Gravity 25% Reduction
FOR WASTEWATER TREATMENT

Owner: IREDELL GROUP

Address: 109-C Williamson Road
Mooresville, NC 28115

Phone: 704-663-4050

County: Iredell

Location: Walden Ridge Subdivision Lot #7

Source of Wastewater Flow: 4 Bedroom Single Family Residence

Estimated Daily Wastewater Production: 480 gpd

System Flow: NA

Design Specifications

Drainfield Size: 480

Loading Rate: 0.25

Depth of Gravel in Trench: NA (25% reduction)

Gravel Size: NA (25% reduction)

Trench Depth: 30 in.

Trench Width: 36 in.

Septic Tank Size: 1000

Pump Tank Size: N/A

Estimated Supply Line Length: 50

Supply Line Diameter: 3 in. SCH 40 PVC

Supply Line Volume: 8.70

Dosing Volume: NA

Supply Manifold: FLOW EQUALIZER

Supply Manifold Length: NA

Supply Manifold Volume: N/A

Recommended Float Controls: NA

Recommended Control Panel: NA

Pressure Head: NA

Friction Head: NA

Elevation Head: NA

Total Dynamic Head: NA

Threaded Union: NA

Gate Valves: NA
NA

Check Valves: NA

Anti-Siphon Hole: NA

Additional Comments: Soil suitability was performed by Rollans Soil & Environmental Services.

WALDEN RIDGE SUBDIVISION LOT 7

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:	50
TOTAL DYNAMIC HEAD:	NA
MANIFOLD SIZE:	NA
DOSING VOLUME:	NA
PUMP TANK DRAW DOWN*:	NA
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	N/A

WALDEN RIDGE LOT #7

LAYOUT FOR 4 BEDROOM HOME

Project #: 01-1069

March 14, 2006

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		N/A			100.00		
TANK		N/A	N/A				
HOUSE		N/A	N/A				
INSTR. 1			N/A				
1	***PINK***			***N/A***	***N/A***	***169***	***120***
2	***ORANGE***			***N/A***	***N/A***	***195***	***120***
3	***BLUE***			***N/A***	***N/A***	***170***	***120***
4	***RED***			***N/A***	***N/A***	***154***	***120***
5	RED			N/A	N/A	61	61
6	PINK			N/A	N/A	140	140
7	ORANGE			N/A	N/A	107	107
8	BLUE			N/A	N/A	83	83
					Total	**1079**	**871**

	LINE LENGTH	LTAR GPD/FT²	SYSTEM TYPE	SOIL LTAR GPD/FT²	TRENCH SYSTEM	DISTRIBUTION
* *System*	*480*	*0.25*	*ACCEPT.*	*0.25*	*25% RED.*	**GRAVITY**
Repair	391	0.25	*ACCEPT.*	0.25	PPBPS	**DISTRIBUTION** LOW PRESSURE

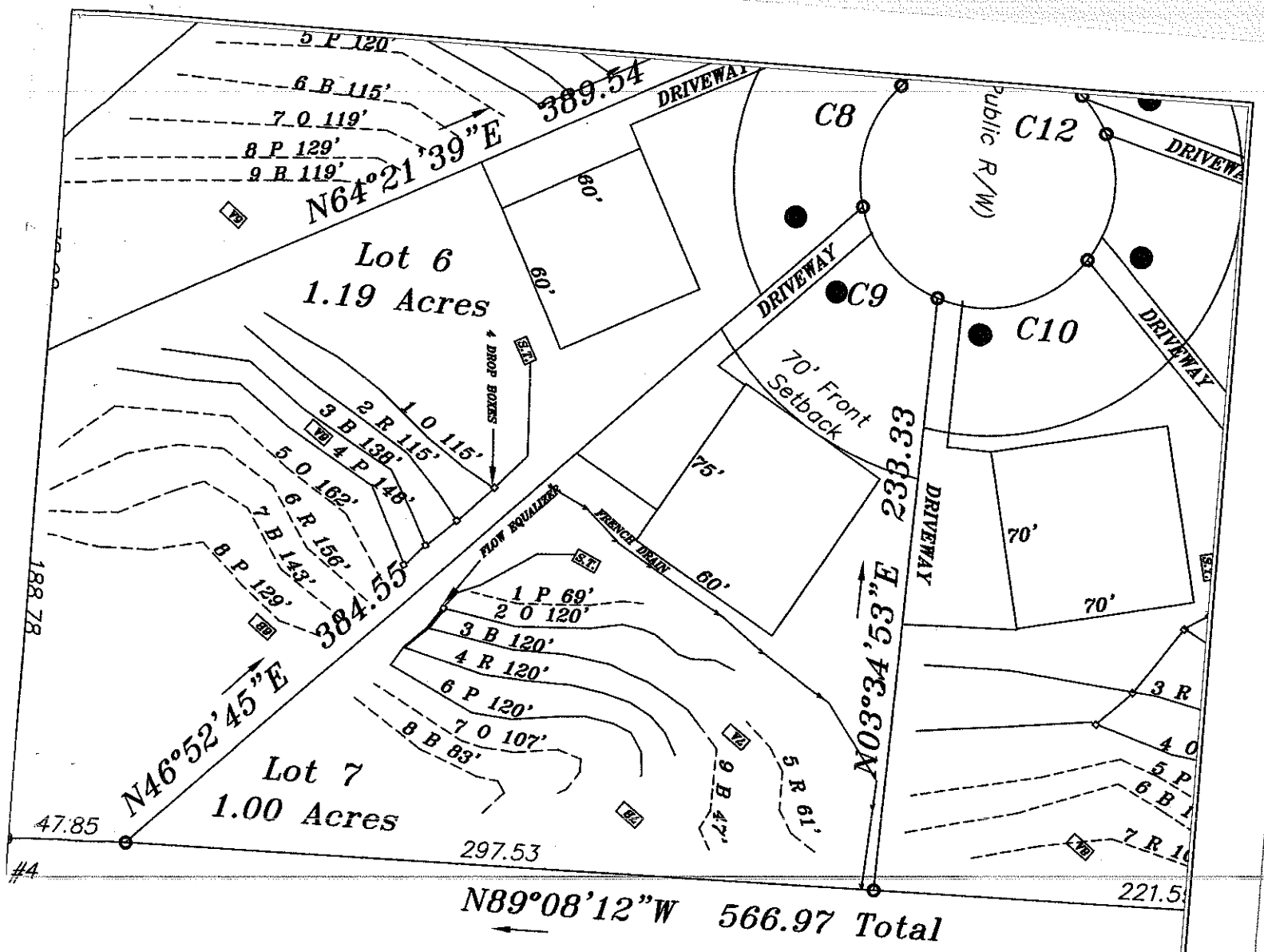
Notes:

** TBM NOT REQUIRED

**All measures in feet

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

**BS, HI, and FS indicate rod readings



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" = 60'

60 0 60 120

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

OLLANS SOIL & ENVIRONMENTAL SERVICES
GRAHAM ROAD
NT ULLA, NC 28125
NE/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: REDELL GROUP LLC/WALDEN RIDGE SUBDIVISION

LOCATION/DATE: TESTER 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

WALDEN RIDGE LOT #7

Project #: 01-1069

LAYOUT FOR 4 BEDROOM HOME

March 14, 2006

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		N/A			100.00		
TANK		N/A	N/A				
HOUSE		N/A	N/A				
INSTR. 1			N/A				
1	PINK			N/A	N/A	69	69
2	***ORANGE***			*N/A*	*N/A*	***195***	***120***
3	***BLUE***			*N/A*	*N/A*	***170***	***120***
4	***RED***			*N/A*	*N/A*	***154***	***120***
5	RED			N/A	N/A	61	61
6	***PINK***			*N/A*	*N/A*	***140***	***120***
7	ORANGE			N/A	N/A	107	107
8	BLUE			N/A	N/A	83	83
9	BLUE			N/A	N/A	47	47
					Total	**1026**	**847**

* *System*	LINE LENGTH *480*	LTAR GPD/FT^2 *0.25*	SYSTEM TYPE *ACCEPT.*	SOIL LTAR GPD/FT^2 *0.25*	TRENCH SYSTEM *25% RED.*	DISTRIBUTION GRAVITY
Repair	367	0.25	*ACCEPT.*	0.25	PPBPS	**DISTRIBUTION** LOW PRESSURE

Notes:

** TBM NOT REQUIRED

**All measures in feet

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

**BS, HI, and FS indicate rod readings

CALCULATIONS

Location WALDEN RIDGE SUBDIVISION

Project Number 01-1069

Lot No: Lot 7

No. of Bedrooms 4

Design Flow 480 $^{gal}/_{day}$

LTAR 0.25 $^{gal}/_{ft^2\ day}$

25% RED.? (YES OR NO) YES

Supply Line Length 50 ft.

Supply Line Volume 8.7 gal.

Required Feet of Line 480 ft.
Amount of Line from Layout 480 ft.

Gallons per Minute NA $^{gal}/_{min}$

Required Septic Tank Capacity 1000 gal.
Minimum Standard Tank Size 1000

Lateral Line Volume 313.44 gal.

Dosing Volume NA gal.

Note: Dosing Volume based on70% of lateral line volume

Tank Draw Down NA *Generic Draw Down of 21 gal.per in.*

Pump Run Time NA minutes

Elevation Head NA ft.
Pressure Head NA ft.
Friction Factor NA ft./100 ft. *(From the interpolater.)*
Friction Head NA ft.

Total Dynamic Head (+15%) NA 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

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

Sheet ____ of ____
PROPERTY ID #: _____
COUNTY: Iredell

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: IREDELL GROUP
ADDRESS: 109-C WILLIAMSON ROAD MOORESVILLE — APPLICATION DATE 3/06
PROPOSED FACILITY: RES — PROPOSED DESIGN FLOW (.1949): 480 — DATE EVALUATED: 3/06
LOCATION OF SITE: Walden Ridge Lot 7 — PROPERTY SIZE: ____ AC
WATER SUPPLY: X Private ☐ Public ☐ Well ☐ Spring ☐ Other — PROPERTY RECORDED: Y
EVALUATION METHOD: ☐ Auger Boring X Pit ☐ Cut — TYPE OF WASTEWATER: X Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
7A	LSS 5-10%	0-16	BSCL WSBK	fri SSSP sexp	N/A common[MN] & YB matt	52"	N/A	N/A	PS .25 gpd/ft2
		16-26	BSC WSBK	fri SSSP sexp					
		26-52	RC mFABK	fri SSSP sexp					
				H_2O seeping in pit	(need french drain)				
7B	LSS 5-10%	0-30	BSCL WSBK	fri SSSP sexp	N/A	53"	N/A	N/A	PS .25 gpd/ft2
		30-35	BSC WSBK	fri SSSP sexp					
		35-53	RC mFABK	fri SSSP sexp					
(3)	45-06	0-6	wkSBK few sdl	fr SSSP	few mica flakes few common sp				.3
		6-24	mfSBK redd	fr SSSP SSEP					
		24-53	wkSBK redd	fr SSSP					
	Field Edge	0-10	wkGR few sdl	fr SSSP	few brn mottles	12-20"			.25-.3
		10-32	wkABK redc	fr SSSP SSEP					
		32-49	wkABK redd	fr SSSP few sapind					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	1440 ft2	1173 ft2
System Type(s)	25% Red	PPBPS
Site LTAR	.25	.25

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948): PS
EVALUATED BY: ROLLANS SOIL & ENVIRONMENTAL SERVICES
OTHER(S) PRESENT:

COMMENTS: