PRESSURE MANIFOLD SYSTEM
FOR WASTEWATER TREATMENT

Owner:	IREDELL GROUP
Address:	109-C Williamson Road, Mooresville, NC 28117
Phone:	704 663 4050
County:	Iredell
Location:	Walden Ridge Subdivision Lot #56
Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Daily Wastewater Production:	480 gpd
System Flow:	21.33

Design Specifications

Drainfield Size:	400
Loading Rate:	.3 gpd/ft²
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:	60
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	10.44
Dosing Volume:	182.84
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:	0.76
Elevation Head:	17.00
Total Dynamic Head:	22.73
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.

WALDEN RIDGE SUBDIVISION LOT 56
PRESSURE MANIFOLD DESIGN

DESIGN FLOW:	480	
SOIL APPLICATION RATE:	.3 gpd/ft²	
TOTAL AREA TRENCH BOTTOM:	1200	
TOTAL LATERAL LENGTH:	400	
NUMBER OF FIELDS:	1	
LATERAL LENGTH REQUIRED PER FIELD:	400	
SUPPLY LINE LENGTH:	60	
TOTAL DYNAMIC HEAD:	22.73	
MANIFOLD SIZE:	4 in.SCH 80 PVC	
DOSING VOLUME:	182.84	
PUMP TANK DRAW DOWN*:	8.7	
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.*

WALDEN RIDGE LOT #56

Project #: 01-1069

LAYOUT FOR 4 BEDROOM HOME

March 27, 2006

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		28.2			100.00		
TANK		13.10	115.10				
HOUSE		5.60	122.60				
INSTR. 1			128.20				
1	PINK			1.30	126.90	106	106
2	***BLUE***			***3.10***	***125.10***	***150***	***134***
3	***ORANGE***			***4.80***	***123.40***	***186***	***133***
4	***RED***			***6.60***	***121.60***	***217***	***133***
5	PINK			9.10	119.10	75	75
6	BLUE			11.00	117.20	65	65
7	ORANGE			12.70	115.50	74	74
8	RED			14.40	113.80	41	41
					Total	**914**	**761**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
**** System***	***400***	***0.30***	***ACCEPT.***	***0.30***	***25% RED.***	**PRESSURE**
Repair	361	0.30	*MOD.*	0.30	PPBPS	**MANIFOLD** LOW PRESSURE

Notes:

** TBM located on back corner of lot 56/55 (see site plan)

**TBM is assumed to be 100'

**All measures in feet

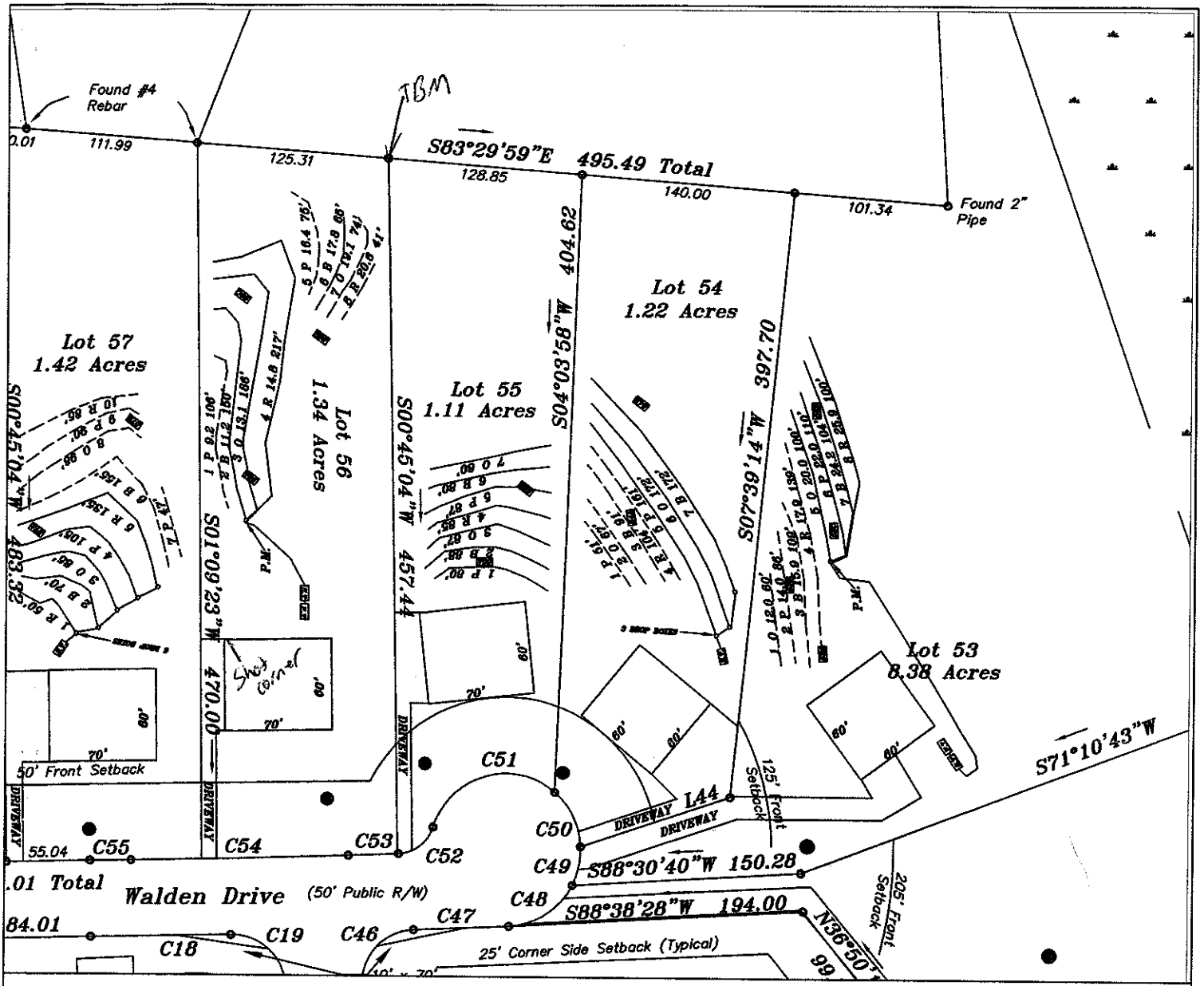
**Nitrification lines are demonstrated on contour via colored pin flags

**BS, HI, and FS indicate rod readings

PRESSURE MANIFOLD TAPSHEET - WALDEN RIDGE LOT#56

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/Tap	Trench Area
2	***BLUE***	125.1	**134**	SCH 40 1/2	**7.11**	402
3	***ORANGE***	123.4	**133**	SCH 40 1/2	**7.11**	399
4	***RED***	121.6	**133**	SCH 40 1/2	**7.11**	399
	total	**feet =**	**400**	**gal/min =**	**21.33**	
			Des. Flow	**480**		
			Pump Run=	**8.57**		
			soil LTAR	**0.3**		
			LTAR +5%	**0.315**		
			LTAR with ACCEPTED	**0.33075**		
			LTAR with ACCEPTED + 5%	**0.3472875**		



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.
- Unsuitable areas.
- System lines.
- Repair lines.
- Temporary Bench Mark (TBM)
- Well Location.

GRAPHIC SCALE

1" = 100'

100 0 100 200

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: IREDELL GROUP LLC/WALDEN RIDGE SUBDIVISION

LOCATION/DATE: TEETER ROAD IREDELL COUNTY, NORTH CAROLINA DECEMBER 2005

JOB # : 01-1069
FILE: C:\JOBS\01-1069
PROJECT MGR.: CBF
FIELD WORK: CBF AND AP
DRAWN BY: CBP AND AP

CALCULATIONS

Location WALDED RIDGE SUBDIVISION

Project Number 01-1069

Lot No: Lot 56

No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	.3 gpd/ft²	
25% RED.? (YES OR NO)	YES	
Supply Line Length	60	ft.
Supply Line Volume	10.44	gal.
Required Feet of Line	400	ft.
Amount of Line from Layout	400	ft.
Gallons per Minute	21.33	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Lateral Line Volume	261.2	gal.
Dosing Volume	182.84	gal.

Note: Dosing Volume based on70% of lateral line volume

Tank Draw Down	8.7	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	8.57	minutes
Elevation Head	17	ft.
Pressure Head	2	ft.
Friction Factor	1.27	ft./100 ft. *(From the interpolater.)*
Friction Head	0.76	ft.
Total Dynamic Head (+15%)	22.73	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