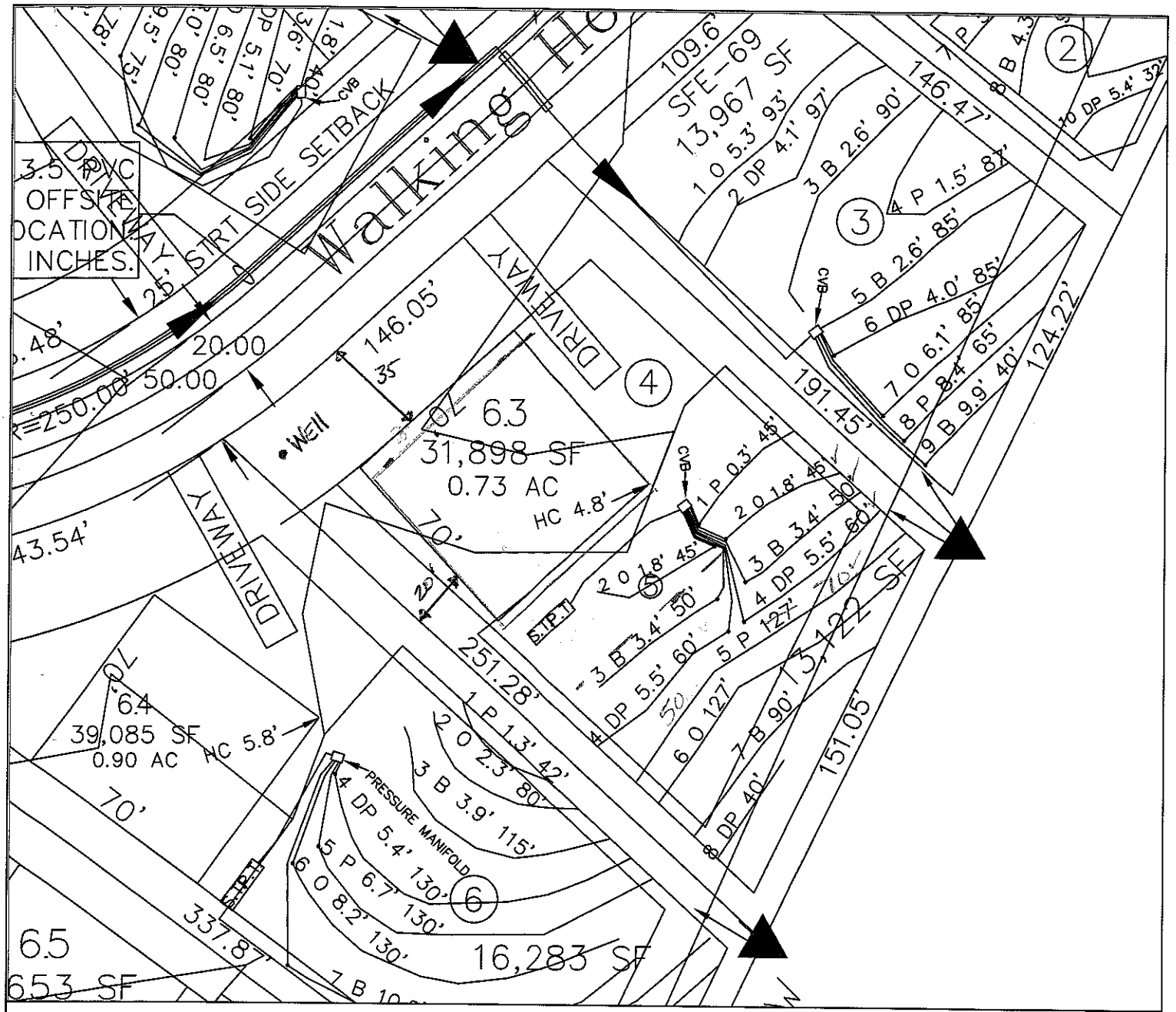


LEGEND

- 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" = 50'

50 0 50 100

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

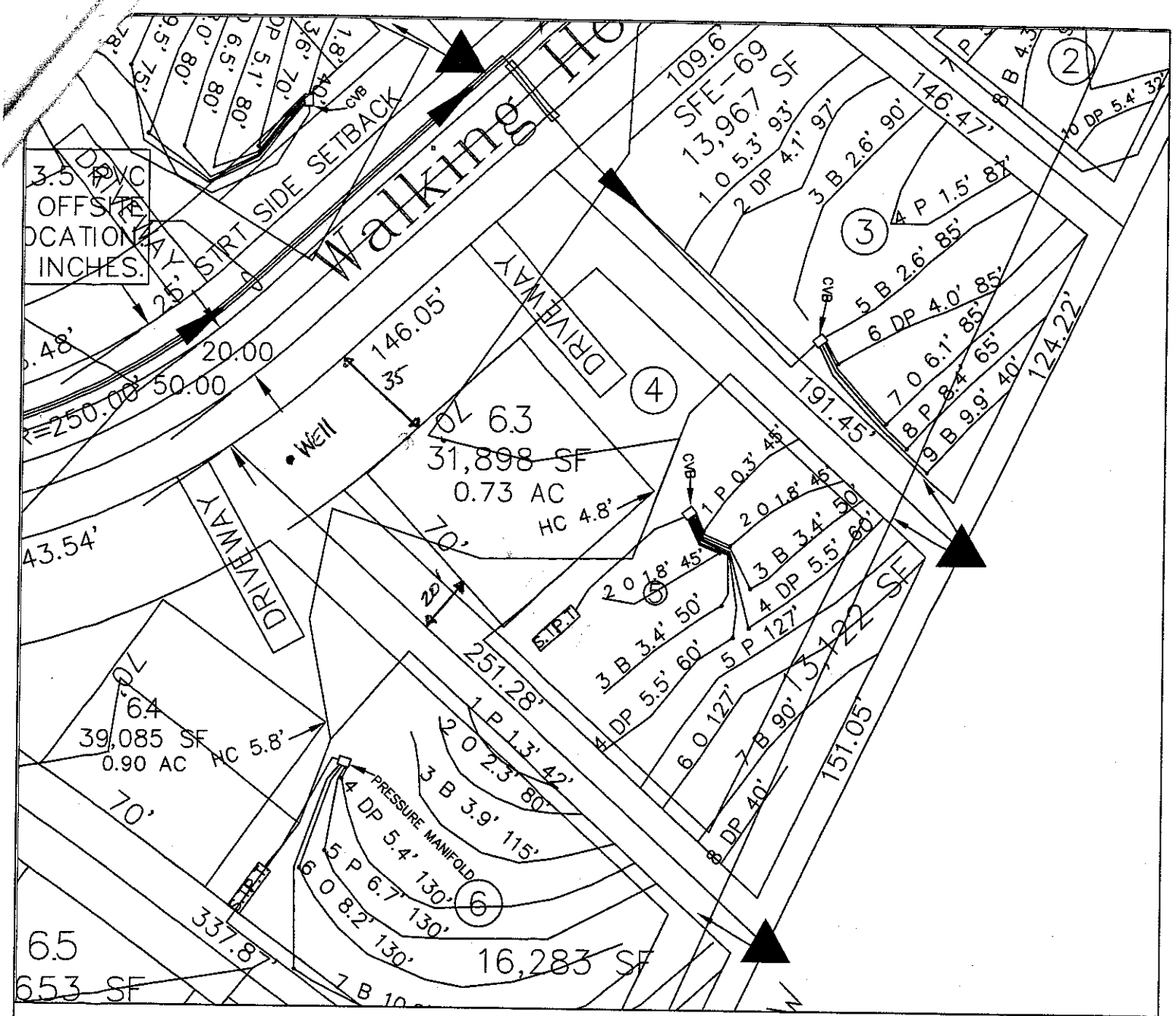
ROLLANS SOIL & ENVIRONMENTAL SERVICES
2120 GRAHAM ROAD
MOUNT ULLA, NC 28125
PHONE/FAX: (704) 278 - 0989
ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE: (704) 746 - 5046
EMAIL: ROLLANSPORTCJ@AOL.COM

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.



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" = 50'

50 0 50 100

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

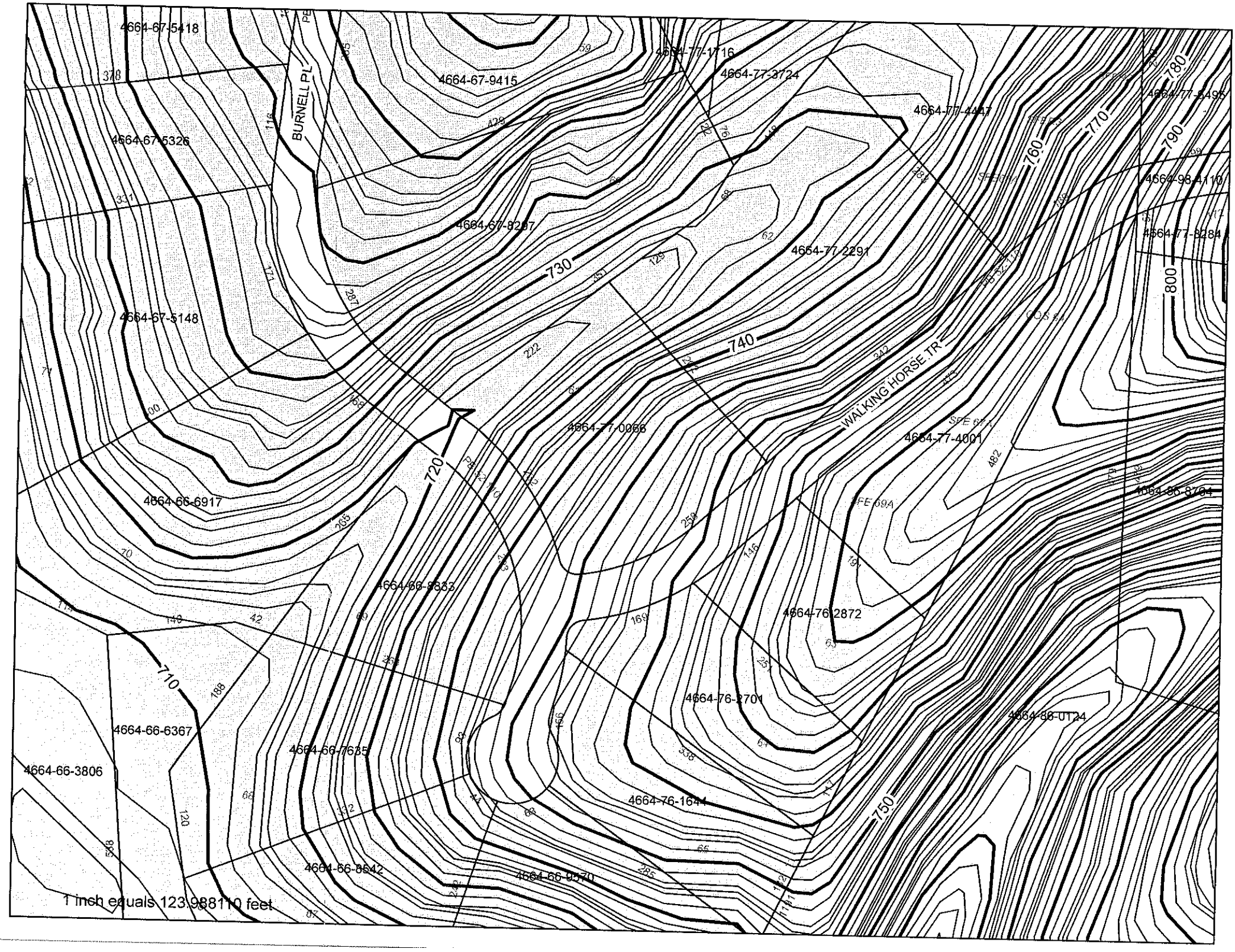
ROLLANS SOIL & ENVIRONMENTAL SERVICES
2120 GRAHAM ROAD
MOUNT ULLA, NC 28125
PHONE/FAX: (704) 278 - 0989
ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE: (704) 746 - 5046
EMAIL: ROLLANSFORTCJ@AOL.COM

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.


4664-67-5418
4664-67-9415
4664-77-1716
4664-77-3724
4664-77-4447
4664-67-5326
4664-67-8287
4664-77-2291
4664-67-5148
4664-77-0066
4664-77-4001
4664-66-6917
4664-66-8833
4664-76-2872
4664-66-6367
4664-66-7635
4664-76-2701
4664-66-3806
4664-76-1644
4664-66-8642
4664-66-9570
BURNELL PL
WALKING HORSE TR
730
740
720
710
750
760
770
780
790
800
1 inch equals 123.988110 feet

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 DEHNR, 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.
- Where required by the county health department, post installation inspections by the designer must be scheduled 5 week days in advance.
- 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 a PPBPS installation with low pressure distribution.
- Repair is specified as a PPBPS installation with low pressure distribution.
- Backfill 4 - 6" of material (County Approved) over panels, rake trench walls, lime side-walls, install trenches 36" wide to be level but have no more than 1/4" fall in 10 feet.

LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant: Anniston, LLC

Address: 17824 Statesville Rd., Suite 112
Cornelius, NC 28031
Phone: (704) 362-5007
County: Iredell
Location: Anniston Lot 63

Source of Wastewater Flow: 5 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 600 gpd
System Flow: 33.62

Design Specifications

Drainfield Size: 355
Loading Rate: 0.3
Depth of Gravel in Trench: NA (PPBPS)
Gravel Size: NA (PPBPS)
Trench Depth: 36 in.
Trench Width: 36 in.
Septic Tank Size: 1500 gal.
Pump Tank Size: 1500 gal.

Estimated Supply Line Length: 51
Supply Line Diameter: 2 in. SCH 40 PVC
Supply Line Volume: 8.87
Dosing Volume: 197.78
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: 1.21
Elevation Head: 8.20
Total Dynamic Head: 13.12

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 63
LP PPBPS

DESIGN FLOW:	600
SOIL APPLICATION RATE:	0.3
TOTAL AREA TRENCH BOTTOM:	1065
TOTAL LATERAL LENGTH:	355
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	333.33
SUPPLY LINE LENGTH:	51
TOTAL DYNAMIC HEAD:	13.12
MANIFOLD SIZE:	N/A
DOSING VOLUME:	197.78
PUMP TANK DRAW DOWN*:	6.4
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 63

Project #:01-1005

LAYOUT FOR 5 BEDROOM HOME

May 7, 2007

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		10.1			100.00		
INSTR. 1			110.10				
HOUSE CNR				4.80	105.30		
P. TANK				3.50	106.60		
1	*PINK*			*0.30*	*109.80*	*46*	*45*
2	*ORANGE*			*1.80*	*108.30*	*45*	*45*
2	*ORANGE*			*1.80*	*108.30*	*45*	*45*
3	*BLUE*			*3.40*	*106.70*	*50*	*50*
3	*BLUE*			*3.40*	*106.70*	*50*	*50*
4	*DARK PINK*			*5.50*	*104.60*	*60*	*60*
4	*DARK PINK*			*5.50*	*104.60*	*60*	*60*
5	PINK			7.30	102.80	127	127
6	ORANGE			9.20	100.90	127	127
7	BLUE			11.60	98.50	90	90
8	DARK PINK			13.70	96.40	40	40
					Total	740	739

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION
** System*	*355*	*0.3*	*MOD.*	*0.3*	*PPBPS*	*LOW PRESSURE*
Repair	384	0.3	MOD.	0.3	PPBPS	LOW PRESSURE

Notes:
** TBM located 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

LP PPBPS TAPSHEET - Anniston Lot 63

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	Number of Panels
1	*PINK*	*109.80*	*45*	0.156	**0.41**	135	10
2	*ORANGE*	*108.30*	*45*	0.156	**0.41**	135	10
2	*ORANGE*	*108.30*	*45*	0.156	**0.41**	135	10
3	*BLUE*	*106.70*	*50*	0.156	**0.41**	150	12
3	*BLUE*	*106.70*	*50*	0.156	**0.41**	150	12
4	*DARK PINK*	*104.60*	*60*	0.156	**0.41**	180	14
4	*DARK PINK*	*104.60*	*60*	0.156	**0.41**	180	14
							82
	total	**feet =**	**355**	**gal/min =**	**33.62** ✓		
			Des. Flow	**600**			
			Pump Run=	**5.88**			
			soil LTAR	**0.3**			
			LTAR +5%	**0.315**			
			LTAR with mod.	**0.6**			
			LTAR with mod.. + 5%	**0.63**			

.156 equals 5/32 inch hole

CALCULATIONS

Location Anniston Subdivision

Project Number 01-1005

Lot No: Lot 63

No. of Bedrooms	5	
Design Flow	600	$^{gal}/_{day}$
LTAR	0.3	$^{gal}/_{ft^2\ day}$
PPBPS? (YES OR NO)	YES	
Supply Line Length	51	ft.
Supply Line Volume	8.874	gal.
Required Feet of Line	333.33	ft.
Amount of Line from Layout	355	ft.
Gallons per Minute	33.62	$^{gal}/_{min}$
	Note: Flow/hole (.41gpm) x # of panels	
Required Septic Tank Capacity	1500	gal.
Minimum Standard Tank Size	1500 gal.	
Panel Volume	3.6	gal.
# of Panels	82	
Dosing Volume	198	gal.
	Note: Dosing Volume based on 67% of # of panels times 3.6 gal/panel	
Tank Draw Down	6.4	*Generic Draw Down of 31 gal.per in.*
Pump Run Time	5.88	minutes
Elevation Head	8.2	ft.
Pressure Head	2	ft.
Friction Factor	2.37	ft./100 ft. *(From the interpolater.)*
Friction Head	1.21	ft.
Total Dynamic Head (+15%)	13.12	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

RECEIVED
JUN 28 2007
By

ROLLANS ***Soil & Environmental Services, Inc.***
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
E-mail: Rollansfortcj@aol.com

Brady Freeman, Registered Sanitarian
Mobile: (704) 746-6497
E-mail: 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 63 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
Calculations	7
Profile Descriptions	8

May 7, 2007
Project #:01-1005
Design By: Rollans Soil & Environmental Services