

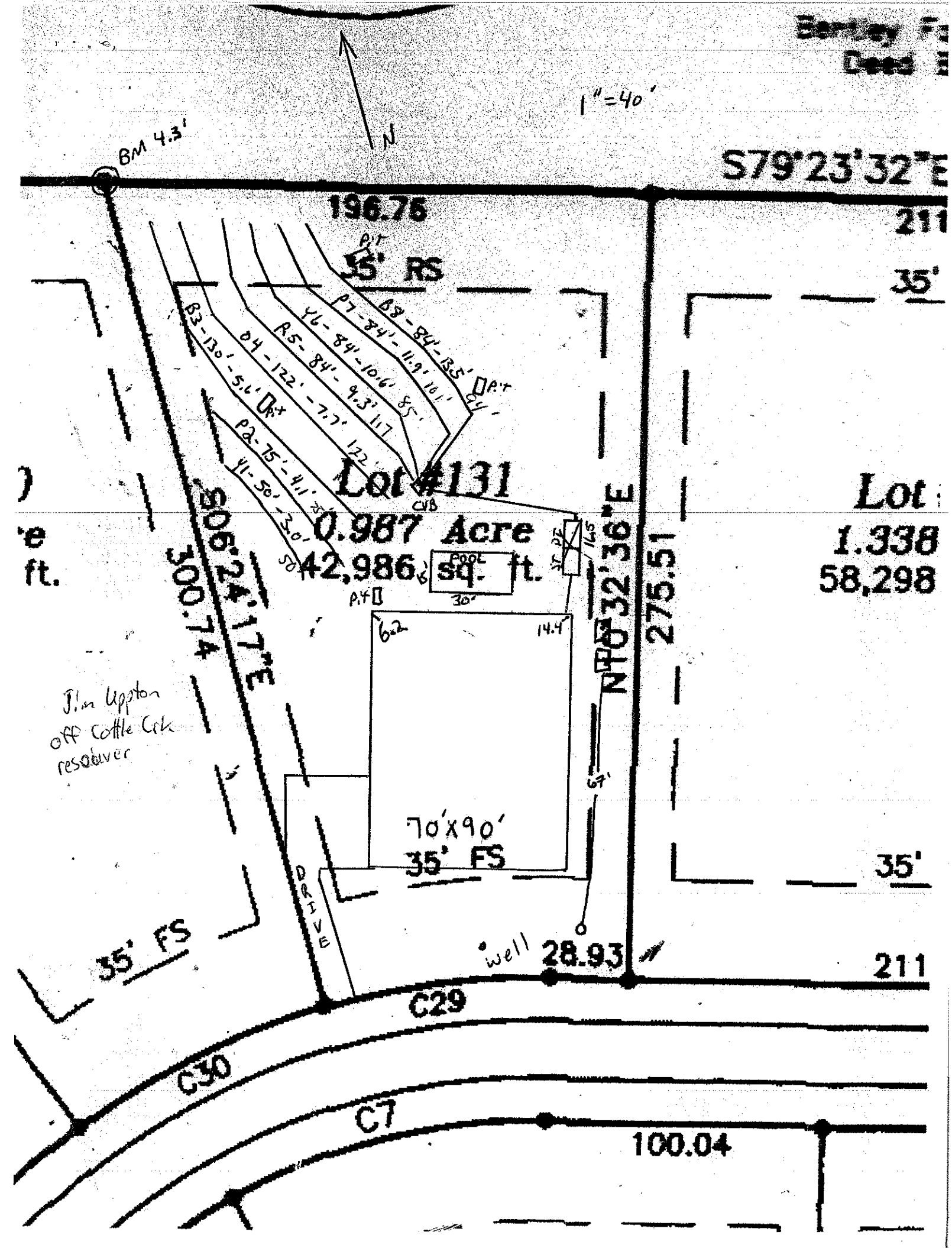
MICHAEL ATHANAS & ASSOCIATES
LICENSED SOIL SCIENTIST
561 Ennis Rd.
Weddington, NC 28173
(704) 576-3887

Reference: Data Sheet for Anniston 131
House Footprint: 70' x 90'
Building Setbacks: 35' front/rear, 15' side
Water Source: Private well
Number of Bedrooms: 5/600 GPD
Predetermined LTAR: 0.3 GPD/FT2 **(ICHD)**
Proposed System Type: LP PPBPS
Proposed Repair System Type: PPBPS
Distribution: CVB
Pressure Head: 2
Number of Panels: 80
Flow per Orifice: .59
Hole Size: 3/16
System Flow: 47.2 GPM
Dosing Volume: 288 gallons
Pump Run Time: 6.11 minutes
Elevation Head: 12.2'
Friction Head: 2.7'
Total Dynamic Head: 20.28'
Supply Line Length: 70'
Total Linear Footage: 336'
Septic/Pump Tank Size: 1500/1000 gal
Trench Bottom: 36"(Previously determined by ICHD)

Line	Design Length	Actual Length	Elevation
Yellow 1		50'	3.0'
Pink 2		75'	4.1'
Blue 3		130'	5.6'
Orange 4		122'	7.7'
Red 5	**84'**	**118'**	**9.3'**
Yellow 6	**84'**	**86'**	**10.6'**
Pink 7	**84'**	**102'**	**11.9'**
Blue 8	**84'**	**95'**	**13.5'**

Initial System: 336' **Repair System:** 377' **Benchmark:** 4.3 (Back Left Crn.)
Pump Tank: 16.5' **House Corner:** 6.2'

Comments: This lot is currently permitted a five bedroom 25% reduction. We are changing the design to a five bedroom low pressure panel block and staying inside the previously permitted soils area. We have increased the size of the house from a 70x70 to a 70x90 and added a 15x30 pool. Any design changes by ICHD are welcome.


1"=40'
N
BM 4.3'
S79°23'32"E
196.76
211
35'
P.T
35' RS
B3-84'-13.5'
P7-84'-11.9'
Y6-84'-10.6'
R5-84'-9.3'
O4-122'-7.7'
B3-130'-5.6'
P2-75'-4.1'
Y1-50'-3.0'
Lot #131
0.987 Acre
42,986 sq. ft.
POOL
30'
P.T
6.2
14.4
N14°32'39"E
275.51
Lot
1.338
58,298
S06°24'17"E
300.74
Jim Upton
off Cattle Crk
reservoir
70'x90'
35' FS
DRIVE
well
28.93
211
C29
C30
C7
100.04
35' FS
35'

ROLLANS *Soil & Environmental Services, Inc.*

470 N Broad Street, Suite D, Mooresville, NC 28115 Phone: (704) 658-1723 Fax: (704) 658-1724

Ashley Rollans, NC Licensed Soil Scientist
Mobile: (704) 746-5046
Email: rollans.ashley@yahoo.com

Brady Freeman, Registered Sanitarian
Mobile: (704) 746-6497
Email: bfree209@yahoo.com

Attached is a proposed design for an Accepted (25% reduction) Septic System with gravity distribution for a 5 bedroom single family residence on Lot # 131 ANNISTON Subdivision, Iredell County, North Carolina.

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Design Information
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April 28, 2008
Project No. 01-1005
Design By: Rollans Soil and Environmental Services

INFORMATION FOR THE INSTALLER:

- The permit should be read very carefully prior to bidding. The following are details that must be considered along with all other considerations.
- Tanks shall be approved by NC DENR, and certification supplied by the manufacturer.
- Tanks shall be water tested prior to installation.
- The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original natural grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement.
- Installation of the system shall be during dry conditions in order to protect the soil structure.
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied glue applied to weld all joints.
- Trenches shall be carefully excavated so the bottom is within 2" from the highest to . the lowest points of elevation within the trench. If the bottom elevation needs adjusting after it has been trenched, it will be done by removing high points rather than filling low points. It is extremely important to insure that trenches are not over excavated during initial trenching. All fine grading within the trench will be hand done with a shovel. No loose material will be left in the trench
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral.
- No heavy equipment shall be used on the field during or after installation. The use of a small loader (i.e. Bobcat) or a trencher (i.e. Ditch Witch 2300/2310) may be used for installation.
- Elevations at pinflag locations should be checked by the installer prior to beginning trenches.
- Pumptank riser should be 6" above grade, control panel should be 12" above grade.
- Septic tank riser shall be a minimum of 6" above finished grade.
- System is specified as an innovative 25% reduction installation.
- Repair is specified as a PPBPS with low pressure distribution installation.
- Rake trench walls, lime sidewalls, install trenches 36" wide and have no more than 1/4" fall in 10 feet.

FOR WASTEWATER TREATMENT

Owner:	Anniston LLC
Address:	17825 Statesville Rd. Suite 112 Cornelius, NC 28031
Phone:	
County:	Iredell
Location:	ANNISTON Lot # 131
Source of Wastewater Flow:	5 Bedroom Single Family Residence
Estimated Daily Wastewater Production:	600 gpd
System Flow:	N/A

Design Specifications

Drainfield Size:	500
Loading Rate:	0.3
Depth of Gravel in Trench:	NA (25% reduction)
Gravel Size:	NA (25% reduction)
Trench Depth:	36 in.
Trench Width:	36 in.
Septic Tank Size:	1500 gal.
Pump Tank Size:	N/A
Estimated Supply Line Length:	7
Supply Line Diameter:	3 in. SCH 40 PVC
Supply Line Volume:	1.22
Dosing Volume:	N/A
Supply Manifold:	DROP BOX
Supply Manifold Length:	N/A
Supply Manifold Volume:	N/A
Recommended Float Controls:	N/A N/A
Recommended Control Panel:	N/A N/A
Pressure Head:	N/A
Friction Head:	N/A
Elevation Head:	N/A
Total Dynamic Head:	N/A
Threaded Union:	NA
Gate Valves:	NA NA
Check Valves:	NA
Anti-Siphon Hole:	NA
Additional Comments:	Soil suitability was performed by Rollans Soil & Environmental Services.

ANNISTON Lot # 131
PRESSURE MANIFOLD DESIGN

DESIGN FLOW:	600
SOIL APPLICATION RATE:	0.3
TOTAL AREA TRENCH BOTTOM:	1500
TOTAL LATERAL LENGTH:	500
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	500
SUPPLY LINE LENGTH:	7
TOTAL DYNAMIC HEAD:	N/A
MANIFOLD SIZE:	N/A
DOSING VOLUME:	N/A
PUMP TANK DRAW DOWN*:	N/A
SEPTIC TANK SIZE:	1500 gal.
PUMP TANK SIZE:	N/A

**Pump tank draw down based on a volume basis of 31 gallons per inch. Draw down may vary among pump tank manufacturers.*

ANNISTON LOT # 131

Project #: 01-1005

LAYOUT FOR 5 BEDROOM HOME

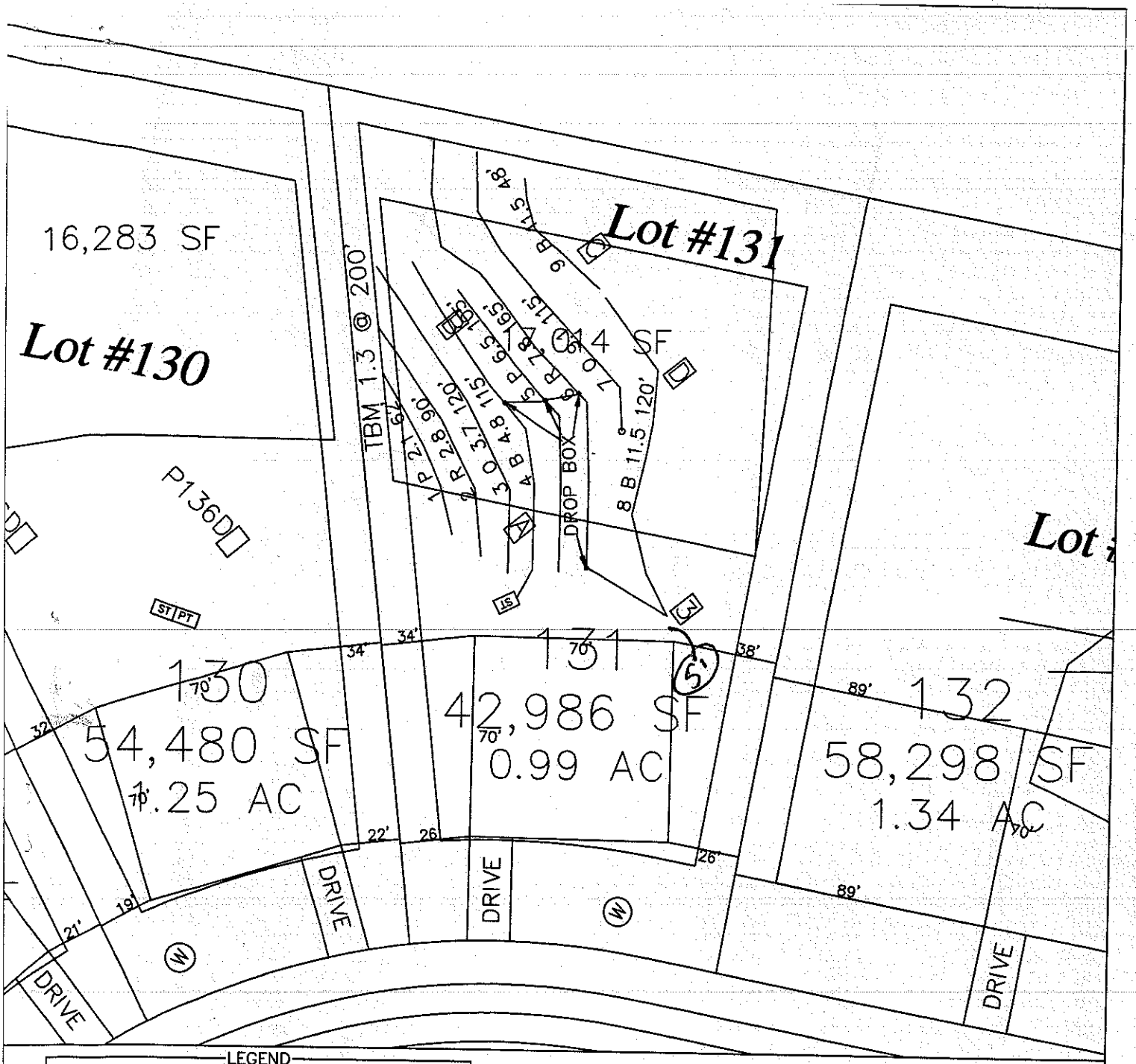
April 28, 2008

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		N/A			N/A		
INSTR. 1			N/A				
HOUSE CNR				N/A	N/A		
P. TANK				N/A	N/A		
1	PINK			N/A	N/A	62	62
2	RED			N/A	N/A	90	90
3	ORANGE			N/A	N/A	120	120
4	***BLUE***			***N/A***	***N/A***	***120***	***115***
5	***PINK***			***N/A***	***N/A***	***110***	***105***
6	***RED***			***N/A***	***N/A***	***171***	***165***
7	ORANGE			N/A	N/A	115	115
8	***BLUE***			***N/A***	***N/A***	***120***	***115***
9	BLUE			N/A	N/A	48	48
					Total	**956**	**935**

	LINE LENGTH	LTAR GPD/FT²	SYSTEM TYPE	SOIL LTAR GPD/FT²	TRENCH SYSTEM	DISTRIBUTION
**** System***	***500***	***0.300***	***ACCEPT.***	***0.300***	***25% RED.***	**GRAVITY**
Repair	435	0.300	*MOD.*	0.300	PPBPS	**DISTRIBUTION** LOW PRESSURE

Notes:

** TBM located on angle point of lot (see site plan)
**TBM is assumed to be 100'
**All measures in feet
**Nitrification lines are demonstrated on contour via colored pin flags
**BS, HI, and FS indicate rod readings



LEGEND

- Areas contain soils with 24 inches or more of useable material and have potential for conventional, modified conventional and low-pressure pipe (lpp) septic systems.
- House Footprint (All 70' x 70')
- System lines.
- Repair lines.
- TBM.
- Well Location.
- A — RS&ES Pit Location.
- 25 — RS&ES Boring Location.
- 28 — Health Dept. Pit Location.

GRAPHIC SCALE
1" = 50'

50 0 50 100

FOR PRELIMINARY PLANNING PURPOSES ONLY. ALL LOTS WILL REQUIRE FINAL APPROVAL BY THE COUNTY HEALTH DEPARTMENT ON A LOT BY LOT BASIS. THIS MAP SHOULD BY USED AS A GENERAL GUIDE, SOME ADJUSTMENTS WILL BE NECESSARY IN THE FIELD DUE TO SOIL VARIABILITY AND COMPLEX TOPOGRAPHIC FEATURES. THIS MAP ONLY REFLECTS EXISTING SOIL SUITABILITY FOR ON-SITE SEPTIC TANK SYSTEMS.

PLEASE REFER TO ATTACHED SOIL REPORT FOR ADDITIONAL SITE SPECIFIC INFORMATION

ROLLANS SOIL & ENVIRONMENTAL SERVICES
470 NORTH BROAD ST., SUITE D
MOORESVILLE, NC 28115
PHONE: 704.658.1723 FAX: 704.658.1724
ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE: (704) 746 - 5046
EMAIL: ROLLANS@WINDSTREAM.NET

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

LOCATION/DATE: SHEARER CHAPEL ROAD, IREDELL COUNTY, NORTH CAROLINA, APRIL 2006

PROJECT NAME: NIBLOCK DEVEOPMENT CORP. / ANNISTON PHASE IV

JOB # :	01-1005
FILE:	C:\JOBS\01-1005
PROJECT MGR.:	S.A.R.
FIELD WORK:	S.A.R.
DRAWN BY:	S.A.R.

CALCULATIONS

Location ANNISTON PH4

Project Number 01-1005

Lot No: Lot 131

No. of Bedrooms 5

Design Flow 600 $^{gal}/_{day}$

LTAR 0.3 $^{gpd/ft^2}$

25% RED.? (YES OR NO) YES

Supply Line Length 7 ft.

Supply Line Volume 1.218 gal.

Required Feet of Line 500 ft.
Amount of Line from Layout 500 ft.

Gallons per Minute N/A $^{gal}/_{min}$

Required Septic Tank Capacity 1500 gal.
Minimum Standard Tank Size 1500 gal.

Lateral Line Volume 326.5 gal.

Dosing Volume N/A gal.

Note: Dosing Volume based on70% of lateral line volume

Tank Draw Down N/A *Generic Draw Down of 31 gal.per in.*

Pump Run Time N/A minutes

Elevation Head N/A ft.
Pressure Head N/A ft.
Friction Factor N/A ft./100 ft. *(From the interpolater.)*
Friction Head N/A ft.

Total Dynamic Head (+15%) N/A ft.

FRICTION FACTOR INTERPOLATER
2" SCH 40 PVC

GPM	*f*
20	0.84
	-0.88
25	1.27
	-1.28
30	1.78
	-1.76
35	2.37
	-2.25
40	3.03
43.07	3.48
45	3.77
48.14	4.28
50	4.58
57.11	5.89
60	6.42

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

Sheet ___ of ___
PROPERTY ID #:
COUNTY: Iredell

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Niblock Development Corp
ADDRESS: 520 McGill Ave NW Concord, NC 28027
APPLICATION DATE: 4/3/08
PROPOSED FACILITY: SFR
PROPOSED DESIGN FLOW (.1949): 6 bdrm SFD
DATE EVALUATED: 3/28
LOCATION OF SITE: Shearers Rd S. Lot on Armstrong Rt on Burnett Pt Lot on Walking Horse
PROPERTY SIZE:
WATER SUPPLY: ☒ Private ☐ Public ☒ Well ☐ Spring ☐ Other
PROPERTY RECORDED:
EVALUATION METHOD: ☐ Auger Boring ☒ Pit ☐ Cut
TYPE OF WASTEWATER: ☒ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
1	P13A L/6-10%	0-23	BR C mwAbk	FrSSP SEXP	C, lithochrome C, sap	48	--	-	PS 0.3 >23'
		23-48	RCl wfsbk	FrSSSP SEXP					
2	P13B L/10-15%	0-20	BB C mfAbk	FrSSSP SEXP	f sap	50	-	-	PS 0.3,35
		20-50	RY Cl wfAbk	" " " "					
3	P13C L/10-15%	0-48	RCl wsbk	FrSSSP SEXP	f sap	48	-	-	PS 0.3-0.35
4	L/5-20%	0-19	RCl wsbk	FrSSSP SEXP	f sap	33	PS	-	PS 0.4
		19-33	RY Cl wsbk	" " " "	f sap				
		33-60	var Cl mass	" " " "					

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

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

COMMENTS:

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

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

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: _____ APPLICATION DATE 5/27/08
ADDRESS: _____ DATE EVALUATED: 5/27/08
PROPOSED FACILITY: _____ PROPOSED DESIGN FLOW (.1949): _____ PROPERTY SIZE: _____
LOCATION OF SITE: Anniston ph 4 Lot 131 PROPERTY RECORDED: _____
WATER SUPPLY: ☐ Private ☐ Public ☐ Well ☐ Spring ☐ Other _____
EVALUATION METHOD: ☐ Auger Boring ☐ Pit ☐ Cut TYPE OF WASTEWATER: ☐ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
A1	L 5-10%	0-14	wSbkC	Pr SS Sp Sap					PS .3
		14-23	mSbkC	Pr SS Sp Sap	com Sap				
		23-55	wSbkCL	Pr SS Sp Sap	few Sap				
B2	L 10-15%	0-5	wKScl	Pr SS Sp Sap					PS .35 >20" depth
		5-18	mSbkC	Pr SS Sp Sap	com Sap				
		18-15	wKSbkCL/L	Pr SS Sp	many Sap				
C1	L 10-15%	0-7	wKScl	Pr					PS .3
		7-21	mSbkC	Pr SS Sp Sap					
		21-55	wKSbkCL	Fr SS Sp Sap	com Sap				
4									

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

OTHER FACTORS (.1946): _____
SITE CLASSIFICATION (.1948): _____
EVALUATED BY: Anthony C & Chris M.
OTHER(S) PRESENT: _____