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 #59

Source of Wastewater Flow: 5 Bedroom Single Family Residence
Estimated Gallons Per Day Flow: 600
System Flow: 32.88

Design Specifications

Drainfield Size: 600
Loading Rate (gpd/ft.^{2}): 0.25
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: 880
Supply Line Diameter: 2 in. SCH 40 PVC
Supply Line Volume: 153.12
Dosing Volume: 274.26
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: 20.86
Elevation Head: 28.00
Total Dynamic Head: 58.48

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 #59
PRESSURE MANIFOLD DESIGN

DESIGN FLOW (gpd):	600
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.25
TOTAL AREA TRENCH BOTTOM:	1800
TOTAL LATERAL LENGTH:	600
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	600
SUPPLY LINE LENGTH:	880
TOTAL DYNAMIC HEAD:	58.48
MANIFOLD SIZE:	4 in.SCH 80 PVC
DOSING VOLUME:	274.26
PUMP TANK DRAW DOWN*:	8.8
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 #59

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		4.1			100.00		
INSTR. 1			104.10				
HOUSE CNR					82.40		
P.TANK					78.40		
1	BLUE			2.70	101.40	54	54
2	PINK			3.30	100.80	91	91
3	ORANGE			4.20	99.90	128	128
4	BLUE			4.60	99.50	99	99
5	PINK			5.30	98.80	45	45
6	***DARK PINK***			***5.30***	***98.80***	***120***	***100***
7	***PINK***			***5.80***	***98.30***	***110***	***100***
8	***ORANGE***			***6.90***	***97.20***	***109***	***100***
9	***BLUE***			***7.90***	***96.20***	***112***	***100***
10	***DARK PINK***			***8.80***	***95.30***	***114***	***100***
11	***PINK***			***9.70***	***94.40***	***106***	***100***
					Total	**1088**	**1017**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
** System*	*600*	*0.25*	*ACCEPT.*	*0.25*	*25% RED.*	**PRESSURE**
Repair	417	0.25	MOD.	0.25	PPBPS	**MANIFOLD** 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

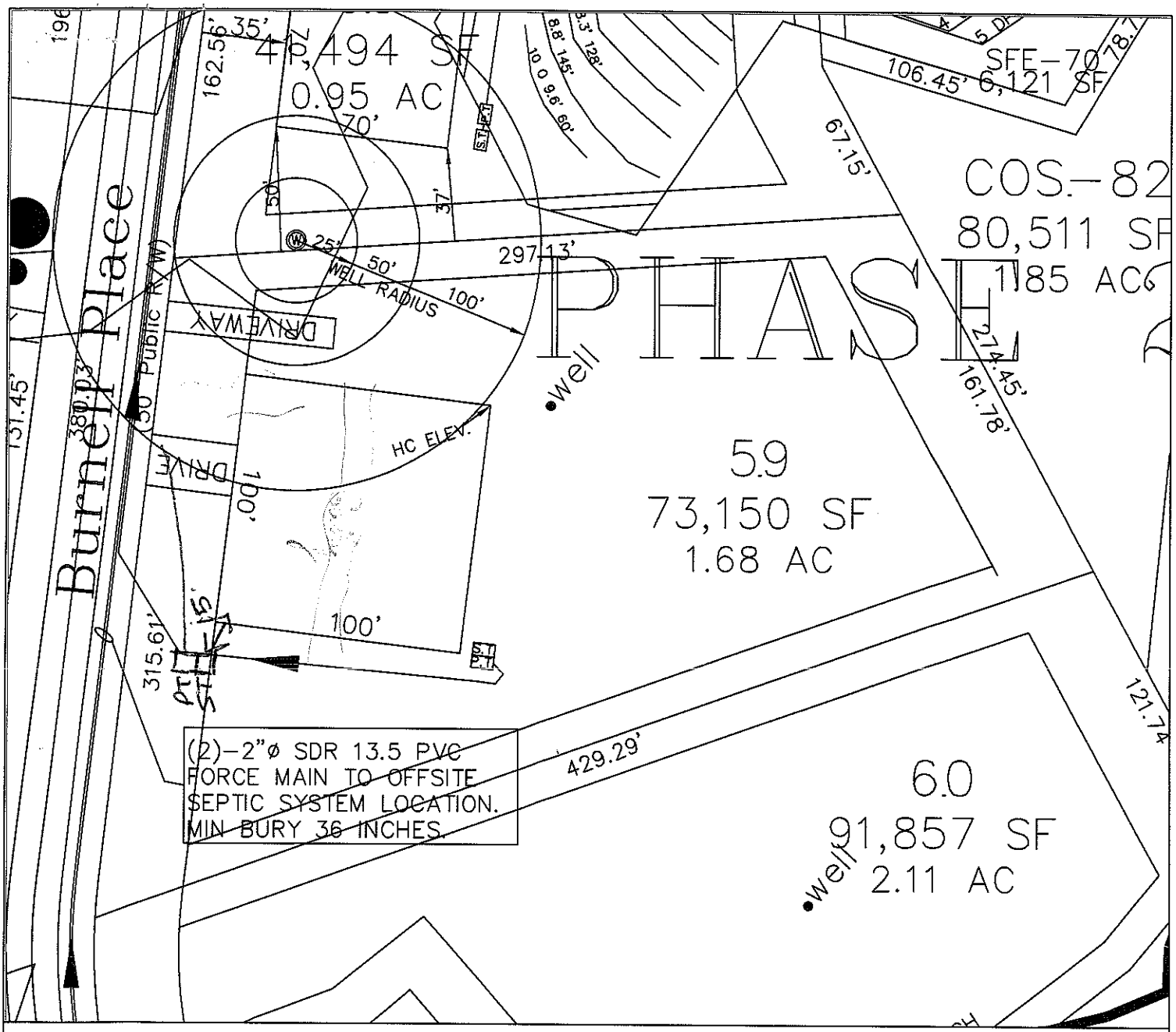
**Nitrification lines are demonstrated on contour via colored pin flags

**BS, HI, and FS indicate rod readings

PRESSURE MANIFOLD TAPSHEET - ANNISTON LOT#59

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/Tap	Trench Area
6	*DARK PINK*	*98.80*	*100*	SCH 80 1/2	**5.48**	300
7	*PINK*	*98.30*	*100*	SCH 80 1/2	**5.48**	300
8	*ORANGE*	*97.20*	*100*	SCH 80 1/2	**5.48**	300
9	*BLUE*	*96.20*	*100*	SCH 80 1/2	**5.48**	300
10	*DARK PINK*	*95.30*	*100*	SCH 80 1/2	**5.48**	300
11	*PINK*	*94.40*	*100*	SCH 80 1/2	**5.48**	300
	total	**feet =**	**600**	**gal/min =**	**32.88**	
			Des. Flow	**600**		
			Pump Run=	**8.34**		
			soil LTAR	**0.25**		
			LTAR +5%	**0.2625**		
			LTAR with ACCEPTED	**0.275625**		
			LTAR with ACCEPTED + 5%	**0.28940625**		



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" = 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

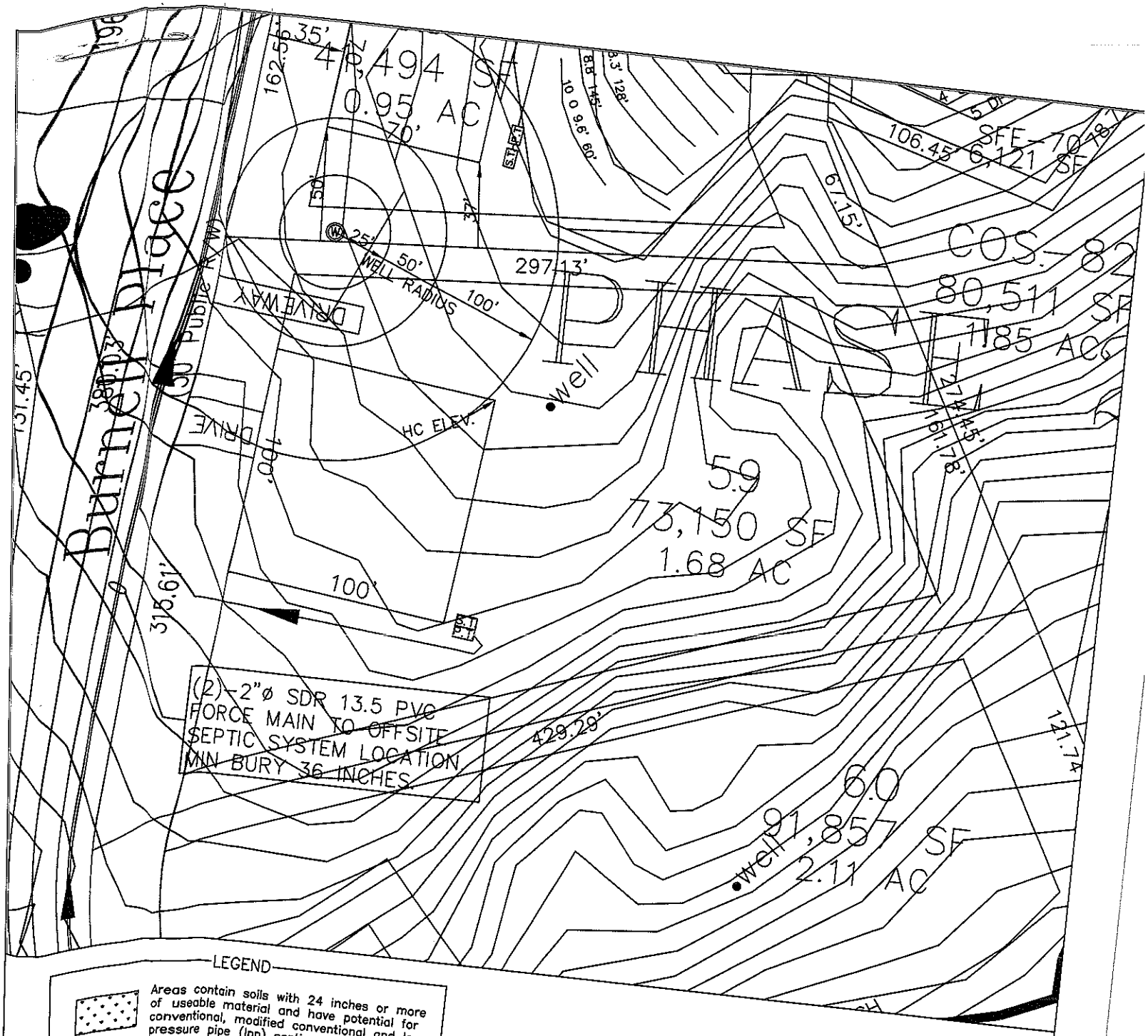
ROLLANS SOIL & ENVIRONMENTAL SERVICES
2120 GRAHAM ROAD
MOUNT ULLA, NC 28125
PHONE/FAX: (704) 278 - 0989
ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE: (704) 746 - 5046
EMAIL: ROLLANSFORTCJ@AOL.COM

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

PROJECT NAME: ANNISTON, LLC. / ANNISTON PHASE II

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

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



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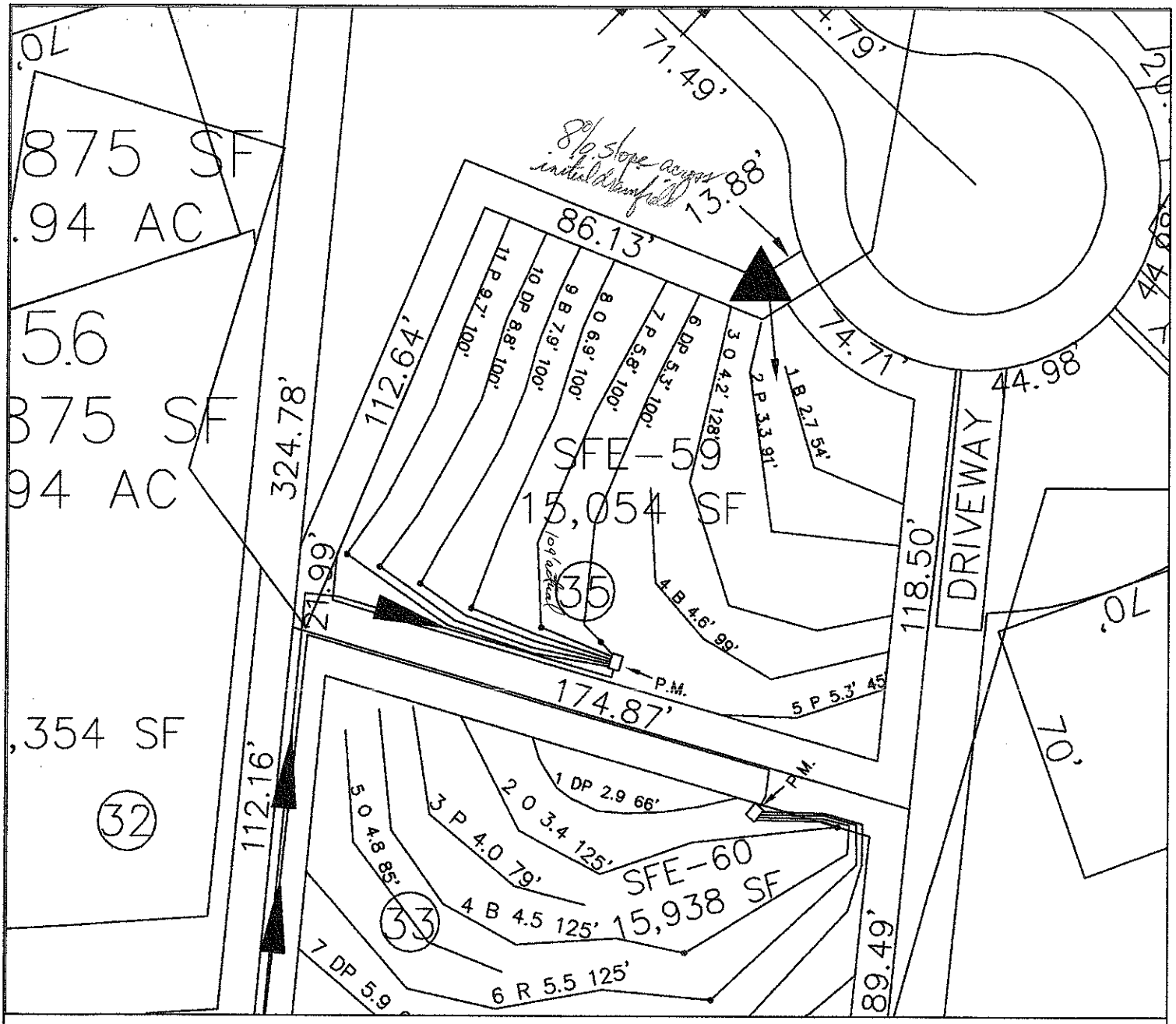
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LEGEND

- 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

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CALCULATIONS

Location ANNISTON SUBDIVISION

Project Number 01-1005

Lot No: Lot 59

No. of Bedrooms	5	
Design Flow	600	$^{gal}/_{day}$
LTAR	0.25	gpd/ft²
25% RED.? (YES OR NO)	YES	
Supply Line Length	880	ft.
Supply Line Volume	153.12	gal.
Required Feet of Line	600	ft.
Amount of Line from Layout	600	ft.
Gallons per Minute	32.88	$^{gal}/_{min}$
Required Septic Tank Capacity	1500	gal.
Minimum Standard Tank Size	1500 gal.	
Lateral Line Volume	391.8	gal.
Dosing Volume	274.26	gal.
	Note:	*Dosing Volume based on70% of lateral line volume*
Tank Draw Down	8.8	*Generic Draw Down of 31 gal.per in.*
Pump Run Time	8.34	minutes
Elevation Head	28	ft.
Pressure Head	2	ft.
Friction Factor	2.37	ft./100 ft. *(From the interpolater.)*
Friction Head	20.86	ft.
Total Dynamic Head (+15%)	58.48	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