PRESSURE MANIFOLD SYSTEM
FOR WASTEWATER TREATMENT

Owner:	Annistion LLC
Address:	17824 Statesville Rd., Suite 112 Cornelius, NC 28031
Phone:	(704) 362-5007
County:	Iredell
Location:	ANNISTON LOT #60
Source of Wastewater Flow:	5 Bedroom Single Family Residence
Estimated Gallons Per Day Flow:	600
System Flow:	28.44

Design Specifications

Drainfield Size:	500
Loading Rate (gpd/ft.^{2}):	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:	1500 gal.
Estimated Supply Line Length:	1254
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	218.20
Dosing Volume:	228.55
Supply Manifold:	4 in. SCH 80 PVC
Supply Manifold Length:	4 ft. (minimum)
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:	22.32
Elevation Head:	60.00
Total Dynamic Head:	96.97
Threaded Union:	In Tank
Gate Valves:	1 in Tank 1 at Pressure Manifold
Check Valves:	In Tank
Anti-Siphon Hole:	NA
Additional Comments:	Soil suitability was performed by Rollans Soil & Environmental Services.

ANNISTON LOT #60
PRESSURE MANIFOLD DESIGN

DESIGN FLOW (gpd):	600
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.3
TOTAL AREA TRENCH BOTTOM:	1500
TOTAL LATERAL LENGTH:	500
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	500
SUPPLY LINE LENGTH:	1254
TOTAL DYNAMIC HEAD:	96.97
MANIFOLD SIZE:	4 in.SCH 80 PVC
DOSING VOLUME:	228.55
PUMP TANK DRAW DOWN*:	7.4
SEPTIC TANK SIZE:	1500 gal.
PUMP TANK SIZE:	1500 gal.

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

ANNISTON LOT #60

Project #: 01-1005

LAYOUT FOR 5 BEDROOM HOME — June 27, 2007

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		7.1			100.00		
INSTR. 1			107.10				
HOUSE CNR					44.20		
P.TANK					48.70		
1	DARK PINK			2.90	104.20	66	66
2	*ORANGE*			*3.40*	*103.70*	*125*	*125*
3	PINK			4.00	103.10	79	79
4	*BLUE*			*4.50*	*102.60*	*187*	*125*
5	ORANGE			4.80	102.30	85	85
6	*RED*			*5.50*	*101.60*	*129*	*125*
7	DARK PINK			5.90	101.20	64	64
8	*PINK*			*6.30*	*100.80*	*169*	*125*
9	ORANGE			7.60	99.50	86	86
10	DARK PINK			8.80	98.30	71	71
11	BLUE			10.30	96.80	47	47
					Total	**1108**	**998**

	LINE LENGTH	LTAR GPD/FT²	SYSTEM TYPE	SOIL LTAR GPD/FT²	TRENCH SYSTEM	DISTRIBUTION
* *System*	*500*	*0.30*	*ACCEPT.*	*0.30*	*25% RED.*	**PRESSURE MANIFOLD**
Repair	498	0.30	MOD.	0.30	PPBPS	LOW PRESSURE

Notes:

** Elevations for pump tank and house corner obtained from county topography.

** TBM located at top of ground. (see site plan)

**TBM is assumed to be 100'

**All measures in feet

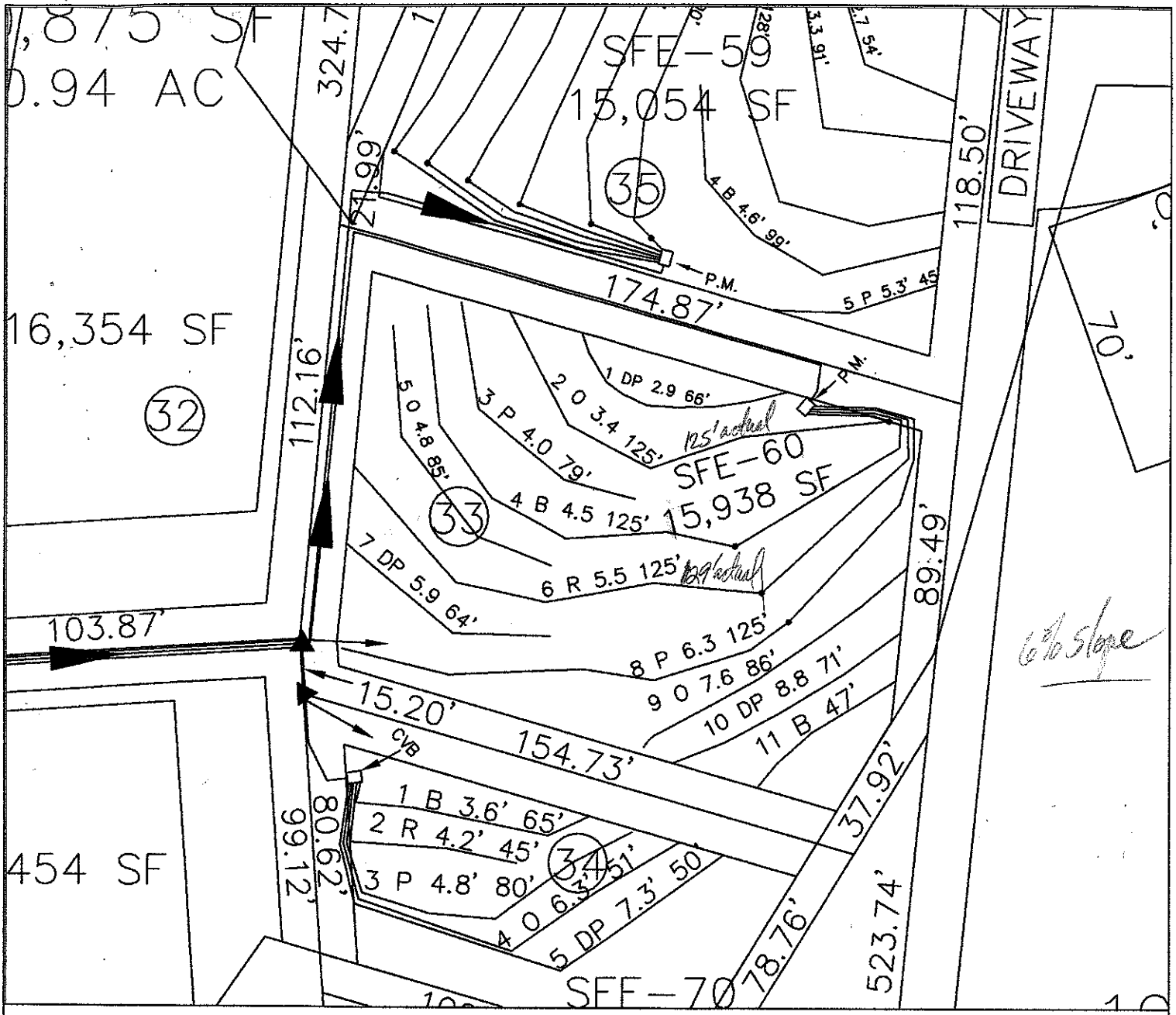
**Nitrification lines are demonstrated on contour via colored pin flags

**BS, HI, and FS indicate rod readings

PRESSURE MANIFOLD TAPSHEET - ANNISTON LOT#60

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/Tap	Trench Area
2	*ORANGE*	*103.70*	*125*	SCH 40 1/2	**7.11**	375
4	*BLUE*	*102.60*	*125*	SCH 40 1/2	**7.11**	375
6	*RED*	*101.60*	*125*	SCH 40 1/2	**7.11**	375
8	*PINK*	*100.80*	*125*	SCH 40 1/2	**7.11**	375
	total	**feet =**	**500**	**gal/min =**	**28.44**	
			Des. Flow	**600**		
			Pump Run=	**8.04**		
			soil LTAR	**0.3**		
			LTAR +5%	**0.315**		
			LTAR with ACCEPTED	**0.33075**		
			LTAR with ACCEPTED + 5%	**0.3472875**		



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
- System lines.
- Repair lines.
- Temporary Bench Mark (TBM)
- Well Location. (25) 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
2120 GRAHAM ROAD
MOUNT ULLA, NC 28125
PHONE/FAX: (704) 278-0989
ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE: (704) 746-5046
EMAIL: ROLLANSFORTCJ@AOL.COM

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

PROJECT NAME: ANNISTON, LLC. / ANNISTON PHASE II

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

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 SUBDIVISION

Project Number 01-1005

Lot No: Lot 60

No. of Bedrooms	5	
Design Flow	600	$^{gal}/_{day}$
LTAR	0.3	$^{gpd/ft^2}$
25% RED.? (YES OR NO)	YES	
Supply Line Length	1254	ft.
Supply Line Volume	218.196	gal.
Required Feet of Line	500	ft.
Amount of Line from Layout	500	ft.
Gallons per Minute	28.44	$^{gal}/_{min}$
Required Septic Tank Capacity	1500	gal.
Minimum Standard Tank Size	1500 gal.	
Lateral Line Volume	326.5	gal.
Dosing Volume	228.55	gal.

Note: Dosing Volume based on70% of lateral line volume

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

Tank Draw Down	7.4	*Generic Draw Down of 31 gal.per in.*
Pump Run Time	8.04	minutes
Elevation Head	60	ft.
Pressure Head	2	ft.
Friction Factor	1.78	ft./100 ft. *(From the interpolater.)*
Friction Head	22.32	ft.
Total Dynamic Head (+15%)	96.97	ft.