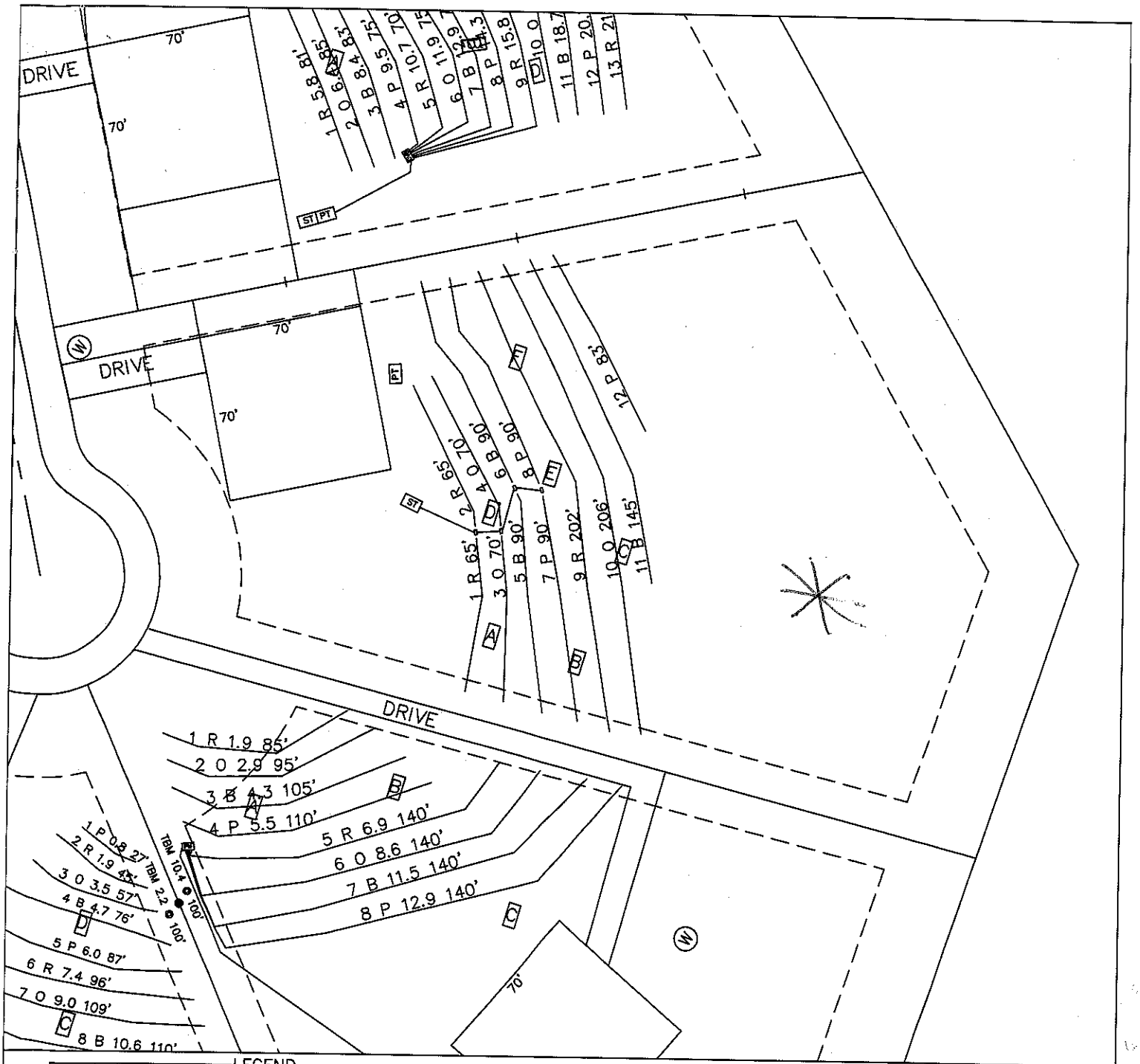


LEGEND

- 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

o 1" = 60'

60 60 120

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 & MINERAL AREA

LOCATION/DATE: SHEARER CHAPEL ROAD, IREDELL COUNTY, NORTH CAROLINA, APRIL 2008

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.

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: 300 McGill Ave NW Concord NC 28027
APPLICATION DATE: 4/3/08
DATE EVALUATED: 3/08
PROPOSED FACILITY: 5BR
PROPOSED DESIGN FLOW (.1949): 600gpd
PROPERTY SIZE: 1.85ac.
LOCATION OF SITE: Shearers Rd S, Lt on Amerston Way, Rt on Burnett PP Hom
PROPERTY RECORDED:
WATER SUPPLY: ☒ Private ☐ Public ☒ Well ☐ Spring ☒ Other Walking Horse
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	SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
1	P142A 4/6-10%	0-22	RCmfAbk	FrSSPSExP	msap	60	—	—	PS 0.25
		22-60	RYscl vwsbk	FrSSPSExP					
2	P142B 4/10-15%	0-24	RCmfAbk	FrSSPSExP	csap	60	—	—	PS 0.275
		24-60	RClwfsbk	FrSSPSExP					
3	P142C 4/10-15%	0-24	RCmmAbk/sbk	FrSSPSExP	fsap	40	PS	—	PS 0.25
		24-40	RYclvwsbk/Abk	FrSSSPSExP	msap f.w.r				
		40-60	very cl mass	FrSSSPSExP	c,cl,incl.				
4	P142D 4/6-10%	0-21	RCmfAbk	FrSSSPSExP	csap	40	LW	—	PS-40 0.25
		21-40	RYclwcAbk	FrSSSPSExP					
		40-60	very cl mass	FrSSSPSExP	c,cl,incl.				

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	PS	PS
System Type(s)	Accepted	Accepted
Site LTAR	0.25	0.25

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948): PS
EVALUATED BY: RS, ES
OTHER(S) PRESENT:

COMMENTS:

SOIL/SITE EVALUATION

(Continuation Sheet)

DEPARTMENT OF ENVIRONMENT
AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH

PROPERTY ID #:
DATE OF EVALUATION: 3/08
COUNTY: Iredell

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	OTHER PROFILE FACTORS .1943 SOIL DEPTH	OTHER PROFILE FACTORS .1956 SAPRO CLASS	OTHER PROFILE FACTORS .1944 RESTR HORIZ	PROFILE CLASS & LTAR
5	P142E L/10-15%	0-24	RCwmAbk	FrSSSP SEXP		48	LW	—	PS-48 0.25
		24-48	RYcl mmAbk/sbk	FrSSP SEXP	-msap				
		48-64	very cl mass	FrSSSP SEXP	-c.c.ind.				
6	P142F L/10-15%	0-32	BRCmfAbk/sbk	FrSSSP SEXP		60	—	—	PS 0.25- 0.275
		32-60	RYcl mmsbk/Abk	FrSSSPSEXP	-Csap				

COMMENTS:

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 # 142 ANNISTON Subdivision, Iredell County, North Carolina.

Contents: **Page**

Information for the Installer---------- 1

Design Information
Design Specifications---------- 2-3
Layout Specifications---------- 4

Site Plan/System Plan---------- 6

Calculations---------- 7

Profile Descriptions---------- 8

April 4, 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 NCDENR, 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 Accepted 25% reduction installation.
- Repair is specified as an Accepted 25% reduction 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: Niblock Development Corp.

Address: 300 McGill Ave. NW
Concord, NC 28027
Phone: 704 361 1201
County: Iredell
Location: ANNISTON Lot # 142

Source of Wastewater Flow: 5 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 600 gpd
System Flow: N/A

Design Specifications

Drainfield Size: 630
Loading Rate: 0.25
Depth of Gravel in Trench: NA (25% reduction)
Gravel Size: NA (25% reduction)
Trench Depth: **26 in.**
Trench Width: 36 in.
Septic Tank Size: 1500 gal.
Pump Tank Size: N/A

Estimated Supply Line Length: 26
Supply Line Diameter: 3 in. SCH 40 PVC
Supply Line Volume: 4.52
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 # 142
25% GRAVITY DESIGN

DESIGN FLOW:	600
SOIL APPLICATION RATE:	0.25
TOTAL AREA TRENCH BOTTOM:	1890
TOTAL LATERAL LENGTH:	630
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	600
SUPPLY LINE LENGTH:	26
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 # 142

Project #: 01-1005

LAYOUT FOR 5 BEDROOM HOME

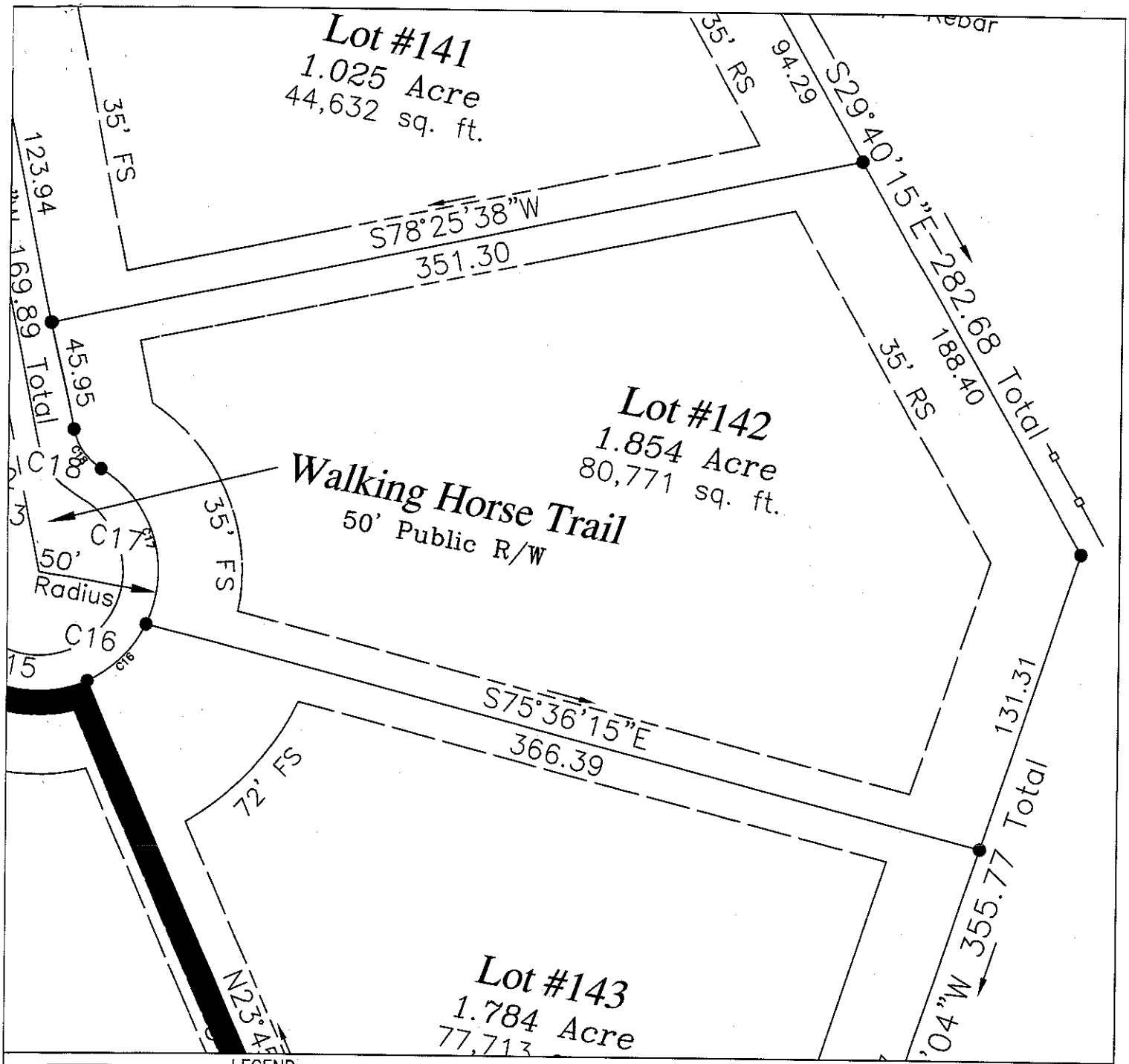
April 2, 2008

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	***RED***			N/A	N/A	***65***	***65***
2	***RED***			N/A	N/A	***65***	***65***
3	***ORANGE***			N/A	N/A	***70***	***70***
4	***ORANGE***			N/A	N/A	***70***	***70***
5	***BLUE***			N/A	N/A	***92***	***90***
6	***BLUE***			N/A	N/A	***92***	***90***
7	***PINK***			N/A	N/A	***96***	***90***
8	***PINK***			***N/A***	***N/A***	***96***	***90***
9	RED			N/A	N/A	202	202
10	ORANGE			N/A	N/A	206	206
11	BLUE			N/A	N/A	145	145
12	PINK			N/A	N/A	83	83
					Total	**1282**	**1266**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
****System***	***630***	***0.250***	***ACCEPT.***	***0.250***	***25% RED.***	**GRAVITY DISTRIBUTION**
Repair	636	0.250	*ACCEPT.*	0.250	25% RED.	GRAVITY DISTRIBUTION

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.

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o 1" = 60'

60 60 120

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EMAIL: ROLLANS@WINDSTREAM.NET

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

LOCATION/DATE: SHEARER CHAPEL ROAD IREDELL COUNTY, NORTH CAROLINA APRIL 2008

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 142

No. of Bedrooms	5	
Design Flow	600	$^{gal}/_{day}$
LTAR	0.25	$^{gpd}/_{ft^2}$
25% RED.? (YES OR NO)	YES	
Supply Line Length	26	ft.
Supply Line Volume	4.524	gal.
Required Feet of Line	600	ft.
Amount of Line from Layout	630	ft.
Gallons per Minute	N/A	$^{gal}/_{min}$
Required Septic Tank Capacity	1500	gal.
Minimum Standard Tank Size	1500 gal.	
Lateral Line Volume	411.39	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