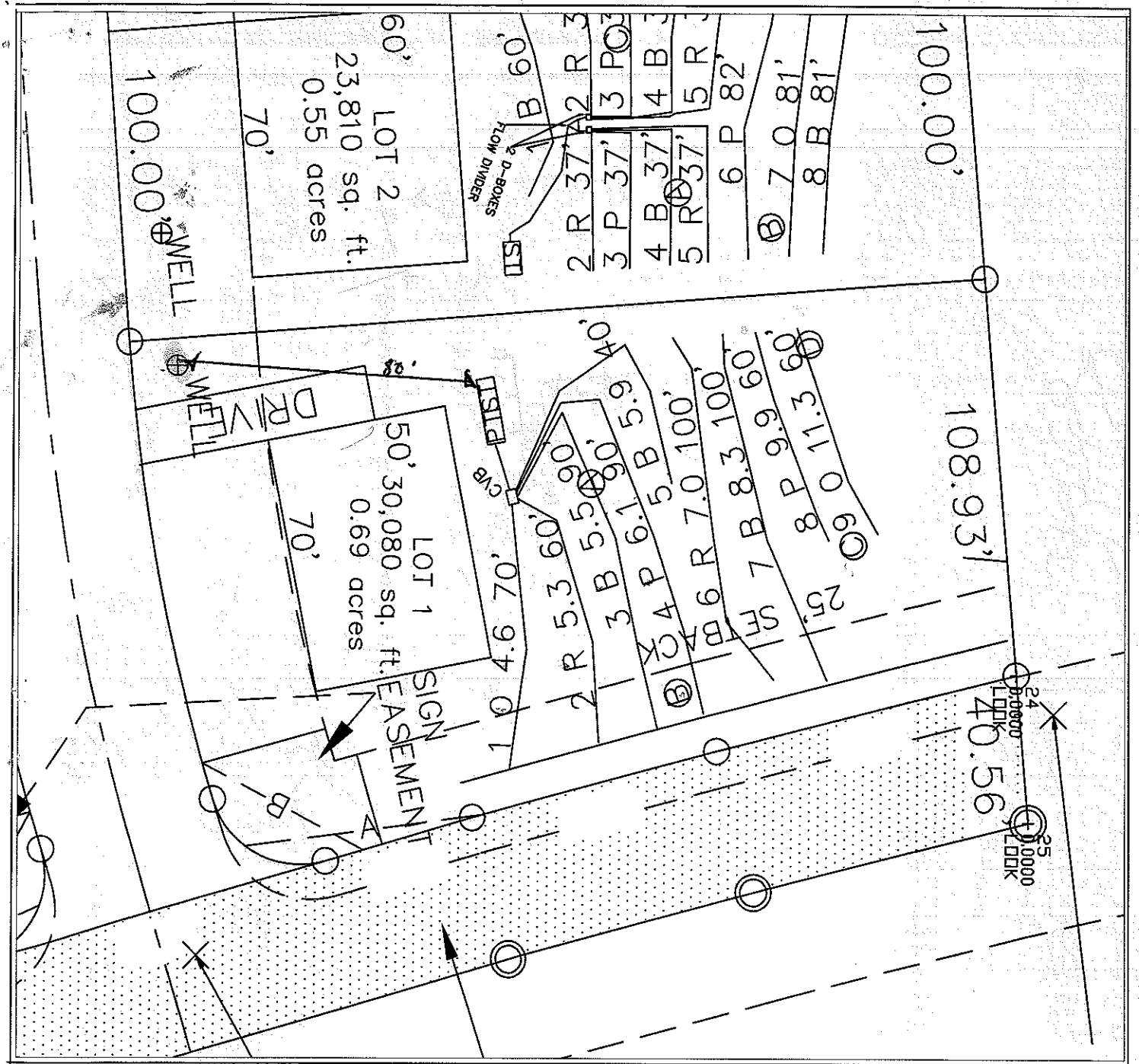


LEGEND

- House Box.
- System lines.
- Repair lines.
- House Corner Shot.
- T.B.M.

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: Orchard Farms LLC/ AUTUMN GROVE

LOCATION/DATE: FERRELL, BULLFINCH RD IREDELL COUNTY, NORTH CAROLINA FEBRUARY 2007

JOB # : 01-1043
FILE: C:\JOBS\01-1043
PROJECT MGR.: C.B.F.
FIELD WORK: C.B.F. & A.L.P.
DRAWN BY: C.B.F.

LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant:	E&J DEVELOPMENT
Address:	227 Hideaway Lane Mooresville, NC 28117
Phone:	704-201-6465
County:	Iredell
Location:	AUTUMN GROVE LOT 1
Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Gallons Per Day Flow:	480
System Flow:	30.75

Design Specifications

Drainfield Size:	350
Loading Rate (gpd/ft.^{2}):	0.25
Depth of Gravel in Trench:	NA (PPBPS)
Gravel Size:	NA (PPBPS)
Trench Depth:	36 in.
Trench Width:	36 in.
Septic Tank Size:	1000
Pump Tank Size:	1000
Estimated Supply Line Length:	13
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	2.26
Dosing Volume:	180.90
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:	0.31
Elevation Head:	3.80
Total Dynamic Head:	7.02
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

AUTUMN GROVE LOT 1

LP PPBPS

DESIGN FLOW (gpd):	480
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.25
TOTAL AREA TRENCH BOTTOM:	1050
TOTAL LATERAL LENGTH:	350
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	320
SUPPLY LINE LENGTH:	13
TOTAL DYNAMIC HEAD:	7.02
MANIFOLD SIZE:	N/A
DOSING VOLUME:	180.90
PUMP TANK DRAW DOWN*:	8.6
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.*

AUTUMN GROVE LOT 1

Project #: 01-1043

LAYOUT FOR 4 BEDROOM HOME

August 20, 2007

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		2.7			100.00		
INSTR. 1			102.70				
HOUSE CNR				4.40	98.30		
P. TANK				3.40	99.30		
1	*ORANGE*			*4.60*	*98.10*	*70*	*70*
2	*RED*			*5.30*	*97.40*	*60*	*60*
3	*BLUE*			*5.50*	*97.20*	*90*	*90*
4	*PINK*			*6.10*	*96.60*	*90*	*90*
5	*BLUE*			*5.90*	*96.80*	*40*	*40*
6	RED			7.00	95.70	100	100
7	BLUE			8.30	94.40	100	100
8	PINK			9.90	92.80	60	60
9	ORANGE			11.30	91.40	60	60
					Total	**670**	**670**

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION
** System*	*350*	*0.25*	*MOD.*	*0.250*	*PPBPS*	*LOW PRESSURE*
Repair	320	0.25	MOD.	0.250	PPBPS	LOW PRESSURE

Notes:
** TBM located top of ground at EIP at corner of lot (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 -AUTUMN GROVE LOT#1

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	Number of Panels
1	*ORANGE*	98.1	*70*	0.156	**0.41**	210	16
2	*RED*	97.4	*60*	0.156	**0.41**	180	14
3	*BLUE*	97.2	*90*	0.156	**0.41**	270	21
4	*PINK*	96.6	*90*	0.156	**0.41**	270	21
5	*BLUE*	96.8	*40*	0.156	**0.41**	120	9
							75
	total	**feet =**	**350**	**gal/min =**	**30.75**		

Des. Flow	**480**
Pump Run=	**5.88**
soil LTAR	**0.25**
LTAR +5%	**0.2625**
LTAR with mod.	**0.5**
LTAR with mod.. + 5%	**0.525**

.156 equals 5/32 inch hole

CALCULATIONS

Location AUTUMN GROVE

Project Number 01-1043

Lot No: Lot 1

No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.250	$^{gal}/_{ft^2\ day}$
PPBPS? (YES OR NO)	YES	
Supply Line Length	13	ft.
Supply Line Volume	2.262	gal.
Required Feet of Line	320	ft.
Amount of Line from Layout	350	ft.
Gallons per Minute	30.75	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Panel Volume	3.6	gal.
# of Panels	75	
Dosing Volume	180.90	gal.

Note: Dosing Volume based on 33% of # of panels times 3.6 gal/panel

Tank Draw Down	8.6	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	5.88	minutes
Elevation Head	3.8	ft.
Pressure Head	2	ft.
Friction Factor	2.37	ft./100 ft. *(From the interpolater.)*
Friction Head	0.31	ft.
Total Dynamic Head (+15%)	7.02	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

SOIL/SITE EVALUATION

(Continuation Sheet)

Sheet ___ of ___

DEPARTMENT OF ENVIRONMENT
AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH

PROPERTY ID #: ___
DATE OF EVALUATION: 4/17/07
COUNTY: Iredell

Lee Easte / Autumn Grove

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
P 1A	L/5-10	0-32	RC mnAbk	FSSPSExP	-C. YB's	52	—	—	ps
		32-52	RscLmabk	FrSSSPSExP	-C. sap				0.25
		52-60	verig sl mass	" " " "					surface compacted old Road Bed & Drainage
B 1B		0-6	BSbl cl	fr SC SP Sm P		48	—	—	.25
		6-48	RC mfAgr	fr SSSP Sm P	-fw/common YB's				
I C		0-36	RC SBk	fr SSSP Sm P		48	—	—	.3
		36-48	RCL wSBk	fr SSSP Sm P					
				fw SAP	—				
I D	Repair Area	0-6	BSCL cl	fr SSSP Sm P		40" Repair Area			.3
		6-26	RC mfSBk	fr SSSP Sm P					
		26-40	RCL wSBk	fr SSSP Sm P	-common SAP				
		40-60	SL SAP m	fr SSSP Sm P					

COMMENTS: ___