

16605 HERE AT LAST LN

21720102

THIS APPEARS TO BE THE BEST MATCH FOR THIS FILE.
PASSAGE WAY DOES NOT APPEAR TO EXIST NOW.

7/9/08

marliwr

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

FEE: 100.00
DATE: 10/27/95 cc# 3617

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

1 CRT

TYPE APPLICATION: ✓ NEW SYSTEM ___ EXPANSION OF EXISTING SYSTEM ___ REPAIR OF EXISTING SYSTEM

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

COPY

FILE #: 14368

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION: ✓

TAX/PARCEL NUMBER: ✓ 217-201-02

STREET ADDRESS: ✓ 18218 Passageway

SUBDIVISION OR MOBILE HOME PARK NAME:

LOT NUMBER: ✓ 2

TYPE OF BUILDING: (CHECK ONE) ✓

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

TOWNSHIP (CHECK ONE): ✓

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

original file lot 2

HEATED SQUARE FOOTAGE: ✓

NUMBER OF BEDROOMS: ✓ 3

NUMBER OF OCCUPANTS: ✓

FOUNDATION FOR RESIDENCE: ✓

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

IF EXPANSION OF EXISTING SYSTEM, DESCRIBE THE PROPOSED ADDITION:

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

WATER SUPPLY (CHECK ONE): ✓

___ COMMUNITY (C)
✓ SHARED WELL (S)
___ MUNICIPAL (M)
___ OTHER 'SPRINGS' (O)
___ PRIVATE WELL (P)

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

BURIED CABLES, LANDFILLS, STUMPHOLES ___ YES ___ NO
EXISTING WASTE WATER SYSTEMS ___ YES ___ NO
EASEMENTS OR RIGHT-OF-WAYS ___ YES ___ NO
WELL SPRINGS OR WATERLINES ___ YES ___ NO
DESIGNATED WETLANDS ___ YES ___ NO

PROPERTY OWNER: ✓

NAME: Hartsell Gene W
(LAST) (FIRST) (MI)

ADDRESS: 140 Lake Concord Rd C-6

CITY: Concord STATE: NC ZIP: 28025

DAYTIME PHONE: ( ) -

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE: ✓

NAME: White Joyce
(LAST) (FIRST) (MI)

DAYTIME PHONE: ( ) -

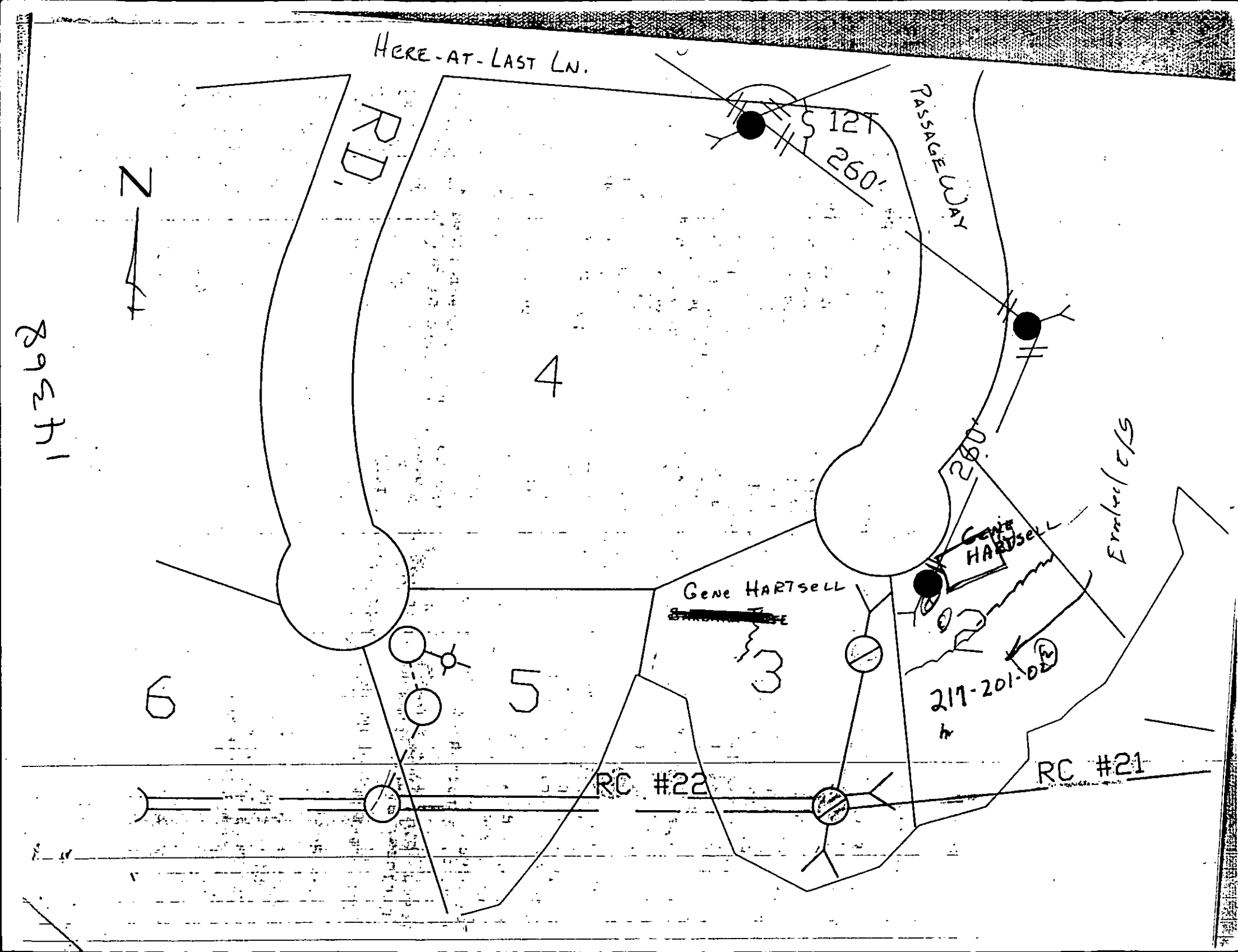
140 Lake Concord Rd C-6
Concord, NC 28025

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? _____

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: ✓ Billie M Biggers 565-7726 Pager 831-1185 Office

DATE: ✓ 10-27-95


HERE-AT-LAST LN.
RD.
N
PASSAGEWAY
12T
260'
4
8978
260'
Emmel C/S
Gene HARTSELL
Gene HARTSELL
3
5
6
217-201-02
RC #22
RC #21

PROPOSED PLOT PLAN

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

FILE: 14368

TC: _____

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

APPROVAL DATE _____

OWNER/AGENT SIGNATURE

DATE

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

PROPOSED PLOT PLAN

HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 NORTH TRYON STREET
CHARLOTTE, NC 28202
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OWNER/AGENT SIGNATURE _____

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

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

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

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

File 14368 # 217-201-02

OWNER: Gene W. Hartsell
APPLICANT: ___
ADDRESS: 140 Lake Road Concord
APPLICATION DATE: ___
DATE EVALUATED: ___
PROPOSED FACILITY: residence
PROPOSED DESIGN FLOW (.1949): 360gpd
PROPERTY SIZE: ___
LOCATION OF SITE: 18216 Pamaguera
PROPERTY RECORDED: ___
WATER SUPPLY: ☑ Private ☐ Public ☐ Well ☐ Spring ☐ Other ___
EVALUATION METHOD: ☑ Auger Boring ☐ Pit ☐ Cut
TYPE OF WASTEWATER: ☑ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	1940 LAND-SCAPE POSITION/ SLOPE %	HORI-ZON 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	PROFIL CLASS & LTA
1	LS 21%	0-23"	SCl/ sBK	sEXP/Fr/sS/sP	No Chroma 2 observed	31"	N/A	None	US
		23-31"	SC/ sBK	EXP/Fr/sS/sP					
2	LS 29%	0-21"	SCl/ sBK	sEXP/Fr/sS/sP	No Chroma 2 observed	21"	N/A	None	US
		21"+	Saprolite						
3	LS 17%	0-4"	SCl/ sBK	sEXP/Fr/sS/sP	~~No~~ Chroma 2 ~~Observed~~ 10YR 6/2 @ 20"	22"	N/A	None	US
		4-22"	SC/ sBK	EXP/Fr/sS/sP					
4		0-4"	SCl/ sBK	EXP/Fr/sS/sP	2.5Y 6/1 @ 16"	20"	N/A	None	US
		4-20"	SC/ sBK	EXP/Fr/sS/sP					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)		
System Type(s)		

OTHER FACTORS (.1946): ___
SITE CLASSIFICATION (.1948): ___
EVALUATED BY: W.A. Mark 11-15-95
OTHER(S) PRESENT: ___

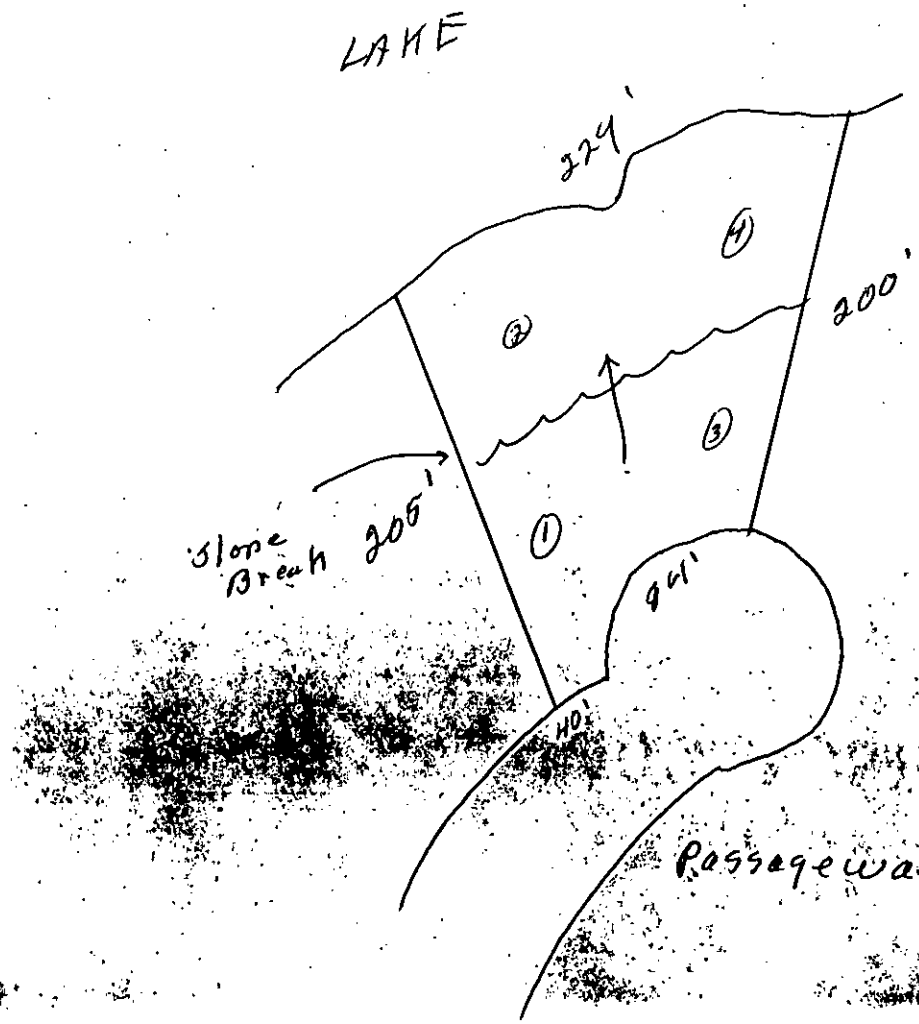
LEGEND

use the following standard abbreviations

GROUP	SOIL TEXTURE	CONVENTIONAL .1955 LTAR	LPP .1957 LTAR	MINERALOGY/ CONSISTENCE	STRUCTURE
I	S (Sand) LS (Loamy Sand)	1.2 - 0.8	0.6 - 0.4	NEXP (Non-expansive) SEXP (Slightly Expansive) EXP (Expansive)	G (Single Grain) M (Massive) CR (Crumb)
II	SL (Sandy Loam) L (Loam)	0.8 - 0.6	0.4 - 0.3		GR (Granular) SBK (Subangular Blocky) ABK (Angular Blocky)
III	SI (Silt) SICL (Silty Clay Loam) CL (Clay Loam) SCL (Sandy Clay Loam) SLC (Silt Loam Clay)	0.6 - 0.3	0.3 - 0.15		PL (Platy) PR (Prismatic)
				MOIST	WET
IV	SC (Sandy Clay) SIC (Silty Clay)	0.4 - 0.1	0.2 - 0.05	VFR (Very Friable) FR (Friable) FI (Firm) VFI (Very Firm v. Very Sticky) EFI (Extremely Firm)	NS (Non-sticky) SS (Slightly Sticky) S (Sticky) VS (Very Sticky)
	O (Organic)	None			NP (Non-plastic) SP (Slightly Plastic) P (Plastic) VP (Very Plastic)

In inches below natural soil surface
In inches from land surface
Thickness and depth from land surface
S(suitable) or U(unsuitable)
Inches from land surface to free water or inches from land surface to soil colors with chroma 2 or less - record Munsell color chip designation
S (Suitable), PS (Provisionally Suitable), or U (Unsuitable)
...e by pits.
...(LTAR): gal/day/ft²

Draw profile locations and other site features (dimensions, reference or benchmark, and North).



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

#3

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

File 14368

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM # 217-201-02

OWNER: Glen W. Hartsell APPLICANT: ___
ADDRESS: 140 Lake Road Concord APPLICATION DATE: ___ DATE EVALUATED: ___
PROPOSED FACILITY: residence PROPOSED DESIGN FLOW (.1949): 360gpd PROPERTY SIZE: ___
LOCATION OF SITE: 18216 Passaquin 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 & LTA
1	LS 21%	0-23"	sc/ sBK	sEXP/Fr/SS/SP	No Chroma 2 observed	31"	N/A	None	US
		23-31"	sc/ sBK	EXP/Fr/SS/SP					
2	LS 29%	0-21"	sc/ sBK	sEXP/Fr/SS/SP	No Chroma 2 observed	21"	N/A	None	US
		21"+	saprolite						
3	LS 17%	0-4"	sc/ sBK	sEXP/Fr/SS/SP	~~No~~ Chroma 2 ~~Observed~~ 10YR 6/2 @ 20"	22"	N/A	None	US
		4-22"	sc/ sBK	EXP/Fr/SS/SP					
4		0-4"	sc/ sBK	EXP/Fr/SS/SP	2.5Y 6/1 @ 16"	20"	N/A	None	US
		4-20"	sc/ sBK	EXP/Fr/SS/SP					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)		
System Type(s)		

OTHER FACTORS (.1946): ___
SITE CLASSIFICATION (.1948): ___
EVALUATED BY: W.A. Marks 11-15-95
OTHER(S) PRESENT: ___

OMMENTS: _____

LEGEND

use the following standard abbreviations

ANDSCAPE POSITION	GROUP	SOIL TEXTURE	CONVENTIONAL .1955 LTAR	LPP .1957 LTAR	MINERALOGY/ CONSISTENCE	STRUCTURE
C (Concave Slope)	I	S (Sand)	1.2 - 0.8	0.6 - 0.4	NEXP (Non-expansive)	G (Single Grain)
V (Convex Slope)		LS (Loamy Sand)			SEXP (Slightly Expansive)	M (Massive)
(Drainage Way)					EXP (Expansive)	CR (Crumb)
S (Debris Slump)	II	SL (Sandy Loam)	0.8 - 0.6	0.4 - 0.3		GR (Granular)
P (Flood Plain)		L (Loam)				SBK (Subangular Blocky)
S (Foot Slope)						ABK (Angular Blocky)
(Head Slope)	III	SI (Silt)	0.6 - 0.3	0.3 - 0.15		PL (Platy)
(Linear Slope)		SICL (Silty Clay Loam)				PR (Prismatic)
(Nose Slope)		CL (Clay Loam)				
(Ridge)		SCL (Sandy Clay Loam)			MOIST	WET
(Shoulder Slope)		SLC (Silt Loam Clay)				
(Terrace)					VFR (Very Friable)	NS (Non-sticky)
	IV	SC (Sandy Clay)	0.4 - 0.1	0.2 - 0.05	FR (Friable)	SS (Slightly Sticky)
		SIC (Silty Clay)			FI (Firm)	S (Sticky)
					VFI (Very Firm v. Very Sticky)	VS (Very Sticky)
		O (Organic)	None		EFI (Extremely Firm)	NP (Non-plastic)
						SP (Slightly Plastic)
						P (Plastic)
						VP (Very Plastic)

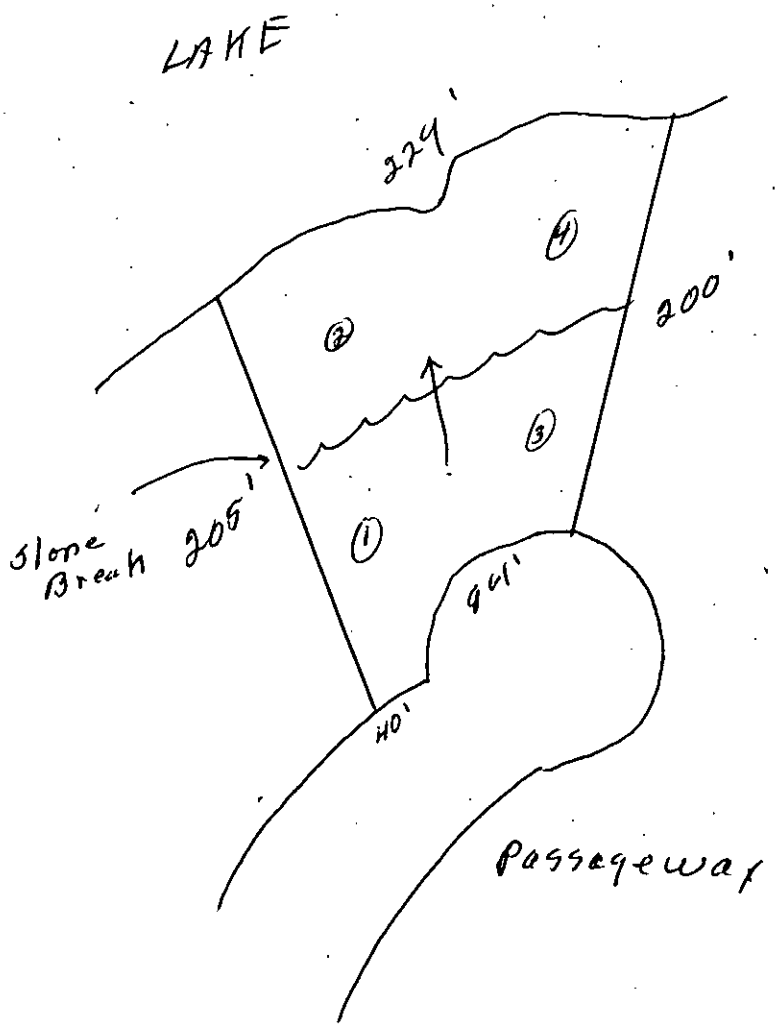
OTES

ORIZON DEPTH	In inches below natural soil surface
EPTH OF FILL	In inches from land surface
ESTRICTIVE HORIZON	Thickness and depth from land surface
APROLITE	S(suitable) or U(unsuitable)
OIL WETNESS	Inches from land surface to free water or inches from land surface to soil colors with chroma 2 or less - record Munsell color chip designation
LASSIFICATION	S (Suitable), PS (Provisionally Suitable), or U (Unsuitable)

valuation of saprolite shall be by pits.

ong-term Acceptance Rate (LTAR): gal/day/ft²

Show profile locations and other site features (dimensions, reference or benchmark, and North).



Mecklenburg County
Health Department

November 21, 1995

Mr. Gene Hartsell
140 Lake Concord C-6
Concord, NC 28025

Re: 18218 Passage Way Court
File: 14368
Parcel: 217-201-02

Dear Mr. Hartsell:

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)**, .1942 **SOIL WETNESS CONDITIONS**, and .1943 **SOIL DEPTH**. 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

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

KR:gf

- waiting on easement or deed or whatever

+



FEE: 100
DATE: 10/27/95
CR# 5677

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

( ) CRT

TYPE APPLICATION: ___ NEW SYSTEM ___ EXPANSION 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 #: 14368-3813B

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION:

TAX/PARCEL NUMBER: 217-201-036

STREET ADDRESS: 18225 Passageway

SUBDIVISION OR MOBILE HOME PARK NAME:

LOT NUMBER: 3

TOWNSHIP (CHECK ONE):
- ✓ 0 MECKLENBURG
- 1 CHARLOTTE
- 2 DAVIDSON
- 3 CORNELIUS
- 4 PINEVILLE
- 5 MATTHEWS
- 6 HUNTERSVILLE
- 7 MINT HILL

TYPE OF BUILDING, (CHECK ONE) ✓
- ___ SINGLE MOBILE HOME(S)
- ___ DOUBLE WIDE (D)
- ✓ HOUSE (H)
- ___ MODULAR HOME (M)
- ___ MULTIPLE FAMILY (U)
- ___ OTHER (O)

HEATED SQUARE FOOTAGE:

NUMBER OF BEDROOMS: 3

NUMBER OF OCCUPANTS:

FOUNDATION FOR RESIDENCE: ✓
- ___ WITHOUT BASEMENT ON SLAB
- ___ CRAWL SPACE
- ___ WITH BASEMENT /PLUMBING
- ___ WITH BASEMENT /NO PLUMBING

IF EXPANSION OF EXISTING SYSTEM, DESCRIBE THE PROPOSED ADDITION:

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

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

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

BURIED CABLES, LANDFILLS, STUMPHOLES	___ YES ___ NO	WELL SPRINGS OR WATERLINES.	___ YES ___ NO
EXISTING WASTE WATER SYSTEMS	___ YES ___ NO	DESIGNATED WETLANDS	___ YES ___ NO
EASEMENTS OR RIGHT-OF-WAYS	___ YES ___ NO		

PROPERTY OWNER: ✓

NAME: Hartsell Gene W
(LAST) (FIRST) (MI)

ADDRESS: 140 Lake Concord Rd C-6

CITY: Concord STATE: NC ZIP: 28025

DAYTIME PHONE: ( ) –

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE: ✓

NAME: White Joyce
(LAST) (FIRST) (MI)

DAYTIME PHONE: ( ) –

140 Lake Concord Rd C-6
Concord, NC 28025

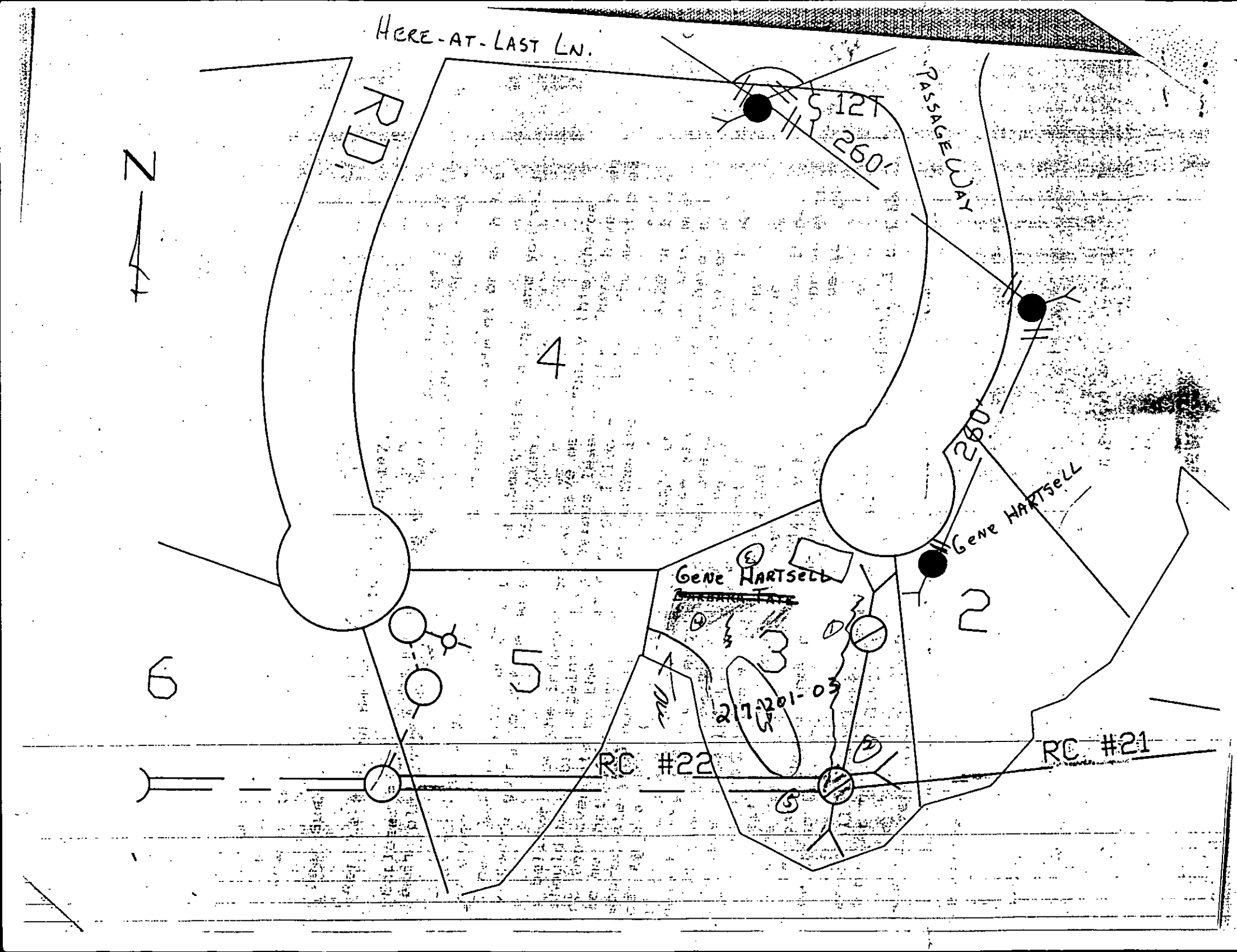
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565-7726 Pager

SIGNED: ✓ Billie m Biggers 831-1185 Office DATE: ✓ 10-27-95

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


HERE-AT-LAST LN.
N
RD
S 12T
260'
PASSAGE WAY
4
260'
GENE HARTSELL
GENE HARTSELL
BARBARA TATE
2
6
5
3
217-201-03
RC #22
RC #21

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

#3 3812B ~~4368~~

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

SOIL/SITE EVALUATION *for* ON-SITE WASTEWATER SYSTEM

TC 21-7-20103

OWNER: Gene W. Harrell
ADDRESS: 140 Lake Road, Concord
PROPOSED FACILITY: Residence
LOCATION OF SITE: 10225 Pastureview
WATER SUPPLY: ☑ Private ☐ Public ☐ Well ☐ Spring ☐ Other
EVALUATION METHOD: ☑ Auger Boring ☐ Pit ☐ Cut
TYPE OF WASTEWATER: ☑ Sewage ☐ Industrial Process ☐ Mixed

APPLICANT:
APPLICATION DATE:
PROPOSED DESIGN FLOW (.1949):
DATE EVALUATED:
PROPERTY SIZE:
PROPERTY RECORDED:

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	PROF CLA & LT
1	LS 14%	0-6"	SC/ SBK	SEXP/ FR/ SS/ SP	No chroma 2 observed to 17"	17"	N/A	None	US
		6-17"	SC/ SBK	EXP/ FI/ S/ P					
2	LS 20%	0-4"	SCL/ SBK	SEXP/ FR/ SS/ SP	No chroma 2 to 12"	12"	N/A	None	US
		4-12"	SC/ SBK-ABK	EXP/ FI/ VS/ VP					
3	LS 22%	0-2"	SL/ GR	SEXP/ FR/ NS/ NP	No chroma 2 TO 20"	20"	N/A	None	US
		2-6"	SCL/ SBK	SEXP/ FR/ SS/ SP					
		6-20"	SC/ SBK	EXP/ FI/ S/ P					
4	LS 31%	0-3"	SL/ GR	SEXP/ FR/ NS/ NP	No chroma 2 TO 20"	12"	N/A	None	US
		3-12"	SC/ SBK	EXP/ FR FI/ S/ P					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)		
System Type(s)		

OTHER FACTORS (.1946): ___
SITE CLASSIFICATION (.1948): Use Table
EVALUATED BY: W. A. Mayfield 11-17-95
OTHER(S) PRESENT: Billie Bergen

OMMENTS:

LEGEND

use the following standard abbreviations

LANDSCAPE POSITION	GROUP	SOIL TEXTURE	CONVENTIONAL 1955 LTAR	LPP 1957 LTAR	MINERALOGY/ CONSISTENCE	STRUCTURE
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(Head Slope)	III	SI (Silt)	0.6 - 0.3	0.3 - 0.15		PL (Platy)
(Linear Slope)		SICL (Silty Clay Loam)				PR (Prismatic)
(Nose Slope)		CL (Clay Loam)			MOIST	WET
(Ridge)		SCL (Sandy Clay Loam)				
(Shoulder Slope)		SUC (Silt Loam Clay)			VFR (Very Friable)	NS (Non-sticky)
(Terrace)					FR (Friable)	SS (Slightly Sticky)
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		SIC (Silty Clay)			VFI (Very Firm v. Very Sticky)	VS (Very Sticky)
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						SP (Slightly Plastic)
						P (Plastic)
						VP (Very Plastic)

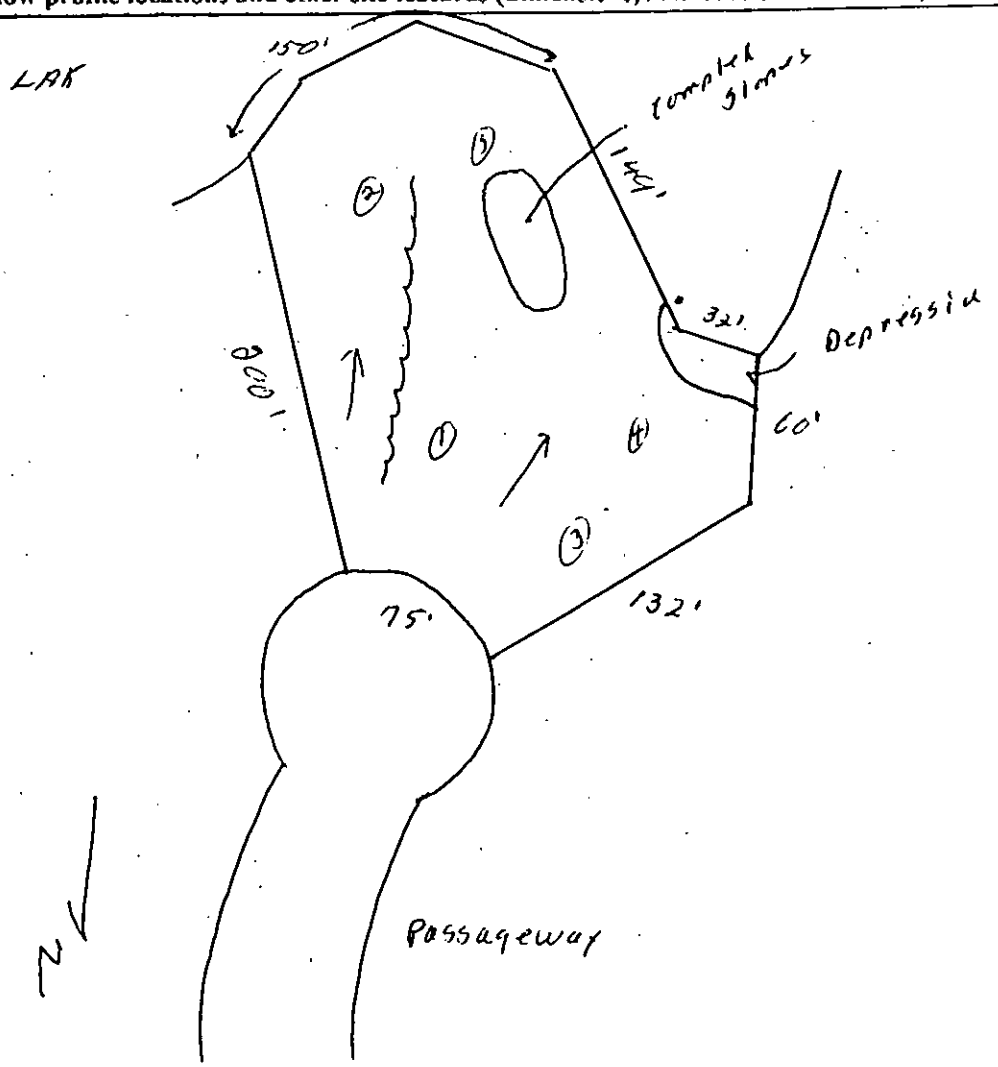
OTES

ORIZON DEPTH	In inches below natural soil surface
EPTH OF FILL	In inches from land surface
ESTRICTIVE HORIZON	Thickness and depth from land surface
APROLITE	S(suitable) or U(unsuitable)
OIL WETNESS	Inches from land surface to free water or inches from land surface to soil colors with chroma 2 or less - record Munsell color chip designation
LASSIFICATION	S (Suitable), PS (Provisionally Suitable), or U (Unsuitable)

valuation of saprolite shall be by pits.

ong-term Acceptance Rate (LTAR): gal/day/ft²

Show profile locations and other site features (dimensions, reference or benchmark, and North).



DOSED GRAVITY INFILTRATOR SYSTEM (OFF-SITE)

LOT 146 - 16218 PASSAGE WAY

MECKLENBURG COUNTY - NORTH CAROLINA

MCHD FILE #14368 TAX PARCEL 217 201 07

by

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

May 23, 1997

revised July 3, 1997



Submitted to: Mr. Kelly Randall, R.S.
Mecklenburg County Health Dept.
Charlotte, N. C.

Mr. Kirk Westerman
4405 Wood Forest Dr.
Rock Hill, S. C. 29732



Toney C. Jacobs, CPSS

Paul G. Penninger

Passage Way - Lot 146

GRAVITY DISTRIBUTION T & J PANEL SYSTEM

Design Considerations

The proposed system is for a 4-bedroom waterfront home on a 0.95 acre lot in a rural area of single family homes in southern Mecklenburg County. The lot will not support an on-site septic system; therefore, the seller, Crescent Resources, Inc., has added an easement to a 0.36 parcel and transferred this as a septic area (maps enclosed). This provisionally suitable area is approximately 1000 feet from the lot and was the closest usable septic area. The property was recorded prior to January 1983; however, because of the added septic the 100% repair area is required.

Soils were evaluated by both Mr. Bill Marlin of the Mecklenburg County Health Department and Toney C. Jacobs & Associates. The system layout was by Toney C. Jacobs & Associates. To best use the easement the chambered system was considered as the best suited system for the tract. The septic system drainfield was flagged in the field as shown in Figure 1. The system will be pumped to a surge tank, gravity to d-box, and chambered system, using 4 x 100' lines. During construction and tree removal precautions should be taken to prevent damaging the system area. The pump supply line is on the easement supplied by CRI and not DOT right-of-way. Both lot 147 and 146 are being purchased by the same buyer (Mr. Kirk Westerman) and are permitted separately.

Location

The lot is on the end of Passage Way, south of Misehouse Road. The system adjoins Misehouse Road.

Reference

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

(2) Infiltrator product information

Recommendation

Four hundred(400) lineal feet of dosed Infiltrator lines using gravity distribution. (Product information sheet on Infiltrator System, Inc. enclosed)

Ownership Responsibility

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

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

(b) Develop conservative water use habits.

(c) Monitor and maintain the system as necessary for proper operation. An Operation Permit will not require a maintenance contract to be filed with the Mecklenburg County Health Department for the system.

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

Components of System

1. Two compartment septic tank - 1500 gal.
2. Pump tank 1000 gallons
3. Supply pipe
4. Minimum 50 gal concrete surge tank
5. Speed lever box
6. 400' of chambers with sand backfill on the sides.

Construction Sequence

1. Lines have been flagged as noted on drawing and in specifications.

2. Clear the area of all organic material with minimum soil disturbance (do not grade). Backfill any low areas with clean sandy loam to natural compaction and look. This includes soil evaluation pits and stump holes.

3. Install trenches per cited reference material and this plan.

4. Carefully backfill distribution trenches to grade with clean clay or clay loam soil fill material which is carefully placed and compacted.

5. The installation contractor shall stabilize the area of construction by planting with Kentucky 31 tall Fescue and mulching. Area to be limed and fertilized with 0.5 tons lime, 75 units of N, 150 units P, and 100 units of K per disturbed acre.

6. The septic tank shall consist of an approved 1500 gallon capacity reinforced, precast watertight, concrete tank with full baffle and shall have easy access to each chamber from ground level for inspection. The first chamber of the septic tank shall consist of 2/3 to 3/4 of the volume of the total tank and the baffle shall contain a horizontal opening across the tank at about midway . Locate the septic tank at such height as to provide approximately 8" of cover soil over top of the tank.

7. Final Landscaping: After the system is installed, the absorption field should be reshaped to shed rainwater and be free of low areas to insure that the system will not be overloaded with excess rainwater and run-on.

8. Supply pipe shall have a metal locator tape or wire should it have to be located. This is a recommendation and not required. Where this pipe goes under the drive, it must be greater than 36" deep. It could be sleeved in metal, but deeper is better and less expensive.

9. The dosing tank shall consist of an approved 1000 gallon capacity, reinforced, precast, watertight concrete tank without baffle and shall have a concrete mounting pad (concrete blocks) for accommodating the pump. Test for leakage per regulations. Provide access for entry into the tank directly over the pump location, and extending 6" above final grade. Use a 30" diameter concrete well casing or equivalent and concrete well cap or other approved type cover. There must be a seal (masonry or seal rope) between well tile and top of tank.

10. All piping and fitting shall be SCH 40 PVC. Glue for all PVC pipe joints shall be as recommended by the pipe manufacturer.

11. Pump: The submerged pump shall be Model ME 150 manufactured by Myers or equal, 115 or 230 v/l phase; capable of pumping 13 gallons per minute at 87.9' of head.

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

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

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

15. Electrical Connections: The pump and high water alarm must be placed on separate electrical circuits. (If the pump circuit fails, the alarm must still be able to operate). Follow the 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. This must not be located inside the pumping chamber due to the corrosive and explosive gasses that may form from the sewage. This box must be a minimum of 1' above finished grade. 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.

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

17. With someone at the surge tank, turn pump on and set gate valve at surge tank to deliver 13 gpm.

18. With an open end box and this pump size, the calculation for a pressure release valve indicator is not needed. Should an air lock occur, the valve can be added on the high point of the supply line.

Concluding Note:

This plan was done to facilitate permitting by the Mecklenburg County Health Department by an agent of the seller (CRI). Because of the complexity of this system, a pre-installation meeting between Toney C. Jacobs & Associates and the installer is recommended if needed. This pre-construction meeting will be billed to the builder or client at current rates. At this time the pump size can be adjusted if necessary. Any additions, or additional requirement(s), or deletions to enhance design or workability which will facilitate a permit are welcomed and may be made by note on this plan without returning entire design. The designer realizes that a plan with as many details as this can be changed and/or improved upon. The installer must realize that this is an exact plan and must be followed and installed with exacting measurements. Should the installer desire a change, it must be approved by the health department in writing. Final inspection will also require more time and detail than a conventional system. If there are questions, please give me a call.

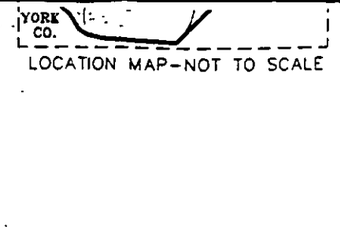
Passage Way - Lot 146

Daily design flow:	480gpd.
Septic tank size:	1500 gal. (2 compartments)
Pumping tank size:	1000 gal.
Effluent loading rate:	0.3gpd/sf initial system repair the same
Total length and diameter of supply manifold:	app. 1~~100~~ 020 lf-2" 40 PVC
Number and length of laterals:	4 @ 100' long
Speed lever control:	4 required
Flow rate through the system:	20 gpm capability
Elevation head:	65' *
Pressure head:	3.0'
Friction head:	8.4'
15% contingency	11.5'
Total head:	87.9'
Pump requirements:	13 gpm at 87.9' of head; use Myers "ME 150" 1½hp pump or equivalent with compatible electrical
Dosing volume:	240 gal. - 2.0 doses/day at design flow
Depth of water pumped per dose:	calculated to specific tank by measure or dealer engineering specifications[1 cubic ft. of water equals 7.48 gals.]
Pump run per dose:	approx. 18.0 min. (run time control of dose
Check valve:	Yes
Siphon break hole:	No

* This is lowest pump tank placement. If house and tank are back from lake, this could be reduced and require a smaller pump. (Mecklenburg County topo enclosed)

C12	758.23'	77.32'	38.79'	77.49'	N85°28'57"E	05°51'28"
C13	778.23'	29.34'	14.67'	29.33'	N89°20'25"E	02°09'35"
C14	181.20'	106.58'	54.88'	105.05'	S73°34'13"W	33°42'00"
C15	192.99'	40.15'	20.15'	40.08'	S62°40'51"W	11°55'15"
C16	189.91'	130.32'	67.84'	127.78'	S20°50'30"W	39°19'00"
C17	50.00'	75.08'	46.66'	68.23'	S52°54'04"E	86°02'26"

L12	S89°34'47"E	182.96'
L13	S56°43'13"W	69.40'
L14	S01°11'00"W	124.61'
L15	S40°30'00"W	31.58'



LOCATION MAP-NOT TO SCALE

PLAT NORTH
PB. 17, PG. 520
DATED: 3-1-76

CRESCENT RESOURCES, INC.
(J.F. YOUNGBLOOD)
CAT-161
D.B. 576, PG. 520
CAT-490
D.B. 3146, PG. 165

N/F
CRESCENT RESOURCES, INC.
(J.F. YOUNGBLOOD)
CAT-161, D.B. 576, PG. 520
CAT-490, D.B. 3146, PG. 165
REC. LOT 159
SECTION 43
P.B. 17, PG. 521
REF. DWG. LW-43M

C/L INTER. OF MISEHOUSE RD. & ROYAL OAK RD

S16°14'32"E 145.22'

S73°44'49"E 331.91'

S72°24'11"E 123.50'

N77°14'47"E 284.77'

S9°26'26"E 92.35'

MISEHOUSE ROAD
60' R/W

SEWER EASEMENT FOLLOWS ROAD R/W. LIMIT

AREA WITHIN P/O. 10' SEWER LINE
EASEMENT = 0.029 ACRES
(1,251 SQ. FT.)

TO YOUNGBLOOD RD.

DEC OVHD DISTRIBUTION LINE

P/L FOLLOWS ROAD R/W. LIMIT

47.61'
N82°33'13"E
125.00'
S39°21'01"E
55.66'

10.00'
115.00'
125.00' (TOTAL)
N07°26'47"W
128.96' (TOTAL)
10.05'
108.89'

ADDITION TO LOT 147
0.460 ACRE
(20,057 SQ. FT.)
REQUEST: 91799

125.00'
S82°33'13"W
99.02'
S8°23'16"W

CAROLINA CENTERS, LLC
DB. 7606, PG. 475
(J.F. YOUNGBLOOD)
CAT-161
D.B. 576, PG. 520
CAT-490
D.B. 3146, PG. 165

10' SEWER EASEMENT FOR
ADDITION TO LOT 147
REQUEST: 91800

CRESCENT RESOURCES, INC.
(J.F. YOUNGBLOOD)
CAT-161
D.B. 576, PG. 520
CAT-490
D.B. 3146, PG. 165

60' R/W
MISEHOUSE ROAD

SEWER EASEMENT FOLLOWS ROAD R/W. LIMIT

10' SEWER EASEMENT FOR
ADDITION TO LOT 147
REQUEST: 91799

ADDITION TO LOT 146
0.361 ACRE
(15,727 SQ. FT.)

CRESCENT RESOURCES, INC.
(S.J. MILLER)
CAT-334
D.B. 168, PG. 446
CAT-490
D.B. 3146, PG. 165

AREA WITHIN P/O. 10' SEWER LINE
EASEMENT = 0.166 ACRE
(7,229 SQ. FT.)

AREA WITHIN 10' SEWER LINE EASEMENT
FOR REC. LOT 146 = 0.165 ACRES
(7,175 SQ. FT.)

PASSAGE WAY
60' R/W

AREA WITHIN P/O. 10' SEWER LINE
EASEMENT = 0.029 ACRE
(1,274 SQ. FT.)

P/L FOLLOWS ROAD R/W. LIMIT

ANG. I. (F) N80°04'22"E 132.87'

CAROLINA CENTERS, LLC
DB. 7606, PG. 475
(S.J. MILLER)
CAT-334
D.B. 168, PG. 446
CAT-490
D.B. 3146, PG. 165

(BASE BEARING)
S28°57'00"E
183.85'
205.21' (TOTAL)

10.68'
10.15'
200.61' (TOTAL)
190.46'
N04°53'55"E

CRESCENT RESOURCES, INC.
(S.J. MILLER)
CAT-334
D.B. 168, PG. 446
CAT-490
D.B. 3146, PG. 165
REC. LOT 147
SECTION 43
P.B. 17, PG. 519
REF. DWG. LW-43K

CRESCENT RESOURCES, INC.
(S.J. MILLER)
CAT-334
D.B. 168, PG. 446
CAT-490
D.B. 3146, PG. 165
REC. LOT 146
SECTION 43
P.B. 17, PG. 519
REF. DWG. LW-43K

LAKE WYLIE

DUKE ENERGY CORPORATION
(S.J. MILLER)
CAT-334
D.B. 168, PG. 446

House within zoning limits
Septic tank > 50' from Lake
> 10' from PL
> 5' from foundation

TOTAL AREA WITHIN 10' SEWER LINE
EASEMENT FOR REC. LOT 147
= 0.224 ACRES (9,754 SQ. FT.)

NOTE: ALL DISTANCES ARE HORIZONAL DISTANCES UNLESS OTHERWISE NOTED.

NOTE: AREA BY COORDINATE COMPUTATION.

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

LEGEND

LINES SURVEYED	
LINES NOT SURVEYED	
TIE LINES	
OVHD DISTRIBUTION LINE (OVERHEAD)	
#4 REBAR(S)	PK(S)
#4 REBAR(F)	#3 REBAR(S)
#5 REBAR(S)	CON. MON.(F)
#5 REBAR(F)	CON. MON.(S)
RETAIL POWER POLE	

CRESCENT RESOURCES
INC.
P.O. BOX 1003
CHARLOTTE, N.C. 28201-1003

SURVEY & MAP PREPARED BY:
DUKE ENERGY CORPORATION
P.O. BOX 1007
CHARLOTTE N.C. 28201-1007
TELEPHONE: (704)382-4268

FOR SOURCE OF TITLE REFER TO DB. 3146, PG. 165

BOUNDARY SURVEY FOR
CAROLINS CENTERS, LLC
LAKE WYLIE DEVELOPMENT
BOUNDARY SURVEY OF ADDITION TO
RECREATION LOT 146
& 10' SEWER EASEMENT
STEELE CREEK TOWNSHIP
MECKLENBURG COUNTY, N.C.

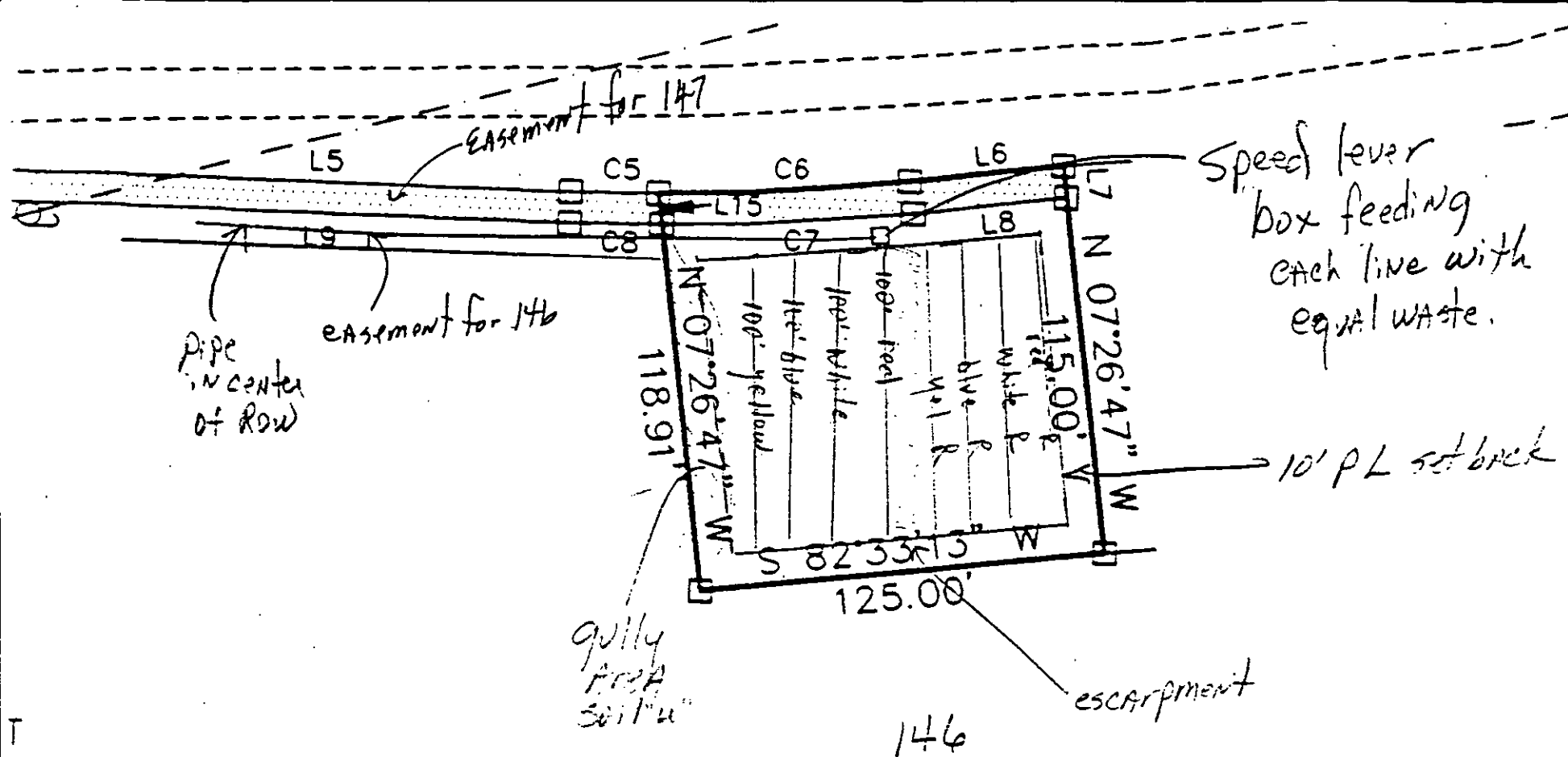
REVISED: 6-24-97
REVISED: 5-12-97
MARCH 24, 1997
REQUEST NO. 91800

SCALE: 1" = 100'
BOOK NO. 2273

100 50 0 100 200 300
SCALE IN FEET

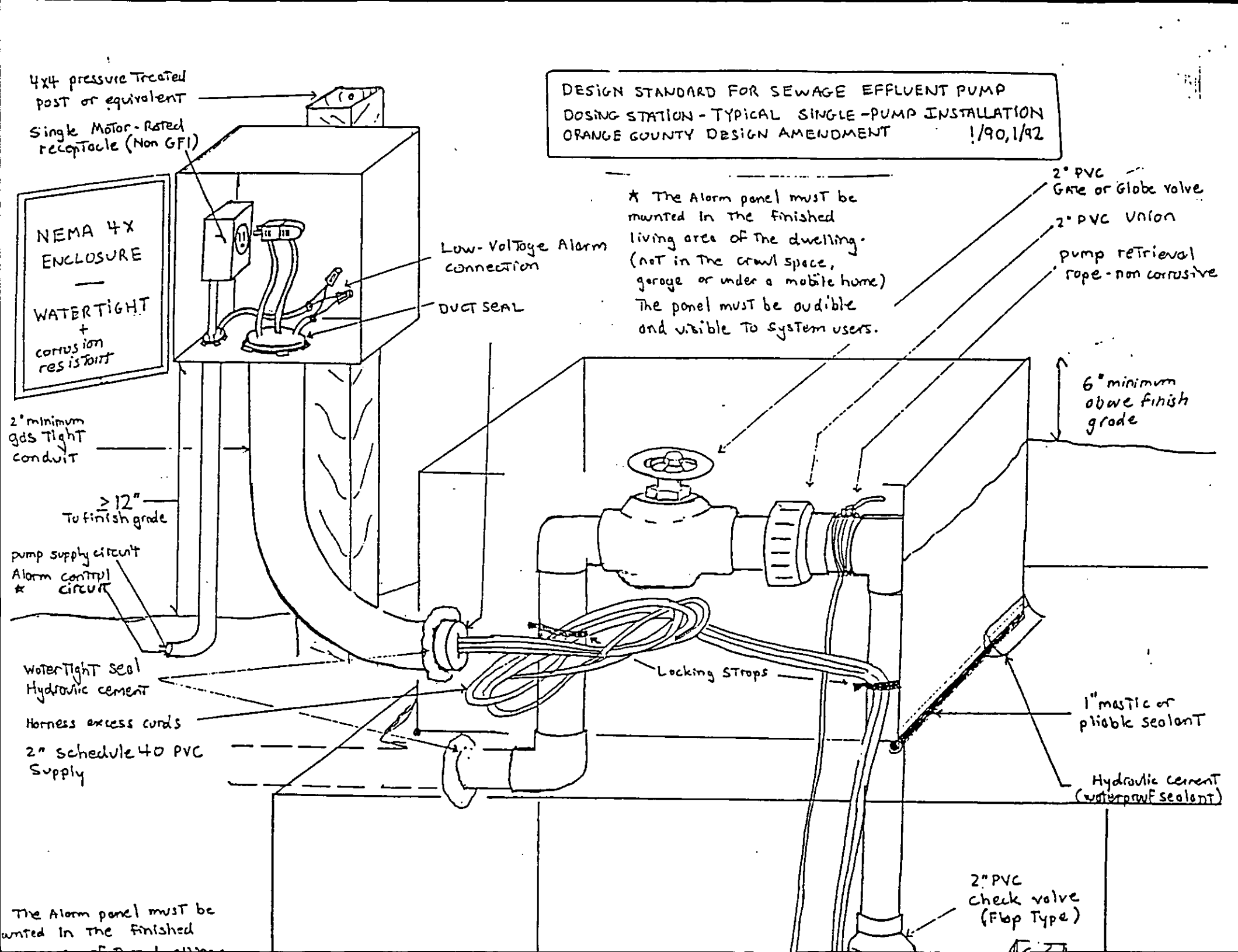
PROJECT NO. 7507	
PARCEL NO. 46668	
REQUEST NO. 91800	
CRI ID. NO. 102900	
E.C. = 1' : 10,000'+	
PER. 560', TIES 2000	
DRAWN BY: JHC	
CREW: JFMc	
DATE: 3-24-97	
CHK BY: JRH	

NEW SEPTIC R/W. REVISED PER REQUEST 94703		
REVISED BY: DLH	DATE: 6-19-97	
CREW: JFMc	CHK BY: JRH	
LOT 147 ADDITION REVISED PER REQUEST 92761		
REVISED BY: DLH	DATE: 5-12-97	
CREW: JFMc	CHK BY: JRH	



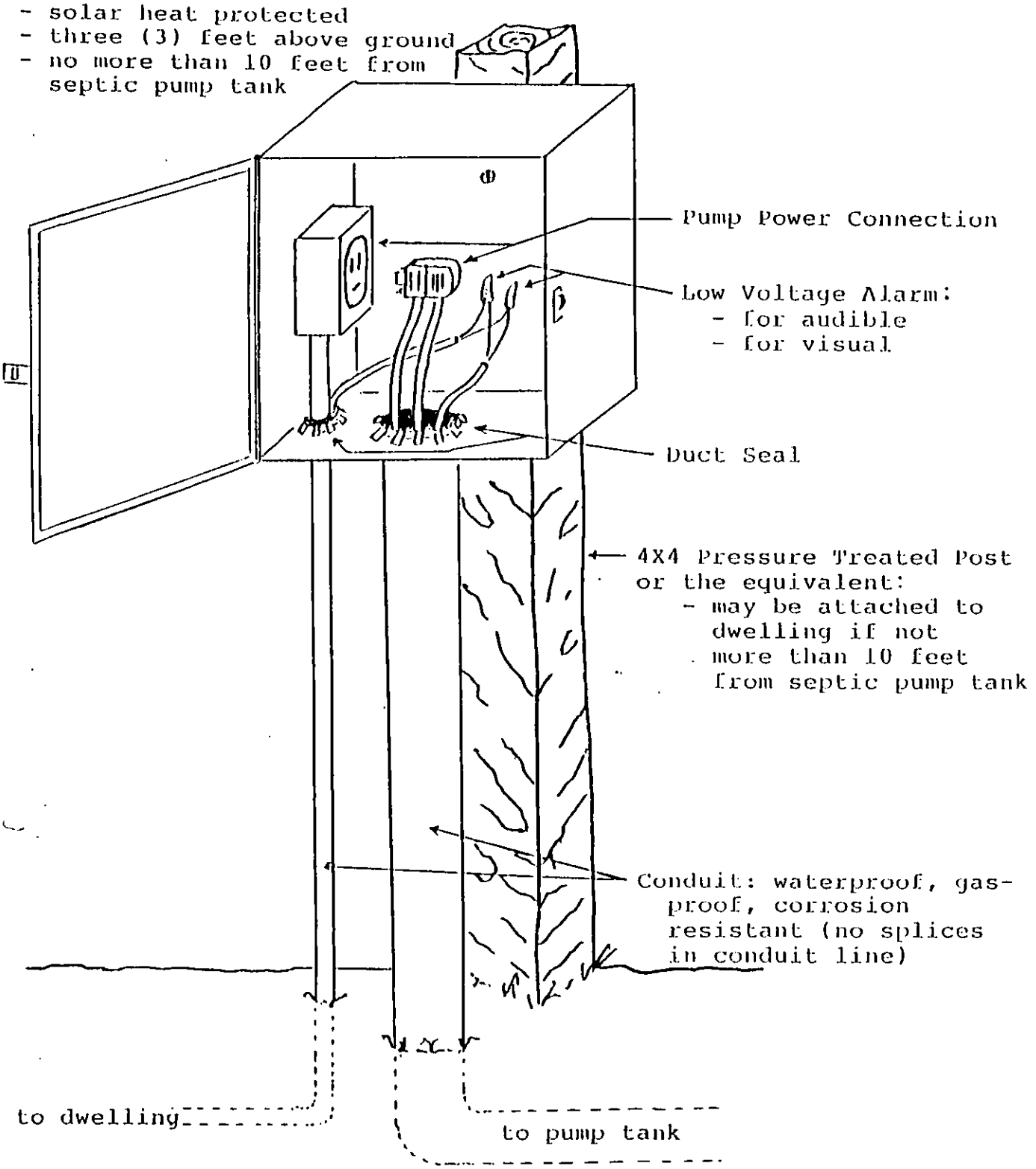
ADDITION TO LOT
AREA = 0.36 ACRE

CAROLINA CENTERS, LLC
DB. 7606, PG. 475

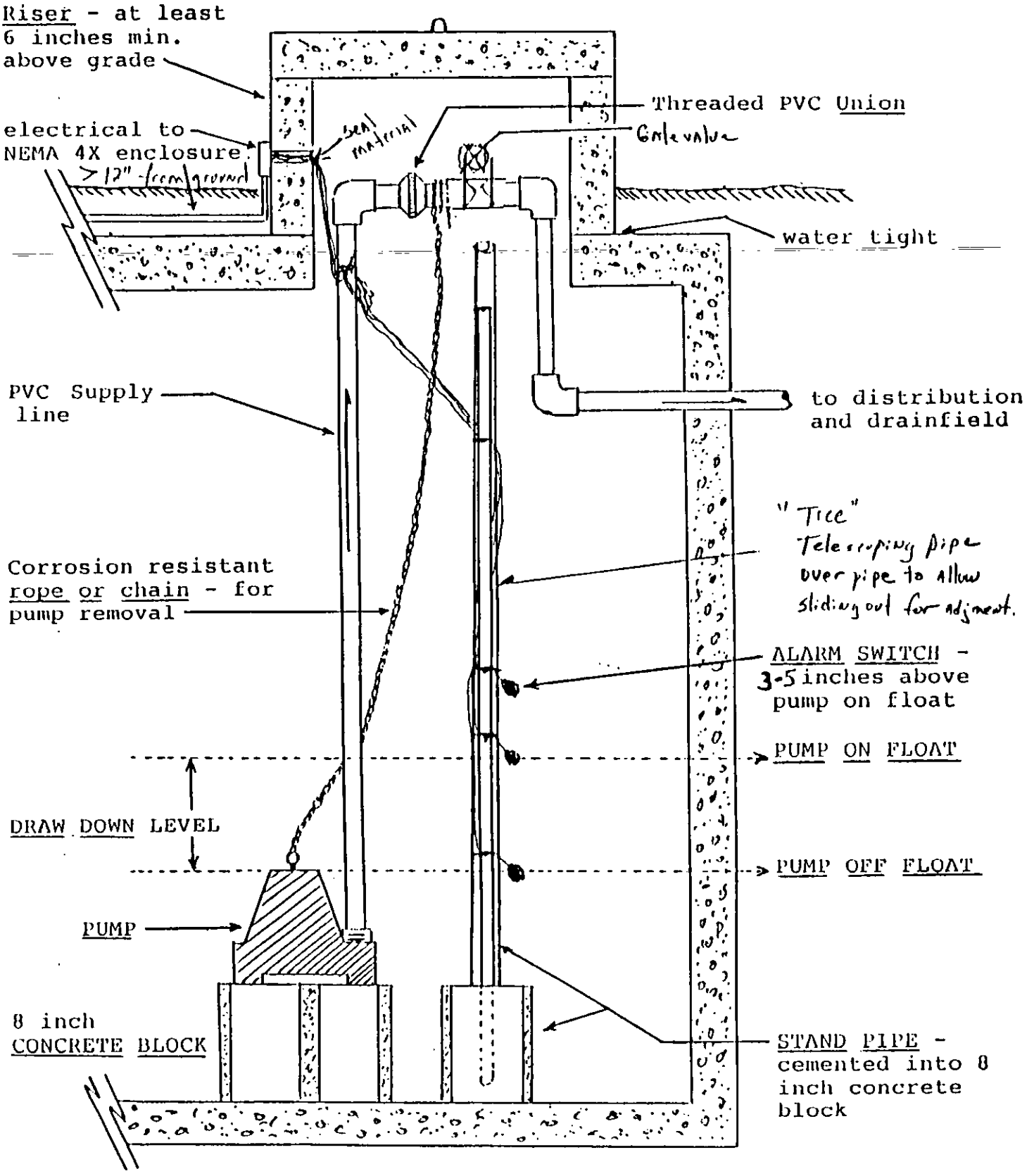

DESIGN STANDARD FOR SEWAGE EFFLUENT PUMP
DOSING STATION - TYPICAL SINGLE-PUMP INSTALLATION
ORANGE COUNTY DESIGN AMENDMENT 1/90, 1/92
4x4 pressure Treated post or equivalent
Single Motor-Rated receptacle (Non GFI)
NEMA 4X ENCLOSURE
WATERTIGHT + corrosion resistant
Low-Voltage Alarm connection
DUCT SEAL
* The Alarm panel must be mounted in the finished living area of the dwelling. (not in the crawl space, garage or under a mobile home) The panel must be audible and visible to system users.
2" PVC Gate or Globe valve
2" PVC Union
pump retrieval rope - non corrosive
6" minimum above finish grade
2" minimum gas Tight conduit
≥ 12" To finish grade
pump supply circuit
Alarm control * circuit
Locking STraps
WaterTight seal Hydraulic cement
Harness excess cords
2" schedule 40 PVC Supply
1" mastic or pliable sealant
Hydraulic cement (waterproof sealant)
2" PVC check valve (Flap Type)
The Alarm panel must be
unted in the finished

NEMA 4X ENCLOSURE must be:

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

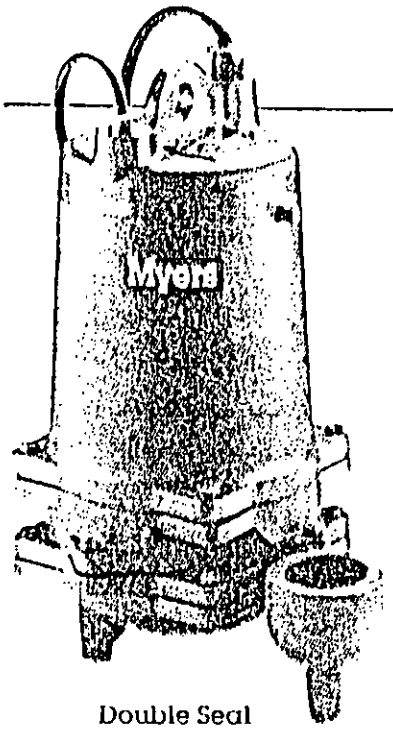


PUMP DIAGRAM

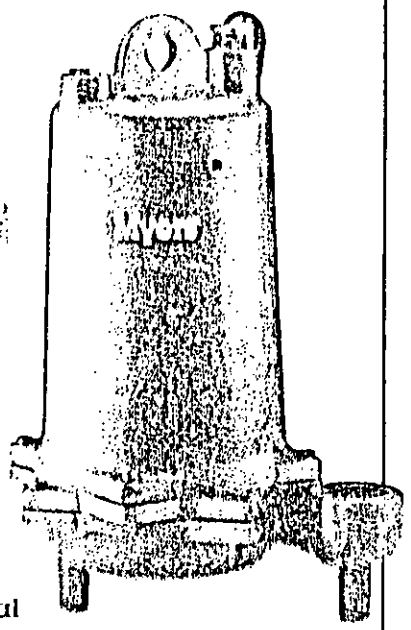


ME SERIES

1/3 through 1-1/2 HP
Effluent Pumps



Double Seal



Single Seal

THE MYERS ME SERIES EFFLUENT PUMPS ARE DESIGNED SPECIFICALLY FOR TODAY'S EFFLUENT PRESSURE DISTRIBUTION MOUNDS, TRENCHES AND HIGH FLOW DRAINAGE APPLICATIONS. The ME Series effluent pumps with their efficient two vane, enclosed impellers, provide the ideal performance for optimum dosing. ME Series pumps are constructed of only corrosion resistant materials like cast iron, stainless steel and thermoplastics to assure that they will perform for years to come in the harsh effluent environment and drainage applications. For more information, call your Myers distributor today or the Myers Ashland, Ohio sales office at 419/289-1144.

ADVANTAGES BY DESIGN

IDEAL FOR USE IN MOUND AND TRENCH PRESSURE DISTRIBUTION SYSTEMS

- High efficiency, two vane, enclosed impeller provides ideal performance for most efficient dosing.
- Impeller passes full ¾ inch solids.
- Enclosed impeller design eliminates possibility of jamming or corrosion between impeller and volute.

DURABLE MOTOR WILL DELIVER MANY YEARS OF RELIABLE SERVICE

- Oil-filled motor for maximum heat dissipation and constant bearing lubrication.
- High torque, permanent split capacitor (PSC), single phase motors. No starting switches or relays to wear out.
- Optional seal leak probe warns of seal leak condition. (Dual seal motors only.) Helps prevent costly motor damage.
- Motors have on winding current and temperature sensitive overload. (Single phase only.)

THE ME SERIES EFFLUENT PUMPS ARE DESIGNED FOR YEARS OF MAINTENANCE FREE OPERATION

- Volute seal ring is replaceable. Restores pump to original performance if wear should occur.
- Motor is held in place by 4 screws. Easily removed if service is ever needed.

PRODUCT CAPABILITIES

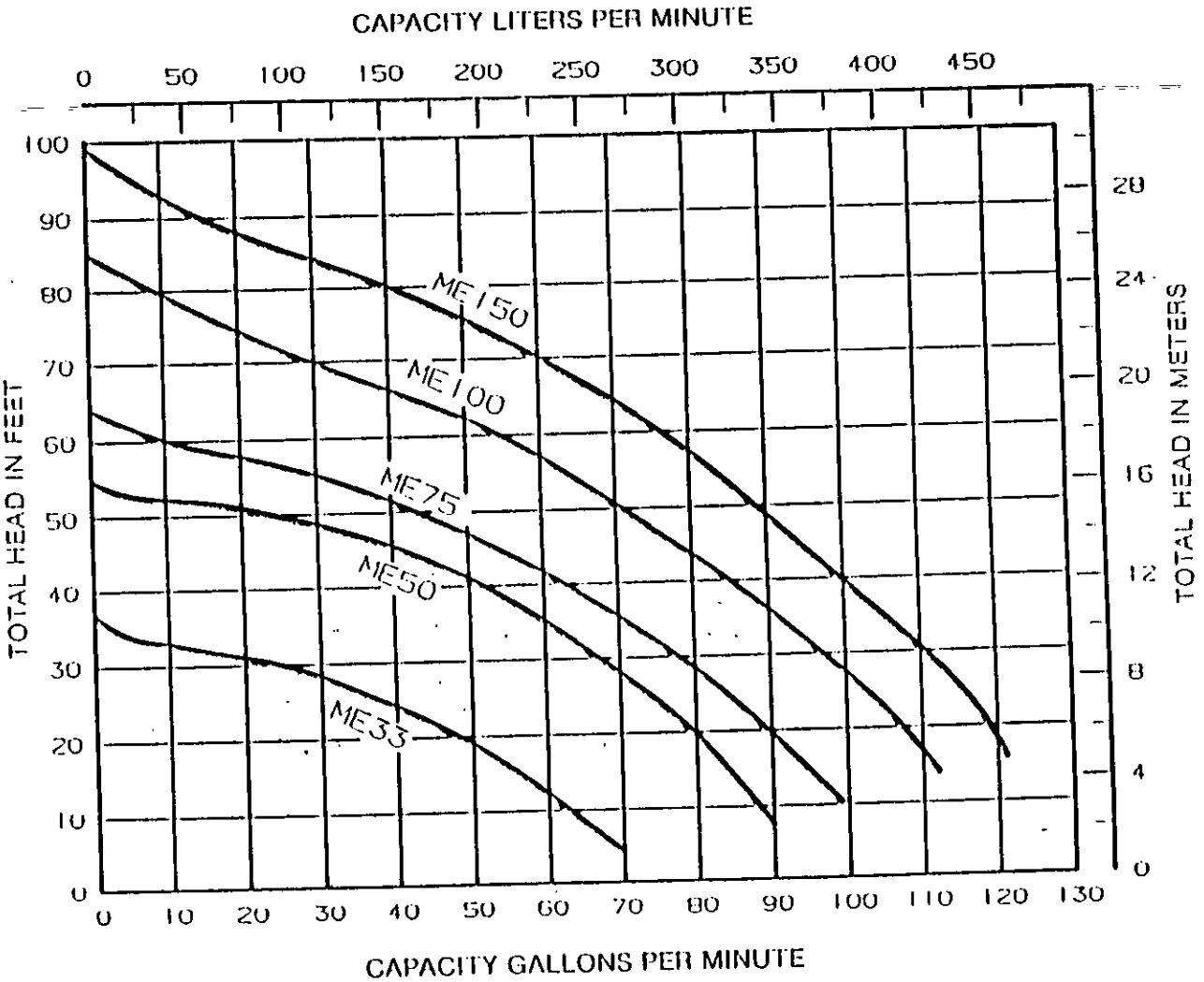
Capacities To	120 GPM	454 LPM
Heads To	98 ft.	29.8 m
Max. Spherical Solids	¾ in.	19 mm
Liquids Handling	domestic effluent & drain water	
Intermittent Liquid Temp.	up to 140° F	up to 60° C
Motor Electrical Data	1/3 & 1/2 HP, 115 volts, 1 ph 1/3 to 1-1/2 HP, 230 volts, 1 ph 208, 230, 460, 575 volts, 3 ph oil-filled, permanent split capacitor type, 1 ph, 3450 rpm, 60 Hz	
Motor Insulation	Class B (130°C)	
Third Party Approvals	Pending	
Acceptable pH Range	6-9	
Specific Gravity	.9-1.1	
Viscosity	28-35 SSU	
Discharge, NPT	2 in.	50.8 mm
Min. Sump Dia. Simplex Duplex	24 in. 36 in.	61 cm 91.4 cm

Construction Materials	
Motor Housing, Volute	cast iron, Class 30, ASTM A48-76
Enclosed Two Vane Impeller Standard Optional	engineered thermoplastic bronze
Impeller Wear Ring	304 SST
Volute Sealing Ring	Buna N
Shaft	416 SST
Power Cord 1/3 & 1/2 HP, 1 Ph 3/4 - 1-1/2 HP, 1 Ph All 3 Ph	 20 ft. 16/3 SJOW/SJOW-A 20 ft. 14/3 SJOW/SJOW-A 20 ft. 14/4 SOW/SOW-A
Shaft Seals Standard Optional Opt. Lower	single carbon & ceramic tandem carbon & ceramic tungsten carbide
Fasteners	300 Series SST

WHERE INNOVATION MEETS TRADITION

Myers®

ME Series
1/3 through 1-1/2 HP
Effluent Pumps
Performance Curve



F.E. Myers, A Pentair Company • 1101 Myers Parkway, Ashland, Ohio 44805-1923
419/289-1144 FAX 419/289-6658 Telex 98-7443

Printed in U.S.A.

K3327 7/91

TCJ CONSULTING

SITE / SOIL EVALUATION

JOB: Lake Wylie PHONE: DATE:

LOCATION: PIN: COUNTY: PROPERTY SIZE:

PROPOSED FACILITY: WATER SUPPLY: On-Site Well Community Public EVALUATION: Auger Boring Pit Cut

WEATHER: ANTECEDENT MOISTURE: SURFACE WATER:

FACTORS	PROFILE 1	PROFILE 2	PROFILE 3	PROFILE 4
LANDSCAPE POSITION %				
HORIZON I DEPTH				
Color - Munsell				
Texture				
Structure				
Consistence				
Boundary				
HORIZON II DEPTH				
Color - Munsell				
Texture				
Mottles				
Structure				
Consistence				
Boundary				
HORIZON III DEPTH				
Color - Munsell				
Texture				
Mottles				
Structure				
Consistence				
Boundary				
HORIZON IV DEPTH				
Color - Munsell				
Texture				
Mottles				
Structure				
Consistence				
Boundary				
SOIL WETNESS				
RESTRICTIVE HORIZON				
SAPROLITE				
LTAR				
CLASSIFICATION				

LEGEND

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

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

CONSISTENCE

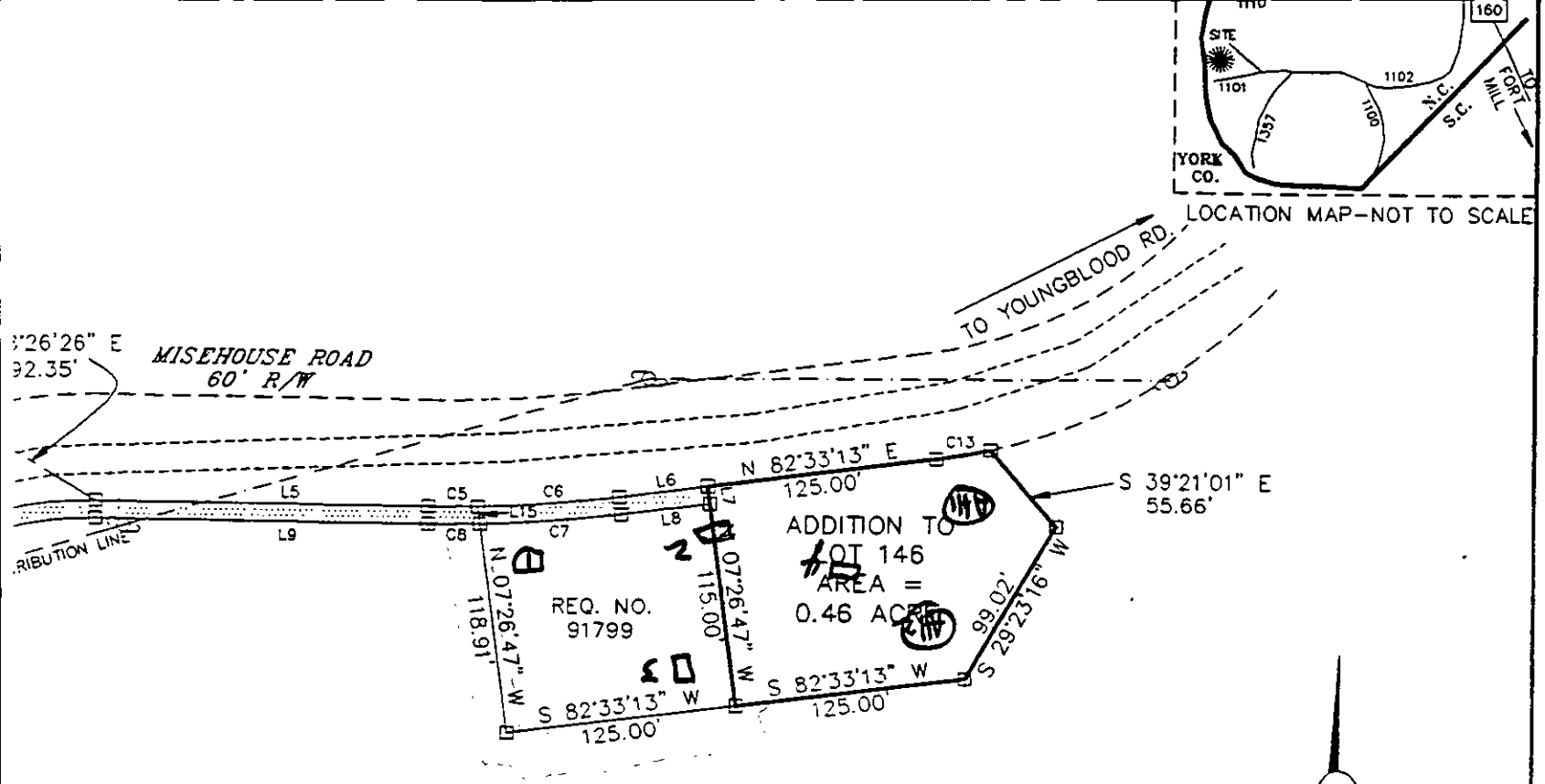
MOIST

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

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

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

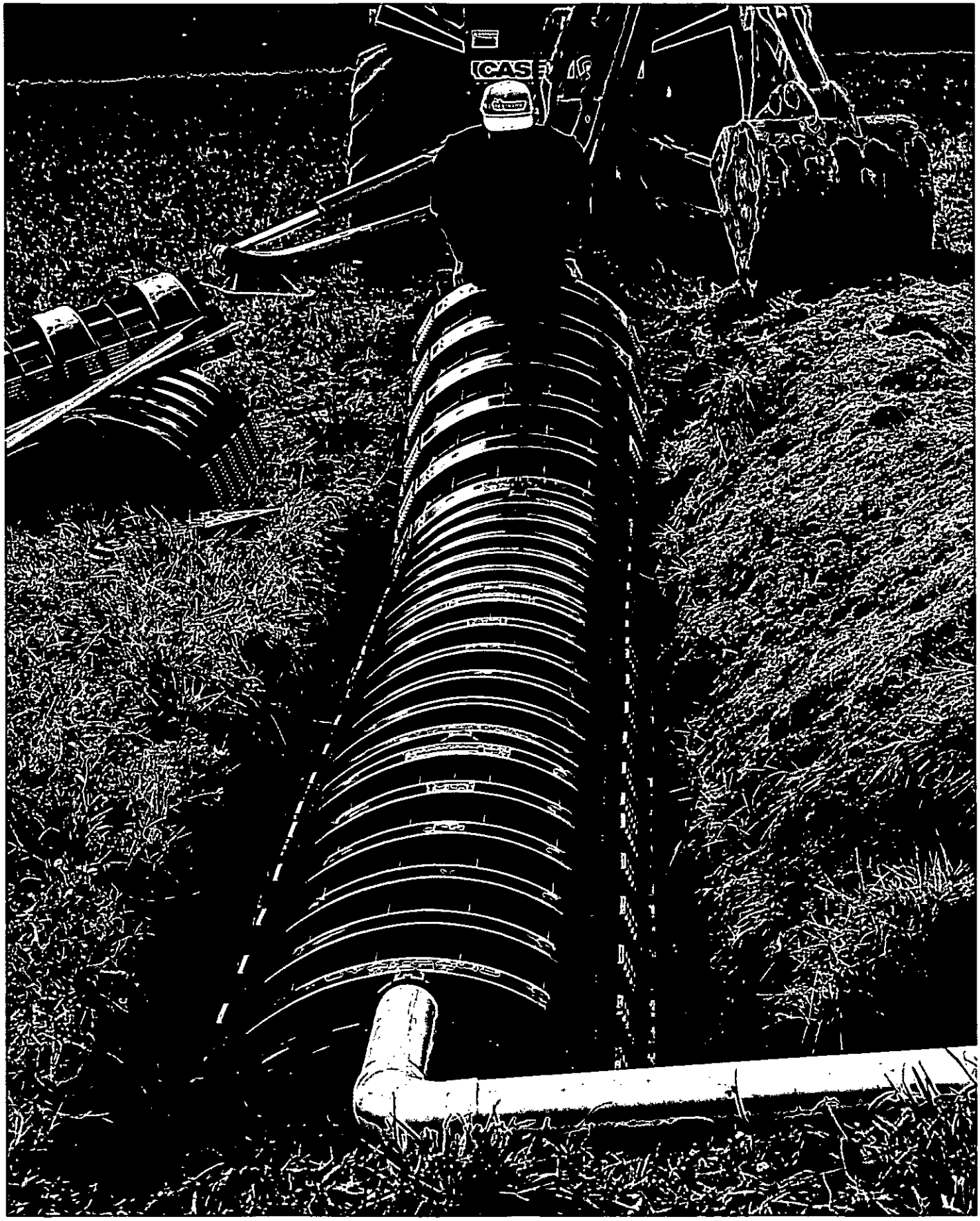
STRUCTURE
sg - single grain
m - massive
cr - crumb
gr - granular
sab - subangular blocky
ab - angular blocky
pl - platy
pr - prismatic



Pit Locations
+
#'s

The Original Infiltrator® Chamber System for Septic Leachfields.

INFILTRATOR®
SYSTEMS INC

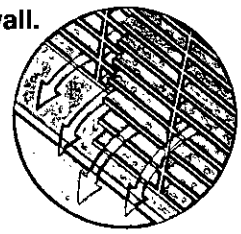


Original Standard and High Capacity Infiltrator chambers provide up to twice the infiltrative capacity of stone and pipe systems.

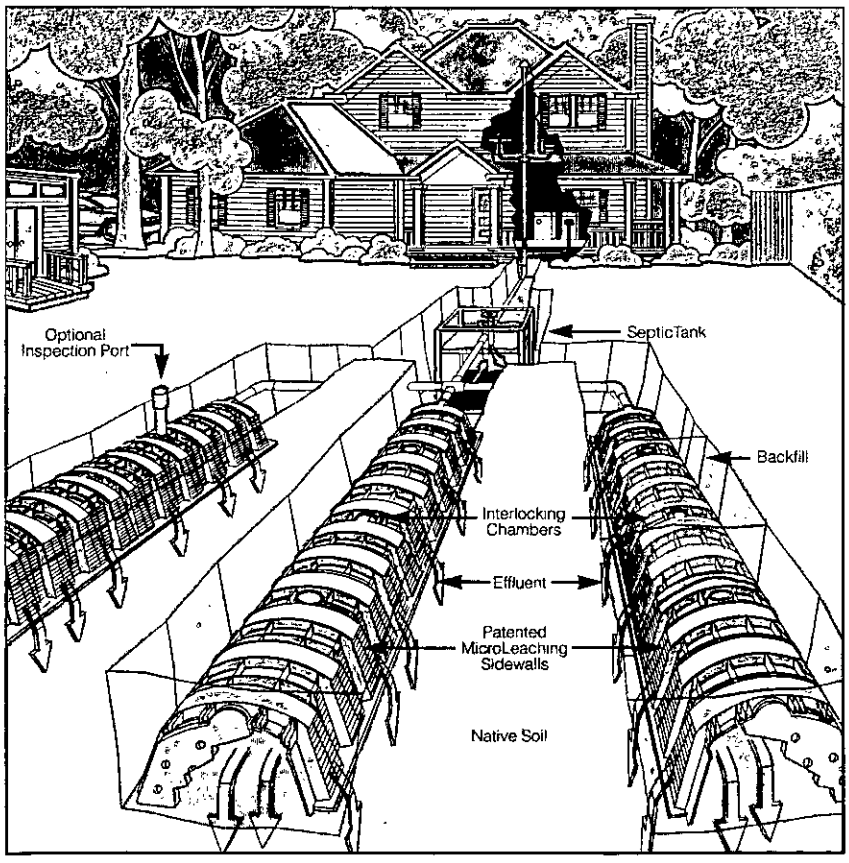
The Infiltrator Chamber System replaces old-fashioned stone and pipe leachfields with patented, high-strength polymer chambers. Both the original Standard and High Capacity chambers are designed to fit in a typical 36" wide trench. Infiltrator chambers sit directly on the trench bottom. The patented interlocks add strength and latch the chambers together quickly, end to end, so installation takes less than half the time of a laborious stone and pipe job.

Infiltrator chambers may be used for any application that is suitable for stone and pipe. However, by offering greater infiltrative capacity per linear foot, chamber systems can require as little as half the space as conventional systems.*

Patented MicroLeaching™ sidewall.
The Infiltrator chamber has an engineered, louvered sidewall that allows effluent to pass laterally into the soil. The angled louvers prevent backfill intrusion into the chamber while 1/4" slots allow lateral leaching.



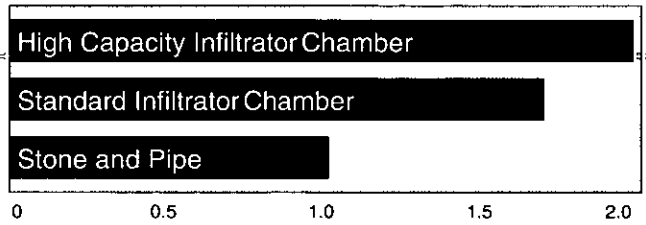
MicroLeaching sidewall



* Subject to state and local regulations.

Open chamber bottom boosts infiltration.
The chamber bottom is completely open, promoting effluent infiltration into the soil with 100% efficiency. The open-bottom area, in combination with the MicroLeaching sidewall, provides maximum infiltrative capacity for long-term, trouble-free service.

LTAR (Long-Term Acceptance Rate).



This graph demonstrates the dramatic efficiency improvement in LTAR of Infiltrator chambers over stone and pipe trenches. The LTAR is a measure of the long-term ability of the system to pass effluent into the soil. For example, the High Capacity Infiltrator chamber infiltrates up to twice the effluent of a same-size stone and pipe trench. This efficiency is recognized by many state and local jurisdictions, who in turn may allow up to 50% shorter trenches.

High-density polyethylene construction.
Infiltrator chambers are molded of high-density PolyTuff™ polyethylene. This proprietary blend, including recycled resins, is formulated for optimum strength and chemical resistance. It's impervious to wastewater constituents and is stabilized to resist ultraviolet rays. Infiltrator chambers are manufactured using an exclusive patented process to assure consistent high quality.

AASHTO H-10 and H-20 load ratings.
Infiltrator chambers have been structurally tested by a registered professional engineer. Both Standard and High Capacity chambers are available with AASHTO ratings of H-10 (16,000 lb/axle with 12" of compacted cover) or H-20 (32,000 lb/axle with 18" of compacted cover).

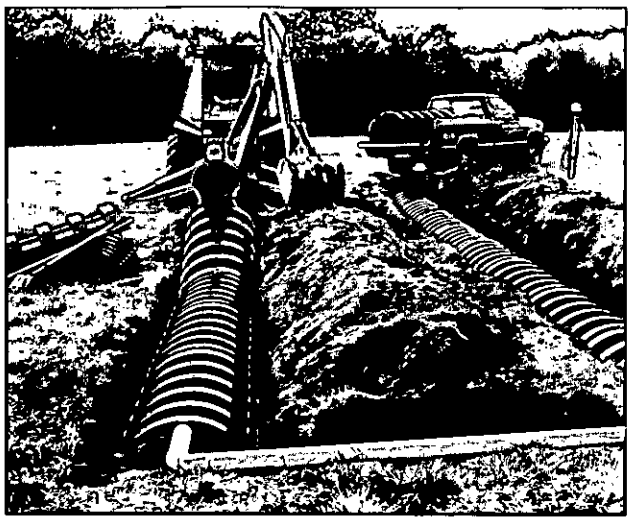
Nominal chamber specifications.

	Standard Chamber	High Capacity Chamber
Size, W x L x H	3' x 6-1/4' x 1'	3' x 6-1/4' x 1-1/3'
Weight	27 lb.	33 lb.
Capacity	77 gal. (10.3 cu. ft.)	122 gal. (16.3 cu. ft.)

Compare the installation and operating advantages.

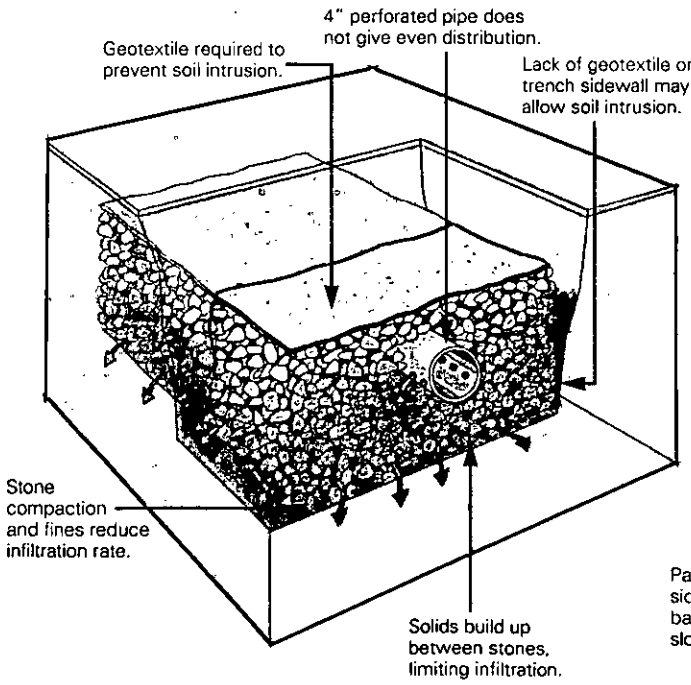


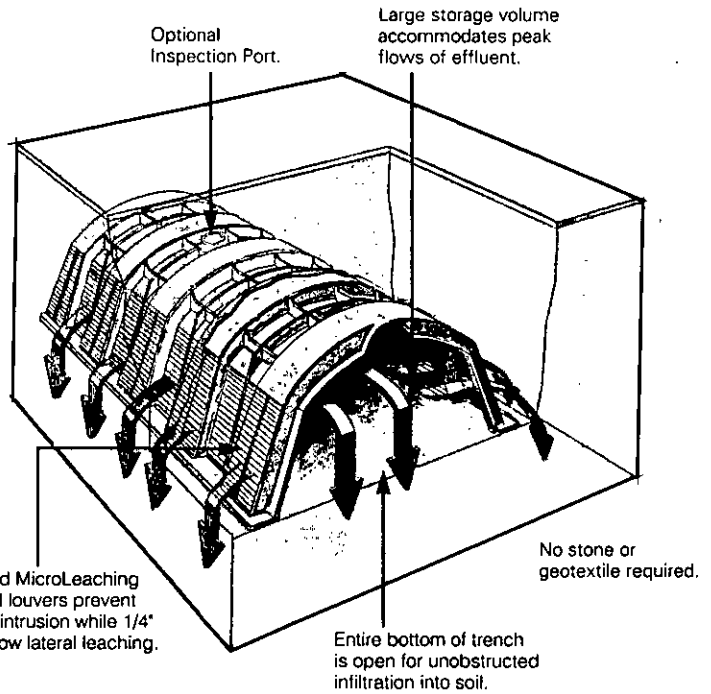
Conventional stone and pipe system



Infiltrator Chamber System

• Labor-intensive, lengthy installation.	• Easy assembly and installation by two people.
• Dump truck needed for stone delivery.	• Only a backhoe and pickup truck are required.
• Stone hauling adds expense and time, and increases soil compaction.	• Lightweight chambers can be delivered in one pickup truck load and hand-carried into position.
• Stone in trench reduces Long-Term Acceptance Rate by more than 50%.	• Entire trench bottom is open for effluent infiltration with 100% efficiency.
• Heavy traffic across yard and spilled stone mean there is more site repair needed after installation.	• There is less regrading, tree damage and landscape repair involved, and no stone cleanup.
• System lacks easy inspection and monitoring of leachfield without digging up the yard.	• Inspection port is available for easy access to leachfield with no site disruption.
• Geotextile required on top of stone.	• Solid-topped chambers need no geotextile.
• Greater overall cost.	• Lower overall cost.





Infiltrator Systems Inc., the industry leader in septic and stormwater chamber system technology.

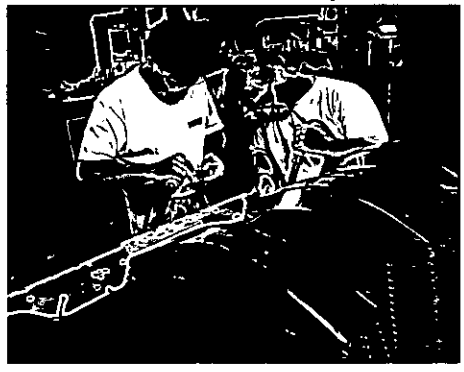
Five million chambers already in service.
In just ten years, the innovative leaching chambers of Infiltrator Systems have drastically changed the technology of on-site septic and stormwater disposal. Already, 5 million chambers have been installed in 46 states, Canada and other countries, forming over 90 million square feet of chamber systems with a success rate of 99.5%. And, we're expanding at the rate of 9,000 new systems a month.

Environmentally concerned company.
Infiltrator Systems devotes over $500,000 a year to research and development, creating new products that operate more and more efficiently and conserve natural resources. Besides using recycled resins, Infiltrator Systems' products take better care of the environment by avoiding the mining, crushing, grading, washing and hauling of stone, as well as the environmental impact and site disruption that stone causes. That's one of our "greener" ideas for septic and stormwater disposal that just makes sense.

Infiltrator stormwater management.
Besides our septic chamber systems, Infiltrator Systems is on the leading edge of the emerging stormwater management field. The subsurface Maximizer™ Chamber System, with its unmatched strength and practically 100% void volume, replaces ponds, large diameter pipe and stone, vaults, and dry wells. This system gives designers better solutions for both retention and detention projects, so they can fully utilize valuable above-ground land.







For a free copy of the septic installation instructions and video, call 1-800-221-4436.

Distributed By:

INFILTRATOR® SYSTEMS INC

Leading the way in septic and stormwater chamber systems℠

4 Business Park Road, P.O. Box 768
Old Saybrook, CT 06475
800-221-4436 860-388-6639 FAX 860-388-6810

U.S. Patents: 4,759,661; 5,017,041; 5,156,488; 5,336,017; 5,401,116; 5,401,459; 5,511,903; 5,588,778; 1,815,925; 1,974,938; 1,729,383; 448,338
Canadian Patents: 1,329,959; 2,004,564 Other U.S., Canadian, and foreign patents pending.

Infiltrator, Equalizer, and SideWinder are registered trademarks and the following are trademarks of Infiltrator Systems Inc.: Contour, EQ, Maximizer, MaxWin, MicroLeaching, PolyTuff, PowerArch, and SnapLock.

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FEE: _____ **AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION**
DATE: _____ **VOID SIXTY (60) MONTHS FROM DATE OF ISSUANCE**

DATE: 6-13-97 PERMIT NO: 14368
PARCEL NO: 217-201-02A

JOB LOCATION ADDRESS: 18218 Passage Way
PROPERTY OWNER: Kirk Westerman
BUILDING CONTRACTOR: _____
SUBDIVISION NAME: _____
AUTHORIZATION ISSUED BY: Kelly Randall DATE: _____
DEHNR AUTHORIZED AGENT

AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NO. 19368, AND THE ATTACHED SITE PLAN WITH SYSTEM DETAILS. CONSTRUCTION AND INSTALLATION MUST ALSO MEET ALL REQUIREMENTS SET FORTH IN THE RULES GOVERNING SANITARY SEWAGE COLLECTION, TREATMENT, AND DISPOSAL AND ANY OTHER APPLICABLE RULES AND LAWS.

2. AN INSTALLATION, CONSTRUCTION, ALTERATION AND/OR REPAIR APPROVAL MUST BE SECURED **PRIOR** TO INSTALLATION OF THE SEPTIC TANK SYSTEM. THE INSTALLER OF THE SYSTEM SHALL BE A REGISTERED SEPTIC TANK CONTRACTOR WITH MECKLENBURG COUNTY HEALTH DEPARTMENT.

3. ANY ALTERATION IN SITE OR SOIL CONDITIONS (INCLUDING LOCATION OF STRUCTURES AND APPURTENANCES) OR MODIFICATION IN USE, DESIGN WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS AS SPECIFIED IN THE ASSOCIATED IMPROVEMENT PERMIT AND APPLICATION, MAY SUBJECT THIS AUTHORIZATION AND ASSOCIATED PERMIT(S) TO REVOCATION.

4. OTHER CONDITIONS: easement recorded for drainfield
install in accordance w/ plan on file

OWNER CERTIFICATION

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

SIGNATURE OF OWNER/OWNER'S REPRESENTATIVE DATE 6/12/97

Permit Number 14368

CONDITIONS OF IMPROVEMENT PERMIT

Tax Number: 217-201-02

The IMPROVEMENT PERMIT is subject to revocation if site plans or the intended use change. There is to be NO grading, filling or disturbance of the soil in the area of the septic tank system or repair area.

CONSTRUCTION AUTHORIZATION must be obtained prior to receiving a Building Permit. The Construction Authorization is NOT transferable. Do not clear, grade, fill or disturb soil prior to obtaining a Construction Authorization.

Domestic-type wastewater only. No industrial process wastewater may be discharged into the system.

Basement	___ Yes	✓ No	___ Partial Basement	
Type Primary Wastewater System Type (circle one): I II III IV V VI	___ Conventional ___ Prefabricated, permeable block panel system ___ Shallow Placed Conventional	___ Low Pressure Pipe ___ Large Diameter Pipe ___ Fill ___ Other	✓ Innovative or Experimental: ___ IWWS-93-1 ___ IWWS-93-2 ___ IWWS-94-1	
.3 Long-term acceptance rate	400 Max gallons/day wastewater flow	1200 Absorption Area (sq ft)	9 Trench spacing (min. on centers)	
yes Serviced by private well	1500 Gallon septic tank	900 Total trench length (ft)	24" Maximum trench depth (At least 12" of provisionally suitable soil must remain between trench bottom and unsuitable soil conditions)	
4 Bedrooms in residence	1000 Gallon pump tank	NA Depth of stone		
Any surface waters present: yes Type: Lake Wylie Minimum separation distance: 50'+				
Site modifications required:				
Additional Conditions: easement on record for drainfield install in accordance w/ plan on file				
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	
400 Absorption Area (Sq ft) 400 Total Trench Length (Ft)	NA Depth of Stone Trench	9 Trench spacing (min. on centers)	24" 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.

Wally Randall 6-13-97
DEHNR Authorized Agent Date

Owner/Agent Signature 6/12/97
Date

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

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

.78'	S20°50'30"W	39°19'00"
.23'	S52°54'04"E	86°02'26"

Map Book 28 Page 557

file # 14368

RECEIVED

PLAT NO. REF.
PB. 17, PG. 520
DATED: 3-1-76

JAMES V. BAKER, JR. NOTARY PUBLIC MECKLENBURG COUNTY, N.C.

STATE OF NC
MECKLNBUR

I, a Notary Public
certify that JAME
surveyor, personal
acknowledged the
ment, Witness my
14th day of

My commission ex

FILED FOR REGISTRATION
AUG 14 1997
AT 13:52
JUDITH A. GIBSON
MECKLENBURG COUNTY, N. C.
REGISTER OF DEEDS

NOTE:
THIS PLAT IS OF A SURVEY THAT CREATES A SUBDIVISION
OF A COUNTY OR MUNICIPALITY THAT HAS AN ORDINANCE

James R. Hobbs L-3703

NOTE:
THIS PLAT IS NOT SUBJECT TO
OR MECKLENBURG COUNTY SU
REQUIRE THE APPROVAL OF TH
COMMISSION. HOWEVER, ANY FU
BE SUBJECT TO THESE PROVIS
CHARLOTTE MECKLENBURG PLA

PLANNING COMMISSION STAFF

CAROLINA CENTERS, LLC
DB. 7606, PG. 475
(J.F. YOUNGBLOOD)
CAT-161
D.B. 576, PG. 520
CAT-490
D.B. 3146, PG. 165

N/F
CRESCENT RESOURCES, INC.
(J.F. YOUNGBLOOD)
CAT-161, D.B. 576, PG. 520
CAT-490, D.B. 3146, PG. 165
REC. LOT 159
SECTION 43
P.B. 17, PG. 521
REF. DWG. LW-43M

S18°14'32"E 145.22'

N77°14'47"E 284.77'

S56°26'28"E 92.35'

S73°44'49"E 331.91'

S77°24'11"E 123.50'

60' R/W
MISEHOUSE ROAD

SEWER EASEMENT FOLLOWS ROAD R/W. LIMIT

P/L INTER. OF
E AT LAST LANE
ROYAL OAK RD

J.F. YOUNGBLOOD)
CAT-161
D.B. 576, PG. 520
CAT-490
B. 3146, PG. 165

10' SEWER EASEMENT FOR
ADDITION TO LOT 146
REQUEST: 91800

, LLC
5

SEWER EASEMENT
FOLLOWS ROAD R/W. LIMIT

10' SEWER EASEMENT FOR
ADDITION TO LOT 147
REQUEST: 91799

J. MILLER)
AT-334
58, PG. 446
T-490
46, PG. 165

FOR REC. LOT 147
AREA WITHIN P/O. 10' SEWER LINE
EASEMENT = 0.166 ACRE
(7,229 SQ. FT.)

FOR REC. LOT 147
ITHIN P/O. 10' SEWER LINE
SEMENT = 0.029 ACRE
(1,274 SQ. FT.)

PASSAGE WAY
60' R/W

P/L FOLLOWS ROAD R/W. LIMIT

ANG. I. (F) N80°04'22"E 132.87'

(BASE BEARING)
S28°57'00"E 183.85'

205.21' (TOTAL)

200.61' (TOTAL)

10.15'

CRESCENT
RESOURCES, INC.
(S.J. MILLER)
CAT-334
D.B. 168, PG. 446
CAT-490
D.B. 3146, PG. 165
REC. LOT 146
SECTION 43

CRESCENT
RESOURCES, INC.
(S.J. MILLER)
CAT-334
D.B. 168, PG. 446
CAT-490

CAROLINA CENTERS, LLC
DB. 7606, PG. 475
(S.J. MILLER)
CAT-334
D.B. 168, PG. 446
CAT-490
D.B. 3146, PG. 165

FOR REC. LOT 147
AREA WITHIN P/O. 10' SEWER LINE
EASEMENT = 0.029 ACRES
(1,251 SQ. FT.)

TO YOUNGBLOOD RD.

DEC OVHD
DISTRIBUTION LINE

P/L FOLLOWS ROAD R/W. LIMIT

47.61'
N82°33'13"E
125.00'

S39°21'01"E
55.66'

ADDITION TO
LOT 147
0.460 ACRE
(20,057 SQ. FT.)
REQUEST:
91799

10.00'
115.00'
125.00'
S82°33'13"W

108.88'
N07°26'47"W
125.96' (TOTAL)

S26°23'16"W 99.02'

ADDITION TO
LOT 146
0.361 ACRE
(15,727 SQ. FT.)

AREA WITHIN 10' SEWER LINE EASEMENT
FOR REC. LOT 146 = 0.165 ACRES
(7,175 SQ. FT.)

CAROLINA CENTERS, LLC
DB. 7606, PG. 475
(J.F. YOUNGBLOOD)
CAT-161
D.B. 576, PG. 520
CAT-490
D.B. 3146, PG. 165

JUDITH A. GIB
REGISTE
OF
DEEDS
MECKLENBURG CO

CERTIFIED TO BE A TRUE
COPY OF THE ORIGINAL MA
IN BOOK 28 PAGE 5
DATE: August 14
JUDITH A. GIBSON, REGIS
BY: Keith Tayl

NOTE: LOTS ARE INTENDED FO

NOTE: ALL DISTANCES ARE HO
UNLESS OTHERWISE NOTED