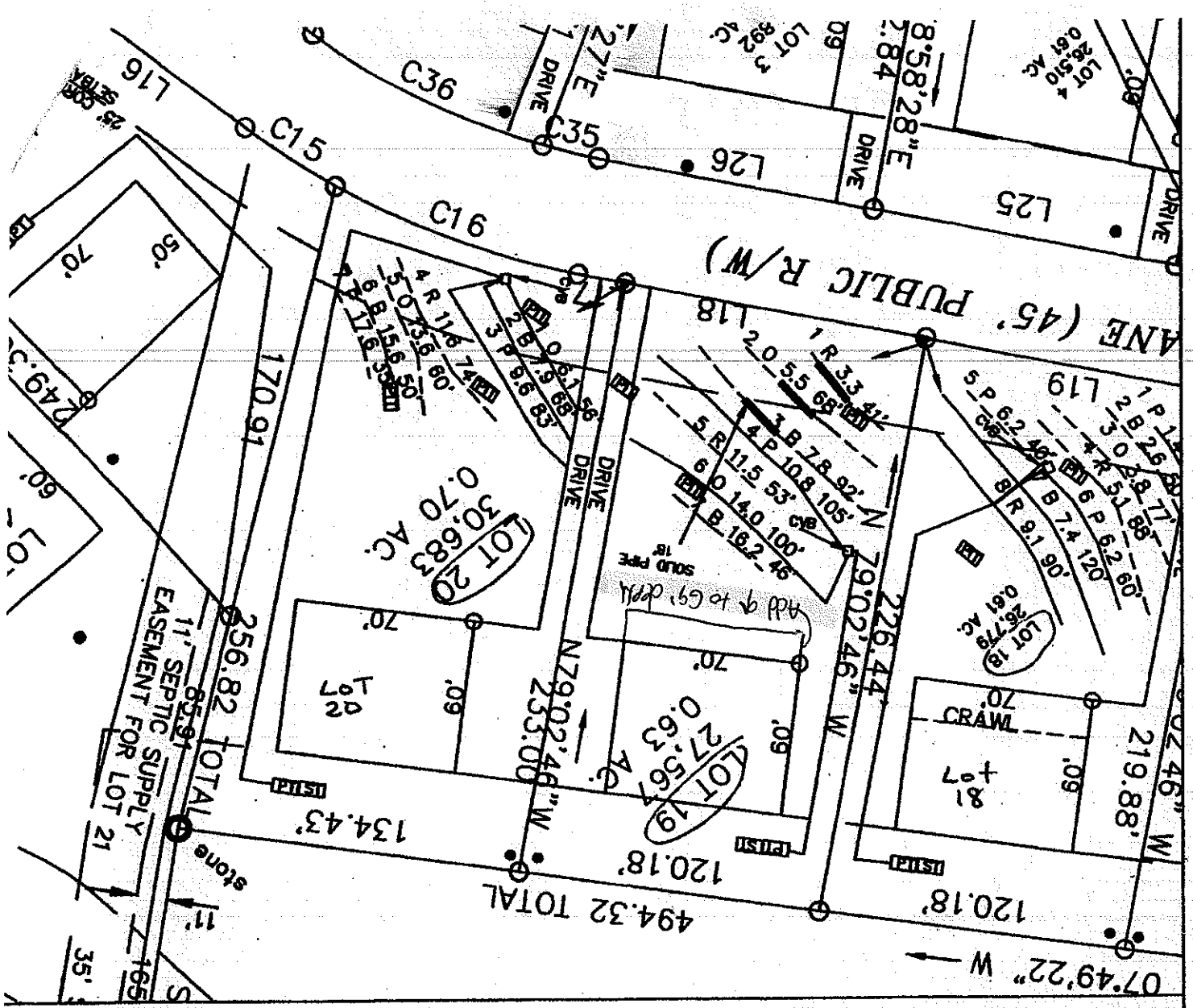


LEGEND

- House Box.
- System lines.
- Repair lines.
- Temporary Bench Mark (TBM)
- Well Location.

GRAPHIC SCALE
1" = 60'

60 0 60 120

Lot 20

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 SUMMARY FOR ON-SITE SEPTIC TANK SYSTEMS.

PLEASE REFER TO ATTACHED SOIL REPORT FOR ADDITIONAL SITE SPECIFIC INFORMATION

Lee Enstew @ 704-201-6465

The Orchard

ROLLANS SOIL & ENVIRONMENTAL SERVICES
2120 GRAHAM ROAD
MOUNT ULLA, NC 28125
PHONE/FAX: (704) 276-0889
ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE: (704) 716-5116
EMAIL: ROLLANSPORTC@AOL.COM

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

PROJECT NAME:

LOCATION/DATE:

JOB #: 01-1195
FILE: C:\JOBS\01-1195
PROJECT MGR.: CBF
FIELD WORK: CBF
DRAWN BY: CBF

LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant: THE ORCHARDS LLC

Address: 227 Hideaway Lane
Mooresville, NC 28117
Phone: 704-201-6465
County: Iredell
Location: THE ORCHARDS Subdivision Lot #20

Source of Wastewater Flow: 3 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 480 gpd
System Flow: 18.92307692

Design Specifications

Drainfield Size: 200
Loading Rate: 0.3 gpd/ft.^{2}
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: 292
Supply Line Diameter: 2 in. SCH 40 PVC
Supply Line Volume: 50.81
Dosing Volume: 111.32
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: 2.45
Elevation Head: 34.50
Total Dynamic Head: 44.80

Threaded Union: In Tank
Gate Valves: 1 in Tank
1 per lateral (4)
Check Valves: In Tank
Anti-Siphon Hole: NA
Additional Comments: Soil suitability was performed by Rollans Soil & Environmental Services

THE ORCHARDS Subdivision Lot #20
LP PPBPS

DESIGN FLOW:	360
SOIL APPLICATION RATE:	0.3 gpd/ft.2
TOTAL AREA TRENCH BOTTOM:	600
TOTAL LATERAL LENGTH:	200
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	200
SUPPLY LINE LENGTH:	292
TOTAL DYNAMIC HEAD:	44.80
MANIFOLD SIZE:	N/A
DOSING VOLUME:	111.32
PUMP TANK DRAW DOWN*:	5.3
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.*

THE ORCHARDS LOT 20

Project #: 01-1195

LAYOUT FOR 3 BEDROOM HOME — August 7, 2006

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		0.4			100.00		
INSTR. 1			100.40				
HOUSE CNR				22.00	78.40		
P. TANK				35.60	64.80		
1	*ORANGE*			*6.10*	*94.30*	*56*	*55*
2	*BLUE*			*7.90*	*92.50*	*68*	*65*
3	*PINK*			*9.60*	*90.80*	*83*	*80*
4	RED			11.60	88.80	74	74
5	ORANGE			13.60	86.80	60	60
6	BLUE			15.60	84.80	50	50
7	PINK			17.60	82.80	35	35
					Total	426	419

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION
** System*	*200*	*0.3*	*MOD.*	*0.30*	*PPBPS*	*LOW PRESSURE*
Repair	219	0.3	MOD.	0.30	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 -THE ORCHARDS LOT 20

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	Number of Panels
1	*ORANGE*	94.3	*55*	0.156	**0.41**	165	13
2	*BLUE*	92.5	*65*	0.156	**0.41**	195	15
3	*PINK*	90.8	*80*	0.156	**0.41**	240	18

total	**feet =**	**200**	**gal/min =**	**18.923077**
		Des. Flow	**360**	
		Pump Run=	**5.88**	
		soil LTAR	**0.3**	
		LTAR +5%	**0.315**	
		LTAR with mod.	**0.27**	
		LTAR with mod.. + 5%	**0.2835**	

.156 equals 5/32 inch hole

CALCULATIONS

Location THE ORCHARDS

Project Number 01-1195

Lot No: Lot 20

No. of Bedrooms	3	
Design Flow	360	$^{gal}/_{day}$
LTAR	0.3	gpd/ft2
PPBPS? (YES OR NO)	YES	
Supply Line Length	292	ft.
Supply Line Volume	50.808	gal.
Required Feet of Line	200	ft.
Amount of Line from Layout	200	ft.
Gallons per Minute	18.92308	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Panel Volume	3.6	gal.
# of Panels	46	
Dosing Volume	111.32	gal.

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

Tank Draw Down	5.3	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	5.88	minutes
Elevation Head	34.5	ft.
Pressure Head	2	ft.
Friction Factor	0.84	ft./100 ft. *(From the interpolater.)*
Friction Head	2.45	ft.
Total Dynamic Head (+15%)	44.80	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