4563 1914B

MECKLENBURG COUNTY
GROUNDWATER & WASTEWATER SERVICES

APPLICATION FOR A RESIDENTIAL SITE IMPROVEMENT PERMIT/ CONSTRUCTION AUTHORIZATION FOR AN ON-SITE WASTEWATER SYSTEM, NEW WELL INSTALLATION, OR REPAIR OF EXISTING WELL

1. **SEPTIC / TYPE APPLICATION:** ☐ N/A ☒ NEW SYSTEM ☐ ALTERATION ☐ REPAIR ☐ MODIFIED PLOT PLAN

2. **WELL / TYPE APPLICATION:** ☐ N/A ☒ NEW WELL ☐ MAJOR REPAIR ☐ ABANDONMENT

3. **JOB LOCATION INFORMATION:**
TAX PARCEL NUMBER: 217-071-01 Po
STREET ADDRESS: 16816 McKee Road
CITY: Charlotte
STATE: NC ZIP: 28278
SUBDIVISION NAME:
LOT #: 1 LOT SIZE (acres): 1.30
TOWNSHIP:
☒ 0-MECKLENBURG ☐ 3-CORNELIUS ☐ 6-HUNTERSVILLE
☐ 1-CHARLOTTE ☐ 4-PINEVILLE ☐ 7-MINT HILL
☐ 2-DAVIDSON ☐ 5-MATTHEWS

4. **BUILDING INFORMATION:**
BUILDING TYPE:
☐ SINGLE MOBILE HOME ☐ MODULAR HOME
☐ DOUBLE WIDE ☐ MULTIPLE FAMILY
☒ HOUSE ☐ OTHER _____
HEATED SQUARE FOOTAGE: 2000
NUMBER OF BEDROOMS: 4 Four Bedroom B/2
NUMBER OF OCCUPANTS: 2
FOUNDATION TYPE:
☐ CONCRETE SLAB ☐ BASEMENT WITH PLUMBING
☒ CRAWL SPACE ☐ BASMENT WITH NO PLUMBING

5. **IF PLANNING TO EXPAND OR ALTER THE EXISTING SEPTIC SYSTEM PLEASE COMPLETE THE FOLLOWING SECTION:** ☐ N/A

NUMBER OF BEDROOMS TO BE ADDED: _____ NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE: _____

6. **WATER SUPPLY:** ☐ MUNICIPAL ☒ PRIVATE WELL ☐ PUBLIC WELL ☐ SHARED WELL ☐ OTHER _____

7. **PROPOSED USE OF WELL:** ☐ N/A ☐ IRRIGATION ☒ POTABLE (DRINKING WATER) ☐ OTHER _____

8. **PLEASE INDICATE AND RANK DESIRED SEPTIC SYSTEM TYPE(S) IN ORDER OF PREFERENCE** *(1-MOST DESIRED 5-LEAST DESIRED)*:

☐ N/A ☐ ANY TYPE ☒ CONVENTIONAL ☒ ACCEPTED ☒ INNOVATIVE ☒ ALTERNATIVE ☒ OTHER Any

8A. **RANK:** 1 2 3 4 5

9. **DO ANY OF THE FOLLOWING APPLY TO THE PROPERTY IN QUESTION? IF "YES" PLEASE ATTACH SUPPORTING DOCUMENTATION.**

BURIED CABLES, LANDFILLS, STUMPHOLES	☐ YES ☒ NO	GRADING/SOIL REMOVAL PERFORMED	☐ YES ☒ NO
EXISTING WASTEWATER (SEPTIC) SYSTEMS	☐ YES ☒ NO	JURISDICTIONAL WETLANDS	☐ YES ☒ NO
WELLS, SPRINGS, OR WATER LINES	☐ YES ☒ NO	APPROVAL REQUIRED BY ANY OTHER PUBLIC AGENCY	☐ YES ☒ NO
EASEMENTS OR RIGHT-OF-WAYS	☐ YES ☒ NO	WASTEWATER OTHER THAN DOMESTIC SEWAGE	☐ YES ☒ NO
CHEMICAL/PETROLEUM STORAGE TANKS	☐ YES ☒ NO	KNOWN UNDERGROUND CONTAMINATION	☐ YES ☒ NO
WASTE STORAGE	☐ YES ☒ NO	GROUNDWATER USE RESTRICTIONS/VARIANCES	☐ YES ☒ NO

10. **WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED?** _____ ☒ UNKNOWN

11. **WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY?** 3/30/10 ☐ N/A

12. **PROPERTY OWNER:**
NAME: Sandra M. Ray / Robah Butler TRUSTEES
ADDRESS: 16820 McKee Rd
CITY: Charlotte
STATE: NC ZIP: 28278
HOME PHONE:
WORK PHONE:
MOBILE PHONE:
FAX:

13. **OWNER'S LEGAL REPRESENTATIVE, IF APPLICABLE:**
NAME: Brandon Roberts
ADDRESS: 6235 Fox Chase Dr
CITY: Davidson
STATE: NC ZIP: 28036
HOME PHONE:
WORK PHONE: 704 400-3300
MOBILE PHONE:
FAX: brandonbrhomes@aol.com

MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST. SUITE 211 CHARLOTTE, NC 28202, OFFICE: 704-336-5103, FAX: 704-336-6894

Revised on: 7/1/08

14. SEPTIC SYSTEM PERMIT APPLICATION:

If the information in this application is falsified, changed, or the site is altered, then the Improvement Permit and Authorization to Construct shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for either sixty (60) months or is non-expiring depending upon the documentation submitted: complete site plan = 60 months, complete plat = non-expiring.

BR *(Initial here for septic system applications)*

15. WELL PERMIT APPLICATION:

If the information in this application is falsified, changed, or the site is altered, then the Well Permit shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for a period of twelve (12) months from the date of issuance.

_____ (Initial here for well applications)

16. APPLICATION SIGNATURE SECTION:

ONLY COMPLETE APPLICATIONS WILL BE PROCESSED. A proper signature is required in order to process your application. Please review the application carefully and sign in the space provided below.

_____ _____

Property Owner's or Owner's Legal Representative Signature Date

---

OFFICE USE ONLY

☐ SURVEY PLAT TO SCALE SUBMITTED ☐ SCALED SITE PLAN SUBMITTED ☒ UN-SCALED SITE PLAN SUBMITTED

SEPTIC APPLICATION FEES RECEIVED: $ 250.00 DATE FEE RECEIVED: 3/18/10

WELL APPLICATION FEES RECEIVED: $ _____ DATE FEE RECEIVED: _____

APPLICATION PROCESSED BY: T. THOMASON

GWS FILE NUMBER ASSIGNED: 1914B

APPLICATION ID NUMBER ASSIGNED: 4563

COMMENTS:

MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST. SUITE 211 CHARLOTTE, NC 28202, OFFICE: 704-336-5103, FAX: 704-336-6894

Department of Environment, Health, and Natural Resources
Division of Environmental Health
On-site Wastewater Section

Sheet: 1 of 3
Property ID: 21707101
Lot #: 1
File #: 1914B
AppID:

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Owner: Sandra Ray/Robah Butler Trustees
Applicant Brandon Roberts
Address: 16820 mckee rd Charlotte nc 28278
Date Evaluated: 03/30/2010
Proposed Facility: residence
Design Flow (.1949): 480
Property Size: 1
Location of Site: 16816 McKee rd Charlotte nc 28278
Property Recorded:
Water Supply: [ ] Public [ ] Individual [x] Well [ ] Spring [ ] Other
Evaluation Method: [ ] Auger Boring [x] Pit [ ] Cut
Type of Wastewater: [x] Sewage [ ] Industrial Process [ ] Mixed

PROFILE #	1940 Landscape Position/ Slope%	Horizon Depth (IN)	SOIL MORPHOLOGY 1941		b PROFILE FACTORS				
			1941 Structure/ Texture	1941 Consistence Mineralogy	1942 Soil Wetness/ Color	1943 Soil Depth (IN)	1956 Sapro Class	1944 Restr Horiz	Profile Class & LTAR
1	L.S	0-5	GR/L	FR,SS,SP,SXP	>48" TO SOIL WETNESS	48	N/A	NONE	U.S IV
	10	5-13	GR/SL	"					.25GPD/FT2
		13-24	ABK/C	FI,S,P,SXP					
		24-34	PL/C	"					
		34-48	SBK/C	"					
2	"	0-6	GR/L	FR,SS,SP,SXP	"	48	"	"	"
		6-23	PL/C	FI,S,P,SXP					
		23-48	SBK/CL	"					
3	"	0-5	GR/SL	FR,SS,SP,SXP	"	55	"	"	"
		5-9	GR/SCL	"					
		9-16	ABK/C	FI,S,P,SXP					
		16-25	PL/C	"					
		25-55	SBK/SCL	"					
					SITE LTAR .2GPD/FT2				

Description	Initial System	Repair System
Available Space (.1945)	PS	PS
System Type(s)	IIIg	Iva
Site LTAR	0.25	0.2

Other Factors (.1946):
Soil Evaluation By: Jason Jackson
Others Present: Bill Marlin
Site Classification (.1948): Provisionaly Suitable
Site Evaluation By: PHILO WALKER 4/26/10
Others Present:

Department of Environment, Health, and Natural Resources
Division of Environmental Health
On-site Wastewater Section

Sheet:
File #: 1914B

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM
CONTINUED

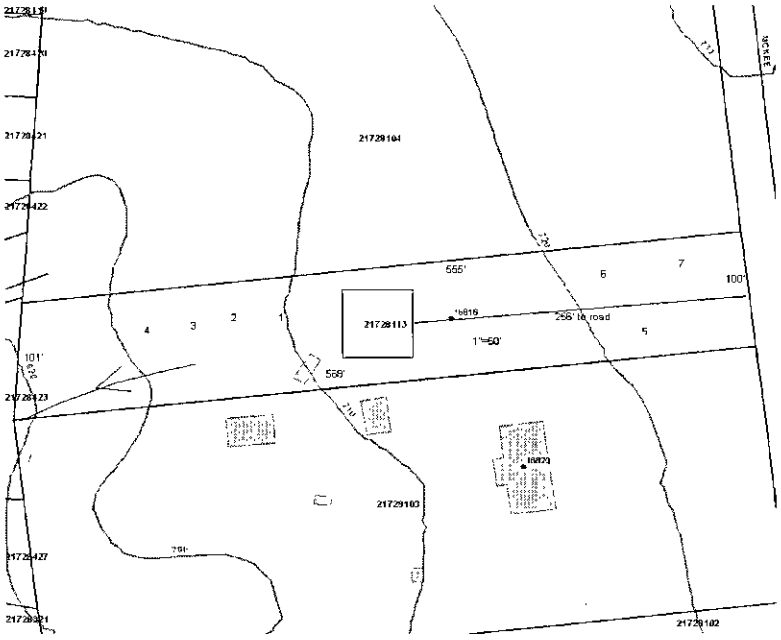
PROFILE #	1940 Landscape Position/ Slope%	Horizon Depth (IN)	SOIL MORPHOLOGY 1941 1941 Structure/ Texture	1941 Consistence Mineralogy	OTHER PROFILE FACTORS 1942 Soil Wetness/ Color	1943 Soil Depth (IN.)	1956 Sapro Class	1944 Restr Horiz	Profile Class & LTAR
4	L.S	0-7	GR/SL	FR,SS,SP,SXP	>52" TO SOIL WETNESS	52	N/A	NONE	U.S IV
	10	7-10	SBK/SCL	"					.25GPD/FT2
		10-26	PL/C	FI,S,P,SXP					
		26-43	SBK/SCL	"					
		43-52	W.SBK/CL	FR-FI,S,P,SXP					
5	"	0-4	GR/L	FR,SS,SP,SXP	MOTTLES @24" DOWN	48	"	"	U.S IV
		4-10	GR/SL	"	5YR 7/2				.2GPD/FT2
		10-24	LS/GR	"					
		24-48	PL/C	FI,S,P,SXP					
6	"	0-5	GR/SL	FR,SS,SP,SXP	MOTTLES @22" DOWN	48	"	"	"
		5-11	GR/LS	"	5YR 7/1				
		11-22	GR-SBK/SCL	FR-FI,S,P,SXP					
		22-48	PL/C	FI,S,P,SXP					
7	"	0-8	GR/SL	FR,SS,SP,SXP	MOTTLES @ 26" DOWN	48	"	"	"
		8-16	GR/LS	"	5YR 7/2				
		16-26	GR-SBK/SCL	"					
		26-48	PL/C	FI,S,P,SXP					

COMMENTS:
100% repair area not required

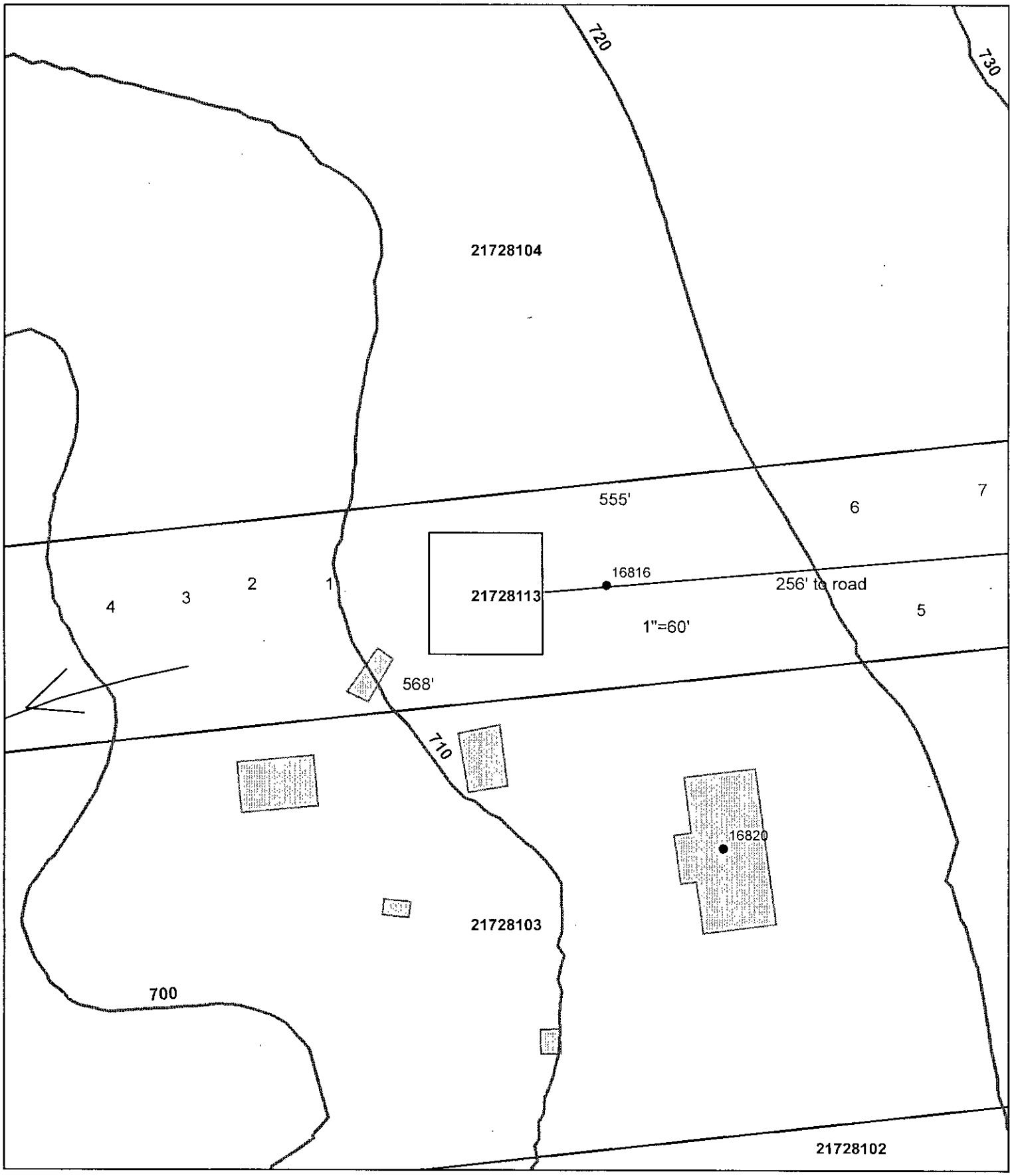
Landscape Position	Group	Texture	.1955 LTAR	Structure
R-Ridge	I	S-Sand	1.2 - 0.8	SG-Single Grain
SS-Shoulder Slope		LS-Loamy Sand		M-Massive
LS-Linear Slope				CR-Crumb
FS-Foot Slope	II	SL-Sandy Loam	0.8 - 0.6	GR-Granular
NS-Nose Slope		L-Loam		SBK-Subangular Blocky
HS-Head Slope				ABK-Angular Blocky
CC-Concave Slope	III	SI-Silt	0.6 - 0.3	PL-Platy
CV-Convex Slope		SICL-Silty Clay Loam		PR-Prismatic
T-Terrace				
FP-Flood Plain		CL-Clay Loam		
		SCL-Sandy Clay Loam		
	IV	SC-Sandy Clay	0.4 - 0.1	
		SIC-Silty Clay		
		C-Clay		

Consistence Moist	Consistence Wet	Mineralogy
VFR-Very Friable	NS-Non-Sticky	SEXP-Slightly Expansive
FR-Friable	SS-Slightly Sticky	EXP-Expansive
FI-Firm	S-Sticky	
VFI-Very Firm	VS-Very Sticky	
EFI-Extremely Firm	NP-Non-Plastic	
	SP-Slightly Plastic	
	P-Plastic	
	VP-Very Plastic	

Sketch of Soil Evaluation Locations



16301 Twin Cove Rd
FILE# 8154B



Map Created By: J. Jackson
Map Created On: 3/30/10

0 45 90

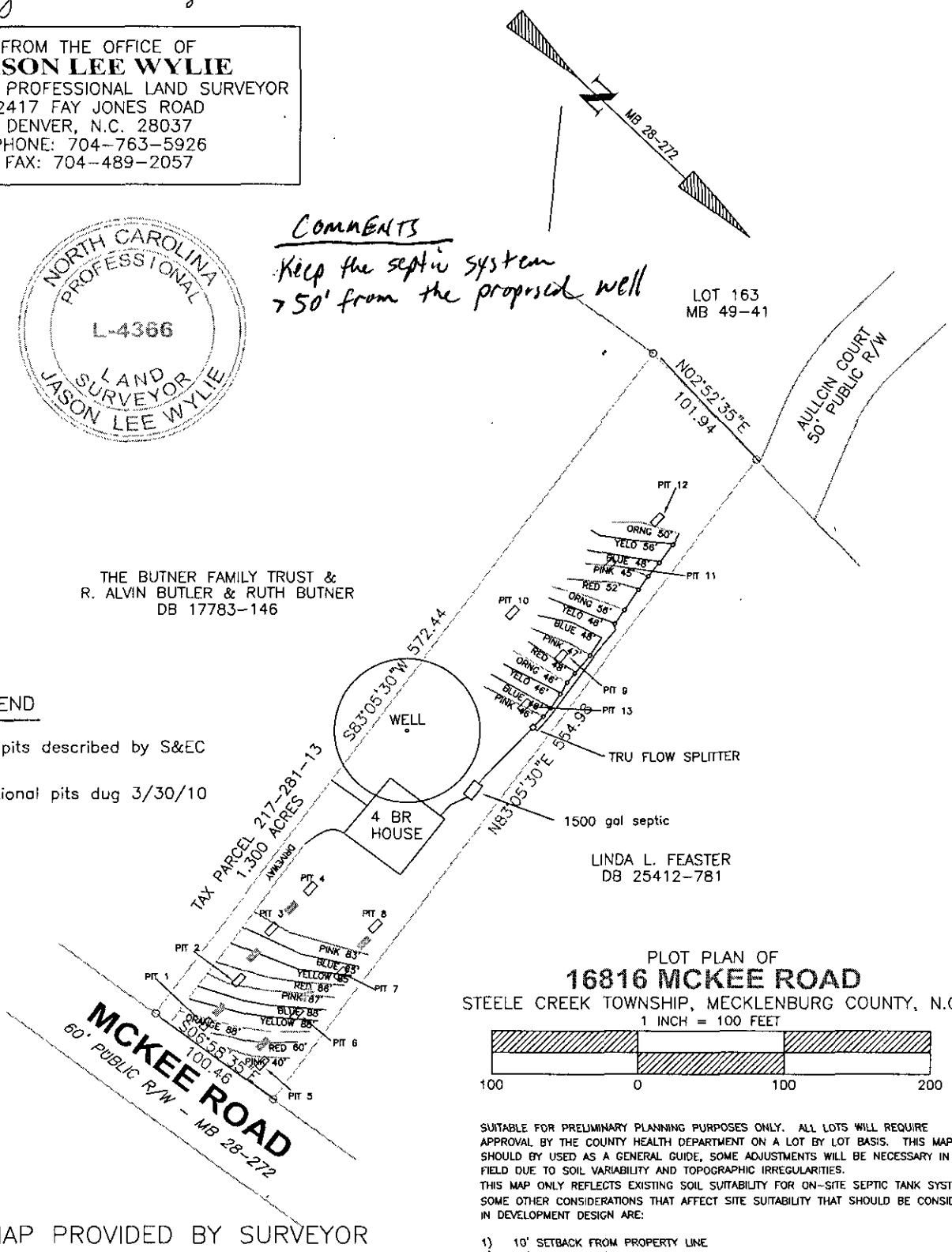
THIS PLOT PLAN WAS PREPARED UNDER MY SUPERVISION
ON THE 7TH DAY OF APRIL, 2010.

SIGNED Jason Lee Wylie

FROM THE OFFICE OF
JASON LEE WYLIE
NC & SC PROFESSIONAL LAND SURVEYOR
2417 FAY JONES ROAD
DENVER, N.C. 28037
PHONE: 704-763-5926
FAX: 704-489-2057

NORTH CAROLINA PROFESSIONAL L-4366 LAND SURVEYOR JASON LEE WYLIE

COMMENTS
Keep the septic system
>50' from the proposed well



PIT LEGEND

◇ Soil pits described by S&EC

◇ Additional pits dug 3/30/10

PLOT PLAN OF
16816 MCKEE ROAD
STEELE CREEK TOWNSHIP, MECKLENBURG COUNTY, N.C.
1 INCH = 100 FEET

100 0 100 200

SUITABLE FOR PRELIMINARY PLANNING PURPOSES ONLY. ALL LOTS WILL REQUIRE APPROVAL BY THE COUNTY HEALTH DEPARTMENT ON A LOT BY LOT BASIS. THIS MAP SHOULD BY USED AS A GENERAL GUIDE, SOME ADJUSTMENTS WILL BE NECESSARY IN THE FIELD DUE TO SOIL VARIABILITY AND TOPOGRAPHIC IRREGULARITIES.
THIS MAP ONLY REFLECTS EXISTING SOIL SUITABILITY FOR ON-SITE SEPTIC TANK SYSTEMS. SOME OTHER CONSIDERATIONS THAT AFFECT SITE SUITABILITY THAT SHOULD BE CONSIDERED IN DEVELOPMENT DESIGN ARE:

1) 10' SETBACK FROM PROPERTY LINE
2) 50' SETBACK FROM ANY WELL
3) 50' SETBACK FROM STREAMS, PONDS OR LAKES.

*BASE MAP PROVIDED BY SURVEYOR
*SEPTIC LINES NOT SURVEYED

SHEET TITLE:	PROJECT NAME:		
SEPTIC SYSTEM LAYOUT SKETCH MAP	KATHRYN WEBNER McKEE ROAD MECK COUNTY, NC April 8, 2010	S&EC Soil & Environmental Consultants, PA 11010 Raven Ridge Road • Raleigh, North Carolina 27614 • Phone (704) 239-2001 • Fax (919) 848-9467	WO FIELD WORK WO DRAWN PROJECT MGR. JOB NO. 11416

16816 McKee Road-Mecklenburg County

Project No. 5-11416s4

LAYOUT FOR 4 BEDROOM HOME (480 gpd) April-10

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		2.0			100.00		
INSTR. 1			102.00				
			System				
1	Pink			1.70	84.80	46	46
2	Blue			2.10	84.40	46	46
3	Yelo			2.70	83.80	46	46
4	Orange			3.20	83.30	46	46
5	Red			3.70	82.80	48	46
6	Pink			4.00	82.50	47	46
7	Blue	4.2		1.20	82.30	48	46
8	Yelo			2.10	81.40	48	46
9	Orange			3.30	80.20	56	46
10	Red			4.60	78.90	52	46
11	Pink			5.60	77.90	45	46
12	Blue			6.60	76.90	48	46
13	Yelo			8.00	75.50	56	46
14	Orange			8.70	74.80	50	46
					Total	**682**	**644**
			Repair				
15	Pink			2.00	100.00	40	
16	Red			2.50	99.50	60	
17	Orange			2.80	99.20	88	
18	Yelo			3.50	98.50	88	
19	Blue			4.00	98.00	88	
20	Pink			4.40	97.60	87	
21	Red			4.70	97.30	86	
22	Yelo			5.20	96.80	85	
23	Blue			5.40	96.60	85	
24	Pink			5.60	96.40	83	
						790	

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	TRENCH DEPTH	DISTRIBUTION
SYSTEM	682	0.25	Deep Install	36	Gravity
REPAIR	790	0.2	At-grade Innovative	12	Pump to washer box

Notes: **TBM is assumed to be 100'; all measures in feet

**Nitrification lines are demonstrated on contour via colored pin flags

**BS, HI, and FS indicate rod readings

4563 1914B

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

Sheet ___ of ___
PROPERTY ID #: _____
COUNTY: Mecklenburg

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: _____ APPLICATION DATE_____
ADDRESS: _____ DATE EVALUATED: 3-17-10
PROPOSED FACILITY: 4 BEDROOM PROPOSED DESIGN FLOW (.1949): gpd 480 PROPERTY SIZE: ~1 ACRE
LOCATION OF SITE: 16816 MCKEE ROAD - MECK CO. PROPERTY RECORDED: _____
WATER SUPPLY: Private Public ☒Well Spring Other _____
EVALUATION METHOD: ☒Auger Boring ☒Pit Cut TYPE OF WASTEWATER: ☒Sewage Industrial Process Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
1	L 5%	0-8	WFGR LS	VFR NS NP	2 CHROMA @ 30"	48	N/A		MODIFIED CONV OR LPP .2
		8-17	WFSBK SL	VFR NS NP					
		17-25	WMABK C	FI S SP					
		25-32	WMAB/PL C	FI SS SP					
		32-48	MASSIVE C						
2	L	0-6	WFGR LS	VFR NS NP	2.5Y 8/1 @ 25"	48	N/A		MODIFIED CONV OR LPP .2
		6-18	WFSBK SL	VFR NS NP					
		18-25	WMABK SC	FI S P					
		25-48	MASS/PL C	FI S P					
3	L	0-11	WFGR LS	VFR NS NP	2 CHROMA @ 30"	48	N/A		MODIFIED CONV OR LPP .2
		11-19	WFSBK SL	VFR NS NP					
		19-27	WMABK C	FI SS SP					
		27-40	PL/AB C	FI S P					
		40-48	MASS SCL	FR SS SP					
4	L	0-7	WFGR LS	VFR NS NP	2 CHROMA @ 21"	48	N/A		UN
		7-11	WMSBK SCL	FR SS SP					
		11-16	MMSBK C	FI SS SP					
		16-40	PL/ABK C	FI SS SP					
		40-48	MASS SCL	FR SS SP					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	644 LF	790 LF
System Type(s)	CONV	AT GRADE MHOV
Site LTAR	.25	.2

OTHER FACTORS (.1946): _____
SITE CLASSIFICATION (.1948): PS
EVALUATED BY: OVERBY
OTHER(S) PRESENT: _____

COMMENTS: INSTALL SYSTEM @ 36" DEPTH, GRAVITY TO FLOW SPLITTER & 1 LOP BOX

LICENSED SOIL SCIENTIST
JAMES WENDELL OVERBY
1218
STATE OF NORTH CAROLINA

SOIL/SITE EVALUATION

(Continuation Sheet)

Sheet ____ of ____

DEPARTMENT OF ENVIRONMENT
AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH

PROPERTY ID #: ____
DATE OF EVALUATION: 3-17-10
COUNTY: MECK

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
5	L 5%/0	0-10	WF GR LS	VFR NS NP	5Y 8/2 @ 33"	48"	N/A		MOD, CONV OR LPP .2
		10-20	WFSBK SL	VFR NS NP					
		20-27	WMABK SCL	FR SS SP					
		27-48	MMABK/PL C	FI SS SP					
6	L	0-7	WF GR LS	VFR NS NP		48"	N/A		MOD CONV OR LPP .2
		7-15	WF GR LS	VFR NS NP					
		15-26	WMABK SC	FR SS SP					
		26-36	WMABK/PL C	FI SS SP					
		36-48	MASS C	FI SS SP					
7	L	0-9	WF GR SL	VFR NS NP	10YR 8/2 @ 26"	48"	N/A		MOD CONV OR LPP .2
		9-13	WFSBK SL	VFR NS NP					
		13-24	WMABK SCL	FI SS SP					
		24-36	MMABK/PL C	FI SS SP					
		36-48	MASS CL						
8	L	0-8	WF GR SL	VFR NS NP	2.5Y 7/2 @ 26"	48"	N/A		DRIP .1
		8-14	WMABK SCL	FR SS SP					
		14-20	WMABK C	FI SS SP					
		20-26	MASSIVE/MMABK C	FI SS P					
		26-48	PLATY C	FI SS SP					
9	L	0-6	WF GR SL	VFR NS NP					.25
		6-12	MM PRISM/AB	FI SS P					
		12-24	PLATY						
		24-36	MF ABK CL	FI SS SP					
		36-48	WFSBK CL	FR SS SP					

LICENSED SOIL SCIENTIST
JAMES WENDELL OVERBY
1218
STATE OF NORTH CAROLINA

COMMENTS: ____

SOIL/SITE EVALUATION

(Continuation Sheet)

Sheet ___ of ___

DEPARTMENT OF ENVIRONMENT
AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH

PROPERTY ID #: _____
DATE OF EVALUATION: 3-17-10
COUNTY: MECK

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZ ON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
10	L	0-14	WFGR SL	NS NP VFr					.275
		14-20	WFSBK SCL	Fr SS NP					
		20-26	MASS C	Fi SS SP					
		26-40	PLATY C	Fi SS P					
		40-60	WFSBK CL	Fr SS SP					
11	L	0-5	WF GR SL	VFr NS NP		48			.275
		5-9	WFSBK SCL	Fr SS SP					
		9-25	PLATY C	Fi SS SP					
		25-48	WFSBK SCL	Fi SS SP					
		48-55	WFSBK SCL	Fr SS SP					
12	L	0-7	WFGR SL	Fr NS NP		52+			.275
		7-10	WFSBK SCL	Fr SS NP					
		10-26	PLATY C	Fi SS SP					
		26-43	WFSBK SCL	Fr SS SP					
		43-52	WFSBK CL	Fr SS SP					
13	L	0-8	WFGR SL	Fr NS NP		57+			.25
		8-12	WMSBK SCL	Fr SS NP					
		12-24	MMABK C	Fi SS SP					
		24-32	PLATY C	Fi SS P					
		32-39	WMSBK CL	Fr SS SP					

LICENSED SOIL SCIENTIST
JAMES WENDELL OVERBY
1218
STATE OF NORTH CAROLINA

COMMENTS: _____

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St, Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30004563** GWS File #: **1914B** Tax Parcel #: **217-281-13**

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

I. This Improvement Permit Shall: Expire in Five (5) Years **Expiration Date (If Applicable):** 4/21/2015

Type of Installation: Residential - New System Lot Number: 0

Structure Type: HOUSE Size (ft^2): 2000 # Bedrooms: 4 # Occupants: 2

Building Foundation: Crawl Space Water Supply: Private Well

II. Initial System Type: Conventional **System Classification:** IIa

Initial System Specifications:

Design Flow (gpd):	480	LTAR (gpd/ft^2):	0.25	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	N/A
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	1920	Total Trench Length (ft):	640
Maximum Trench Depth (in):	36	Depth of Media (in):	12	Distribution Device:	Drop Boxes		

III. Repair System Type: Pump to Shallow Placed Conventional **System Classification:** IIa

Repair System Specifications:

Design Flow (gpd):	480	LTAR (gpd/ft^2):	0.2	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1500
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	2400	Total Trench Length (ft):	800
Maximum Trench Depth (in):	36	Depth of Media (in):	12	Distribution Device:	Drop Boxes		

IV. Permit Conditions/Comments:

(Please See the Following Page for Permit Conditions.)

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment, and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until an INSTALLATION APPROVAL is granted by the Department.
- The septic system installer shall be a registered septic contractor with Mecklenburg County Health Department.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Philo Walker Owner/Legal Agent: _____
Print Name

Signature: Philo Walker RS Signature: _____

Date Issued: 4/21/2010

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St, Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30004563** GWS File #: **1914B**

IV. Permit Conditions/Comments:

- This type of repair system requires the installation of a pump tank and all associated components. This type of system will require routine inspections by our office. The system owner is responsible for all fees associated with these inspections.
- This type of repair system requires periodic inspections by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- The septic system shall be installed in accordance with the plans submitted by the wastewater system design consultant.
- All components of the septic system must be located at least 100 ft. (50 ft. minimum) from all private wells.
- The septic system shall be located at least 10 feet from any foundation drain.

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until an INSTALLATION APPROVAL is granted by the Department.
- The septic system installer shall be a registered septic contractor with Mecklenburg County Health Department.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Philo Walker

Signature: Philo Walker RS

Date Issued: 4/21/2010

Owner/Legal Agent: _____
Print Name

Signature: _____

FEE: 100.00
DATE: 5-6-97
ck # 40772

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

I JCRT

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

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

FILE #: 1914B

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION: 071-

TAX/PARCEL NUMBER: 217-07-010

STREET ADDRESS: 16816 McKee ~~Meadow View~~ Blvd

SUBDIVISION OR MOBILE HOME PARK NAME:

LOT NUMBER:

TYPE OF BUILDING (CHECK ONE):

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

HEATED SQUARE FOOTAGE: 1500

NUMBER OF BEDROOMS: 3

NUMBER OF OCCUPANTS: 1

FOUNDATION FOR RESIDENCE:

__ WITHOUT BASEMENT ON SLAB
X CRAWL SPACE
__ WITH BASEMENT /PLUMBING
1 WITH BASEMENT /NO PLUMBING

TOWNSHIP (CHECK ONE):

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

CLOSING DATE_____

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

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

WATER SUPPLY (CHECK ONE):
__ COMMUNITY (C)
__ MUNICIPAL (M)
X PRIVATE WELL (P)
__ SHARED WELL (S)
__ OTHER 'SPRINGS' (O)

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

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

PROPERTY OWNER:

NAME: BARNES, A.W. Estate
(LAST) (FIRST) (MI)

ADDRESS: 7816 MEADOW VIEW LN

CITY: CHAR STATE: NC ZIP: 28270

DAYTIME PHONE: ( ) —

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:

NAME: KAY SANDRA M.
(LAST) (FIRST) (MI)

DAYTIME PHONE: ~~704-588-0810~~ 583-4140

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? _____

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

SIGNED: ✓ DATE: ✓

* Barbara A. Allen

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

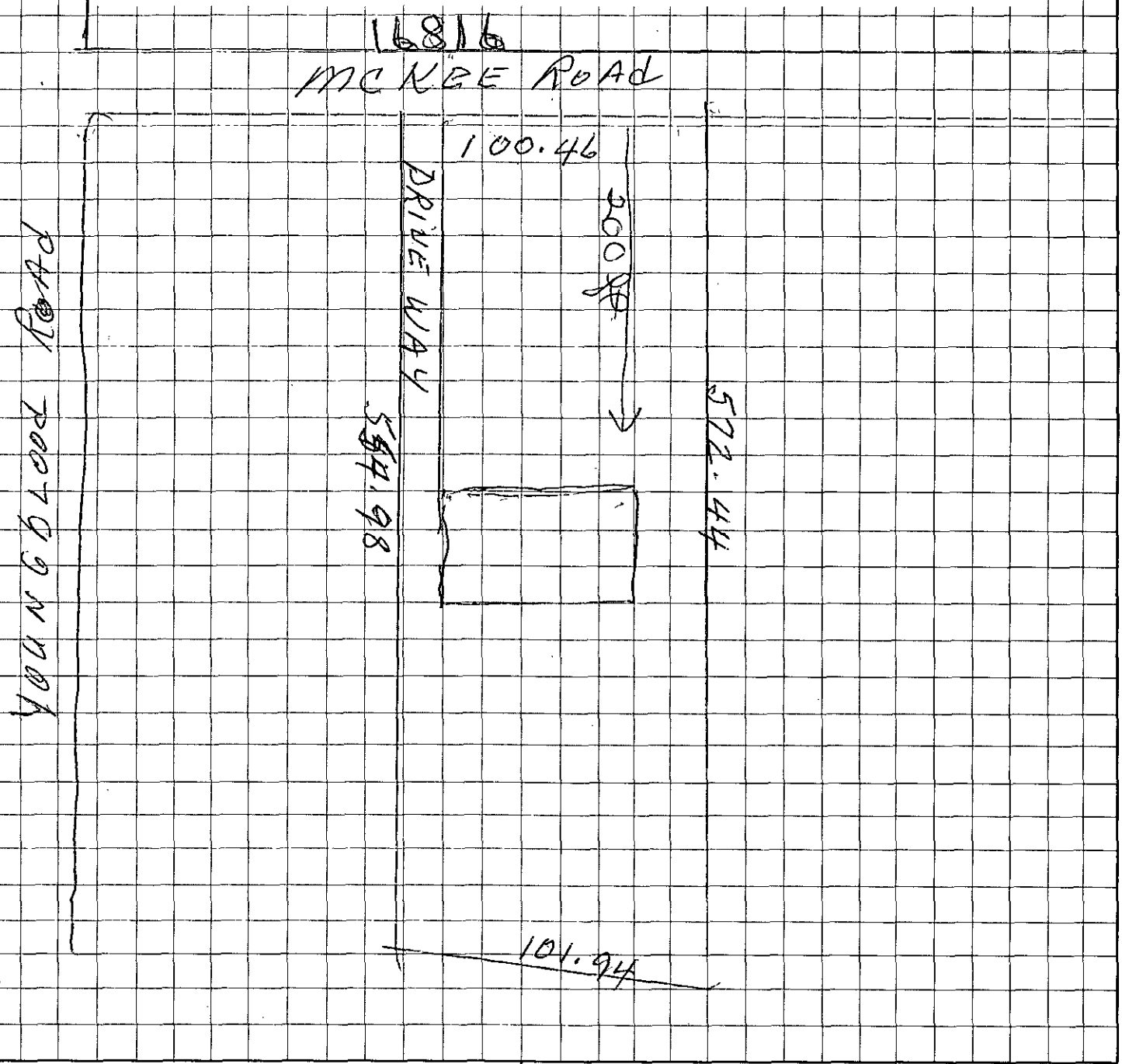
PROPOSED PLOT PLAN

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

FILE: 1914B

TC: 217-071-01 PO

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



APPROVAL DATE _____

OWNER/AGENT SIGNATURE

DATE

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

...MENT OF ENVIRONMENT, HEALTH, AND NATURAL RESOURCES
...ION OF ENVIRONMENTAL HEALTH
...ON-SITE WASTEWATER SECTION

Sheet ___ of ___
PROPERTY ID #: ___
COUNTY: Mecklenburg

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

#3 1914B
PO 217-07101

OWNER: A.W. Barnes
ADDRESS: ___
APPLICANT: ___
APPLICATION DATE: ___
DATE EVALUATED: 7-9-97
PROPOSED FACILITY: house
PROPOSED DESIGN FLOW (.1949): 360
PROPERTY SIZE: 1.3
LOCATION OF SITE: McKee Rd # 16816
PROPERTY RECORDED: ___
WATER SUPPLY: ☒ Private ☐ Public ☐ Well ☐ Spring ☐ Other ___
EVALUATION METHOD: ☐ Auger Boring ☒ Pit ☐ Cut
TYPE OF WASTEWATER: ☒ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
1	4-5	0-11	sl gr	fr					
		11-16	scl sbk	fi	2.5Y7/2				
		16-33	C pl/sbk	s-P - plastic @ 23"					
		33-45	scl pl/MSbk	fi sbk below chroma change @ 48"					
		45-77	scl/sl mas	fr					
2	4-5	0-10	sl gr	fr					
		10-18	scl sbk	fi	chroma 2's @ 23"				
		18-48"	c pl	fi					
		48-65"	c wsbk	fi					
		65-77	scl mas	fr					
3		0-10	sl gr	fr	2.5Y6/3				
		10-13	scl sbk	fi	2.5Y6/2				
		13-23/30	sc pl-blk	fi - platy @ 23 to 30"	23" mottle 30" other				
4		0-23"	sl gr	fr					
		23-28	sc sbk	fi					
		28-51	c pl	fi					

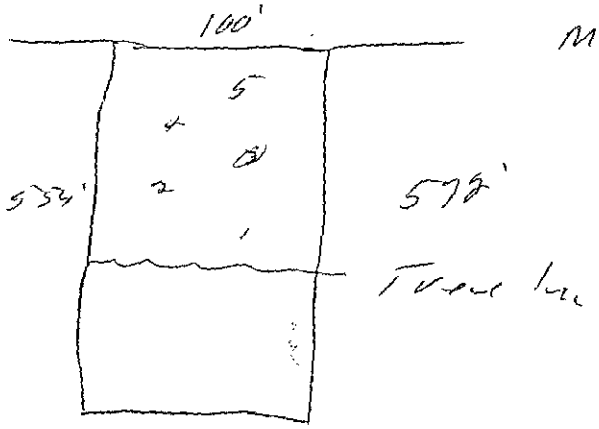
DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	U?	U?
System Type(s)		
Site LTAR		

OTHER FACTORS (.1946): ___
SITE CLASSIFICATION (.1948): Unsuitable
EVALUATED BY: M.R. Mundis & Joe Lyons
OTHER(S) PRESENT: ___

0-13" ol gr fr
13-18/19 ol sbk fr
18-21/28" ac Abk fr
21/28-47/48" c Pl/Abk fr — Chroma 2 21/28 2.5Y6/4
47-56 ol sap fr 5Y6/1

This information taken from backhoe pits examined by Joe Lyon and me. The area is in the front of the tract in the most desirable for modified system

NWNW 5-19-7



McVicar

Mecklenburg County
Health Department

August 20, 1997

A. W. Barnes, Estate
7816 Meadowview Lane
Charlotte, NC 28270

Re: 16816 McKee Road
File: 1914B
Parcel: 217-071-01PO

Dear Mr. Barnes:

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

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

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

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

If you have any questions regarding this matter please do not hesitate to call me at 336-5575.

Sincerely,

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

KR:lw

Mecklenburg County
Health Department

August 20, 1997

Mr. Alvin Butler
16820 McKee Road
Charlotte, NC 28278

Dear Mr. Butler:

Enclosed is a copy of Joe Lynn's report for the site on McKee Road. Please refer to the last two sections in the "Conclusions" section of the report.

The site is unsuitable for a conventional septic tank system and certain type of modified system. However, the site could be considered for the types of system listed in the last two sections. Should you wish to explore these alternatives, we will assist you in obtaining more detailed information.

Sincerely,

William R. Marlin

William R. Marlin, Soil Scientist
Individual Water and Wastewater System

We 1914-B

SUMMARY

This site is **UNSUITABLE** for a ground absorption wastewater treatment and disposal system under current laws and rules 15A NCAC 18A .1900. No ground absorption wastewater (septic tank) system can be permitted on this site.

This report gives a brief summary of the findings, conclusions, and recommendations.

If you have any questions or I can be of assistance contact me at (704) 397-5152.

INTRODUCTION

COUNTY: Mecklenburg

OWNER/APPLICANT: A. W. Barnes

LOCATION: 16816 McKee Road

TYPE OF FACILITY: Residence

DESIGN UNIT: 360 gpd

PROPOSED WATER SUPPLY: On-site well

EVALUATED BY: Joe Lynn assisted by Bill Marlin using back hoe pits

DATE OF EVALUATION: July 9, 1997

OTHER(S) PRESENT: Mr. Barnes and back hoe operator

SITE INFORMATION

AREA/PRESENT USE: 1.3 acres / field front and woods rear of lot

TOPOGRAPHY: 3 to about 8 percent slope

LANDSCAPE POSITION: Linear slope

SITE LIMITATIONS: Old terraces and small depressions

SOIL INFORMATION

SOIL TEXTURE: (surface) Sandy loam
(subsoil) Sandy clay and clay

SOIL STRUCTURE: (subsoil) Blocky and platy

CLAY MINERALOGY: Slightly expansive mineralogy

SOIL DEPTH: Greater than 36 inches to saprolite, rock, or parent material

SAPROLITE: Greater than 36 inches to unsuitable saprolite

SOIL WETNESS: 21 to 23 inches to chromas of 2 or less

RESTRICTIVE HORIZONS: None

AREA of S or PS SOIL: None

CONCLUSIONS

This site is Unsuitable for the installation of a conventional ground absorption wastewater system due to:

1. Unsuitable Soil Characteristics — Section .1941
   Platy structure
2. Unsuitable Soil Wetness — Section .1942
   Chromas of 2 or less Munsell Color Book
3. Insufficient Available Space — Section .1945
   Not enough area for an initial sewage system and a repair if needed.

The site is Unsuitable under Rule .1956 Modifications to Septic Tank Systems:

1. Shallow conventional system — NO
2. Large Diameter Pipe system — NO
3. Prefabricated Porous Block Panel system — NO
4. Drainage will not be sufficient to reclassify the site to provisionally suitable.
5. The saprolite is unsuitable by this rule, to much clay content

The site is Provisionally Suitable under Rule .1957 Alternative Sewage Systems:

1. Low Pressure Pipe Systems — YES
2. Fill Systems — NO
3. Aerobic Treatment Systems — NO

The site is Provisionally Suitable under Rule .1969 Innovative and Alternative Sewage Systems.

1. Chamber Systems — YES if enough space is available, and 12 inches of soil cover is added.
2. Houck Drainage Systems — YES if enough space is available and 6 inches of soil cover is added.
3. "Perc-Rite" drip disposal Systems — YES
4. Sand Filter pretreatment Systems — YES

RECOMMENDATIONS

The Owner has the following options that might allow the use of this property as desired:

1. The applicant can pursue one of the options listed above. See attachment for system specific information.
2. The applicant may purchase other Suitable or Provisionally Suitable property to place the ground absorption sewage system on.
3. The applicant may obtain an easement on a Suitable or Provisionally Suitable property to place the ground absorption sewage system on.
4. The Division of Water Quality in Mooresville, N. C. at (704) 663-1699 may be contacted to pursue options available through that office. The applicant should contact someone with a demonstrated knowledge of discharge systems to evaluate the site before contacting this office.
5. A sewage system can be pursued under Rule .1948 (d). Written documentation must be submitted to your office showing that the proposed system can be expected to function properly. The data must contain the following:
   A. The effluent must be non-pathogenic, non-infectious, non-toxic, and non-hazardous.
   B. The ground water and the surface water must not be contaminated by the effluent.
   C. The effluent must not be exposed to the ground surface or discharged to surface waters where it could come into contact with people, animals, or vectors.

Low Pressure Pipe System
LTAR .075 - .1 gal/ft²/day. Recommend using 18" wide trenches for this option.

Chamber Systems
LTAR .2 gal/ft²/day is what I remember discussing. 12 inches of fill must be added to the system currently available in this area. There is one type system "Cultec" brand that requires 6" of cover if it can be found. - Refer to Rule .1956 (1) for shallow systems.

Hourch Drainage System
LTAR .2 gal/ft²/day - 6" cover, refer to Rule .1956 (1).

Perc-Rite Drainage System
.1 LTAR with pretreatment .075 without pretreatment.

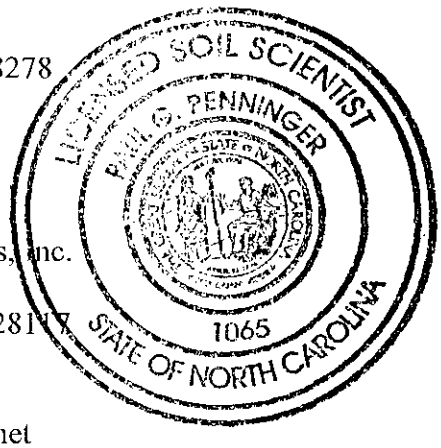
Sand Filter Pretreatment
Conventional System with LTAR higher than .2
Sandy Clay Loam saprolite may be used to install conventional, chamber, Hourch Drainage System. This option must be evaluated and recommendations made by licensed Soil Scientist.

FILE COPY

LOW PRESSURE PIPE
SEPTIC SYSTEM WITH ADDED SOIL CAP
FOR
SUBSURFACE WASTEWATER DISPOSAL
16816 McKee Road
Charlotte, North Carolina

MCHD FILE # 1914B

Prepared for:
Ms. Sandra M. Ray
16820 McKee Road
Charlotte, North Carolina 28278



Prepared by:
Toney C. Jacobs & Associates, Inc.
168 Broadbill Drive
Mooresville, North Carolina 28117
office (704) 663-6905
fax (704) 662-9845
E-mail jacobs@i-america.net

January 1, 2001

Copy: Mr. Kelly Randall, R.S.
Mecklenburg County Health Dept. - IWWS
700 N. Tryon Street
Charlotte, NC 28202

Paul G. Penninger, LSS
Toney C. Jacobs, LSS

BACKGROUND

The 1.3 acre lot was evaluated on July 9, 1987 by Mr. Bill Marlin of the Mecklenburg County Health Department (MCHD) and Mr. Joe Lynn, State Regional Soils Specialist. Joe also wrote a summary and recommendation report for the lot. One of his recommendations was to use a Low Pressure Pipe (LPP) septic system for the lot. The main soil limitation was depth to soil wetness. Joe described drainage mottles of 2 chroma or less at depths of 21-23". Due to this limitation, the proposed LPP system will require a 4" added soil cap.

Toney C. Jacobs and Associates flagged the proposed system on December 26, 2000. The area closest to the road was where Joe described the better soil. Using the proposed LTAR of ~~0.8~~ 0.01 gpd/ft^2 and considering the desired house location and R.V. turnaround, only the primary system would fit between the house and road. We augured two holes in the wooded area where no pits had been dug and found soil similar to that described by Joe Lynn. We are proposing that the wooded area be used to satisfy the required 100% repair. The repair could be a LPP with cover added or a drip system with pretreatment. The LTAR for the repair can be 0.1 gpd/ft^2 if a drip system with pretreatment is used.

Again, we are recommending 910 feet of LPP trenches with a 10" trench bottom, with 4" of added soil cover over the system. The trenches shall be 18" wide. The soil cover should be a loam to clay loam texture and be free from debris. The fill shall be approved by the MCHD. The primary system has been flagged in the field as sketched on the attached site plan. The repair area will be behind the house in the wooded area.

The proposed system will be a Type IV and require a maintenance contract with a certified operator. Two additional site meetings are required by this plan, as a condition of the Improvement permit and Authorization to construct. No time limit is set for these, but one will be a pre-installation meeting to review each aspect of the plan, expectations of the Health Dept., and requirements of the installer. The second meeting (final inspection) will be to certify that all design criteria are met in the design. We and the Health Dept. want all systems to function properly, and because of the soil and site limitations present this extra effort is included. A representative from Toney C. Jacobs and Associates will not be present at these meetings unless required by a condition on the Improvement Permit.

APPLICATION INFORMATION

1. Owner: Ms. Sandra M. Ray
16820 McKee Road
Charlotte, NC 28278

Soil Scientists
and Designers: Paul Penninger, LSS
Toney C. Jacobs, LSS
Toney C. Jacobs & Associates, Inc.
168 Broadbill Drive

Mooresville, NC 28117
(704) 663-6905 (Office)
(704) 662-9845 (fax)
E-mail jacobs@i-america.net

2. Water supply is provided by a private well.
3. Facility to be served by the proposed system is a 3-bedroom single family residence.

LOCATION

The property is located off McKee Road.

REFERENCES

Design and Installation of Low Pressure Pipe Waste Treatment Systems by: Craig Cogger, Bobby L. Carlile, Dennis Osborne, Ed Holland; published by UNC Sea Grant College Pub. UNC-SC-82-03, May 1982.

Law and Rules for Sewage Treatment and Disposal Systems, 15A NCAC 18A, Section .1900, Department of Environment Health and Natural Resources, August 1, 1998.

PLANS AND SPECIFICATIONS FOR SPECIFIC SYSTEM COMPONENTS

Septic Tank

1. The septic tank receives wastewater directly from the house.
2. A septic tank shall be watertight, structurally sound, and not subject to excessive corrosion or decay.
3. The septic tank must be of two-compartment design for maximum solids retention. The inlet compartment of two-compartment tank shall hold between two-thirds and three-fourths of the total tank capacity.
4. Effluent from the two-compartment septic tank flows by gravity through a State approved effluent filter and a four-inch solid PVC pipe to the pumping tank.
5. Both the septic tank and pumping tank must be provided with above ground approved manhole risers to provide easy access for clean-out and pump service.
6. When prefabricated concrete tanks or tanks of other material are used, they shall be constructed in accordance with the plans which have been approved by the State and shall comply with all requirements of Section .1953 of 15A NCAC 18A.
7. On the outlet tee of the septic tank an effluent filter must be installed. This filter should be equivalent to a Zabel Model A1800 or other State approved unit supplied by the tank manufacturer.

Pumping Tank

1. The pumping tank shall have an access manhole extending at least 6 inches above finished grade.
2. A septic tank effluent pump that will not be corroded by sewage shall be used in the pumping tank.
3. The pump must be placed on two concrete blocks set next to each other on the bottom of the tank. This prevents the pumping of any solid particles that can clog the system.
4. A piece of nylon 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.
5. The lower level control or "pump-off" must be positioned above the pump, so that the pump remains submerged at all time.
6. The pump outlet pipe should be connected to the supply manifold with a threaded PVC union to allow quick removal.
7. Pump and Simplex control circuits shall be provided with manual circuit disconnects within a watertight, corrosion-resistant, outside enclosure (NEMA 4X or equivalent) adjacent to the pump tank, securely mounted at least 12 inches above finished grade. Pump control (Simplex) may be mounted on side of house if long cord pump is used. The pump shall be manually operable without requiring the use of special tools or entrance into the tank for testing purposes. Conductors shall be conveyed to the disconnect enclosure through water proof, gas proof, and corrosion-resistant conduits, with no splices or junction boxes provided inside the tank. Wire grips, duct seal or other suitable material shall be used to seal around wire and wire conduit openings inside the pump tank and disconnect enclosure. There shall be two electric circuits for controls: one for pump power, one for the alarm. These will require 2 circuit breakers.
8. The pump tank shall have a properly functioning high-water alarm. The alarm circuit shall be supplied ahead of any pump overload and short circuit protective devices. It should be on a separate electrical circuit from the pump power line. The alarm shall be audible and visible by system users and included in the pump and control enclosure. The alarm is activated if the water level in the pump tank rises above the "pump-on" float control. The tank provides at least one day or more of excess storage capacity (depending on water use in the house) during which time the system must be repaired.
9. Float switch for the high water alarm shall be set no more than 3 inches above the high water level of pump cycle.
10. Float switch tie downs to be made of corrosion resistant material, no tape or metal hose clamps. For maintenance flexibility, tree must be used to set floats.
11. Watertight testing per .1900 rules shall be required on two piece pump tanks.
12. Wiring between the pumping tank and the house should meet State and local code requirements.

Pipe and Fittings

1. All pipes and fitting should be made of SCH 40 PVC.
2. All joints must be sealed with appropriate PVC-solvent cement.

3. There should be a threaded PVC union above the pump to allow easy removal or replacement.
4. A gate valve for final pressure adjustment is installed in the supply line inside the pumping tank.
5. Manifold and valve as shown in specifications.
6. Lateral lines are made of 1 1/4 inch SCH 40 PVC. Holes in laterals are drilled on-site.
7. The end of each lateral is equipped with a capped "turn-up" that provides above ground access for clean-out or back flushing of the laterals. Using (2) 45-degree elbows rather than a 90-degree elbow for the turn-ups will make clean-out easier.

CONSTRUCTION INSTALLATION

Site Preparation

1. One of the most important concerns for an on-site system is to protect the site from soil disturbance by heavy equipment.
2. Now that the absorption area has been designed and flagged, **it should be roped off and protected from construction traffic**. No site preparation or construction work should occur if the soil is wet. **Do Not Grade!**
3. Provisions must be made for intercepting or diverting surface water away from the absorption area.
4. After the area has been cleared and shaped, the location of the lateral lines and supply manifold should be accurately re-flagged according to design specifications. Each lateral line must be laid out along a level contour using a transit. This step can be completely avoided if flags are protected during clearing.

Tank Installation

1. The two-compartment septic tank is installed.
2. The pumping tank is installed next to the septic tank.
3. The tanks are connected with an appropriate length of solid, four-inch PVC pipe.

Supply Manifold

1. The supply manifold conveys effluent from the pump to the distribution laterals.
2. Design of the manifold is shown on attached diagrams.
3. The supply manifold joins each lateral through a short riser pipe connecting a reducing tee on the manifold to a 1 1/4 inch elbow or tee on the lateral. This assembly places each lateral pipe about six inches higher than the supply manifold and helps prevent the back-flow of effluent from a higher later to a lower lateral. Use a 2" x 2" x 1 1/4" tee rather than "bushing down" when connecting laterals to the manifold.
4. After the supply manifold has been placed in its trench and lateral lines connected, it should be backfilled with tightly tamped soil. The supply manifold trench must not be backfilled with gravel, or the trench may become a conduit for downslope flow effluent from the laterals.

Low Pressure Pipe Lateral Lines

1. Lateral lines shall be constructed from 1 1/4" SCH 40 PVC.
2. Trenches shall be 18" wide, and 5' minimum on center. Trenches shall be "level" from end to end. Trenches shall be only 10" deep from the original soil surface (see trench diagram). Small earthen dams should be placed at the beginning of each lateral trench to help maintain uniform distribution of effluent along each trench.
3. Holes drilled in the laterals shall be 9/64 or 5/32 inch with the holes pointed up. (Note this system uses five valves)
4. Sleeve laterals in 4" corrugated pipe.
5. A short turn-up with a capped end is at the end of each lateral. The capped end must be brought up above or flush with the final grade. Using two 45-degree elbows for constructing cleanouts is recommended. A larger diameter sleeve with cap or approved box with lid shall be placed over the turn-up.
6. The soil cap shall be placed 4" thick over the system with minimal equipment travel across the system. The soil cap should be a loam to clay loam material approved by the Health Department. The Health Department should inspect the system before and after the soil cap has been added.

PROPER OPERATION CHECK AND PRESSURE HEAD ADJUSTMENT

1. After all connections have been installed and connected, the system should be checked for proper operation. With electrical power turned off, fill the pump tank with a garden hose until the liquid rises to the level of the high-water alarm float.
2. Turn on the electrical power. The alarm light should go off when the liquid level falls below the high-water float. The pump should turn off when the liquid reaches the lowest float control. Be sure the pump is still completely submerged.
3. The pressure head is measured as the height liquid will rise above the turned-up elbow when the pump is running. To set or check the pressure head:

    - Glue a three-foot length of pipe (preferable clear) to a threaded adapter that will screw onto the turn-ups at the end of each lateral.
    - Replace each turn-up cap with the pipe and adapter.
    - Turn the power on to allow liquid to rise in the pipe.
    - Adjust the gate valves until the effluent reaches the desired height in the pipe. Remember to include the distance below the ground surface to the lateral line when measuring the height.

FINAL LANDSCAPING

1. After the system is installed, the following should be checked to ensure that the system will not be overloaded with excess rainwater and runoff:
    - The distribution field is shaped to shed rainwater and is free of low areas.
    - Grassy swales or ditches for diverting surface water are properly installed.

- Gutter and downspout drains are directed away from the system.

2. Finally, the entire area should be planted with grass in order to prevent erosion. The soil should be properly tilled, limed (if necessary) and fertilized before planting. After applying an appropriate grass seed, the area should be heavily mulched with straw or other suitable material.

QUALITY ASSURANCE REQUIREMENTS

The system must be installed by a qualified, contractor that is on the Mecklenburg County list of competent contractors. Critical stages of the installation, which should be checked, are:

1. System layout
2. Septic and pump tank installation prior to backfilling.
3. Manifold and lateral installation prior to backfilling.
4. Final landscaping, operation and pressure head check.

The system design is based on a maximum waste flow of 360 gallons per day. The homeowner should pay particular attention to the section titled Homeowner Suggestions for ways to minimize the burden on the system.

OPERATION AND MAINTENANCE PROCEDURE

The system is classified as **Type IV and DOES require a maintenance contract** with a certified operator. The contract shall be executed between the system owner and a management entity prior to the issuance of an Operation Permit. The contract shall include the specific requirements for maintenance and operation, responsibilities of the owner and system operator, and provisions that the contract shall be in effect for as long as the system in use.

Operating, Maintenance and Inspection procedures shall include, but not be limited to the following:

Minimum inspection/maintenance frequency shall be 2 times per year, with reporting frequency every 6 months to the local health department.

Septic system shall be pumped every 4 years or when solids accumulate to 1/3 the volume of the tank.

At 6 month intervals, inspect the effluent filter. When washing the filter, debris must be sprayed directly back into the septic tank and not onto the lawn.

All laterals shall be checked and if necessary, flushed annually with clean water.

Pressure head for laterals should be checked and adjusted one month after installation and semi-annually thereafter.

All piping and fittings shall be checked annually for damage and/or proper operation and corrections made immediately.

The property should be inspected to insure all surface water is diverted away from

the fields and tank. Any ponding of surface water should be corrected.
Grasses shall be mowed and maintained and any erosion shall be corrected promptly.
The nitrification field area shall be checked for leakages, blowouts or malfunction, indications of damp or mushy areas compared to surrounding area or evidence of noticeable odor of sewage. Repairs shall be made immediately.
The pump electrical should be checked to insure tight, clean connections with no corrosion and proper operation.
Pump switches shall be checked for free operation and proper level set.
Pump draw down depth and delivery rate shall be checked each year.
Check septic tank and pump tank for evidence of damage or leakage. Check the quality of effluent including grease and sludge accumulation.

The system operator, in conjunction with the local Health Department shall establish an operation and maintenance program and procedure based on experience obtained from similar installations.

HOMEOWNER SUGGESTIONS

Most systems do not require much effort to operate and maintain. Even though the effort is small, the system must be maintained properly so that it operates reliably and at a minimum cost. Following are suggestions for the owner to minimize the burden on the septic system.

1. Garbage disposals should not be used in on-site systems. The ground garbage adds large amounts of solids to a septic tank, causing sludge to build up at a quicker rate than without. If disposal is installed, use should be limited.
2. Grease, cooking oils and coffee grounds should never be put into a septic tank.
3. Items such as disposable diapers, cigarettes, facial tissues and other solid or paper wastes should not be flushed into the on-site system.
4. Used motor oil and other such oily liquids should not be put into a septic tank.
5. Using less water can reduce the amount of water flowing to the treatment and disposal field.
6. Water-saving fixtures and devices can be installed on sinks and toilets to reduce the rate at which the water flows from the fixture.
7. Leaky faucets and toilets can add large volumes of water to the daily flow of water into the on-site system. Repair the leaks to save water and give the treatment and disposal field a rest.
8. Roof drains, foundation drains, and other such drains should not empty into or onto the surface above the on-site system. These drains should be directed to another part of the lot away from the treatment and disposal field.
9. Dishwashers and washing machines should only be run with full loads.

DESIGN SPECIFICATIONS (16816 MCKEE ROAD)

Daily design flow:	360 gpd. (3-bedroom)
Septic tank size:	1500 gal. (2 compartments)
Pumping tank size:	1500 gal.
Effluent loading rate:	0.08 gpd/ft^2
Total length and diameter of supply pipe:	approx. 145' of 3" SCH 40 PVC approx. 280' of 2" SCH 40 PVC
Number and length of laterals:	14@ 65' end fed (1¼ " SCH 40 PVC)
Hole size:	9/64" and 5/32"
Hole spacing:	see table
Total number of holes:	see table
Flow rate through the system:	47.7 gpm
Elevation head:	Approx. 17' **
Pressure head:	2.0-3.0'
Friction head:	Approx. 17.6'
20% contingency	7.5'
Total head:	45.1'
Pump requirements:	48 gpm at 45' of head; use Goulds WE10H pump or equivalent with compatible electrical
Dosing volume:	335 gal. – 1.1 dose/day at design flow
Depth of water pumped per dose:	calculated to specific tank by measure or dealer engineering specifications (1 cubic ft. of water equals 7.48 gal.)
Pump run per dose:	approx. 7 min
Check valve:	YES
Siphon break hole:	NO

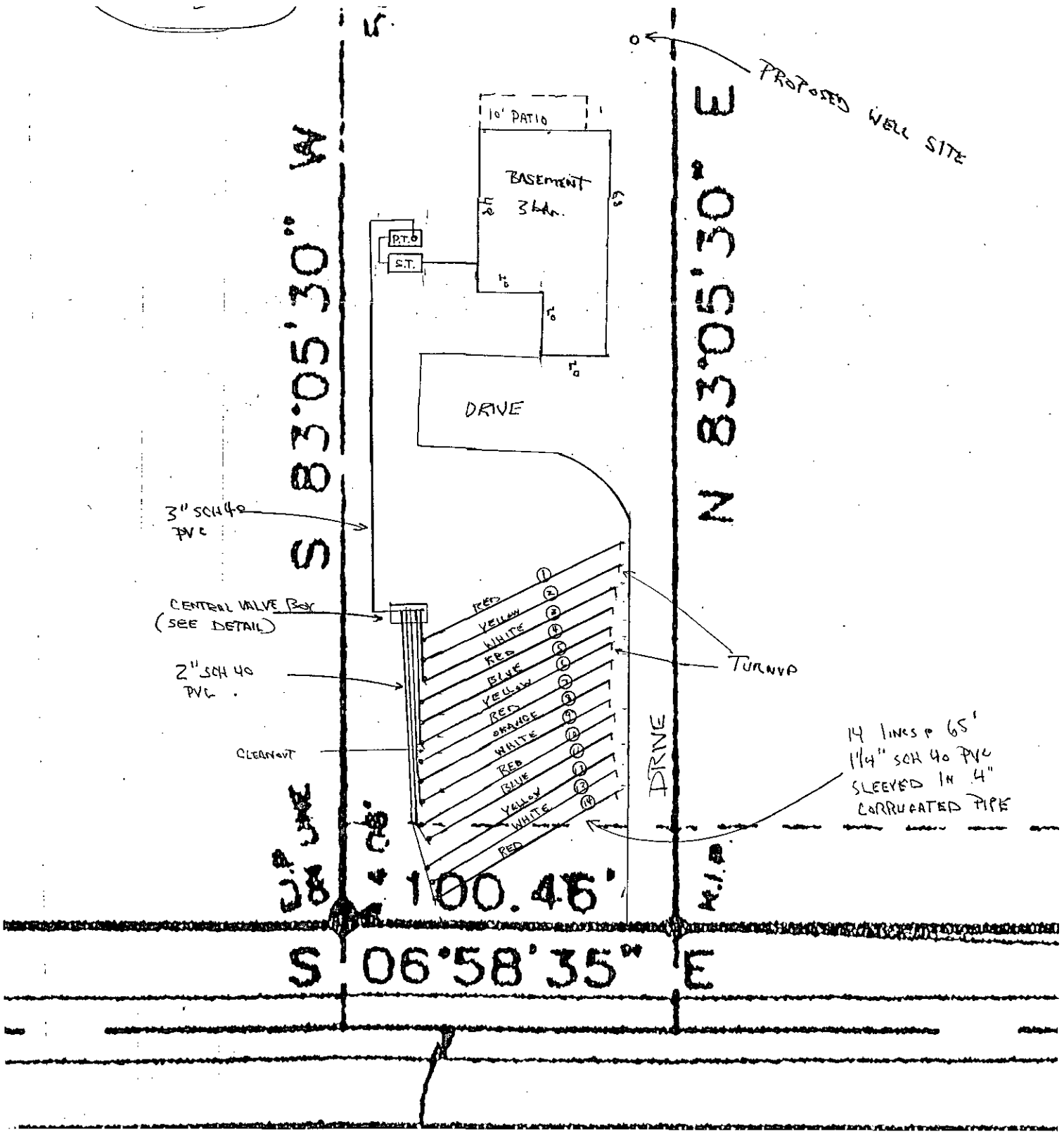
** to be verified by installer

APPENDIX

1. Design specifications table
2. Site plan showing primary system layout
3. LPP trench detail
4. Manifold lateral detail
5. Gate valve box detail
6. Pump tank diagram
7. NEMA 4X enclosure
8. Pump curve
9. Dose volume
10. Site plan showing repair area
11. Joe Lynn's report

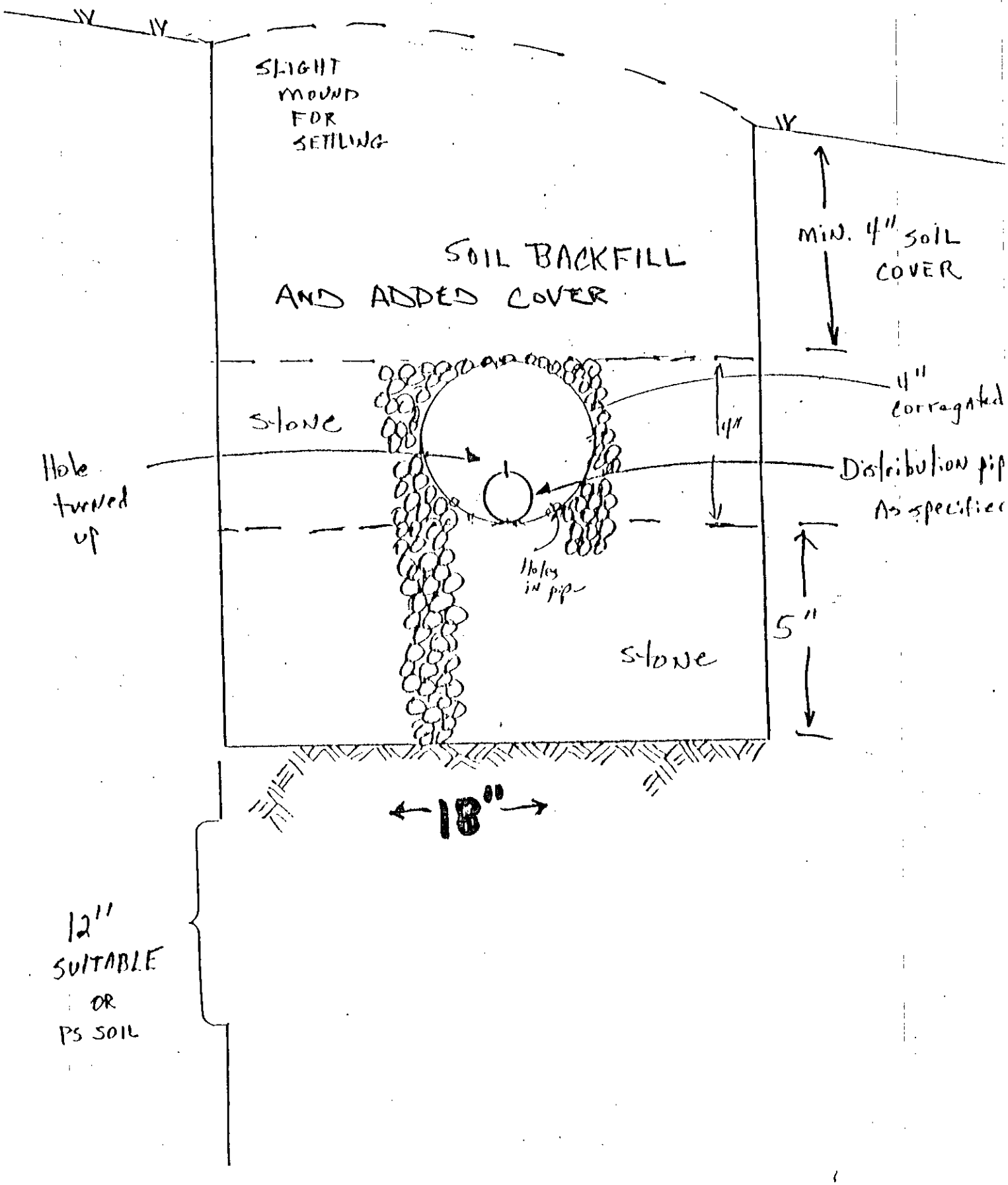
1. Sandra Ray -- McKee Road Lot 1 LPP Design Specifications Table

Line	Color	Length (ft)	Rod Reading (ft)	Design Head (ft)	Hole Size (in)	# Holes	Hole Spacing (ft)	Flow per Hole (gpm)	Flow per Line (gpm)
1	red	65	5.8	2.6	9/64	8	8.1	0.378	3.02
2	yellow	65	5.7	2.5	9/64	8	8.1	0.371	2.97
3	white	65	5.7	2.5	9/64	8	8.1	0.371	2.97
4	red	65	5.4	2.4	9/64	8	8.1	0.363	2.90
5	blue	65	5.2	2.2	5/32	8	8.1	0.429	3.43
6	yellow	65	5	2	5/32	8	8.1	0.409	3.27
7	red	65	4.9	2.4	5/32	8	8.1	0.448	3.58
8	orange	65	4.7	2.2	5/32	8	8.1	0.429	3.43
9	white	65	4.5	2	5/32	9	7.2	0.409	3.68
10	red	65	4.3	2.6	5/32	8	8.1	0.466	3.73
11	blue	65	3.7	2	5/32	9	7.2	0.409	3.68
12	yellow	65	3.4	3	5/32	7	9.2	0.501	3.51
13	white	65	3.1	2.7	5/32	8	8.1	0.475	3.80
14	red	65	3	2.6	5/32	8	8.1	0.466	3.73
	Total	910						Total	47.71

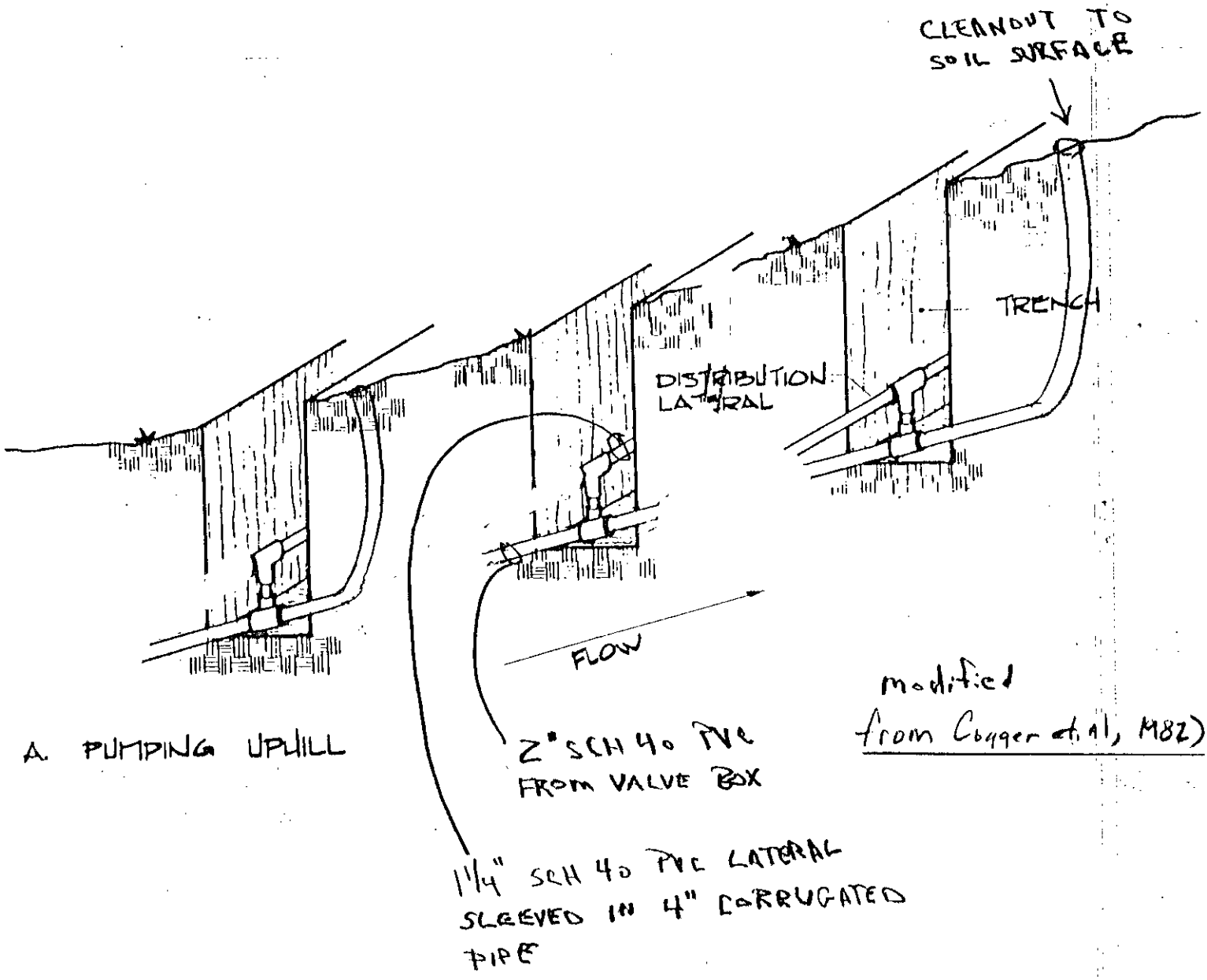

PROPOSED WELL SITE
10' PATIO
BASEMENT
3 bdrm.
P.T.O
S.T.
DRIVE
S 83°05'30" W
N 83°05'30" E
3" SCH 40 PVC
CENTRAL VALVE BOX (SEE DETAIL)
2" SCH 40 PVC
CLEANOUT
TURNUP
RED
YELLOW
WHITE
RED
BLUE
YELLOW
RED
ORANGE
WHITE
RED
BLUE
YELLOW
WHITE
RED
14 lines @ 65'
1¼" SCH 40 PVC SLEEVED IN 4" CORRUGATED PIPE
DRIVE
100.46'
S 06°58'35" E

3. LPP Trench Design

typical



4 MANIFOLD DETAIL

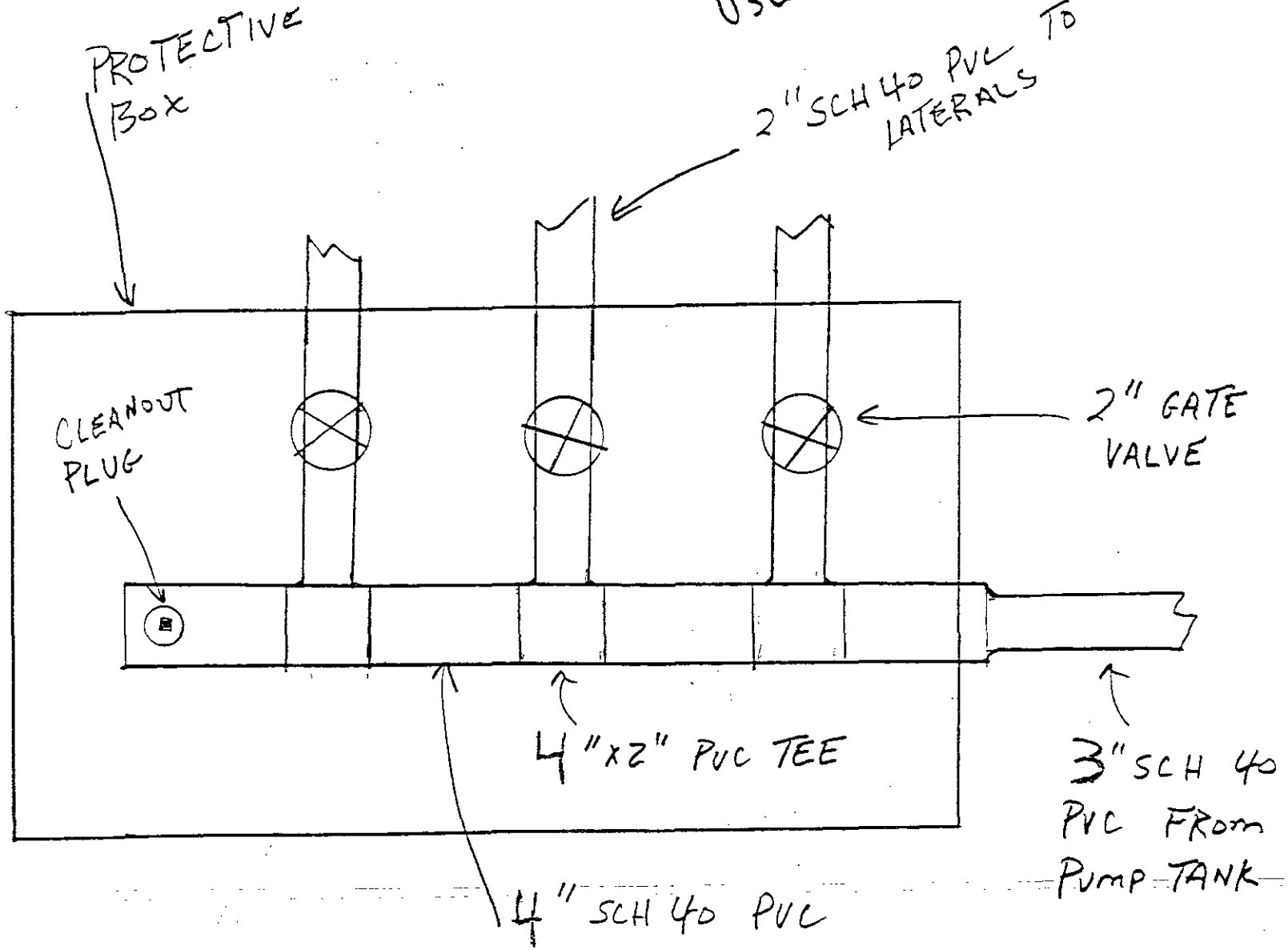


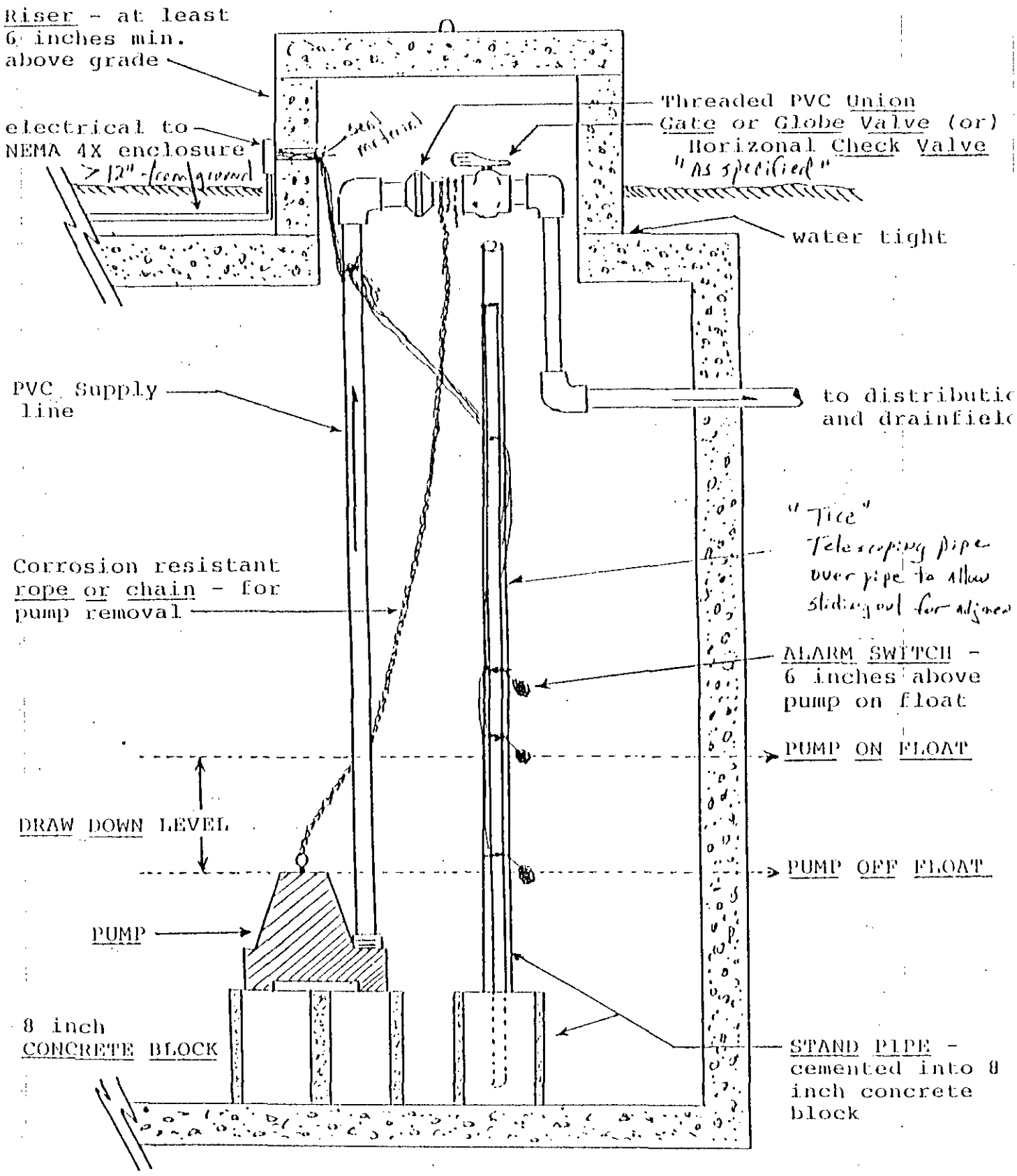
A. PUMPING UPHILL

modified from Cooper et al, 1982

5. CENTRAL VALVE BOX DETAIL

* PROPOSED SYSTEM USES 5 VALVES




Riser - at least 6 inches min. above grade
electrical to NEMA 4X enclosure
> 12" from ground
Threaded PVC Union
Gate or Globe Valve (or) Horizonal Check Valve
"As specified"
water tight
PVC Supply line
to distributio and drainfiel
"Tee"
Telescoping pipe over pipe to allow sliding out for adjustm
Corrosion resistant rope or chain - for pump removal
ALARM SWITCH - 6 inches above pump on float
PUMP ON FLOAT
DRAW DOWN LEVEL
PUMP OFF FLOAT
PUMP
8 inch CONCRETE BLOCK
STAND PIPE - cemented into 8 inch concrete block

6. PUMP TANK

GOULDS PUMPS

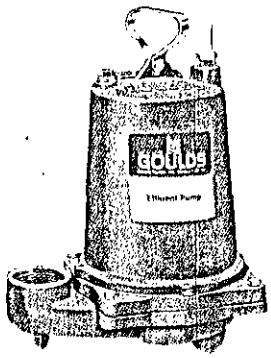
8

Submersible Effluent Pump

MODEL

3885

PROSURANCE AVAILABLE FOR RESIDENTIAL APPLICATIONS.



APPLICATIONS

Specifically designed for the following uses:

- Homes
- Farms
- Trailer courts
- Motels
- Schools
- Hospitals
- Industry
- Effluent systems

SPECIFICATIONS

Pump

- Solids handling capabilities: ¾" maximum.
- Discharge size: 2" NPT.
- Capacities: up to 140 GPM.
- Total heads: up to 128 feet TDH.
- Temperature: 104°F (40°C) continuous 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

FEATURES

Impeller: Cast iron, semi-open, non-clog with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.

Casing: Cast iron volute type for maximum efficiency. 2" NPT discharge.

Mechanical Seal: SILICON CARBIDE VS. SILICON CARBIDE sealing faces. Stainless steel metal parts, BUNA-N elastomers.

Shaft: Corrosion-resistant, stainless steel. Threaded design. Locknut on three phase models to guard against component damage on accidental reverse rotation.

Fasteners: 300 series stainless steel.

Capable of running dry without damage to components.

Designed for continuous operation when fully submerged.

MOTORS

Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.

Class B insulation.

Single phase:

- Built-in overload with automatic reset.
- All single phase models feature capacitor start motors for maximum starting torque.
- ⅓ and ½ HP – 16/3 SJTOW with 115 V or 230 V three prong plug.
- ¾-2 HP – 14/3 STOW with bare leads.

Three phase:

- Overload protection must be provided in starter unit.
- ½-2 HP – 14/4 STOW with bare leads.

Designed for Continuous Operation: Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage.

Bearings: Upper and lower heavy duty ball bearing construction.

Power Cable: Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. 20 foot standard with optional lengths available.

O-ring: Assures positive sealing against contaminants and oil leakage.

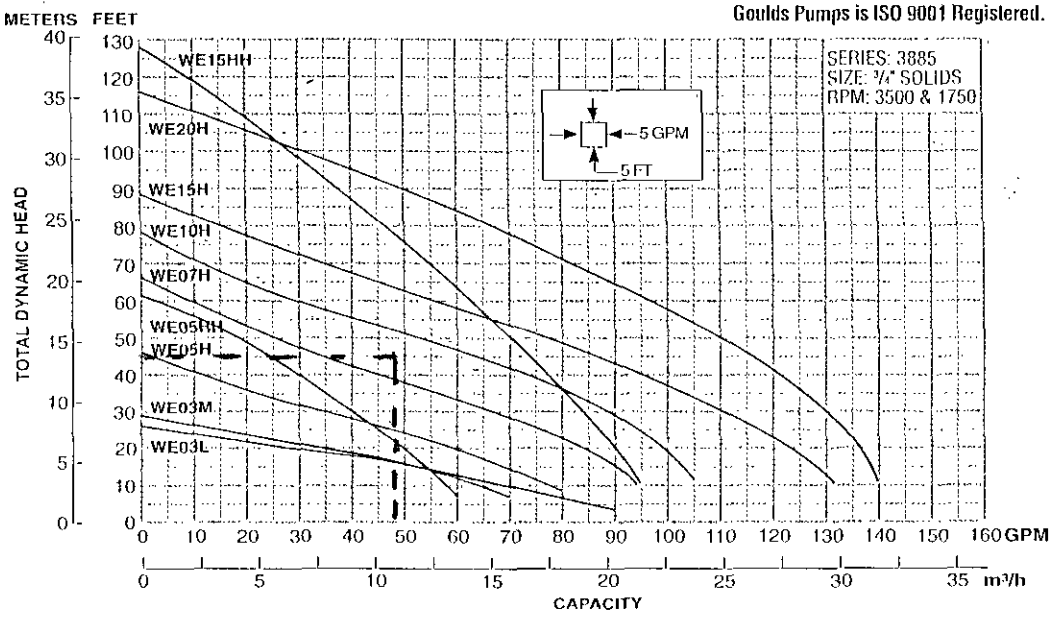
Consult factory for information on CSA listed models.

AGENCY LISTINGS

Canadian Standards Association File #LR38549

Underwriters Laboratories File #83318

Goulds Pumps is ISO 9001 Registered.



Goulds Pumps

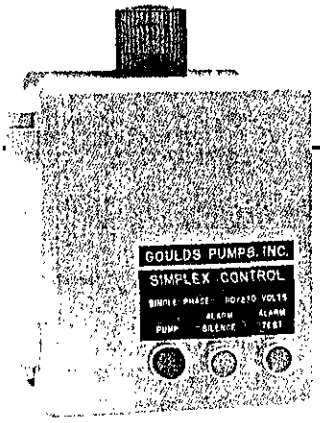
ITT Industries

© 1999 Goulds Pumps
Effective January, 1999
#3885

GOULDS PUMPS

SES Series Customized Control Panels

Simplex/Weather Proof Controller with Alarm



APPLICATIONS

Superior quality simplex liquid level controller, automatically maintains pump operation, includes high level alarm warning for a variety of sump, effluent, sewage and water transfer applications.

SPECIFICATIONS

- Accepts single or dual power feed.
- Hand-off automatic pump selection switch.
- On-off control circuit switch.
- Oversized magnetic contactor.
- Numbered terminal strip-screw type.
- NEMA 4X, 30 watt, flashing red light.
- NEMA 4X, fiberglass enclosure with gasketed, hinged door and stainless steel hardware.
- NEMA 4X, alarm horn – 95db.
- 115 V, 3 amp, control circuit breaker.
- Auxiliary alarm contacts.

Single Phase

- Field adjustable for 115 or 230 V, 60 Hz.

Maximum Pump Running Amps	Panel Order No.
20	S10020
27 (3 HP)	S10027*
36 (5 HP)	S10036*

*For 3 and 5 HP single phase, includes run capacitors and pilot duty overloads.

Three Phase

- Field adjustable for 208/230 /460/575 V, 60 Hz.
- 115V control circuit transformer.
- Adjustable motor overload protectors.
- **Heaters not required.**

Maximum Pump Running Amps	Panel Order No.
1.6 to 2.5	S31625
2.5 to 4.0	S32540
4.0 to 6.3	S34063
6.3 to 10	S36310
10 to 16	S31016
16 to 20	S31620
20 to 25	S32025

FEATURES

■ Rugged NEMA 4X construction withstands even the most severe weather conditions and prevents corrosion.

■ Hinged door with lockable stainless steel latch for safe operation indoors and out.

■ High level alarm circuit includes spring loaded through door mounted silence switch for manual silence of alarm horn.

■ Through door mounted alarm test switch insures proper operation of the alarm circuit without the need to open the panel.

■ Through door mounted pump run light.

■ Top mounted high intensity flashing red light provides 360° visibility.

■ Pulsating, corrosion proof alarm horn.

■ Color coded wiring, screw type terminals and plug in sockets, ensure ease of field servicing.

■ Field wiring diagram, panel schematic and installation instructions included.

■ Panel can be wired for a single power feed for pump and control circuit or the control circuit can be wired to a separate power supply to insure alarm integrity in case of a tripped pump breaker.

■ Auxiliary alarm contacts provided for remote alarm connection.

■ Entire unit is UL/CSA approved and listed.

Goulds Pumps

ITT Industries

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Effective January, 1999
BSPANEL

9. DOSE VOLUME CALCULATIONS

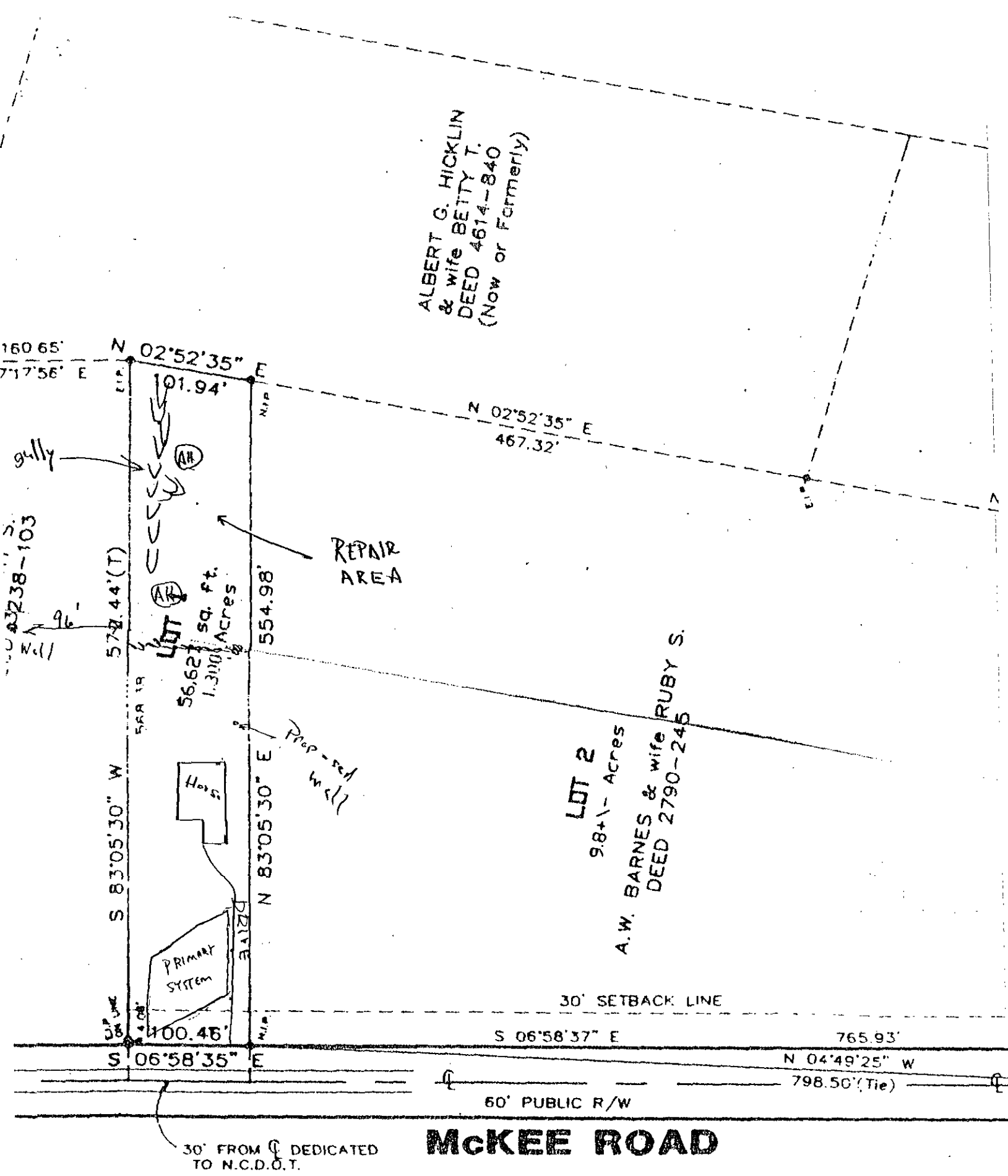
(~145' 3" SCH 40 PVC)(36.7 gal/100') = 53.2 gal

(~280' 2" SCH 40 PVC)(16.2 gal/100') = 45.4 gal

(910' 1 1/4" SCH 40 PVC)(6.4 gal/100') = 58.2 X 5

Total = 389.8

* USE CHECK VALVE AND REDUCE DOSE VOLUME TO 335 GAL/DOSE.



1D. SITE PLAN WITH REPAIR AREA

Permit Number: 1914B

CONDITIONS OF IMPROVEMENT PERMIT

Tax Number: 217-071-01

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

Basement	X Yes	___ No	___ Partial Basement
Type Primary Wastewater System Type (circle one): I II III (IV) V VI	___ Conventional ___ Prefabricated, permeable block panel system ___ Shallow Placed Conventional	✓ Low Pressure Pipe ___ Large Diameter Pipe ___ Fill ___ Other	___ Innovative or Experimental: ___ IWWS-93-1 ___ IWWS-93-2 ___ IWWS-94-1
0.08 Long-term acceptance rate CPP	360 Max gallons/day wastewater flow	4500 Absorption Area (sq ft)	5' Trench spacing (min. on centers)
yes Serviced by private well	1500 Gallon septic tank	910' Total trench length (ft)	10" Maximum trench depth (At least 12" of provisionally suitable soil must remain between trench bottom and unsuitable soil conditions) 10" in original soil
3 Bedrooms in residence	1000 Gallon pump tank	18" Depth of stone	
Any surface waters present: NO Type:		Minimum separation distance:	
Site modifications required:			
Additional Conditions: → Install according to approved plans on file → Agreement forms to be on file before C.A. Release → Certified Operator agreement to be on file before O.P. Release			
Repair Area System Type Type (circle one): I II III (IV) V VI	___ Conventional ___ Prefabricated, permeable block panel system ___ Shallow Placed Conventional	✓ Low Pressure Pipe ___ Large Diameter Pipe ___ Fill ___ Other	___ Innovative or Experimental: ___ IWWS-93-1 ___ IWWS-93-2 ___ IWWS-94-1
4500 Absorption Area (Sq ft) 910' Total Trench Length (Ft)	18" Depth of Stone Trench	5' Trench spacing (min. on centers)	10" Maximum Trench Depth
For existing system, enter the year originally installed:			

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

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

Jeanny L. Mudde 01/23/01
DEHNR Authorized Agent — Date

Sandra M Peay 22 JAN 2001
Owner/Agent Signature — Date

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

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

FOR REGISTRATION JUDITH A. GIBSON
REGISTER OF DEEDS
MECKLENBURG COUNTY, NC
2001 JAN 25 10:51 AM
BOOK:11880 PAGE:176-179 FEE:$12.00
INSTRUMENT # 2001011219

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

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

FILE # 1914B
PARCEL # 217-071-01 P0

The undersigned, Sandra Marie Ray, owner of property located at 16816 McKee Road, (the "site") and described in an instrument recorded in Book 28 at Page 272, Mecklenburg Public Registry, hereby acknowledges that the undersigned applied to the Mecklenburg County Health Department (the "Department") for a permit to install a septic tank sewage disposal system on the site; that the Department evaluated the site for suitability for such a system in accordance with the regulations promulgated by the North Carolina Commission for Health Services as 15A NCAC 18A .1900 et seq.; that the Department originally classified the site as "unsuitable" pursuant to the standards set forth in the regulations; that the undersigned requested that the Department reclassify the site as "provisionally suitable" in light of the particular septic tank system proposed by the undersigned; that the Department considered various studies, data, and other information which indicate to the Department that the septic tank system proposed by the undersigned is allowed by the rules; and that the Department therefore reclassified the site as "provisionally suitable" and issued an appropriate permit for such proposed septic tank system.

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

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

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

This instrument was prepared by: _____
Mail after recording to: Sandra M. Ray
16820 McKee Rd
Charlotte, N.C. 28278

CK # 3117 AC

FEE: 150 **AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION**
DATE: 1/25/01 pc **VOID SIXTY (60) MONTHS FROM DATE OF ISSUANCE**

DATE: _____ PERMIT NO: 1914B

PARCEL NO: 217-071-01 PO

JOB LOCATION ADDRESS: 16816 McKee Road

PROPERTY OWNER: Sandra M. Ray

BUILDING CONTRACTOR: _____

SUBDIVISION NAME: —

AUTHORIZATION ISSUED BY: Jenny F. Michitte DATE: 01/22/01

DEHNR AUTHORIZED AGENT

AUTHORIZATION CONDITIONS

1. WASTEWATER SY Need ✓ L
CONDITIONS AND ✓ fees ' NO.
1914B, AND T
CONSTRUCTION A ✓ Agreement Forms Before C.A. Release SET
FORTH IN THE RU MENT,
AND DISPOSAL AI

2. AN INSTALLATIO — Certified Operator Before O.P. Release AL MUST
BE SECURED PRIC
INSTALLER OF TI ACTOR
WITH MECKLENB

3. ANY ALTERATIO
STRUCTURES ANI
WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS AS SPECIFIED IN THE ASSOCIATED IMPROVEMENT PERMIT AND APPLICATION, MAY SUBJECT THIS AUTHORIZATION AND ASSOCIATED PERMIT(S) TO REVOCATION.

4. OTHER CONDITIONS: Install according to approved plans on file.
→ Agreement forms to be on file before C.A Release
→ Certified Operator agreement to be on file before O.P. Release

OWNER CERTIFICATION

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

Sandra M Ray 22 Jan 2001

SIGNATURE OF OWNER/OWNER'S REPRESENTATIVE DATE