

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

Reference: Data Sheet for Anniston, Lot 138
House Footprint: 70' x 70'
Building Setbacks: 35' front/rear, 15' side
Water Source: Private well
Number of Bedrooms: 5/600 GPD ✓
Predetermined LTAR: 0.25 GPD/FT2 (ICHD) ✓
Proposed System Type: 25% Reduction ✓
Proposed Repair System Type: PPBPS ✓
Distribution: Gravity-drop boxes/ end cap ✓
Septic Tank Size: 1500 gallons ✓
Proposed Trench Bottom: 36" ✓

Line	Design Length	Actual Length
Orange 1		
White 2		100' ✓
Pink 3		100'
Red 4		100' ✓
White 5		100'
Pink 6	**40'**	103' ✓
Red 7	**100'**	**102'**
White 8	**90'**	**100'** ✓
Pink 9	**100'**	**98'**
Red 10	**90'**	**105'** ✓
White 11	**90'**	**90'**
Pink 12	**90'**	**90'** ✓
Red 13		**90'** ✓
		54' ✓

OK - 8-13-14

Initial System: 600' **Repair System:** 557'

Comments:
The purpose of this evaluation was to change the system type. The loading rate has been previously confirmed by the Iredell County Health Department through the 4 backhoe pits onsite. MAA, Inc confirmed the soil evaluation with the soil boring located on the site plan. Pink 6 will have 55' left for repair area.Please note the house location was located by use of white pin flags.

EFFECTIVE DATE: MARCH 02, 2009 ZONE: X (OUT)

NOT FOR RECORDATION, CONVEYANCES, OR SALES

SUPERINTENDANT VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION!

CURVE TABLE					
CURVE	LENGTH	RADIUS	CHORD	BEARING	DELTA
C1	94.86	375.00	94.61	N12°46'11"W	14°29'36"

Coddle Creek Hwy

SFER #3/
COS #167

S02°40'59"W
170.38'

N69°59'01"E
298.81'

S84°28'37"W
253.05'

15' SEPTIC SUPPLY EASEMENT

LOT 139

LOT 139

DECK
10'X20'-4"

221-ADX
HAMPTON
BASEMENT
DRIVE LEFT SIDE
FULL BRICK
03/31/2014

29.9'
38.3'
25.9'
20.6'
30.7'
36.0'

POSED DRIVE & WALK
1745 SF

WALKING HORSE TRAIL
50' PUBLIC ROAD R/W

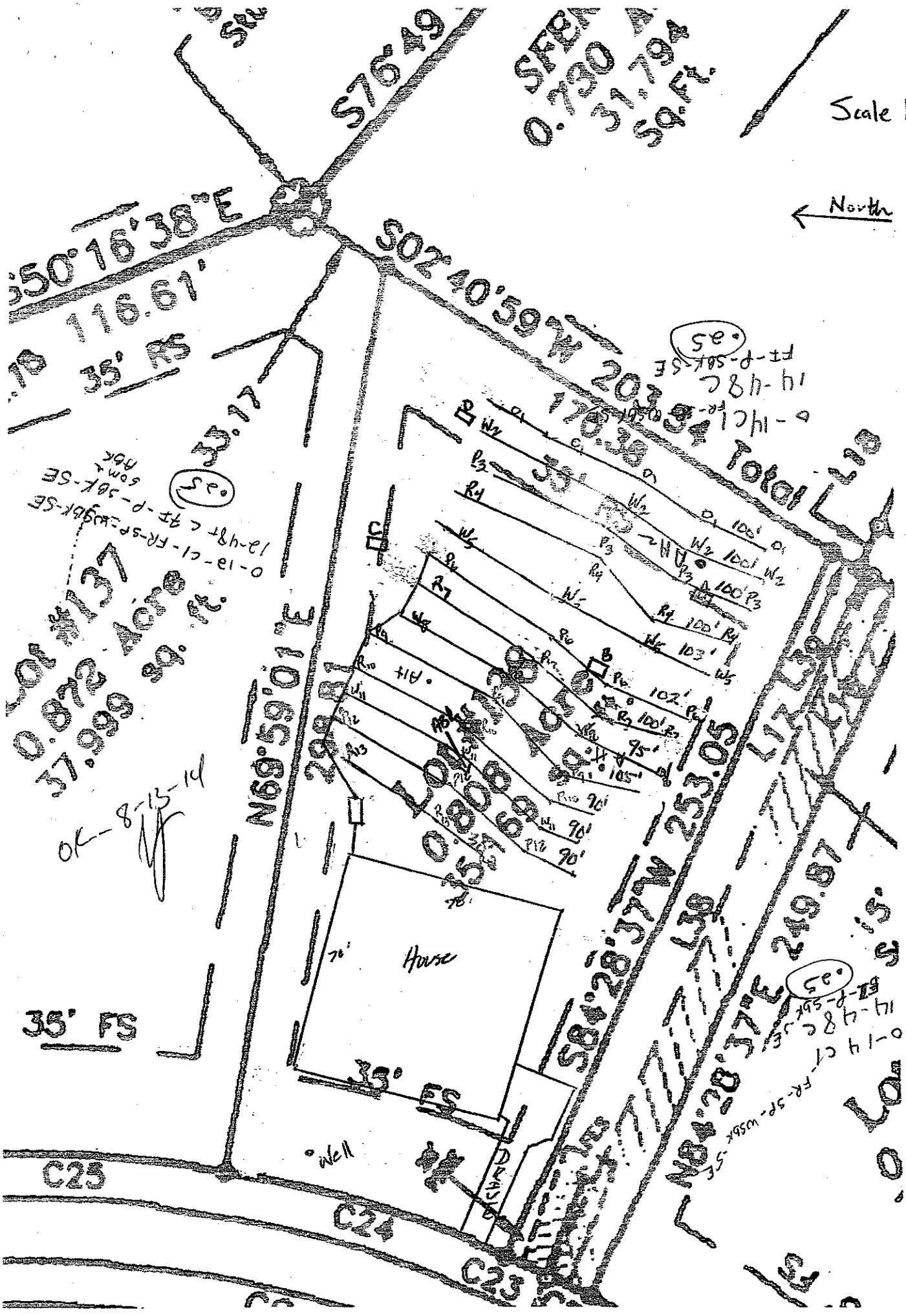
Brush

LOT SETBACKS		
ZONING	RA	
SIDE YARD	15	FEET
SIDE YARD ON CORNER LOT	25	FEET
REAR YARD	35	FEET

REQUESTS

08/19/2014
BASEMENT
DRIVE EXT LEFT SIDE

4/19/01


Scale 1" = 40'
North
S76°49'
S50°16'38"E
116.61'
35' FS
S02°40'59"W 204.34'
178.38'
Total Lot
33.17
N69°59'01"E
0.872 Acres
37,999 sq. ft.
OK-8-13-14
House
35' FS
Well
C25
C24
C23
N68°28'37"W 253.05'
35' FS
C1
B
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
W1
W2
W3
W4
W5
W6
W7
W8
W9
W10
W11
W12
100'
102'
103'
95'
105'
90'
70'
78'

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

Sheet 1 *of* 1
PROPERTY ID #: Lot 138; Anniston
COUNTY: Iredell

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Shea Homes
ADDRESS: 8008 Corporate Center Drive; Suite 300; Charlotte, NC 28226
PROPOSED FACILITY: 5-Bedroom Residence PROPOSED DESIGN FLOW (.1949): 600 GPD
LOCATION OF SITE: Lot 138; Anniston Subdivision; Walking Horse Trail
WATER SUPPLY: ☒ Private ☐ Public ☐ Well ☐ Spring ☐ Other
EVALUATION METHOD: x Auger Boring Pit ☐ Cut

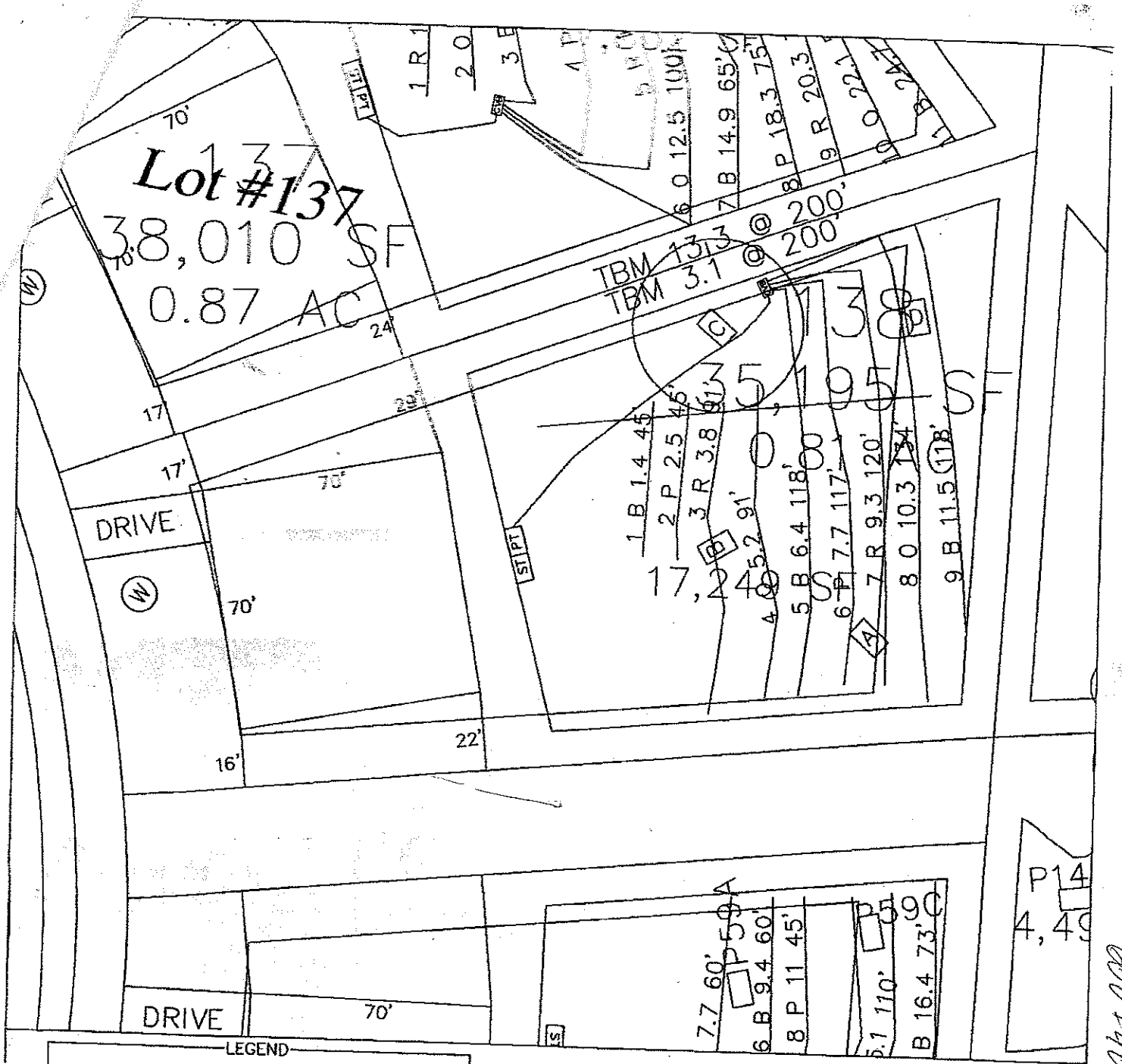
APPLICATION DATE
DATE EVALUATED: 6/4/2014
PROPERTY SIZE: 0.808bf Acres
PROPERTY RECORDED:
TYPE OF WASTEWATER: ☒ Sewage ☐ Industrial Process ☐ Mixed

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	OTHER PROFILE FACTORS .1943 SOIL DEPTH	OTHER PROFILE FACTORS .1956 SAPRO CLASS	OTHER PROFILE FACTORS .1944 RESTR HORIZ	PROFILE CLASS & LTAR
AB 1	L 6-7%	0"-4"	Br CL WSBK	SS SP FR NEXP	Maganese 11"-36"	48"	Few saporlite inclusions at 40"	None	.3-.275
		4"-11"	R Br CL WSBK	SS SP FR NEXP					
		11"-36"	R C SBK	SS SP FR NEXP					
		36"-48"	R C SBK	SS SP FR NEXP					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	1800 Ft2	1671 Ft2
System Type(s)	25% Reduction	PPBPS
Site LTAR	.25	.25

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948):
EVALUATED BY: Michael Athanas and Associates
OTHER(S) PRESENT:

COMMENTS: OK - 8-13-14



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" = 40'

40 0 40 80

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 704.658.1725 FAX 704.658.1734
ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE: (704)746-5046
EMAIL: ROLLANS@WINDSTREAM.NET

MAP TITLE: SITE PLAN ± DRAINFIELD AREAS
LOCATION/DATE: SUGAR CREEK ROAD, IREDELL COUNTY, NORTH CAROLINA, APRIL 2008
PROJECT NAME: KOLLOCK DEVELOPMENT CORP. / ANNISTON PHASE V

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

01-1005

owes 365.00

IREDELL COUNTY HEALTH DEPARTMENT

STATESVILLE 704-878-5305 MOORESVILLE 704-664-5281

IMPROVEMENT PERMIT / AUTHORIZATION TO CONSTRUCT / OPERATION PERMIT / EXISTING SYSTEM INSPECTION

PERMIT# 149923 PIN# 4664984110.138 DATE 5/29/08

OWNER OR APPLICANT N. block Development Co. PHONE: Business _____ Home _____

ADDRESS 300 McGill Ave NW Concord, NC 28027

LOCATION Shearers Rd TL Anniston TR Cornell TL Walking Horse on Left

SUBDIVISION Anniston BLOCK / SECTION ph4 LOT 138 LOT AREA .808 SITE CLASS. C5 DESIGN FLOW 600 L.T.A.R. .25

*Septic Tank: 1500 Gallons: STB _____ Date _____

*Pump Tank: 1500 Gallons: PT _____ Date _____

Pump Make: _____ Model _____ Serial No. _____

Nitrification Field: No Fields 1 Square Feet 1200 Linear Feet 460'

No Lines 40@100' Trench Width 36" Max Trench Bottom Depth 36"

☑ New System ☐ Repair ☐ Expansion System Type: I II III (IV) V VI

System Description: LPP PPGPS

Repair System Description: same

Maintenance Agreement Required: ☑ Yes ☐ No

☑ House/Mod. Home No. Bedrooms 5

☐ Mobile Home No. Persons _____

☐ Business No. Employees _____

☐ Other _____

Water Supply: ☑ Individual ☐ Public ☐ Community

Gravel Depth N/A ☐ Gravity ☑ Pressure ☐ Slab ☑ Crawl Space ☐ Basement w/plumbing ☐ Basement wo/plumbing

Comments:/Conditions: *Per plan specs

Install approved inline filter in P.T.

Comments:/Conditions:

INITIAL SITE SKETCH

See Plan by Rollins Soil & Env. Services, Inc

REVISED

AS BUILT SKETCH

Permit can be suspended or revoked if any false information is supplied toward securing the permit/any unauthorized changes are made to the site/any unauthorized changes are made in the installation of the system. Improvement Permit with plat valid without expiration ☐ Improvement Permit with site plan valid for sixty months ☑ Authorization to Construct is valid for a period equal to that of Improvement Permit – not to exceed sixty months.

Signed: _____ date 6-11-08

Improvement Permit by: Anthony Cohen Jr. date 5/29/08

Authorization to Construct by: _____ date _____

Installed by: _____

Operation Permit by: _____ date _____

Existing System Inspection by: _____ date _____

HEALTH DEPT. COPY: WHITE OWNER COPY (FINAL): YELLOW OWNER COPY (INITIAL): PINK

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 a PPBPS Septic System with low pressure distribution for a 5 bedroom single family residence on Lot # 138 in Anniston Subdivision, Iredell County, North Carolina.

Contents:

	Page
Information for the Installer	1
Design Information	
Design Specifications	2-3
Layout Specifications	4
System Tapsheet	5
Site Plan/System Plan	6-7
Calculations	8
Profile Descriptions	9

May 12, 2008
Project #: 01-1005
Design By: Rollans Soil & Environmental Services

LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant:	Niblock Development Corp.
Address:	300 McGill Ave. NW Concord. NC 28027
Phone:	704 361 1201
County:	Iredell
Location:	ANNISTON LOT 138
Source of Wastewater Flow:	5 Bedroom Single Family Residence
Estimated Gallons Per Day Flow:	600
System Flow:	37.72

Design Specifications

Drainfield Size:	400
Loading Rate (gpd/ft.^{2}):	0.25
Depth of Gravel in Trench:	NA (PPBPS)
Gravel Size:	NA (PPBPS)
Trench Depth:	36 in.
Trench Width:	36 in.
Septic Tank Size:	1500
Pump Tank Size:	1500
Estimated Supply Line Length:	103
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	17.92
Dosing Volume:	154.37
Supply Manifold:	N/A
Supply Manifold Length:	N/A
Supply Manifold Volume:	N/A
Recommended Float Controls:	SJE Sensor Float Control Switches as Required for Control Panel or County Approved Equivalents
Recommended Control Panel:	SJE-Rhombus Model 112 (NEMA 4x) Control Panel or County Approved Control Panel.
Pressure Head:	2 ft.
Friction Head:	3.12
Elevation Head:	0.00
Total Dynamic Head:	5.89
Threaded Union:	In Tank
Gate Valves:	1 in Tank 1 per lateral
Check Valves:	In Tank
Anti-Siphon Hole:	NA
Additional Comments:	Soil suitability was performed by Rollans Soil & Environmental Services

ANNISTON LOT 138
LP PPBPS

DESIGN FLOW (gpd):	600
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.25
TOTAL AREA TRENCH BOTTOM:	1200
TOTAL LATERAL LENGTH:	400
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	400
SUPPLY LINE LENGTH:	103
TOTAL DYNAMIC HEAD:	5.89
MANIFOLD SIZE:	N/A
DOSING VOLUME:	154.37
PUMP TANK DRAW DOWN*:	5.3
SEPTIC TANK SIZE:	1500
PUMP TANK SIZE:	1500

**Pump tank draw down based on a volume basis of 29 gallons per inch. Draw down may vary among pump tank manufacturers.*

ANNISTON LOT 138

Project #: 01-1005

LAYOUT FOR 5 BEDROOM HOME

May 12, 2008

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		3.1			100.00		
INSTR. 1			103.10				
HOUSE CNR				0.90	102.20		
P. TANK				0.00	103.10		
1	BLUE			1.40	101.70	66	45
2	PINK			2.50	100.60	70	46
3	RED			3.80	99.30	118	91
4	ORANGE			5.20	97.90	116	91
5	***BLUE***			***6.40***	***96.70***	***118***	***100***
6	***PINK***			***7.70***	***95.40***	***117***	***100***
7	***RED***			***9.30***	***93.80***	***120***	***100***
8	ORANGE			10.30	92.80	134	134
9	***BLUE***			***11.50***	***91.60***	***118***	***100***
					Total	**977**	**807**

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION
****System***	***400***	***0.250***	***MOD.***	***0.250***	***PPBPS***	***LOW PRESSURE***
Repair	407	0.250	MOD.	0.250	PPBPS	LOW PRESSURE

Notes:

** TBM located top of ground at EIP at corner 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

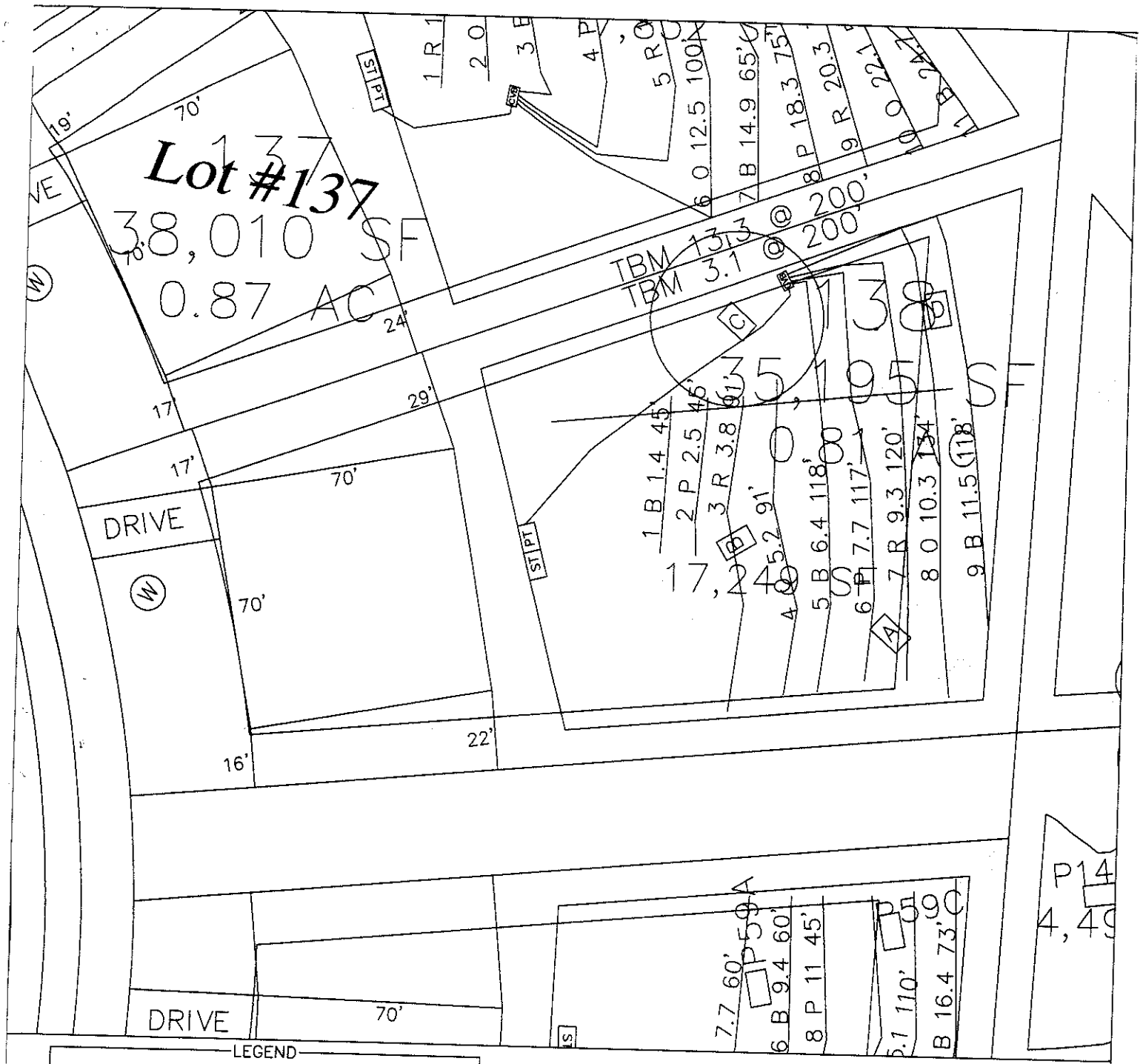
LP PPBPS TAPSHEET -ANNISTON LOT# 138

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	Number of Panels
5	***BLUE***	96.7	***100***	0.156	**0.41**	300	23
6	***PINK***	95.4	***100***	0.156	**0.41**	300	23
7	***RED***	93.8	***100***	0.156	**0.41**	300	23
9	***BLUE***	91.6	***100***	0.156	**0.41**	300	23
	total	**feet =**	**400**	**gal/min =**	**37.72**		92

Des. Flow	**600**
Pump Run=	**5.88**
soil LTAR	**0.25**
LTAR +5%	**0.2625**
LTAR with mod.	**0.5**
LTAR with mod.. + 5%	**0.525**

.156 equals 5/32 inch hole



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" = 40'

40 0 40 80

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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 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 PH IV

Project Number 01-1005

Lot No: Lot 138

No. of Bedrooms	5
Design Flow	600 $^{gal}/_{day}$
LTAR	0.250 $^{gal}/_{ft^2 day}$
PPBPS? (YES OR NO)	YES
Supply Line Length	103 ft.
Supply Line Volume	17.922 gal.
Required Feet of Line	400 ft.
Amount of Line from Layout	400 ft.
Gallons per Minute	37.72 $^{gal}/_{min}$
Required Septic Tank Capacity	1500 gal.
	1500 gal.
Panel Volume	3.6 gal.
# of Panels	64
Dosing Volume	154.37 gal.

Note: Dosing Volume based on 67% of # of panels times 3.6 gal/panel

Tank Draw Down	5.3 *Generic Draw Down of 29 gal.per in.*
Pump Run Time	4.09 minutes
Elevation Head	0 ft.
Pressure Head	2 ft.
Friction Factor	3.03 ft./100 ft. *(From the interpolater.)*
Friction Head	3.12 ft.
Total Dynamic Head (+15%)	5.89 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

SOIL/SITE EVALUATION

(Continuation Sheet)

Sheet ____

DEPARTMENT OF ENVIRONMENT
AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH

PROPERTY ID #: _____
DATE OF EVALUATION: _____
COUNTY: _____

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	PROFI CLAS & LT/
P-38A	4/6-10%	0-20	B cl wfsbk	Fr SSSP SEXP					PS 0.25
		20-58	RB C wmAbk	Fr SSP SEXP	D-c[mn] -f. YBs 48"	58	–	–	
P-38B	4/6-10%		Same as P-38A						PS 0.25
P-38C	4/6-10%	0-15	B C l wfsbk	Fr SSSP SEXP					PS- 0.25
		15-40	RB C mfAbk	FSP SEXP	D-C[mn] m[mn] -C Chrds	60	–	–	
		40-60	BRC-YWsbk/Abk	FSS P SEXP					
P-38D	4/6-8%	0-12	B C l mfAbk/sbk	Fr SSSO SEXP					PS 0.25
		12-60	BRC mfAbk	Fr S P SEXP	-C[mn] -f YBs 50"	60	-	-	

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 _____
ADDRESS: _____ DATE EVALUATED: 5/29/08
PROPOSED FACILITY: _____ PROPOSED DESIGN FLOW (.1949): _____ PROPERTY SIZE: _____
LOCATION OF SITE: Anniston ph4 Lot 138 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
A 1	L 5-10%	0-20	ALL/SBK CL/C	PS SS SP SE P					PS .25
		20-60	ALK/SBK C	PS SS SP SE P	few YO				
B 2	L 5-10%	0-20	ALL/SBK C	PS SS SP SE P					PS .25
		20-	ALK/SBK C	PS SS SP SE P	few YO				
3									
4									

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

OTHER FACTORS (.1946): _____
SITE CLASSIFICATION (.1948): _____
EVALUATED BY: Anthony Coker Jr.
OTHER(S) PRESENT: _____