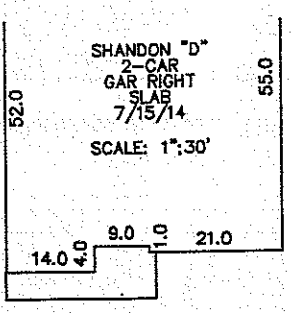
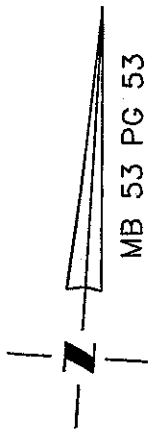
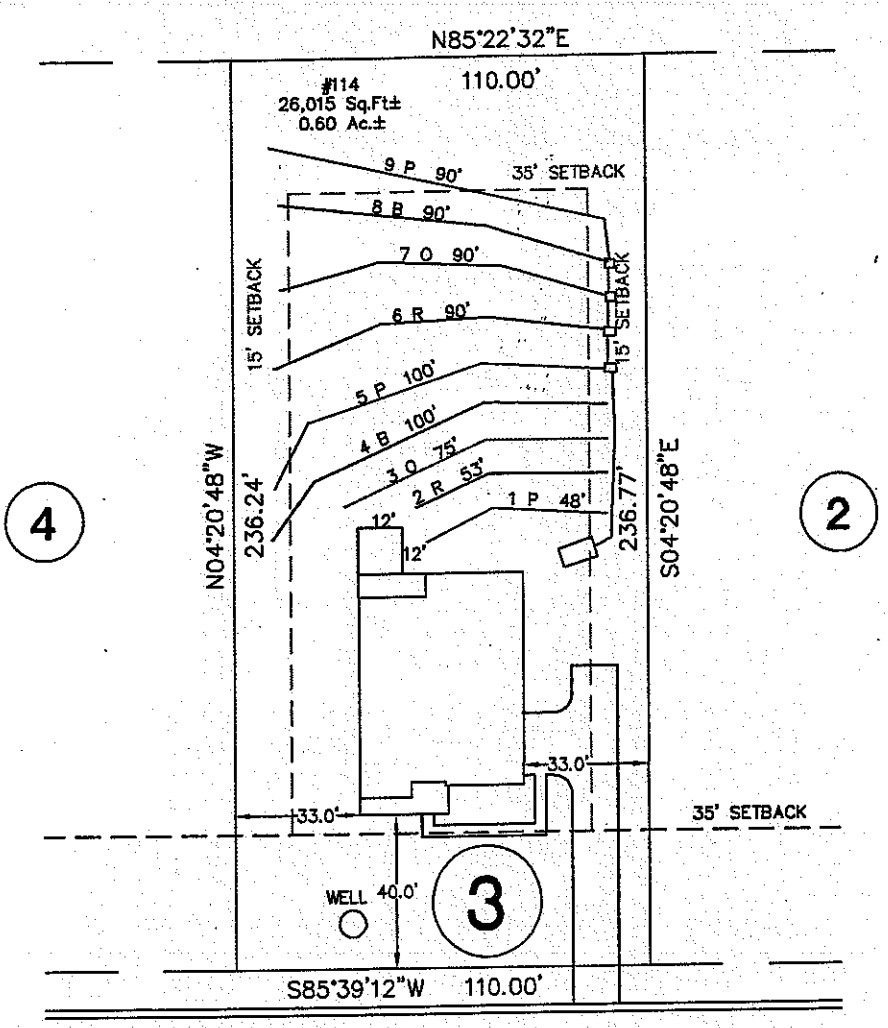


VICINITY MAP



OK Tch
APPROVED JUL 27
SE





TS ARE SUBJECT
D' UTILITY AND
GE EASEMENT.
T ON EACH SIDE
PROPERTY LINE.

CLEAR SPRINGS ROAD

55' PUBLIC R/W

R ASSUMES RESPONSIBILITY FOR GRADING LOT AND/OR DESIGNING
ORCHES, DECKS, ETC. AS NECESSARY TO PREVENT ENCROACHMENT
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THIS DRAWING DOES NOT
REFLECT AS-BUILT INFORMATION

PRELIMINARY PLAT
NOT FOR RECORDATION, CONVEYANCES, OR SALES.

0 50
SCALE: 1" = 50'

ASTOVER
SURVEYING COMPANY, P.A.

HOUSE LOCATION PLOT PLAN

FOR

LOT 3, AUTUMN GROVE SUBDIVISION, PHASE 2

Barringer Township, Iredell County, North Carolina

PROPERTY OF: ESSEX HOMES

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

www.soilandforestryservices.com

July 10, 2015

Iredell County Environmental Health Department
Attn: Ronda Hart
601 E. Center Avenue
Mooresville, NC 28115

RE: Lot 3 Autumn Grove (PIN 4659169358)

Ronda,

Soil & Forestry Services has been contracted by Essex Homes to submit septic design related information to Iredell County for Lot 3 of Autumn Grove subdivision. It's our understanding a valid 4-bedroom Improvement Permit (#143879) exists for the parcel. Based on our conversation yesterday Essex Homes is requesting an intermediate re-layout under the Fast Track process at a fee of $225. Due to a different sized house envelope than was previously permitted, we have trimmed 2 original repair lines. The proposed system and repair areas remain within the previously approved soils area. Attached please find an agent authorization, voluntary relinquishment form and a gravity septic design. Essex Homes will provide a new application as well as house plans for approval.

Please contact me if you have any questions or comments.

Regards,

Wendell Overby
NC Licensed Soil Scientist
NC Registered Forester

Cc: Darek Burns

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

www.soilandforestryservices.com

Attached is a proposed design for an Accepted (25% reduction) Septic System with Gravity distribution for a 4 bedroom single family residence on Lot #3 Autumn Grove Subdivision, Iredell County, North Carolina.

Contents: **Page**

Information for the Installer---------- 1

Design Information

Design Specifications---------- 2-3

Layout Specifications---------- 4

Site Plan/System Plan---------- 5

Calculations---------- 6

July 9, 2015
Project #: 15-1047
Design By: Soil & Forestry Services of the Carolinas, PA

INFORMATION FOR THE INSTALLER:

- The permit should be read very carefully prior to bidding. The following are details that must be considered along with all other considerations.
- Tanks shall be approved by DEHNR, and certification supplied by the manufacturer.
- Tanks shall be water tested prior to installation.
- The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original natural grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement.
- Installation of the system shall be during dry conditions in order to protect the soil structure.
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied glue applied to weld all joints.
- Where required by the county health department, post installation inspections by the designer must be scheduled 5 week days in advance.
- Trenches shall be carefully excavated so the bottom is within 2" from the highest to the lowest points of elevation within the trench. If the bottom elevation needs adjusting after it has been trenched, it will be done by removing high points rather than filling low points. It is extremely important to insure that trenches are not over excavated during initial trenching. All fine grading within the trench will be hand done with a shovel. No loose material will be left in the trench
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral.
- No heavy equipment shall be used on the field during or after installation. The use of a small loader (i.e. Bobcat) or a trencher (i.e. Ditch Witch 2300/2310) may be used for installation.
- Elevations at pinflag locations should be checked by the installer prior to beginning trenches.
- Pumptank riser should be 6" above grade, control panel should be 12" above grade.
- Septic tank riser shall be a minimum of 6" above finished grade.
- System is specified as an innovative 25% reduction installation.
- Repair is specified as a PPBPS with low pressure distribution installation.
- Iredell Co. Health Dept can move tank or supply components as needed.

GRAVITY ACCEPTED SYSTEM
FOR WASTEWATER TREATMENT

Owner:	Essex Homes
	Attn: Darek Burns
Address:	13310 South Ridge Drive, Suite A CLT 28273
Phone:	803 223-4003
County:	Iredell
Location:	AUTUMN GROVE LOT #3
Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Gallons Per Day Flow:	480
System Flow:	480

Design Specifications

Drainfield Size:	400
Loading Rate (gpd/ft.^{2}):	0.3
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:	n/a
Estimated Supply Line Length:	13
Supply Line Diameter:	3 in. SCH 40 PVC
Supply Line Volume:	2.26
Dosing Volume:	n/a
Supply Manifold:	drop box
Supply Manifold Length:	n/a
Supply Manifold Volume:	N/A
Recommended Float Controls:	n/a
	n/a
Recommended Control Panel:	n/a
	n/a
Pressure Head:	N/A
Friction Head:	N/A
Elevation Head:	N/A
Total Dynamic Head:	N/A
Threaded Union:	NA
Gate Valves:	NA
	NA
Check Valves:	NA
Anti-Siphon Hole:	NA

ok

APPROVED JUL 27 2015

SL

AUTUMN GROVE LOT #3

DESIGN FLOW (gpd):	480
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.3
TOTAL AREA TRENCH BOTTOM:	1200
TOTAL LATERAL LENGTH:	400
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	400
SUPPLY LINE LENGTH:	13
TOTAL DYNAMIC HEAD:	N/A
MANIFOLD SIZE:	N/A
DOSING VOLUME:	N/A
PUMP TANK DRAW DOWN*:	N/A
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	N/A

AUTUMN GROVE LOT #3

Project #: 15-1047

LAYOUT FOR 4 BEDROOM HOME

July 9, 2015

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		N/A			100.00		
INSTR. 1			N/A				
HOUSE CNR				N/A	N/A		
P. TANK				N/A	N/A		
1	PINK			N/A	N/A	48	48
2	RED			N/A	N/A	53	53
3	ORANGE			N/A	N/A	75	75
4	BLUE			N/A	N/A	100	91
5	*PINK*			*N/A*	*N/A*	*100*	*80*
6	*RED*			*N/A*	*N/A*	*90*	*80*
7	*ORANGE*			*N/A*	*N/A*	*90*	*80*
8	*BLUE*			*N/A*	*N/A*	*90*	*80*
9	*PINK*			*N/A*	*N/A*	*90*	*80*
					Total	736	667

	LINE LENGTH	LTAR GPD/FT²	SYSTEM TYPE	SOIL LTAR GPD/FT²	TRENCH SYSTEM	DISTRIBUTION
** System*	*400*	*0.300*	*ACCEPT.*	*0.300*	*25% RED.*	GRAVITY DISTRIBUTION
Repair	267	0.300	*MOD.*	0.300	PPBPS	LOW PRESSURE

Notes:

**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

CALCULATIONS

Location AUTUMN GROVE

Project Number 15-1047

Lot No:	3	
No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.3	$^{gpd/ft^2}$
25% RED.? (YES OR NO)	YES	
Supply Line Length	13	ft.
Supply Line Volume	2.262	gal.
Required Feet of Line	400	ft.
Amount of Line from Layout	400	ft.
Gallons per Minute	N/A	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Lateral Line Volume	261.2	gal.
Dosing Volume	N/A	gal.

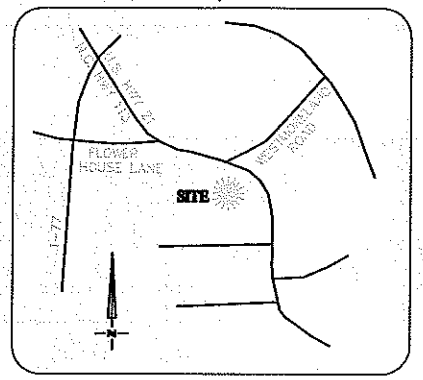
Note: Dosing Volume based on70% of lateral line volume

Tank Draw Down	N/A	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	N/A	minutes
Elevation Head	N/A	ft.
Pressure Head	N/A	ft.
Friction Factor	N/A	ft./100 ft. *(From the interpolater.)*
Friction Head	N/A	ft.
Total Dynamic Head (+15%)	N/A	ft.

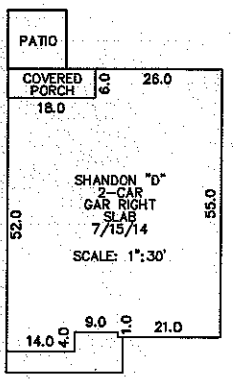
FRICTION FACTOR INTERPOLATER
2" SCH 40 PVC

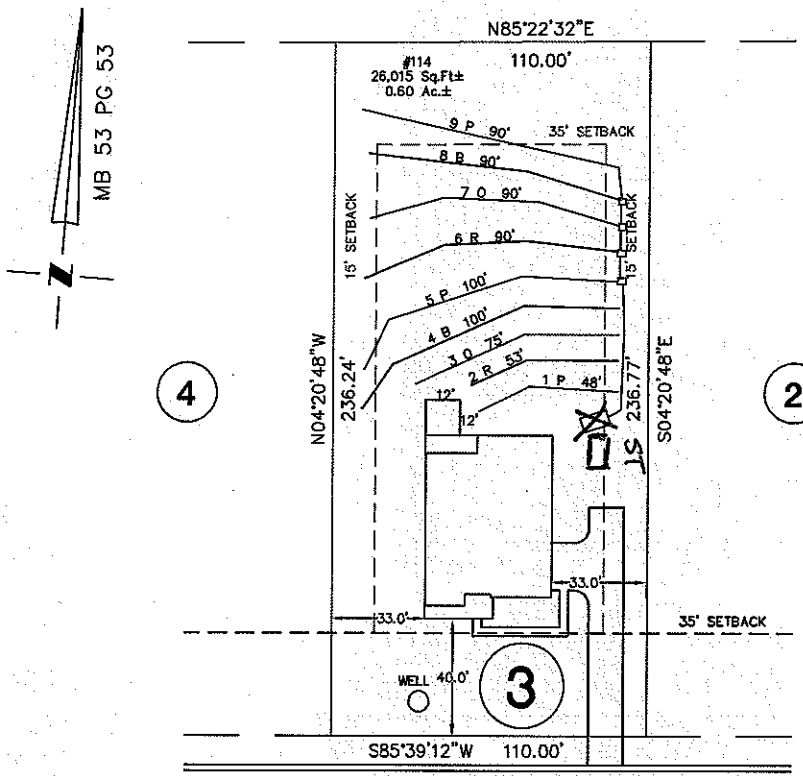
GPM	*f*
20	0.84
	-0.88
25	1.27
	-1.28
30	1.78
	-1.76
35	2.37
	-2.25
40	3.03
43.07	3.48
45	3.77
48.14	4.28
50	4.58
57.11	5.89
60	6.42

LOT FIT ONLY



VICINITY MAP
Not To Scale





OK IMD
APPROVED JUL 27 2015
SE

NOTE:
ALL LOTS ARE SUBJECT TO A 10' UTILITY AND DRAINAGE EASEMENT, 10' FEET ON EACH SIDE OF THE PROPERTY LINE.

CLEAR SPRINGS ROAD

55' PUBLIC R/W

NOTE:
1. BUILDER ASSUMES RESPONSIBILITY FOR GRADING LOT AND/OR DESIGNING STEPS, PORCHES, DECKS, ETC. AS NECESSARY TO PREVENT ENCROACHMENT INTO SETBACKS.
2. HOUSE DIMENSIONS AND OPTIONS SHOULD BE VERIFIED WITH CONTRACTOR PRIOR TO CONSTRUCTION.
3. SETBACKS/ EASEMENTS SHOULD BE VERIFIED WITH DEVELOPER AND LOCAL OFFICIALS PRIOR TO CONSTRUCTION.
4. THIS IS A CONCEPTUAL DRAWING AND CONTENTS SHOWN HEREON ARE SUBJECT TO CHANGE UPON FINAL CONSTRUCTION.
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THIS DRAWING DOES NOT REFLECT AS-BUILT INFORMATION

PRELIMINARY PLAT
NOT FOR RECORDATION, CONVEYANCES, OR SALES.

50 0 50
SCALE: 1" = 50'

EASTOVER
LAND SURVEYING COMPANY, P.A.
LAND SURVEYORS – PLANNERS (C-1833)
10430 PARK ROAD, SUITE #300
CHARLOTTE, NORTH CAROLINA 28210
PHONE (704) 927-8080
FAX (704) 889-0105

HOUSE LOCATION PLOT PLAN

FOR

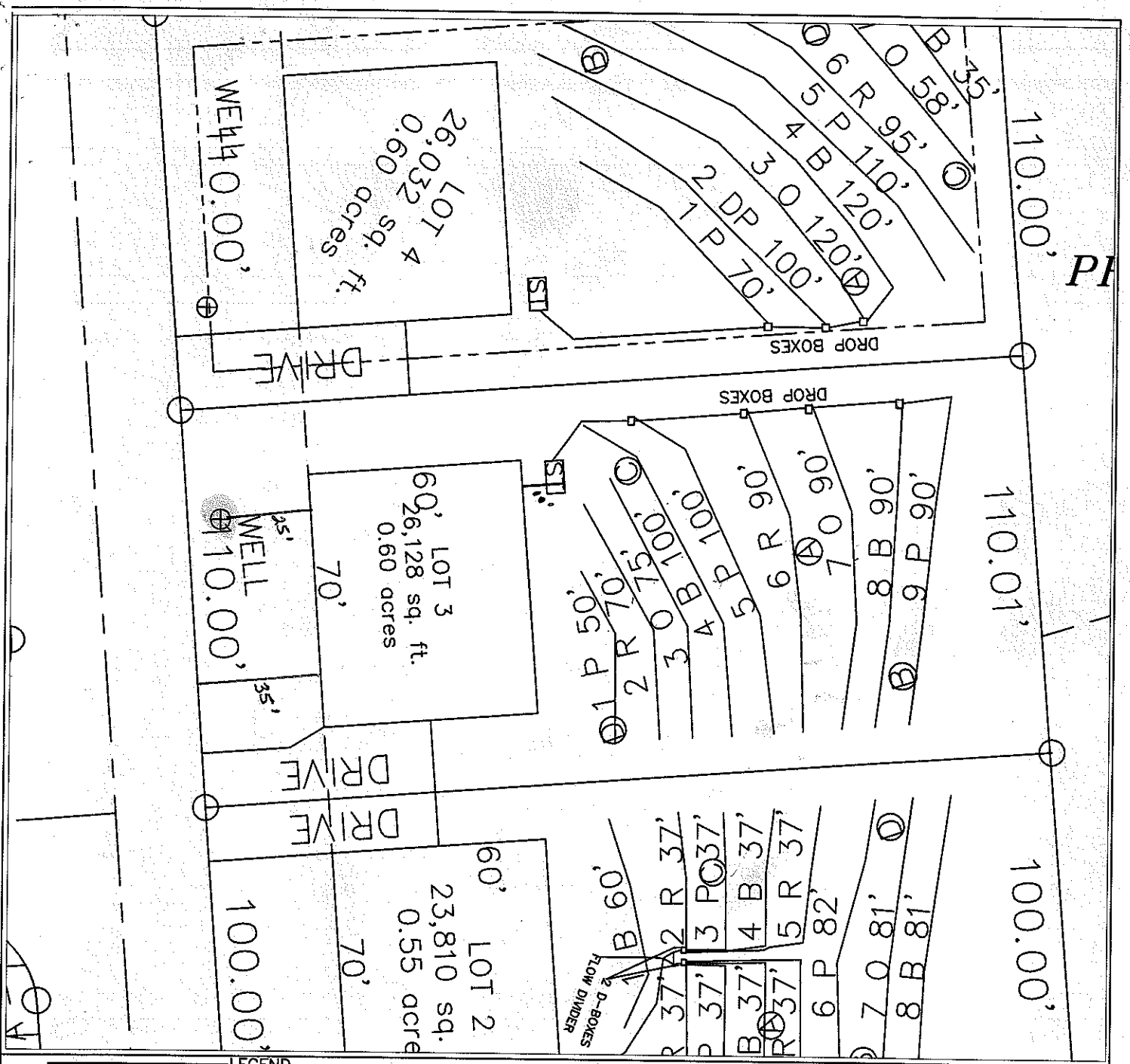
LOT 3, AUTUMN GROVE SUBDIVISION, PHASE 2

Barringer Township, Iredell County, North Carolina

PROPERTY OF: ESSEX HOMES

MAP BOOK 53 PAGE 53 DEED REFERENCE

DRAWN BY: ERG | DATE: MAY 5, 2015



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/ ARUMM GROVE	LOCATION/DATE:	FERNHILL, 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.		

SOIL/SITE EVALUATION

(Continuation Sheet)

Sheet ____ of ____

DEPARTMENT OF ENVIRONMENT
AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH

PROPERTY ID #: _____
DATE OF EVALUATION: _____
COUNTY: _____

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 3 A	L/6-10	0-28	Rc mms6k/gr	Fr SS SP SE xP	-C.sap	40"	PS	-	PS 0.3
		28-40	Rcl wms6k	v " " "					
		40-60	verfg 1 mass	v " " "					
3 B	L 6-10%	0-8	BSCL GR	fri SSSP Smp	-	47	PS	-	PS .3
		8-24	RC SMK	fri SSSP Smp					
		24-47	RCL WSMK	fri SSSP Smp					
		47-63	SL SAP	fri SSSP Smp					
3 C	L 3-8%	0-4	BSCL GR	fri SSSP Smp	-	48	-	-	.3
		4-28	RC MFSMK	fri SS SP Smp					
		28-48	RCL MWSMK	fri SSSP Smp					
3 D	L 3-8%	0-32	RC SMK	fri SSSP Smp	-	48	-	-	.3
		32-48	RCL WSMK	fri SSSP Smp					
				Common Sap					

COMMENTS: _____