

12054 CANTER LN

19724149

1/9/2008

duponbj

Groundwater and Wastewater Services File Imaging Project
May 2007
Barcode Font = IDAutomationHC39M

CERTIFICATE OF COMPLETION/OPERATION PERMIT

HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 NORTH TRYON ST., SUITE 211
CHARLOTTE, NC 28202
PHONE (704) 336-5103

FILE: 60458 49 DATE: 12/15/05

TC: 197-241-116 ☐ L ☒ CRT

SERIAL Nº 20082

Name of Owner RYAN HOMES Juris.:

Address of Property 12054 CANTER LANE

Inspection Data:

Tank Material PCC

Total Length of Drainfield 440'

Number of Lines 4 @ 110'

Cover Depth 20"

Water Supply Source MUNICIPAL

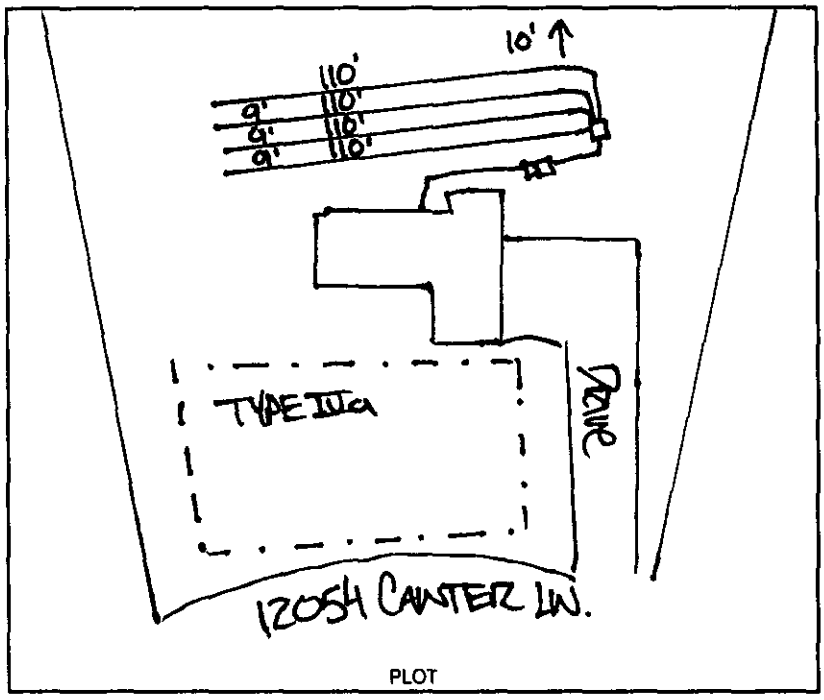
Distance to Water Source >100'

Excavation Inspected 12/15/05

Tank(s) Inspected 12/15/05

Wash Line Inspected N/A

High Water Alarm Inspected N/A



PLOT

Design 2005, INJ, E-Flow, 1320SF, 1500ST, T CTR# RCS

The undersigned has inspected the Septic Tank System described above, and certifies it has been

☒ installed or constructed ☐ altered or repaired

☒ in accordance with the permit issued ☐ as detailed in the plot above

and meets the provisions of 15A NCAC 18A. 1900, "Laws And Rules For Sewage Treatment and Disposal Systems" in effect on the date of issuance of the permit. This issuance of this

☐ Certificate of Completion. ☒ Operation Permit

does not in any way guarantee that the system will operate properly or relieve any person now or hereafter owning, controlling, or using such system from any liability resulting from the failure of the system to operate properly. This document is issued subject to those restrictions and conditions shown on the permit(s) and the provisions of 15A NCAC 18A. 1900 in addition to those listed below under "COMMENTS." This document shall be null and void if any information contained in the application is untrue or if any additions are made to the property which would increase the requirements for said system.

Notice: Disturbance of the designated repair area may result in the suspension/revocation of this permit.

COMMENTS: 25% REDUCTION SYSTEM, 4 LINES @ 110', 1500ST, 75' FROM HOUSE FOUNDATION, 10' FROM PROPERTY LINES

TYPE IIIa

Environmental Health Specialist

Mecklenburg County services are available without regard to ethnic origin, sex, or disability.

INSTALLATION/CONSTRUCTION, ALTERATION, AND/OR REPAIR APPROVAL

HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 NORTH TRYON ST., SUITE 211
CHARLOTTE, NC 28202
PHONE (704) 336-5103

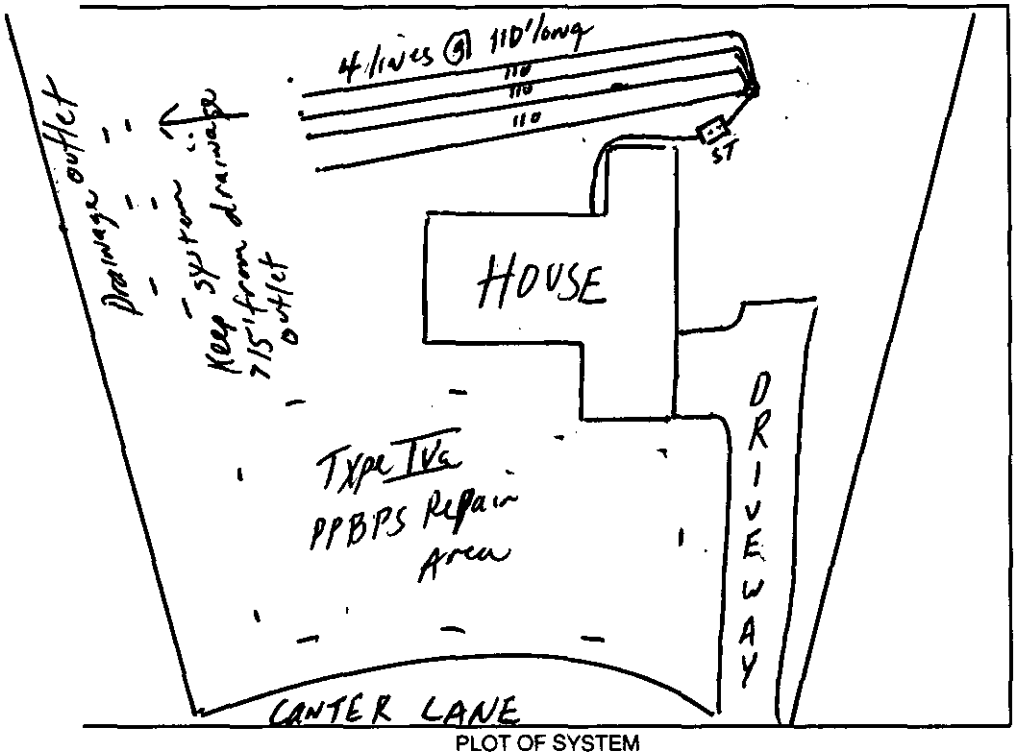
FILE: 6045B DATE: 12/8/05

TC: 197241 ~~H40~~ 49 ☑ L

SERIAL Nº 20206

Lot 59

Permission is hereby given to ✓ Install or Construct, _____ Alter or Repair the individual septic tank wastewater treatment system with subsurface, soil absorption, effluent discharge as specified herein at the described location. This permit is granted based upon the information supplied in the application dated 6/21/05. All work shall be completed on or before 1/8/06, after which date this permit shall be null and void. The system shall meet all of the construction requirements of 15A NCAC 18A. 1900 which are in effect on the date of the granting of this permit. A Certificate of Completion or an Operation Permit must be obtained from the Mecklenburg County Health Department before any system can be covered up or placed into service. The issuance of this permit does not in any way guarantee that the system anticipated to be constructed will operate properly, or relieve any person now or hereafter owning, controlling or using such system from any liability resulting from the failure of the system to operate properly.



PLOT OF SYSTEM

Liquid Capacity of Septic Tank 1500 gallons

Liquid Capacity of Dosing Tank NA gallons

Tank Construction PCC

Trench Depth 30"

Absorption and/or Nitrification Lines:

Trench Width 3' feet

Trench Walls Scored and Porous yes

Total Line Length 440' feet

Number of Lines 4 (110')

Depth of Stone NA inches

Distance from House 5' feet

Distance from Property Line 10' feet

Distance from Well > 100' feet

10' from municipal water

NOTICE: This system shall not be installed while soils are in a wet condition.

NAME OF OWNER Ryan Homes

LOCATION OF PROPERTY 12054 Canter Lane

Comments: Innovative Septic System, Install 1500ST, D-Box 4 lines x 110'long x 3'wd, Keep the septic system > 15' from drainage outlet

Phila A. Walker RS
Environmental Health Specialist

WHITE - HEALTH DEPARTMENT's COPY • CANARY - E.H.S. COPY • PINK - OWNER OR AGENT's COPY

FEE: $300.00
DATE: 9/16/05
X33575

AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION

ACS

PERMIT NUMBER: 6045B 49
PARCEL NUMBER: 197-241-~~16P0~~

JOB LOCATION ADDRESS: CANTER LANE, LOT 59
PROPERTY OWNER: NVR, INC.
BUILDING CONTRACTOR: RYAN HOMES
SUBDIVISION NAME: MEADOWS OF MINT HILL
AUTHORIZATION ISSUED BY: PHILO WALKER DATE: 09/13/05

Philo J Walker RS 9/13/05
DENR/DEH AUTHORIZED AGENT

AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NUMBER 6045B, AND THE ATTACHED SITE PLAN WITH SYSTEM DETAILS. CONSTRUCTION AND INSTALLATION MUST ALSO MEET ALL REQUIREMENTS SET FORTH IN THE RULES GOVERNING SANITARY SEWAGE COLLECTION, TREATMENT, AND DISPOSAL AND ANY OTHER APPLICABLE RULES AND LAWS.

2. AN *INSTALLATION, CONSTRUCTION, ALTERATION AND/OR REPAIR APPROVAL* MUST BE SECURED PRIOR TO INSTALLATION OF THE SEPTIC TANK SYSTEM. THE INSTALLER OF THE SYSTEM SHALL BE A REGISTERED SEPTIC TANK CONTRACTOR WITH THE MECKLENBURG COUNTY HEALTH DEPARTMENT.

3. ANY ALTERATION IN SITE OR SOIL CONDITIONS (INCLUDING LOCATION OF STRUCTURES AND APPURTENANCES) OR MODIFICATION IN USE, DESIGN WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS AS SPECIFIED IN THE ASSOCIATED IMPROVEMENT PERMIT AND APPLICATION, MAY SUBJECT THIS CONSTRUCTION AUTHORIZATION AND ASSOCIATED PERMIT(S) TO REVOCATION.

4. THIS CONSTRUCTION AUTHORIZATION AS PROVIDED IN G.S. 130A-335(f) AND G.S. 130A-336(b) SHALL BE VALID FOR A PERIOD EQUAL TO THE VALIDITY OF THE IMPROVEMENT PERMIT, NOT TO EXCEED 60 MONTHS.

5. OTHER CONDITIONS:
AGREEMENT FORMS REQUIRED

CONDITIONS OF IMPROVEMENT PERMIT / CONSTRUCTION AUTHORIZATON

49

Permit Number: **6045B**

Tax Number: **197-241-16PO**

- The IMPROVEMENT PERMIT is subject to revocation if site plans or the intended use change. There is to be **NO** grading, filling, or disturbance of the soil in the area of the septic tank system or repair area.
- CONSTRUCTION AUTHORIZATION must be obtained prior to receiving a Building Permit. The Construction Authorization is **NOT** transferable. Do not clear, grade, fill or disturb soil prior to obtaining a Construction Authorization.
- *Domestic-type wastewater only. No industrial process wastewater may be discharged into the system.*

Basement: ☒ Yes ☒ No ☐ Partial Basement

Primary Wastewater System

Type: ☐ I ☐ II ☒ III ☐ IV ☐ V ☐ VI

☐ *Conventional*
☐ Prefabricated, permeable block panel system
☐ Shallow Placed Conventional
☐ Low Pressure Pipe
☐ Large Diameter Pipe
☐ Fill
☐ Other
☒ Innovative or Experimental:

.275 Long-term acceptance rate (GPD/ft^2)	480 Max gallons/day wastewater flow	1310 Absorption Area (ft^2)	9 Trench spacing (min. on centers) (ft)
Serviced by private well: ☐ Yes ☒ No	1500 Gallon septic tank	440 Total trench length (ft)	30 Maximum trench depth (in) (At least 12" of provisionally suitable soil must remain between trench bottom and unsuitable soil conditions.)
4 Bedrooms in residence	NA Gallon pump tank	NA Depth of stone (in)	

Any surface water present: **NO** Type: Minimum separation distance (ft):

Additional conditions: **INNOVATIVE SEPTIC SYSTEM, AGREEMENT FORMS REQUIRED**

Repair Area System

Type: ☐ I ☐ II ☐ III ☒ IV ☐ V ☐ VI

☐ Conventional
☒ Prefabricated, permeable block panel system
☐ Shallow Placed Conventional
☐ Low Pressure Pipe
☐ Large Diameter Pipe
☐ Fill
☐ Other
☒ Innovative or Experimental:

440 Absorption Area (ft^2) 220 Total trench length (ft)	NA Depth of stone (in)	8 Trench spacing (min. on centers) (ft)	30 Maximum trench depth (in)

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department has approved the Request for the Job Location contained in this document. The approval is granted in accordance with the provisions of Laws and Rules For Sewage Treatment, and Disposal Systems in effect at the time of issuance of the permit and is subject to the following provisions:

*** No work shall be conducted on the septic tank system until an Installation, Construction, Alteration and/or Repair Approval is granted by this Department.

*** This Improvement permit is transferable.

Phila A-Walker RS 9/14/05
DENR Authorized Agent Date

Patrice Garner 9/16/05
Owner/Agent Signature Date

MECKLENBURG COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 N. TRYON ST., SUITE 211
CHARLOTTE, NC 28202
PHONE: (704) 336-5103
FAX: (704) 336-6894

NC DENR
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

Project No. 146033

FILE COPY	
FILED FOR REGISTRATION	DOC. # 861917
DATE 8/29/05	TIME 3:36pm
BOOK 19255	PAGE 959
STAMPS	REC FEE 20.00
JUDITH A. GIBSON REGISTER OF DEEDS MECKLENBURG COUNTY, NC	

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

WASTEWATER TREATMENT AND DISPOSAL SYSTEM DESIGN AGREEMENT: 15A NCAC 18A .1948 AND ANY OF THE FOLLOWING RULES: .1956; .1957(a); .1957(b); or .1957(c); OR .1969
MA 1059

FILE # 60458
PARCEL # 19-724149

The undersigned, NUR, INC DBA Ryan Homes, owner of property located at 12054 Canter Lane, (the "site") and described in an instrument recorded in Book 44 at Page 203, Mecklenburg Public Registry, hereby acknowledges that the undersigned applied to the Mecklenburg County Health Department (the 'Department") for a permit to install a septic tank sewage disposal system on the site; that the Department evaluated the site for suitability for such a system in accordance with the regulations promulgated by the North Carolina Commission for Health Services as 15A NCAC 18A .1900 et seq.; that the Department originally classified the site as "unsuitable" pursuant to the standards set forth in the regulations; that the undersigned requested that the Department reclassify the site as "provisionally suitable" in light of the particular septic tank system proposed by the undersigned; that the Department considered various studies, data, and other information which indicate to the Department that the septic tank system proposed by the undersigned is allowed by the rules; and that the Department therefore reclassified the site as "provisionally suitable" and issued an appropriate permit for such proposed septic tank system.

The undersigned further acknowledges that the proper design, construction, operation and maintenance of such septic tank system is the responsibility of the designer, owner, developer, installer, or user of the system, as applicable, and that neither the Department nor its officials, employees, or agents warrant or guarantee that the said system installed pursuant to the permit issued by the Department will function in a satisfactory manner for any given period of time or that the Department, its officials, employees or agents assume any liability for any damages of any kind which are caused, or which may be caused, by a malfunction of such system.

The undersigned further acknowledges that the following conditions will apply to the site:

This instrument was prepared by: NUR, INC DBA Ryan Homes
Mail after recording to: 10815 David Taylor Dr
Charlotte, NC 28262

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	09/16/05	**Amount:**	150.00
Receipt #:	36989	**Tendered:**	0.00
Check / Auth #:	CHARGE	**Returned:**	0.00
Received By:	WALKEVA		

Account Information

Account #: X33575
Contractor: NVR INC (EAST)
Attn:
Address: 10815 DAVID TAYLOR DR 100
Address:
City/State/Zip: CHARLOTTE, NC 28262

Item	Description	Permit#	Quantity	Unit Price	Total Price
0703	Installation/Final Approval 12054 CANTER LANE LOT 59		1	150.00	150.00

----------Outstanding Balances----------

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
12,495.88	16,387.09				

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date: 09/16/05
Receipt #: 36991
Check / Auth #: CHARGE
Received By: WALKEVA

Amount: 150.00
Tendered: 0.00
Returned: 0.00

Account Information

Account #: X33575
Contractor: NVR INC (EAST)
Attn:
Address: 10815 DAVID TAYLOR DR 100
Address:
City/State/Zip: CHARLOTTE, NC 28262

Item	Description	Permit#	Quantity	Unit Price	Total Price
0734	Auth for Waste Wtr Sys Constr 12054 CANTER LANE LOT 59		1	150.00	150.00

----------Outstanding Balances----------

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
12,645.88	16,387.09				

INSTALLATION, CONSTRUCTION, ALTERATION, AND/OR REPAIR APPROVAL

HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 NORTH TRYON ST., SUITE 211
CHARLOTTE, NC 28202
PHONE (704) 336-5103

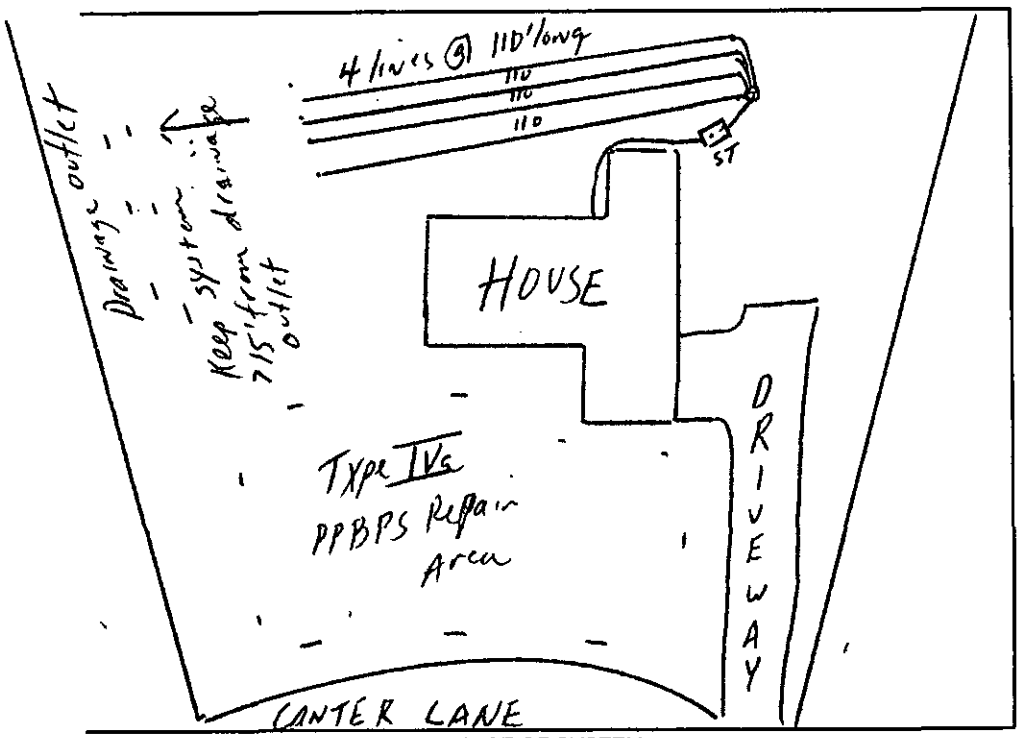
FILE: 6045B DATE: 12/8/05

TC: 19724116 PO ☐ L

SERIAL № 20206

Lot 59

Permission is hereby given to ✓ Install or Construct, _____ Alter or Repair the individual septic tank wastewater treatment system with subsurface, soil absorption, effluent discharge as specified herein at the described location. This permit is granted based upon the information supplied in the application dated 6/21/05. All work shall be completed on or before 12/8/06, after which date this permit shall be null and void. The system shall meet all of the construction requirements of 15A NCAC 18A. 1900 which are in effect on the date of the granting of this permit. A Certificate of Completion or an Operation Permit must be obtained from the Mecklenburg County Health Department before any system can be covered up or placed into service. The issuance of this permit does not in any way guarantee that the system anticipated to be constructed will operate properly, or relieve any person now or hereafter owning, controlling or using such system from any liability resulting from the failure of the system to operate properly.



PLOT OF SYSTEM

Liquid Capacity of Septic Tank 1500 gallons

Liquid Capacity of Dosing Tank NA gallons

Tank Construction PCC

Trench Depth 30"

Absorption and/or Nitrification Lines: ?

Trench Width 3' feet

Trench Walls Scored and Porous yes

Total Line Length 440' feet

Number of Lines 4 (110')

Depth of Stone NA inches

Distance from House 5' feet

Distance from Property Line 10' feet

Distance from Well > 100' feet

10' from municipal water

NOTICE: This system shall not be installed while soils are in a wet condition.

NAME OF OWNER Ryan Homes

LOCATION OF PROPERTY 12054 Canter Lane

Comments: Innovative Septic System, Install 1500ST, D-Box 4 lines x 110' long x 3' wd, Keep the septic system > 15' from drainage outlet

Philo A. Walker RS

Environmental Health Specialist

WHITE - HEALTH DEPARTMENT's COPY • CANARY - E.H.S. COPY • PINK - OWNER OR AGENT's COPY

Consultant ✓

GWS – RES. APP 12/04

X 33575
SEPTIC FEE: $200.00
DATE: 6/23/05 VMW
CRT [ ]

PERMIT APPLICATION FOR A RESIDENTIAL SITE IMPROVEMENT PERMIT / CONSTRUCTION AUTHORIZATION FOR ON-SITE WASTEWATER SYSTEM NEW WELL INSTALLATION OR REPAIR OF EXISTING WELL MECKLENBURG COUNTY GROUNDWATER & WASTEWATER SERVICES

WELL FEE: _____
DATE: _____
CRT [ ]

FILE # 60453

SEPTIC / TYPE APPLICATION: ☐ NONE ☒ NEW SYSTEM EXISTING SYSTEM: ☐ EXPANSION/ALTERATION ☐ REPAIR

WELL / TYPE APPLICATION: ☒ NONE ☐ NEW WELL ☐ MAJOR REPAIR ☐ ABANDONMENT

JOB LOCATION INFORMATION:

TAX/PARCEL #: 19724116PO
STREET ADDRESS: Canter Lane
CITY: Mint Hill
STATE: NC ZIP:
SUBDIVISION OR MOBILE HOME PARK NAME: Meadows of Mint Hill
LOT #: 59
TOWNSHIP:

☐ 0-MECKLENBURG ☐ 4-PINEVILLE
☐ 1-CHARLOTTE ☐ 5-MATTHEWS
☐ 2-DAVIDSON ☐ 6-HUNTERSVILLE
☐ 3-CORNELIUS ☒ 7-MINT HILL

BUILDING INFORMATION:

TYPE OF BUILDING:

☐ SINGLE MOBILE HOME (S) ☐ MODULAR HOME (M)
☐ DOUBLE WIDE (D) ☐ MULTIPLE FAMILY (U)
☒ HOUSE (H) ☐ OTHER

HEATED SQUARE FOOTAGE: 3,500
NUMBER OF BEDROOMS: 5
NUMBER OF OCCUPANTS: 4

FOUNDATION FOR RESIDENCE:

☐ CONCRETE SLAB ☐ BASEMENT WITH PLUMBING
☒ CRAWLSPACE ☐ BASEMENT WITH NO PLUMBING

IF PLANNING TO EXPAND/ALTER THE EXISTING SYSTEM INDICATE THE FOLLOWING CHANGES:

NUMBER OF BEDROOMS TO BE ADDED: NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE:
WILL THERE BE A HOME BUSINESS IN THE RESIDENCE? ☐ YES ☐ NO TYPE:

WATER SUPPLY:

☒ MUNICIPAL (M) ☐ PUBLIC (C) ☐ PRIVATE WELL (P) ☐ SHARED WELL (S) ☐ OTHER "SPRINGS" (O)

PROPOSED USE OF WELL: ☒ N/A ☐ IRRIGATION ☐ POTABLE ☐ GEOTHERMAL ☐ OTHER

ARE ANY OF THE FOLLOWING LOCATED ON THE PROPERTY? (IF SO, PLEASE SHOW LOCATION ON SITE PLAN/PLAT.

BURIED CABLES, LANDFILLS, STUMPHOLES	☐ YES	☒ NO	WELLS, SPRINGS, OR WATER LINES	☐ YES	☒ NO
EXISTING WASTEWATER SYSTEMS	☐ YES	☒ NO	DESIGNATED WETLANDS	☐ YES	☒ NO
EASEMENTS OR RIGHT-OF-WAYS	☒ YES	☐ NO	GRADING/SOIL REMOVAL PERFORMED	☐ YES	☒ NO

PROPERTY OWNER:

NAME: NVR, INC.
ADDRESS: 10815 David Taylor Dr., Ste 100
CITY: Charlotte
STATE: NC ZIP: 28262
HOME PHONE: WORK PHONE: 548-3534
MOBILE PHONE: FAX: 503-4516

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:

NAME: Kim Stanley
ADDRESS: PO Box 1176
CITY: Stanfield
STATE: NC ZIP: 28163
HOME PHONE: WORK PHONE: 792-9639
MOBILE PHONE: FAX: ~~503-4516~~ 785-8721

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED?
WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY? Oct. 2005

*An Improvement Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

Kim Stanley 6/21/05
Owner's/Agent's Signature Date

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT & NATURAL RESOURCES DIVISION
OF ENVIRONMENTAL HEALTH ON-SITE
WASTEWATER SECTION

*A Well Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

Owner's/Agent's Signature Date

MECKLENBURG COUNTY HEALTH DEPARTMENT
GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST., SUITE 211
CHARLOTTE, NC 28202
704-336-5103 / FAX: 704-336-6894

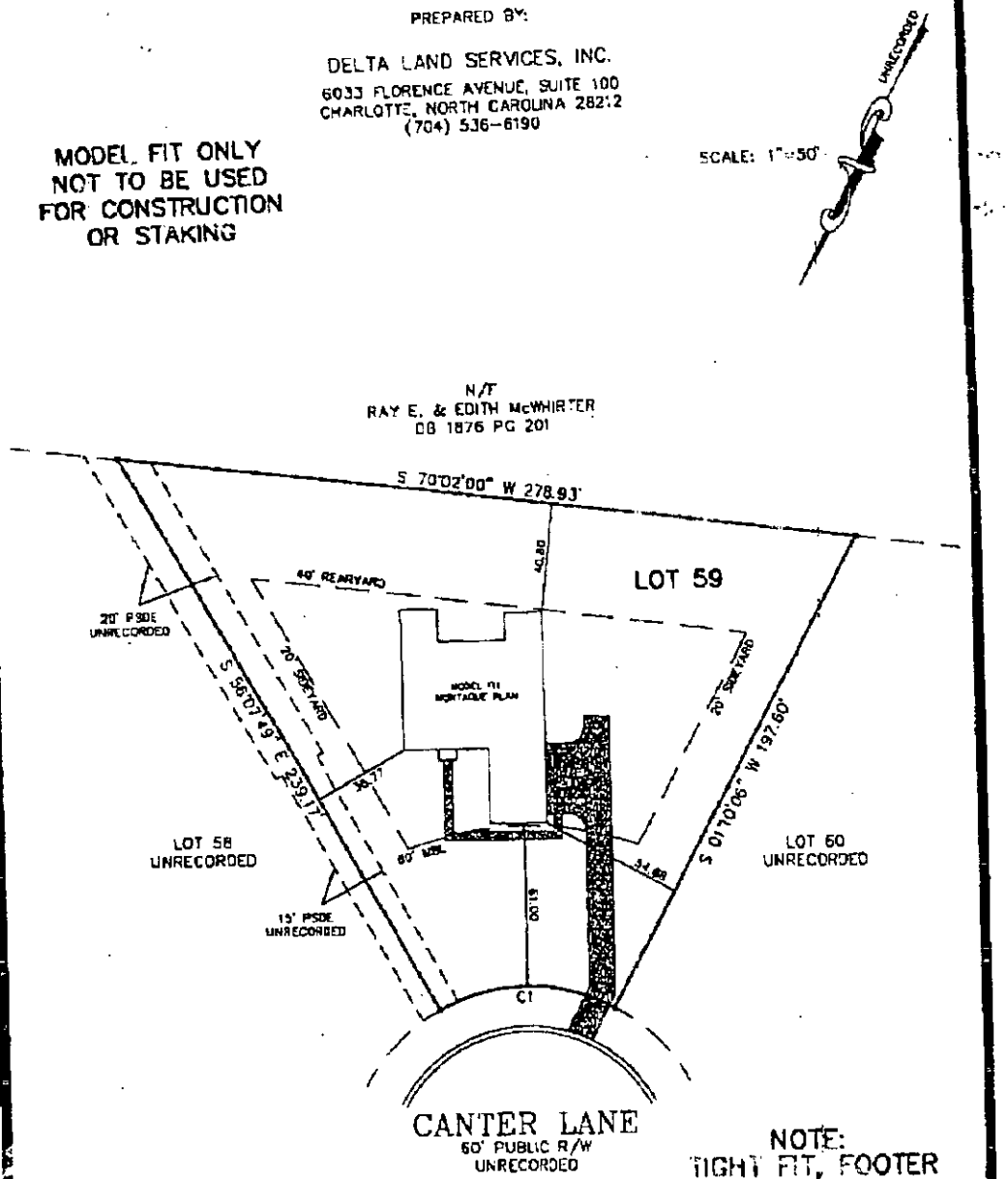
PROPOSED MODEL FIT

PREPARED BY:

DELTA LAND SERVICES, INC.
6033 FLORENCE AVENUE, SUITE 100
CHARLOTTE, NORTH CAROLINA 28212
(704) 536-6190

MODEL FIT ONLY
NOT TO BE USED
FOR CONSTRUCTION
OR STAKING

SCALE: 1"=50'



NOTE:
TIGHT FIT, FOOTER
MUST BE PINNED.

NOTE: ALL LOT INFORMATION TAKEN FROM UNAPPROVED SITE PLAN. DELTA LAND SERVICES IS NOT RESPONSIBLE FOR ANY CHANGES DUE TO RECORDED [illegible]T AND RECORDED COVENANTS AND RESTRICTIONS

ESTIMATED DRIVEWAY
AREA = 1623.3 SQ.FT.±

CURVE TABLE					
CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C1	70.00	70.00	57.12	N62°31'08"E	57°17'55"

STAKEOUT ☐

NOT FOR RECORDATION, CONVEYANCES OR SALES

Subdivision THE MEADOWS AT VINT HILL (UNRECORDED) County MECKLENBURG
Address CANTER LANE Owner RYAN HOMES
Lot 59 Block ___ Plan MONTAGUE Elevation A Drive (Left) ___ (Right) SIDE (Courtyard) ___ Deck ___
Patio ___ Fireplace ___ Garage (1 Car) ___ (2 Car) ___ (3 Car) X Brick FRONT Basement ___ Curtain Wall X
Crawl ___ Slab ___ Other MORNING ROOM, SITTING ROOM

REVISED: DWN: GHL CKD: MB DATE: 06/10/05

G:\MEADOWS\MM-0659.DWG - GHL

69
H 218
24
38

2.5
70
1750

COMMENTS:
100% repair

Landscape Position	Group	Texture	1955 LTAR
R-Ridge	I	S-Sand	1.2 - 0.8
SS-Shoulder Slope		LS-Loamy Sand	
LS-Linear Slope			
FS-Food Slope	II	SL-Sandy Loam	0.8 - 0.6
NS-Nose Slope		L-Loam	
HS-Head Slope			
CC-Concave Slope	III	SI-Silt	0.6 - 0.3
CV-Convex Slope		SICL-Silty Clay Loam	
T-Terrace		CL-Clay Loam	
FP-Flood Plain		SCL-Sandy Clay Loam	
	IV	SC-Sandy Clay	0.4 - 0.1
		SIC-Silty Clay	
		C-Clay	

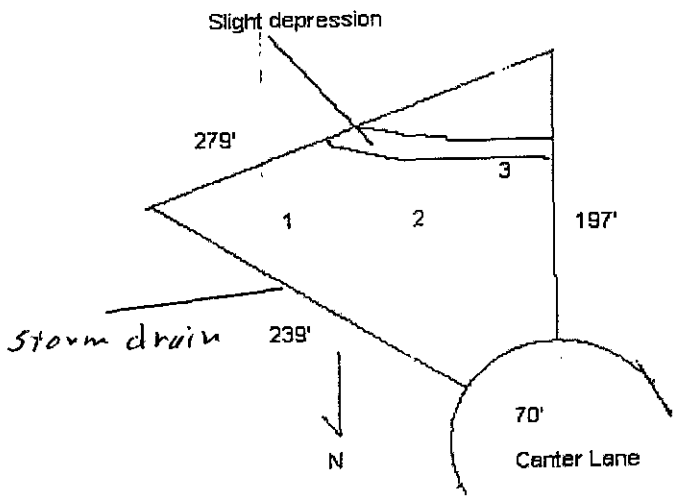
Structure
SG-Single Grain
M-Massive
CR-Crumb
GR-Granular
SBK-Subangular Blocky
ABK-Angular Blocky
PL-Platy
PR-Prismatic

Consistence
Moist
VFR-Very Friable
FR-Friable
FI-Firm
VFI-Very Firm
EFI-Extremely Firm

Consistence
Wet
NS-Non-Sticky
SS-Slightly Sticky
S-Sticky
VS-Very Sticky
NP-Non-Plastic
SP-Slightly Plastic
P-Plastic
VP-Very Plastic

Mineralogy
SEXP-Slightly Expansive
EXP-Expansive

Sketch of Soil Evaluation Locations



CONDITIONS OF IMPROVEMENT PERMIT / CONSTRUCTION AUTHORIZATON

Permit Number: **6045B** Tax Number: **197-241-16PO**

- The IMPROVEMENT PERMIT is subject to revocation if site plans or the intended use change. There is to be **NO** grading, filling, or disturbance of the soil in the area of the septic tank system or repair area.
- CONSTRUCTION AUTHORIZATION must be obtained prior to receiving a Building Permit. The Construction Authorization is **NOT** transferable. Do not clear, grade, fill or disturb soil prior to obtaining a Construction Authorization.
- Domestic-type wastewater only. No industrial process wastewater may be discharged into the system.

Basement: ☒ Yes ☒ No ☐ Partial Basement

Primary Wastewater System

Type: ☐ I ☐ II ☒ III ☐ IV ☐ V ☐ VI

☐ Conventional
☐ Prefabricated, permeable block panel system
☐ Shallow Placed Conventional
☐ Low Pressure Pipe
☐ Large Diameter Pipe
☐ Fill
☐ Other
☒ Innovative or Experimental:

.275 Long-term acceptance rate (GPD/ft^2)	480 Max gallons/day wastewater flow	1310 Absorption Area (ft^2)	9 Trench spacing (min. on centers) (ft)
Serviced by private well: ☐ Yes ☒ No	1500 Gallon septic tank	440 Total trench length (ft)	30 Maximum trench depth (in) (At least 12" of provisionally suitable soil must remain between trench bottom and unsuitable soil conditions.)
4 Bedrooms in residence	NA Gallon pump tank	NA Depth of stone (in)	

Any surface water present: **NO** Type: Minimum separation distance (ft):

Additional conditions: **INNOVATIVE SEPTIC SYSTEM, AGREEMENT FORMS REQUIRED**

Repair Area System

Type: ☐ I ☐ II ☐ III ☒ IV ☐ V ☐ VI

☐ Conventional
☒ Prefabricated, permeable block panel system
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☐ Other
☒ Innovative or Experimental:

440 Absorption Area (ft^2) 220 Total trench length (ft)	NA Depth of stone (in)	8 Trench spacing (min. on centers) (ft)	30 Maximum trench depth (in)

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*** This Improvement permit is transferable.

DENR Authorized Agent Date

MECKLENBURG COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 N. TRYON ST., SUITE 211
CHARLOTTE, NC 28202
PHONE: (704) 336-5103
FAX: (704) 336-6894

Owner/Agent Signature Date

NC DENR
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

FEE: _____
DATE: _____

AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION

PERMIT NUMBER: 6045B
PARCEL NUMBER: 197-241-16P0

JOB LOCATION ADDRESS: CANTER LANE, LOT 59
PROPERTY OWNER: NVR, INC.
BUILDING CONTRACTOR: RYAN HOMES
SUBDIVISION NAME: MEADOWS OF MINT HILL
AUTHORIZATION ISSUED BY: PHILO WALKER DATE: 09/13/05

_____
DENR/DEH AUTHORIZED AGENT

AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NUMBER 6045B, AND THE ATTACHED SITE PLAN WITH SYSTEM DETAILS. CONSTRUCTION AND INSTALLATION MUST ALSO MEET ALL REQUIREMENTS SET FORTH IN THE RULES GOVERNING SANITARY SEWAGE COLLECTION, TREATMENT, AND DISPOSAL AND ANY OTHER APPLICABLE RULES AND LAWS.

2. AN *INSTALLATION, CONSTRUCTION, ALTERATION AND/OR REPAIR APPROVAL* MUST BE SECURED PRIOR TO INSTALLATION OF THE SEPTIC TANK SYSTEM. THE INSTALLER OF THE SYSTEM SHALL BE A REGISTERED SEPTIC TANK CONTRACTOR WITH THE MECKLENBURG COUNTY HEALTH DEPARTMENT.

3. ANY ALTERATION IN SITE OR SOIL CONDITIONS (INCLUDING LOCATION OF STRUCTURES AND APPURTENANCES) OR MODIFICATION IN USE, DESIGN WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS AS SPECIFIED IN THE ASSOCIATED IMPROVEMENT PERMIT AND APPLICATION, MAY SUBJECT THIS CONSTRUCTION AUTHORIZATION AND ASSOCIATED PERMIT(S) TO REVOCATION.

4. THIS CONSTRUCTION AUTHORIZATION AS PROVIDED IN G.S. 130A-335(f) AND G.S. 130A-336(b) SHALL BE VALID FOR A PERIOD EQUAL TO THE VALIDITY OF THE IMPROVEMENT PERMIT, NOT TO EXCEED 60 MONTHS.

5. OTHER CONDITIONS:
   AGREEMENT FORMS REQUIRED

Residential Subsurface Wastewater Treatment and Disposal System Design

for

Lot 59 – The Meadows of Mint Hill
Canter Lane
Mint Hill, North Carolina

Tax Parcel # 197-24-116PO
Mecklenburg County File # 6045B
September 7, 2005

Prepared for:

NVR, Inc.
10815 David Taylor Drive, Ste. 100
Charlotte, NC 28262

Prepared by:

Larry Thompson, RS, PWS
The Catena Group, Inc.
410-B Millstone Drive
Hillsborough, NC 27278
Phone: 704-301-4881
Fax: 704-888-1496



CC: Mr. Philo Walker, RS
Mecklenburg County Environmental Health

Details

In an application for an Improvement Permit filed with the Mecklenburg County Health Department (MCHD) by NVR, Inc., the subject property was proposed to be developed with a single family 4-bedroom residence served by a municipal water supply. Based upon this information, a soil and site evaluation was conducted by the MCHD where the subject lot was determined to be "Unsuitable" for the installation of a conventional subsurface wastewater treatment and disposal system in accordance with the *Laws and Rules for Sewage Treatment, and Disposal Systems* 15A NCAC 18A .1900 (North Carolina Department of Environment and Natural Resources, Division of Environmental Health, On-Site Wastewater Section).

Based upon a revised site plan and further investigation by Thompson Environmental Consulting, Inc. (TEC), it was determined that a sufficient amount of "Suitable" Group IV soils are located on the property which would allow for the installation of a Type III innovative system for a 4-bedroom residence. It is the desire of the owner that the MCHD consider reclassifying this lot as "Suitable", allowing for the issuance of a Construction Authorization, based upon the following proposal.

Location

The subject property is located in The Meadows of Mint Hill (Lot 59 - Canter Lane) in the town of Mint Hill, North Carolina. From NC 51, travel south on SR 1004 (Bain School Road) approximately 0.8 mile, turn left onto Gait Drive and right onto Canter Lane. Lot 59 is located in the cul-de-sac.

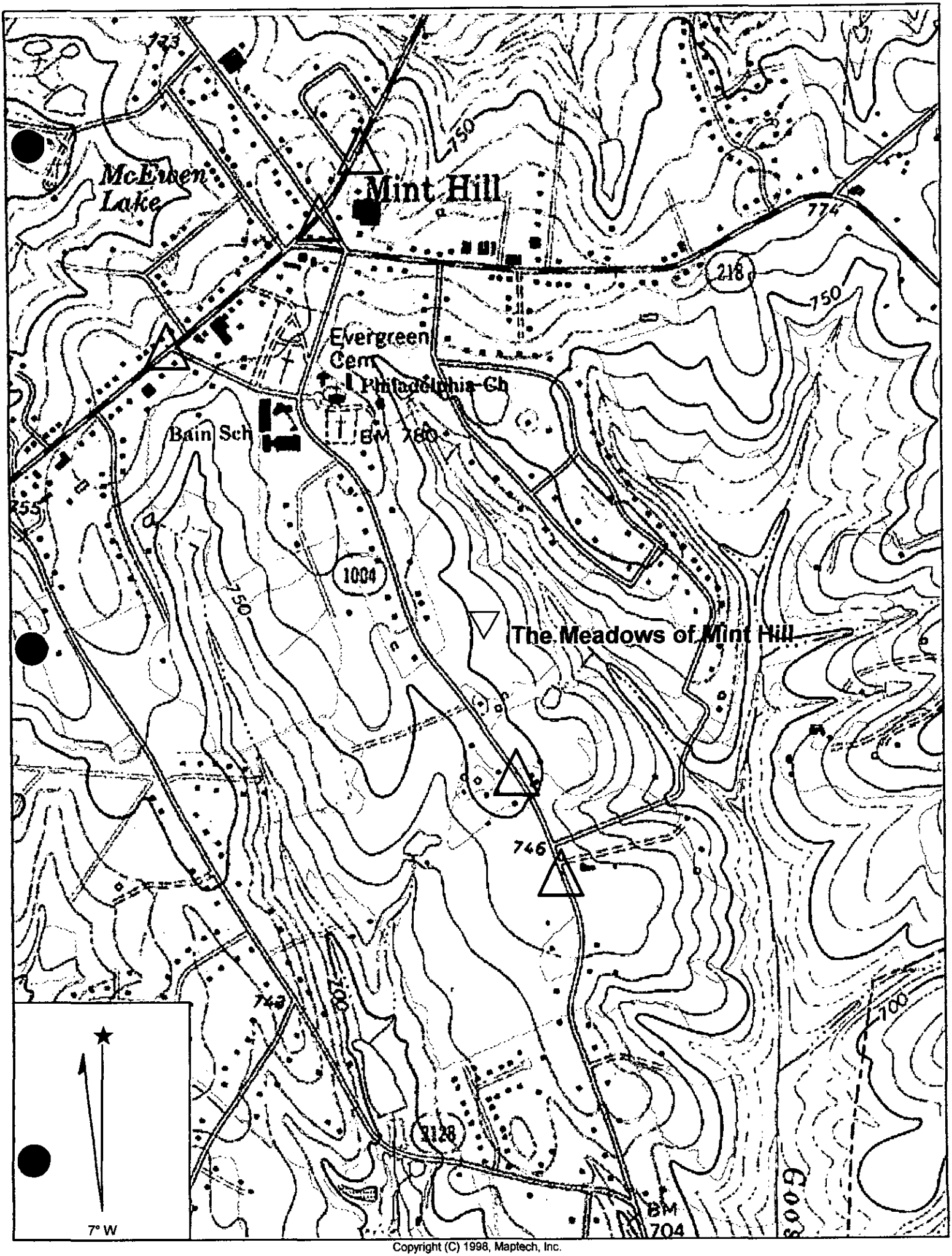
References

Laws and Rules for Sewage Treatment and Disposal Systems, 15A NCAC 18A, Section .1900, Department of Environment and Natural Resources, Division of Environmental Health, On-Site Wastewater Section, February 1, 2005.

Onsite Wastewater Treatment and Disposal Systems; EPA 625/R-00/008 Design Manual, February 2002.

Innovative Wastewater System Approval: IWWS-95-3-R3; North Carolina Department of Environment and Natural Resources, Division of Environmental Health, On-Site Wastewater Section, April 18, 2002.

- Used motor oil or any oily liquids should not be disposed of in a septic tank.
- Be aware of the amount of water that you are using in your home. Water saving fixtures and devices can be installed on sinks, toilets and showers to reduce the volume of wastewater that you are sending to your drain field.
- Run dishwashers and washing machines only when you have a full load.
- Use liquid detergents. Powdered detergents have binding agents in them that tend to solidify in the wastewater disposal system.
- Repair leaky faucets and toilets. Small drips equal large volumes of water over time and can over burden your drain field.
- Do not use chemical additives in your system. Studies have indicated that they do not increase the biological activity that naturally occurs in the septic system and in some cases certain additives have been found to be detrimental to the life of a system.
- Finally, taking good care of your septic system will help to assure that you experience years of trouble free service at a relatively low cost. On-site wastewater treatment and disposal is still the most environmentally friendly method of treating residential/commercial waste and you should keep your system in use for as long as it is properly functioning! If you have additional questions, please feel free to contact your system designer or the MCHD.



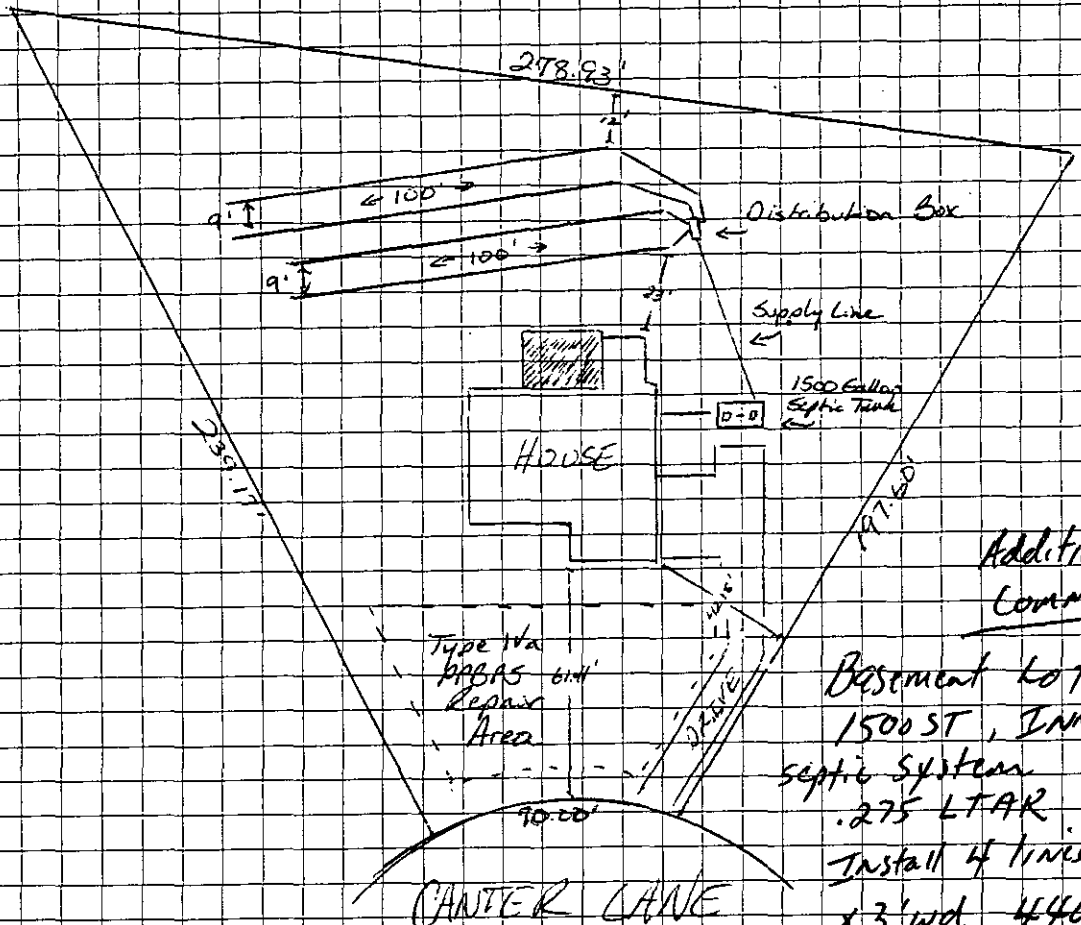
Copyright (C) 1998, Maptech, Inc.

The Catena Group
410-B Millstone Drive
Hillsborough, NC 27278

Permit Number: 6045 B
Location: LOT 59 - The Meadows
Date: September 7, 2005

Comments

- Plumbing from house must be held high in order to eliminate the need for a pump tank
- Route utilities along the left property line and turn ninety degrees - headed directly for house (avoid repair area)
- 1500 Gallon Septic Tank
- (4) 3'w x 100'L x 30" D innovative drainlines



Additional Comments

Basement Lot
1500 ST, Innovative septic system
.275 LTAR
Install 4 lines x 110'long x 3'wd 440 LF
PPBPS Repair Area
Municipal Water
Agreement forms required

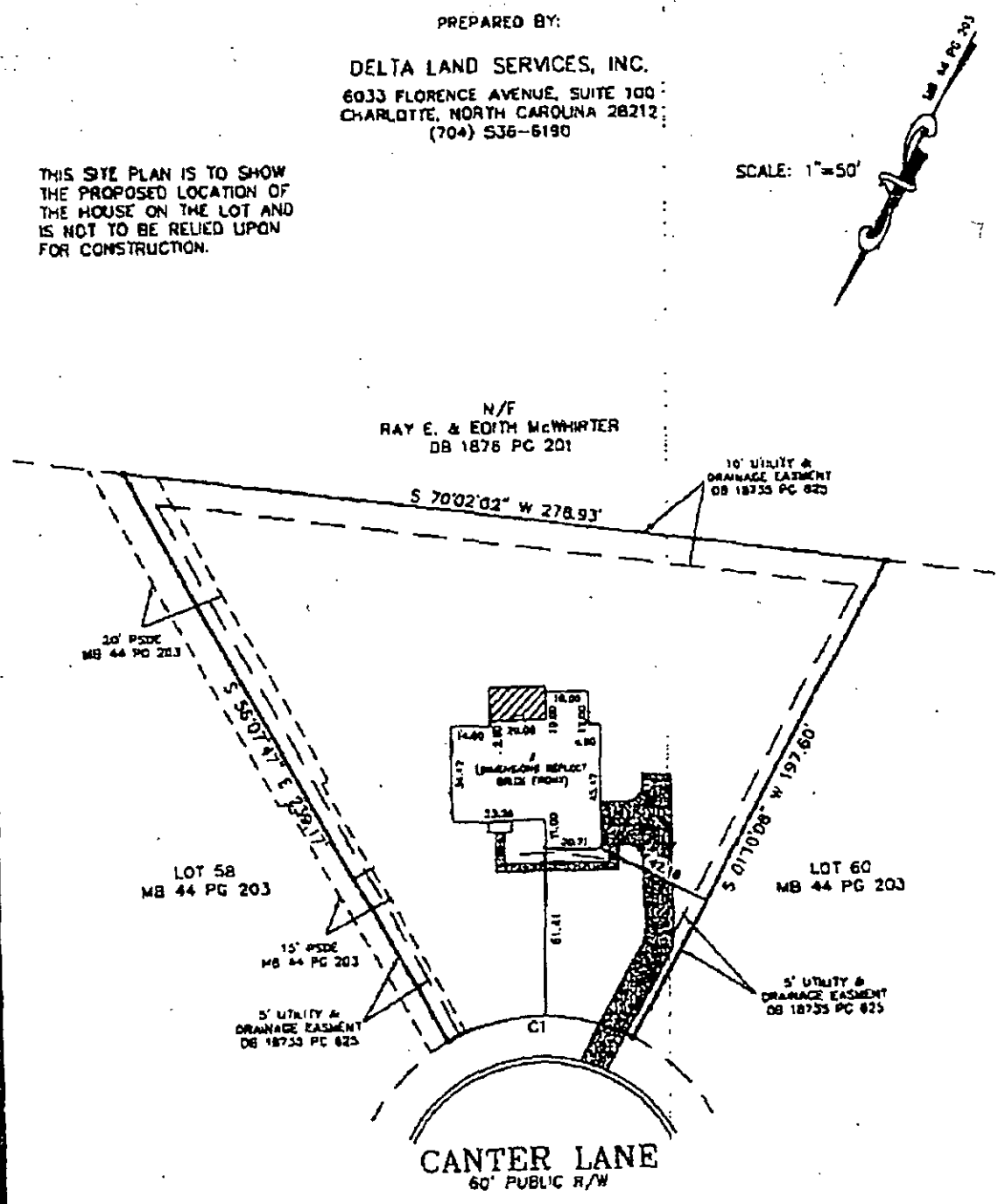
SITE DEVELOPMENT PLAN

PREPARED BY:

DELTA LAND SERVICES, INC.
6033 FLORENCE AVENUE, SUITE 100
CHARLOTTE, NORTH CAROLINA 28212
(704) 536-6190

THIS SITE PLAN IS TO SHOW THE PROPOSED LOCATION OF THE HOUSE ON THE LOT AND IS NOT TO BE RELIED UPON FOR CONSTRUCTION.

SCALE: 1"=50'



ESTIMATED DRIVEWAY AREA = 1388.07 SQ.FT.±

CURVE TABLE					
CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C1	70.00	70.00	67.12	N62°31'10"E	57°17'55"

STAKEOUT ☐

NOT FOR RECORDATION, CONVEYANCES OR SALES

Subdivision THE MEADOWS AT MINT HILL MAP 2 County MECKLENBURG
Address CANTER LANE Owner RYAN HOMES
Lot 59 Block ___ Plan AVALON Elevation A Drive (Left) ___ (Right) SIDE (Courtyard) ___ Deck X
Patio X Fireplace X Garage (1 Car) ___ (2 Car) X (3 Car) ___ Brick FRONT Basement ___ X Curtain Wall ___
Crawl ___ Slab ___ Other BAY WINDOW @ LIVING ROOM SIDE, MORNING ROOM

REVISED: CHANGED TO SITE PLAN DWN: BEC CKD: MB DATE: 08/ 26/ 05

C:\MEADOWS\MM-0059.DWG - BEC

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

INNOVATIVE WASTEWATER SYSTEM APPROVAL

INNOVATIVE WASTEWATER NO: IWWS-95-3-R3

ISSUED TO:
Ring Industrial Group
EZ*flow* Brand Drain fields
65 Industrial Park Drive
Oakland, TN 38060
901-465-6333; Fax: 901-465-1181; www.ezflowlp.com

FOR:

***EZflow Drainage Systems (formerly Houck Drainage Systems)*:**

EZ1003T (Formerly HDS 2003 Triangular)
EZ1203T (Formerly HDS 2012 Triangular)
EZ1203H (Formerly HDS 2012 Horizontal)

DATE: October 10, 1995 IWWS-95-3R Issued
October 7, 1998 IWWS-95-3-R2 Issued
April 18, 2002 IWWS-95-3-R3 Issued

In accordance with 15A NCAC 18A .1969, the EZflow Drainage Systems EZ1003T, EZ1203T, and EZ1203H have been found to meet the standards for an innovative system when all of the conditions specified herein are met.

I. PERMITTING

Prior to the installation of an approved EZflow Brand **EZ1003T , EZ1203T, or EZ1203H,** System at a site for which application is being made for an Improvement Permit or Construction Authorization or at a site for which an Improvement Permit or Construction Authorization has been previously issued for a system described in 15A NCAC 18A.1955, .1956, or .1957, the owner or authorized agent shall notify the local health department. The local health department shall issue an Improvement Permit or Construction Authorization or amend the previously issued Improvement Permit or Construction Authorization allowing for the use of the proposed innovative system upon a finding that all provisions of this approval and all other applicable rules shall be met. Use of the proposed innovative system and any conditions shall be described in the construction authorization or amended construction authorization, as applicable. Such information shall also be described on the operation permit to be issued upon the acceptable completion of the system installation.

II. SYSTEM DESCRIPTIONS AND DESIGN CRITERIA

The EZflow brand Drainfield Systems replace conventional rock and pipe drainfield systems.

Description:

Aggregate shall consist of: EZflow patented bead is a 3-Dimensional rectangular shaped product with void channels and surface area protuberances. Dubbed the "double E", the Geosynthetic expanded polystyrene (EPS) aggregate size ranges from .75 to 1.75 inches along any axis. The particle density is approximately 1.2 pound per cubic foot or greater.

Product: Cylindrical bundles (also referred to herein as cylinders) are approximately 10 inches or 12 inches in diameter, and approximately 10 feet long. The product nomenclature depicts the diameter, the number of bundles and the orientation. (e.g. EZ1003T: 10 inch bundles with three pieces in a triangular configuration.)

The expanded polystyrene aggregate is held in a cylindrical shape with high strength netting. The physical and chemical properties of the netting shall be durable and resistive enough to retain the shape of the bundles and, to withstand system installation, backfilling, corrosion, and loss of aggregate under intended use.

Alternative configurations are described below:

A. **EZ1003T (formerly HDS 2003 Triangular) Drainfield System** consists of three, 10-inch diameter cylinders placed in a trench 24 inches wide. Two bottom cylinders containing aggregate only, with the netting tied off at both ends to prevent the escape of aggregate, are placed against opposite sides of the trench bottom (retaining a gap of approximately four inches between the bundles when placed in the 24-inch wide trench). A third cylinder containing aggregate and a 4-inch diameter flexible plastic perforated pipe as is typically used in nitrification lines is centered on top of the bottom two bundles in the middle of the trench. The pipe shall be certified as complying with ASTM F 405, Standard Specification for Corrugated Polyethylene (PE) tubing and fittings, and shall be in accordance with 15A NCAC 18A .1955(f). The 4-inch corrugated pipe is surrounded by approximately 2.5 to 3 inches of the EZflow aggregate. The netting for the central cylinder is tied off at both ends to the pipe. The pipe may be connected by an internal coupling device to allow continuous flow from one section to the next.

B. **EZ1203T (formally HDS 2012 Triangular) Drainfield System** consists of three, 12-inch diameter cylinders in a trench 30 inches wide. Two bottom cylinders containing aggregate only, with the netting tied off at both ends to prevent the escape of aggregate, are placed against opposite sides of the trench bottom creating a gap of approximately 5 to 6 inches between the bundles. A third cylinder containing aggregate and a 4-inch diameter perforated flexible plastic pipe as is typically used in nitrification lines is centered on top of the bottom two bundles in the middle of the trench. The pipe shall be certified as complying with ASTM F 405, Standard Specification for Corrugated Polyethylene (PE) tubing and fittings, and shall be in accordance with 15A NCAC 18A .1955(f). The 4-inch pipe is centered or slightly offset from center towards the top of the cylinder whereby 4 to 6 inches of aggregate is located between the bottom of the pipe and the bottom of the cylinder, and 4 to 1-1/2 inches of aggregate is located between the top of the pipe and the top of the cylinder, respectively. The netting for the central cylinder is tied off at both ends to the pipe. The pipe may be

connected by an internal coupling device to allow for continuous flow from one section of pipe to the next.

C. **EZ1203H (formally HDS 2012 Horizontal) Drainfield System** consists of three, 12-inch diameter cylinders across the bottom of a trench 36 inches wide. The outer cylinders contain aggregate only, with the netting tied off at both ends to prevent the escape of aggregate. The central cylinder contains aggregate and a 4-inch diameter perforated flexible plastic pipe as is typically used in nitrification lines. The pipe shall be certified as complying with ASTM F 405, Standard Specification for Corrugated Polyethylene (PE) tubing and fittings, and shall be in accordance with 15A NCAC 18A .1955(f). The 4-inch pipe is offset from center towards the top of the cylinder whereby 6 inches of aggregate is located between the bottom of the pipe and the bottom of the cylinder, and 1-1/2 to 2 inches of aggregate is located between the top of the pipe and the top of the cylinder. The netting for the central cylinder is tied off at both ends of the pipe. The pipe may be connected by an internal coupling device to allow continuous flow from one section to the next.

III. SITING CRITERIA:

The EZflow Drainfield Systems may be utilized on any site that one can use rock aggregate and pipe which meet the following criteria:

A. Sites which are classified Suitable or Provisionally Suitable for a conventional nitrification field system in accordance with 15A NCAC 18A .1948(a) and (b).

B. Sites which have been reclassified as Provisionally Suitable in accordance with 15A NCAC 18A .1956(2), (4), (5), and (6).

C. Sites which may be reclassified as Provisionally Suitable in accordance with 15A NCAC 18A .1956(1), except that for the triangular configurations at least 29 and 31 inches for EZ1003T and EZ1203T, respectively, of naturally occurring soil must be present above saprolite, rock, or soil wetness conditions, and all other factors are Suitable or Provisionally Suitable.

D. Sites which meet the criteria for new or existing fill in accordance with 15A NCAC 18A .1957(b). The provisions of Rule .1957(b) are applicable whenever any portion of the aggregate bundles in an EZflow system extends into fill material. There shall be no reduction in trench length compared to conventional gravel trench. This reference to "fill material" applies to the site fill and not the backfill placed between the trench and the cylinder sidewall.

D. The required vertical separation shall be measured from the trench bottom.

IV. EZFLOW DRAINFIELD SYSTEM SIZING:

A. The maximum long-term acceptance rate (LTAR) shall be as follows:

Table 1

Textural Group		LTAR (GPD/ft^2)	
		Natural	**Saprolite**
Soil/Group I (Sands)	Sand	0.8 - 1.0	0.6-0.8
	Loamy Sand		0.5-0.7
Soil Group II (Coarse Loams)	Sandy Loam	0.6 - 0.8	0.4 - 0.6
	Loam		0.2-0.4
Soil Group III (Fine Loams)	Silt Loam	0.3 - 0.6	0.1-0.3
	Other Fine Loams		N.A.
Soil Group IV	Clays	0.1 - 0.4	N.A.

B. The LTAR shall be based on the most hydraulically limiting naturally occurring soil horizon within three feet of the ground surface or to a depth of one foot below the trench bottom whichever is deeper.

C. To determine the minimum total trench bottom area (ft ^{2}) required, divide the design daily sewage flow by the applicable LTAR shown in Table 1 above. The minimum linear footage for EZflow Drainfield Systems shall be determined by dividing the total trench bottom area by the following equivalency factors:

Table 2

EZflow Product Configuration	**Excavated Trench Width**	**Equivalency Factor (SF/LF)**
EZ1003T (2003 Triangular)	24-inch	3.0
EZ1203T (2012 Triangular)	30-inch	**4.61 (Warranty System)***
		4.0
EZ1203H (2012 Horizontal)	36-inch	**4.61 (Warranty System)***
		4.0

***System sizing approval based on provision of manufacturer's warranty, as required by Section 2.4, Session Law 2001-505 (House Bill 1019), effective December 19, 2001. Requirements specific to Warranty Systems are detailed in Section VIII, below**

Example:
Assume: Three bedroom residence with a design daily sewage flow of 360 gallons on a Group III sandy clay loam soil:

Then: Total computed trench bottom area is:
360 GPD (GPD/BR)/0.5 (GPD/SF) (LTAR) = 720 ft^2/BR

The minimum required linear footage of EZFlow Drainfield Systems are:

Table 3

Product Configuration	Square footage required (equivalent conventional)	Equivalency Factor (SF/LF)	Total Linear Feet
EZ1003T (Warranty System)	720	3.0	240
EZ1003T			
EZ1203T (Warranty System)	720	4.61	156
EZ1203T		4.0	180
EZ1203H (Warranty System)	720	4.61	156
EZ1203H		4.0	180

D. The **EZ1203H** Horizontal Drainfield System may be used in a bed system with the three cylindrical bundles placed in rows next to each other. The minimum area (without reduction or equivalency factor) for a bed system shall be determined as required in 15A NCAC 18A.1955(d).

E. The **central cylinder of the EZ1203H** which contains the off-set four-inch pipe may be used as an alternative to rock aggregate in a low pressure pipe (LPP) system, sized equivalent to LPP systems as required in 15A NCAC 18A .1957(a). The single 12-inch diameter cylinder shall be installed within a 12 to 18-inch wide trench. The LPP small diameter pressure laterals (one to two inches) shall be placed within the four-inch pipe sleeve and otherwise designed in accordance with Rule .1957(a). All orifices shall be drilled in the LPP laterals to face upward, except for a hole placed in the middle and a hole placed 25 percent from the distal end of each line, which shall face downward to allow for drainage. The minimum backfill requirement of six inches, as described below, shall also apply.

F. The available space requirements of Rule .1945 shall be met, and this approved innovative system may be designated as the required replacement system. However, whenever a Warranty System is proposed whereby the initial system has more than a 25% reduction in nitrification trench length as compared to the total nitrification trench length required for a 36-inch wide conventional wastewater system, there shall be sufficient repair area to install either a conventional gravel trench system, or an approved innovative system which has no more than a 25% reduction in nitrification trench length as compared to the total nitrification trench length required for a 36-inch wide conventional system, and both the initial and replacement system areas shall be Suitable or Provisionally Suitable for a conventional system in accordance with Rules .1948(a) and (b), or Rules .1956(1), (2), (4), (5), and (6).

V. INSTALLATION CRITERIA:

A. The EZflow Drainfield Systems shall be configured in accordance with Section II, above, installed in excavated trenches constructed with the following minimum center-to-center spacing, trench widths, and soil cover. Dimensional Minimums are included for installation and inspection guidance:

Table 4

Product Configuration	Minimum Trench Spacing (feet)	Trench Width (Inches)	Min. Soil Cover (inches)	Min. Trench Depth (inches)	♣Min. Pipe Depth below Grade	♣Min. Pipe Ht. Above Trench Bottom
EZ1003T	7.5	24	6	23	11	10 inches
EZ1203T (Including Warranty System)	9.0	30	6	25	12	11 inches
EZ1203H (Including Warranty System)	9.0	36	6	18	12	6 inches

*** Note: that on sloping lots, minimum required trench depths may be greater.**

♣ Measurements for pipe height are to the pipe invert or bottom of pipe.

B. A backfill barrier shall be placed over the EPS aggregate cylinders to prevent the infiltration of backfill material into the trench void spaces. The backfill barrier shall be 60 pound weight untreated building paper provided by the manufacturer or alternate with equal or better performance characteristics. An alternate backfill barrier shall be approved in writing by the manufacturer on a case-by-case basis. The barrier shall not be placed along the trench sidewalls below the pipe invert elevation. The barrier must be protected from becoming wet enough to tear until backfilling is completed.

C. Native Soil removed from the trench excavation may be used as backfill and shall be placed along the sidewalls in the EZflow Triangular Drainfield Systems to a minimum compacted (carefully walked in) height level with the center of the top EPS cylinder. Backfill shall be free of trash or debris. The area adjacent to the cylinders shall be free of large (8" or greater) clods that do not break apart during the walk in procedure. Special attention should be given when backfilling the Triangular Systems so as not to disturb the configuration. Vehicular traffic and excavation equipment should not travel over any uncovered drainfield. The latest version of the manufacturer's installation procedures shall be followed.

D. The EZflow Drainfield Systems shall be installed in a level trench in all directions (both across and along the trench bottom) and shall follow the contour of the ground surface elevation (uniform depth), with all continuous adjoining 10-foot cylindrical bundles placed end to end, with the central bundle distribution pipe interconnected, without any dams, stepdowns or other water stops.

E. EZflow Drainfield Systems installed on sloping sites may use distribution devices or step downs as described in 15A NCAC 18A .1955(j) and (l) when it is necessary to change level nitrification line segments from upper to lower elevations. The minimum step-down height for the EZflow Triangular configurations may be reduced to be only up to the center of the pipe in the upstream trench.

F. Manufacturer's installation instructions for the EZflow Drainfield Systems shall be followed, except as required herein or by 15A NCAC 18A .1900 et. seq.

G. The system shall be installed by a contractor authorized in writing by Ring Industrial Group for EZflow Brand Drainfield Systems.

VI. OPERATION AND MAINTENANCE REQUIREMENTS:

The EZflow Drainfield Systems shall have a minimum classification as a Type IIIg system (other non-conventional trench systems) in accordance with Table V(a) of Rule 15A NCAC 18A .1961(b).

VII. REPAIR OF SYSTEMS:

The provisions of 15A NCAC 18A .1961(c) shall govern the use of the EZflow Drainfield Systems for repairs to existing malfunctioning wastewater systems.

VIII. WARRANTY SYSTEMS (EZ1203T and EZ1203H only when installed with length reductions in excess of 25%)

A. The Manufacturer shall provide the approved Warranty in effect on the date of the Operation Permit issuance to the owner or purchaser of the system. The terms and conditions of the Warranty shall be approved by the Department, pursuant to applicable Laws and Rules. The Warranty shall be valid for a five-year period from the date of first use of the wastewater system, as indicated by the date of issuance of either the Operation Permit or the Certificate of Occupancy for the facility served by the system (whichever is later).

B. The Manufacturer shall issue the Warranty to the property owner through it's authorized installer who shall sign the Warranty indicating the system has been installed in accordance with the Manufacturer's specifications, any conditions of the Approval granted by the DENR, and all conditions of the Authorization to Construct a Wastewater System by the local health department. The installer or contractor shall promptly return a copy of the signed Warranty to the Manufacturer indicating Address and Location of the system, date the system was placed into use, and type and model of system installed.

C. The Warranty shall provide that the manufacturer shall provide all materials and labor that may be necessary to provide a fully functional wastewater system at no cost to the Owner. This section shall not be construed to require that a manufacturer warrant an innovative wastewater system that is not properly sized to meet the design load required for a particular use, that is improperly installed, or that is improperly operated and maintained, in accordance with 15A NCAC 18A .1900 et. seq.

D. Warranty repairs such as full replacement of the nitrification system, extension of the nitrification system or other repairs shall be completed pursuant to a repair Authorization to Construct to be issued by the local health department in accordance with Rule .1961(l).

E. The Warranty shall be attached to the Operation Permit issued by the Health Department for the wastewater system. The Warranty transfers to any subsequent owners of the system up to the end of the five-year applicability period.

IX. APPLICABILITY

This Innovative Wastewater System Approval supersedes previous approvals IWWS-94-1, IWWS-95-3, IWWS-95-3R and IWWS-95-3-R2.

Approved By: _____ **Date:** _____

Department of Environment, Health, and Natural Resources
Division of Environmental Health
On-site Wastewater Section

Sheet: 1 of 2
Property ID # PO 197-241-16
Lot #: 59
File #: 6045B
Code: 2

ACS

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Owner: NVR, Inc.
Applicant: Kim Stanley
Address: 10815 David Taylor Drive, Ste 100, Charlotte, N. C. 28262
Date Evaluated: 7/25/2005
Proposed Facility: Residence
Design Flow (.1949): 600gpd
Property Size: Approx. .75a
Location of Site: Canter Lane
Property Recorded:
Water Supply: [x] Public [ ] Individual [ ] Well [ ] Spring [ ] Other
Evaluation Method: [x] Auger Boring [ ] Pit [ ] Cut
Type of Wastewater: [x] Sewage [ ] Industrial Process [ ] Mixed

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 (IN.)	.1956 Sapro Class	.1944 Restr Horiz	Profile Class & LTAR
1	LS, 10	0-8	GR/CL	FR/SEXP/SS/SP	>48" TO SOIL WETNESS	48	N/A	NONE	PS, IV
		8-48	SBK/C	FI/SEXP/S/P					.3GPD/FT^2
2	"	0-10	GR/CL	FR/SEXP/SS/SP	"	"	"	"	PS, IV
		10-48	SBK/C	FI/SEXP/S/P					.275GPD/FT^2
3	"	0-12	GR/CL	FR/SEXP/SS/SP	"	"	"	"	"
		12-48	SBK/C	FI/SEXP/S/P					

Description	Initial System	Repair System
Available Space (.1945)	PS	US
System Type(s)		
Site LTAR	.275GPD/FT	.275GPD/FT^2

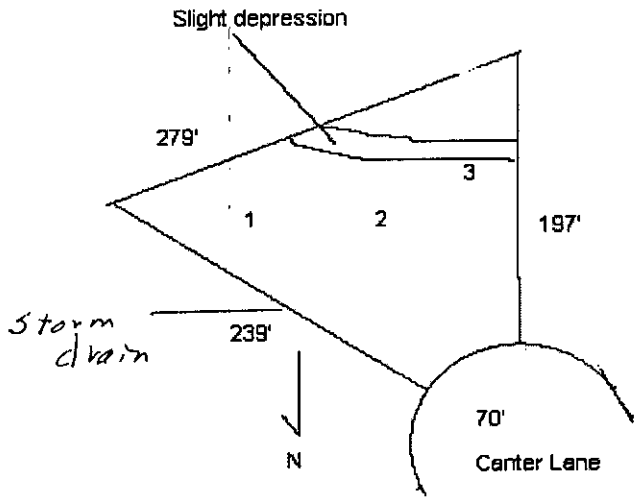
Other Factors (.1946):
Site Classification (.1948): UNSUITABLE
Evaluated By: W. R. Marlin, LSS, 7/25/2005, W. R. Marlin
Others Present:

COMMENTS:
100% repair

Landscape Position	Group	Texture	.1955 LTAR	Structure
R-Ridge	I	S-Sand	1.2 - 0.8	SG-Single Grain
SS-Shoulder Slope		LS-Loamy Sand		M-Massive
LS-Linear Slope				CR-Crumb
FS-Food Slope	II	SL-Sandy Loam	0.8 - 0.6	GR-Granular
NS-Nose Slope		L-Loam		SBK-Subangular Blocky
HS-Head Slope				ABK-Angular Blocky
CC-Concave Slope	III	SI-Silt	0.6 - 0.3	PL-Platy
CV-Convex Slope		SICL-Silty Clay Loam		PR-Prismatic
T-Terrace		CL-Clay Loam		
FP-Flood Plain		SCL-Sandy Clay Loam		
	IV	SC-Sandy Clay	0.4 - 0.1	
		SIC-Silty Clay		
		C-Clay		

Consistence Moist	Consistence Wet	Mineralogy
VFR-Very Friable	NS-Non-Sticky	SEXP-Slightly Expansive
FR-Friable	SS-Slightly Sticky	EXP-Expansive
FI-Firm	S-Sticky	
VFI-Very Firm	VS-Very Sticky	
EFI-Extremely Firm	NP-Non-Plastic	
	SP-Slightly Plastic	
	P-Plastic	
	VP-Very Plastic	

Sketch of Soil Evaluation Locations



X 33575
SEPTIC FEE: $200.00
DATE: 6/23/05 Pmt
CRT [ ]

PERMIT APPLICATION FOR A RESIDENTIAL SITE IMPROVEMENT PERMIT / CONSTRUCTION AUTHORIZATION FOR ON-SITE WASTEWATER SYSTEM NEW WELL INSTALLATION OR REPAIR OF EXISTING WELL MECKLENBURG COUNTY GROUNDWATER & WASTEWATER SERVICES

GWS – RES. APP 12/04

WELL FEE: _____
DATE: _____
CRT [ ]

FILE # 6045B

SEPTIC / TYPE APPLICATION: ☐ NONE ☒ NEW SYSTEM EXISTING SYSTEM: ☐ EXPANSION/ALTERATION ☐ REPAIR

WELL / TYPE APPLICATION: ☒ NONE ☐ NEW WELL ☐ MAJOR REPAIR ☐ ABANDONMENT

JOB LOCATION INFORMATION:

TAX/PARCEL #: 19724116 PO
STREET ADDRESS: Canter Lane
CITY: Mint Hill
STATE: NC ZIP:
SUBDIVISION OR MOBILE HOME PARK NAME: Meadows of Mint Hill
LOT #: 59
TOWNSHIP:

☐ 0-MECKLENBURG ☐ 4-PINEVILLE
☐ 1-CHARLOTTE ☐ 5-MATTHEWS
☐ 2-DAVIDSON ☐ 6-HUNTERSVILLE
☐ 3-CORNELIUS ☒ 7-MINT HILL

BUILDING INFORMATION:

TYPE OF BUILDING:

☐ SINGLE MOBILE HOME (S) ☐ MODULAR HOME (M)
☐ DOUBLE WIDE (D) ☐ MULTIPLE FAMILY (U)
☒ HOUSE (H) ☐ OTHER

HEATED SQUARE FOOTAGE: 3,500
NUMBER OF BEDROOMS: ~~3~~ 4 pg
NUMBER OF OCCUPANTS: 4

FOUNDATION FOR RESIDENCE:

☐ CONCRETE SLAB ☐ BASEMENT WITH PLUMBING
☒ CRAWLSPACE ☐ BASEMENT WITH NO PLUMBING

IF PLANNING TO EXPAND/ALTER THE EXISTING SYSTEM INDICATE THE FOLLOWING CHANGES:

NUMBER OF BEDROOMS TO BE ADDED: NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE:
WILL THERE BE A HOME BUSINESS IN THE RESIDENCE? ☐ YES ☐ NO TYPE:

WATER SUPPLY:

☒ MUNICIPAL (M) ☐ PUBLIC (C) ☐ PRIVATE WELL (P) ☐ SHARED WELL (S) ☐ OTHER "SPRINGS" (O)

PROPOSED USE OF WELL: ☒ N/A ☐ IRRIGATION ☐ POTABLE ☐ GEOTHERMAL ☐ OTHER

ARE ANY OF THE FOLLOWING LOCATED ON THE PROPERTY? IF SO, PLEASE SHOW LOCATION ON SITE PLAN/PLAT.

BURIED CABLES, LANDFILLS, STUMPHOLES	☐ YES	☒ NO	WELLS, SPRINGS, OR WATER LINES	☐ YES	☒ NO
EXISTING WASTEWATER SYSTEMS	☐ YES	☒ NO	DESIGNATED WETLANDS	☐ YES	☒ NO
EASEMENTS OR RIGHT-OF-WAYS	☒ YES	☐ NO	GRADING/SOIL REMOVAL PERFORMED	☐ YES	☒ NO

PROPERTY OWNER:

NAME: NVR, INC.
ADDRESS: 10815 David Taylor Dr., Ste 100
CITY: Charlotte
STATE: NC ZIP: 28262
HOME PHONE: WORK PHONE: 548-3534
MOBILE PHONE: FAX: 503-4516

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:

NAME: Kim Stanley
ADDRESS: PO Box 176
CITY: Stanfield
STATE: NC ZIP: 28163
HOME PHONE: WORK PHONE: 792-9639
MOBILE PHONE: FAX: ~~503-4516~~ 785-8721

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED?
WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY? Oct. 2005

*An Improvement Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

Kim Stanley 6/21/05
Owner's/Agent's Signature Date

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT & NATURAL RESOURCES DIVISION
OF ENVIRONMENTAL HEALTH ON-SITE
WASTEWATER SECTION

*A Well Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

Owner's/Agent's Signature Date

MECKLENBURG COUNTY HEALTH DEPARTMENT
GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST., SUITE 211
CHARLOTTE, NC 28202
704-336-5103 / FAX: 704-336-6894

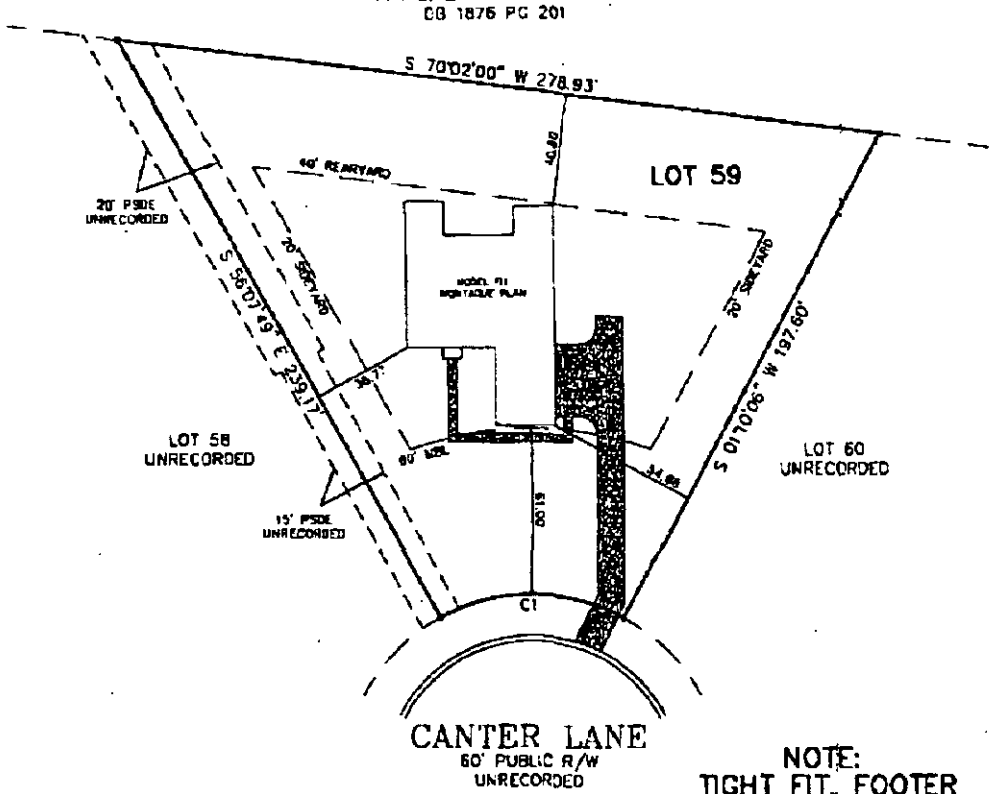
PROPOSED MODEL FIT

PREPARED BY:

DELTA LAND SERVICES, INC.
6033 FLORENCE AVENUE, SUITE 100
CHARLOTTE, NORTH CAROLINA 28212
(704) 536-6190

**MODEL FIT ONLY
NOT TO BE USED
FOR CONSTRUCTION
OR STAKING**

SCALE: 1"=50'



**NOTE:
TIGHT FIT, FOOTER
MUST BE PINNED.**

NOTE: ALL LOT INFORMATION TAKEN FROM UNAPPROVED SITE PLAN, DELTA LAND SERVICES IS NOT RESPONSIBLE FOR ANY CHANGES DUE TO RECORDED PLAT AND RECORDED COVENANTS AND RESTRICTIONS

ESTIMATED DRIVEWAY
AREA = 1623.3 SQ.FT.±

CURVE TABLE					
CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C1	70.00	70.00	67.12	N82°31'08"E	57°17'55"

STAKEOUT

NOT FOR RECORDATION, CONVEYANCES OR SALES

Subdivision THE MEADOWS AT MINT HILL (UNRECORDED) County MECKLENBURG
Address CANTER LANE Owner RYAN HOMES
Lot 59 Block ___ Plan MONTAGUE Elevation A Drive (Left) ___ (Right) SIDE (Courtyard) ___ Deck ___
Patio ___ Fireplace ___ Garage (1 Car) ___ (2 Car) ___ (3 Car) X Brick FRONT Basement ___ Curtain Wall X
Crawl ___ Slab ___ Other MORNING ROOM, SITTING ROOM

REVISED: DWN: GHL CKD: DATE: 06/ 10/ 05

G:\MEADOWS\MM-0059.DWG - GHL

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	06/23/05	**Amount:**	200.00
Receipt #:	35346	**Tendered:**	0.00
Check / Auth #:	CHARGE	**Returned:**	0.00
Received By:	WALKEVA		

Account Information

Account #: X33575
Contractor: NVR INC (EAST)
Attn:
Address: 10815 DAVID TAYLOR DR 100
Address:
City/State/Zip: CHARLOTTE, NC 28262

Item	Description	Permit#	Quantity	Unit Price	Total Price
0701	Improvment Permit App-Residen CANTER LANE LOT#59		1	200.00	200.00

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
14,249.49					

Plans and Specifications

Septic Tank

- The septic tank shall be State approved (Section .1953 of 15A NCAC 18A), watertight, structurally sound, and 1500 gallons in capacity.
- The septic tank will be fitted with an approved effluent filter and riser for easy access and periodic maintenance.
- It is the responsibility of the septic contractor to thoroughly inspect the septic tank prior to accepting delivery to assure that the tank has had time to properly cure and is free of cracks or other structural deficiencies.

Pump Tank

- A pump tank is not proposed in this design, however, if the plumbing outlet is deemed to be installed too low (basement plumbing) at the time of the issuance of Installation Permit, the MCHD reserves the right to require a pump tank setup to overcome restrictions in elevation.

Pipe and Fittings

- All discharge piping and supply lines should be made of PVC.
- All joints must be properly "welded" utilizing the appropriate PVC cement for each application.

Distribution Box

- The distribution box shall be level, watertight, and the flow adjusted at the time of the final inspection.

Drainfield Installation

- The drainfield has been previously laid out on-site utilizing metal stemmed flags. Once this area has been approved by the MCHD, the property owner/builder should mark this area and isolate it as much as possible from construction traffic. Prior to the system installation, the septic contractor shall contact the MCHD and the system designer for a preconstruction conference at which time the drainfield area will be re-verified.
- Under no circumstances shall any construction take place within the drainfield area while the soil is in a wet condition. If the installer has doubts as to whether or not the drainfield area is dry enough to begin construction, the Mecklenburg County Health Department should be contacted for permission to proceed with the installation.
- The specified system is a Type III Innovative, specifically the **EZ*flow* 1203H**.
- The drain field consists of (4) lateral trenches to be constructed 3 foot wide by 100 feet in length.
- The maximum trench depth for this system shall be 30 inches.

- The laterals are to be installed on contour with the land, keeping the individual trench bottoms level from beginning to end.
- The trenches should be left open for the final inspection by the MCHD.

Final Landscaping

- The drainfield shall be shaped to shed rainwater and be free from low spots.
- The entire area of the drainfield should be planted with grass as soon as possible to prevent erosion. The soil should be properly tilled, limed (if necessary) and fertilized prior to planting. After applying grass seed, the area should be heavily mulched with straw or other suitable material.

Utility Conflicts

- The builder and property owner must take special care in planning for water, power, gas, telephone and cable lines. These utilities shall be kept clear of all parts of the septic system and its proposed repair area. Improper planning for underground utilities can negatively impact the installation and, in some cases, cause irreparable damage. If there are any questions regarding preferred routes, contact the MCHD as soon as possible.

Maintenance

In General

- The septic tank shall be pumped every 4 years or when the solids within the septic tank reach an elevation that is equivalent to 1/3 of the volume of the tank. In some situations, the tank may need to be pumped more frequently. If using a garbage disposal, it is recommended that the homeowner have the septic tank cleaned out annually.
- When it becomes necessary to clean the effluent filter, the filter should be removed and the accumulated debris washed back into the septic tank – not onto the lawn.
- The drain field area should be maintained to prevent over growth of vegetation. Any damp areas, leakages or malfunctions should be addressed immediately.
- Divert gutter downspouts and surface water runoff away from the septic and pump tanks.

Suggestions to the Homeowner

- As previously mentioned, if you plan to use a garbage disposal in your home you should plan to have your septic and pump tanks cleaned out annually. The ground up garbage adds large amounts of solids into a septic tank that tend to degrade at a very slow rate.
- Grease, cooking oils, coffee grounds and non-degradable solids (disposable diapers, cigarettes and solid paper wastes) should never be put into a septic tank.

Department of Environment, Health, and Natural Resources
Division of Environmental Health
On-site Wastewater Section

Sheet: 1 of 2
Property ID # PO 197-241-16
Lot #: 59
File #: 6045B
Code: 2

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Owner: NVR, Inc.
Applicant: Kim Stanley
Address: 10815 David Taylor Drive, Ste 100, Charlotte, N. C. 28262
Date Evaluated: 7/25/2005
Proposed Facility: Residence
Design Flow (.1949): 600gpd
Property Size: Approx. .75a
Location of Site: Canter Lane
Property Recorded:
Water Supply: [x] Public [ ] Individual [ ] Well [ ] Spring [ ] Other
Evaluation Method: [x] Auger Boring [ ] Pit [ ] Cut
Type of Wastewater: [x] Sewage [ ] Industrial Process [ ] Mixed

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 (IN.)	.1956 Sapro Class	.1944 Restr Horiz	Profile Class & LTAR
1	LS, 10	0-8	GR/CL	FR/SEXP/SS/SP	>48" TO SOIL WETNESS	48	N/A	NONE	PS, IV
		8-48	SBK/C	FI/SEXP/S/P					.3GPD/FT^2
2	"	0-10	GR/CL	FR/SEXP/SS/SP	"	"	"	"	PS, IV
		10-48	SBK/C	FI/SEXP/S/P					.275GPD/FT^2
3	"	0-12	GR/CL	FR/SEXP/SS/SP	"	"	"	"	"
		12-48	SBK/C	FI/SEXP/S/P					

Description	Initial System	Repair System
Available Space (.1945)	PS	US
System Type(s)		
Site LTAR	.275GPD/FT	.275GPD/FT^2

Other Factors (.1946):
Site Classification (.1948): UNSUITABLE
Evaluated By: W. R. Marlin, LSS, 7/25/2005, W. R. Marlin
Others Present: