

14930 HUS MCGINNIS RD

02103204

1/4/2008

duponbj

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

Revised Plan
Rec 5/11/01 JSW

TONEY C. JACOBS & ASSOCIATES, INC.

Consulting Soil Scientists

Licensed by the North Carolina Board for Licensing of Soil Scientists
Certified by the American Registry of Certified Professionals in Agronomy, Crops and Soils

168 Broadbill Drive
Mooresville, NC 28117
Phone (704) 663-6905
Fax (704) 662-9845 E-mail jacobs@i-america.net

May 8, 2001

To: Mr. Philo Walker, R.S.
Mecklenburg County Health Department

From: Paul G. Penninger

RE: Chris Ebel – Hus-McGinnis Rd. lot LPP septic area revisions (MCHD file # 4296B)

On May 26, 2000 Toney C. Jacobs and Associates, Inc. designed a 3-bedroom LPP septic system for Chris Ebel. This design was permitted by the Mecklenburg County Health Department. Recently Mr. Ebel has contacted you and our company about the possibility of moving the permitted LPP septic system in an effort to save trees and the vegetative buffer directly in front of the house.

We met Mr. Ebel on the tract on April 30, 2001 to determine if it was possible to move the drainfield. The house is built and he is ready to install the system. We found several backhoe pits downslope of the permitted system and they appeared to be similar to the soil at the permitted system and provisionally suitable for a LPP septic system. After discussing the situation with you, we proceeded to lay out the revised system on May 3, 2001. The revised drainfield is still a LPP and is directly downslope of the permitted drainfield area.

Because the revised and permitted systems are very similar, we will not issue a complete revised LPP plan. This memo and attachments state the revisions that you and Mr. Ebel should be aware of. If a complete plan revision is necessary please notify me as soon as possible.

LPP SYSTEM REVISIONS

1. The revised system used 7 laterals instead of 5. The original permitted system used 5 laterals at 100 ft. The revised system will use 3 laterals at 75 ft., 2 laterals at 70 ft., and 2 laterals at 68 ft. The revised system will still only use 5 valves in the valve box. Laterals 4-5 on the revised site plan will used the same valve, and lateral 6-7 will used the same valve. It will be important that these laterals are installed with the designed head differential so each lateral receives the design flow.

2. Also the attached, revised site plans and design specifications should be used for system installation. The certified operator should also be given copies of these revisions.

3. As always, care should be taken when clearing the site for system installation. This should be done only under dry soil condition. The site shall not be graded. Any significant soil disturbance could render this revised system location unsuitable. Any minor depressions in the field area should be filled with imported topsoil and not graded level.

4. We recommend the original permitted system location be reserved as the 100% repair area on the revised permit.

5. If you or the installer have any questions or additional work is needed please call. As stated earlier, the requirements of the May 26, 2000 LPP plan are still applicable to the revised layout, unless changes are indicated by this memo or attachments. Any other changes should be approved in writing by the Mecklenburg County Health Department.

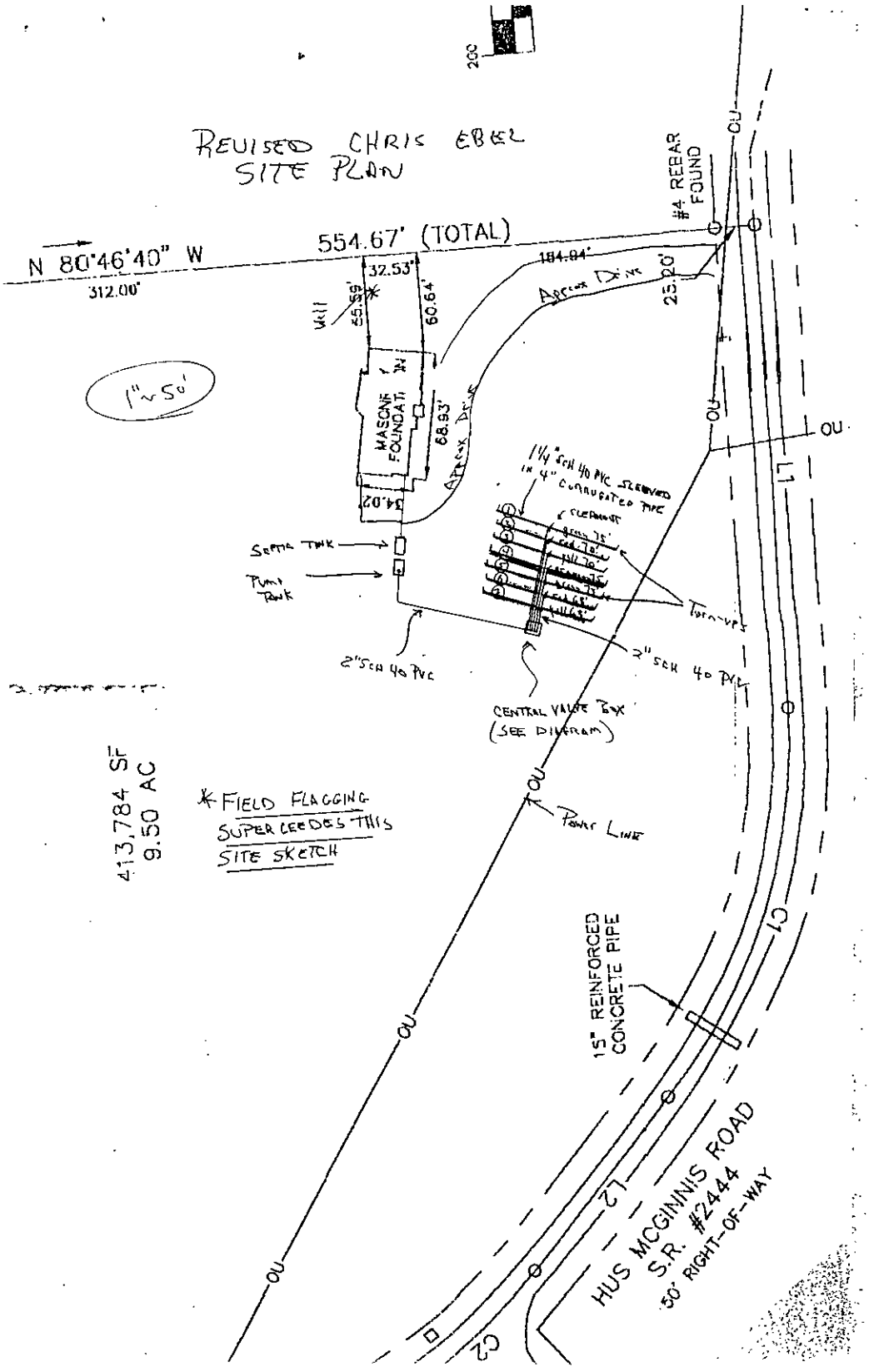
CC: Mr. Chris Ebel

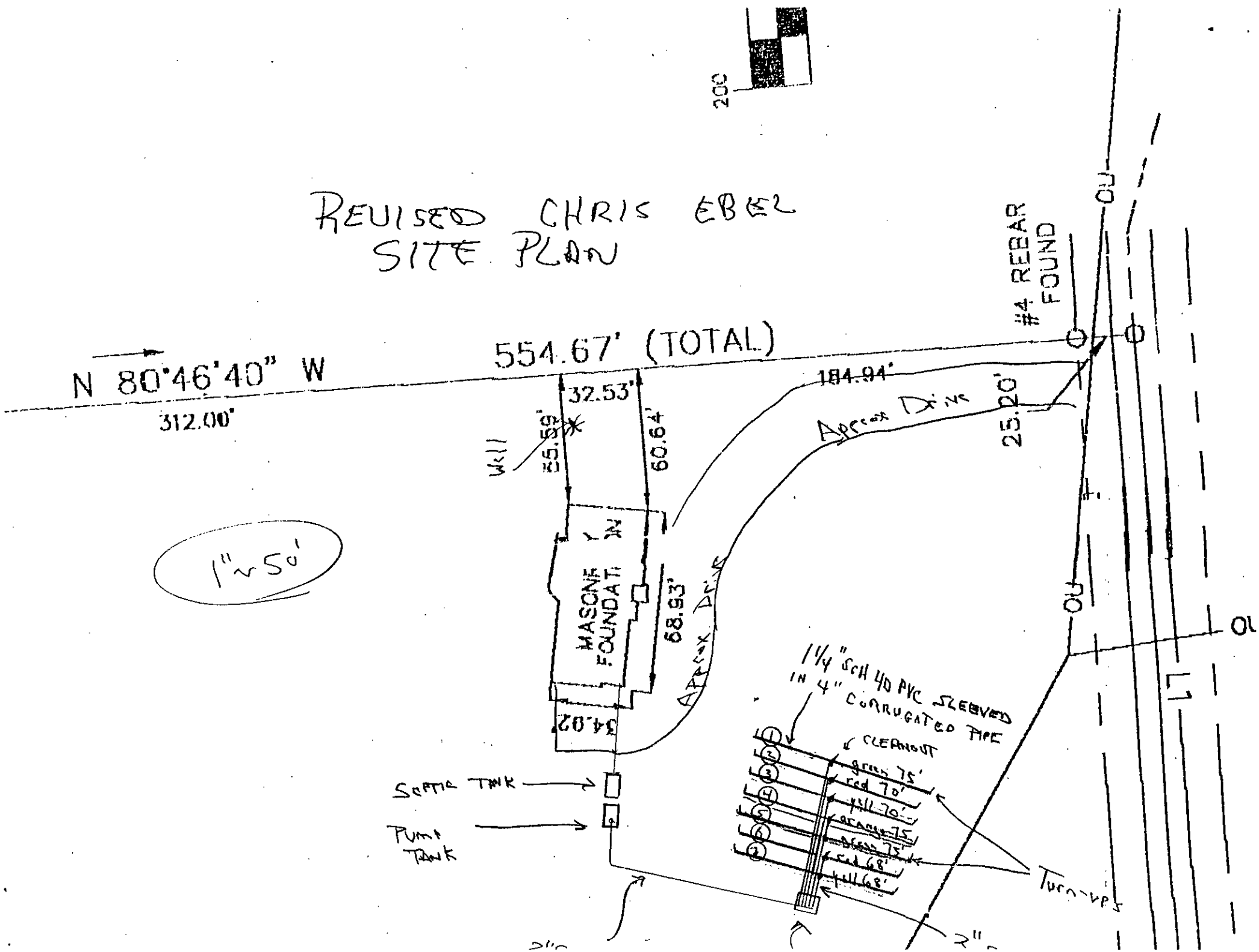
(REVISED – MAY 8, 2001)

DESIGN SPECIFICATIONS

Hus-McGinnis Road

Daily design flow:	360 gpd - 3 bedroom home
Septic tank size:	1500 gal (2 compartments)
Pumping tank size	1500 gal
Effluent loading rate:	design 0.144 gpd/ft^2
Total length and diameter of supply manifold:	approx. 325' of 2" sch 40 PVC
Number and length of laterals:	3 @ 75', 2 @ 70', 2 @ 68', center-fed, 1¼" sch 40 PVC sleeved in 4" corrugated pipe
Hole size:	5/32"
Hole spacing:	See table
Total number of holes	See table
Flow rate through the system	30.4 gpm
Elevation head:	approx. 13'
Pressure head:	2.0' – 3.0'
Friction head:	approx. 7.3'
20% contingency:	4.7'
Total head:	28'
Pump requirements:	31 gpm at 28' of head; use Goulds WE05H ½ hp pump or equivalent with compatible electrical with Simplex control
Dosing volume:	230gal. – 1.6 dose/day at design flow
Depth of water pumped per dose:	calculated to specific tank by measure or dealer engineered specifications (1 cubic ft. of water equals 7.5 gal)
Pump run dose:	approx. 7.0 min.
Check valve:	No
Siphon break hole:	No


REVISED CHRIS EBER
SITE PLAN
#4 REBAR FOUND
554.67' (TOTAL)
N 80°46'40" W
312.00'
32.53'
184.84'
25.00'
Arc Dr.
Well
55.59'
60.64'
1" = 50'
MASONRY FOUNDATION
68.93'
54.02'
Arc Dr.
1 1/4" SCH 40 PVC SLEEVED IN 4" CORRUGATED PIPE
Septic Tnk
Pump Tnk
Trench
2" SCH 40 PVC
2" SCH 40 PVC
CENTRAL VALVE BOX (SEE DIAGRAM)
OU
OU
OU
OU
Power Line
L1
C1
C2
15" REINFORCED CONCRETE PIPE
HUS MCGINNIS ROAD
S.R. #2444
50' RIGHT-OF-WAY
413,784 SF
9.50 AC
* FIELD FLAGGING SUPERCEEDES THIS SITE SKETCH


REVISED CHRIS EBEL
SITE PLAN
N 80°46'40" W
312.00'
554.67' (TOTAL)
#4 REBAR FOUND
184.94'
25.20'
32.53'
60.64'
WELL
25.59'
MASONRY FOUNDATION
68.93'
34.92'
1"=50'
SEPTIC TANK
PUMP TANK
1¼" SCH 40 PVC SLEEVED IN 4" CORRUGATED PIPE
CLEANOUT
green 75'
red 70'
yellow 70'
orange 75'
green 75'
red 68'
yellow 68'
TURN-UPS
2"
OU
OL

CHRIS EBEL- HUS MCGINNINS ROAD SEPTIC AREA LPP SPECIFICATIONS (Revised May 8, 2001)

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	green	75	4.1	3	5/32	10	7.5	0.501	5.01
2	red	70	4.5	2.8	5/32	10	7	0.484	4.84
3	yellow	70	5.2	2.6	5/32	10	7	0.466	4.66
4	orange	75	6	2.2	5/32	10	7.5	0.429	4.29
5	green	75	6.6	2.8	5/32	8	9	0.484	3.87
6	red	68	7.1	2	5/32	10	6.8	0.409	4.09
7	yellow	68	7.5	2.4	5/32	8	8.5	0.448	3.58
	Total	501						Total	30.35

CERTIFICATE OF COMPLETION/OPERATION PERMIT

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

FILE: 4296B DATE: 6/19/01
TC: 021 032 04 ☐ L ☒ CRT
SERIAL Nº 18579

Name of Owner Chris Ebel Juris.:
Address of Property 14930 Huss McGinnis Rd

Inspection Data:

Tank Material PCC
Total Length of Drainfield 501
Number of Lines 7 @ see plan
Cover Depth 6"-8"
Water Supply Source well
Distance to Water Source 100'+
Excavation Inspected 5/24/01
Tank(s) Inspected 5/24/01
Wash Line Inspected plumb to tank
High Water Alarm Inspected 6/19/01

PLOT

Design 2001, Alt, 1500ST, 1000DT, PI, 501'LPP, 9" stone Cecil CTR# McCloud Construction

The undersigned has inspected the Septic Tank System described above, and certifies it has been
☒ installed or constructed ☐ altered or repaired
☒ in accordance with the permit issued ☐ as detailed in the plot above
and meets the provisions of I5A NCAC 18A. 1900, "Laws And Rules For Sewage Treatment and Disposal Systems" in effect on the date of issuance of the permit. This issuance of this
☐ Certificate of Completion ☒ Operation Permit
does not in any way guarantee that the system will operate properly or relieve any person now or hereafter owning, controlling, or using such system from any liability resulting from the failure of the system to operate properly. This document is issued subject to those restrictions and conditions shown on the permit(s) and the provisions of I5A NCAC 18A. 1990 in addition to those listed below under "COMMENTS." This document shall be null and void if any information contained in the application is untrue or if any additions are made to the property which would increase the requirements for said system.

Notice: Disturbance of the designated repair area may result in the suspension/revocation of this permit.

COMMENTS: Septic system designed for a 3 bedroom residence
Type IVa

Philip S. Walker RS.
Environmental Health Specialist

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

INSTALLATION, CONSTRUCTION, ALTERATION, AND/OR REPAIR APPROVAL

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

FILE: 4296B DATE: 5/16/01

TC: 021 032 04 X L

SERIAL Nº 18741

Permission is hereby given to ✓ Install or Construct, _____ Alter or Repair the individual septic tank wastewater treatment system with subsurface, soil absorption, effluent discharge as specified herein at the described location. This permit is granted based upon the information supplied in the application dated 4/17/00. All work shall be completed on or before 6/16/01, after which date this permit shall be null and void. The system shall meet all of the construction requirements of I5A NCAC 18A. 1900 which are in effect on the date of the granting of this permit. A Certificate of Completion or an Operation Permit must be obtained from the Mecklenburg County Health Department before any system can be covered up or placed into service. The issuance of this permit does not in any way guarantee that the system anticipated to be constructed will operate properly, or relieve any person now or hereafter owning, controlling or using such system from any liability resulting from the failure of the system to operate properly.

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

PLOT OF SYSTEM

Liquid Capacity of Septic Tank 1500 gallons

Liquid Capacity of Dosing Tank 1000 gallons

Tank Construction PCC

Trench Depth 18"-20"

Absorption and/or Nitrification Lines:

Trench Width see plot plan feet

Trench Walls Scored and Porous _____

Total Line Length _____ feet

Number of Lines 7

Depth of Stone 9" inches

Distance from House 5' feet

Distance from Property Line 10' feet

Distance from Well >50' feet

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

NAME OF OWNER James Proctor

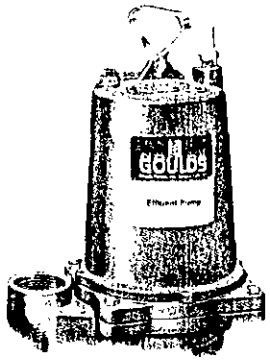
LOCATION OF PROPERTY 14930 Hus McGinnis Rd

Comments: Septic System to be installed in accordance with approved plot plan

Phil A. Walker RS.
Environmental Health Specialist

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

GOULDS PUMPS



Submersible Effluent Pump

MODEL

3885

PROSURANCE AVAILABLE FOR RESIDENTIAL APPLICATIONS.

REVISED MAY 8, 200

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.

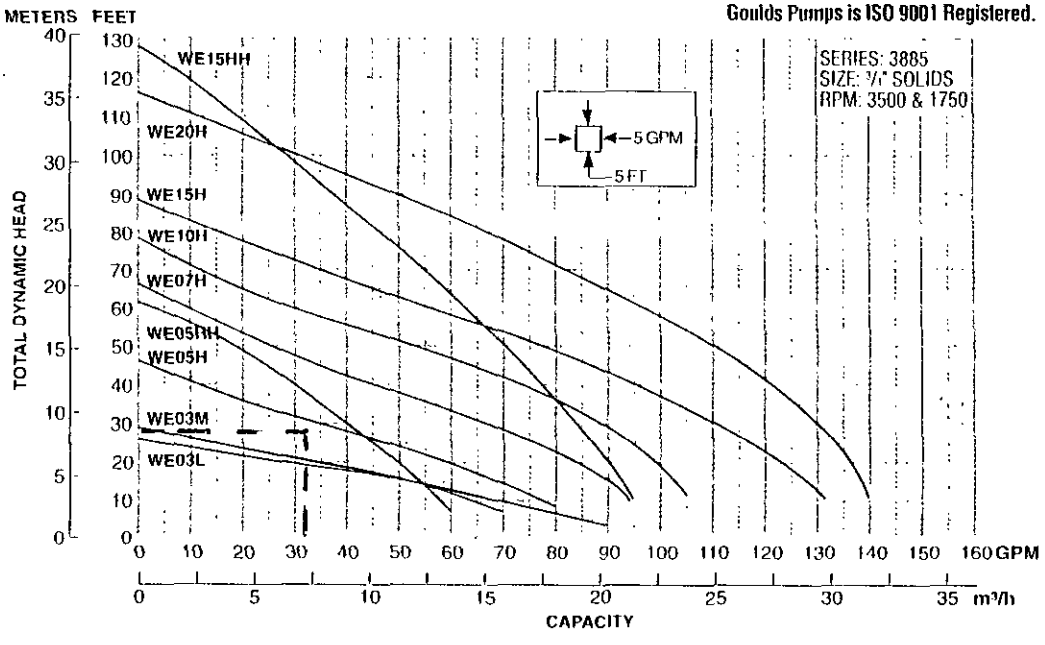
■ Consult factory for information on CSA listed models.

AGENCY LISTINGS

Canadian Standards Association File #LR38549

Underwriters Laboratories File #83318

Goulds Pumps is ISO 9001 Registered.



Goulds Pumps

ITT Industries

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Effective January, 1999
B3885

GOULDS PUMPS

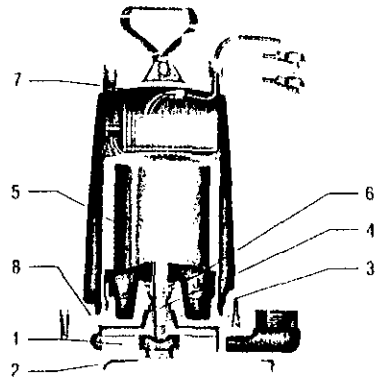
Submersible Effluent Pump

MODEL

3885

COMPONENTS

Item No.	Description
1	Impeller
2	Casing
3	Silicon carbide vs. *silicon carbide* Mechanical seal
4	Shaft
5	Motor
6	All Ball bearing heavy duty design
7	Power cable
8	*O-ring*



MODELS

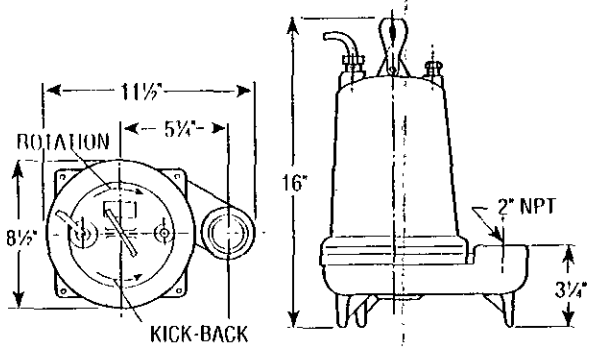
Order No.	HP	Volts*	Phase	Max. Amp.	RPM	Solids	Wt. (lbs.)	Heaters
WE0311L	⅓	115	1	9.8	1750	¼	56	N/A
WE0318L		200		5.5				
WE0312L		230		4.9				
WE0311M		115		9.8				
WE0318M		200		5.5				
WE0312M		230		4.9				
WE0511H	½	115	1	14.5	3500		60	N/A
WE0518H		200		8.1				
WE0512H		230		7.3				
WE0538H		200	3	4.1				K34
WE0532H		230		3.3				K32
WE0534H		460		1.7				K23
WE0511HH		115	1	14.5				N/A
WE0518HH		200		8.1				
WE0512HH		230		7.3				
WE0538HH		200	3	4.1				K34
WE0532HH		230		3.6				K33
WE0534HH		460		1.8				K23
WE0718H	¾	200	1	11.0			70	N/A
WE0712H		230		10.0				
WE0738H		200	3	6.2				K49
WE0732H		230		5.4				K39
WE0734H		460		2.7				K28
WE1018H	1	200	1	14.0				N/A
WE1012H		230		12.5				
WE1038H		200	3	8.1				K50
WE1032H		230		7.0				K43
WE1034H		460		3.5				K32
WE1518H	1½	200	1	17.5			50	N/A
WE1512H		230		15.7				N/A
WE1538H		200	3	10.6			80	K54
WE1532H		230		9.2				K52
WE1534H		460		4.6				K36
WE1518HH		200	1	17.5				N/A
WE1512HH		230		15.7				N/A
WE1538HH		200	3	10.6				K54
WE1532HH		230		9.2				K52
WE1534HH		460		4.6				K36
WE2012H	2	230	1	18.0			83	N/A
WE2038H		200	3	12.0				K55
WE2032H		230		11.6				K55
WE2034H		460		5.8				K41

PERFORMANCE RATINGS *(gallons per minute)*

Order No.		WE03L	WE03M	WE05H	WE07H	WE10H	WE15H	WE05HH	WE15HH	WE20H
	HP	⅓	⅓	½	¾	1	1½	½	1½	2
	RPM	1750	1750	3500	3500	3500	3500	3500	3500	3500
Total Head Feet of Water	5	86	–	–	–	–	–	–	–	–
	10	70	65	78	94	–	–	56	95	140
	15	58	58	70	90	103	128	53	93	138
	20	30	35	60	85	98	123	50	90	136
	25	5	15	48	76	94	117	45	87	133
	30	–	–	35	67	88	111	40	84	130
	35	–	–	23	57	82	103	35	82	126
	40	–	–	12	45	74	95	30	77	121
	45	–	–	–	35	64	86	25	74	116
	50	–	–	–	25	53	77	18	70	110
	55	–	–	–	17	42	67	12	66	104
	60	–	–	–	9	30	56	3	63	97
	65	–	–	–	–	20	46	–	58	90
	70	–	–	–	–	11	35	–	55	83
	75	–	–	–	–	4	25	–	51	75
	80	–	–	–	–	–	15	–	47	66
	90	–	–	–	–	–	–	–	37	51
	100	–	–	–	–	–	–	–	28	30
	110	–	–	–	–	–	–	–	17	10
	120	–	–	–	–	–	–	–	8	–

DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)



EFFLUENT EJECTOR SYSTEM

Effluent ejector system offers ease of ordering and installation. A single *ordering number specifies* a complete system designed for most residential and commercial sump and effluent pump applications.



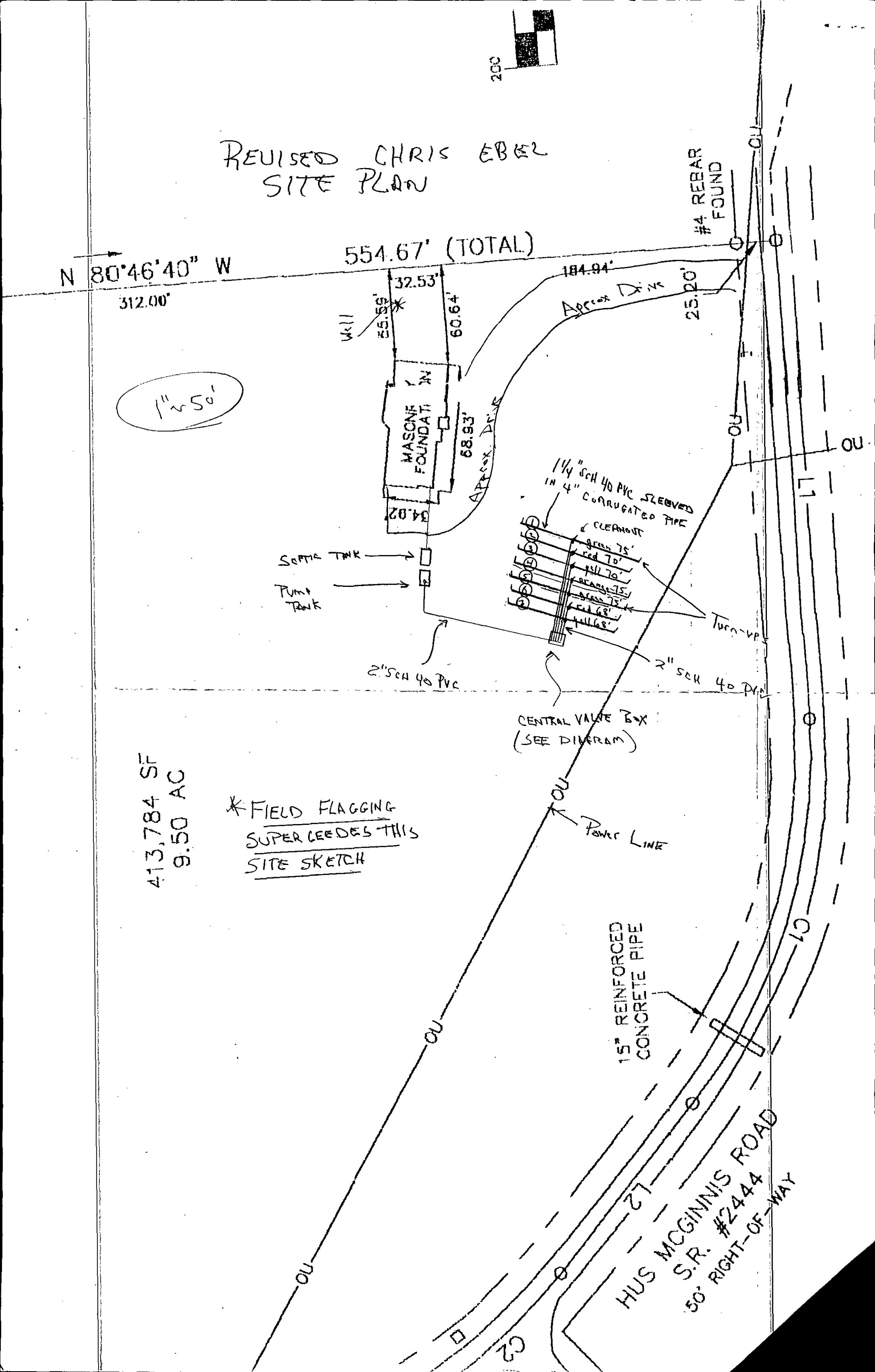
Package Includes:
Submersible Effluent Pump WE0311L, 12L or WE0311M, 12M, WE0511HH, 12HH
Mechanical Level Control Switch
A2-5 (115V), A2-6 (230V)
Basin and Cover A7-1830P
Check Valve A9-2P
Order No.: SWE0311L, SWE0312L, SWE0311M, SWE0312M, SWE0511HH, SWE0512HH.

Goulds Pumps

ITT Industries

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

REVISED CHRIS EBER SITE PLAN



413,784 SF
9.50 AC

* FIELD FLAGGING SUPERCEEDES THIS SITE SKETCH

CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C1	328.00'	249.91'	243.91'	N 30°11'04" E	43°39'20"
C2	336.00'	119.06'	118.44'	N 61°02'52" E	20°18'11"
C3	213.00'	88.66'	88.02'	N 83°07'26" E	23°50'36"

LINE	DIRECTION	DISTANCE
L1	N 08°21'24" E	280.52'
L2	N 50°53'47" E	132.74'
L3	N 71°11'58" E	120.75'
L4	S 84°57'05" E	2.45'

NOTE

THIS PROPERTY MAY BE SUBJECT TO EASEMENTS AND OR RIGHTS-OF-WAY EITHER RECORDED OR IMPLIED

THE CALCULATED RATIO OF PRECISION OF THE FIELD SURVEY IS 1:10,000+ BEFORE ADJUSTMENTS

CENTERLINE OF ROAD BOUNDARY CALLS ARE BASED UPON FIELD LOCATION OF EXISTING PAVEMENT

P.K. NAILS SET AT ALL PROPERTY CORNERS IN CENTERLINE OF ROAD

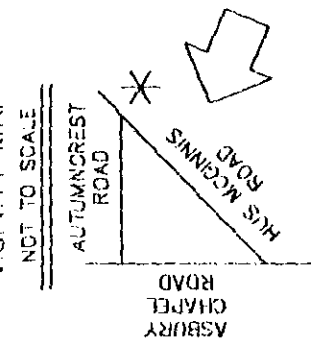
REVISED 11/15/00 TO SHOWN HOUSE LOCATION

LEGEND

- ○ PROPERTY CORNER
- ☎ TELEPHONE PEDESTAL
- OU OVERHEAD UTILITY

VICINITY MAP

NOT TO SCALE



BOUNDARY SURVEY
OF
9.50 ACRES
ON HUS MCGINNIS ROAD
CITY OF HUNTERSVILLE,
MECKLENBURG COUNTY,
NORTH CAROLINA
DEED REFERENCE:
DEED BOOK 5710 PAGE 871
SURVEYED FOR:
CHRISTOPHER J. EBEL,
AND WIFE, KRISTY A.
DATE: JUNE 15, 2000
FILE: 00051 REV: 1

JR LAND SURVEYING
11575 HIGHWAY 73 EAST
MT PLEASANT, NC 28124
PHONE: (704) 425-5711
FAX: (704) 425-6642

* CHRIS EBEL Lot SURVEY

NORTH CAROLINA PROFESSIONAL SEAL L-3609 LAND SURVEYOR ROBERT B. JANVERSON

Robert B. Janverson

GRAPHIC SCALE

100 0 50 100 200

(IN FEET)

1 inch = 100 ft.

REVISED MAY 8, 2001

NOW OR FORMERLY DAVID A. THOMPSON, AND WIFE, SUZANNE S. DEED BOOK 5107 PAGE 81

NAIL IN STONE FOUND

N 80°46'40" W 554.67' (TOTAL)

312.00'

#4 REBAR FOUND

#5 REBAR FOUND

S 48°31'16" W 317.80'

S 20°49'50" E 326.16'

505.58' (TOTAL)

268.78'

1"=100'

32.53'

55.58'

60.64'

184.91'

ARMOX DRIVE

25.20'

MASONRY FOUNDATION

68.83'

34.8X

OLD SYSTEM AREA

REVISED SYSTEM AREA

* FIELD STAKING SUPERCEEDES SITE PLAN

413,784 SF
9.50 AC

OU

L1

#5 REBAR FOUND

DEED BOOK 5107 PAGE 81

NOW OR FORMERLY DAVID A. THOMPSON, AND WIFE, SUZANNE S. DEED BOOK 5107 PAGE 81

LANDMARK TIE P.K. NAIL FOUND

S 74°44'00" E 310.04'

#4 REBAR SET

26.37'

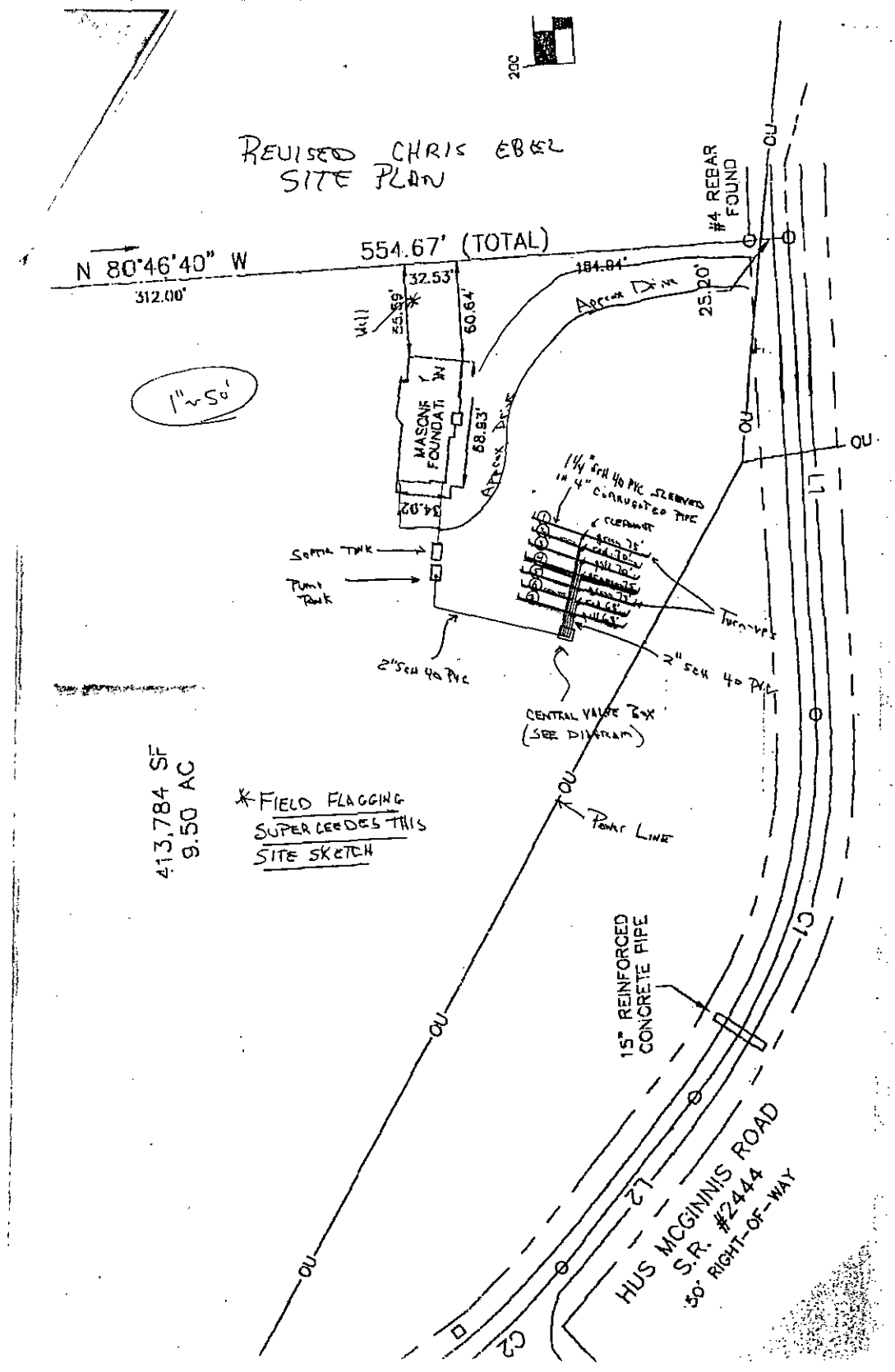
EDGE OF PAVEMENT

L2 L3 C3 C2 C1

15" REINFORCED CONCRETE PIPE

HUS MCGINNIS ROAD S.R. #2444 50' RIGHT-OF-WAY

AUTUMNCREST ROAD


REVISED CHRIS EBER
SITE PLAN
#4 REBAR FOUND
N 80°46'40" W
554.67' (TOTAL)
312.00'
32.53'
184.84'
25.20'
60.64'
Approx Drive
MASONRY FOUNDATION
68.83'
24.02'
1" = 50'
1¼" SCH 40 PVC SLEEVED IN 4" CORRUGATED PIPE
6' CLEARANCE
SEPTIC TANK
PUMP TANK
Transverse
2" SCH 40 PVC
2" SCH 40 PVC
CENTRAL VALVE BOX (SEE DIAGRAM)
413,784 SF
9.50 AC
*FIELD FLAGGING SUPERCEEDES THIS SITE SKETCH
OU
Power Line
15" REINFORCED CONCRETE PIPE
HUS MCGINNIS ROAD
S.R. #2444
50' RIGHT-OF-WAY
L1
L2
C1
C2

ACS

FEE: _____ **AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION** Pd $100.00 2nd site visit 1116 6/5/01

DATE: _____ **VOID SIXTY (60) MONTHS FROM DATE OF ISSUANCE**

DATE: 5/11/01 PERMIT NO: 4296B

PARCEL NO: 021 032 04

JOB LOCATION ADDRESS: 14930 Huss McGinnis Rd

PROPERTY OWNER: Chris Ebel

BUILDING CONTRACTOR: -

SUBDIVISION NAME: -

AUTHORIZATION ISSUED BY: Rhita S Walker R.S. DATE: 5/11/01

DEHNR AUTHORIZED AGENT

AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NO. 4296B, 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: See Condition of Improvement Permit

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

Permit Number: 4296B

CONDITIONS OF IMPROVEMENT PERMIT
Revised Plot Plan

Tax Number: 021 032 04

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	
.13 Long-term acceptance rate	360 Max gallons/day wastewater flow	2500 Absorption Area (sq ft)	5" Trench spacing (min. on centers)	
Yes Serviced by private well	1500 Gallon septic tank	501 Total trench length (ft)	24" Maximum trench depth (At least 12" of provisionally suitable soil must remain between trench bottom and unsuitable soil conditions)	
3 Bedrooms in residence	1000 Gallon pump tank	12" Depth of stone		
Any surface waters present: NO Type:		Minimum separation distance:		
Site modifications required:				
Additional Conditions: Install septic system in accordance w/ plot plan revisions. Certified Operator contract shall be on file before Operations Permit release.				
Repair Area System Type See plot plan 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	
___ Absorption Area (Sq ft) ___ Total Trench Length (Ft)	___ Depth of Stone Trench	___ Trench spacing (min. on centers)	___ 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.

Philo S. Walker RS. 5/11/01
DEHNR Authorized Agent Date

× _____
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

file 1396B

MacLeod Construction
PO Box 864
Denver, NC 28037
1-704-483-3580

Inspection and Maintenance Agreement
For
Mecklenburg County, North Carolina

This agreement is made and entered into this 19 day of June, by and between Chris Ebel (hereinafter the "Owner") and Robert L MacLeod (hereinafter the "Contractor").

Whereas, the owner owns or controls the property upon which a ground absorbtion sewage treatment system (hereinafter "System") is installed, such System being designated a Type IV System under the rules for Sanitary Sewage Collection, Treatment, and Disposal found at 15A NC Admin. Code 18A.1900 et seq.; and

Whereas, 15A NC Admin. Code 18A.1961 requires a contract to be executed between the System owner and a management entity prior to the issuance of an Operation Permit for said System: and requires that a condition of the Operation Permit for said System be that a properly executed contract between the System owner and a management entity shall be in effect for as long as the System is in use: and

Whereas the Contractor is a management entity of a type authorized by the Code to manage a Type IV System.

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

1. The Contractor's Obligations: The Contractor shall perform the following services on the Owner's System located 14930 Hus Mcginnis Rd.

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

b. The Contractor shall perform the following routine maintenance procedures in accordance with the conditions of the operations permit:
   1. Pressure checks the System.
   2. Check appropriate valves and fittings.

c. The Contractor shall report the results of his inspections to the Mecklenburg County Health Department at the frequency specified in Table V (b) of 15A NC Admin. Code 18A1961(b) for a Type IV System.

d. If an inspection indicates the need for System repairs, the Contractor shall notify the Mecklenburg County Health Department within 48 hours of the inspection.

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

f. The Contractor shall respond to a request for a nonscheduled service or maintenance call within 48 hours after the receipt of such a request.

2. The Owner's Obligations:

a. The Owner shall pay the Contractor the sum of $500.00 per year for periodic inspections, routine maintenance and periodic reports. The annual fee may be amended upon 60 days advance notice to the Owner but may not be increased more than the equivalent of 6% per year. The Owner shall pay the Contractor his normal and customary fees for any work performed and the System as a result of nonscheduled service or maintenance calls. **Billing for maintenance will be 6 months in advance.** All fees are due and payable within 30 days of billing. Payments due and unpaid after 30 days shall accrue interest from the due date until paid at a rate of 1.5% per month.

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

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

3. Term:

This Agreement shall remain in effect until terminated.

a. Automatic termination will occur if the Operation Permit for this System is revoked and all appeals of the revocation are exhausted or time for taking an appeal has passed.

b. Termination by mutual consent will occur if both parties agree to terminate by giving notice of termination by mutual consent to the Mecklenburg County Health Department 30 days in advance of the termination.

c. Termination by the Owner will occur if the Owner gives notice to the Contractor and the Mecklenburg County Health Department 30 days in advance of the date of termination.

d. Termination by the Contractor will occur for cause if the Contractor gives written notice to the Owner and Mecklenburg County Health Department 30 days in advance of the date of termination. Cause shall be defined as:

1. Failure to remit payment as outlined in paragraph 2a.
2. Failure to provide to the Contractor authorization to complete repairs or proof of completion by another entity as outlined in paragraph 2b.
3. Failure of the Owner to provide access to the System as outlined in paragraph 2c.

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

4. Assignment:

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

b. Assignment by the Contractor. The Contractor may assign its rights and duties under this Agreement to another management entity, which is qualified pursuant to 15A NC Admin. Code 18A.1961 to manage a Type IV System upon 30 days written notice to the owner and to Catawba County Health Department.

5. Notice:

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

Owner: Chris Ebel
Fax: 704-455-8232
14930 Hus McGinnis Rd.
Huntersville, NC 28078

Contractor: Robert L MacLeod
MacLeod Construction, Inc.
PO Box 864
Denver, NC 28037

Health Dept: Mecklenburg Environmental Health Dept.
Fax: 704-336-6498
700 North Tryon St.
Suite 211
Charlotte, NC 28202

6. Entire Agreement and Amendment:

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

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

Owner _____

Attest _____

Contractor _____

Attest _____

Builders FirstSource

7770 Caldwell Road
Harrisburg, NC 28075
Phone 704-455-6444
Fax 704-455-8232

Facsimile Transmittal

Date 19-JUNE-01

To E.P.A. DEPARTMENT Fax # 704 336 6498 6894

From CHRISTOPHER J. EBEL Fax # _____

Ref RELEASE OF HOLD Pages 4

Comment

CALL IF YOU HAVE ANY QUESTIONS

FOR REGISTRATION JUDITH A. GIBSON
REGISTER OF DEEDS
MECKLENBURG COUNTY, NC
2000 JUN 27 12:07 PM
BOOK:11379 PAGE:886-889 FEE:$12.00
INSTRUMENT # 2000089379

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

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

FILE # _____
PARCEL # 02103204

The undersigned, CHRISTOPHER J & KRISTY A. EBEL, owner of property located at 14930 HWY McGINNIS RD., (the "site") and described in an instrument recorded in Book 5710 at Page 671, Mecklenburg Public Registry, hereby acknowledges that the undersigned applied to the Mecklenburg County Health Department (the "Department") for a permit to install a septic tank sewage disposal system on the site; that the Department evaluated the site for suitability for such a system in accordance with the regulations promulgated by the North Carolina Commission for Health Services as 15A NCAC 18A .1900 et seq.; that the Department originally classified the site as "unsuitable" pursuant to the standards set forth in the regulations; that the undersigned requested that the Department reclassify the site as "provisionally suitable" in light of the particular septic tank system proposed by the undersigned; that the Department considered various studies, data, and other information which indicate to the Department that the septic tank system proposed by the undersigned is allowed by the rules; and that the Department therefore reclassified the site as "provisionally suitable" and issued an appropriate permit for such proposed septic tank system.

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

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

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

This instrument was prepared by: _____
Mail after recording to: 7528 HENDERSON PARK RD
HUNTERSVILLE, NC 28078

FEE: 200.00
DATE: 4/17/00 for Cash

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

[ ] CRT

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 #: 429(B

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION:

TAX/PARCEL NUMBER: 021-032-04

STREET ADDRESS: Hus McGinnis Rd

SUBDIVISION OR MOBILE HOME PARK NAME:

LOT NUMBER:

TOWNSHIP (CHECK ONE):

✓ 0 MECKLENBURG
__ 1 CHARLOTTE
__ 2 DAVIDSON
__ 3 CORNELIUS
__ 4 PINEVILLE
__ 5 MATTHEWS
__ [illegible]VILLE
__ 7 MINT HILL

CLOSING DATE_____

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: 2000

NUMBER OF BEDROOMS: 3 NUMBER OF OCCUPANTS: 3

FOUNDATION FOR RESIDENCE:

__ WITHOUT BASEMENT
__ ON SLAB
__ CRAWL SPACE
✓ WITH BASEMENT /PLUMBING
__ WITH BASEMENT /NO PLUMBING

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

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

WATER SUPPLY (CHECK ONE):

__ COMMUNITY (C)
__ MUNICIPAL (M)
✓ 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 ✓ NO
EXISTING WASTEWATER SYSTEMS __ YES ✓ NO
EASTMENTS OR RIGHT-OF-WAYS __ YES ✓ NO
WELL, SPRINGS OR WATERLINES __ YES ✓ NO
DESIGNATED WETLANDS __ YES ✓ NO

PROPERTY OWNER:	LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:
NAME: PROCTOR James A (LAST) (FIRST) (MI)	NAME: (LAST) (FIRST) (MI)
ADDRESS: 1515 Hus McGinnis Rd	DAYTIME PHONE: ( ) —
CITY: Huntersville STATE: NC ZIP: 28078	
DAYTIME PHONE: 704 -586-7371	

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? 1973

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: James A Proctor DATE: 4/17/00

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

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

Sheet: _____

Property ID: PO 021-032-04

Lot #: _____

File #: 4296B

#2

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: James A. Prater APPLICANT: _____

ADDRESS: 15 115 Hwy 64 Turner Road, Hendersonville DATE EVALUATED: 5-5-00

PROPOSED FACILITY: residence PROPOSED DESIGN FLOW (.1949) 360 gpd PROPERTY SIZE: .5 ac.

LOCATION OF SITE: Hwy 64 Turner Road PROPERTY RECORDED: _____

WATER SUPPLY: ☑Private ☐Public ☐Well ☐Spring ☐Other _____

EVALUATION METHOD: ☐Augur Boring ☐Pit ☐Cut

TYPE OF WASTEWATER: ☐Sewage ☐Industrial Process ☐Mixed

PROFILE #	1940 Landscape Position/ Slope % (Slope 5-10%)	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	LS	0-24"	gr/sl	Fr/SE/Pl SS/SP	2.5Y 7/1 @ 24"	41"	N/A	None	US III LPP .15 gpd/ft²
		24-41"	SBK/sc	Fr/SE/Pl SS/SP					
2	LS	0-15"	gr/sl	Fr/SE/Pl SS/SP	2.5Y 3/2 @ 29"	61"	US	None	US III LPP .15 gpd/ft²
		15-41"	SBK/scl	Fr/SE/Pl SS/SP					
		41-61"	M/sl	Fr/SE/Pl NS/NP					
3	LS	0-8"	gr/sl	Fr/SE/Pl NS/NP	7.5YR 5/8 10YR 6/1 WCTMSI	49"	US	None	III .30 gpd/ft² PS
		8-36"	WK SBK/scl	Fr/SE/Pl SS/SP					
		36-49"	M/sl	Fr/SE/Pl NS/NP					
4	LS	0-4"	gr/sl	Fr/SE/Pl NS/NP	2.5Y 7/1 @ 34"	36"	N/A	None	III .15 gpd/ft² LPP US
		4-36"	WK SBK/scl	Fr/SE/Pl SS/SP					
5	LS	0-10"	gr/sl	Fr/SE/Pl NS/NP	2.5Y 7/2 @ 23"	21"	US	None	III US
		10-21"	SBK/scl	Fr/SE/Pl SS/SP					
		21-46"	M/sl	VF/SE/Pl NS/NP					
6	LS	0-12"	gr/sl	Fr/SE/Pl NS/NP	2.5Y 7/1 @ 29"	44"	N/A	None	III US .15 gpd/ft² LPP
		12-44"	SBK/scl	Fr/SE/Pl SS/SP					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	0.5	0.5
System Type(s)		
Site LTAR	.15 gpd/ft² LPP	.15 gpd/ft² LPP

OTHER FACTORS (.1946): _____

SITE CLASSIFICATION (.1948): Recommended

EVALUATED BY: W.R. Wells LSS - 5-12-00

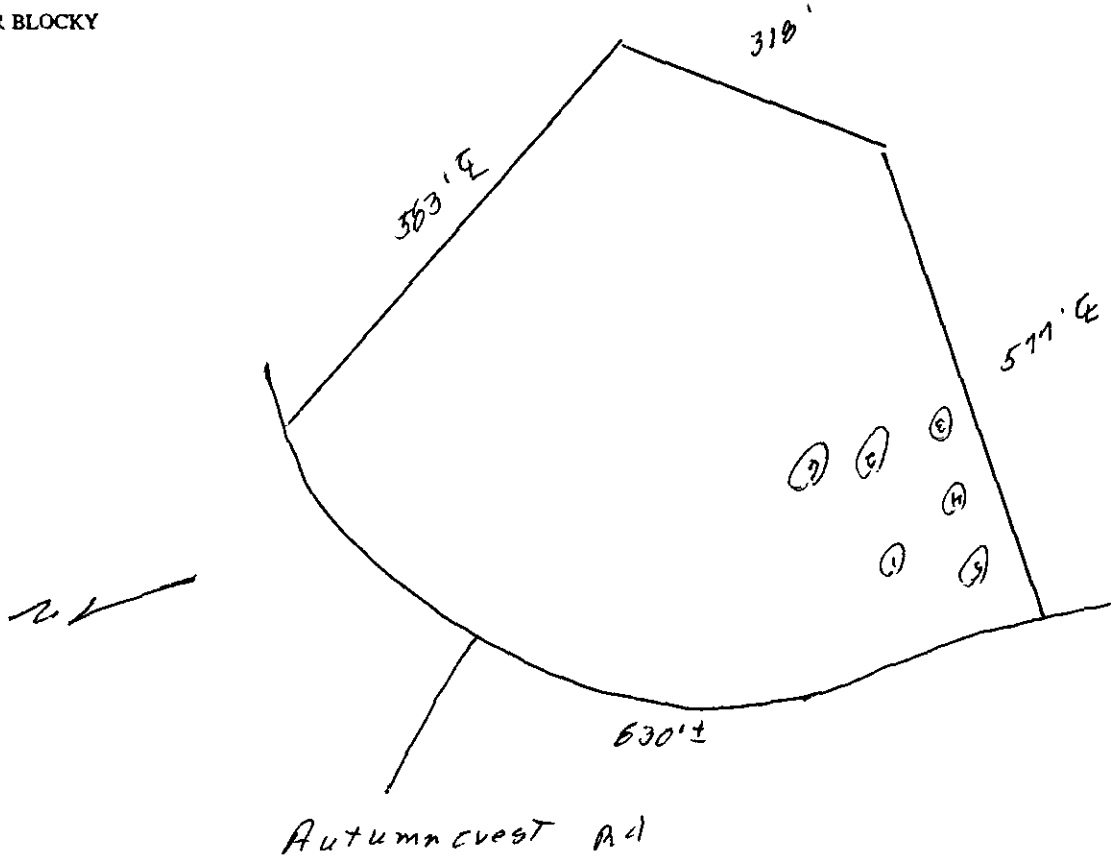
OTHER(S) PRESENT: _____

FILE # 43961

COMMENTS Probably would not be WWT Depen

LANDSCAPE POSITION	GROUP	TEXTURE	.1955 LTAR	CONSISTENCE MOIST	CONSISTENCE WET
R-RIDGE	I	S-SAND	1.2-0.8		
S-SHOULDER SLOPE		LS-LOAMY SAND		VFR-VERY FRIABLE	NS-NON-STICKY
L-LINEAR SLOPE				FR-FRIABLE	SS-SLIGHTLYSTICKY
FS-FOOT SLOPE	II	SL-SANDY LOAM	0.8-0.6	FI-FIRM	S-STICKY
N-NOSE SLOPE		L-LOAM		VFI-VERY FIRM	VS-VERY STICKY
H-HEAD SLOPE				EFI-EXTREMELY FIRM	NP-NON-PLASTIC
CC-CONCLAVE SLOPE	III	SI-SILT	0.6-0.3		SP-SLIGHTLYSTICKY
CV-CONVEX SLOPE		SICL-SILTY CLAY LOAM			P-PLASTIC
T-TERRACE		CL-CLAY LOAM			VP-VERY PLASTIC
FP-FLOOD PLAIN		SCL-SANDY CLAY LOAM			
	IV	SC-SANDY CLAY	0.4-0.1		
		SIC-SILTY CLAY			
		O-ORGANIC			

STRUCTURE	MINERALOGY
SG-SINGLE GRAIN	SLIGHTLY EXPANSIVE
M-MASSIVE	
CR-CRUMB	EXPANSIVE
GR-GRANULAR	
SBK-SUBANGULAR BLOCKY	
ABK-ANGULAR BLOCKY	
PL-PLATY	
PR-PRISMATIC	



MECKLENBURG COUNTY HEALTH DEPARTMENT
Environmental Health Fees

Requestor (please print): Jamie Proctor Phone #: Date Requested: 4.17.08 Date Filled:

Account Name: James A Proctor Cash Charge Account No.:

I certify that I am authorized to charge this account for this service:

Signature: Printed Name: Date:

T.C.	Qty	Description	Unit Cost	Total Cost
0701	3	Improvement Permit Application - Residential	$ 200.00	600-
0735		Improvement Permit Application - Commercial	$ 400.00	
0702		Optional Site Evaluations	$ 100.00	
0703		Installation and Final Approval	$ 150.00	
0704		Change in Plot Plan	$ 100.00	
0705		MH Exc/Add/Repl without System Modification	$ 100.00	
0706		MH Exc/Add/Repl with System Modification	$ 300.00	
0707		Site Consultation Visit	$ 100.00	
0734		Authorization for Wastewater System Construction	$ 150.00	
0708		Realty Closing - Conventional	$ 85.00	
0709		Realty Closing - FHA with water	$ 135.00	
0710		Additional Trips	$ 65.00	
0711		Well Water Analysis-Bacteriological with regular parameters	$ 50.00	
0712		Well Water Analysis -Nitrates and Nitrites	$ 15.00	
0714		Well Water Analysis - Organic Analysis	$ 200.00	
0715		Admin. Fee - Field Activity Letter	$ 25.00	
0718		Residential Pool Permit	$ 50.00	
0719		Public Pool Permit - operating	$ 240.00	
0720		Seasonal Pool Permit - operating	$ 120.00	
0736		Pool Late Fee	$ 120.00	
0733		Permit to Construct a Public Pool	$ 200.00	
0721		Home Day Care Evaluation and Permit	$ 70.00	
0722		Home Day Care Evaluation and Annual Fee	$ 40.00	
0723		Eval and Report Non-Permit Facility	$ 50.00	
0724		Private Pool Testing	$ 15.00	
0731		Garbage Hauler Permit - (1-9 vehicles)	$ 30.00	
0736		Garbage Hauler Permit - (each over 9)	$ 20.00	
0725		Document Copies	$ 0.05	

Payment received by: Date: Total:

4145 McGinnis Rd.

4/2000

White-AUDIT Canary-CUSTOMER Pink-DIVISION

ck# 3463

FEE: 300 AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION
DATE: 6/28/00 VOID SIXTY (60) MONTHS FROM DATE OF ISSUANCE

DATE: 6-6-00 PERMIT NO: 4296B

PARCEL NO: 021-032-04

JOB LOCATION ADDRESS: 14930 Hus McGinnis Rd

PROPERTY OWNER: Chris Ebel

BUILDING CONTRACTOR:

SUBDIVISION NAME:

AUTHORIZATION ISSUED BY: L B Thompson Jr. R.S. DATE: 6-6-00
DEHNR AUTHORIZED AGENT

AUTHORIZATION CONDITIONS

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4. OTHER CONDITIONS: See Conditions of Improvement Permit

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X _____ X 28-JUNE-00
SIGNATURE OF OWNER/OWNER'S REPRESENTATIVE DATE

Permit Number 4296B

CONDITIONS OF IMPROVEMENT PERMIT

Tax Number 021-032-04

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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	
.144 Long-term acceptance rate	360 Max gallons/day wastewater flow	2500 Absorption Area (sq ft)	5' Trench spacing (min. on centers)	
Yes Serviced by private well	1500 Gallon septic tank	500 Total trench length (ft)	12" Maximum trench depth (At least 12" of provisionally suitable soil must remain between trench bottom and unsuitable soil conditions)	
3 Bedrooms in residence	1500 Gallon pump tank	9" Depth of stone		
Any surface waters present:	Type:	Minimum separation distance:		
Site modifications required:				
Additional Conditions: - Agreement forms required - Certified Operator Required / Maintenance contract needed before OP can be issued. - Nema 4x Simplex Control Panel w/alarm required - System Must be operated and pressure heads adjusted before OP will be issued.				
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	
2500 Absorption Area (Sq ft) 500 Total Trench Length (Ft)	9" Depth of Stone Trench	5' Trench spacing (min. on centers)	12" 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.

DEHNR Authorized Agent — Date 6-6-00

Owner/Agent Signature — Date 28 JUNE 00

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

Mecklenburg County
Health Department
Conditions of Improvement Permit

File Number: 4296B
Site Address: Hus McGinnis Road, tax parcel # 021-032-04

1. The permitted system is a Type IVa low-pressure pipe (LPP) wastewater treatment and disposal system and requires ongoing maintenance. A maintenance contract must be executed between the system owner and a private certified operator before an Operation Permit can be issued. It is a condition of the Operation Permit that a maintenance contract shall be in effect for as long as the system is in use. It is also a requirement that subsequent owners of the system shall execute such a contract.
2. The system will require a single phase, simplex control panel with alarm. The control panel must have a Nema 4x weather proof rating.
3. Septic and pump tanks must be installed in an area that is not subject to vehicular traffic. Final cover over both tanks must be less than 3 feet to prevent the need for State approved reinforced tanks.
4. Drain lines must be installed on contour. Trench bottoms shall be constructed as level as possible but in no case shall the fall in a single trench bottom exceed one-fourth inch in 10 feet.
5. Any changes in the site must be pre-approved by the Mecklenburg County Environmental Health Department.
6. The wastewater treatment and disposal drain field area, including the designated repair areas, shall not be used for any of the following:

   - Grading or filling
   - Parking or driving heavy equipment in the area or subjecting the site to possible soil compaction
   - Construction staging area
   - Installation of lawn irrigation components
   - Installation of underground utilities or cables of any type
   - Burial of any debris or material
   - Utilizing the area for gravesites
   - Diversion of storm water runoff into this area

7. Septic system installer must be registered with Mecklenburg County prior to meeting for the required pre-construction conference.
8. System installer will be required to operate the system at the time of the final inspection. Arrangements must be made to have the pump tank filled with water prior to the requested final inspection. The required pressure heads will be adjusted at the time of the final inspection.
9. The system owner shall have the contents of the septic tank checked, and the contents of the tank removed, periodically from all compartments, to ensure proper operation of the system. The contents of the septic tank shall be pumped whenever the solids level is found to be more than 1/3 of the liquid depth in any compartment.
10. All septic tank riser and effluent filter rules will apply to this system. It is strongly recommended that access risers be added to both ends of the septic tank, extending to at least finish grade. This will allow periodic inspection of the solids level in the tank as well as help facilitate the periodic cleaning of the effluent bio-filter.
11. The local Health Department is required, by the State, to perform system reviews of Type IVa systems at a minimum of once every 3 years. The owner of the system is responsible for paying any inspection fees, as determined by the Board of County Commissioners, at the time of the required inspection.

Owner/Agent Signature _____ **Date** 28-JUNE-00

PEOPLE • PRIDE • PROGRESS

Environmental Health Division

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

File Copy

VOID
see - Revised Plot Plan

RESIDENTIAL LOW PRESSURE PIPE SYSTEM
FOR
SUBSURFACE WASTEWATER DISPOSAL
HUS-MCGINNIS ROAD
HUNTERSVILLE, NORTH CAROLINA

MCHD File #4296B

14930 Huss Mc Ginnis Rd

Prepared for
Mr. Chris Ebel
7528 Henderson Park Road
Huntersville, NC 28078

Prepared by
Toney C. Jacobs & Associates, Inc.
168 Broadbill Drive
Mooresville, NC 28117
ofc (704)663-6905
fax (704)662-9845
e-mail jacobs@i-america.net

May 26, 2000

LICENSED SOIL SCIENTIST
PAUL G. PENNINGER
1065
STATE OF NORTH CAROLINA

To: Mr. Larry Thompson, R.S.
MCHD – IWWS
North Tryon Street
Charlotte, NC

Paul G. Penninger, LSS

BACKGROUND

The proposed system would serve a new 3-bedroom home on the approximately 10 acre tract. Mr. Bill Marlin of the Mecklenburg County Health Department evaluated the site on May 5, 2000 and found the front right corner to be generally provisionally suitable for a low pressure pipe (LPP) septic system. Average soil depth was 24" and the recommended LTAR was 0.15 gpd/ft^2. Mr. Marlin used backhoe pits for his evaluation.

The buyer, Mr. Chris Ebel met Toney C. Jacobs & Associates on the site May 18, 2000 to discuss the proposed house location and the area of approved soil. On May 18 TCJ & Assoc. field flagged the LPP lines and gathered the information necessary to design the system. The property was recorded in 1973, so the 100% repair is not required. There is some repair available on the tract.

The residence will be served by a private well.

The location of the nitrification field is on a uniformly sloping portion of the site. The area is wooded. Care shall be taken during clearing operation to ensure minimal soil disturbance. Do not grade septic area.

APPLICATION INFORMATION

1. Application for Improvement Permit has been submitted to Mecklenburg County Health Department by the property owner, Mr. Proctor James Allen.
2. Property is shown on attached portion of development survey.
3. Owner:

   Mr. Proctor James Allen
   15115 Hus-McGinnis Road
   Huntersville, NC 28078

   Soil Scientists and Designers: Mr. Paul G. Penninger, 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

4. Project described herein is a new project.
5. Water supply for development is provided by a private well shown on the attached plat.
6. Facility to be served by the proposed system is a 3-bedroom single family residence.
7. Wastewater system components are described herein.

LOCATION

The building lot is located off Hus-McGinnis Road, Huntersville, N. C.

REFERENCES

1. Design and Installation of Low Pressure Pipe Waste Treatment System by: Craig Cogger, Bobby L. Carlile, Dennis Osborne, Ed Holland; published by UNC Sea Grant College Pub. UNC-SC-82-03, May 1982.
2. 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 1500 gallon septic tank must be of two compartment design for maximum solids and 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. 1500 gallon pumping tank shall have an access manhole extending at least 6 inches above finished grade.
2. 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. 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.

3. The pumping tank shall have a properly functioning high-water alarm within the Simplex box. The alarm circuit shall be supplied ahead of any pump overload and short circuit protective devices. The alarm shall be audible and visible by system users and included in the pump and control enclosure (Simplex Panel).
4. Float switch for the high water alarm shall be set no more than 3 inches above the high water level of pump cycle.
5. Pump floats should be set so that level of water at end of pump cycle is above the top of the pump.
6. 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.
7. Pump discharge piping shall be of Schedule 40 PVC.
8. Watertight testing per .1900 rules will be required on two piece pump tanks.

Pipe and Fittings

1. All pipes and fitting should be made of PVC plastic.
2. All joints must be sealed with an appropriate PVC-solvent cement. The supply manifold from the pumping tank to the LPP distribution field is two-inch Sch 40 PVC.
3. There should be a threaded PVC union above the pump to allow easy removal or replacement. Lateral lines are made of 1¼ inch Sch 40 PVC. Holes in the laterals are drilled on site.
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. The end of each lateral line is equipped with a capped "turn-up" that provides above ground access for clean-out or back flushing. Using 45-degree elbows rather than 90 degree elbows for the turn-ups will make clean-out easier.

Pump, Float Controls and Alarm System

1. A septic tank effluent pump or a submersible sump pump that will not be corroded by sewage should be used in the pumping tank. Goulds WE05H, or equivalent, should be used to pump 33 gpm at 26 feet of head.
2. The controls for the pumping system include a switching control for turning the pump on and off and a high water alarm to signal pump malfunctions.
3. The controls must also be sealed against entry of corrosive and explosive gases from the effluent and should have NEMA (National Electrical Manufacturing Association) approval.
4. Mercury switches are activated by a sealed float which contains a tube of mercury in contact with power leads. Best performance has been obtained using two switches – one to close the pump circuit and the other to open it.
5. In addition to the on and off control floats, there must be a separate float control for the high water alarm. This may be a sealed, mercury float switch mounted several inches above the on float. The high water alarm should be located within the house and consist of a light bulb and/or audible signal mounted over a sign marked "wastewater system alarm". It should be on a separate electrical circuit form the pump power line, and be

equipped with a test switch. The alarm is activated if the water level in the pumping 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 home) during which time the system must be repaired. ↓ Simplex control panel will have visible/audible alarm built in.

Home Water-Saving Devices

Any home with an LPP system must be equipped with low-flow showerheads and low-flush commodes (1.6 gallons or less per flush) in order to minimize the hydraulic load on the system. Those devices are a simple, low-cost way of reducing consumption with no inconvenience to the homeowner.

CONSTRUCTION INSTALLATION

Site Preparation

1. One of the most important concerns for an LPP system is to protect the site from soil disturbance by heavy equipment.
2. As soon as the absorption area has been designed and flagged, it should be roped off and protected from construction traffic. No site preparation or LPP construction work should occur if the soil is wet.
3. After the location is staked out and the soil is dry enough, the site should be cleared of brush and small trees.
4. Provisions must be made for intercepting or diverting surface water away from the absorption area.
5. 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. The manifold joins each lateral through a short riser pipe connecting a reducing tee on the manifold to a 1¼ 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 lateral to a lower lateral. Use a 2" x 2" x 1¼" tee rather than "bushing down" when connecting laterals to the manifold.
3. 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.

Lateral Lines

1. Laterals will be placed at 5' minimum separation.
2. The depth of a given lateral trench should be uniform from the manifold to the end of the lateral. In no case should the trench bottom be allowed to slope away from the manifold.
3. Small earthen dams are placed at the beginning of each lateral trench to help maintain uniform distribution of effluent along each trench.
4. Lateral trench bottoms are then lined with five inches of gravel.
5. The 1¼-inch PVC pipes should be laid out and cut to proper lengths for the lateral lines. Holes are drilled (in a straight line) facing upwards (except for a hole 1/3 of the way from beginning and end of each line) after the laterals have been cut to proper length.
6. Holes are only drilled through one side of the pipe.
7. Sleeve laterals in 4" diameter perforated corrugated pipe. The corrugated pipe shall have three rows of holes, each hole between ½" and ¾" in diameter and spaced longitudinally approximately 4" on centers. The rows of holes may be equally spaced 120° on centers around the periphery, or three rows may be located in the lower portion of the pipe, the outside rows being approximately on 120° centers.
8. 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 bends for constructing cleanouts is recommended. A larger diameter sleeve with cap or approved box with lid shall be placed over the turn-up.
9. Rock used in nitrification trench shall be clean, washed gravel or crushed stone and graded or sized between 3/8" to 1". The rock shall be placed a minimum of 9" deep with at least 5" between the pipe and the trench bottom and 2" over the pipe, and distributed uniformly across the trench bottom and over the pipe.
10. There shall be at least 4" of soil cover over the gravel.

Pump and Controls

1. 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 which can clog the LPP system.
2. 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.
3. The lower level control or "pump-off" must be positioned above the pump, so that the pump remains submerged at all time.
4. The pump outlet pipe should be connected to the supply manifold with a threaded PVC union to allow quick removal.

Electrical Connections

1. The pump and high water alarm must be placed on separate electrical circuits.
2. All electrical connections must be made outside the pumping tank. Power cords from the pump and controls should be plugged into a NEMA-approved outdoor receptacle mounted outside of the pumping tanks at least 12" above final grade.
3. Wiring between the pumping tank and the house should meet State and local code requirements.

PROPER OPERATION CHECK

1. After all connections have been installed and connected, the system should be checked for proper operation. With electrical power turned off, fill the pumping 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.

* EHS must be present.

PRESSURE HEAD ADJUSTMENT

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

- Glue a four-foot length of pipe (preferable clear) to a threaded adapter that will screw onto the turn-up adapters at the end of each lateral.
- Replace the 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 LPP 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 LPP 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. Homeowners should pay particular attention to the section titled Homeowner Suggestions for ways to minimize the burden on the system.

MAINTENANCE

1. Any person owning or controlling the property upon which a ground absorption sewage treatment and disposal system is installed shall be responsible for the following items regarding the maintenance of the system:
   - Ground absorption sewage treatment and disposal systems shall be maintained at all times to prevent seepage or discharge of sewage or effluent to the surface of the ground or to surface water.
   - Ground absorption sewage treatment and disposal systems shall be checked and the contents of the septic tank removed periodically to ensure proper operation of the system.
2. A contract shall be executed between the system owner and a management entity prior to the issuance of an Operation Permit for a system required to be maintained by a public or private management entity. The contract shall include the specific requirements for maintenance and operation, responsibilities of the owner and system operator, provisions that the contract shall be in effect for as long as the system is in use, and other requirements for the continued proper performance of the system. It shall also be a condition of the Operation Permit that subsequent owners of the system execute such a contract.

OPERATION AND MAINTENANCE PROCEDURE

The system is classified as Type IV. The Regulations require that the system be operated by a person certified by the N. C. Department of Environmental Health to operate this type of system.

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, fittings, turn-ups and valve boxes 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 twice a 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 SUGGESTION

Most low pressure pipe 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 home owner to minimize the burden on a low pressure pipe 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.
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, toilets and showers to reduce the rate at which the water flows from the fixture.
7. Dishwashers and washing machines should only be run with full loads.

8. 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.
9. Roof drains, basement sump pumps, 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.

DESIGN SPECIFICATIONS

Hus-McGinnis Road

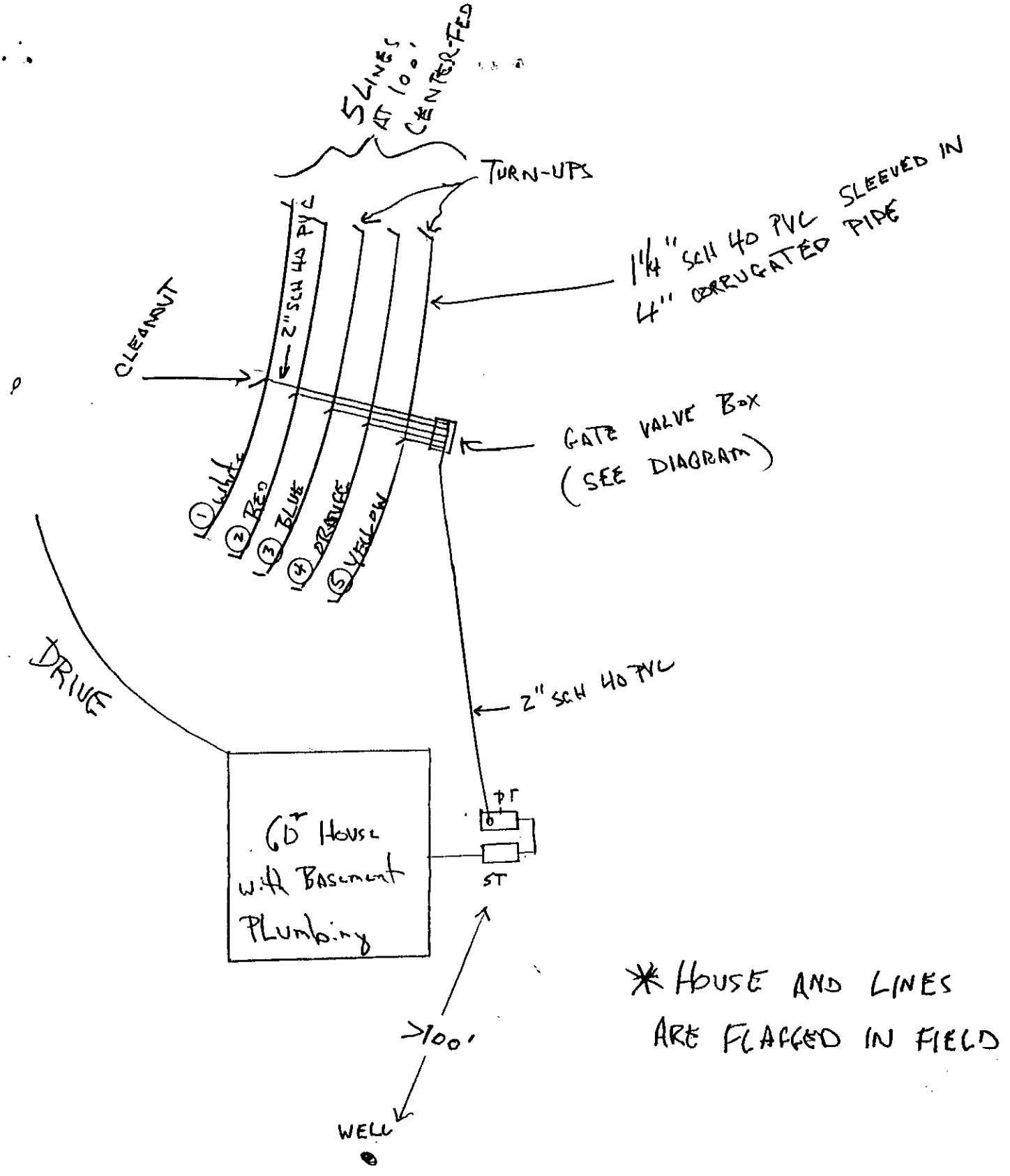
Daily design flow:	360 gpd - 3 bedroom home
Septic tank size:	1500 gal (2 compartments)
Pumping tank size	1500 gal
Effluent loading rate:	design 0.144 gpd/ft^2
Total length and diameter of supply manifold:	approx. 200' of 2" sch 40 PVC
Number and length of laterals:	system(5) 1¼" dia., 100' center-fed
Hole size:	5/32"
Hole spacing:	See table
Total number of holes	See table
Flow rate through the system	32.5 gpm
Elevation head:	approx. 13'
Pressure head:	2.0' – 3.2'
Friction head:	5.5'
20% contingency:	4.3'
Total head:	26'
Pump requirements:	33 gpm at 26' of head; use Goulds WE05H ½ hp pump or equivalent with compatible electrical with Simplex control
Dosing volume:	230gal. – 1.6 dose/day at design flow
Depth of water pumped per dose:	calculated to specific tank by measure or dealer engineered specifications (1 cubic ft. of water equals 7.5 gal)
Pump run dose:	approx. 7.0 min.
Check valve:	No
Siphon break hole:	No

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 calculation

CHRIS EBEL- HUS MCGINNINS ROAD SEPTIC AREA LPP SPECIFICATIONS

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	white	100	1.7	3.2	5/32	14	7.1	0.518	7.25
2	red	100	2.4	2.9	5/32	14	7.1	0.493	6.90
3	blue	100	3	2.6	5/32	14	7.1	0.466	6.52
4	orange	100	3.5	2.3	5/32	14	7.1	0.439	6.15
5	yellow	100	4.2	2	5/32	14	7.1	0.409	5.73
	Total	500						Total	32.55



SYSTEM SCHEMATIC SKETCH (N.T.S.)

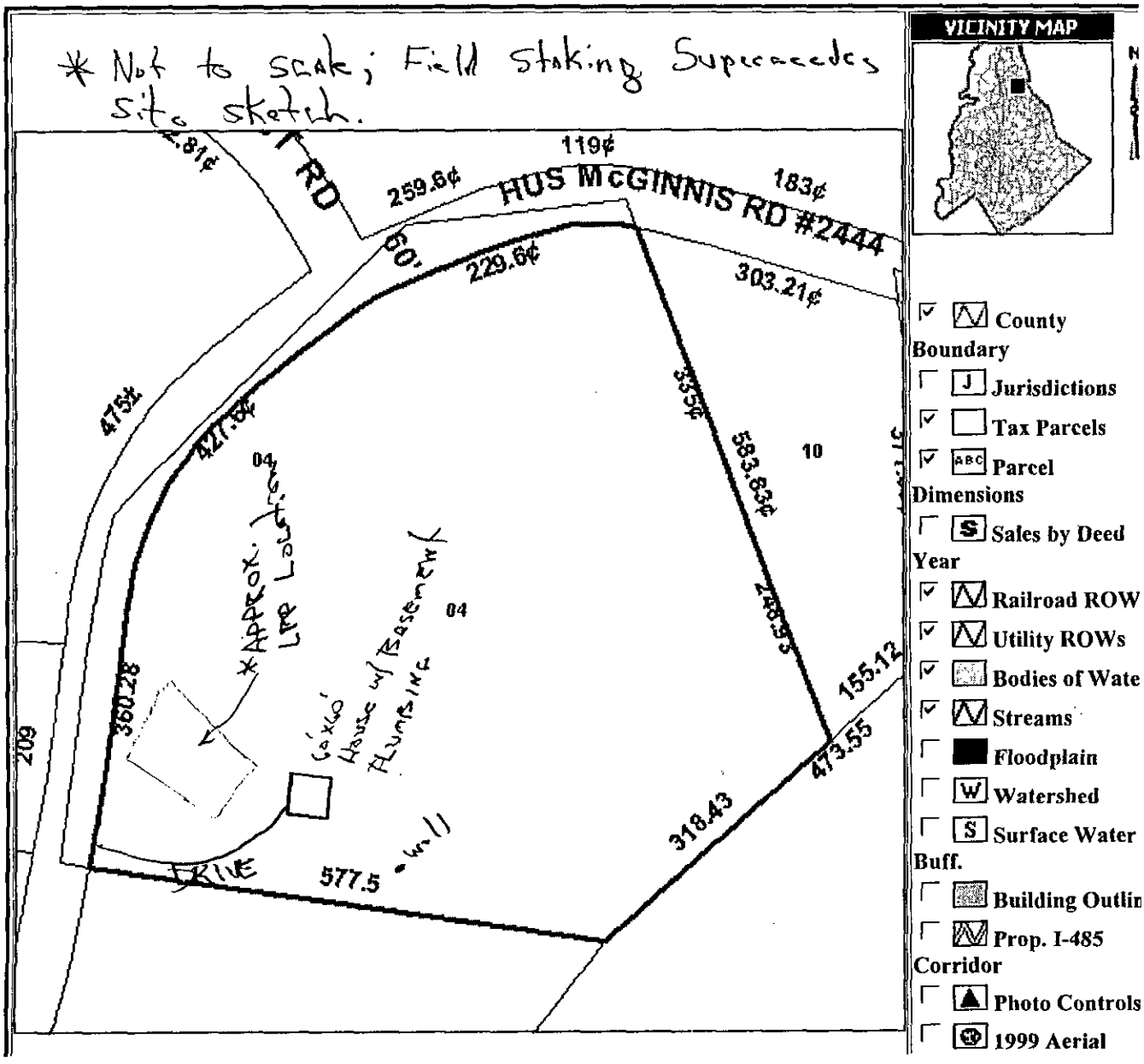
GIS Real Estate System

Mecklenburg County, NC Geographic Information Systems

Tax Parcel & Map Sheet Search | Road Name & Intersection Search | Market Analysis Search Menu
Return to Full Map Extent | How to Use the System | Return to GIS Homepage

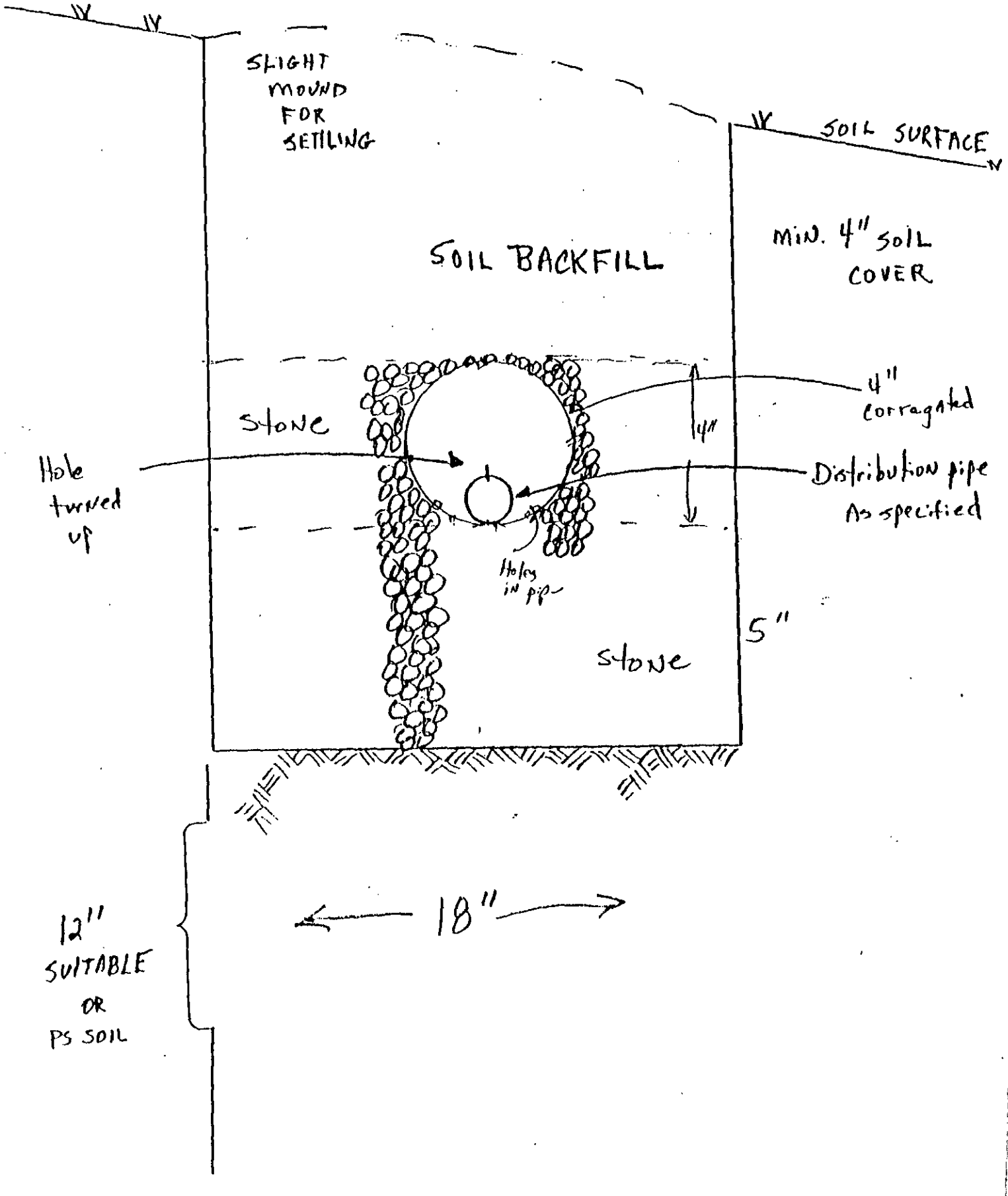
Click on Map to Perform Operation

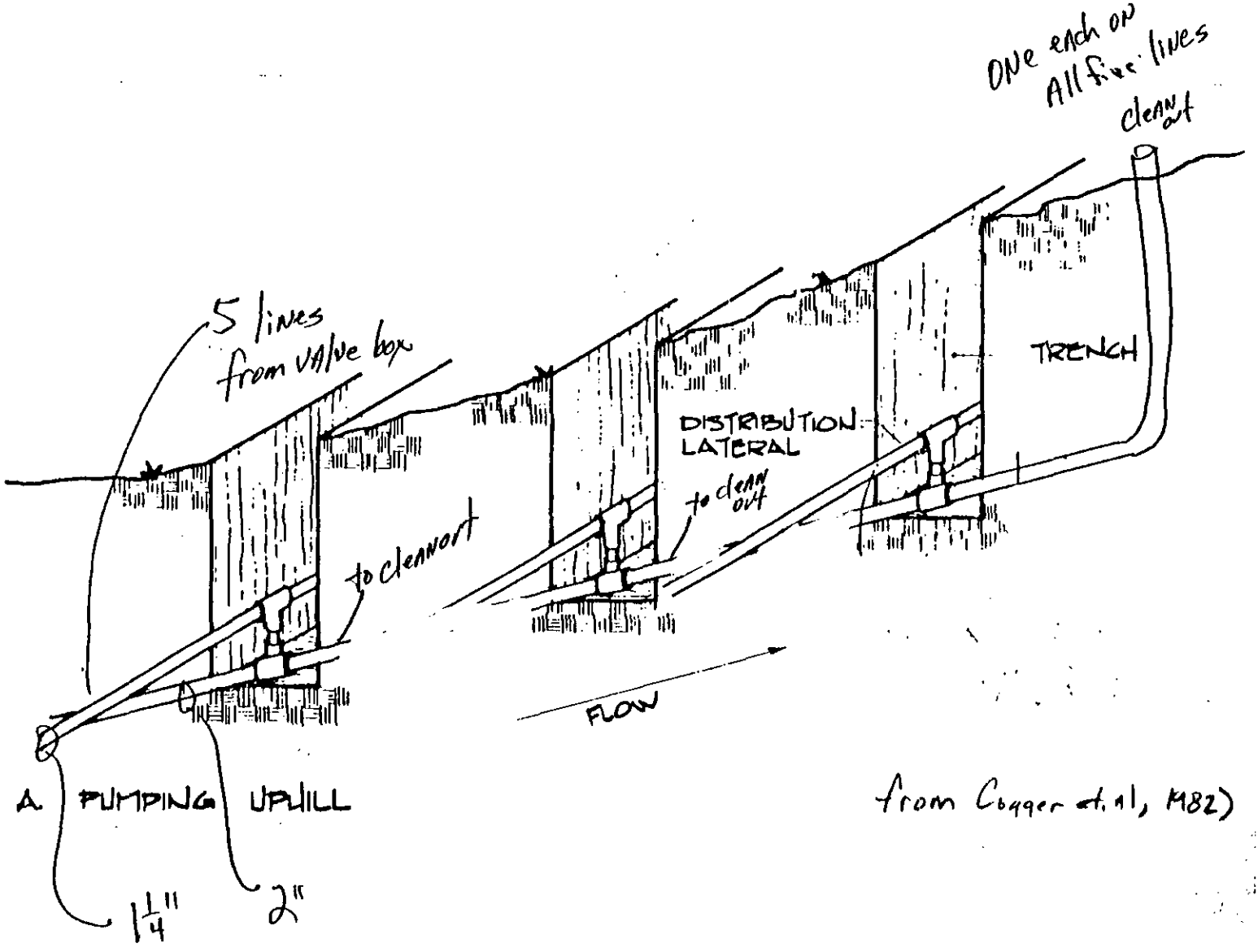
◉ Refresh Map ○ Pan ○ Zoom In ○ Zoom Out Zoom Factor 1X ○ Identify Parcels
○ Surveyor's Report
○ Adjoining Owner's Report within 10 FEET ○ Measure Start Line Label Parcels by:



6. LPP Trench Design

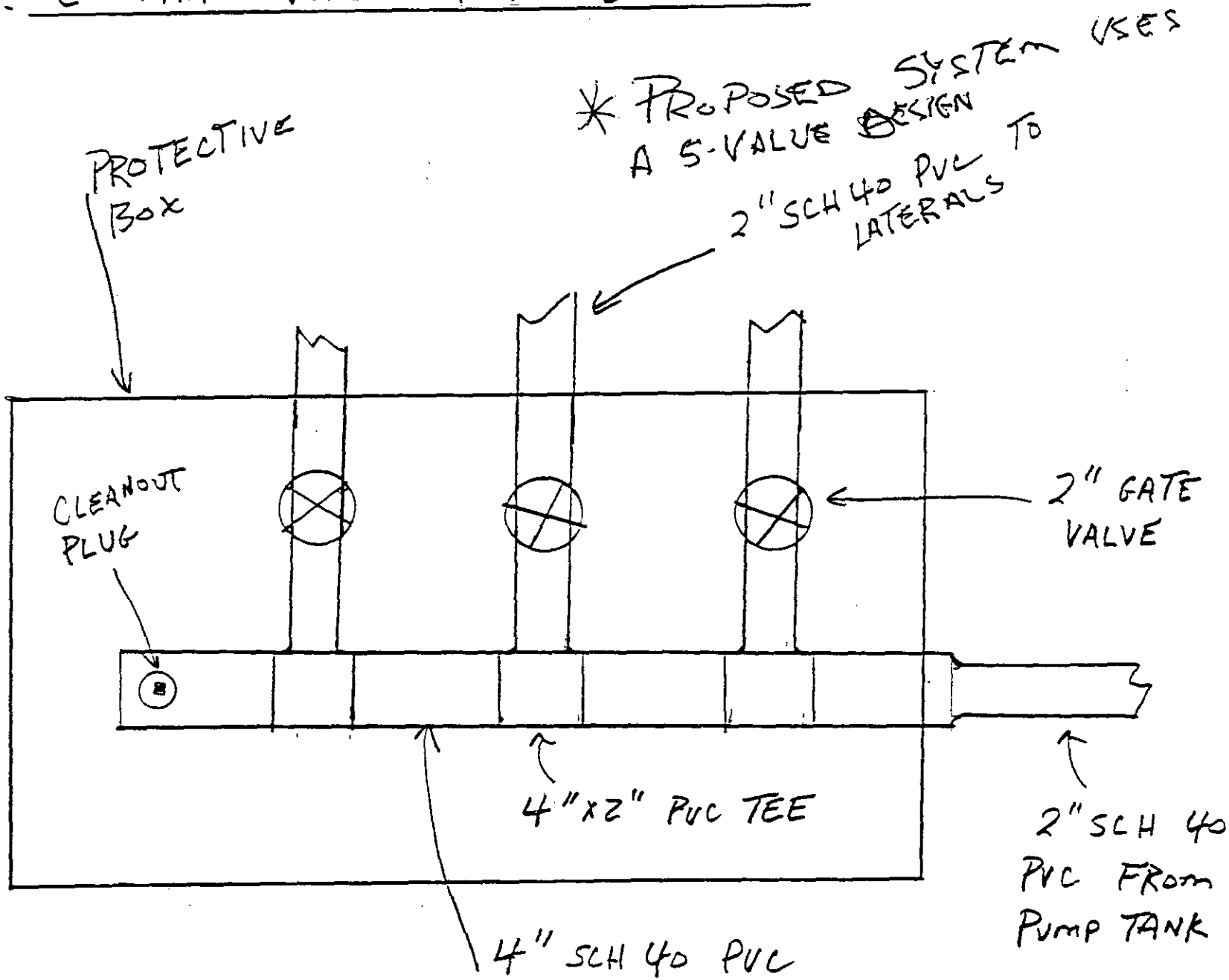
typical



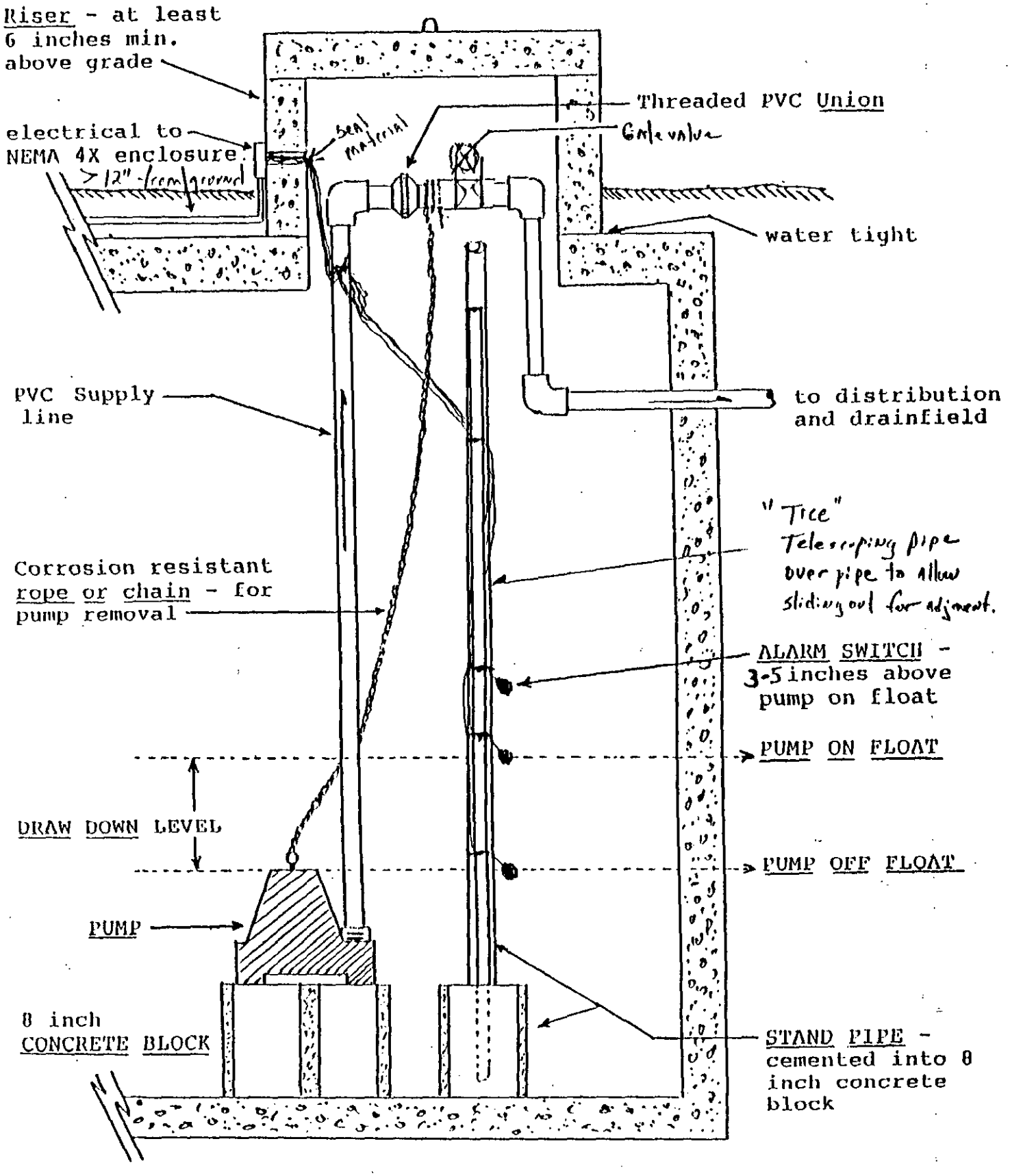


from Cooper et. al, 1982)

8. CENTRAL VALVE BOX DETAIL



9. PUMP DIAGRAM



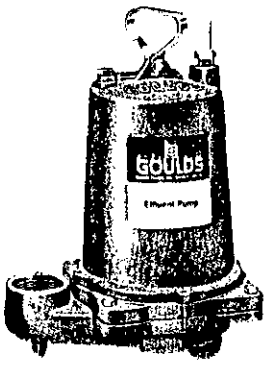
GOULDS PUMPS

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.

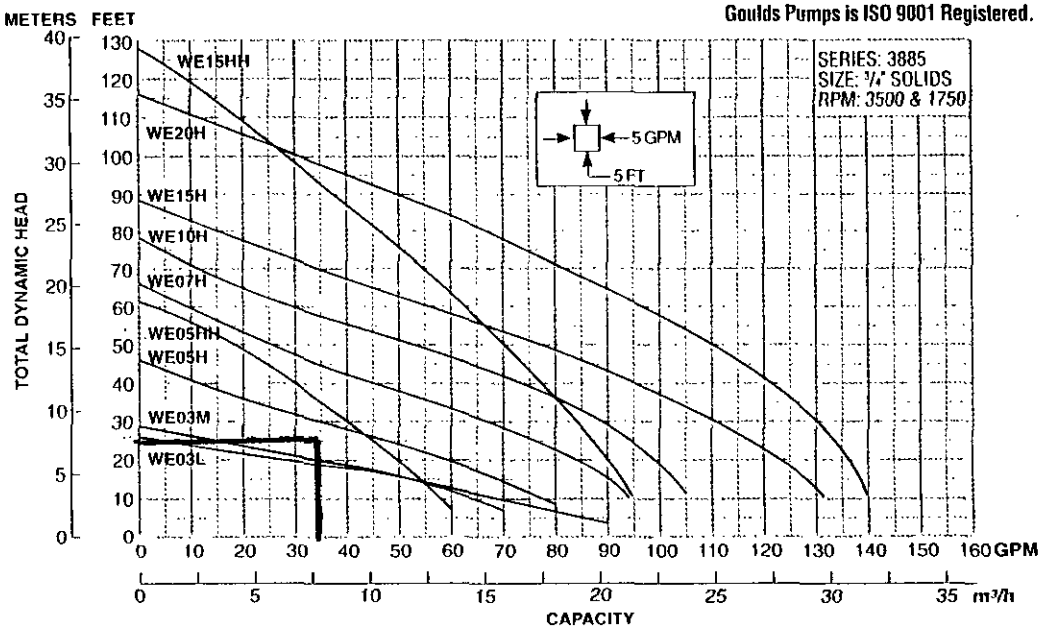
■ Consult factory for information on CSA listed models.

AGENCY LISTINGS

Canadian Standards Association File #LR38549

Underwriters Laboratories File #83318

Goulds Pumps is ISO 9001 Registered.



Goulds Pumps

ITT Industries

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B3885

DOSE VOLUME CALC.

~100'; 2" SCH 40 SUPPLY (16.2 gal/100') = 16.2
~100'; 2" SCH 40 MANIFOLD (16.2 gal/100') = 16.2
500', 1¼" SCH 40 LATERALS (6.4 gal/10') = 32.5 x 5

Total = 194.9

∴ USE 230 GAL. DOSE VOLUME 64%

FRICTION LOSS CALC.

(~200'; 2" SCH 40)(2.4'/100') = 4.4 ft Loss

ADD 25% for Fittings = 5.5 ft Loss

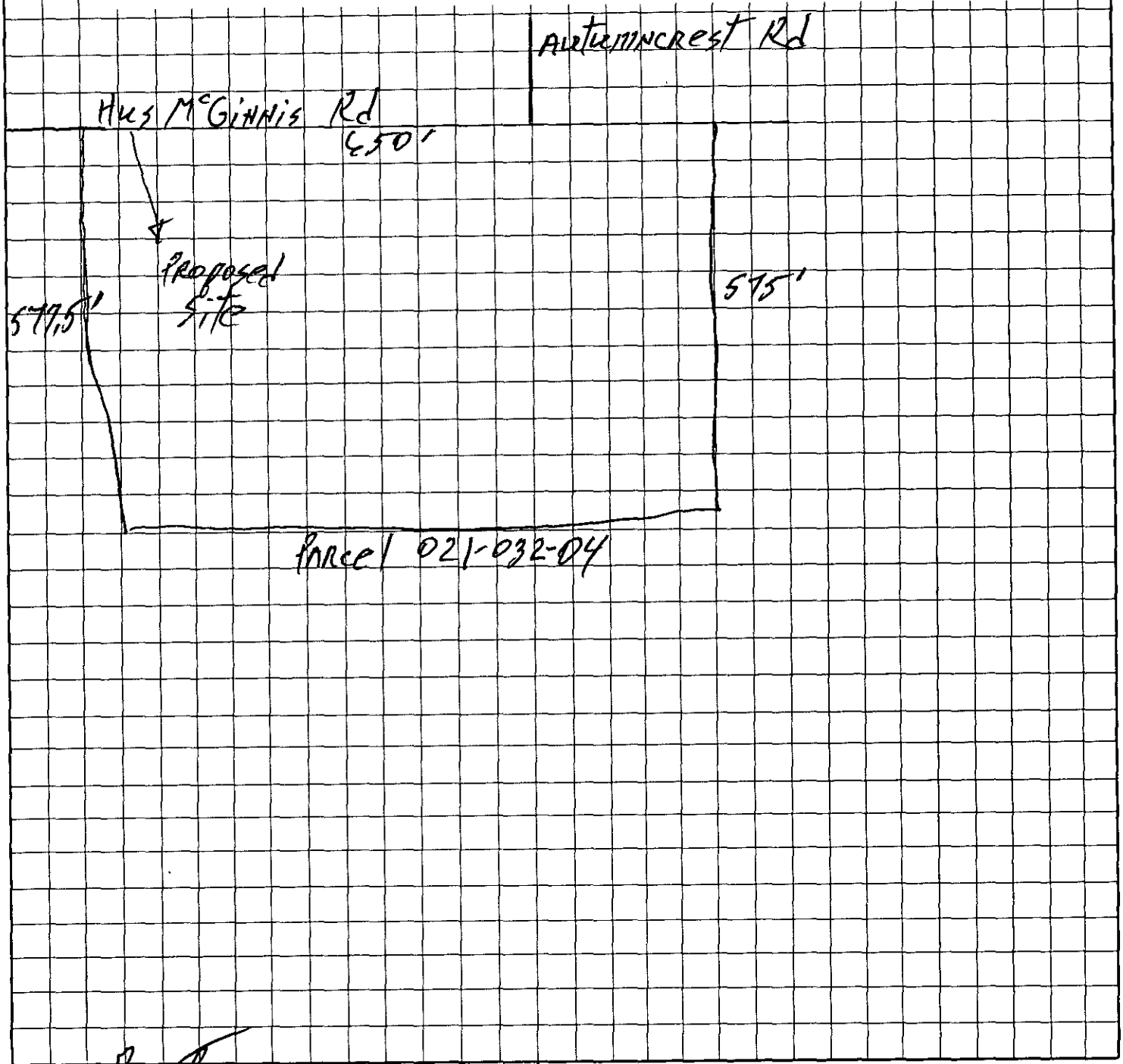
PROPOSED PLOT PLAN

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

FILE: 4296B

TC: 021-032-04

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.



OWNER/AGENT SIGNATURE

DATE 4/17/00

APPROVAL DATE _____

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