R.S.
Individual Water and Wastewater Systems

Enclosure (1)

cc: Bill Marlin, Soil Scientist

MECKLENBURG COUNTY HEALTH DEPARTMENT
SITE EVALUATION REPORT
SERIAL NUMBER 028602

File: ~~96-90~~ 3604B Action 2

Parcel: PO 001-711-18 ☐ PC

Location: ~~20401~~ Staghorn Ct.

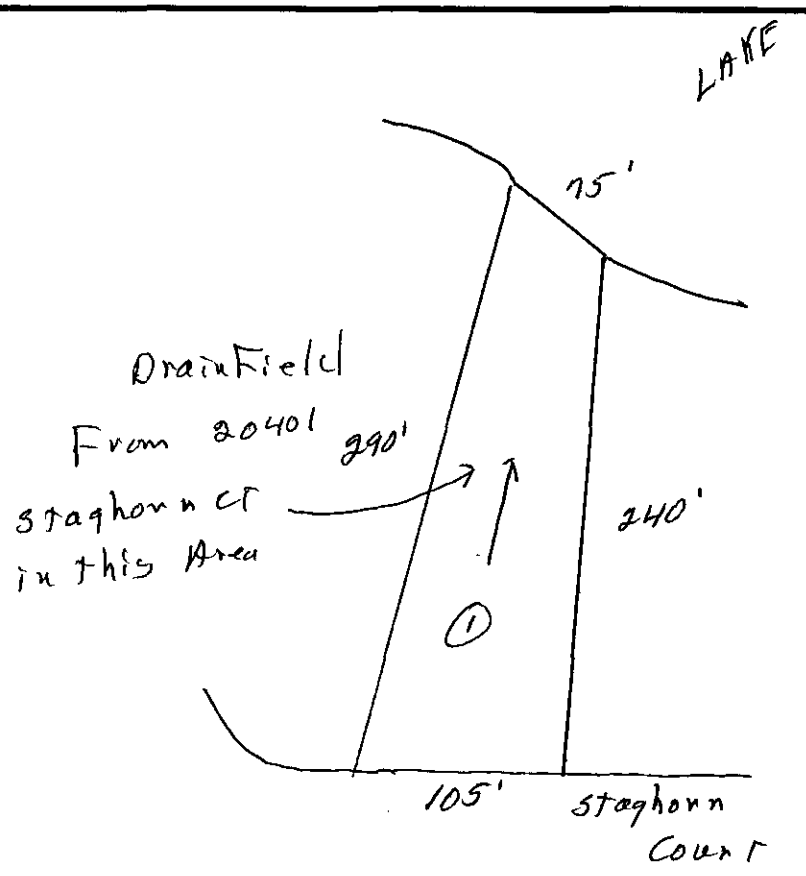
Subdivision:

Lot: Block: Acres: .54

Owner: Leland Helms
Address: 20401 Staghorn Ct.
Davidson, N.C. 28036

Comments: 100% Repair Area
.3gal/ft2/ day LTAR

Described by: William R. Meulin
Date: 5-26-95



***** 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 2-6%	S PS U	S PS U	S PS U	S PS U	S PS U
Texture	S (PS) U Slightly Ex. 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 soil wetness	S PS U	S PS U	S PS U	S PS U	S PS U
Depth	(S) PS U 48"+	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) Restricted	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					
Area Classification	S PS (U)	S PS U	S PS U	S PS U	S PS U	S PS U