

Environmental Services - Water Quality
Onsite Wastewater Scan Data Entry Form

PERMIT #:

PIN #:

OP DATE:

SYSTEM USE:

- ☒ House
☐ Mobile Home
☐ Business
☐ Other

SEWAGE TYPE:

- ☒ Domestic
☐ Industrial

PUMP/SIPHON?:

- ☒ Yes
☐ No

PRESSURE MANIFOLD:

- ☒ Yes
☐ No

SYSTEM TYPE:

- ☐ I
☐ II
☒ III
☐ IV
☐ V
☐ VI
☐ Other

SUB TYPE:

- ☐ A
☒ B
☐ C
☐ D
☐ E
☐ F
☐ G

NBR BEDROOMS:

- ☐ 1
☐ 2
☐ 3
☒ 4
☐ 5
☐ 6
☐ Other

MAINT. SCHEDULE:

- ☐ Yes
☒ No

CERT. OPERATOR

- ☐ Yes
☒ No

GT	ST	PT	SIZE
☐	☐		750
☐	☐	☐	900
☐	☐	☐	1,000
☐	☒	☒	1,200
☐	☐	☐	1,500
☐	☐	☐	1,800
☐	☐	☐	2,100
☐	☐	☐	2,500
☐	☐	☐	3,000
☐	☐	☐	4,000
☐	☐	☐	5,000
☐	☐	☐	8,000
☐	☐	☐	10,000
☐	☐	☐	Other
☒		☐	None/NA GT or PT

DRAINFIELD SIZE(SQ. FT.)

DRAIN TYPE:

- ☐ Stone
☒ EZ Flow
☐ Infiltrator
☐ Biodiffuser
☐ Cultec
☐ Drip
☐ Hancor
☐ Large Dia. Pipe
☐ Multi-Pipe
☐ Other

MAX DEPTH (IN.):

- ☐ 12 in. or less
☐ 18 in. or less
☒ 24 in. or less
☐ 26 in. or less
☐ 28 in. or less
☐ 30 in. or less
☐ 32 in. or less
☐ 36 in. or less
☐ Other

STONE DEPTH (IN.):

- ☐ 8 in. or less
☒ 12 in. or less
☐ 18 in. or less
☐ 24 in. or less
☐ Other

TRENCHES:

- ☒ Individual
☐ Bed

TRENCH WIDTH (IN.):

- ☐ 12 in. or less
☐ 18 in.
☐ 24 in.
☒ 36 in.
☐ 6 ft. or less
☐ 9 ft. or less
☐ Other

11/5 *AW*

WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WELL AND SEWAGE SITE LOCATION PERMIT
NO PERMIT(S) FOR CONSTRUCTION, LOCATION OR RELOCATION ACTIVITY SHALL BE ISSUED
UNTIL AN AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION HAS BEEN ISSUED

PERMIT VOID IF NOT IN COMPLIANCE WITH ZONING REGULATIONS AND/ OR IF SITE IS ALTERED OR INTENDED USE CHANGED

PERMIT#: D017540 STATUS: A APP. DATE: 03/07/2000 BLDG. PERMIT#: 0003034
PIN: 1800.04 74 4261 000 TAX MAP: 0227 0000 RECORDED: Y ORIG. PERMIT#:
TOWNSHIP: 02 BARTON'S CREEK JURISDICTION: WC ZONING: 80W
APPLICANT: BLUESTONE BUILDERS, LLC
8356-201 SIX FORKS RD.
RALEIGH, NC 27615
(919) 870 - 7734
USE: HD USE: 101 ONE-FAMILY HOUSE
EXIST USE:
DISPOSAL: N BEDROOMS: 4 BASEMENT: Y #EMPLOYEES: 0
SITE: ADDRESS: 6116 CRESCENT KNOLL DR
SUBDIVISION: CARLYLE@FALLS LOT: 88 ACRES: 1.03
DIRECTION: GO SR 1005 NORTH RIGHT ON SR 2002 LEFT ON SR 20
03 SUBD WILL BE ON LEFT

Well System: WATER: COMMUNITY - TYPE:

WELL LOG INFORMATION: DEPTH: _____ CASING DEPTH: _____ YIELD: _____ STATIC LEVEL: _____
WELLI CONTRACTOR: _____ REG.# _____ PUMP CONTRACTOR: _____ REG.# _____
Construction Compliance GROUT APPROVED ☐ DATE _____ EHS _____
WELLHEAD APPROVED ☐ DATE _____ EHS _____
SYSTEM FINALIZED ☐ DATE _____ EHS _____

COMMENTS:

DESIGN FLOW: 46.51 gal./min. ACTUAL FLOW: 46.00 gpm ^{Operation Permit} INNOVATIVE LETTER: R

INSTALLED BY: Eric Green INSTALLATION APPROVED BY: Eric Green
PROPRIETARY SYSTEM: E2 Flow FILTER NO: _____
COMMENTS: Brantly J. Jones

OPERATIONS PERMIT ISSUED? _____ OP DATE: 7/16/04 BY: J. Jones

This permit is based in part on information provided by the homeowner or his/her representative in the application submitted for this permit. The Environmental Health Specialist is not responsible for false or misleading information contained in the application. The Environmental Health Specialist is also not responsible for concealed conditions on the property or for statements in this report that may have resulted from false or misleading statements provided to him in the application. Neither Wake County nor the Environmental Health Specialist warrants that the septic tank system will continue to function satisfactorily in the future or that the water supply will remain potable.

As Built Information:

Date: 7-1-04 Benchmark: PT Rod reading: 13'3" Distance to Structure: _____
ST: 1200 gals ID#: 013 34 D.O.M.: 5-11-04 Elev.: 14'6" Distance to Well: _____
PT: 1200 gals ID#: 013 463 D.O.M.: 4-7-04 Elev.: 15'
D-box/FD/PM elev.: top of PM = 1'6.5 Supply Line: _____ ft. Pump/Control Panel: _____
Line 1: 5'6 1/2" 5'6 1/2" 5'6 1/2" Date: 7-1-04
Line 2: 6'5" 6'5" 6'5" Date: _____
Line 3: 7'3" 7'3" 7'3" Date: _____
Line 4: 8'3 1/2" 8'3 1/2" 8'3 1/2" Date: _____
Line 5: 9'4" 9'4" 9'4" Date: _____
Distance to P/L: _____ Notes: _____

Line 6: 10'5 1/2" 10'5 1/2" 10'5 1/2"
Line 7: 11'1 1/2" 11'2" 11'2"

ES Copy

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RALEIGH, NC 27615
(919) 870 - 7734
USE: HD USE: 101 ONE-FAMILY HOUSE
EXIST USE:
DISPOSAL: N BEDROOMS: 4 BASEMENT: Y #EMPLOYEES: 0 FOUND DRAIN: Y
SITE: ADDRESS: 6116 CRESCENT KNOLL DR
SUBDIVISION: CARLYLE@FALLS LOT: 88 ACRES: 1.03
DIRECTION: GO SR 1005 NORTH RIGHT ON SR 2002 LEFT ON SR 20
03 SUBD WILL BE ON LEFT

IMPROVEMENT PERMIT

TANK SIZE: 1200 gal. PUMP Tank: 1200 gal. SQ FT: 1440 INNOVATIVE MAX DEPTH LINE: 24 in.
WASTEWATER: INDIVIDUAL SEWAGE: DOMESTIC TYPE SYSTEM: III G PUMP: Y P/M: Y
DAILY FLOW: 480 gal/day DESIGN FEE REQ?: Y PAID?: Y WATER: COMMUNITY

COMMENTS:

IP ISSUED? Y DATE: 03/23/2004 BY: (DWW) *Dee Worden* by *Brett J. Marks* PHONE#: 856-7429

AUTHORIZATION FOR WASTEWATER/WATER SYSTEM CONSTRUCTION

VOID SIXTY (60) MONTHS FROM DATE OF ISSUANCE

AUTHORIZATION CONDITIONS:

Contractors shall install system on contours, see attached site plan for wastewater system design and well location. No underground utilities, water lines or sprinkler systems may be located in the original system or repair areas. A septic tank filter with a riser for access is required. The wastewater system shall not be covered or placed into use until inspected by the Wake County Department of Environmental Services and an Operation Permit issued. **OTHER CONDITIONS:**
INNOVATIVE REDUCTION HAS ALREADY BEEN TAKEN IN DESIGN OF INITIAL AND REPAIR SYSTEMS. SEE DESIGN PLANS BY S&EC FOR SPECIFIC INSTALLATION INFORMATION. INITIAL SYSTEM IS A VARIED LENGTH LINE PRESSURE MANIFOLD WITH 24" TRENCH BOTTOMS. PLEASE BACKFILL IN ACCORDANCE TO INNOVATIVE PRODUCT APPROVAL. REPAIR SYSTEM IS A VARIED LENGTH LINE PRESSURE MANIFOLD SYSTEM. A NEMA4X CONTROL PANEL WITH 2 SEPARATE POWER SUPPLIES, 2 SEPARATE CIRCUIT BREAKERS, CYCLE COUNTER, AND ELAPSED TIME METER IS REQUIRED. PLEASE CALL ENVIRONMENTAL SERVICES IF ANY QUESTIONS OR PROBLEMS ARISE. PLEASE MAINTAIN AT LEAST 15FT SEPARATION BETWEEN BASEMENT AND ANY PART OF INITIAL SEPTIC SYSTEM OR REPAIR AREA.

TANK SIZE: 1200 gal. PUMP TANK: 1200 gal. SQ FT: 1440 INNOVATIVE MAX DEPTH LINE: 24 in.
MAINT: N OPER: N L/O: P TRENCH#: 7 LENGTH: 480 ft. WIDTH: 36 in. DESIGNER: S&EC
SUBFIELDS: 1 DESIGN HEAD PRESSURE: 2 DESIGN FLOW: 46.51 gal/min DOSE VOLUME: 234 gal.

CA ISSUED? Y DATE: 04/16/2004 BY: (BSM) *Brett J. Marks* PHONE#: 856-7463

As Built
1"=50ft

PRELIMINARY PLOT PLAN FOR
BLUESTONE BUILDERS

LOT 88, CARLYLE @ FALLS LAKE

6116 CRESCENT KNOLL DRIVE

REF: B.M. 1999, PAGE 341

BARTON'S CREEK TOWNSHIP

WAKE COUNTY, NORTH CAROLINA

MARCH 19, 2004

REVISED APRIL 8, 2004

PIN: 180004 74 4201

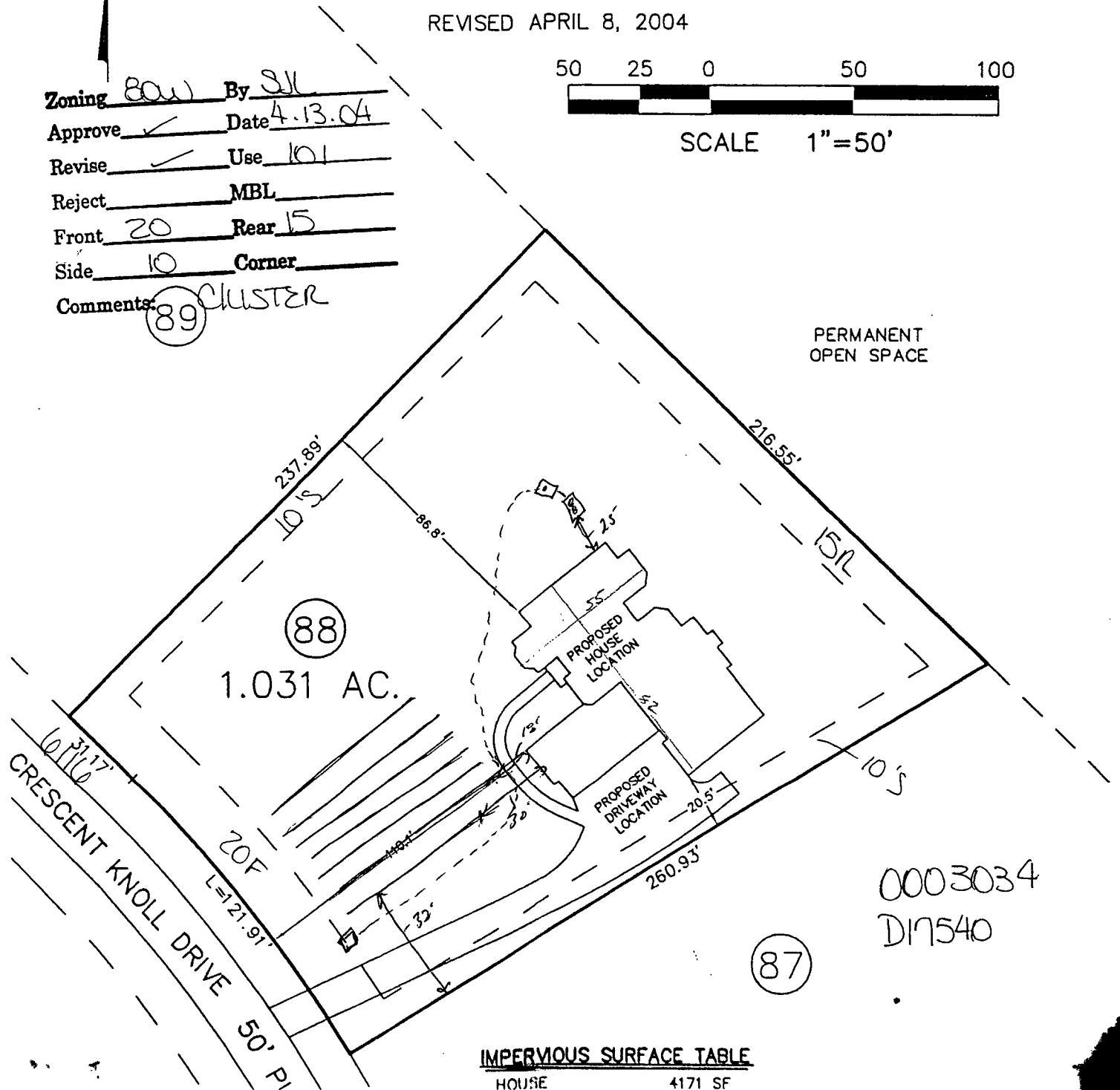
I certify that the location of planned or proposed structure(s) are accurately shown. I understand failure to locate structures in accordance with this plot plan may require the relocation of structure(s) regardless degree of completion. I hereby grant permission to Municipal/County Representatives the right of entry to make evaluations or inspections upon this property.

Sandie Spivey
Signature of Owner or Authorized Agent

Zoning BAW By SL
Approve ✓ Date 4.13.04
Revise ✓ Use 101
Reject MBL
Front 20 Rear 15
Side 10 Corner
Comments: (89) CLUSTER



SCALE 1"=50'



LOT 88, CARLYLE @ FALLS LAKE

6116 CRESCENT KNOLL DRIVE

REF: B.M. 1999, PAGE 341

BARTON'S CREEK TOWNSHIP

WAKE COUNTY, NORTH CAROLINA

MARCH 19, 2004

REVISED APRIL 8, 2004

structure(s) are accurately shown. I understand failure to locate structures in accordance with this plot plan may require the relocation of structure(s) regardless degree of completion. I hereby grant permission to Municipal/County Representatives the right of entry to make evaluations or inspections upon this property.

Sandie Finckh
Signature of Owner or Authorized Agent



SCALE 1"=50'

Initial System 1440 ft²

480 total linear feet using innovative trenches with 24" max trench bottoms. PERMANENT OPEN SPACE

Repair System 1410 ft²

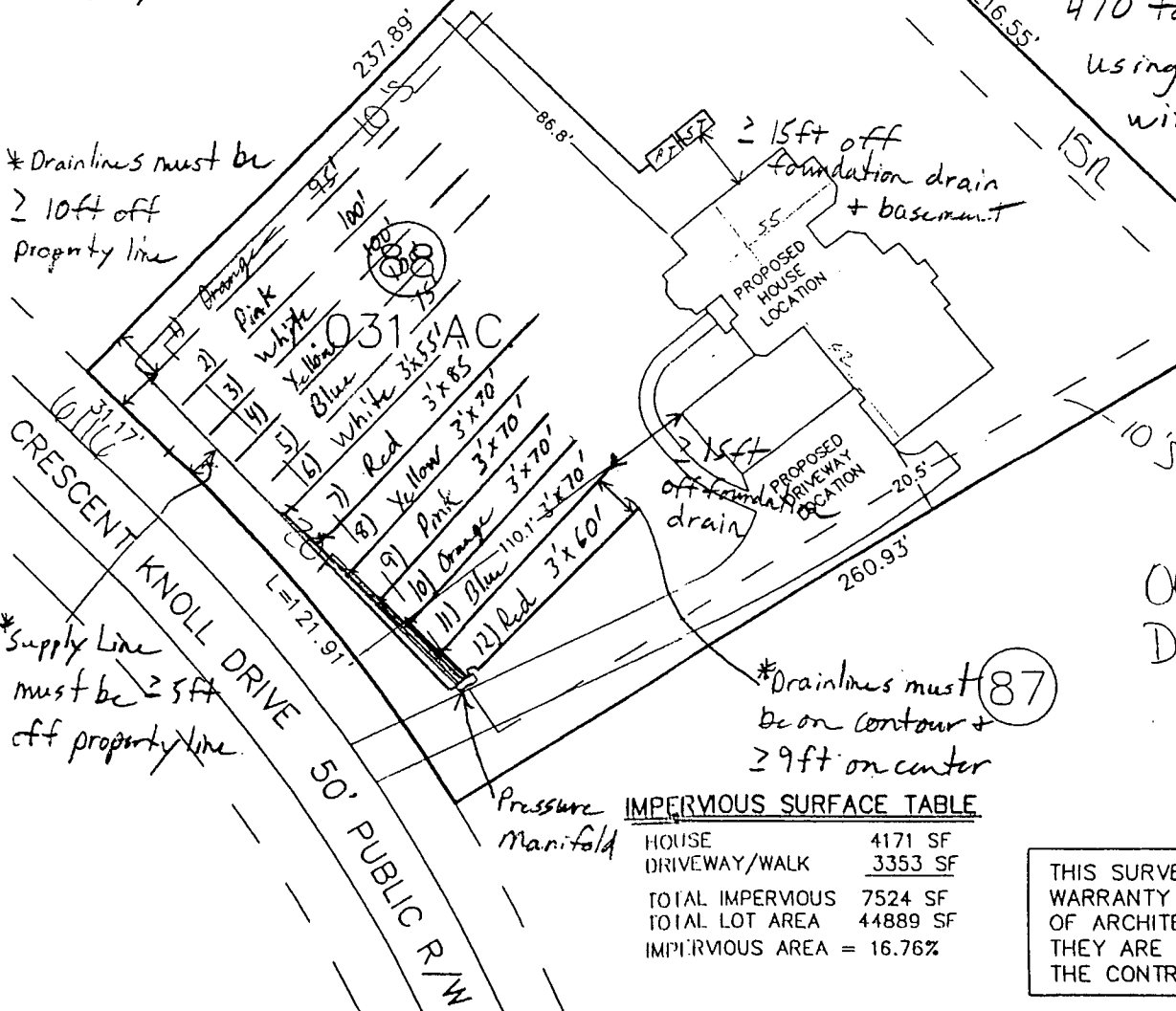
470 total linear feet using innovative trenches with 24" max trench bottoms

Zoning BAW By SV
Approve ✓ Date 4.13.04
Revise ✓ Use 101
Reject MBL
Front 20 Rear 15
Side 10 Corner
Comments: (89) CLUSTER

* Drainlines must be ≥ 10 ft property line.

* Drainlines must be ≥ 10 ft off property line

* Supply Line must be ≥ 5 ft off property line.



IMPERVIOUS SURFACE TABLE

HOUSE	4171 SF
DRIVEWAY/WALK	3353 SF
TOTAL IMPERVIOUS	7524 SF
TOTAL LOT AREA	44889 SF
IMPERVIOUS AREA =	16.76%

THIS SURVEYOR DOES NOT WARRANTY THE ACCURACY OF ARCHITECTURAL DIMENSIONS. THEY ARE TO BE VERIFIED BY THE CONTRACTOR.

0003034
D17540



ES Copy

Soil & Environmental Consultants, PA

11010 Raven Ridge Road • Raleigh, North Carolina 27614 • Phone: (919) 846-5900 • Fax: (919) 846-9467
www.SandEC.com

OCT 17

Attached is a proposed design for a Pressure Manifold Septic System for a 4 bedroom house, located at Lot 88 Carlyle Sub. , Wake Co., NC

<u>Contents:</u>	<u>Page</u>
Information for the Installer -----	1
Design Specifications-----	2 - 5
Site Plan-----	6 - 7
Septic Tank Diagram-----	8
Pump Tank Diagram-----	9
Pressure Manifold Diagram-----	10
Control Panel Specifications-----	11 - 14
Pump Specifications-----	15 - 16
Nitrification Trench Detail -----	17
Repair Tap Sheet-----	18

() APPROVED
(X) APPROVED AS NOTED
() DISAPPROVED

10-15-01, S&EC PROJECT #5654, DESIGN BY: *B. Kaplan*
PROJECT MGR - J. Beeson

This design has been made only for conformance with the design concept of the project and approval or approval as noted shall not relieve the designer and/or contractor from responsibility for any errors therein or for furnishing the materials, and equipment of proper dimension, size, quantity, quality and all performance characteristics to meet the requirements and intent of the contract documents.

WAKE COUNTY DEPARTMENT OF
ENVIRONMENTAL SERVICES

Date *7-22-04* By *Burt J. Martin*

Charlotte Office:
PMB 291, 3020-I Prosperity Church Road
Charlotte, NC 28269-7197
Phone: (704) 720-9405
Fax: (704) 720-9406

Greensboro Office:
3817-E Lawndale Drive
Greensboro, NC 27455
Phone: (336) 540-8234
Fax: (336) 540-8235

Site Plan revised 4-14-04 Burt J. Martin
Hickory Office:
910 Boston Road
Poylorsville, NC 28681
Phone: (828) 635-5820
Fax: (828) 635-5820

**PRESSURE MANIFOLD SYSTEM
FOR WASTEWATER TREATMENT**

Owner's name: Crist Chapman Builders Phone (H) 848-3030
Mailing address: 800-105 Salem Woods Dr
Raleigh, NC 27615
System location: LOT 88 Carlyle
County: Wake
Source of Wastewater Flow: 4 Bedroom House
Estimated Daily Wastewater Production: 480 gpd
System Flow: 46.51 gpm

DESIGN PARAMETERS

Drainfield size: 480 feet Loading rate: 0.27 (w/EZlay) gpd/sq ft
Depth of gravel in trench: n/a Gravel size: n/a
Trench depth: 24-30" (EZLAY)
Trench width: 36"
Septic tank size: 1200 gal Pump tank size: 1200 gal
Supply line length: apprx. 260ft Pump tank dimensions: 48" lq. depth
Supply line diameter: 2" sch 40 pvc 9' length
Supply line volume: ~45.2 gal 5' width
Dosing volume: ~234 gal Drawdown: ~11.2" (1200 gal tank)
Supply manifold: 4" sch 40 pvc Drawdown based on 21 gal per inch
Supply manifold length: 5.0 min. ft
Supply manifold volume: n/a
Recommended float controls: SJE Pumpmaster (or County approved)
Elev. head: ~14.6'
Pressure head: 2 ft
Threaded union: in tank Friction head: ~11.9ft
(TDH) Total dynamic head: ~32.8' (w/15% fittings) ft
Gate valves: 1 in pump tank, 1 @ pres. manifold

Check valves: in pump tank
Anti-siphon hole: in pump tank
Recommended high water alarm: American NEMA 4X panel & floats, or County aprv.

Recommended Pump: Myers effluent pump, model #ME50, or county approved effluent rated pump: must be able to deliver ~33ft of head at ~47gpm total flow

Additional Comments: Soil Suitability was performed by the Wake County Health Department.

RAISED 10-26-01

2

CARLYLE LOT 88
PRESSURE MANIFOLD DESIGN

DESIGN FLOW	= 480 GPD
SOIL APPLICATION RATE	= 0.3 GPD/SQ.FT (w/ EZLAY)
TOTAL AREA TRENCH BOTTOM	= 1440 SQ. FT.
TOTAL LATERAL LENGTH	= 480 L.FT.
NUMBER OF FIELDS	= 1
LATERAL LENGTH REQUIRED PER FIELD	= 480 L.FT.

SUPPLY LINE	TOTAL DYNAMIC	MANIFOLD
<u>LENGTH</u>	<u>HEAD</u>	<u>SIZE</u>
~ 260'	~ 32.8'	4."

DOSING VOLUME = ~234 GALLONS
PUMP TANK DRAWDOWN = ~11.2" for 1200 gal tank
SEPTIC AND PUMP TANK SIZES = 1200 GALLONS
RECOMMENDED PUMP = MYERS EFFLUENT PUMP,
MODEL # ME50 (OR COUNTY APPROVED EFFLUENT RATED PUMP
THAT CAN DELIVER ~47 GALLONS AT ~33' OF HEAD)

+

REVISED 10-26-01

3

CARLYLE LOT 88 PRESSURE MANIFOLD revised 10-15-01
SYSTEM

<u>line #</u>	<u>color</u>	<u>elevation</u>	<u>length</u>	<u>hole size</u>	<u>flow/tap</u>	<u>g.p.d.</u>	<u>trench area</u>	<u>line LTAR</u>
6	WHITE	93.3	55	SCH 80 1/2	5.48	56.56	165	0.34
7	RED	94.2	85	SCH 40 1/2	7.11	73.38	255	0.29
8	YELO	95.4	70	SCH 40 1/2	7.11	73.38	210	0.35
9	PINK	96.9	70	SCH 40 1/2	7.11	73.38	210	0.35
10	ORNG	97.3	70	SCH 40 1/2	7.11	73.38	210	0.35
11	BLUE	98.8	70	SCH 40 1/2	7.11	73.38	210	0.35
12	RED	99.7	60	SCH 80 1/2	5.48	56.56	180	0.31

total feet = 480 gal/min = 46.51

Des. Flow 480

Total Pump Run= 10.32

soil LTAR 0.3

(EZLAY Itar) 0.4

(EZLAY Itar +5%) 0.42

some lines flagged longer in the field; shorten to lengths shown here.

CARLYLE LOT 88 PRESSURE MANIFOLD revised 10-15-01

REPAIR (IF Needed)

<u>line #</u>	<u>color</u>	<u>elevation</u>	<u>length</u>	<u>hole size</u>	<u>flow/tap</u>	<u>g.p.d.</u>	<u>trench area</u>	<u>line LTAR</u>
1	ORNG	88.8	75	SCH 80 1/2	5.48	77.55	225	0.34
2	PINK	89.8	100	SCH 40 1/2	7.11	100.61	300	0.34
3	WHITE	90.5	100	SCH 40 1/2	7.11	100.61	300	0.34
4	YELO	91.6	100	SCH 40 1/2	7.11	100.61	300	0.34
5	BLUE	92.3	95	SCH 40 1/2	7.11	100.61	285	0.35

total feet = 470 gal/min = 33.92

Des. Flow 480
 Total Pump Run= 14.15
soil LTAR 0.3
 (EZLAY Itar) 0.4
 (EZLAY Itar +5%) 0.42

some lines flagged longer in the field; shorten to lengths shown here.



Environmental Services

TBL: 919 856 7400
FAX: 919 856 7407

B5L6-7407

Water, Wastewater, and Development Services
336 Fayetteville St., PO Box 560, Raleigh, NC 27602

I, Jonathan Bluesdine hereby request the chamber system or
polystyrene aggregate system called E2 Lay to
be used in my sewage disposal system. I understand that I will be
granted a 25% reduction in the amount of required drainfield for my
property. My property is located at 6116 Crescent Knoll Dr.

Carlyle Lot 88.

[Signature] Owner
3/18/04 Date

D# 17540

Bldg Permit # 0003034

PIN: 1800.04744261

Generic Name

- ☐ Drip System
- ☐ Chamber Trench Sys.
- ☐ Brunswick Bed/Fill Sys.
- ☐ Chamber Trench Sys.
- ☒ Polystyrene Aggregate Tr
- ☐ Chamber Trench
- ☐ Polyethylene
- ☐ Sand Filter Pretreatment
- ☐ Chamber Trench
- ☐ Peat Filter Pret. Sys.
- ☐ Fibermesh Reinforced Tanks

Proprietary Name

- "Perc-Rite" Subsurface
- "Infiltrator" Chambered
- "Brunswick" Bed/Fill
- "Hancor EnviroChamber"
- Houck Drainage Sys.
- "Contractor Model 75, 100, 125, and field drain"
- Norwesco P.E. Tanks
- Pressure Dosed Sand
- "Bio Diffuser" Low Profile
- Puraflo Peat Biofilter Sys.
- Fibermesh Reinforced Tank