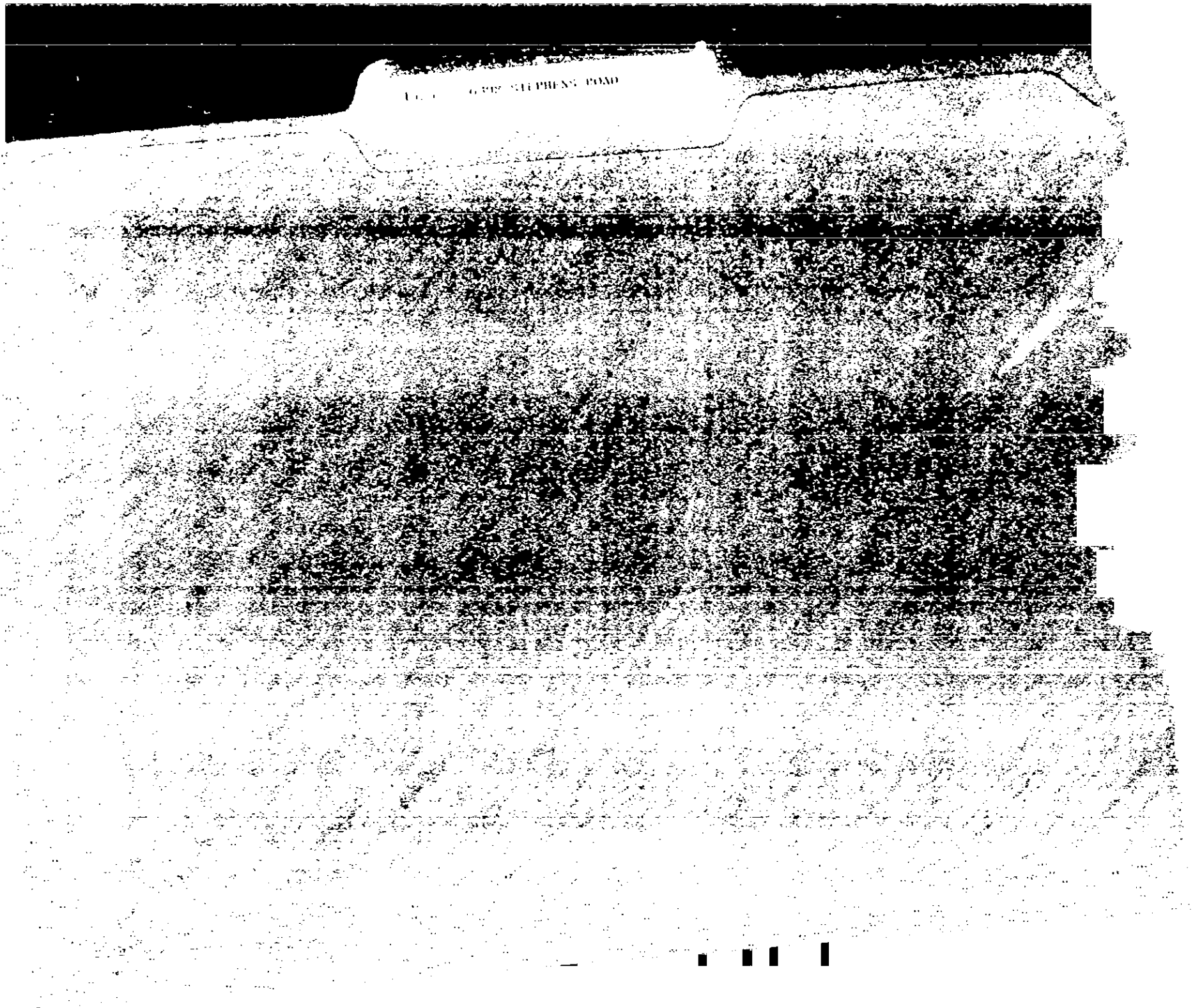


INSTALLATION, CONSTRUCTION, ALTERATION, AND/OR REPAIR PERMIT

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

FILE: 21425 DATE: 6/29/93

TC: 013 09103 ☐ L

SERIAL Nº 15336

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 7/1/92. All work shall be completed on or before 7/29/93, after which date this permit shall be null and void. The system shall meet all of the construction requirements of 10 NCAC 10A .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.

septic system to be installed in accord with approved plot plan.

Liquid Capacity of Septic Tank 1500 gallons

Liquid Capacity of Dosing Tank 1000 gallons

Tank Construction PCC

Absorption and/or Nitrification Lines:

Trench Width – feet

Total Line Length 400LF LPP feet

Number of Lines –

Depth of Stone – inches

Distance from House >5 feet

Distance from Property Line >10 feet

Distance from Well >50 feet

PLOT OF SYSTEM

NAME OF OWNER William Kidd

LOCATION OF PROPERTY 6309 Stephens Rd

Comments: septic system to be installed in accord with approved plot plan | Keep septic system >5C' from pond | Keep septic system >50' from proposed well

Division or Section Head

Thelo A. Walker R.S.
Environmentalist

* If this permit is for the installation or construction of a new system, it must be signed by the division or a section head of the Mecklenburg County Health Department in order to be valid. Only the signature of the Environmentalist is required where an existing system is being altered or repaired.

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

Mecklenburg County
Health Department

Betty S. Snow, R.N., M.A.
Health Director

September 18, 1992

Mr. William P. Kidd
5730 Jim Kidd Road
Huntersville, NC 28078

Re: 6308 Stephens Road
File: 21425
Parcel: 013-091-03

Dear Mr. Kidd:

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

Your plans for the modified system are approved with the following comments:

1). The well should be 100 feet away from any part of the sewage disposal system.

2). Water saving plumbing devices and low flush toilets should be installed when constructing the residence.

3). Occupants should utilize maximum water saving measures whenever possible.

4). Landscaping of repair area to be undisturbed. No grading, shaping, or altering in any way.

A contract shall be executed between the system owner and a private certified operator prior to the issuance of an Operation Permit for the modified sewage disposal system (type IV).

If you have any further questions regarding this matter please do not hesitate to call me at 336-5573.

Sincerely,

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

$400

21425

09/10/92

INDIVIDUAL WATER AND WASTEWATER SYSTEMS PROGRAM
APPLICATION FOR SERVICES

CK#7659 $400.00 CK

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

(704)336-5160

PERSON FILING APPLICATION:

NAME: Same
(last) (first) (mi)

ADDRESS: _____ PHONE: (__) _____

CITY: _____ STATE: _____ ZIPCODE: _____

Date: 09/10/92

PROPERTY OWNER:

NAME: KIDD (last) William (first) P (mi)

ADDRESS: 5730 Jim Kidd Rd PHONE: (__) 896-2351

CITY: Huntersville STATE: NC ZIPCODE: 28078

PROPERTY INFORMATION (FROM APPLICATION FORM):

TAX/PARCEL NUMBER: 013-[illegible]-03

STREET ADDRESS: 6308 Stelhens Rd

ZONING: _____

SUBDIVISION OR MOBILE HOME PARK NAME:

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

TYPE APPLICATION (check one):

LOT NUMBER: LOT SIZE (in acres):

- [ ] SOIL TEST - INDIVIDUAL LOT (B)
- [x] NEW CONSTRUCTION ON VACANT LOT - 4 BEDROOMS OR LESS (N)
- [ ] EXCHANGE MOBILE HOME - SAME # BEDROOMS (T)
- [ ] ADDITION - INCREASE ROOMS/OCCUPANCY/MOBILE HOME SIZE (A or H)
- [ ] 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)

4 TWS 12/92

RESIDENTIAL PROPERTY (Type Building, check one):
- [ ] SINGLE MOBILE HOME (S)
- [x] HOUSE (N)
- [ ] 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)
- [ ] Municipal (M)
- [ ] Shared Well (S)
- [ ] 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: William P. Kidd Date: 9/10/92

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.

...

- [ ] 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

Director or Authorized Section Head 9-10-92 Date

WATER : 122791

WILLIAM KIDD LOT

STEVENS ROAD - MECKLENBURG COUNTY

NORTH CAROLINA

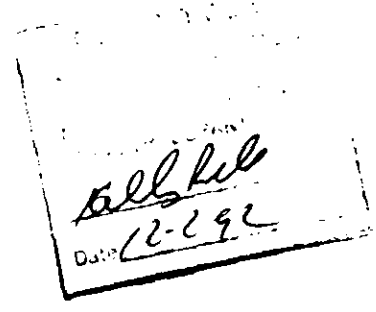
by

Toney C. Jacobs
Consulting Soil Scientist
Rt. 9 Box 164-1
Mooresville, N. C. 28115

September 9, 1992
Reworked: November 30, 1992

To: William Kidd
Huntersville
North Carolina

Kelly Randall, R.S.
Mecklenburg County Health Dept.
Charlotte, N. C.



Toney C. Jacobs, CPSS

Kidd Lot - Stevens Road

LOW-PRESSURE PIPE SYSTEM (LPP)

Design Considerations

This system is proposed for an estate sized (8.3Ac) single family residential lot in an urbanized rural community of single family homes. The system is designed for a 4 bedroom home. The proposed drainfield system does require a repair area and there are some necessary water course setbacks. The soil on most of the tract is of a poor quality (unsuitable) for ground absorption. There is one small area with a deeper solum which has been analyzed for CEC and texture (enclosed) and was judged to be provisionally suitable by the DEH soil scientist. The repair area, should it ever be utilized, will have to be filled .1957(b) and installed as an LPP. Should drip irrigation become widely accepted, it would be the desired method of distribution with a free access sand filter pretreatment component. Ample area is available for the system and the repair. Overall, the soil has a sandy clay texture.

An LPP distribution system was considered permittable with above criteria. A caution to the installer includes no cutting or leveling, except by fill to the surface. One small area to be filled and then leveled is shown on the site plan. A 42" deep French drain and surface swail are required as shown on the plan. Bottom grade of this interceptor drain must be checked by inspector before trench is closed because of its importance to the successful operation of the system.

Location

The approximately 8.3 Ac building lot is on the left near the end of Stevens Road, Mecklenburg County, N. C.

Reference Material

(1) *Design and Installation of Low Pressure Pipe 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.

Recommendation

Seven hundred and twenty (980) lineal feet of LPP lines with equal repair.

Ownership Responsibility for a LPP System

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

(a) Provide water conserving plumbing fixtures within the facility. Water closets should be 1.6 gal.flush, owner should have a certification or ask the sanitarian to inspect as such. This is a voluntary action, but very important to the Health Department and system designer. Shower heads should also have restrictions or be of low volume design.

(b) Develop conservative water use habits. If weekends are the time of more water use and weekdays 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. Management entity should be a part of installation process.

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

Components of System

1. Two compartment septic tank-1500 gal.
2. 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 trench in ground absorption trenches, 1 foot wide, level end to end, and placed to the exact level specifications in plan.

Construction Sequence

1. Lines have been flagged as noted on drawing. French drain should be installed 11'above uppermost line. Swail should be 5' upslope of interceptor drain.

2. Clear the area of all organic material with minimum soil disturbance (do not grade). Backfill low area with clean imported loam from off-site and tamp to surrounding compaction and look. The last three flags on the lower east side were omitted and must be set by installer after clearing and fill.

3. After fill is placed, install trench per cited reference material and this plan. Top grade on pipes to be "level" from end to end and vertically from manifold, and checked by

sanitarian. (Note: This is a three valve designed system rather than a 14 valve with one on each lateral.)

4. All joints in lateral manifold piping shall be watertight connections to insure that the only source of the 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.

5. Carefully backfill manifold trenches to grade with clean fill material.

6. The installation contractor shall stabilize the area of construction by planting and mulching with Kentucky 31 tall fescue. Area to be limed and fertilized with 0.5 tons lime, 75 units of N, 150 units P, and 100 units of K per acre (see enclosed soil test).

7. 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.

8. The dosing tank shall consist of a 1500 gallon capacity, reinforced, precast concrete tank without baffle and shall have a concrete mounting pad (concrete blocks) for accommodating the pump. 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 and concrete well cap or other approved type cover. There must be a seal 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 Model ME 33 manufactured by Myers, or equal, 1/2hp 115v/1ph; capable of pumping 54.1 gallons per minute at a 14.6 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.

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 to the outlet pipe for lifting the pump in and out of the chamber. Controls are fastened to the "tree" or 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 and 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. The receptacle must not be located inside the pumping chamber due to the corrosive and explosive gasses that may form from the sewage. Electrical connections may be made inside the pumping tank only if wired inside a sealed, watertight box. 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". There must be one for each line with all lines adjusted at the same time.

(c) Adjust the gate valves until the effluent reaches the desired height in the "test tube". 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 following should be checked to insure that the system will not be overloaded with excess rainwater and runoff:

(a) The distribution field is shaped to shed rainwater and is free of low areas.

(b) Surface swail must be stabilized.

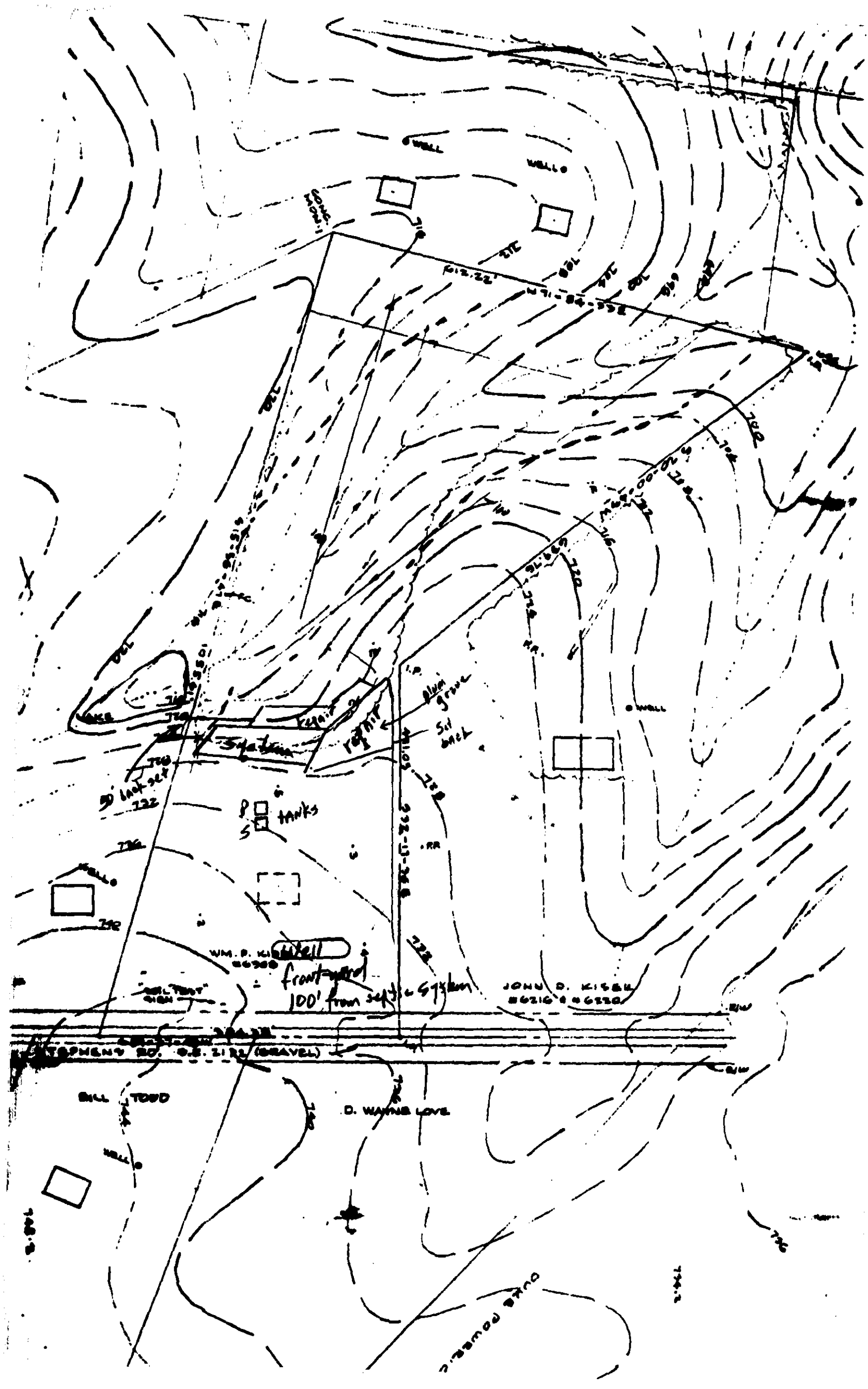
Concluding Note:

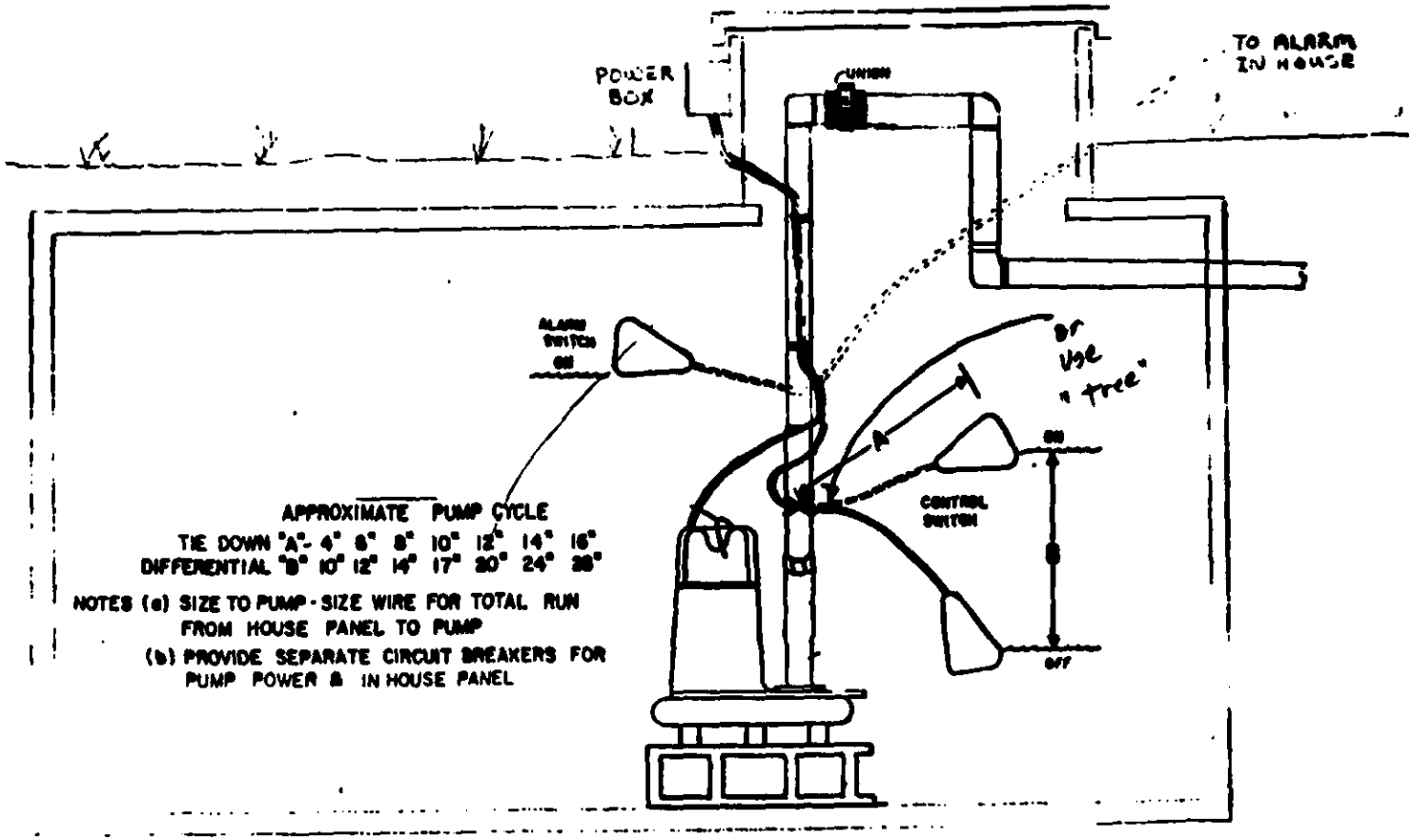
This plan was done to facilitate permitting by the Mecklenburg County Health Department as a service to the county by the property owner. Any additions, or additional requirement, or deletions to enhance design or workability which will facilitate a permit are welcomed and may be made by note on this plan without returning entire design. The designer realizes 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. Final inspection will also require more time and detail than a lesser system.

Design Specifications

Kidd Lot - Stevens Road

Daily design flow:	480 gpd - 4 bedroom house
Septic tank size:	1500 gal (2 compartments)
Pumping tank size:	1500 gal
Effluent loading rate:	0.098 pd/sf LPP
Total length and diameter of supply manifold:	app. 40 lf - 3" sch 40 PVC, 85 lf of 2" sch 40 PVC
Number and length of laterals	System(7) 1-1/4"dia., 140'length center-fed. Repair very similar, 3 @ 120' and 7 lines @ 100' (see site plan).
Hole size:	5/32"
Hole spacing:	See table
Total number of holes	See table
Flow rate through the system:	54.1 gpm
Elevation head:	approx. 7.0(downhill pumping)
Pressure head:	4.0'
Friction head:	1.0'
20% over design:	2.6'
Total head:	14.6'
Pump requirements:	54.1 gpm at 14.6' of head; use Myers ME 33 (1/3hp) pump or equivalent with compatible electrical
Dosing volume:	342 gal - 1.4 doses/day at design flow
Depth of water pumped per dose:	calculated to specific tank by measure or dealer engineering specifications
Pump run per dose:	approx. 6.5 min.
Check valve:	No
Syphon break hole:	No.


WELL
WELL
SEPTIC SYSTEM
TANKS
WELL
WELL
WELL


POWER BOX
UNION
TO ALARM IN HOUSE
ALARM SWITCH ON
OR USE "TREE"
ON
CONTROL SWITCH
OFF
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

"Quality Pumps Since 1859"

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

ZOELLER CO.

3200 Old Millers Lane
P.O. Box 16347 • Louisville, Kentucky 40216
(502) 778-2731 • FAX (502) 774-3624

COMPARE THESE FEATURES

- Non-clogging vortex impeller design.
- Durable cast construction. Cast switch case, motor and pump housing, base and impeller. No sheet metal parts to rust or corrode.
- Stainless steel screws, float rod, guard, handle and arm and seal assembly.
- Float operated submersible (NEMA 6) 2 pole mechanical switch.
- Oil filled motor-hermetically sealed.
- Entire unit pressure tested after assembly.
- Automatic reset thermal overload protection.
- Carbon and ceramic shaft seal.
- Water tight neoprene "O" ring between motor and pump housing.
- Maximum temperature for effluent or dewatering—130°F. - 54°C.
- 60 cycles, 1525 RPM.
- Passes ½ inch solids (sphere).
- No screens to clog.

Standard cord length 15' (UL listed).
1½" NPT Discharge.
On point—8".
Off point—2½".
Major width—10".
Height—10¼".

SIMPLEX AND DUPLEX SYSTEMS AVAILABLE

PACKAGED SYSTEMS AVAILABLE

ZOELLER CO.

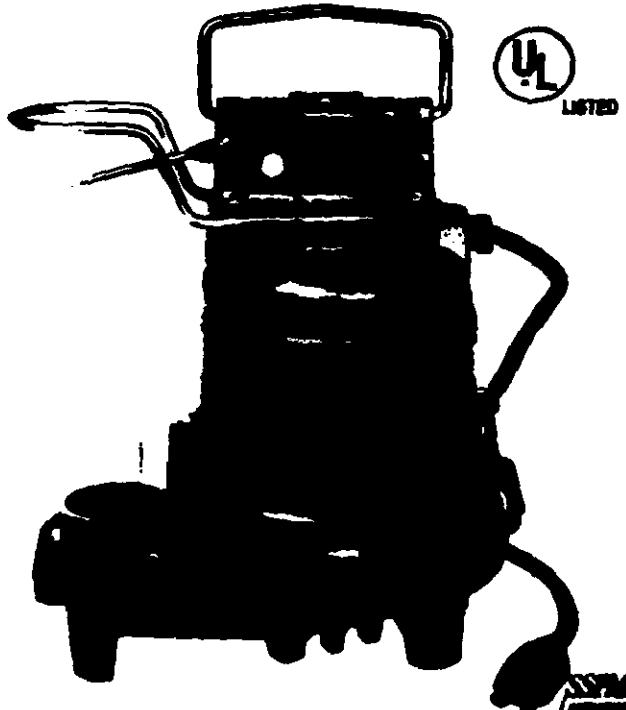
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"Quality Pumps Since 1859"

"97" Cast Iron Series

"FLOW MATE"

FOR SEPTIC TANK SYSTEMS
EFFLUENT
OR DEWATERING PUMP
SUBMERSIBLE
1½" NPT DISCHARGE

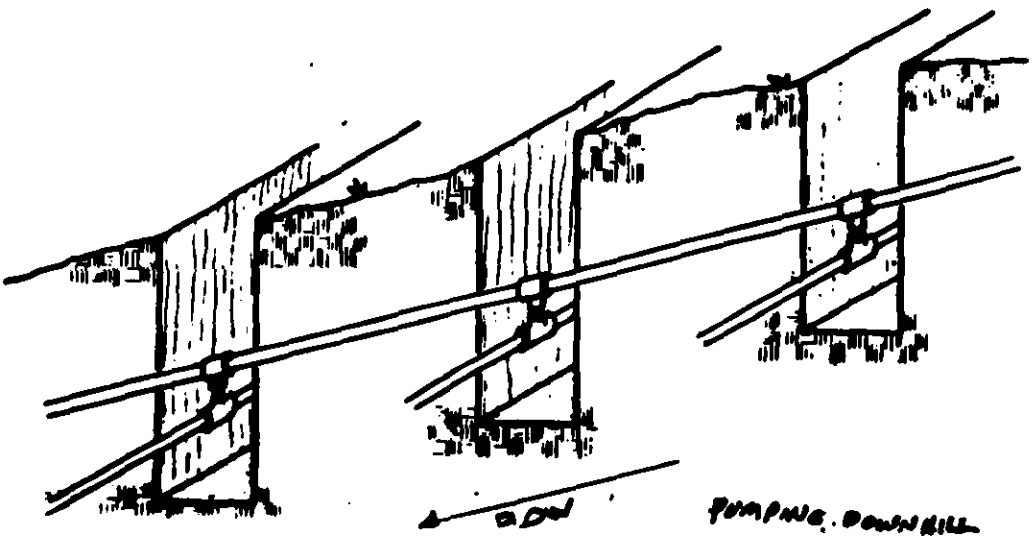


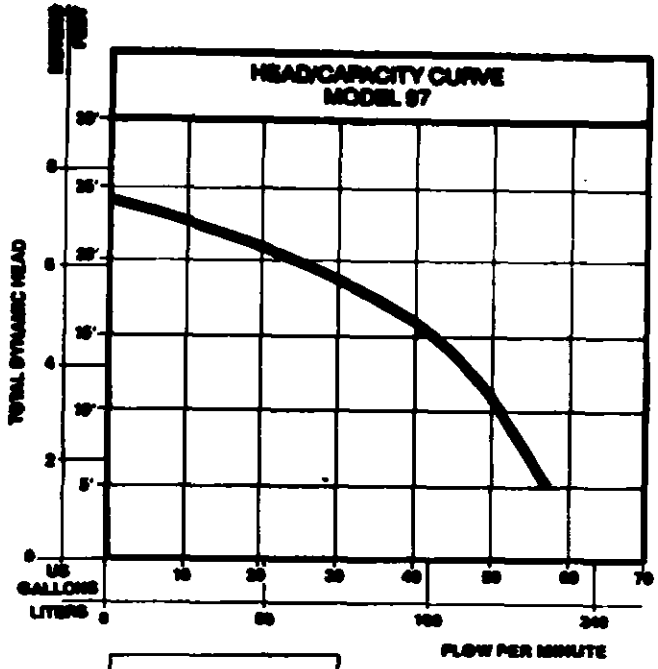
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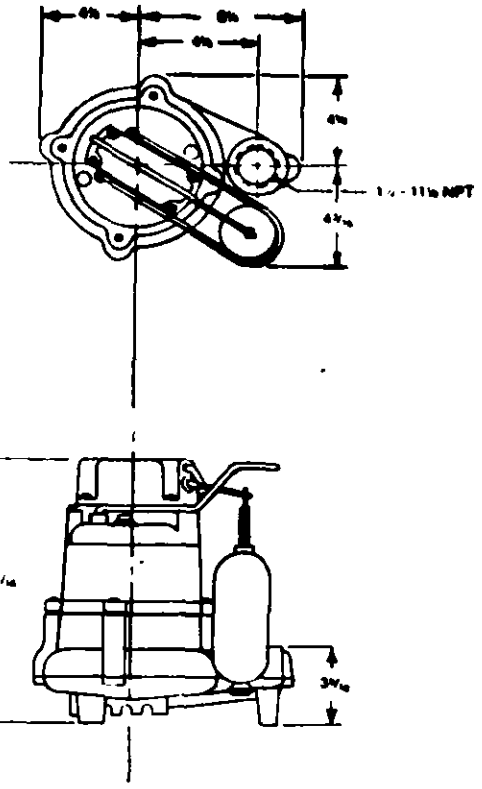
• Canadian Standards Assoc. Approval available

MODELS AVAILABLE
- Automatic or Non-Automatic
- ½ H.P., 1 Ph., 115V or 230V.
- N97 available packaged with Piggyback Mercury Float Switch.

NOTE: No UL listing for Basic Duty (BD) pumps.


DOWN
PUMPING DOWNHILL





HEAD		CAPACITY	
FEET	METERS	GAL.	LITER
5	1.52	57	216
10	3.05	51	193
15	4.57	46	174
20	6.10	27	102
Less Valve		24.5'	

CONSULT FACTORY FOR SPECIAL APPLICATIONS

- Electrical alternators, for duplex systems, are available and supplied with an alarm.
- Mechanical alternators, for duplex systems, are available with or without alarm switches.
- Mercury float switches are available for controlling single and three phase systems.
- Double piggyback mercury float switches are available for variable level long cycle controls.

Standard All Models - Weight 33 lbs. - ½ HP

Model	Volts-Ph	Cycle	Amps	Control Selection: Simplex	Control Selection: Duplex
M97	115 1	Auto	12.0	1 or 1 & 7	—
N97	115 1	Non	12.0	2 or 2 & 6	3 or 4 & 5
B97	230 1	Auto	6.0	1 or 1 & 7	—
E97	230 1	Non	6.0	2 or 2 & 6	3 or 4 & 5

SELECTION GUIDE

1 Integral float operated 2 pole mechanical switch, no external control required
2 Single piggyback wide angle mercury float switch or double piggyback mercury float switch. Refer to FM8877
3 Mechanical alternator 10-8872 or 10-8875
4 See FM8712 for correct model of Electrical Alternator "E-Pak"
5 Mercury sensor float switch 10-8825 used as a control activator, specify duplex (3) or (4) float system
6 Four (4) hole "J-Pak" junction box, for watertight connection or wired-in blueprint for 2 pump operation, 10-8882
7 Two (2) hole "J-Pak", for watertight connection or spares, 10-8888

For information on additional Zoeller products refer to catalog on Combination Starter, FM8514, Piggyback Mercury Float Switches, FM8877, Electrical Alternator, FM-8888, Mechanical Alternator, FM8838, Alarm Package, FM8813, and Sump/Sewage Basins, FM8887

CAUTION

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

RESERVE POWERED DESIGN

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

ZOELLER CO.
3200 Old Millers Lane
P.O. Box 16347 • Louisville, Kentucky 40216
(502) 778-2731 • FAX (502) 774-3624
Manufacturers of . . .
"Quality Pumps Since 1913"

REPORT NO.02842

AGRONOMIC DIVISION, N.C. DEPARTMENT OF AGRICULTURE
BLUE RIDGE ROAD CENTER, RALEIGH, N.C.
PHONE: (919) 733-2655

08/06/92

COPIES SENT TO:
X COUNTY EXTENSION DIRECTOR

TO: JACOBS, T.
RT 2 BOX 200
TROUTMAN NC 28166-

FARM LOCATION (COUNTY): IREDELL

FIELD INFORMATION

SAMPLE NO	PREVIOUS CROP	APPLIED LIME	TEST LAST CROP	SOIL CLASS	TEST RESULTS * [3864]																	
--1	FES/OG/TIN N			MIN	0.0	1.12	14.0	91	1.2	6.1	001	14	58.4	34.5	[384] 625+	[002] 002	98					

SUGGESTED TREATMENT FOR FIRST CROP (OR YEAR) **

CROP TO BE GROWN	LIME	N	P2O5	K2O	Mg	Cu	Zn	B	Mn	SEE NOTE
FES/OG/TIN E	1.0T	50-70	140-160	070-090	0	0	0		0	12

SUGGESTED TREATMENT FOR SECOND CROP (OR YEAR) **

CROP TO BE GROWN	LIME	N	P2O5	K2O	Mg	Cu	Zn	B	Mn	SEE NOTE
FES/OG/TIN N	0.0	100-200	140-160	100-120	0	0	0			

FIELD INFORMATION

SAMPLE NO	PREVIOUS CROP	APPLIED LIME	TEST LAST CROP	SOIL CLASS	TEST RESULTS * [3864]																	
--2	FES/OG/TIN N			MIN	0.0	1.04	13.6	97	0.4	6.5	004	6	59.8	37.0	[284] 324	[001] 001	60					

SUGGESTED TREATMENT FOR FIRST CROP (OR YEAR) **

CROP TO BE GROWN	LIME	N	P2O5	K2O	Mg	Cu	Zn	B	Mn	SEE NOTE
FES/OG/TIN E	0.0	50-70	130-150	090-110	0	0	0		0	12

SUGGESTED TREATMENT FOR SECOND CROP (OR YEAR) **

CROP TO BE GROWN	LIME	N	P2O5	K2O	Mg	Cu	Zn	B	Mn	SEE NOTE
FES/OG/TIN N	0.0	100-200	130-150	120-140	0	0	0			

FIELD INFORMATION

SAMPLE NO	PREVIOUS CROP	APPLIED LIME	TEST LAST CROP	SOIL CLASS	TEST RESULTS * [3864]																	
--3	FES/OG/TIN N			MIN	0.3	1.25	8.0	90	0.8	6.2	003	8	62.7	26.8	[384] 625+	[030] 030	140					

SUGGESTED TREATMENT FOR FIRST CROP (OR YEAR) **

CROP TO BE GROWN	LIME	N	P2O5	K2O	Mg	Cu	Zn	B	Mn	SEE NOTE
FES/OG/TIN E	0.6T	50-70	130-150	090-110	0	0	0		0	12

SUGGESTED TREATMENT FOR SECOND CROP (OR YEAR) **

CROP TO BE GROWN	LIME	N	P2O5	K2O	Mg	Cu	Zn	B	Mn	SEE NOTE
FES/OG/TIN N	0.0	100-200	130-150	120-140	0	0	0			

FIELD INFORMATION

SAMPLE NO	PREVIOUS CROP	APPLIED LIME	TEST LAST CROP	SOIL CLASS	TEST RESULTS * [3864]																	
--4	FES/OG/TIN N			MIN	0.1	1.22	8.0	90	0.8	6.1	001	8	53.5	36.1	[384] 625+	[003] 003	96					

SUGGESTED TREATMENT FOR FIRST CROP (OR YEAR) **

CROP TO BE GROWN	LIME	N	P2O5	K2O	Mg	Cu	Zn	B	Mn	SEE NOTE
FES/OG/TIN E	0.6T	50-70	140-160	090-110	0	0	0		0	12

SUGGESTED TREATMENT FOR SECOND CROP (OR YEAR) **

CROP TO BE GROWN	LIME	N	P2O5	K2O	Mg	Cu	Zn	B	Mn	SEE NOTE
FES/OG/TIN N	0.0	100-200	140-160	120-140	0	0	0			

FIELD INFORMATION

SAMPLE NO	PREVIOUS CROP	APPLIED LIME	TEST LAST CROP	SOIL CLASS	TEST RESULTS * [3864]																	
--5	FES/OG/TIN N			MIN	0.1	1.13	8.7	91	0.8	6.1	001	4	59.3	36.3	[384] 625+	[004] 004	36					

SUGGESTED TREATMENT FOR FIRST CROP (OR YEAR) **

CROP TO BE GROWN	LIME	N	P2O5	K2O	Mg	Cu	Zn	B	Mn	SEE NOTE
FES/OG/TIN E	0.6T	50-70	140-160	100-120	0	0	0		0	12

SUGGESTED TREATMENT FOR SECOND CROP (OR YEAR) **

CROP TO BE GROWN	LIME	N	P2O5	K2O	Mg	Cu	Zn	B	Mn	SEE NOTE
FES/OG/TIN N	0.0	100-200	140-160	130-150	0	0	0			

* TEST RESULTS N.C tests will not compare directly to numbers obtained by other methods.)

Soil Class: MIN = Mineral; M-O = Mineral Organic; ORG = Organic
H2O % = Humic Matter, Percent by vol
W.V = Weight per Volume g/cm³
CEC = Cation Exchange Capacity meq/100 cm³
BS % = Base Saturation % of CEC
Ac = Acidity meq/100 cm³
pH = Hydrogen Ion Activity
P-I = Phosphorus Index
K-I = Potassium Index
Ca-I = Calcium % of CEC
Mg % = Magnesium % of CEC
Mn-I = Manganese Index
Zn-I = Zinc Index
Cu-I = Copper Index
S-I = Soluble Sulfur Index
SS-I = Soluble Salt Index
NO3-N = Nitrate N, mg/cm³
NH4-N = Ammonium N, mg/cm³
Na = Sodium, meq/100 cm³

** TREATMENT, lbs/a unless specified
LME: T = tons/a, M = lbs/1000 sq ft
N = Nitrogen, M = lbs/1000 sq ft
P2O5 = Phosphate, M = lbs/1000 sq ft
K2O = Potash, M = lbs/1000 sq ft
Mg = Magnesium
Cu = Copper
Zn = Zinc
B = Boron
Mn = Manganese

$ Test Level is questionable See supplemental material

READ SUPPLEMENTAL MATERIAL AND BACK OF REPORT FOR FURTHER DETAIL

TOMMY C. JACOBS, CPSS
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Troutman, N. C. 28166
(704) 528-4787

CONSULTING SOIL SCIENTIST
NCRCPS ARCPACS

PARTICLE SIZE ANALYSIS

SERIES: Mock LAB ID# - 1
PEDON # 4 COLLECTED 7-30-92
HORIZON: 8-10" inches
SAMPLE SIZE IS 50 GRAMS
BY TCJ
PHOTO:

	30 sec	90 sec	4 hr	10 hr
READING	43	42	41	40
BLANK	7	7	6	6
TEMP C	24	24	24	24

1. Concentration C=R-R1 at
   30 seconds= 36
   90 seconds= 35
   4 hours= 35
   10 hours= 34

2. P=(C/Co)*100
   30 seconds= 72
   90 seconds= 70
   4 hours= 70
   10 hours= 68

3. d=theta / t^.5 * Tcorr
   30 sec d= 55.31555
   90 sec d= 32.28264
   4 hrs d= 2.58
   10 hrs d= 1.64

% sand = 28.38
% silt = 2.76
% clay = 68.87

Textural Class =CLAY

$\frac{14}{68.87\%} = 20.3$

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CONSULTING SOIL SCIENTIST
NCRCPS ARCPACS

PARTICLE SIZE ANALYSIS

SERIES: Kidd **LAB ID# - 2**
PEDON # 4 COLLECTED 7-30-92
HORIZON: 19-23" inches
SAMPLE SIZE IS 50 GRAMS
BY TCJ
PHOTO:

	30 sec	90 sec	4 hr	10 hr
READING	42	40	42	41
BLANK	7	7	6	6
TEMP C	24	24	24	24

1. Concentration C=R-Rl at
   30 seconds= 35
   90 seconds= 33
   4 hours= 36
   10 hours= 35

2. P=(C/Co)*100
   30 seconds= 70
   90 seconds= 66
   4 hours= 72
   10 hours= 70

3. d=theta / t^.5 * Tcorr
   30 sec d= 55.91517
   90 sec d= 32.88848
   4 hrs d= 2.55
   10 hrs d= 1.63

% sand = 30.84
% silt =-1.75
% clay = 70.91001

Textural Class =CLAY

$\frac{13.6}{70.91\%} = 19.2$

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CONSULTING SOIL SCIENTIST
NCRCPS ARCPACS

PARTICLE SIZE ANALYSIS

SERIES: Kidd **LAB ID# - 3**
PEDON # 8 **COLLECTED 7-30-92**
HORIZON: 6-8" inches
SAMPLE SIZE IS 50 GRAMS
BY TCJ
PHOTO:

	30 sec	90 sec	4 hr	10 hr
READING	25	23	25	24.5
BLANK	7	7	6	6
TEMP C	24	24	24	24

1. Concentration C=R-Rl at
   30 seconds= 18
   90 seconds= 16
   4 hours= 19
   10 hours= 18.5

2. P=(C/Co)*100
   30 seconds= 36
   90 seconds= 32
   4 hours= 38
   10 hours= 37

3. d=theta / t^.5 * Tcorr
   30 sec d= 63.71032
   90 sec d= 37.30246
   4 hrs d= 2.91
   10 hrs d= 1.84

% sand = 65.81
% silt =-2.99
% clay = 37.18

Textural Class =SANDY CLAY

4 = 21.5%
37.18

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NCRCPS ARCPACS

PARTICLE SIZE ANALYSIS

SERIES: Kidd
PEDON # 8 COLLECTED 7-30-92 LAB ID# - 4
HORIZON: 19-23" inches
SAMPLE SIZE IS 50 GRAMS
BY TCJ
PHOTO:

	30 sec	90 sec	4 hr	10 hr
READING	32	30.5	31	32
BLANK	7	7	6	6
TEMP C	24	24	24	24

1. Concentration C=R-R1 at
   30 seconds= 25
   90 seconds= 23.5
   4 hours= 25
   10 hours= 26

2. P=(C/Co)*100
   30 seconds= 50
   90 seconds= 47
   4 hours= 50
   10 hours= 52

3. d=theta / t^.5 * Tcorr
   30 sec d= 60.56229
   90 sec d= 35.22529
   4 hrs d= 2.78
   10 hrs d= 1.75

% sand = 51.06
% silt =-2.48
% clay = 51.42

Textural Class =SANDY CLAY

$\frac{8}{51.42\%} = 15.6$

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CONSULTING SOIL SCIENTIST
NCRCPS ARCPACS

PARTICLE SIZE ANALYSIS

SERIES: Kidd LAB ID# - 5
PEDON # 8 COLLECTED 7-30-92
HORIZON: >23 inches
SAMPLE SIZE IS 50 GRAMS
BY TCJ
PHOTO:

	30 sec	90 sec	4 hr	10 hr
READING	30	27	30	30
BLANK	7	7	6	6
TEMP C	24	24	24	24

1. Concentration C=R-Rl at
   30 seconds= 23
   90 seconds= 20
   4 hours= 24
   10 hours= 24

2. P=(C/Co)*100
   30 seconds= 46
   90 seconds= 40
   4 hours= 48
   10 hours= 48

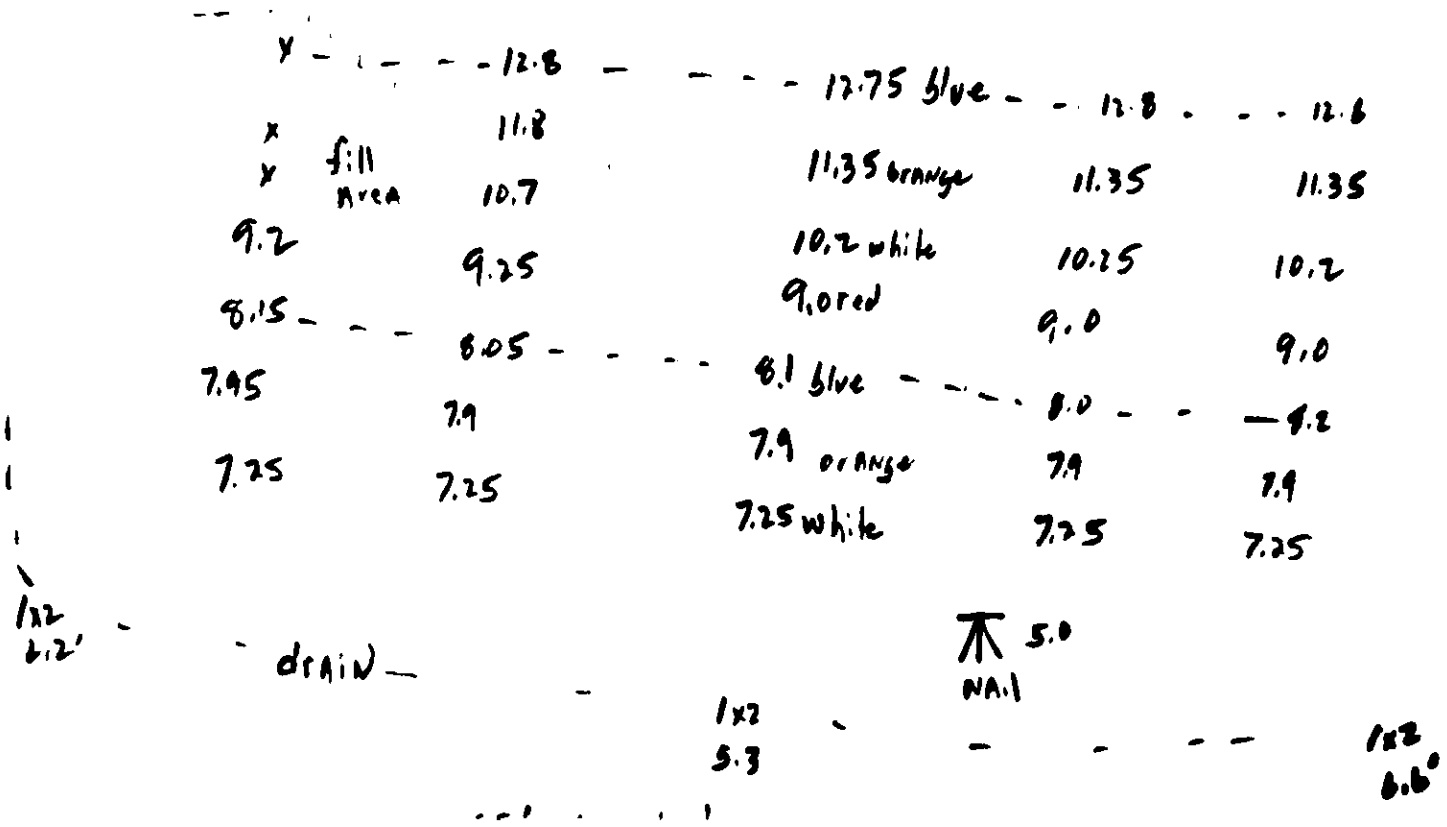
3. d=theta / t^.5 * Tcorr
   30 sec d= 61.46172
   90 sec d= 36.26388
   4 hrs d= 2.81
   10 hrs d= 1.77

% sand = 56.35
% silt =-4.35
% clay = 48

Textural Class =SANDY CLAY

$\frac{8.7}{48\%} = 18.1$

All Rod Readings
± 0.05'



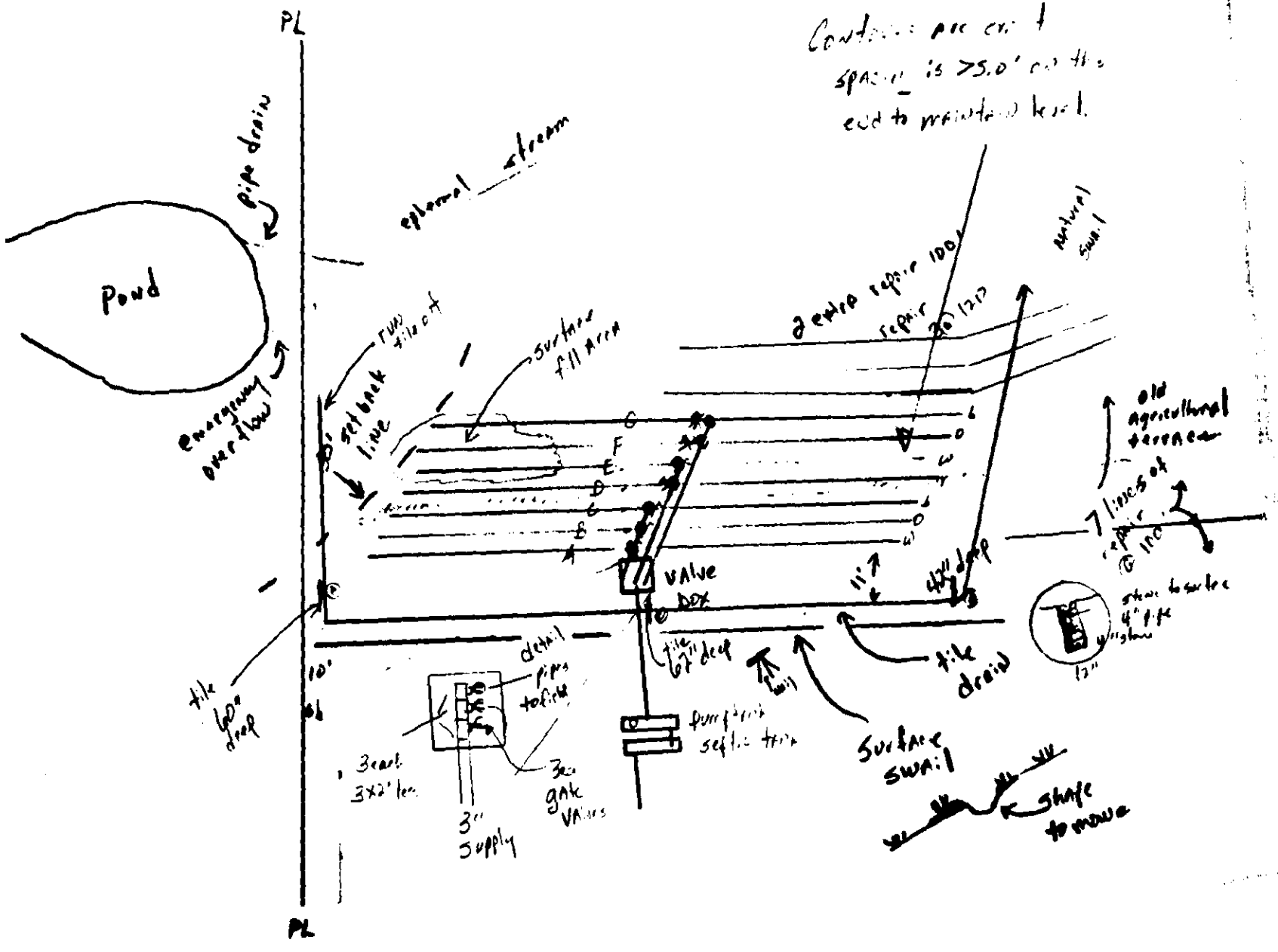
Line	Color flag	length	elevation	hole size	head	hole spacing	flow/hole	flow/line
A	white	140	92.7	5/32	2.0	7'	.41	8.2
B	orange	140	92.1		2.6	8.2	.464	7.9
C	blue	140	91.9		2.8	8.75	.482	7.7
D	red	140	90.9		2.0	7.4	.41	7.8
E	white	140	89.7		3.2	9.3	.516	7.7
F	orange	140	88.6		2.0	7.8	.41	7.4
G	blue	140	87.2	5/32	3.4	10'	.532	7.4
		980'						2 54.1 GPM

Center manifold max. 70' elev.

Absolute for proper sys. operation

Dosing volume

feet	size	gp 100'	storage
40	3	.4 x 36.7	14.7
85	2	.25 x 16.2	13.8
140	1¼	4.8 x 6.4 = 62.7 x 5	313.6
			342.1


PL
Contours are ex. 1 space is 25.0' on the end to maintain level.
pipe drain
ephemeral stream
Pond
emergency overflow
run tile out
setback line
surface fill area
2 extra repair 100'
repair 20 120
natural swail
old agricultural terrace
lines of repair @ 100'
valve box
42" deep
11'
detail
pipe to field
3 each 3x2' lens
3" gate valves
3" supply
pump from septic tank
tile 60" deep
tile drain
surface swail
shape to move
tile 60" deep
10'
PL

WILLIAM KIDD LOT

STEVENS ROAD - MECKLENBURG COUNTY

NORTH CAROLINA

by

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

September 9, 1992

APPROVED
ENVIRONMENTAL HEALTH
DIVISION
MECKLENBURG COUNTY
HEALTH DEPARTMENT
Date

To: William Kidd
Huntersville
North Carolina

Kelly Randall, R.S.
Mecklenburg County Health Dept.
Charlotte, N. C.

Toney C. Jacobs, CPSS

Kidd Lot - Stevens Road

LOW-PRESSURE PIPE SYSTEM (LPP)

Design Considerations

This system is proposed for an estate single (8.3Ac) residential lot in an urbanized rural community of single family homes. The system is designed for a 3 bedroom home. The proposed drainfield system does require a repair area and there are some necessary water coarse setbacks. The soil on most of the tract is of a poor quality (unsuitable) for ground absorption. There is one small area with a deeper solum which has been analyzed for CEC and texture (enclosed) and was judged to be provisionally suitable by the DEH soil scientist. The repair area, should it ever be utilized, will have to be filled .1957(b) and installed as an LPP. Should drip irrigation become widely accepted, it would be the desired method of distribution with a free access sand filter pretreatment component. Ample area is available for the system and the repair. Overall, the soil has a sandy clay texture.

An LPP distribution system was considered permittable with above criteria. A caution to the installer includes no cutting or leveling, except by fill to the surface. One small area to be filled and then leveled is shown on the site plan. A 42" deep French drain and surface swail are required as shown on the plan. Bottom grade of this interceptor drain must be checked by inspector before trench is closed because of importance to the system.

Location

The approximately 8.3 Ac building lot is on the left near the end of Stevens Road, Mecklenburg County, N. C.

Reference Material

(1) *Design and Installation of Low Pressure Pipe 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.

Recommendation

Seven hundred and twenty (720) lineal feet of LPP lines with equal repair.

Ownership Responsibility for a LPP System

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

(a) Provide water conserving plumbing fixtures within the facility. Water closets should be 1.6 gal.flush, owner should have a certification or ask the sanitarian to inspect as such. This is a voluntary action, but very important to the Health Department and system designers. Shower head should also have restrictions or be of low volume design.

(b) Develop conservative water use habits. If weekends are the time of more water use and weekdays 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. Management entity should be a part of installation process.

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

Components of System

1. Two compartment septic tank-1500 gal.
2. 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 trench in ground absorption trenches, 1 foot wide, level end to end, and placed to the exact level specifications in plan.

Construction Sequence

1. Lines have been flagged as noted on drawing. French drain should be installed 15'above uppermost line. Swail should be 5' upslope of interceptor drain.

2. Clear the area of all organic material with minimum soil disturbance (do not grade). Backfill low area with clean imported loam from off-site and tamp to surrounding compaction and look.

3. After fill is placed, install trench per cited reference material and this plan. Top grade on pipes to be "level" from end to end and vertically from manifold, and checked by sanitarian. (Note: This is a two valve designed system rather than a 12 valve with one on each lateral.)

4. All joints in lateral manifold piping shall be watertight connections to insure that the only source of the 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.

5. Carefully backfill manifold trenches to grade with clean fill material.

6. The installation contractor shall stabilize the area of construction by planting and mulching with Kentucky 31 tall fescue. Area to be limed and fertilized with 0.5 tons lime, 75 units of N, 150 units P, and 100 units of K per acre (see enclosed soil test).

7. 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.

8. The dosing tank shall consist of a 1500 gallon capacity, reinforced, precast concrete tank without baffle and shall have a concrete mounting pad (concrete blocks) for accommodating the pump. 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 and concrete well cap or other approved type cover. There must be a seal 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 Model 97 manufactured by Zoeller, or equal, 1/2hp 115v/lph; capable of pumping 45 gallons per minute at a 15.6 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.

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 to the outlet pipe for lifting the pump in and out of the chamber. Controls are fastened to the "tree" or 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 and 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. The receptacle must not be located inside the pumping chamber due to the corrosive and explosive gasses that may form from the sewage. Electrical connections may be made inside the pumping tank only if wired inside a sealed, watertight box. 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". 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 following should be checked to insure that the system will not be overloaded with excess rainwater and runoff:

(a) The distribution field is shaped to shed rainwater and is free of low areas.

(b) Surface swail must be stabilized.

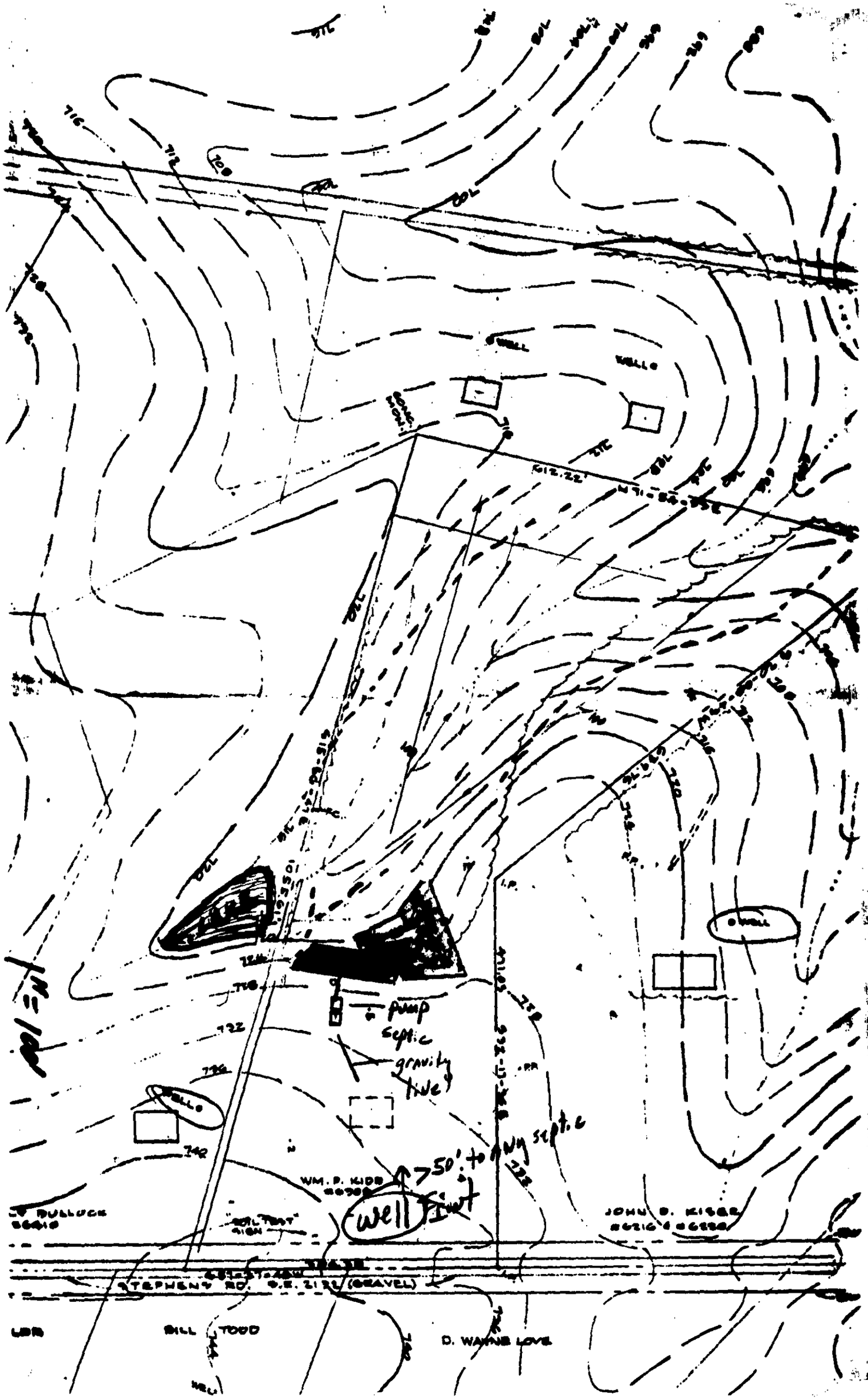
Concluding Note:

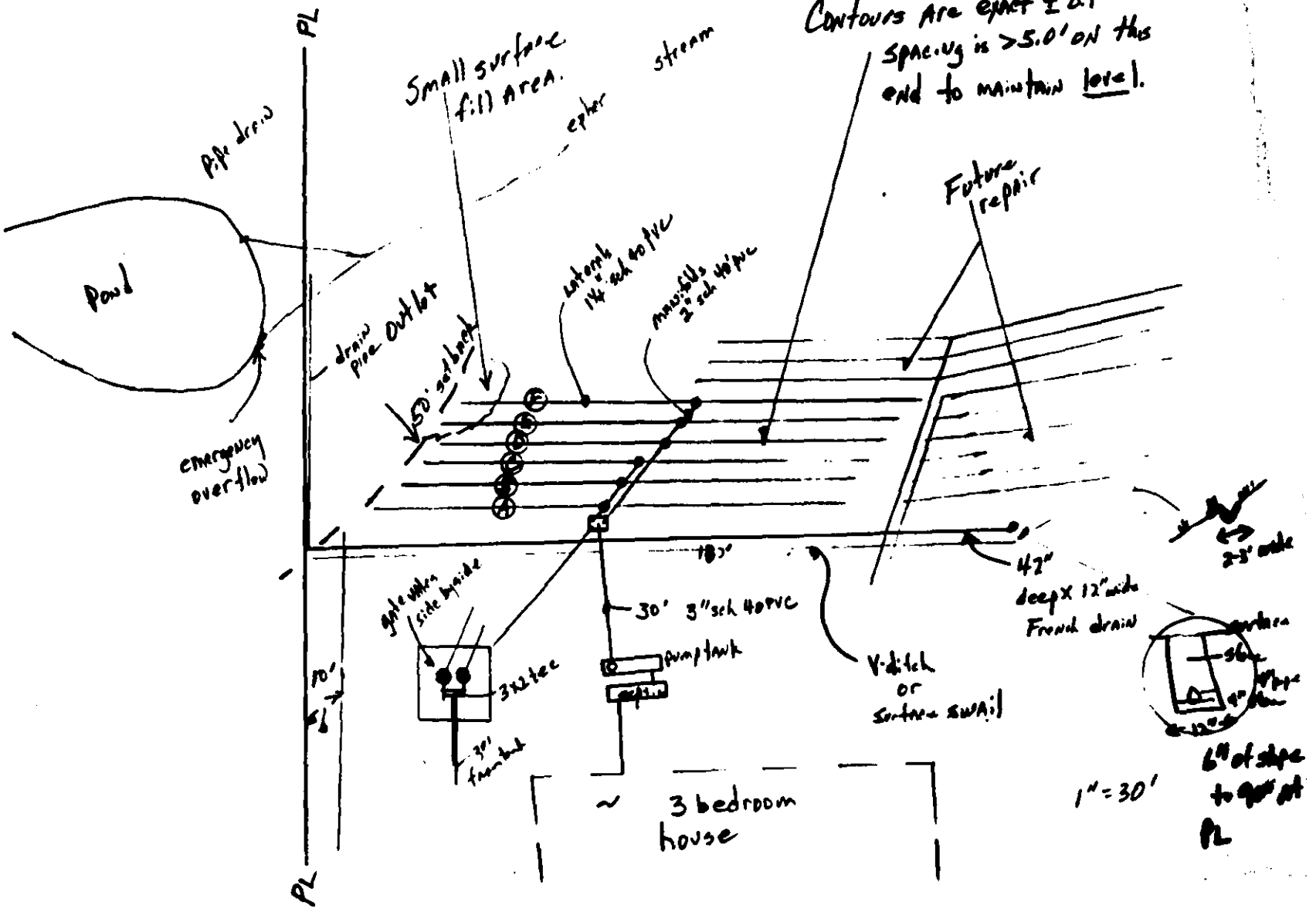
This plan was done to facilitate permitting by the Mecklenburg County Health Department as a service to the county by the property owner. Any additions, or additional requirement, or deletions to enhance design or workability which will facilitate a permit are welcomed and may be made by note on this plan without returning entire design. The designer realizes a plan with as many details as this can be changed and/or improved upon.

Design Specifications

Kidd Lot - Stevens Road

Daily design flow:	360 gpd - 3 bedroom house
Septic tank size:	1500 gal (2 compartments)
Pumping tank size:	1500 gal
Effluent loading rate:	0.1 gpd/sf LPP
Total length and diameter of supply manifold:	app. 30 lf - 3" sch 40 PVC, 58 lf of 2" sch 40 PVC
Number and length of laterals	System(6) 1-1/4"dia., 120'length center-fed. Repair almost identical.
Hole size:	5/32"
Hole spacing:	See table
Total number of holes	See table
Flow rate through the system:	46 gpm
Elevation head:	approx. 7.0(downhill pumping)
Pressure head:	4.0'
Friction head:	1.0'
20% over design:	2.6'
Total head:	14.6'
Pump requirements:	46 gpm at 14.6' of head; use Zoeller(1/2hp)pump or equivalent with compatible electrical
Dosing volume:	250 gal - 1 1/2 doses/day at design flow
Depth of water pumped per dose:	calculated to specific tank by measure or dealer engineering specifications
Pump run per dose:	approx. 6.0 min.
Check valve:	No
Syphon break hole:	No.


WELL
WELL
pump
septic
gravity line
WELL
WELL
50' to septic
well
WM. P. KIDD
JOHN D. KISER
STEPHENY RD. S.E. 2132 (GRAVEL)
BILL TODD
D. WAYNE LOVE


PL
Small surface fill area.
stream
ephr
Contours Are exact ± 0.1' spacing is >5.0' on this end to maintain level.
Pipe drain
Pool
drain pipe Outlet
Future repair
lateral 1½" sch 40 PVC
manifolds 2" sch 40 pipe
50' soil bank
emergency overflow
180'
42" deep x 12" wide French drain
2-3' wide
gate valves side by side
30' 3" sch 40 PVC
pump tank
3x2 tee
V-ditch or surface swale
10'
3' from bank
3 bedroom house
1" = 30'
6% of slope to
PL

Zone	Color	Length	elev.	Orifice	spacing	head	Flow/hole	Flow/line	# holes
A	orange	120'	95.35	5/32	6.0	2.05	.414	8.28	20
B	blue		95.3		6.3	2.1	.419	7.94	19
C	red		93.9		9.6	3.5	.540	7.56	14
D	white		92.55		6.7	2.0	.410	7.38	18
E	orange		91.4		9.6	3.15	.512	7.17	14
F	blue	120	90.45	5/32	10	4.1	.592	7.10	12

45.43 GPM

Center manifold 60'
max run 720'
two manifold lines

Design Volumes

30	3"	.3 x 36.7 =	11.01	
3x20	2"	.58 x 14.2 =	9.40	
6(120)	1¼	7.2 x 6.4 =	46.08 x 5 =	230.4
				250.9

Check valve

Down hill Not needed

"Quality Always Since 1938"

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

ZOELLER CO.

3880 Old Millers Lane
P.O. Box 16347 • Louisville, Kentucky 40216
(502) 778-2731 • FAX (502) 774-3624

COMPARE THESE FEATURES

- Non-clogging vortex impeller design.
- Durable cast construction. Cast switch case, motor and pump housing, base and impeller. No sheet metal parts to rust or corrode.
- Stainless steel screws, float rod, guard, handle and arm and seal assembly.
- Float operated submersible (NEMA 6) 2 pole mechanical switch.
- Oil filled motor-hermetically sealed.
- Entire unit pressure tested after assembly.
- Automatic reset thermal overload protection.
- Carbon and ceramic shaft seal.
- Water tight neoprene "O" ring between motor and pump housing.
- Maximum temperature for effluent or dewatering—130° F. - 54° C.
- 60 cycles, 1525 RPM.
- Passes ½ inch solids (sphere).
- No screens to clog.
- Standard cord length 15' (UL listed).
- 1½" NPT Discharge.
- On point—8".
- Off point—2½".
- Major width—10".
- Height—10¾".

SIMPLEX AND DUPLEX SYSTEMS AVAILABLE

PACKAGED SYSTEMS AVAILABLE

ZOELLER CO.

3880 Old Millers Lane
P.O. Box 16347 • Louisville, Kentucky 40216
(502) 778-2731 • FAX (502) 774-3624

Manufacturers of . . .

"Quality Always Since 1938"

"97" Cast Iron Series

"FLOW MATE"

FOR SEPTIC TANK SYSTEMS

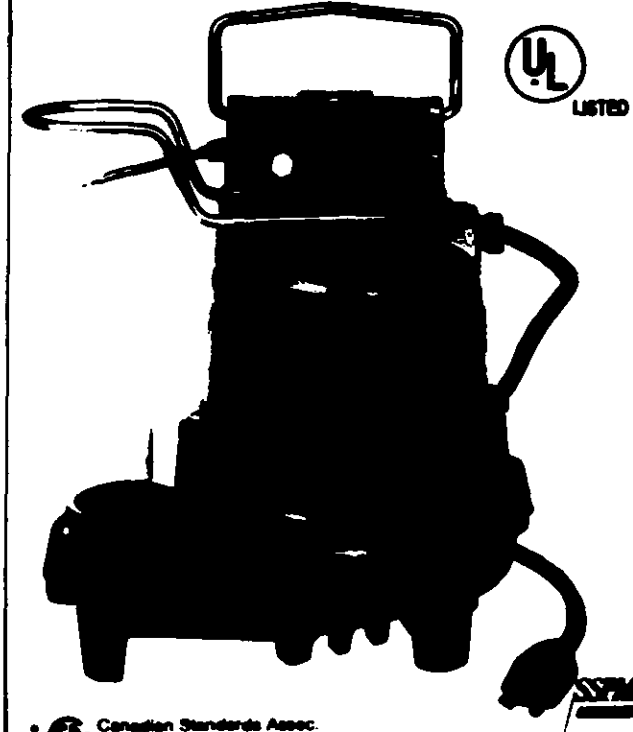
EFFLUENT

OR DEWATERING PUMP

SUBMERSIBLE

1½" NPT DISCHARGE

UL LISTED

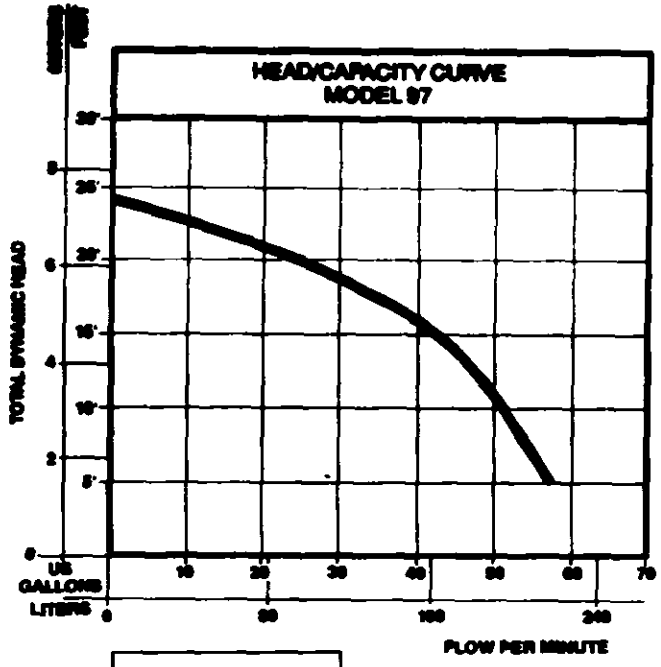


• Canadian Standards Assoc. Approval available

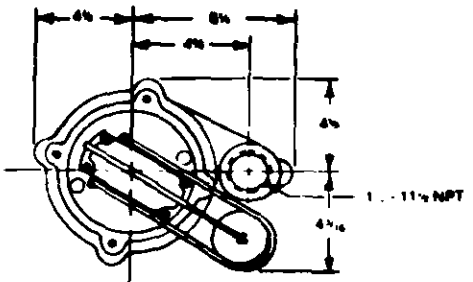
MODELS AVAILABLE

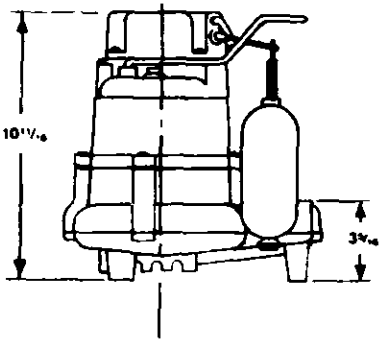
- Automatic or Non-Automatic
- ½ H.P., 1 Ph., 115V or 230V.
- N97 available packaged with Piggyback Mercury Float Switch.

NOTE: No UL listing for Extra Duty (XD) pumps



HEAD		CAPACITY (APPROX.)	
FEET	METERS	GAL.	LITRS
5	1.52	57	216
10	3.05	51	193
15	4.57	46	169
20	6.10	27	104
Less Valve		24.5'	





CONSULT FACTORY FOR SPECIAL APPLICATIONS

- Electrical alternators, for duplex systems, are available and supplied with an alarm.
- Mechanical alternators, for duplex systems, are available with or without alarm switches.
- Mercury float switches are available for controlling single and three phase systems.
- Double piggyback mercury float switches are available for variable level long cycle controls.

Standard All Models - Weight 33 lbs. - ½ HP

Model	Volts-Ph		Mode	Amps	Control Selection	
					Staples	Staples
M97	115	1	Auto	12.8	1 or 1 & 7	—
N97	115	1	Non	12.8	2 or 2 & 6	3 or 4 & 5
O97	200	1	Auto	6.8	1 or 1 & 7	—
P97	230	1	Non	6.8	2 or 2 & 6	3 or 4 & 5

SELECTION GUIDE

1 Integral float operated 2 pole mechanical switch, no external control required
2 Single piggyback wide angle mercury float switch or double piggyback mercury float switch. Refer to FM8477
3 Mechanical alternator 10-0872 or 10-0875
4 See FM8712 for correct model of Electrical Alternator "E-Pak"
5 Mercury sensor float switch 10-0825 used as a control activator, specify duplex (3) or (4) float system
6 Four (4) hole "J-Pak" junction box for watertight connection of wired-in pumps or 2 pump operation 10-0882
7 Two (2) hole "J-Pak" for watertight connection of splice 10-0888

For information on additional Zoeller products refer to catalog on Combination Starter, FM8614, Piggyback Mercury Float Switches, FM8477, Electrical Alternator, FM-8488, Mechanical Alternator, FM8486, Alarm Package, FM8513, and Sump/Sewage Basins, FM8497

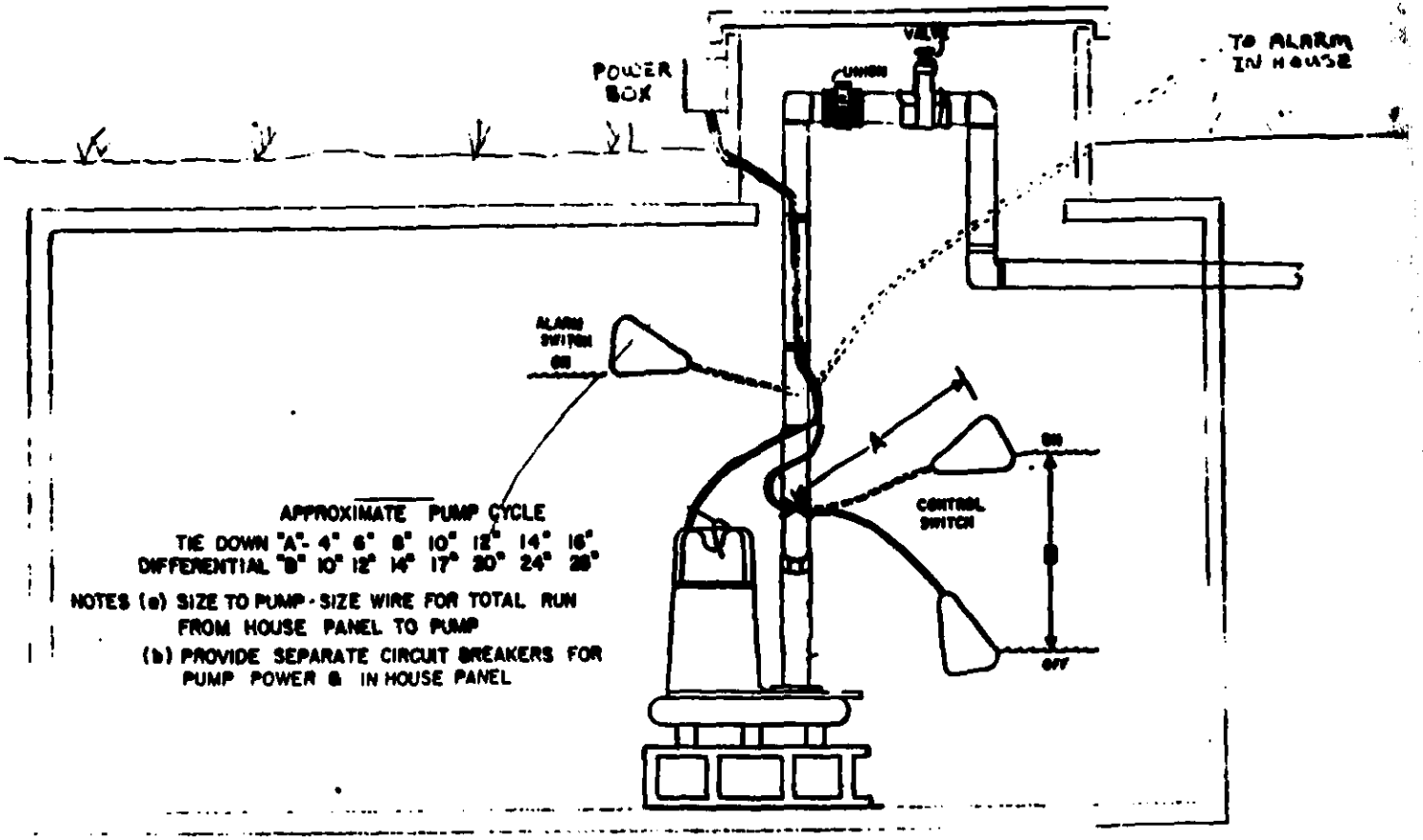
CAUTION

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

RESERVE POWERED DESIGN

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

ZOELLER CO.
3200 Old Millers Lane
P.O. Box 16347 • Louisville, Kentucky 40216
(502) 778-2731 • FAX (502) 774-3624
Manufacturers of . . .
"Quality Among Sump Pumps"



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

SOIL TEST REPORT

AGRONOMIC DIVISION N.C. DEPARTMENT OF AGRICULTURE
BLUE RIDGE ROAD CENTER, RALEIGH, N.C.
PHONE: (919) 733-2655

REPORT NO. 02842

06/06/92

COPIES SENT TO:
X COUNTY EXTENSION DIRECTOR

TO: JACOBS, T.
RT 2 BOX 280
TROUTMAN NC 28166-

FARM LOCATION (COUNTY): IREDELL

SAMPLE NO.	PREVIOUS CROP	APPLIED LBS N	APPLIED LBS P_2O_5	APPLIED LBS K_2O	PERT. LAST CROP P_2O_5	PERT. LAST CROP K_2O	SOIL CLASS	HM %	WV %	OC %	CEC %	Al	pH	B	Zn	Mn	Cu	Fe	NO3-N	P	K	Ca	Mg	S
-1	FES/OG/TIM N						MIN	0.0	1.12	14.0	91	1.2	6.1	001		14	56.4	36.5		(204) 425+	(003) 002	98		

TEST RESULTS * (3954)

CROP TO BE GROWN	LIME	N	P_2O_5	K_2O	Mg	Cu	Zn	B	Mn	SOIL NOTES
FES/OG/TIM E	1.0T	50-70	140-160	070-090	0	0	0		0	12

SUGGESTED TREATMENT FOR FIRST CROP (OR YEAR) **

CROP TO BE GROWN	LIME	N	P_2O_5	K_2O	Mg	Cu	Zn	B	Mn	SOIL NOTES
FES/OG/TIM N	0.0	100-200	140-160	100-120	0	0	0		0	12

SUGGESTED TREATMENT FOR SECOND CROP (OR YEAR) **

SAMPLE NO.	PREVIOUS CROP	APPLIED LBS N	APPLIED LBS P_2O_5	APPLIED LBS K_2O	PERT. LAST CROP P_2O_5	PERT. LAST CROP K_2O	SOIL CLASS	HM %	WV %	OC %	CEC %	Al	pH	B	Zn	Mn	Cu	Fe	NO3-N	P	K	Ca	Mg	S
-2	FES/OG/TIM N						MIN	0.0	1.04	13.6	97	0.4	6.5	004		6	59.8	37.0		(204) 324	(003) 001	68		

TEST RESULTS * (3954)

CROP TO BE GROWN	LIME	N	P_2O_5	K_2O	Mg	Cu	Zn	B	Mn	SOIL NOTES
FES/OG/TIM E	0.0	50-70	130-150	090-110	0	0	0		0	12

SUGGESTED TREATMENT FOR FIRST CROP (OR YEAR) **

CROP TO BE GROWN	LIME	N	P_2O_5	K_2O	Mg	Cu	Zn	B	Mn	SOIL NOTES
FES/OG/TIM N	0.0	100-200	130-150	120-140	0	0	0		0	12

SUGGESTED TREATMENT FOR SECOND CROP (OR YEAR) **

SAMPLE NO.	PREVIOUS CROP	APPLIED LBS N	APPLIED LBS P_2O_5	APPLIED LBS K_2O	PERT. LAST CROP P_2O_5	PERT. LAST CROP K_2O	SOIL CLASS	HM %	WV %	OC %	CEC %	Al	pH	B	Zn	Mn	Cu	Fe	NO3-N	P	K	Ca	Mg	S
-3	FES/OG/TIM N						MIN	0.5	1.25	8.0	90	0.0	6.2	003		8	62.7	36.0		(204) 425+	(003) 020	148		

TEST RESULTS * (3954)

CROP TO BE GROWN	LIME	N	P_2O_5	K_2O	Mg	Cu	Zn	B	Mn	SOIL NOTES
FES/OG/TIM E	0.6T	50-70	130-150	090-110	0	0	0		0	12

SUGGESTED TREATMENT FOR FIRST CROP (OR YEAR) **

CROP TO BE GROWN	LIME	N	P_2O_5	K_2O	Mg	Cu	Zn	B	Mn	SOIL NOTES
FES/OG/TIM N	0.0	100-200	130-150	120-140	0	0	0		0	12

SUGGESTED TREATMENT FOR SECOND CROP (OR YEAR) **

SAMPLE NO.	PREVIOUS CROP	APPLIED LBS N	APPLIED LBS P_2O_5	APPLIED LBS K_2O	PERT. LAST CROP P_2O_5	PERT. LAST CROP K_2O	SOIL CLASS	HM %	WV %	OC %	CEC %	Al	pH	B	Zn	Mn	Cu	Fe	NO3-N	P	K	Ca	Mg	S
-4	FES/OG/TIM N						MIN	0.1	1.22	8.0	90	0.0	6.1	001		8	53.5	36.1		(204) 425+	(003) 003	96		

TEST RESULTS * (3954)

CROP TO BE GROWN	LIME	N	P_2O_5	K_2O	Mg	Cu	Zn	B	Mn	SOIL NOTES
FES/OG/TIM E	0.6T	50-70	140-160	090-110	0	0	0		0	12

SUGGESTED TREATMENT FOR FIRST CROP (OR YEAR) **

CROP TO BE GROWN	LIME	N	P_2O_5	K_2O	Mg	Cu	Zn	B	Mn	SOIL NOTES
FES/OG/TIM N	0.0	100-200	140-160	120-140	0	0	0		0	12

SUGGESTED TREATMENT FOR SECOND CROP (OR YEAR) **

SAMPLE NO.	PREVIOUS CROP	APPLIED LBS N	APPLIED LBS P_2O_5	APPLIED LBS K_2O	PERT. LAST CROP P_2O_5	PERT. LAST CROP K_2O	SOIL CLASS	HM %	WV %	OC %	CEC %	Al	pH	B	Zn	Mn	Cu	Fe	NO3-N	P	K	Ca	Mg	S
-5	FES/OG/TIM N						MIN	0.1	0.13	0.7	91	0.0	6.1	001		4	55.3	36.3		(204) 425+	(004) 004	34		

TEST RESULTS * (3954)

CROP TO BE GROWN	LIME	N	P_2O_5	K_2O	Mg	Cu	Zn	B	Mn	SOIL NOTES
FES/OG/TIM E	0.6T	50-70	140-160	100-120	0	0	0		0	12

SUGGESTED TREATMENT FOR FIRST CROP (OR YEAR) **

CROP TO BE GROWN	LIME	N	P_2O_5	K_2O	Mg	Cu	Zn	B	Mn	SOIL NOTES
FES/OG/TIM N	0.0	100-200	140-160	120-140	0	0	0		0	12

SUGGESTED TREATMENT FOR SECOND CROP (OR YEAR) **

* TEST RESULTS (N.C. tests will not compare directly to numbers obtained by other methods.)

** TREATMENT: Base unless specified

§ Soil Level is questionable. See supplemental material.

TOMMY C. JACOBS, CPSS
Duke Power State Park Road
Rt. 2 Box 289
Troutman, N. C. 28166
(704) 528-4787

CONSULTING SOIL SCIENTIST
NCRCPS ARCPACS

PARTICLE SIZE ANALYSIS

SERIES: Mock **LAB ID# -** 1
PEDON # 4 **COLLECTED** 7-30-92
HORIZON: 8-10" inches
SAMPLE SIZE IS 50 **GRAMS**
BY TCJ
PROTO:

	30 sec	90 sec	4 hr	10 hr
READING	43	42	41	40
BLANK	7	7	6	6
TEMP C	24	24	24	24

1. Concentration C=R-Rl at
   30 seconds= 36
   90 seconds= 35
   4 hours= 35
   10 hours= 34

2. P=(C/Co)*100
   30 seconds= 72
   90 seconds= 70
   4 hours= 70
   10 hours= 68

3. d=theta / t^.5 * Tcorr
   30 sec d= 55.31555
   90 sec d= 32.28264
   4 hrs d= 2.58
   10 hrs d= 1.64

% sand = 28.38
% silt = 2.76
% clay = 68.87

Textural Class =CLAY

$\frac{14}{68.87\%} = 20.3$

TOMMY C. JACOBS, CPSS
Duke Power State Park Road
Rt. 2 Box 280
Troutman, N. C. 28166
(704) 528-4787

CONSULTING SOIL SCIENTIST
NCRCPS ARCPACS

PARTICLE SIZE ANALYSIS

SERIES: Kidd **LAB ID# -** 2
PEDON # 4 **COLLECTED** 7-30-92
HORIZON: 19-23" inches
SAMPLE SIZE IS 50 **GRAMS**
BY TCJ
PHOTO:

	30 sec	90 sec	4 hr	10 hr
READING	42	40	42	41
BLANK	7	7	6	6
TEMP C	24	24	24	24

1. Concentration C=R-R1 at
   30 seconds= 35
   90 seconds= 33
   4 hours= 36
   10 hours= 35

2. P=(C/Co)*100
   30 seconds= 70
   90 seconds= 66
   4 hours= 72
   10 hours= 70

3. d=theta / t^.5 * Tcorr
   30 sec d= 55.91517
   90 sec d= 32.88848
   4 hrs d= 2.55
   10 hrs d= 1.63

% sand = 30.84
% silt =-1.75
% clay = 70.91001

Textural Class =CLAY

$\frac{13.6}{.717} = 19.2$

TOMMY C. JACOBS, CPSS
Duke Power State Park Road
Rt. 2 Box 280
Troutman, N. C. 28166
(704) 528-4787

CONSULTING SOIL SCIENTIST
NCRCPS ARCPACS

PARTICLE SIZE ANALYSIS

SERIES: Kidd **LAB ID# -** 3
PEDON # 8 **COLLECTED** 7-30-92
HORIZON: 6-8" inches
SAMPLE SIZE IS 50 **GRAMS**
BY TCJ
PHOTO:

	30 sec	90 sec	4 hr	10 hr
READING	25	23	25	24.5
BLANK	7	7	6	6
TEMP C	24	24	24	24

1. Concentration C=R-Rl at
   30 seconds= 18
   90 seconds= 16
   4 hours= 19
   10 hours= 18.5

2. P=(C/Co)*100
   30 seconds= 36
   90 seconds= 32
   4 hours= 38
   10 hours= 37

3. d=theta / t^.5 * Tcorr
   30 sec d= 63.71032
   90 sec d= 37.30246
   4 hrs d= 2.91
   10 hrs d= 1.84

% sand = 65.81
% silt =-2.99
% clay = 37.18

Textural Class =SANDY CLAY

4 = 21.5%
37.18

TOMMY C. JACOBS, CPSS
Duke Power State Park Road
Rt. 2 Box 200
Troutman, N. C. 28166
(704) 528-4787

CONSULTING SOIL SCIENTIST
NCRCPS ARCPACS

PARTICLE SIZE ANALYSIS

SERIES: Kidd
PEDON # 8 COLLECTED 7-30-92 LAB ID# - 4
HORIZON: 19-23" inches
SAMPLE SIZE IS 50 GRAMS
BY TCJ
PHOTO:

	30 sec	90 sec	4 hr	10 hr
READING	32	30.5	31	32
BLANK	7	7	6	6
TEMP C	24	24	24	24

1. Concentration C=R-Rl at
   30 seconds= 25
   90 seconds= 23.5
   4 hours= 25
   10 hours= 26

2. P=(C/Co)*100
   30 seconds= 50
   90 seconds= 47
   4 hours= 50
   10 hours= 52

3. d=theta / t^.5 * Tcorr
   30 sec d= 60.56229
   90 sec d= 35.22529
   4 hrs d= 2.78
   10 hrs d= 1.75

% sand = 51.06
% silt = -2.48
% clay = 51.42

Textural Class =SANDY CLAY

$\frac{8}{51.42\%} = 15.6$

TOMMY C. JACOBS, CPSS
Duke Power State Park Road
Rt. 2 Box 280
Troutman, N. C. 28166
(704) 528-4787

CONSULTING SOIL SCIENTIST
NCRCPS ARCPACS

PARTICLE SIZE ANALYSIS

SERIES: Kidd LAB ID# - 5
PEDON # 8 COLLECTED 7-30-92
HORIZON: >23 inches
SAMPLE SIZE IS 50 **GRAMS**
BY TCJ
PHOTO:

	30 sec	90 sec	4 hr	10 hr
READING	30	27	30	30
BLANK	7	7	6	6
TEMP C	24	24	24	24

1. Concentration C=R-R1 at
   30 seconds= 23
   90 seconds= 20
   4 hours= 24
   10 hours= 24

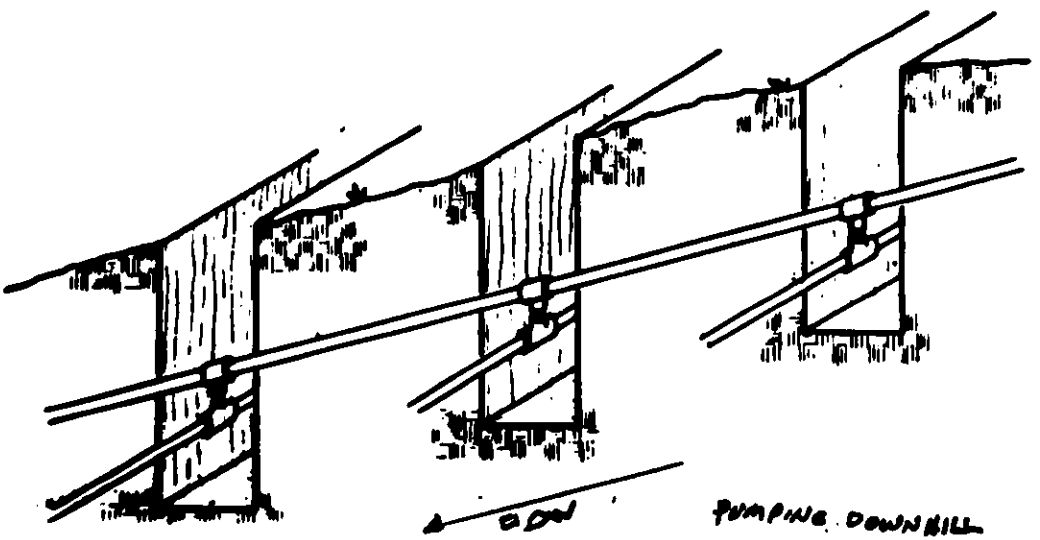
2. P=(C/Co)*100
   30 seconds= 46
   90 seconds= 40
   4 hours= 48
   10 hours= 48

3. d=theta / t^.5 * Tcorr
   30 sec d= 61.46172
   90 sec d= 36.26388
   4 hrs d= 2.81
   10 hrs d= 1.77

% sand = 56.35
% silt =-4.35
% clay = 48

Textural Class =SANDY CLAY

$\frac{8.7}{48} = 18.1$


FLOW
PUMPING DOWNHILL

Mecklenburg County
Health Department

Betty S. Snow, R.N., M.A.
Health Director

May 4, 1992

William P. Kidd
Rt 4 Box 199
Huntersville, NC 28078

RE: Property located at Stephens Road
FILE: 21425
PARCEL: 013-091-03

Dear Mr. Kidd:

At your request a soils investigation was conducted on the property designated above. Results of this investigation showed the site to be classified as **UNSUITABLE** under criteria as set forth in Section .1900 of the North Carolina Administrative Code, Title 10, Department of Human Resources, Chapter 10, Division of Health Services; Sanitary Engineering Section, Subchapter 10A, Sanitation. A copy of the Site Evaluation Report (Serial Number 12479) is enclosed.

The soil on this property is not suitable for use with any conventional, modified or alternative system of which I am aware. If you wish to exercise your right of appeal concerning the interpretation and enforcement of these rules you may do so in accordance with G.S. 150B and 10 NCAC 1B.

If there are any questions, please contact me at 336-5573.

Sincerely,

Kelly Randall

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

KR/wpg
Enclosure

[redacted] COUNTY ENVIRONMENTAL HEALTH
[redacted] EVALUATION REPORT
SERIAL NUMBER 12479

File: 21425 Action 3

Parcel: 013-091-03 ☐ PC

Location: STEPHENS ROAD

Subdivision:

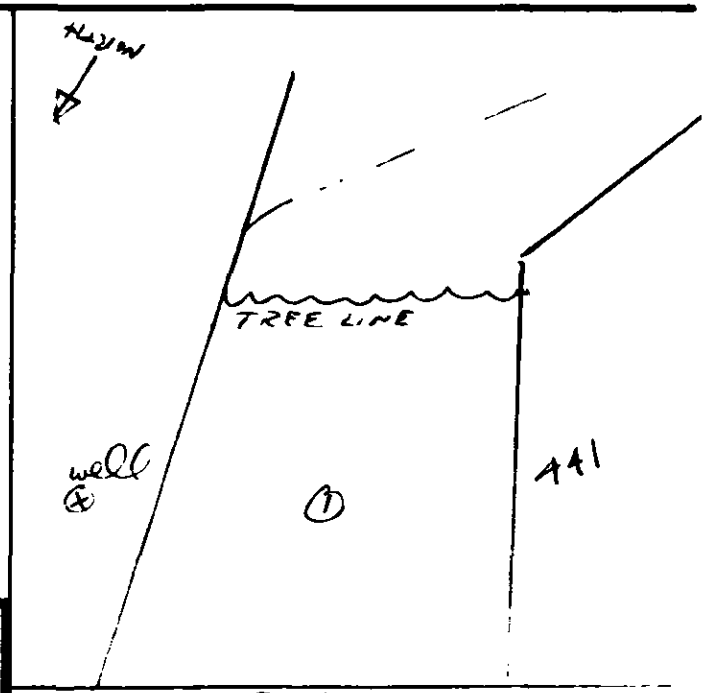
Lot: Block: Acres: ≈ 1.0

Owner: WILLIAM P KIDD
Address: RT 4. BOX 199
HUNTERSVILLE NC 28078

Comments: 100% REPAIR

Described by: [signature]

Date: 4-27-92



*** 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	S PS U	S PS U	S PS U	S PS U	S PS U
Texture	S PS (U) EXPANSIVE 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	S PS U	S PS U	S PS U	S PS U	S PS U
Depth	S PS (U) 12-24"	S PS U	S PS U	S PS U	S PS U	S PS U
Restrictive Horizons	S PS U NONE	S PS U	S PS U	S PS U	S PS U	S PS U
Available Space	(S) PS U	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	AHEVILLE/SAM EDOW					
Area Classification	S PS (U)	S PS U	S PS U	S PS U	S PS U	S PS U

21425 NL 50 0.46 MS

400 LA

file #21425

4792 MNS

INDIVIDUAL WATER AND WASTEWATER SYSTEMS PROGRAM
APPLICATION FOR SERVICES

☐ ORT

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: FLOWE, EDDIE A. (last) (first) (mi)
ADDRESS: 5527 MANNING RD PHONE: (704) 596-2509
CITY: CHARLOTTE STATE: NC ZIPCODE: 28269

Date: 4-1-92

PROPERTY OWNER:
NAME: KIDD, WILLIAM P. (last) (first) (mi)
ADDRESS: RT 4 Box 199 PHONE: (__) _____
CITY: Huntersville STATE: NC ZIPCODE: 28078

PROPERTY INFORMATION (FROM ENGINEERING PERM):
TAX/PARCEL NUMBER: 013-091-08-001
STREET ADDRESS: Stephens RD.
3/10 mile from Beatties Ford
ZONING RD on left.

Township (check one):
☑ 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): 8.477 acres

TYPE APPLICATION (check one):
☑ SOIL TEST - INDIVIDUAL LOT (O)
☐ NEW CONSTRUCTION ON VACANT LOT - 6 BEDROOMS OR LESS (N)
☐ EXCHANGE MOBILE HOME - SAME # BEDROOMS (Y)
☐ ADDITION - INCREASE ROOMS/OCCUPANCY/MOBILE HOME SIZE (A or N)
☐ COMMERCIAL OR INDUSTRIAL (N)
☐ SOIL TEST DEVELOPMENT (P)
☐ ADDITION - GARAGE OR RENOVATION/NO MAJOR CHANGES (X)
☐ MODIFIED /ALTERNATIVE/ OR RESIDENCE > 6 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: 4

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 ☐ Home
☐ 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: William P. Kidd Pauline H. Kidd Date: 3-26-92

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.

...

☐ 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

Director or Authorized Section Head Date

WATER : 122791

BK: 07008 PG: 0005/0005 #:0105 6.00

REGISTERED SEP/16/1992 10:30AM ANNE A. POWERS REGISTER OF DEEDS MECK. CO. N.C.

FILE NO. 21425

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 .1946(c)

The undersigned, William P. Kidd, Pauline H. Kidd,

owner of property located at 6306 Stephenson Road

("the site") and described in an instrument recorded in Book 2463 at Page 107, 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 at 10 NCAC 10A .1934 et seq. that the Department unsuitably classified the site as "unsuitable" pursuant to the standards set forth in the regulations; that the undersigned requested pursuant to 10 NCAC 10A .1946(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 that that the findings specified in 10 NCAC 10A .1946(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 10th day of September, 1992.

William P. Kidd (SEAL)

Pauline H. Kidd (SEAL)

COPY

STATE OF NORTH CAROLINA
COUNTY OF MECKLENBURG

I, Marlene Wise, a Notary Public for said County and State, do hereby certify that William P. Kidd & Pauline H. Kidd personally appeared before me this date and acknowledged the due execution of the foregoing instrument.

WITNESS my hand and notarial seal, this 10th day of September, 1992.

Marlene Wise
Notary Public

My Commission Expires 3-15-93

STATE OF NORTH CAROLINA
COUNTY OF MECKLENBURG

I, _____, a Notary Public for said County and State, do hereby certify that _____ personally came before me this day and acknowledged that he is _____ of _____, 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 _____, sealed with its corporate seal and attested by _____.

WITNESS my hand and notarial seal, this _____ day of _____, 19__.

_____
Notary Public

Date Received 9-10-84

RECEIVED
1984
ENVIRONMENTAL HEALTH

SIR No. 21425
T. C. No. 013-091-03
Map Date L

MECKLENBURG COUNTY
DEPARTMENT OF ENVIRONMENTAL HEALTH

APPLICATION FOR SOIL INVESTIGATION

1) NAME OF OWNER Kidd (LAST) William (FIRST) Puett (MIDDLE)

2) ADDRESS OF OWNER Route 4, Box 199, Huntersville, N.C. ZIP 28078

3) PHONE NO. Home 875-2381 Office

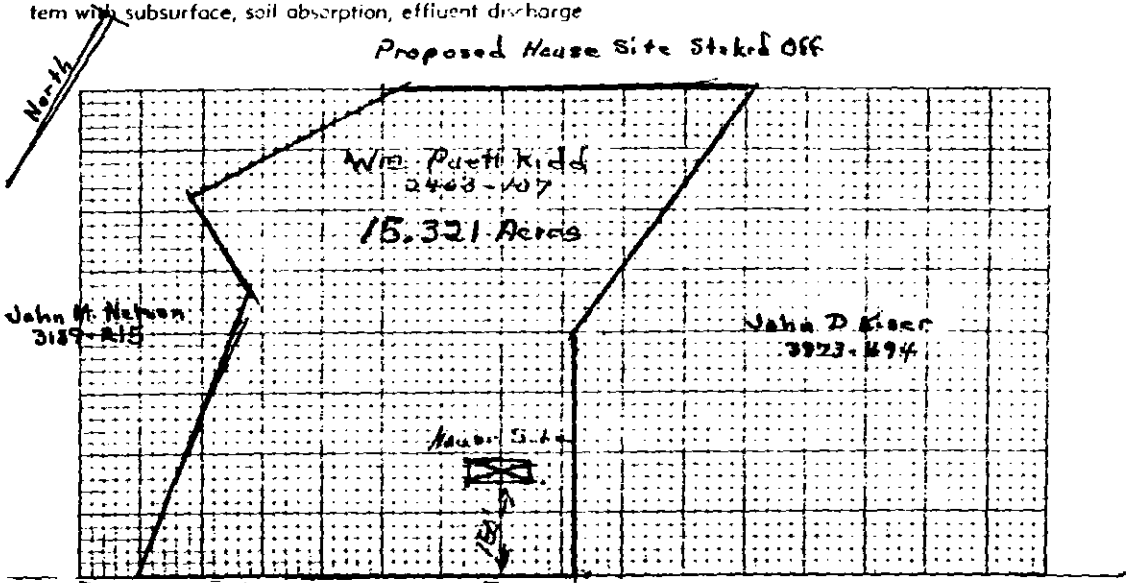
4) LOCATION OF PROPERTY Stephens Road (STREET OR COUNTY ROAD)

5) SUBDIVISION _____ LOT NO. _____ BLOCK NO _____

MAP BOOK NO _____ PAGE NO. _____

6) DEED REFERENCE DEED BOOK 2463 PAGE NO. 107

Application is hereby made to the Mecklenburg County Department of Environmental Health for the conduct of a soil investigation and an on site inspection of the lot hereinabove described for the purpose of determining if the lot is suitable for the installation of an individual septic tank wastewater treatment system with subsurface, soil absorption, effluent discharge



7) ACCURATELY DIAGRAM & DIMENSION LOT

Soil Test Sign

William Puett Kidd
OWNER

EHD-5-76

Environmental Health Department's Copy

DEPARTMENT OF ENVIRONMENTAL HEALTH
MECKLENBURG COUNTY, NORTH CAROLINA

SITE EVALUATION

S.I.R. NO. 21425

T.C. NO. 8001-2403

(Ground Absorption Sewage Disposal)

OWNER: William C. Kidd
ADDRESS: Rt 4, Box 199 Huntersville, N.C.
PLAT NO:
LOT SIZE: Approx 45,000 sq ft 1.03
LOCATION OF SITE: Stephens Road

FACTORS	AREA 1	AREA 2	AREA 3	AREA 4
1. SLOPE (%)	(S) PS U 2-8%	(S) PS 2-8% U	S PS U	S PS U
2. SOIL TEXTURE (12-36 inches) Sandy, Loamy, Clayey (Note 2-1 Clay)	S 2-1 PS Clay (U)	S 2-1 PS Clay (U)	S PS U	S PS U
3. SOIL STRUCTURE (12-36 inches)	S (PS) Weak Blocky U	S (PS) Weak Blocky U	S PS U	S PS U
4. SOIL DEPTH (inches)	S PS (U) 12-16"	S 24-30" PS U	S PS U	S PS U
5. RESTRICTIVE HORIZONS (Inches) (Impervious strata, Rock)	S 12-16" PS (U)	S 230" PS U	S PS U	S PS U
6. SOIL DRAINAGE/GROUNDWATER (external and internal)	S 20-30" to (PS) ground water U	S some perched water 24-30" PS U	S PS U	S PS U
7. OTHER (Specify)	S PS U	S PS U	S PS U	S PS U
8. SOIL GROUP	IC A	IC B		
9. SITE CLASSIFICATION	unsuitable	unsuitable		
10. SOIL SERIES	Wilkes Like	Iredell Like		

S - Suitable PS - Provisionally Suitable U - Unsuitable

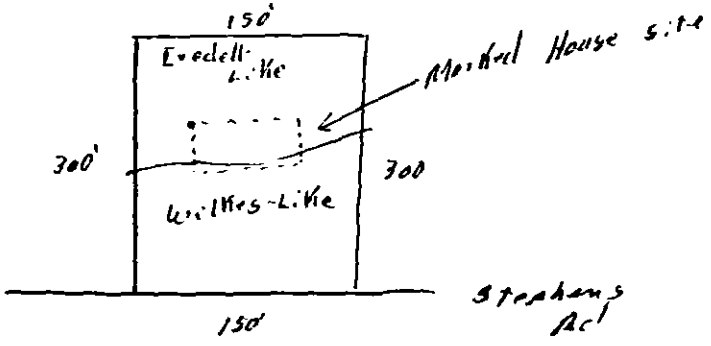
**See Diagram on Back (includes: soil areas, property lines, roads, streams, gullies, wet areas, fill areas, wells, water bodies, slopes)

Recommendations/Comments:

Described by: William G. Murphy
Title: Soil Scientist

Date: 10-3-84

34


150'
Evedell Lane
Marshall House site
300'
300
Williams Lane
Stephens Ave
150'

MECKLENBURG COUNTY
Department of Environmental Health

October 3, 1984

William P. Kidd
Route 4, Box 199
Huntersville, NC 28078

Re: Property located at Stephens Road SIR 21425, T. C. PO 013-091-03

Dear Sir:

At your request a soils investigation was conducted on the property designated above. Results of this investigation showed the site to be classified as unsuitable under criteria as set forth in Section .1900 of the North Carolina Administrative Code, Title 10, Department of Human Resources, Chapter 10, Division of Health Services; Sanitary Engineering Section, Subchapter 10A, Sanitation.

The soil on this property is not suitable for use with any conventional system, modified or alternative, with which I am aware.

If I can be of assistance, please feel free to call.

Sincerely,

Enclosure

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