0920-13
pd 8/95-00



MICHAEL ATHANAS & ASSOCIATES
LICENSED SOIL SCIENTIST
1999 CANDLEWICK DRIVE
FORT MILL, S.C. 29715
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Reference: Data Sheet for Lot 3 Highland Ridge S.D., Iredell County NC
House Footprint: Refer to Drawing
Water Source: Community Well
Number of Bedrooms: 5/600gpd (Currently permitted for four bedrooms)
Pre-Determined LTAR: Initial 0.3 gpd/ft2, Repair 0.3 gpd/ft2 (ICHD)
Suggested System Type: 25% Reduction, Repair LP PPBPS
Distribution: Pressure Manifold
Pressure Head: 2
Flow per Tap: 7.11gal
Hole Size & Material: 5 @ ½" SCH. 40
System Flow: 35.55gal
Dosing Volume: 228.55gal
Pump Run Time: 6.43min
Elevation Head: 17.9
Friction Head: 6.0
Total Dynamic Head: 31.0
Drawdown: 7.3'
Trench Bottom Square Footage: 1500 FT2
Supply Line Length: 250'
Total Linear Footage: 500'
Proposed Trench Depth: 36"
Septic/ Pump tank size: 1500gal

Line	Actual Length	Design Length	Elevation
Orange 1	34'		3.9
Blue 2	45'		3.8
Pink 3	58'		3.6
DPink 4	80'		3.8
Orange 5	95'		4.0
Blue 6	**100'**	**100'**	**4.3**
Pink 7	**100'**	**100'**	**4.6**
DPink 8	**100'**	**100'**	**4.9**
DPink 9	40'		4.9
Orange 10	**100'**	**100'**	**5.4**
Orange 11	60'		5.4

Red 12	**173'**	**100'**	**7.8**

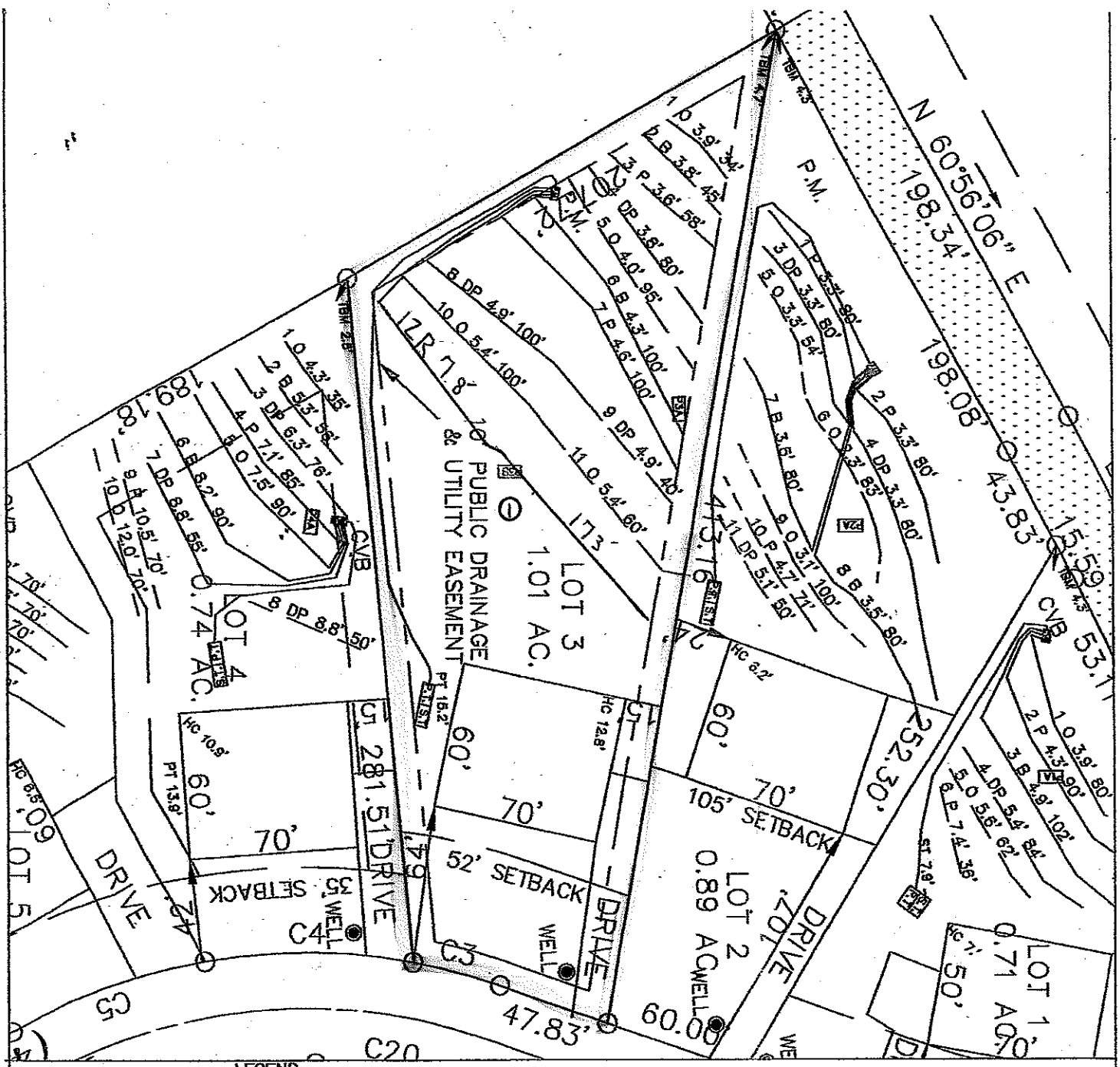
Initial System: 500' of 25% Red., B6-P8, O10 & R 12

Repair System: PPBPS, O1-O5, DP9, O11 & R12 Approx. 480'

ST/PT: 15.2, 1500 gal.

House Corner: 12.8, Rear Right Corner

Comments: Currently lot 3 is permitted for a four bedroom septic system. MA&A verified the soils by placing on additional soil boring; please note only one line (R12) was added to the current system area. All other elevations other elevations were taken from Rollans plan. Please note this is a crawl only/no basement and do not cut pad. If there are any questions, please feel free to call.



LEGEND

House Box.

System lines.

Repair lines.

House Corner Shot.

T.B.M.

GRAPHIC SCALE
1" = 60'

60 0 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
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MOUNT ULLA, NC 28125
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MAP TITLE: SITE PLAN & DRAINFIELD AREAS

PROJECT NAME: DESIGNS OF LLC / REBRAND HOSE

LOCATION/DATE: PERRY ROAD, RUSSELL COUNTY, NORTH CAROLINA, FEBRUARY 2007

JOB # : 01-1329
FILE: C:\JOBS\01-1329
PROJECT MGR.: C.B.F.
FIELD WORK: C.B.F. & A.L.P.
DRAWN BY: C.B.F.

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

Sheet 1 *of* 1
PROPERTY ID #:
COUNTY: Iredell

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Adams Homes APPLICATION DATE
ADDRESS: DATE EVALUATED:
PROPOSED FACILITY: 5 bedroom PROPOSED DESIGN FLOW (.1949): 600gpd PROPERTY SIZE: 1.01 ac
LOCATION OF SITE: Lot3 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)		OTHER PROFILE FACTORS				PROFILE CLASS & LTAR
			.1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	.1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAP CLASS	.1944 RESTR HORIZ	
1	LS 3-5%	0-5	BR SCL WSBK	FR SS/SP SEXP		48"			PS .3
		5-32	R C SBK	FR SS/SP SEXP					
		32-48	R CL WSBK	FR SS/SP SEXP					
2									
3									
4									

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	1500 FT2	810 ft2
System Type(s)	25% Red	LP PPBPS
Site LTAR	.3	.3

OTHER FACTORS (.1946): Previously evaluated by ICHD
SITE CLASSIFICATION (.1948):
EVALUATED BY: MA&A
OTHER(S) PRESENT:

COMMENTS:

HIGHLAND RIDGE LOT 3
PRESSURE MANIFOLD DESIGN

DESIGN FLOW (gpd):	480
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.3
TOTAL AREA TRENCH BOTTOM:	1200
TOTAL LATERAL LENGTH:	400
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	400
SUPPLY LINE LENGTH:	289
TOTAL DYNAMIC HEAD:	14.43
MANIFOLD SIZE:	4 in.SCH 80 PVC
DOSING VOLUME:	195.90
PUMP TANK DRAW DOWN*:	9.3
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	1000

**Pump tank draw down based on a volume basis of 21 gallons per inch. Draw down may vary among pump tank manufacturers.*

HIGHLAND RIDGE LOT 3

Project #: 01-1329

LAYOUT FOR 4 BEDROOM HOME — February 21, 2007

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		4.7			100.00		
TANK		15.20	89.50				
HOUSE		12.80	91.90				
INSTR. 1			104.70				
1	ORANGE			3.90	100.80	34	30
2	BLUE			3.80	100.90	45	45
3	PINK			3.60	101.10	58	55
4	DARK PINK			3.80	100.90	80	80
5	ORANGE			4.00	100.70	95	95
6	***BLUE***			***4.30***	***100.40***	***116***	***100***
7	***PINK***			***4.60***	***100.10***	***128***	***100***
8	***DARK PINK***			***4.90***	***99.80***	***100***	***100***
9	DARK PINK			4.90	99.80	40	40
10	***ORANGE***			***5.40***	***99.30***	***100***	***100***
11	ORANGE			5.40	99.30	60	60
					Total	**856**	**805**

	LINE LENGTH	LTAR GPD/FT²	SYSTEM TYPE	SOIL LTAR GPD/FT²	TRENCH SYSTEM	DISTRIBUTION
**** System***	***400***	***0.30***	***ACCEPT.***	***0.30***	***25% RED.***	**PRESSURE MANIFOLD**
Repair	405	0.30	ACCEPT.	0.30	25% RED.	PRESSURE MANIFOLD

Notes:

** TBM located on left front corner lot 47 (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

PRESSURE MANIFOLD TAPSHEET - HIGHLAND RIDGE LOT#3

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/Tap	Trench Area
6	*BLUE*	100.4	100	SCH 40 1/2	7.11	300
7	*PINK*	100.1	100	SCH 40 1/2	7.11	300
8	*DARK PINK*	99.8	100	SCH 40 1/2	7.11	300
10	*ORANGE*	99.3	100	SCH 40 1/2	7.11	300
	total	**feet =**	**400**	**gal/min =**	**28.44**	
			Des. Flow	**360**		
			Pump Run=	**6.89**		
			soil LTAR	**0.30**		
			LTAR +5%	**0.315**		
			LTAR with ACCEPTED	**0.33075**		
			LTAR with ACCEPTED + 5%	**0.3472875**		

CALCULATIONS

Location Highland Ridge

Project Number 01-1329

Lot No: Lot 3

No. of Bedrooms	4
Design Flow	480 $^{gal}/_{day}$
LTAR	0.3 $^{gpd/ft^2}$
25% RED.? (YES OR NO)	YES
Supply Line Length	289 ft.
Supply Line Volume	50.286 gal.
Required Feet of Line	400 ft.
Amount of Line from Layout	400 ft.
Gallons per Minute	28.44 $^{gal}/_{min}$
Required Septic Tank Capacity	1000 gal.
Minimum Standard Tank Size	1000
Lateral Line Volume	261.2 gal.
Dosing Volume	195.90 gal.

Note: Dosing Volume based on75% of lateral line volume

Tank Draw Down	9.3 *Generic Draw Down of 21 gal.per in.*
Pump Run Time	6.89 minutes
Elevation Head	5.4 ft.
Pressure Head	2 ft.
Friction Factor	1.78 ft./100 ft. *(From the interpolater.)*
Friction Head	5.14 ft.
Total Dynamic Head (+15%)	14.43 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