PRESSURE MANIFOLD SYSTEM
FOR WASTEWATER TREATMENT

Owner:	Moton General Contracting, LLC
Address:	9409 Titus Lane Huntersville, NC 28078
Phone:	704.877.2077
County:	Iredell
Location:	Anniston Subdivision Lot 47 203 Anniston Way, Davidson, NC 28036
Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Daily Wastewater Production:	480 gpd
System Flow:	47.01

Design Specifications

Drainfield Size:	480
Loading Rate:	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:	1000
Pump Tank Size:	1000
Estimated Supply Line Length:	350
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	60.90
Dosing Volume:	235.08
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:	14.98
Elevation Head:	23.00
Total Dynamic Head:	45.98
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 and approved by ICHD.

Anniston Subdivision Lot 47
PRESSURE MANIFOLD DESIGN

DESIGN FLOW:	480
SOIL APPLICATION RATE:	0.25
TOTAL AREA TRENCH BOTTOM:	1440
TOTAL LATERAL LENGTH:	480
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	480
SUPPLY LINE LENGTH:	350
TOTAL DYNAMIC HEAD:	45.98
MANIFOLD SIZE:	4 in.SCH 80 PVC
DOSING VOLUME:	235.08
PUMP TANK DRAW DOWN*:	11.2
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.*

ANNISTON LOT #47

Project #: 01-1952

LAYOUT FOR 4 BEDROOM HOME

January 30, 2014

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM					100.00		
INSTR. 1			100.00				
HOUSE CNR				27.80	72.20		
P.TANK				26.80	73.20		
1	RED			1.60	98.40	37	37
2	PINK			2.70	97.30	42	42
3	BLUE			3.80	96.20	46	46
4	ORANGE			5.10	94.90	52	52
5	RED			6.30	93.70	56	56
6	PINK			7.50	92.50	69	69
7A	BLUE			8.80	91.20	20	20
7B	***BLUE***			***8.80***	***91.20***	***55***	***55***
8	***ORANGE***			***9.50***	***90.50***	***84***	***75***
9	***RED***			***10.80***	***89.20***	***95***	***75***
10	***PINK***			***11.80***	***88.20***	***97***	***75***
11	***BLUE***			***13.00***	***87.00***	***105***	***100***
12	***ORANGE***			***14.10***	***85.90***	***108***	***100***
					Total	**866**	**802**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
**** System***	***480***	***0.25***	***ACCEPT.***	***0.25***	***25% RED.***	**PRESSURE**
Repair	322	0.25	*MOD.*	0.25	PPBPS	**MANIFOLD** LOW PRESSURE

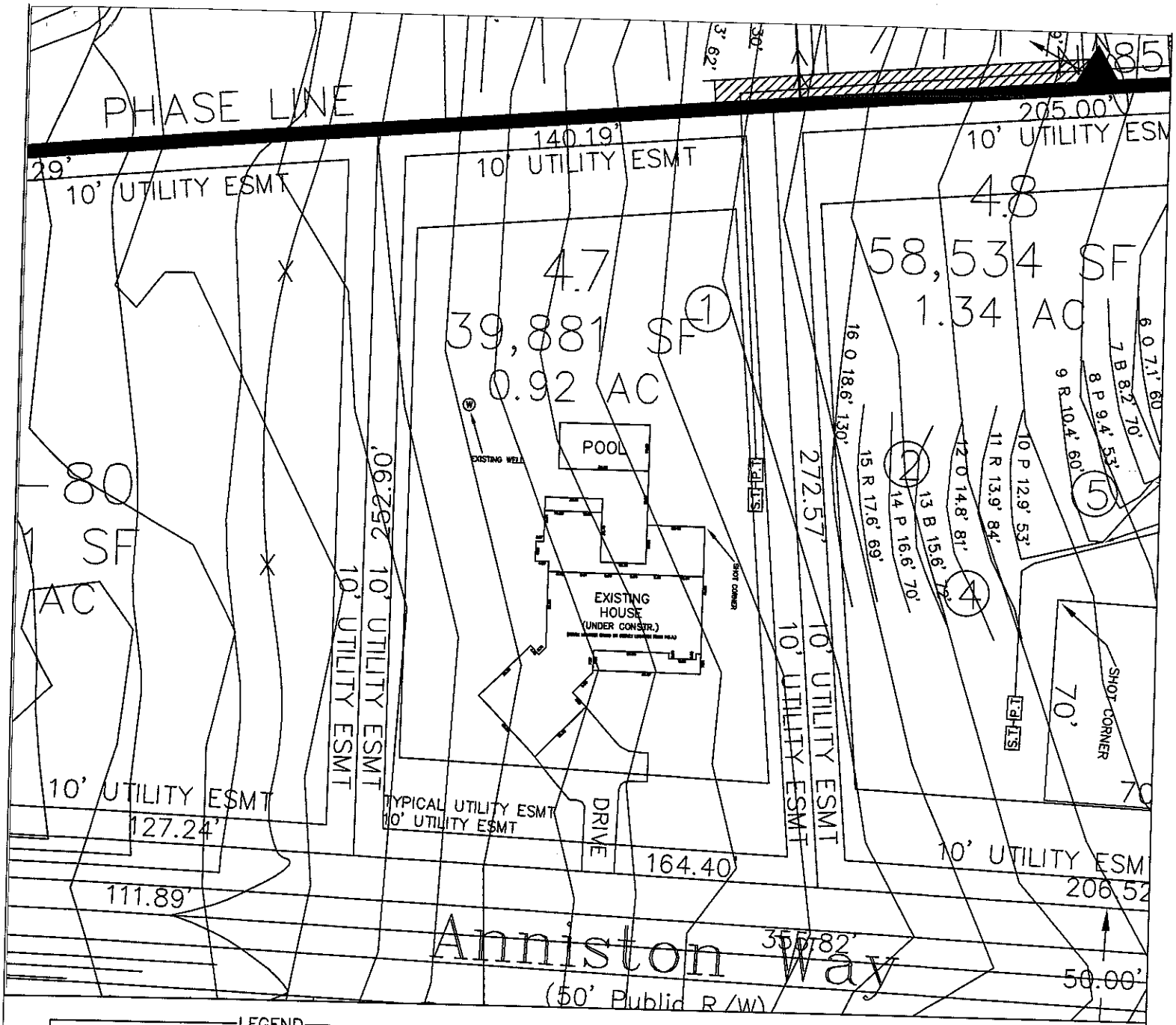
Notes:

** 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#47

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/Tap	Trench Area	Line LTAR
7B	BLUE	91.2	*55*	SCH 80 1/2	**5.48**	165	0.17
8	ORANGE	90.5	*75*	SCH 40 1/2	**7.11**	225	0.16
9	RED	89.2	*75*	SCH 40 1/2	**7.11**	225	0.16
10	PINK	88.2	*75*	SCH 40 1/2	**7.11**	225	0.16
11	BLUE	87	***100***	SCH 80 3/4	**10.1**	300	0.17
12	ORANGE	85.9	***100***	SCH 80 3/4	**10.1**	300	0.17
	total	**feet =**	**480**	**gal/min =**	**47.01**		
			Des. Flow	**480**			
			Pump Run=	**5.00**			
			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/Boring 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

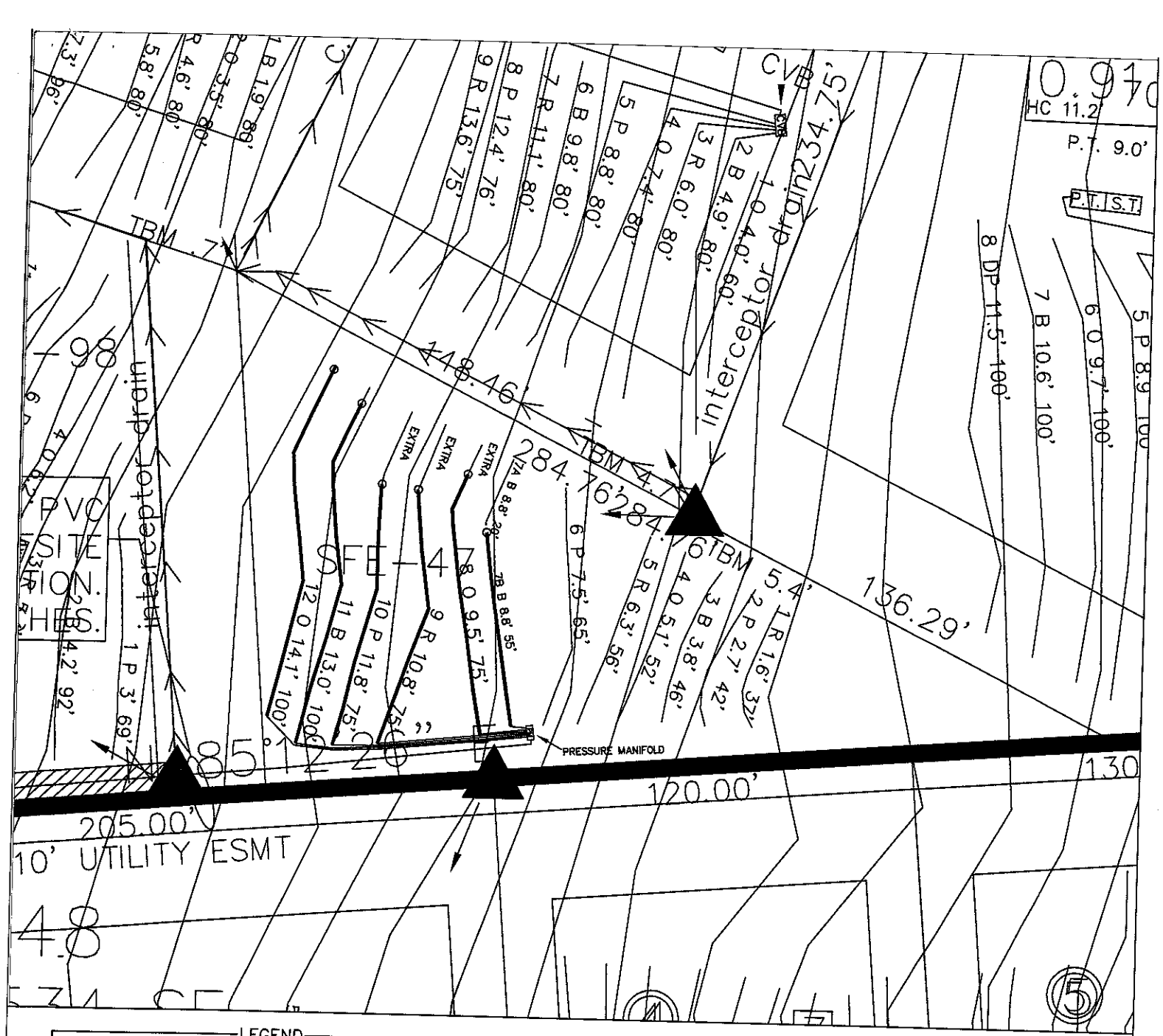
ROLLANS SOIL & ENVIRONMENTAL SERVICES, PA
P.O. BOX 832
MOORESVILLE, NC 28115
PHONE/FAX: (704) 278-0989
ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE: (704) 746-5046
EMAIL: rollans.ashley@yahoo.com

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

PROJECT NAME: GREG MOTON / ANNISTON SUBDIVISION LOT 47

LOCATION/DATE: SHEARER CHAPEL ROAD, IREDELL COUNTY, NORTH CAROLINA, JANUARY 2014

JOB # : 01-1952
FILE: C:\JOBS\01-1952
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)
- (W) Well Location. (25) Pit/Boring Location.

GRAPHIC SCALE
1" = 40'

40 0 40 80

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MOBILE: (704) 746-5046
EMAIL: rollans.ashley@yahoo.com

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

PROJECT NAME: GREG MOTON / ANNISTON SUBDIVISION LOT 47

LOCATION/DATE: SHEARER CHAPEL ROAD, IREDELL COUNTY, NORTH CAROLINA, JANUARY 2014

JOB # : 01-1952
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FIELD WORK: S.A.R.
DRAWN BY: S.A.R.

CALCULATIONS

Location ANNISTON SUBDIVISION

Project Number 01-1952

Lot No: Lot 47

No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.25	$^{gpd/ft^2}$
25% RED.? (YES OR NO)	YES	
Supply Line Length	350	ft.
Supply Line Volume	60.9	gal.
Required Feet of Line	480	ft.
Amount of Line from Layout	480	ft.
Gallons per Minute	47.01	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Lateral Line Volume	313.44	gal.
Dosing Volume	235.08	gal.

Note: Dosing Volume based on75% of lateral line volume

Tank Draw Down	11.2	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	5.00	minutes
Elevation Head	23.0	ft.
Pressure Head	2	ft.
Friction Factor	4.28	ft./100 ft. *(From the interpolater.)*
Friction Head	14.98	ft.
Total Dynamic Head (+15%)	45.98	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

47-A

0-12 wksol loam fr sbk
12-48 mm ABk red c/cl fr sbp ssp .2 - .25
48-56 under water!

water pouring in this pit

French Jr. Rapid.

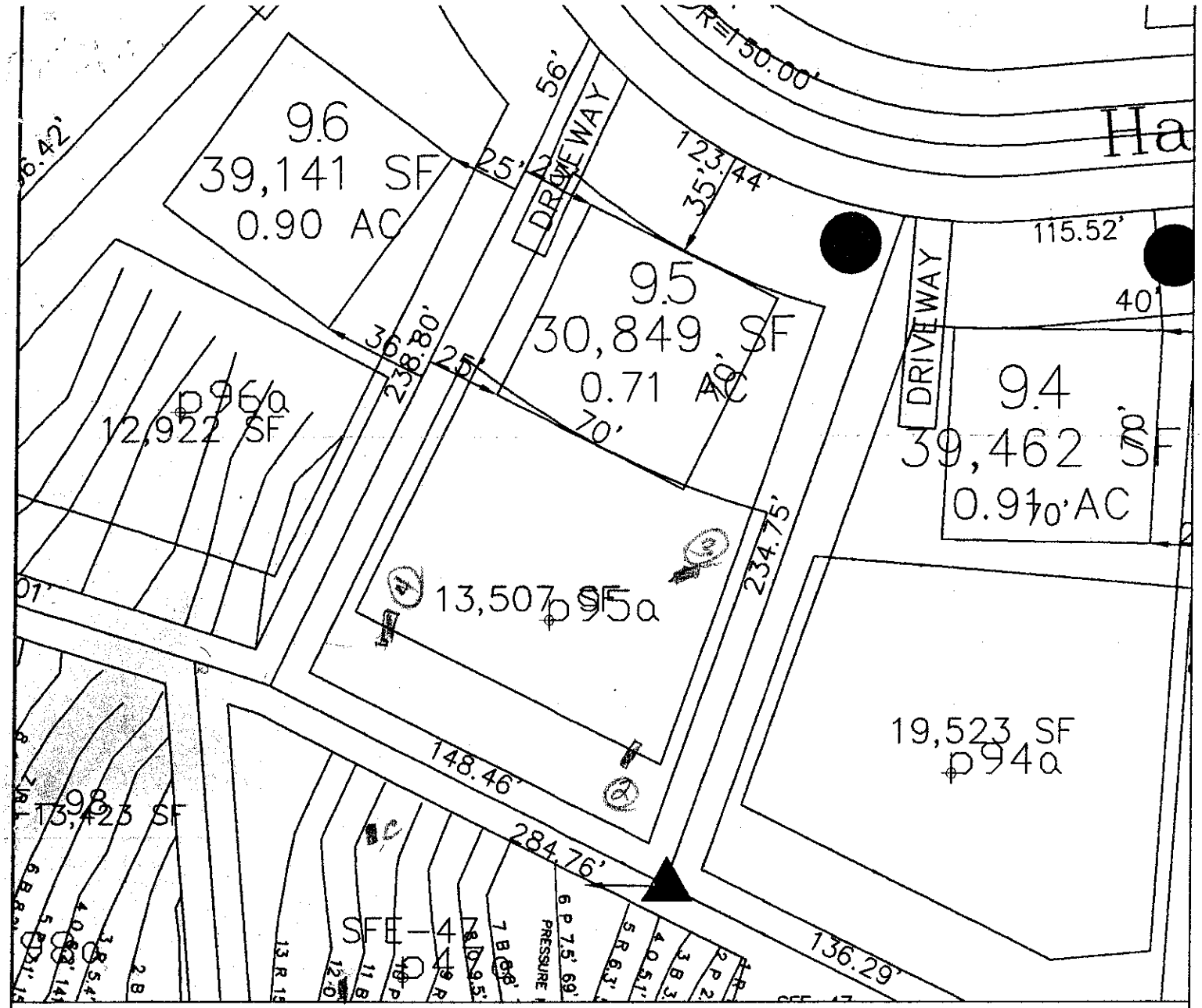
47B

sandy clay loam / 0-52 mm ABk RBrwn < fr ms sbp, ssp (FR Jr. Rapid!) .25
a little water standing on clay subsoil & sand mm pot bottom

47C

0-23 [illegible] fr, ssbp ssp
23-33 [illegible] fr ssbp few y brn mottles
33-49 mks sbk ABk red cl fr ssbp few y brn mottles .25
common ssp

is are granted right of
e proper identification



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.

RS&ES Pit Location.

Well Location.

Health Dept. Pit Location.

GRAPHIC SCALE
1" = 50'

50 0 50 100

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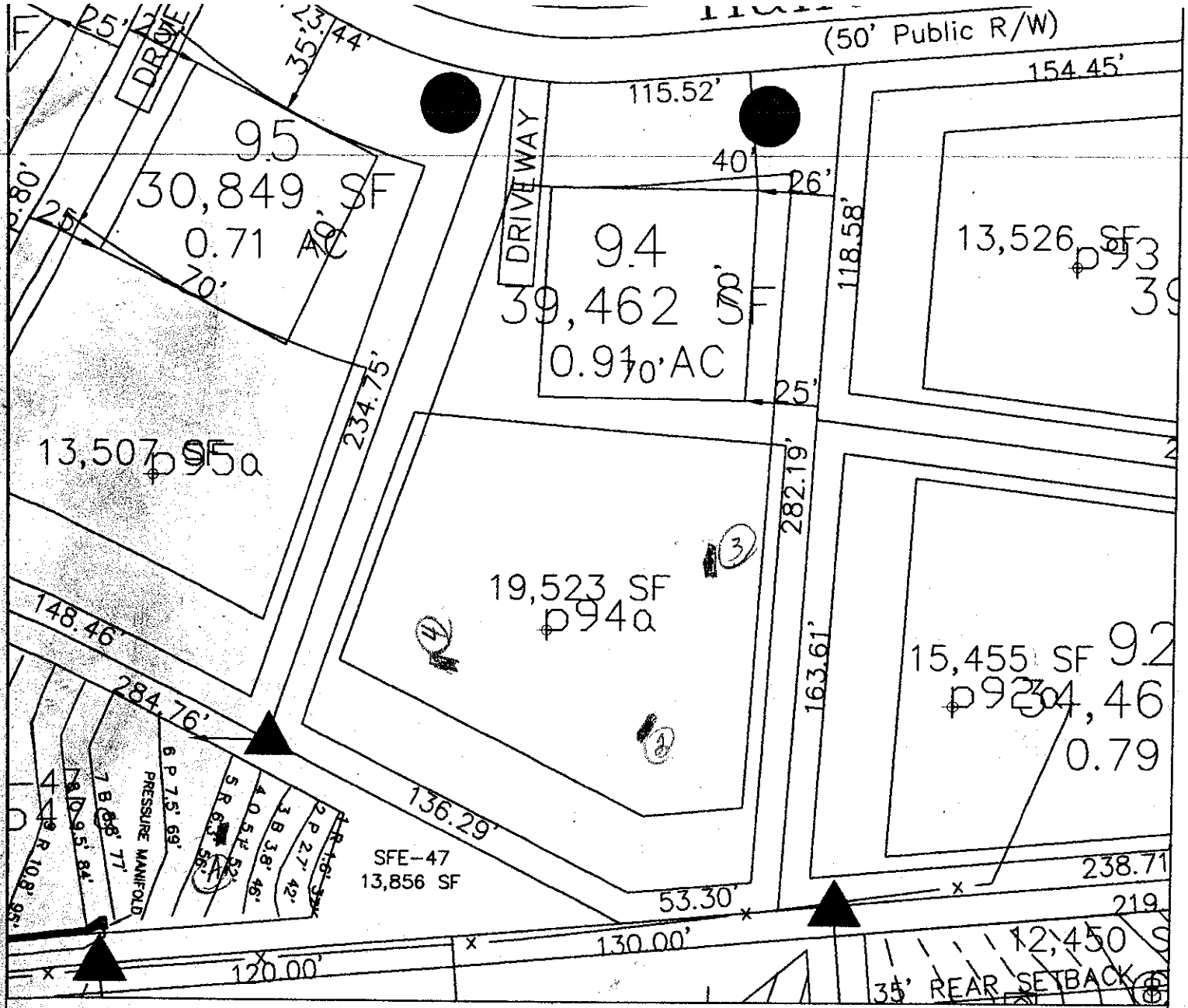
ROLLANS SOIL & ENVIRONMENTAL SERVICES
2120 GRAHAM ROAD
MOUNT ULLA, NC 28125
PHONE/FAX: (704) 278-0599
ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE: (704) 746-3066
EMAIL: ROLLANSPORTC@AOL.COM

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

PROJECT NAME: ASHBURN, LLC. / ASHBURN PHASE II

LOCATION/DATE: SHERRIN CHAPEL ROAD, RIDDELL COUNTY, NORTH CAROLINA, JULY 2005

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 (All 70' x 70')

System lines.

Repair lines.

TBM.

(25) RS&ES Pit Location.

Well Location.

[28] Health Dept. Pit Location.

GRAPHIC SCALE
1" = 50'

50 0 50 100

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ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE: (704) 746-5046
EMAIL: ROLLANSPORTC@AOL.COM

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

PROJECT NAME: ANDERSON, LLC. / ANDERSON PHASE II

LOCATION/DATE: SHERRER CHAPEL ROAD, RICHELL 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.

47-A

0-12 wksol brn cl fr ssp

12-48 mm ABK red cl/cl fr ssp sbsp .2-.25

48-56 sandy water!

water pressure in this pit

French Dr. Regd.

47B

0-52 mm ABK Rdbr cl fr ss sp-p sbsp (Frbr. Regd.!) .25

a little water bearing zone at 52 to 56 in pebbly sand

47C

0-23 wk fmk rdbrn cl fr ssp sbsp

23-33 m fmk red cl. fr ssp few y brn mottles

33-49 wk sbk/ABK red cl fr ssp few y brn mottles common sbsp .25