8633B

Supervisor/Administrative Professional Checklist

New Septic ☑ **New Well** ☐ **Use Existing** ☐ **Alteration** ☐ **Modified Plot Plan** ☐

New Septic Fees Paid:

IP ($250.00) lws 12/04/12 Initials/Date

CA ($200.00) lws 12/04/12 Initials/Date

OP ($200.00) lws 12/04/12 Initials/Date

(CA and OP fees need to be paid before a building permit can be issued)

New Well Fee Paid: $550.00 _____ Initials/Date

Use Existing Fee Paid: $100.00 _____ Initials/Date

Alteration Fee Paid: $300.00 (Total) $200 (If use existing was paid)_____ Initials/Date

Modified Plot Plan Fee Paid: $100.00 _____ Initials/Date

Floor plans need to be submitted and reviewed before CA can be issued. ☑ Reviewed ☑ SAM 9/26/14

This site is served by septic and well. Verify each is complete before final hold is released. ☐

Septic file completed. ☐ _____ Well file completed. ☐ _____

Send permit for signature. ☑ Signature received. ☑ 1/30/14

This septic system requires a certified operator contract before final hold is released. ☑

Certified operator contract is on file. ☑ SAM 4/29/15

~~Site denied due to unstable soil wetness & Insufficient space.~~
~~SAM 2-13-13~~
~~Consultant Plan Attached.~~

130A-336(a)	Number of Bedrooms, employees, seats, etc. indicated?	Yes ☑	No ☐	N/A ☐
.1937(g)	Trench depth indicated?	Yes ☑	No ☐	N/A ☐
.1937(g)	Trench width indicated?	Yes ☑	No ☐	N/A ☐
.1937(g)	Trench length indicated?	Yes ☑	No ☐	N/A ☐
130A-336(a)(1)	Proposed/existing well shown?	Yes ☐	No ☐	N/A ☑
130A-336(a)(1)	Property line lengths shown?	Yes ☑	No ☐	N/A ☐
130A-336(a)	Facility/appurtenance setbacks shown from fixed points?	Yes ☑	No ☐	N/A ☐
	Operation Permit			
.1937(i)	System type as described in table V(a) of rule .1961	Yes ☑	No ☐	N/A ☐
.1937(i)	Conditions for system performance, operation, maintenance, monitoring and reporting.	Yes ☑	No ☐	N/A ☐

II. WASPS Review:

Construction authorization issued	Yes ☐	No ☐	N/A ☐
Installation approval issued	Yes ☐	No ☐	N/A ☐
Operation permit issued	Yes ☐	No ☐	N/A ☐
Other related documentation	Yes ☐	No ☐	N/A ☐

Items requiring correction/modification: _____

Comments:

IA issued date: 4/28/15

OP issued date: 4/29/15

Review performed by: JAM Date performed: 4/29/15

Groundwater & Wastewater Services
Septic Project File & Data Review Worksheet

GWS File #: 8633B WASPS App #: 5930

Primary ES assigned to project: Jacob Presley

Secondary ES assigned to project:

Project Type: New System ☑ Alteration ☐ Repair ☐ Modified Plot Plan ☐

I. File Review:

Rule or Law	Permit Application			
.1937(d)	Is the Application complete	Yes ☐	No ☐	N/A ☐
.1937(d)	Is there a Site plan/Plat with application	Yes ☐	No ☐	N/A ☐
.1937(d)	Is the Facility shown?	Yes ☐	No ☐	N/A ☐
.1937(d)	Are appurtenances shown	Yes ☐	No ☐	N/A ☐
	Site Evaluation Information			
.1939 (a)(1)	Topography and Landscape Position Recorded?	Yes ☑	No ☐	N/A ☐
.1940 (a-g)	Slope % Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(2)	Texture Class Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(2)	Structure type Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(2)	Consistence Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(2)	Mineralogy Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(3)	Soil Wetness Condition Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(4)	Soil Depth to Rock or Parent Material Recorded When Encountered	Yes ☑	No ☐	N/A ☐
.1939 (a)(5)	Depth to Restrictive Horizons Recorded When Encountered?	Yes ☑	No ☐	N/A ☐
.1939 (a)(6)	Sufficient Available Space Recorded?	Yes ☑	No ☐	N/A ☐
.1937(m)	Are the Profile Locations Shown?			
.1939(a)	Are the S/PS Profiles in system & in repair area?	Yes ☑	No ☐	N/A ☐
& .1945(b)	Number of auger borings made: 4 Were sufficient auger borings made?	Yes ☑	No ☐	N/A ☐
.1939(d), .1955, .1956, .1957	LTAR 0.275 initial 0.15 Repair	Yes ☑	No ☐	N/A ☐
	Improvement Permit/Construction Authorization			
.1937(g) 130A-336(a)	Proposed System Type stated-Initial	Yes ☑	No ☐	N/A ☐
.1945(b)	Proposed System Type stated-Repair	Yes ☑	No ☐	N/A ☐
130A-336 (a)(3)	System location identifiable by setbacks - Initial	Yes ☑	No ☐	N/A ☐
.1937(g) .1945(b)	System components shown – Initial	Yes ☑	No ☐	N/A ☐
.1945(b)	Repair area shown	Yes ☑	No ☐	N/A ☐
.1937 (f)(g)	Does System design match facility, flow & WWcharacteristics?	Yes ☑	No ☐	N/A ☐
.1937 (f)(g)	Is System design consistent with soil/site conditions?	Yes ☑	No ☐	N/A ☐
.1937 (f)(g)	Is the System located in the approved area?	Yes ☑	No ☐	N/A ☐
130A-336(a)	Is the Design flow (gpd) indicated?	Yes ☑	No ☐	N/A ☐

Copy

Copy 8633B

MECKLENBURG COUNTY
HEALTH DEPARTMENT App # 5930

APPLICATION FOR A RESIDENTIAL SITE IMPROVEMENT PERMIT/ CONSTRUCTION AUTHORIZATION
FOR AN ON-SITE WASTEWATER SYSTEM, NEW WELL INSTALLATION, OR REPAIR OF EXISTING WELL

1. SEPTIC / TYPE APPLICATION: ○ N/A ● NEW SYSTEM ○ ALTERATION ○ REPAIR ○ MODIFIED PLOT PLAN

2. WELL / TYPE APPLICATION: ● N/A ○ NEW WELL ○ MAJOR REPAIR ○ ABANDONMENT

3. JOB LOCATION INFORMATION:
TAX PARCEL NUMBER: 195-213-38
STREET ADDRESS: 6306 Northern Red Oak Dr.
CITY: Mint Hill
STATE: NC ZIP: 28227
SUBDIVISION NAME: Farrington Oaks
LOT #: 107 LOT SIZE (acres): 131,353
TOWNSHIP:
● MECKLENBURG ○ CORNELIUS ○ HUNTERSVILLE
○ DAVIDSON ○ CHARLOTTE ○ PINEVILLE
○ MATTHEWS ○ MINT HILL

4. BUILDING INFORMATION:
BUILDING TYPE:
✓ SINGLE MOBILE HOME ○ MODULAR HOME
○ DOUBLE WIDE ○ MULTIPLE FAMILY
○ HOUSE ○ OTHER
HEATED SQUARE FOOTAGE: 3289
NUMBER OF BEDROOMS: 4 3
NUMBER OF OCCUPANTS: 6
FOUNDATION TYPE:
○ CONCRETE SLAB ○ BA
● CRAWL SPACE ○

Change # bedrooms initial to 3

5. IF PLANNING TO EXPAND OR ALTER THE EXISTING SEPTIC SYSTEM PLEASE COMPLETE TH
NUMBER OF BEDROOMS TO BE ADDED: _____ NUMBER OF ADDITIONAL OCC

6. WATER SUPPLY: ● MUNICIPAL ○ PRIVATE WELL ○ PUBLIC WELL ○ SHARED WELL ○

7. PROPOSED USE OF WELL: ● N/A ○ IRRIGATION ○ POTABLE (DRINKING WATER) ○ OTHE

8. PLEASE INDICATE AND RANK DESIRED SEPTIC SYSTEM TYPE(S) IN ORDER OF PREFERENCE (1-MOST DESI ... 5-LEAST DESIRED):
☐ N/A ☐ ANY TYPE ☑ CONVENTIONAL ☐ ACCEPTED ☐ INNOVATIVE ☐ ALTERNATIVE ☒ OTHER modified

8A. RANK: ____ ____ ____ ____ ____

9. DO ANY OF THE FOLLOWING APPLY TO THE PROPERTY IN QUESTION? IF "YES" PLEASE ATTACH SUPPORTING DOCUMENTATION.

BURIED CABLES, LANDFILLS, STUMPHOLES	○ YES ● NO	GRADING/SOIL REMOVAL PERFORMED	○ YES ● NO
EXISTING WASTEWATER (SEPTIC) SYSTEMS	○ YES ● NO	JURISDICTIONAL WETLANDS	○ YES ● NO
WELLS, SPRINGS, OR WATER LINES	○ YES ● NO	APPROVAL REQUIRED BY ANY OTHER PUBLIC AGENCY	○ YES ● NO
EASEMENTS OR RIGHT-OF-WAYS	○ YES ● NO	WASTEWATER OTHER THAN DOMESTIC SEWAGE	○ YES ● NO
CHEMICAL/PETROLEUM STORAGE TANKS	○ YES ● NO	KNOWN UNDERGROUND CONTAMINATION	○ YES ● NO
WASTE STORAGE	○ YES ● NO	GROUNDWATER USE RESTRICTIONS/VARIANCES	○ YES ● NO

10. WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? _____ ☒ UNKNOWN

11. WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY? _____ ☐ N/A

12. PROPERTY OWNER:
NAME: True Hoyes
ADDRESS: 2649 Brekonridge Centre Dr
CITY: Monroe
STATE: NC ZIP: 28110
WORK PHONE: 704-238-1229
MOBILE PHONE:
FAX: 910-401-1349
E-MAIL: msturdivant@truehomesusa.com

13. OWNER'S LEGAL REPRESENTATIVE, IF APPLICABLE:
NAME:
ADDRESS:
CITY:
STATE: ZIP:
WORK PHONE:
MOBILE PHONE:
FAX:
E-MAIL:

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

Revised on: 12/15/10

14. SEPTIC SYSTEM PERMIT APPLICATION:

If the information in this application is falsified, changed, or the site is altered, then the Improvement Permit and Authorization to Construct shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for either sixty (60) months or is non-expiring depending upon the documentation submitted: complete site plan = 60 months, complete plat = non-expiring. MS (Initial here for septic system applications)

15. WELL PERMIT APPLICATION:

If the information in this application is falsified, changed, or the site is altered, then the Well Permit shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for a period of twelve (12) months from the date of issuance.

_____ (Initial here for well applications)

16. APPLICATION SIGNATURE SECTION:

ONLY COMPLETE APPLICATIONS WILL BE PROCESSED. A proper signature is required in order to process your application. Please review the application carefully and sign in the space provided below. A PROPOSED PLOT PLAN is required to be submitted with each application.

Property Owner's or Owner's Legal Representative Signature

11·28·12
Date

OFFICE USE ONLY

○ SURVEY PLAT TO SCALE SUBMITTED ○ SCALED SITE PLAN SUBMITTED ○ UN-SCALED SITE PLAN SUBMITTED

SEPTIC APPLICATION FEE RECEIVED: $ 250 DATE FEE RECEIVED: 12/4/12

WELL APPLICATION FEE RECEIVED: $ _____ DATE FEE RECEIVED: _____

APPLICATION PROCESSED BY: lws

GWS FILE NUMBER ASSIGNED: 8633B

APPLICATION ID NUMBER ASSIGNED: 5930

COMMENTS:

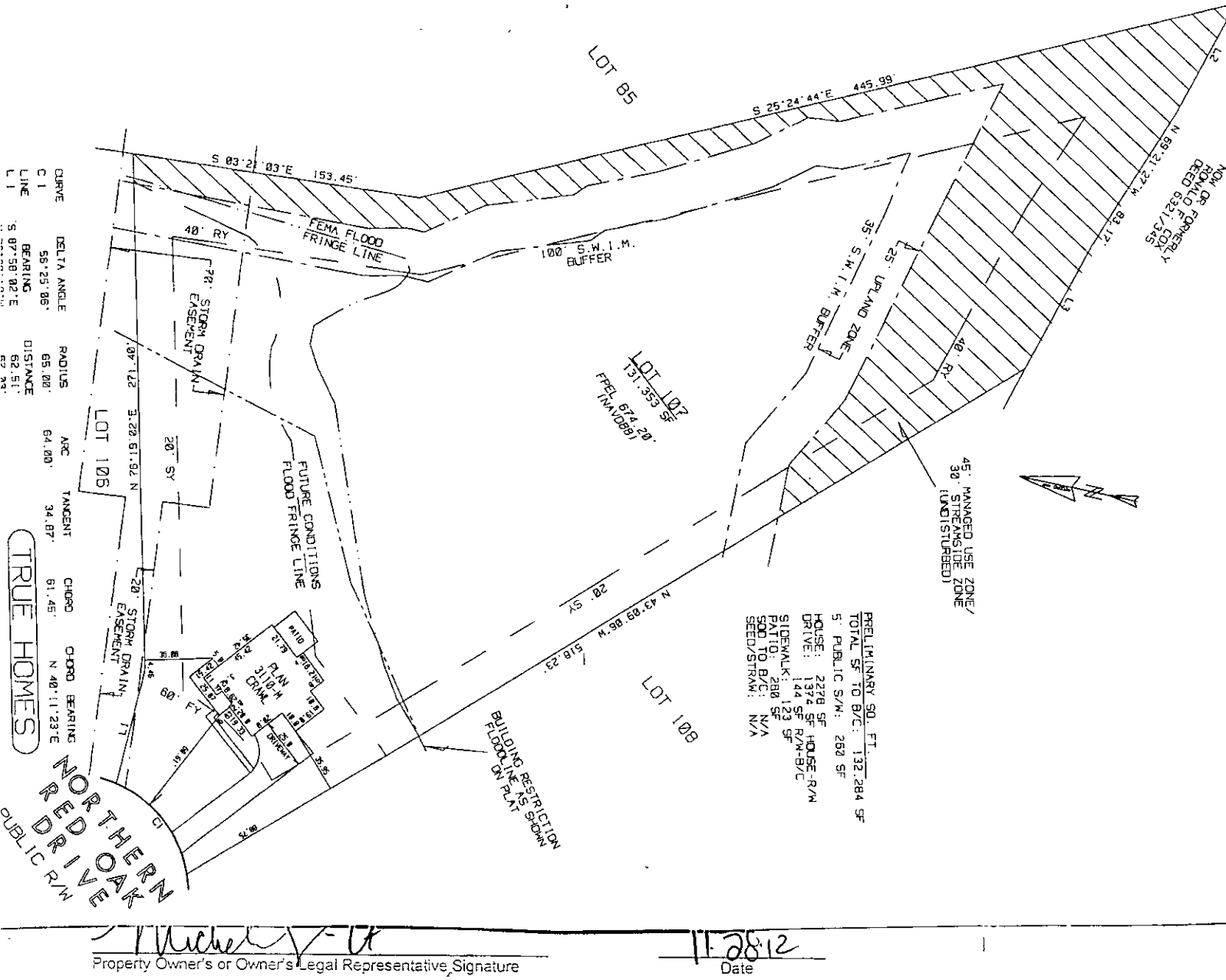
File #: _____

PROPOSED PLOT PLAN

A drawing showing the locations of the following items is required: existing and proposed property lines with dimensions, easements or right-of-ways, proposed building pad(s) or existing building footprint(s), all appurtenances (garage, driveway, deck, pool, etc.), location of existing or proposed well(s), location of existing or proposed sewer lines and sewage disposal systems, surface water bodies, and any aboveground or underground storage tanks. Provide names for all roads that adjoin the property.

Street Address: 6306 Northern Red Oak Dr. Tax Parcel #: _____

Subdivision Name: Farrington Oaks Lot #: 107



CURVE	DELTA ANGLE	RADIUS	ARC	TANGENT	CHORD	CHORD BEARING
C1	56°25'06"	65.00'	64.00'	34.87'	61.45'	N 40°11'23"E

LINE	BEARING	DISTANCE
L1	S 87°58'02"E	62.51'

Property Owner's or Owner's Legal Representative Signature

11.28.12
Date

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

Revised on: 12/15/10

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

Property ID: 195-213-38 + offsite easement
Lot #: 107
File #: 8633B
AppID: 5930

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

Owner: True Homes
Address: 2649 Brekonridge Centre Dr Monroe, NC 28110
Proposed Facility: Residence 3BR
Design Flow (.1949): 360
Location of Site: 6306 Northern Red Oak Dr. Mint Hill, NC 28227
Water Supply: [X] Public [ ] Individual [X] Well [ ] Spring [ ] Other
Evaluation Method: [X] Auger Boring [X] Pit [ ] Cut
Type of Wastewater: [X] Sewage [ ] Industrial Process [ ] Mixed

Applicant: Ture Homes
Date Evaluated: 12/11/2013
Property Size: 131,353 sq ft
Property Recorded: Unknown

PROFILE #	.1940 Landscape Position/ Slope%	Horizon Depth (IN:)	SOIL MORPHOLOGY .1941 .1941 Structure/ Texture	.1941 Consistence Mineralogy	b PROFILE FACTORS .1942 Soil Wetness/ Color	.1943 Soil Depth (IN)	.1956 Sapro Class	.1944 Restr Horiz	General Comments	Profile Class & LTAR	Maximum Trench Bottom Depth for 3' Wide Conventional Trench
1	LS	0 - 5	wfsbk CL	FR SEXP	2 chroma	48	NA	NA		PS IV	
boring	3%	5 - 32	mfsbk C	FI SEXP	@ 43"					0.275	30"
		32 - 48	wfsbk C	FR SEXP							
2	LS	0 - 6	wfsbk CL	FR SEXP						PS IV	
boring	6%	6 - 48	mfsbk C	FI SEXP	> 48"	48	NA	NA		0.3	34"
3	FP	0 - 22	wfsbk SCL	FR SEXP						US	
pit	2%	22 - 36	wmsbk C	FR SEXP	2 chroma	48	NA	NA	easement area	Drip 0.15*	NA
		36 - 48	wfsbk C	VFI EXP	@ 22"						
4	FP	0 - 9	wfsbk SCL	FR SEXP						US	
boring	2%	9 - 25	wfsbk C	FR SEXP	2 chroma	30	NA	NA	easement area	Drip 0.15*	NA
		25 - 30	wfsbk CL	FR SEXP	@ 24"						

Description	Initial System	Repair System
Available Space (.1945)	PS	PS
System Type(s)	IVa	IVa
Site LTAR	0.275	0.15*

***LTAR only valid for Pre-treatment Drip System in offsite easement**

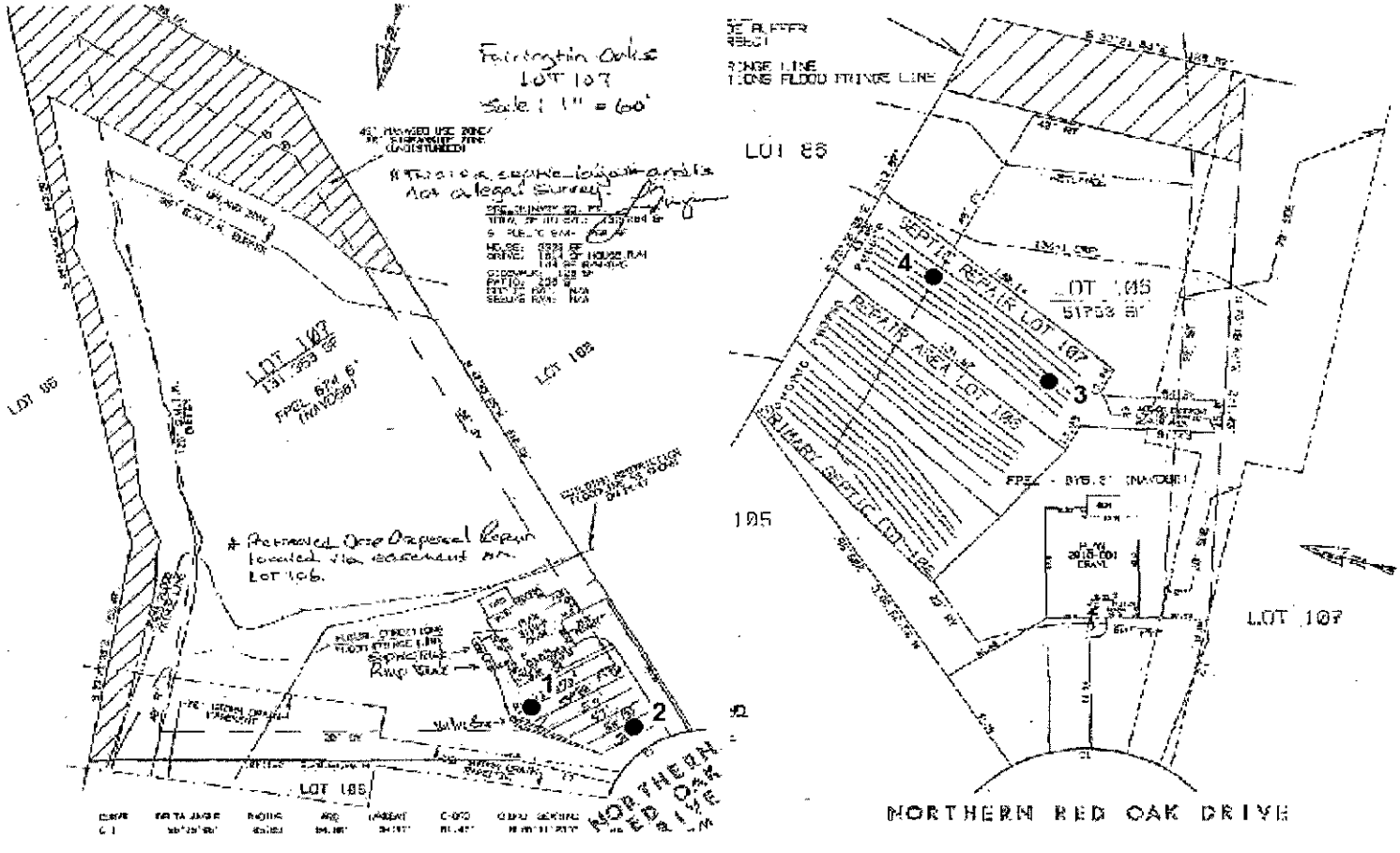
Other Factors (.1946): NA
Soil Evaluation By: Jacob Presley, LSS, REHSI
Others Present:
Site Classification (.1948): Provisionally Suitable
Site Evaluation By: Jacob Presley, LSS, REHSI
Others Present:

COMMENTS:

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		mass-Massive
LS-Linear Slope				cr-Crumb
FS-Foot 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		**Structure Prefixes**
FP-Flood Plain		SCL-Sandy Clay Loam		w-weak
D-Drainage Way		SiL-Silt Loam		m-moderate
				s-strong
				f-fine
	IV	SC-Sandy Clay	0.4 - 0.1	m-medium
		SiC-Silty Clay		c-coarse
		C-Clay		

Consistence	Consistence	Mineralogy
Moist	**Wet**	SEXP-Slightly Expansive
VFR-Very Friable	SS-Slightly Sticky	EXP-Expansive
FR-Friable	S-Sticky	
FI-Firm	VS-Very Sticky	**Classification**
VFI-Very Firm	NP-Non-Plastic	US-Unsuitable
EFI-Extremely Firm	SP-Slightly Plastic	PS-Provisionally Suitable
	P-Plastic	S-Suitable
	VP-Very Plastic	NA-Not Applicable

Sketch of Soil Evaluation Locations



Mecklenburg County Groundwater & Wastewater Services
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

IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30005930** GWS File #: **8633B** Tax Parcel #: **195-213-38**

- This 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.

I. This Improvement Permit Shall: Expire in Five (5) Years **Expiration Date (If Applicable):** 1/24/2019

Type of Installation: Residential - New System Lot Number: 107

Structure Type: HOUSE Size (ft^2): 3289 # Bedrooms: 3 # Occupants: 6

Building Foundation: Crawl Space Water Supply: Municipal

II. Initial System Type: PPBPS (pressurized) **System Classification:** IVa

Initial System Specifications:

Design Flow (gpd):	360	LTAR (gpd/ft^2):	0.275	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1000
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	654	Total Trench Length (ft):	218
Maximum Trench Depth (in):	30	Depth of Media (in):	22	Distribution Device:	Manifold (LPP Distri		

III. Repair System Type: Pretreatment with Drip Irrigation **System Classification:** Va

Repair System Specifications:

Design Flow (gpd):	360	LTAR (gpd/ft^2):	0.15	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1000
Trench Width (ft):	2	Trench Spacing (ft):	2	Absorption Area (ft^2):	2400	Total Trench Length (ft):	1200
Maximum Trench Depth (in):	10	Depth of Media (in):	6	Distribution Device:	Headworks (Drip Irr.		

IV. Permit Conditions/Comments:

(Please See the Following Page for Permit Conditions.)

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment, and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until an INSTALLATION APPROVAL is granted by the Department.
- The septic system installer shall be a registered septic contractor with Mecklenburg County Health Department.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Jacob Presley Owner/Legal Agent: Jackie Dracup
Print Name

Signature: Signature:

Date Issued: 1/24/2014

Mecklenburg County Groundwater & Wastewater Services
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

IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: 30005930 GWS File #: 8633B

IV. Permit Conditions/Comments:

- This type of septic system requires an inspection once every 3 years by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- This type of septic system requires a Certified Operator to maintain the system. A system maintenance contract with a Certified Operator must be on file prior to issuance of an Operation Permit.
- This type of repair system requires the property owner to obtain a contract with a Certified Operator to perform routine inspections and maintenance on the system.
- This type of repair system requires periodic inspections by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- The septic system shall be installed in accordance with the plans submitted by the wastewater system design consultant.
- All components of the septic system must be installed in accordance with the required setbacks listed on the corresponding plot plan.
- All waterlines must be located a minimum of 10 ft. from any part of the septic system.
- Upon completion of the project the system designer shall provide Groundwater & Wastewater Services with a letter certifying that the system was installed in accordance with the approved design.
- Flow from all gutters and downspouts shall be directed not to discharge water onto or across any part of the septic system.
- Foundation drains shall be constructed not to discharge water onto or across any part of the septic system.
- Repair system requires pretreatment components.

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment and Disposal Systems* and is subject to the following provisions:

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- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Jacob Presley
Signature: _____
Date Issued: 1/24/2014

Owner/Legal Agent: Jackie Drawp
Print Name
Signature: _____

Mecklenburg County Groundwater & Wastewater Services
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

IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30005930** GWS File #: **8633B** Tax Parcel #: **195-213-38**

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Maximum Trench Depth (in):	30	Depth of Media (in):	22	Distribution Device:	Manifold (LPP Distri		

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Repair System Specifications:

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Maximum Trench Depth (in):	10	Depth of Media (in):	6	Distribution Device:	Headworks (Drip Irr.		

IV. Permit Conditions/Comments:

(Please See the Following Page for Permit Conditions.)

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- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Jacob Presley

Signature: _____

Date Issued: 1/24/2014

Owner/Legal Agent: _____
Print Name

Signature: _____

Mecklenburg County Groundwater & Wastewater Services
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

IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30005930** GWS File #: **8633B**

IV. Permit Conditions/Comments:

- This type of septic system requires an inspection once every 3 years by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- This type of septic system requires a Certified Operator to maintain the system. A system maintenance contract with a Certified Operator must be on file prior to issuance of an Operation Permit.
- This type of repair system requires the property owner to obtain a contract with a Certified Operator to perform routine inspections and maintenance on the system.
- This type of repair system requires periodic inspections by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- The septic system shall be installed in accordance with the plans submitted by the wastewater system design consultant.
- All components of the septic system must be installed in accordance with the required setbacks listed on the corresponding plot plan.
- All waterlines must be located a minimum of 10 ft. from any part of the septic system.
- Upon completion of the project the system designer shall provide Groundwater & Wastewater Services with a letter certifying that the system was installed in accordance with the approved design.
- Flow from all gutters and downspouts shall be directed not to discharge water onto or across any part of the septic system.
- Foundation drains shall be constructed not to discharge water onto or across any part of the septic system.
- Repair system requires pretreatment components.

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until an INSTALLATION APPROVAL is granted by the Department.
- The septic system installer shall be a registered septic contractor with Mecklenburg County Health Department.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Jacob Presley

Signature: _____

Date Issued: 1/24/2014

Owner/Legal Agent: _____
Print Name

Signature: _____

Residential Subsurface Wastewater Treatment and Disposal System Proposal

for

Fairington Oaks – Lot 107
Mint Hill, North Carolina

Tax Parcel # 195-213-38
MCGWS File # 8633B
January 17, 2014

GWS Septic System Design Review — Approved ☑ Disapproved ☐

GWS File #: 8633B

Design Review: ☑ 1/17/14

Field Review: ☑ 1/17/14

*Projects are not considered "APPROVED" until both sections above are completed and indicate an APPROVED status.

LICENSED SOIL SCIENTIST — LARRY B. THOMPSON JR. — 1287 — STATE OF NORTH CAROLINA

Prepared for:

True Homes
2649 Brekonridge Centre Drive
Monroe, NC 28110
704-238-1229

Prepared by:

Larry Thompson, REHS, PWS, LSS
Don Barrier, PE
Thompson Environmental Consulting, Inc.
PO Box 541
Midland, NC 28107-0541
Phone: 704-301-4881
Fax: 704-888-6066
larry@thompsonenv.com

NORTH CAROLINA REGISTERED ENVIRONMENTAL HEALTH SPECIALIST SEAL 1208 LARRY B. THOMPSON JR.

cc: Mr. Bradley Hallman, REHS
Mecklenburg County Environmental Health

Details

True Homes has contracted with Thompson Environmental Consulting, Inc. (TEC) to develop a proposal for an on-site wastewater treatment and disposal system that would allow for the construction of a 3-bedroom single family residence served by a municipal water supply to be located at Lot 107 in the Fairington Oaks subdivision, Mint Hill, North Carolina.

Based upon an investigation performed by TEC it was determined that a sufficient amount of "Suitable" Group IV soils are available on this property for the installation of a pressure-dosed prefabricated porous block panel system (PPBPS) as the initial system on Lot 107. The proposed repair system would be a pretreated drip dispersal system located on Lot 106 via a legal easement. Don Barrier, PE has provided the calculations used for the design portion of this proposal.

True Homes requests that Mecklenburg County Groundwater and Wastewater Services (MCGWS) consider issuing an Improvement Permit and Construction Authorization for a 3-bedroom residence to be located on Lot 107 based upon the following proposal.

Location

The subject property is located on Fairington Oaks Drive in Mint Hill, North Carolina. From downtown Charlotte, travel east on NC 24-27 approximately 10 miles. Turn left onto NC 51 and take a right onto Matthews-Mint Hill Road. Turn right onto Idlewild Road and left onto Thompson Road. Travel approximately 1.1 miles and turn left onto Fairington Oaks Drive. Turn left onto Deer Oak Lane and left onto Northern Red Oak Drive. Lot 107 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, August 2007.

Design, Installation and Maintenance of the T & J Panel Wastewater Treatment System; Sixth Edition, published by T & J Panel.

Primary Investigator's Credentials

NC Registered Sanitarian No. 1208
NC Licensed Soil Scientist No. 1287
Professional Wetland Scientist No. 1346
NC Subsurface Septic System Operator No. 22199
NC Grade IV Wastewater System Installer No. 1762
NC Certified Wastewater System Inspector No. 17621

Plans and Specifications

A. Septic Tank

1. The septic tank shall be State approved (Section .1953 of 15A NCAC 18A), watertight, structurally sound, and 1500 gallons in capacity.
2. The septic tank will be fitted with an approved effluent filter and riser for easy access and periodic maintenance.
3. 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.

B. Pump Tank

1. The pump tank shall be State approved, of one-piece construction, watertight, structurally sound and 1000 gallons in capacity. Again, it is the responsibility of the septic tank contractor to thoroughly inspect each pump tank prior to accepting delivery.
2. All pipe penetrations into the tank shall be booted (i.e., C-293 boot with a stainless steel strap).
3. The pump tank shall have access risers that extend, at a minimum, 6 inches above finished grade and must have less than 36 inches of fill over its top once finished grade has been established (a reinforced concrete tank will be required if finished soil cover is 36 inches or greater in depth).
4. Floats, pump and control circuits, and the control panel shall meet the requirements of Rule .1952(c). Panel and control equipment shall include lightning protection, be protected from unauthorized access, and remain accessible at all times to the system operator.
5. The pump and alarm controls shall be provided with manual circuit disconnects within a watertight, corrosion resistant, Nema 4x rated control panel. The control panel must be securely mounted outside, adjacent to the pump tank riser and at a minimum of 12 inches above finished grade. Pump and float control wiring should be long enough to reach from the tank to the control panel without splicing, routed through wire conduit, and sealed at the openings within the pump tank as well as the control panel enclosure. It is paramount that the conduit is properly sealed to prevent the escape of flammable gases from the pump tank. Furthermore, there must be two electrical circuits for the pump tank controls: one for the pump and one for the alarm controls.
6. Float switch tie downs must be made of a corrosion resistant material (per OWPS, all metal in the tanks shall be stainless steel). Floats should be mounted on a separate "float trec" rather than the pump supply line (see pump tank detail).
7. The pump removal system will be via a pump tether made of nylon rope or its equivalent. The tether material should be resistant to mildew and rot.

C. Pipes and Fittings

1. All discharge piping, connectors and supply lines should be made of SCH 40 PVC.
2. All joints must be properly "welded" utilizing the appropriate PVC cement for each application.
3. The supply line from the pump tank to the pressure manifold shall be 2 inch Schedule 40 PVC (approximate length of supply line is 40 feet).
4. The lateral distribution lines shall be 1¼ inch Schedule 40 PVC. Holes in the laterals should be drilled on site and at the 12 o'clock position (one hole per panel). Lateral hole size is 5/32 of an inch.
5. There shall be a threaded PVC union above each pump to facilitate easy removal of the pumps for maintenance or replacement.
6. The end of each lateral is to be provided with a "turn up", contained within a turf/gate valve box, that provides above ground access for periodic clean out and pressure head adjustment.

D. Valve Box

1. The control valves (gate valves) for each lateral distribution line shall be contained within one manifold box/vault of adequate size. The box should be placed upon a gravel base.
2. The supply manifold conveys effluent from the pump to the lateral distribution lines.
3. The supply manifold should be constructed by connecting a series of five (5) 2" x 2" x 1 ¼" tees to the 2 inch supply line.

E. Backfill

1. Backfill sand shall be clean, washed, medium sand that is naturally occurring and falls within the gradation of ASTM C-33 specification (used in the ready mix industry and is readily available).

F. Drainfield Installation

1. The drainfield and the proposed septic tank location have been marked on-site utilizing metal stemmed flags. Once this area has been approved by the county, 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 county for a preconstruction conference at which time the drainfield area will be re-verified.
2. 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 drain field area is dry enough to begin construction, the environmental health specialist for this area should be contacted for permission to proceed with the installation.

3. The specified system is a Type IV pressure dosed pre-fabricated permeable block panel system – specifically the 16 inch high panel system manufactured by T&J Panel Wastewater Treatment System, Patent No. 4013559; telephone: 1-800-222-2577. The installer must follow the manufacturer's guidelines for installing the T&J Panel System and should request an installation manual from the manufacturer prior to beginning construction.
4. The initial drain field consists of five (5) lateral trenches 3 feet wide by varying lengths (1 at 30 feet, 1 at 38 feet, 1 at 47 feet, 1 at 50 feet, and 1 at 57 feet and.
5. It is essential that the lateral trenches be constructed on contour with the land, with each trench being excavated level from beginning to end. The use of a tripod mounted engineer's level is essential to assure that each trench is constructed as level as possible.
6. The maximum trench depth for this system shall be **30 inches**. Each trench shall be placed on a minimum of 9 foot on centers.
7. Once trenches are dug, the side walls shall be raked and a light dusting of lime applied.
8. Backfill the trench with 6 inches of sand and level to grade. Once leveled, place 1 x 4 or 6 inch boards on top of the sand the entire length of each trench. Once the grade boards have been set, the panels may be set into the trench. The panels should be placed 6 inches apart.
9. Once the panels have been set, line the top chamber of each panel with 10 – 12 pounds of clean particle sand (medium sand blasting sand). Coverage depth should be approximately 1 inch thick. *Please note that this sand is not the same material specified for backfill.*
10. Tar seal rope, or approved foam, should be placed in the "U" outs of each end of the panel to form seals. Once the tar rope is in place, the 1¼ inch Schedule 40 PVC laterals can be added and the seal completed by the addition of more tar rope on the top and sides of the pipe. Now that the connection and seals are complete, a block cap is placed on each end of the panel so that all openings are covered.
11. The end of each lateral should be fitted with a short turn up topped by a threaded female coupling with cap. Each turn up must be fitted with a turf/gate valve box with lid fitted flush to finished grade.
12. Once the lateral has been installed and the panels closed, the trench is ready to be backfilled to the top with the sand used in the trench bottom. At this point, the trenches should be left open for the final inspection by the MCGWS.

G. Proper Operation Check

1. After all components of the waste water disposal system have been installed and connected, the system shall be checked for proper operation.
2. With the electrical power turned off, fill the pump tank with water until the liquid rises to a level high enough to activate the high water alarm float. Turn on the electrical power. The alarm, alarm light and pump should activate at this time. Turn off the electrical power once these checks have been performed and prepare to set the head pressure at the valve box.

H. Pressure Head Adjustment

1. The pressure head must be adjusted to match the design specifications. The pressure head is measured by the height of the liquid coming from the turn ups at the end of each lateral when the pump is running (utilizing stand pipes).
2. Prepare a length of pipe (stand pipe), cut to the desired head pressure height and fitted with a threaded adapter that will screw into the turn up couplings at the end of each lateral. Thread the stand pipes into each lateral and then turn the power on to the pump, allowing the water to rise within the stand pipes. Adjust the gate valves within the supply manifold box to achieve the specified head pressure (liquid height in the stand pipes should equal the design head pressure).
3. Once the pressure head has been adjusted, allow the pump to run through the remainder of the cycle. The pump float switch will automatically turn the pump off if it is operating properly. Make sure that the effluent pump is completely submerged in the remaining water, making adjustments to the float switch(es) as needed. This completes the checks for proper operation of the pump, alarm and float switches.
4. At this point, the standpipes may be removed and replaced with the threaded turn up caps.

I. Final Landscaping

1. The drainfield shall be shaped to shed rainwater and be free from low spots.
2. 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.

J. Utility Conflicts

1. The builder and property owner must take special care in planning for utilities (water, power, gas, telephone, cable lines, etc.). All utilities shall be kept clear 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 and permit revocation.
2. Water lines must be kept at least ten (10) feet from any portion of the septic system.
3. Irrigation systems should not be placed in the drain field area.

Maintenance

K. Operation and Maintenance

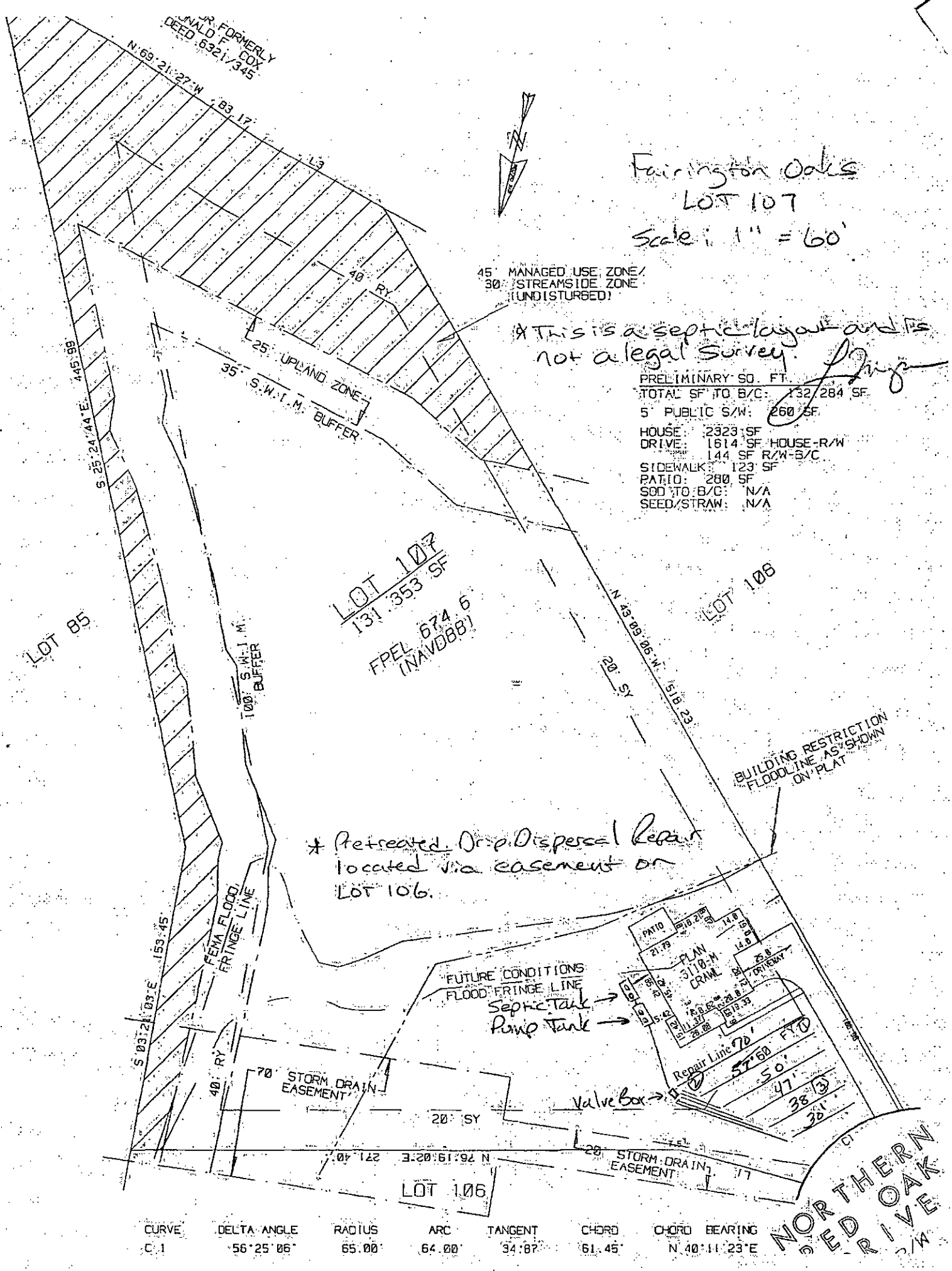
The designed system is classified as a Type IVa wastewater treatment and disposal system and will require ongoing maintenance. State regulations require that a system of this type be managed by a person certified (Certified Subsurface System Operator) by the North Carolina Department of Environment and Natural Resources to operate subsurface

wastewater systems (Section .1961 Maintenance of Sewage Systems). A "Maintenance Contract" between the system owner and a Certified Operator will be required by MCGWS prior to the issuance of a final system approval or Operation Permit.

1. The minimum inspection/maintenance and reporting frequency for a Type IVa system is twice a year by the Certified Operator. The local health department is required to inspect the system once every three years.
2. The septic and pump tanks shall be pumped out when the solids within the septic tank reach an elevation that is equivalent to 25% of the volume of the tank. In some situations, the tanks may need to be pumped more frequently; for example, if you are using a garbage disposal, it is recommended that the septic and pump tanks be cleaned out annually. Regardless, the Certified Operator will be able to advise when it is necessary to pump out tank solids.
3. Pressure head for laterals should be checked and adjusted semi-annually, flushing with clean water as necessary to remove any accumulated solids.
4. The effluent filters should be inspected semi-annually. When it becomes necessary to clean the effluent filters, the filters should be removed and the accumulated debris washed back into the septic or pump tank – not onto the lawn.
5. All piping and valves should be inspected semi-annually for damage and corrections/repairs made immediately.
6. The pump and float controls/switches should be inspected semi-annually to assure proper operation.
7. The drain field area should be maintained to prevent over growth of vegetation. Any damp areas, leakages or malfunctions should be addressed immediately.
8. Divert gutter downspouts and surface water runoff away from the septic and pump tanks.

L. Suggestions to the Homeowner

1. As previously mentioned, a garbage disposal is not recommended. The ground up garbage adds large amounts of solids into a septic tank that tend to degrade at a very slow rate.
2. Grease, cooking oils, coffee grounds and non-degradable solids (disposable diapers, cigarettes and solid paper wastes) should never be put into a septic tank.
3. Used motor oil or any oily liquids should not be disposed of in a septic tank.
4. 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.
5. Run dishwashers and washing machines only when you have a full load.
6. Use liquid detergents. Powdered detergents have binding agents in them that tend to solidify in the wastewater disposal system.
7. Repair leaky faucets and toilets. Small drips equal large volumes of water over time and can over burden your drain field.
8. 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


Fairington Oaks
LOT 107
Scale: 1" = 60'
* This is a septic layout and is not a legal survey.
PRELIMINARY SQ. FT.
TOTAL SF TO B/C: 132,284 SF
5' PUBLIC S/W: 260 SF
HOUSE: 2323 SF
DRIVE: 1614 SF HOUSE-R/W
144 SF R/W-B/C
SIDEWALK: 123 SF
PATIO: 280 SF
SOD TO B/C: N/A
SEED/STRAW: N/A
N 69°21'27" W 83.17'
L3
40' RY
45' MANAGED USE ZONE/
30' STREAMSIDE ZONE
(UNDISTURBED)
25' UPLAND ZONE
35' S.W.I.M. BUFFER
S 25°24'44" E 445.99'
LOT 107
131,353 SF
FPEL 674.6
(NAVD88)
LOT 85
LOT 106
100' S.W.I.M. BUFFER
20' SY
N 43°09'06" W 516.23'
BUILDING RESTRICTION
FLOODLINE AS SHOWN
ON PLAT
* Pretreated Drip Dispersal Repair
located via easement on
LOT 106.
FEMA FLOOD
FRINGE LINE
S 03°21'03" E 153.45'
FUTURE CONDITIONS
FLOOD FRINGE LINE
Septic Tank
Pump Tank
PATIO
PLAN
3110-M
CRAWL
DRIVEWAY
Repair Line
70' FTO
57.60'
50'
47'
38'
30'
Valve Box
40' RY
70' STORM DRAIN
EASEMENT
20' SY
N 76°19'02" E 221.40'
20' STORM DRAIN
EASEMENT
NORTHERN OAK DRIVE
CURVE DELTA ANGLE RADIUS ARC TANGENT CHORD CHORD BEARING
C1 56°25'06" 65.00' 64.00' 34.87' 61.45' N 40°11'23" E

in some cases certain additives have been found to be detrimental to the life of a system.

Design Specifics – Don Barrier, PE

Daily Design Flow:	360 GPD – 3 bedroom house
Septic Tank Size:	1500 Gallons
Pump Tank Size:	1000 gallons
Effluent Loading Rate:	Design = 0.275 GPD sq. ft. (50 % reduction - PPBPS)
Supply Line Length:	Approximately 40 Feet
Number and Size of Drainlines:	(5) 3' Wide by Varying Lengths - 1 at 30 linear feet - 1 at 38 linear feet - 1 at 47 linear feet - 1 at 50 linear feet - 1 at 57 linear feet
Maximum Trench Depth:	30 Inches Deep
Drainline Spacing:	9 Foot on Centers
Total Length of Drainline:	222 Feet
Total Number of Panels:	48
Lateral Hole Size:	5/32 inch
Hole Spacing:	1 per panel = 48 total
Dosing Volume:	172.80 gallons per dose
Flow Rate Through System:	19.68 gallons per minute
Elevation Head:	7 feet
Pressure Head:	2 feet
Pump Requirements:	19.68 GPM at 15 Feet TDH
Recommended Pump:	Goulds WEO3L or equivalent
Depth of Water Pumped:	8.68" check with individual tank manufacturer (1 cu. Ft. of water equals 7.5 gal.)

Repair Specifics – Easement Area Located on Lot 106

Effluent Loading Rate for Repair System:	0.15 GPD per sq. ft.
Repair Drainfield Type:	Pretreated Drip Dispersal
Recommended Pretreatment Unit:	Septi-Tech
Required Square Footage:	2400 Square Feet
Total Drip Line Required:	1200 Linear Feet
Maximum Trench Depth:	6 inches
Final Cover Requirement:	6 inches (minimum)

*See septic layouts for site locations and additional details. Soil work and septic layout for Lot 106 is attached to this proposal as a reference for the proposed repair area. The repair area will be accessed via a legal easement to be recorded by True Homes.

BARRIER FOUNDATION ENGINEERING SERVICES, PC
PO Box 26072
Charlotte, North Carolina 28269
(704) 817-4090

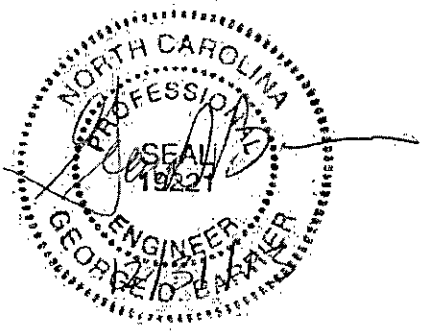
Project: Fairington Oaks - Lot 107
Charlotte, NC
Client: Larry Thompson
Prepared By: George D. Barrier, PE
Date: 1/31/2013

PPBPS Design Calculations

System Requirements			
Design Flow	360	gpd	
LTAR	0.275	gpd/ft.^2	per Thompson Environmental dated 12/12/13
Linear footage	436	ft. (conventional)	
Linear footage	218	ft. (50% Reduction)	
Design Layout			
Laterals	Length (ft)	# Panels	
Line # 1	30	6	
Line # 2	38	8	
Line # 3	47	10	
Line # 4	50	11	
Line # 5	57	13	
Totals	222	48	
Absorption Area			
Length (ft)	Width (ft)	Area (ft^2)	
222	3	666	
System Pressure Head	2	ft.	Value selected by system designer (must be between 2-5 ft.)
Orifice Diameter	5/32	in.	Size selected by system designer (1/8 in. minimum)
Flow Rate per Orifice	0.41	gpm	Determined from orifice flow design table (value dependent on pressure head & orifice diameter)
Total System Flow Rate	19.68	gpm	Total number of panels required multiplied by the orifice flow rate
System Dose Volume	172.80	gal.	Total number of panels required multiplied by 3.6 gal./panel
Pump Run Time	8.78	min.	System dose volume divided by the total system flow rate
Pump Tank Drawdown	8.64	in.	

Comments:

1. Install system using 3 ft. wide trenches.
2. Install drainlines on 9 ft. centers, level, and on contour.
3. System design requires effluent pump for distribution.
4. Repair will be drip system on Lot 106



Thompson Environmental Consulting, Inc.
PO Box 541
Midland, NC 28107-0541
704-301-4881

SHEET 1 OF 1

COUNTY: Mecklenburg
TAX ID: 195-213-38

OWNER: True Homes
LOCATION: Fairington Oaks - Lot 107

DATE: April 6, 2013

PROFILES		SB-1	SB-2	SB-3							
LANDSCAPE POSITION	.1940	ls	ls	ls							
SLOPE (%)	.1940	7%	7%	7%							
HORIZON 1 DEPTH	.1943	0-6	0-7	0-4							
TEXTURE	.1941 (a)(1)	scl	scl	scl							
CONSISTENCE	.1941	fr	fr	fr							
STRUCTURE	.1941 (a)(2)	sbk	sbk	sbk							
CLAY MINERALOGY	.1941 (a)(3)	se	se	se							
HORIZON 2 DEPTH	.1943	6-51	7-48	4-48							
TEXTURE	.1941 (a)(1)	c	c	c							
CONSISTENCE	.1941	fi	fi	fi							
STRUCTURE	.1941 (a)(2)	sbk	sbk	sbk							
CLAY MINERALOGY	.1941 (a)(3)	se	se	se							
HORIZON 3 DEPTH	.1943										
TEXTURE	.1941 (a)(1)										
CONSISTENCE	.1941										
STRUCTURE	.1941 (a)(2)										
CLAY MINERALOGY	.1941 (a)(3)										
HORIZON 4 DEPTH	.1943										
TEXTURE	.1941 (a)(1)										
CONSISTENCE	.1941										
STRUCTURE	.1941 (a)(2)										
CLAY MINERALOGY	.1941 (a)(3)										
SOIL WETNESS	.1942		47								
RESTRICTIVE HORIZON	.1944										
SAPROLITE	.1943/.1956										
CLASSIFICATION	.1948	s	ps	s							
L.T.A.R. (gpd/ft^2)	.1955	0.275	0.3	0.3							

OTHER FACTORS (.1946):

SITE LTAR (gpd/ft^2): 0.275

AVAILABLE SPACE (.1945): provisionally suitable

SITE CLASSIFICATION (.1948): provisionally suitable

SYSTEM TYPE: PPBPS

EVALUATED BY: Larry Thompson

OTHERS PRESENT:

COMMENTS:

Soil/Site Evaluation and Hydraulic Assessment

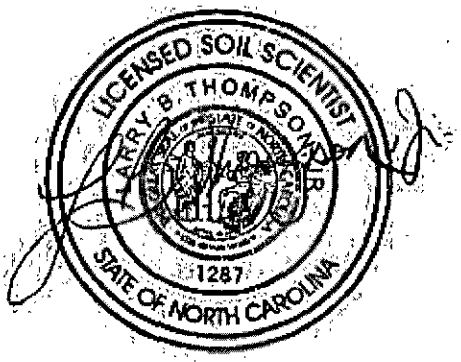
for

6304 Northern Red Oak Drive
Lot 106 – Fairington Oaks
Mint Hill, North Carolina

Tax Parcel # 195-213-37
MCGWS File # 8679B
April 8, 2013

Prepared for:

True Homes
2649 Brekonridge Centre Drive
Monroe, NC 28110



Prepared by:

Larry Thompson, RS, PWS, LSS
Thompson Environmental Consulting, Inc.
114 Orchard Ridge Road
Locust, NC 28097
Phone: 704-301-4881
Fax: 704-888-1496
larry@thompsonenv.com



cc: Lash Engineering, Inc.

INTRODUCTION AND SITE DESCRIPTION

Thompson Environmental Consulting, Inc. (TEC) has performed a Soil and Site Evaluation and a subsequent Hydraulic Analysis in order to determine septic tank suitability on a 1.19 acre lot located at 6304 Northern Red Oak Drive, Mint Hill, North Carolina (Mecklenburg County Tax Parcel ID: 195-213-37). The property was evaluated in accordance with North Carolina statutes for waste disposal ("Laws and Rules for Sewage Treatment and Disposal Systems", Sections .1940 through .1944 (amended August 2007).

The site is currently undeveloped and is vegetated by a mixed deciduous forest.

INVESTIGATION METHODOLOGY

A site evaluation was conducted on April 5 and 6, 2013. Soil borings were made with a hand-turned auger throughout the study area. Observations of landscape (slope, drainage patterns, past use, etc.) as well as soil properties (depth, texture, structure, seasonal wetness, restrictive horizons, etc.) to unsuitable features were recorded. Soil color was determined with a Munsell Soil Color Chart. From these observations, potentially suitable areas for wastewater disposal were identified.

A Trimble Geo XT hand held global positioning system (GPS) with sub-meter accuracy was used to locate each soil boring as well as other pertinent site features.

FINDINGS

The most limiting soil property with respect to on-site septic system suitability was depth to soil wetness indicators and expansive clay. The surface textures are predominantly sandy clay loam and exhibit sub-angular blocky structure. Subsoil texture is predominately clay with sub-angular blocky structure. The soils found in the area that was evaluated were consistent and can be considered to be one unit.

The soils comprising this unit meet the requirements set forth in several subsurface wastewater drip dispersal system approvals issued by the North Carolina Department of Natural Resources Division of Environmental Health (On-site Water Protection Section).

HYDRAULIC ASSESSMENT

A series of four in-situ saturated hydraulic conductivity tests (K_{sat}) were conducted on April 6, 2013 in order to quantify the assimilative capacity of the most limiting horizon within the zone of study and assign an appropriate long-term acceptance rate (LTAR) for the soils that were evaluated.

The Ksats were ran in the A and C horizon as well as the lower Bt1/upper Bt2 horizon of soils. The lower Bt1/upper Bt2 horizons were the most hydraulically limited zone for this site due to the expansive clay of the Bt2 horizon.

RESULTS

The result of the geometric mean of the combined saturated hydraulic conductivity tests of the two most limiting runs in the Bt1/Bt2 zone (Ksat's 3 and 4) is 1.336 gpd/ft^2. Typically, a reading from 4 to 10% of the measured Ksat is taken for a final loading rate or long-term acceptance rate (LTAR) which, in this case, ranges from 0.05 gpd/ft^2 to 0.13 gpd/ft^2 respectively.

Given the site layout and available space, an LTAR of 0.1 gpd/ft^2, which is approximately 8% of the measured Ksat, is recommended for this project and is expected to be within the assimilative capacity of the soils.

CONCLUSIONS

Based upon the soil/site evaluation and hydraulic assessment that has been performed for this project, it appears that the area that has been evaluated would be suitable for subsurface drip dispersal system with a LTAR of 0.1 gpd/ft^2.

The findings presented herein represent TEC's professional opinion based upon our soil and site evaluation and knowledge of the current laws and regulations governing on-site wastewater systems in North Carolina (Section .1900 of the North Carolina Administrative Code - NCAC).

This report is provided for planning purposes and to assist in development of the tract. Any Improvement Permits for subsurface septic systems would be issued by the Mecklenburg County Groundwater and Wastewater Services section. Any concurrence with the findings of this report would be made by the local health department at the time an Improvement Permit is issued.

HYDRAULIC CONDUCTIVITY STUDY
Fairington Oaks - Lot 106

Date: 4/5/2013
Location: Ksat 1

SET UP

	cm	inches
Hole Depth (cm):	22.9	9.0
Reference (cm):	+ 10.2	4.0
Head (cm):	- 15.2	6.0
CHT Tube(s) setting:	= 17.8	

Valve Setting: x
1-ON 2-ON

	cm	inches
Target Water Level:	7.6	3.0
Beginning Water Level:	7.0	2.8
Ending Water Level:	5.1	2.0

Hole diameter (cm): 5.0
Hole radius (r): 2.5
coefficient A: 0.00090148

NOTE: Readings based on Ending Water Level

Coversion Factor (C.F.): 20.0

Water Reading	change in water level	Chamber C.F.	clock time (min)	Elapsed Time (min)	Elapsed Time (hr)	Q (cm3/hr)	K (cm/hr)	K (in/hr)	K (gpd/sq foot)
43.7	0.0	20.0	125.0						
40.5	3.2	20.0	135.0	10.00	0.167	384.0	0.3462	0.1363	2.039
37.5	3.0	20.0	140.0	5.00	0.083	720.0	0.6491	0.2555	3.823
34.7	2.8	20.0	145.0	5.00	0.083	672.0	0.6058	0.2385	3.568
31.9	2.8	20.0	150.0	5.00	0.083	672.0	0.6058	0.2385	3.568
28.8	3.1	20.0	155.0	5.00	0.083	744.0	0.6707	0.2641	3.951
25.7	3.1	20.0	160.0	5.00	0.083	744.0	0.6707	0.2641	3.951
22.6	3.1	20.0	165.0	5.00	0.083	744.0	0.6707	0.2641	3.951
						Final Ksat	**0.671**	**0.264**	**3.951**

HYDRAULIC CONDUCTIVITY STUDY
Fairington Oaks - Lot 106

Date: 4/5/2013
Location: Ksat 2

SET UP

	cm	inches
Hole Depth (cm):	91.4	36.0
Reference (cm):	+ 10.2	4.0
Head (cm):	- 17.8	7.0
CHT Tube(s) setting:	= 83.8	

Valve Setting: x
1-ON 2-ON

	cm	inches
Target Water Level:	73.7	29.0
Beginning Water Level:	73.7	29.0
Ending Water Level:	74.4	29.3

Hole diameter (cm): 5.0
Hole radius (r): 2.5
coefficient A: 0.00096316

NOTE: Readings based on Ending Water Level

Coversion Factor (C.F.): 20.0

Water Reading	change in water level	Chamber C.F.	clock time (min)	Elapsed Time (min)	Elapsed Time (hr)	Q (cm3/hr)	K (cm/hr)	K (in/hr)	K (gpd/sq foot)
11.3	0.0	20.0	115.0						
10	1.3	20.0	120.0	5.00	0.083	312.0	0.3005	0.1183	1.770
8.8	1.2	20.0	125.0	5.00	0.083	288.0	0.2774	0.1092	1.634
7.6	1.2	20.0	130.0	5.00	0.083	288.0	0.2774	0.1092	1.634
6.4	1.2	20.0	135.0	5.00	0.083	288.0	0.2774	0.1092	1.634
5.2	1.2	20.0	140.0	5.00	0.083	288.0	0.2774	0.1092	1.634
4	1.2	20.0	145.0	5.00	0.083	288.0	0.2774	0.1092	1.634
2.8	1.2	20.0	150.0	5.00	0.083	288.0	0.2774	0.1092	1.634
						Final Ksat	**0.277**	**0.109**	**1.634**

HYDRAULIC CONDUCTIVITY STUDY
Fairington Oaks - Lot 106

Date: 4/6/2013
Location: Ksat 3

SET UP

	cm	inches
Hole Depth (cm):	91.4	36.0
Reference (cm):	+ 10.2	4.0
Head (cm):	- 17.8	7.0
CHT Tube(s) setting:	= 83.8	

Valve Setting: x

1-ON 2-ON

	cm	inches
Target Water Level:	73.7	29.0
Beginning Water Level:	73.7	29.0
Ending Water Level:	73.7	29.0

Hole diameter (cm): 5.0
Hole radius (r): 2.5
coefficient A: 0.00090148

NOTE: Readings based on Ending Water Level

Coversion Factor (C.F.): 20.0

Water Reading	change in water level	Chamber C.F.	clock time (min)	Elapsed Time (min)	Elapsed Time (hr)	Q (cm3/hr)	K (cm/hr)	K (in/hr)	K (gpd/sq foot)
35.4	0.0	20.0	90.0						
34.4	1.0	20.0	95.0	5.00	0.083	240.0	0.2164	0.0852	1.274
33.2	1.2	20.0	100.0	5.00	0.083	288.0	0.2596	0.1022	1.529
32.1	1.1	20.0	105.0	5.00	0.083	264.0	0.2380	0.0937	1.402
31.1	1.0	20.0	110.0	5.00	0.083	240.0	0.2164	0.0852	1.274
30.1	1.0	20.0	115.0	5.00	0.083	240.0	0.2164	0.0852	1.274
29.1	1.0	20.0	120.0	5.00	0.083	240.0	0.2164	0.0852	1.274
28.1	1.0	20.0	125.0	5.00	0.083	240.0	0.2164	0.0852	1.274
						Final Ksat	**0.216**	**0.085**	**1.274**

HYDRAULIC CONDUCTIVITY STUDY
Fairington Oaks - Lot 106

Date: 4/6/2013
Location: Ksat 4

SET UP

	cm	inches
Hole Depth (cm):	66.0	26.0
Reference (cm):	+ 10.2	4.0
Head (cm):	- 17.8	7.0
CHT Tube(s) setting:	= 58.4	

Valve Setting: x

1-ON 2-ON

	cm	inches
Target Water Level:	48.3	19.0
Beginning Water Level:	48.3	19.0
Ending Water Level:	48.3	19.0

Hole diameter (cm): 5.0
Hole radius (r): 2.5
coefficient A: 0.00090148

NOTE: Readings based on Ending Water Level

Coversion Factor (C.F.): 20.0

Water Reading	change in water level	Chamber C.F.	clock time (min)	Elapsed Time (min)	Elapsed Time (hr)	Q (cm3/hr)	K (cm/hr)	K (in/hr)	K (gpd/sq foot)
35.1	0.0	20.0	220.0						
34	1.1	20.0	225.0	5.00	0.083	264.0	0.2380	0.0937	1.402
32.9	1.1	20.0	230.0	5.00	0.083	264.0	0.2380	0.0937	1.402
31.8	1.1	20.0	235.0	5.00	0.083	264.0	0.2380	0.0937	1.402
30.8	1.0	20.0	240.0	5.00	0.083	240.0	0.2164	0.0852	1.274
29.7	1.1	20.0	245.0	5.00	0.083	264.0	0.2380	0.0937	1.402
28.6	1.1	20.0	250.0	5.00	0.083	264.0	0.2380	0.0937	1.402
27.5	1.1	20.0	255.0	5.00	0.083	264.0	0.2380	0.0937	1.402
						Final Ksat	**0.238**	**0.094**	**1.402**

		Average	GeoMean	Percent of Geometric Mean 4	10	25
Ksat 1	3.951	2.065	1.843	0.07	0.18	0.46
Ksat 2	1.634					
Ksat 3	1.274					
Ksat 4	1.402					

		Average	GeoMean	Percent of Geometric Mean 4	10	25
Ksat 3	1.274	1.338	1.336	0.05	0.13	0.33
Ksat 4	1.402					

Thompson Environmental Consulting, Inc.
PO Box 541
Midland, NC 28107-0541
704-301-4881

SHEET 1 OF 1

COUNTY: Mecklenburg
TAX ID: 195-213-37

OWNER: True Homes
LOCATION: Fairington Oaks - Lot 106

DATE: April 6, 2013

PROFILES		SB-1	SB-2	SB-3	SB-4	SB-5					
LANDSCAPE POSITION	.1940	ls	ls	ls	ls	ls					
SLOPE (%)	.1940	5%	5%	5%	5%	5%					
HORIZON 1 DEPTH	.1943	0-12	0-14	0-13	0-10	0-12					
TEXTURE	.1941 (a)(1)	scl	scl	scl	scl	scl					
CONSISTENCE	.1941	fr	fr	fr	fr	fr					
STRUCTURE	.1941 (a)(2)	sbk	sbk	sbk	sbk	sbk					
CLAY MINERALOGY	.1941 (a)(3)	-	-	-	-	-					
HORIZON 2 DEPTH	.1943	12-36	14-34	13-24	10-24	12-35					
TEXTURE	.1941 (a)(1)	c	c	c	c	c					
CONSISTENCE	.1941	fi	fi	fi	fi	fi					
STRUCTURE	.1941 (a)(2)	sbk	sbk	sbk	sbk	sbk					
CLAY MINERALOGY	.1941 (a)(3)	se	se	se	se	se					
HORIZON 3 DEPTH	.1943	36+	34+	24+	24+	35+					
TEXTURE	.1941 (a)(1)	c	c	c	c	c					
CONSISTENCE	.1941	vfi	vfi	vfi	vfi	vfi					
STRUCTURE	.1941 (a)(2)	sbk	sbk	sbk	sbk	sbk					
CLAY MINERALOGY	.1941 (a)(3)	e	e	e	e	e					
HORIZON 4 DEPTH	.1943										
TEXTURE	.1941 (a)(1)										
CONSISTENCE	.1941										
STRUCTURE	.1941 (a)(2)										
CLAY MINERALOGY	.1941 (a)(3)										
SOIL WETNESS	.1942	36	30	23	23	35					
RESTRICTIVE HORIZON	.1944										
SAPROLITE	.1943/.1956										
CLASSIFICATION	.1948	ps	u	u	u	u					
L.T.A.R. (gpd/ft^2)	.1955	0.1	0.1	0.1	0.1	0.1					

OTHER FACTORS (.1946):

SITE LTAR (gpd/ft^2): **0.1**

AVAILABLE SPACE (.1945): provisionally suitable

SITE CLASSIFICATION (.1948): provisionally suitable

SYSTEM TYPE: Drip Dispersal

EVALUATED BY: Larry Thompson

OTHERS PRESENT:

COMMENTS:

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

Sheet: 1 of 2
Property ID: 195-213-37
Lot #: 106
File #: 8679B
AppID: 6057

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

Owner: True Homes
Address: 2649 Brekonridge Centre Dr, Monroe, NC 28110
Proposed Facility: 4BR Home
Design Flow (.1949): 480 GPD
Location of Site: 6304 Northern Red Oak Dr, Mint Hill, NC 28227
Water Supply: [X] Public [ ] Individual [ ] Well [ ] Spring [ ] Other
Evaluation Method: [ ] Auger Boring [X] Pit [ ] Cut
Type of Wastewater: [X] Sewage [ ] Industrial Process [ ] Mixed

Applicant: True Homes
Date Evaluated: 4/1/2013
Property Size: 51,763 SQ FT
Property Recorded: Unknown

PROFILE #	1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY 1941 1941 Structure/ Texture	1941 Consistence Mineralogy	b PROFILE FACTORS 1942 Soil Wetness/ Color	1943 Soil Depth (IN.)	1956 Sapro Class	1944 Restr Horiz	General Comments	Profile Class & LTAR	Maximum Trench Bottom Depth for 3' Wide Conventional Trench
Pit #1	LS 5%	0 - 2	wfsbk CL	S SP FR SEXP	10YR 7/1 @ 22"	48	NA	PS		US (0.1 drip)	NA
		2 - 24	mmsbk CL	S P FR SEXP							
		24 - 48	wfsbk C	S VP VFI EXP							
Pit #2	LS 7%	0 - 13	wfsbk SCL	SS SP FR SEXP	10 YR 7/1 @ 35"	54	NA	S		PS IV 0.25	20"
		13 - 46	wmsbk C	S P FR SEXP							
		46 - 54	wfsbk CL	SS SP FR SEXP							
Pit #3	FS 3%	0 - 22	wfsbk SCL	S SP FR SEXP	2.5 Y 7/2 @ 22"	48	NA	PS		US (0.1 drip)	NA
		22 - 36	wmsbk C	S P FR SEXP							
		36 - 48	wfsbk C	S VP VFI EXP							
Pit #4	LS 6%	0 - 14	wfsbk SCL	S SP FR SEXP	10 YR 7/1 @ 23"	48	NA	PS		US (0.1 drip)	NA
		14 - 35	wfsbk/abk C	S P FR SEXP							
		35 - 48	wfsbk C	S VP VFI EXP							
Pit #5	LS 7%	0 - 15	wfsbk SCL	S SP FR SEXP	10YR 7/1 @ 28"	50	NA	S		PS IV 0.225	13" (Need Cover)
		15 - 38	wfsbk/abk C	S P FR SEXP							
		38 - 50	wfsbk C	S VP VFI EXP							
Pit #6	LS 5%	0 - 9	wfsbk SCL	S SP FR SEXP	10 YR 7/1 @ 22"	50	NA	S		US (0.1 drip)	NA
		9 - 30	wmsbk C	S P FR SEXP							
		30 - 50	wmsbk C	S VP VFI EXP							

Description	Initial System	Repair System
Available Space (.1945)		
System Type(s)		
Site LTAR (gpd/sq ft)	0.1 (Drip)	0.1 (Drip)

Other Factors (.1946):
Soil Evaluation By: Jacob Presley, LSS
Others Present:
Site Classification (.1948):
Site Evaluation By:
Others Present:

COMMENTS:

Landscape Position
R-Ridge
SS-Shoulder Slope
LS-Linear Slope
FS-Foot Slope
NS-Nose Slope
HS-Head Slope
CC-Concave Slope
CV-Convex Slope
T-Terrace
FP-Flood Plain
D-Drainage Way

Group	Texture	.1955 LTAR
I	S-Sand	1.2 - 0.8
	LS-Loamy Sand	
II	SL-Sandy Loam	0.8 - 0.6
	L-Loam	
III	Si-Silt	0.6 - 0.3
	SiCL-Silty Clay Loam	
	CL-Clay Loam	
	SCL-Sandy Clay Loam	
	SiL-Silt Loam	
IV	SC-Sandy Clay	0.4 - 0.1
	SiC-Silty Clay	
	C-Clay	

Structure
sg-Single Grain
mass-Massive
cr-Crumb
gr-Granular
sbk-Subangular Blocky
abk-Angular Blocky
pl-Platy
pr-Prismatic

Structure Prefixes
w-weak
m-moderate
s-strong
f-fine
m-medium
c-coarse

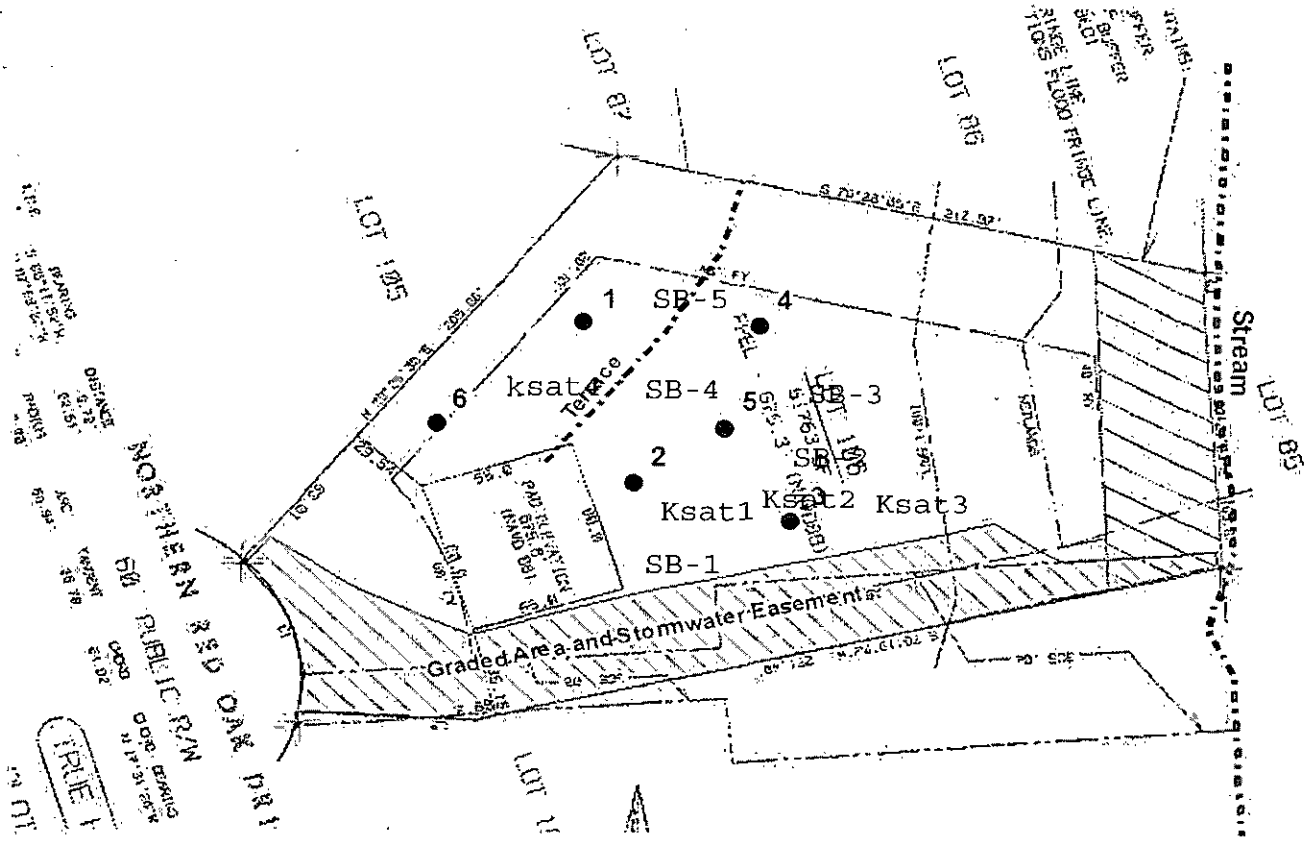
Consistence
Moist
VFR-Very Friable
FR-Friable
FI-Firm
VFI-Very Firm
EFI-Extremely Firm

Consistence
Wet
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

Classification
US-Unsuitable
PS-Provisionally Suitable
S-Suitable
NA-Not Applicable

Sketch of Soil Evaluation Locations

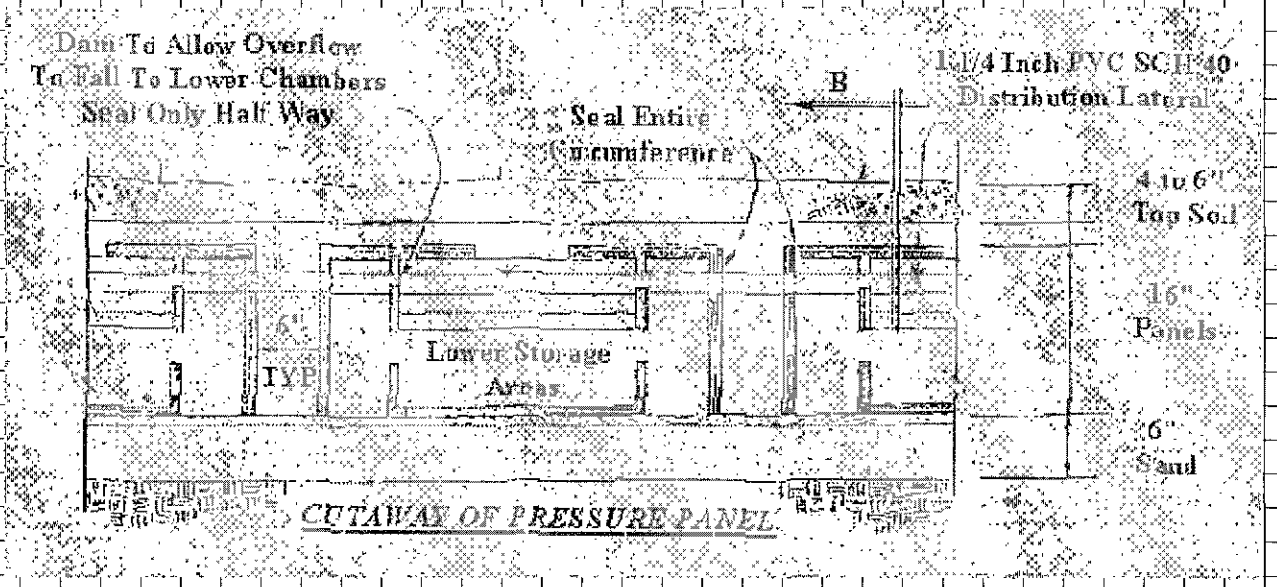


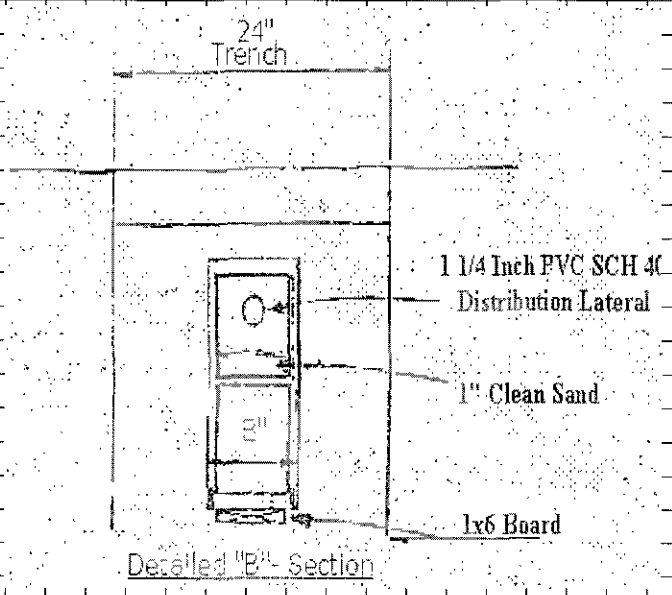
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Tax ID Number: 195-213-38

Location: Lot 107 – Fairington Oaks

Date: November 21, 2013





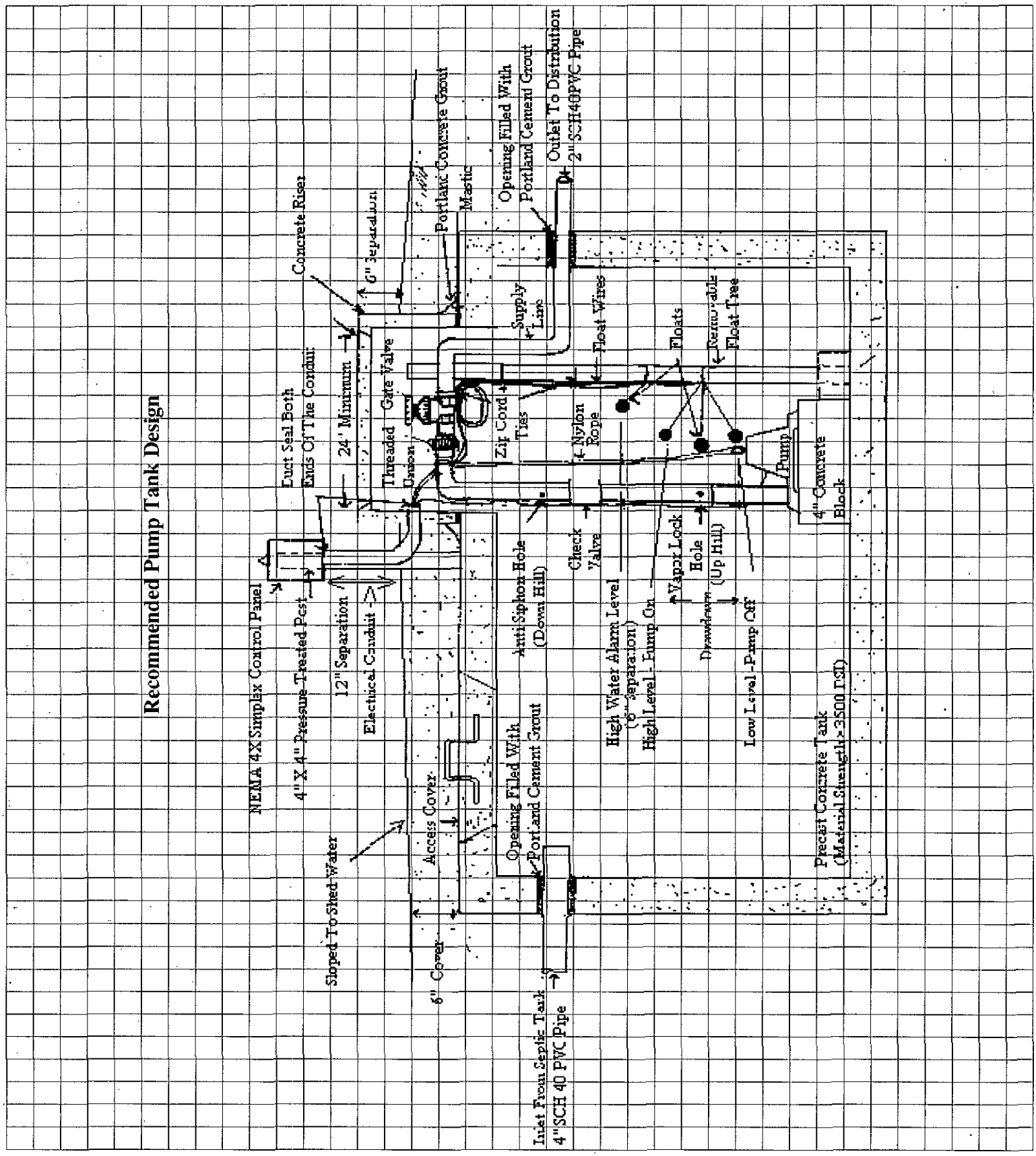
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Tax ID Number: 195-213-38

Location: Lot 107 – Fairington Oaks

Date: November 21, 2013

Recommended Pump Tank Design



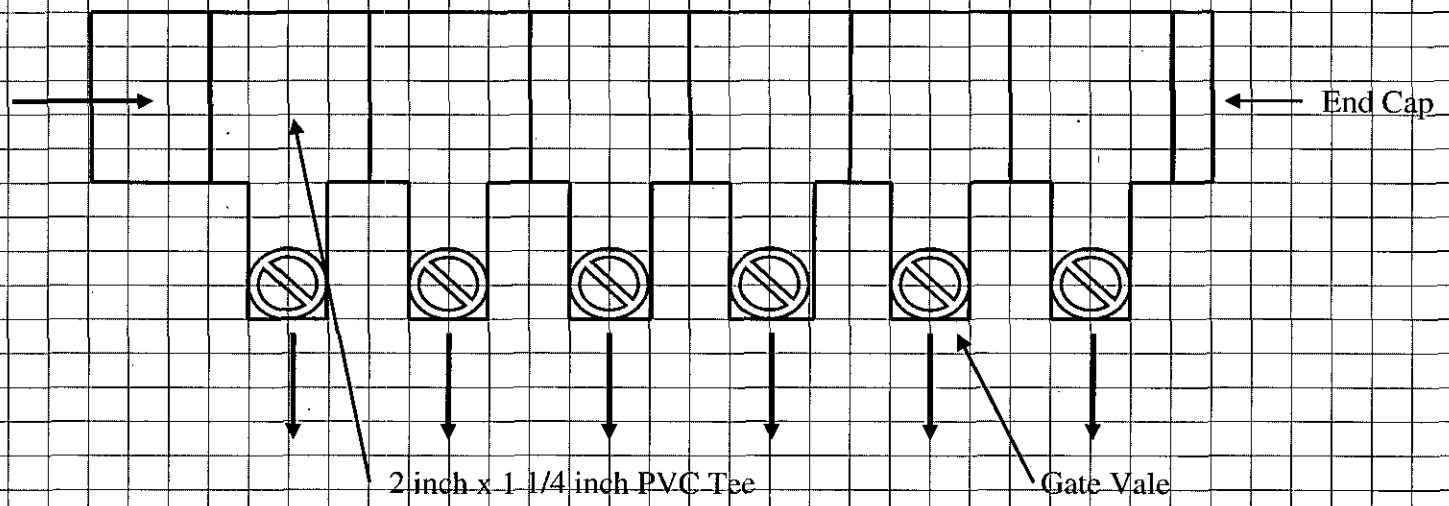
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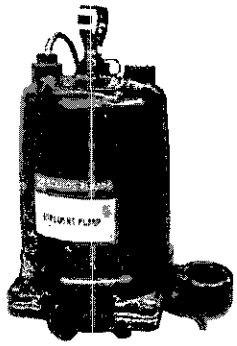
Location: Lot 107 – Fairington Oaks

Date: November 21, 2013

Recommended PPBPS Manifold Setup



GOULDS PUMPS



Submersible Effluent Pump

MODEL 3885

WE Series

PROSURANCE AVAILABLE FOR RESIDENTIAL APPLICATIONS.

APPLICATIONS

Specifically designed for the following uses:

- Homes
- Farms
- Trailer courts
- Motels
- Schools
- Hospitals
- Industry
- Effluent systems

SPECIFICATIONS

Pump

- Solids handling capabilities: ¾" maximum.
- Discharge size: 2" NPT.
- Capacities: up to 140 GPM.
- Total heads: up to 128 feet TDH.
- Temperature: 104°F (40°C) continuous 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

FEATURES

■ **Impeller:** Cast iron, semi-open, non-clog with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.

■ **Casing:** Cast iron volute type for maximum efficiency. 2" NPT discharge.

■ **Mechanical Seal: SILICON CARBIDE VS. SILICON CARBIDE** sealing faces. Stainless steel metal parts, BUNA-N elastomers.

■ **Shaft:** Corrosion-resistant, stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.

■ **Fasteners:** 300 series stainless steel.

■ Capable of running dry without damage to components.

■ Designed for continuous operation when fully submerged.

MOTORS

■ Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.

■ Class B insulation on ⅓-1½ HP models.

■ Class F insulation on 2 HP models.

Single phase (60 Hz):

- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.
- SJTOW or STOW severe duty oil and water resistant power cords.
- ⅓ and ½ HP models have NEMA three prong grounding plugs.
- ¾ HP and larger units have bare lead cord ends.

Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.

■ **Designed for Continuous Operation:** Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.

■ **Bearings:** Upper and lower heavy duty ball bearing construction.

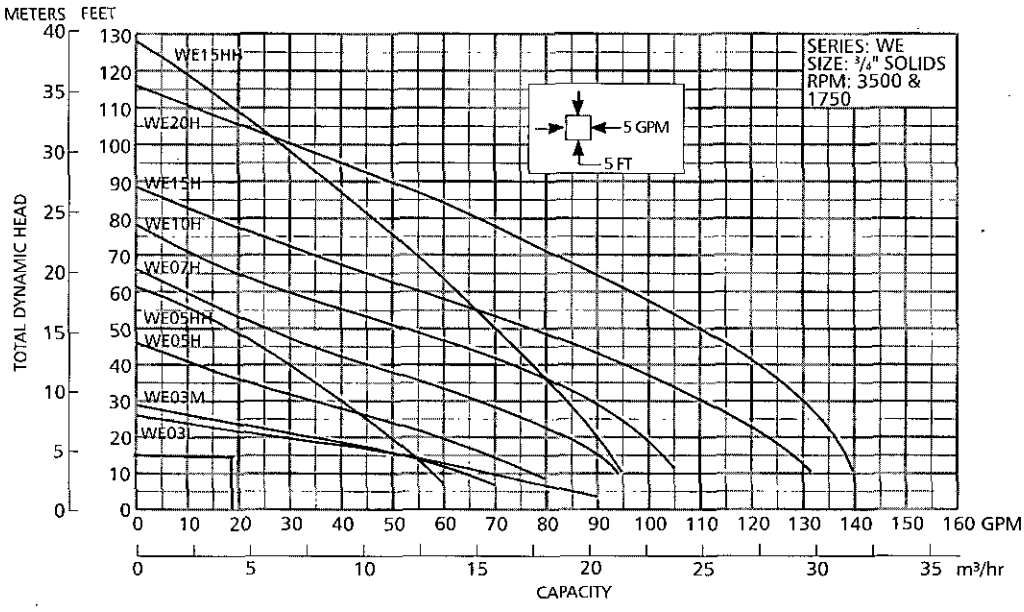
■ **Power Cable:** Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.

■ **O-ring:** Assures positive sealing against contaminants and oil leakage.

AGENCY LISTINGS

C SP US — Tested to UL 778 and CSA 22.2 108 Standards By Canadian Standards Association File #LR38549

Goulds Pumps is ISO 9001 Registered.



Goulds Pumps

ITT Industries

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GOULDS PUMPS

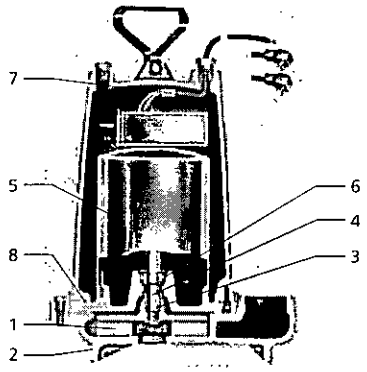
Submersible Effluent Pump

MODEL 3885

WE Series

COMPONENTS

Item No.	Description
1	Impeller
2	Casing
3	Mechanical Seal
4	Motor Shaft
5	Motor
6	Ball Bearings
7	Power Cable
8	Casing O-Ring



MODELS

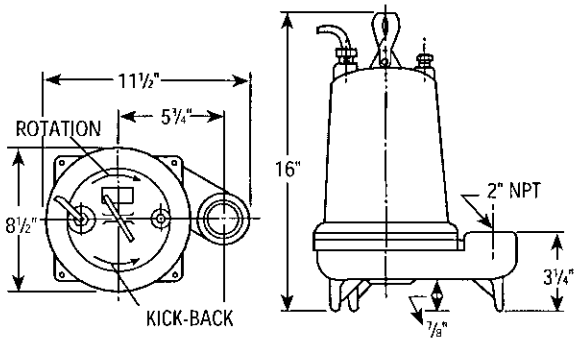
Order No.	HP	Volts	Phase	Max. Amp.	RPM	Solids	Wt. (lbs.)
WE0311L	1/3	115	1	10.7	1750	¾"	56
WE0318L		208		6.8			
WE0312L		230		4.9			
WE0311M		115		10.7			
WE0318M		208		6.8			
WE0312M		230		4.9			
WE0511H	½	115	1	14.5	3500		60
WE0518H		208		8.1			
WE0512H		230		7.3			
WE0538H		200	3	4.9			
WE0532H		230		3.3			
WE0534H		460		1.7			
WE0537H		575		1.4			
WE0511HH		115	1	14.5			
WE0518HH		208		8.1			
WE0512HH		230		7.3			
WE0538HH		200	3	4.9			
WE0532HH		230		3.6			
WE0534HH		460		1.8			
WE0537HH		575		1.5			
WE0718H	¾	208	1	11.0			70
WE0712H		230		10.0			
WE0738H		200	3	6.2			
WE0732H		230		5.4			
WE0734H		460		2.7			
WE0737H		575		2.2			
WE1018H	1	208	1	14.0			
WE1012H		230		12.5			
WE1038H		200	3	8.1			
WE1032H		230		7.0			
WE1034H		460		3.5			
WE1037H		575		2.8			
WE1518H	1½	208	1	17.5			80
WE1512H		230		15.7			
WE1538H		200	3	10.6			
WE1532H		230		9.2			
WE1534H		460		4.6			
WE1537H		575		3.7			
WE1518HH		208	1	17.5			
WE1512HH		230		15.7			
WE1538HH		200	3	10.6			
WE1532HH		230		9.2			
WE1534HH		460		4.6			
WE1537HH		575		3.7			
WE2012H	2	230	1	18.0			83
WE2038H		200	3	12.0			
WE2032H		230		11.6			
WE2034H		460		5.8			
WE2037H		575		4.7			

PERFORMANCE RATINGS (gallons per minute)

Order No.		WE03L	WE03M	WE05H	WE07H	WE10H	WE15H	WE05HH	WE15HH	WE20H
Total Head Feet of Water	HP	1/3	1/3	½	¾	1	1½	½	1½	2
	RPM	1750	1750	3500	3500	3500	3500	3500	3500	3500
	5	86	–	–	–	–	–	–	–	–
	10	70	63	78	–	–	–	58	–	–
	15	52	50	70	90	–	–	53	–	–
	20	27	35	60	83	98	123	49	90	136
	25	–	–	48	76	94	117	45	87	133
	30	–	–	35	67	88	110	40	83	130
	35	–	–	20	57	82	103	35	80	126
	40	–	–	–	45	74	95	30	77	121
	45	–	–	–	35	64	86	25	74	116
	50	–	–	–	25	53	77	–	70	110
	55	–	–	–	–	40	67	–	66	103
	60	–	–	–	–	30	56	–	63	96
	65	–	–	–	–	20	45	–	58	89
	70	–	–	–	–	–	35	–	55	81
	75	–	–	–	–	–	25	–	51	74
	80	–	–	–	–	–	–	–	47	66
	90	–	–	–	–	–	–	–	37	49
	100	–	–	–	–	–	–	–	28	30

DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)



Goulds Pumps and the ITT Engineered Blocks Symbol are registered trademarks and tradenames of ITT Industries.

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SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Goulds Pumps

ITT Industries

For Registration J. David Granberry
Register of Deeds
Mecklenburg County, NC
Electronically Recorded
2014 Jan 23 08:35 AM RE Excise Tax: $ 0.00
Book: 28961 Page: 480 Fee: $ 26.00
Instrument Number: 2014007718

J David Granberry

Prepared by & Mail to: Hinson Faulk, P.A., 309 Post Office Drive, Indian Trail, NC 28079

NO TITLE SEARCH REQUESTED OR PERFORMED

SEPTIC REPAIR AREA AND ACCESS EASEMENT

STATE OF NORTH CAROLINA
COUNTY OF MECKLENBURG

This Septic Repair Area and Access Easement, made this the 22nd day of January, 2014, by and between **True Homes, LLC**, a Delaware limited liability company, referred to in this instrument as "Grantor", whose mailing address is 2649 Brekonridge Centre Dr., Monroe, North Carolina 28110; and **Fairington Oaks, LLC**, a North Carolina limited liability company, referred to in this instrument as "Grantee", whose mailing address is 228 East Blvd. Ste. 200, Charlotte, NC 28203.

WITNESSETH:

WHEREAS, Grantor is the owner of that certain parcel of property known as Lot 106 of Fairington Oaks subdivision, also identified as Mecklenburg County Tax Parcel Number 19521337 (the "Servient Estate Tract"), and Grantee is the owner of the adjacent property known as Lot 107 of Fairington Oaks subdivision, also identified as Mecklenburg County Tax Parcel Number 19521338 (the "Dominant Estate Tract"), both tracts located in the Town of Mint Hill, Mecklenburg County, North Carolina, and both of said parcels being as shown and more fully described on plat of Fairington Oaks, Phase 3, Map 4, recorded in Map Book 54, Page 284, Mecklenburg County Registry;

AND WHEREAS, to facilitate residential development of the Dominant Estate Tract, it is necessary for Grantor to establish for Grantee, its successors and assigns, a septic repair area and access easement thereto upon the Servient Estate Tract in accordance with applicable Health Department regulations;

Submitted electronically by "Hinson Faulk, P.A."
in compliance with North Carolina statutes governing recordable documents
and the terms of the submitter agreement with the Mecklenburg County Register of Deeds.

NOW, THEREFORE, to facilitate septic service to a residence under construction on the Dominant Estate Tract and for other good, valuable and sufficient consideration, Grantor does hereby dedicate, declare and establish an easement (the "Easement") appurtenant to the Dominant Estate Tract as defined above for the establishment, installation, operation, maintenance, monitoring and repairs of a septic repair area and for ingress and egress to said septic repair area upon the Servient Estate Tract, to serve the Dominant Estate Tract, on the area shown as "Repair Area Easement" (the "Septic Easement Area" or the "Area") and "15' Access Easement" on the survey attached hereto as Exhibit A entitled "Septic Easement Survey" ; and more particularly described on Exhibit B attached hereto and incorporated herein by reference. The Easement shall be appurtenant to the described property, shall run with the land and shall not be affected by change in ownership. *This Easement may not be altered, amended or cancelled without the express written permission of the Mecklenburg County Health Department, which written permission must be part of any document recorded to alter, amend or cancel this Easement.* This Easement shall automatically expire, however, should Grantee ever hook up the structure located or to be located on the Dominant Parcel to a public or community sanitary sewage system, but shall otherwise this Easement be perpetual.

To conform to applicable Health Department guidelines, said Easement is established subject to the following express conditions.

1. That said septic repair field and all equipment related thereto shall be installed at the sole expense of the owners of the Dominant Estate Tract, their heirs, successors and assigns, and shall be placed in accordance with the applicable North Carolina Health Department specifications.

2. That the occupants of the Dominant Estate Tract, their heirs, successors and assigns, shall keep and maintain as their own expense, the septic repair field and drain lines in a good condition at all times in accordance with the laws of the State of North Carolina.

3. That the owners of the Servient Estate, their heirs, successors and assigns, in the event said septic field or system should create a health hazard or fail to comply with the State Laws, shall have the right to repair said septic drain area at the expense of the said owners of the Dominant Estate Tract, their heirs, successors and assigns.

4. That, if any repairs are necessary, then three (3) days after notification to the then-present owners of the Dominant Estate Tract, the Servient Estate Tract owners shall have the right to have the repairs done, at the expense of the owners of the Dominant Estate Tract, their heirs, successors and assigns.

5. In the event that payment is not received by the party of the first part, after repairs are done by said party of the first part, within ten (10) days after bill is presented, the party of the first part, their heirs and assigns shall have the right to bring suit for collection of said sum and the said owners of the Dominant Estate Tract, their heirs, successors and assigns, their heirs and assigns, shall be liable for all service costs, court costs, attorney fees, and any other expenses made in connection with the enforcing of this Agreement.

Grantor covenants that it is the owner of the property that the septic repair area created and dedicated herein is to encompass and has the right to encumber same with this septic repair area easement as set forth herein.

Grantor acknowledges that the Septic Easement Area cannot be used and will not be used for any of the following activities or in any of the following ways:

- Grading or filling
- Parking or driving heavy equipment in the area or in any other way compacting the soil in the Area
- Excavating soil from the Area
- Placing footings or foundations or engaging in any other construction activity in the Area
- Placing in-ground or above-ground swimming pools in the Area
- Placing irrigation systems in the Area
- Placing underground utility lines or cables in the Area
- Planting trees or gardens in the Area
- Removing any large trees in the Area unless dead or diseased
- Using the Area for the burial of stumps, trash, or any other type of construction material
- Using the Area for gravesites
- Diverting the natural flow of water onto the Area by way of drainage ditches or diversion ditches or using the Area to receive water from any gutter or downspout discharges

[Signature Appears on a Subsequent Page]

IN WITNESS WHEREOF, Grantor has placed his hand and seal below, the day and year first above written.

TRUE HOMES, LLC
A Delaware Limited Liability Company

By: _____
D. Hope Bergamini, Land Development Coordinator

STATE OF NORTH CAROLINA
COUNTY OF UNION

I certify that the following person(s) personally appeared before me this day, each acknowledging to me that he or she voluntarily signed the foregoing document for the purpose stated therein and in the capacity indicated: D. Hope Bergamini, Land Development Coordinator of True Homes, LLC, a Delaware limited liability company.

Date: 1/22/2014

SHELLEY K. LEVINE
NOTARY PUBLIC
MECKLENBURG COUNTY, NC

Notary Public: Shelley K. Levine

My Commission Expires: 07/29/2018

EXHBIIT A

Survey Entitled "Septic Easement Survey" of 6304 Northern Red Oak Lane

Prepared by Jenkins & Lowery PLS PA

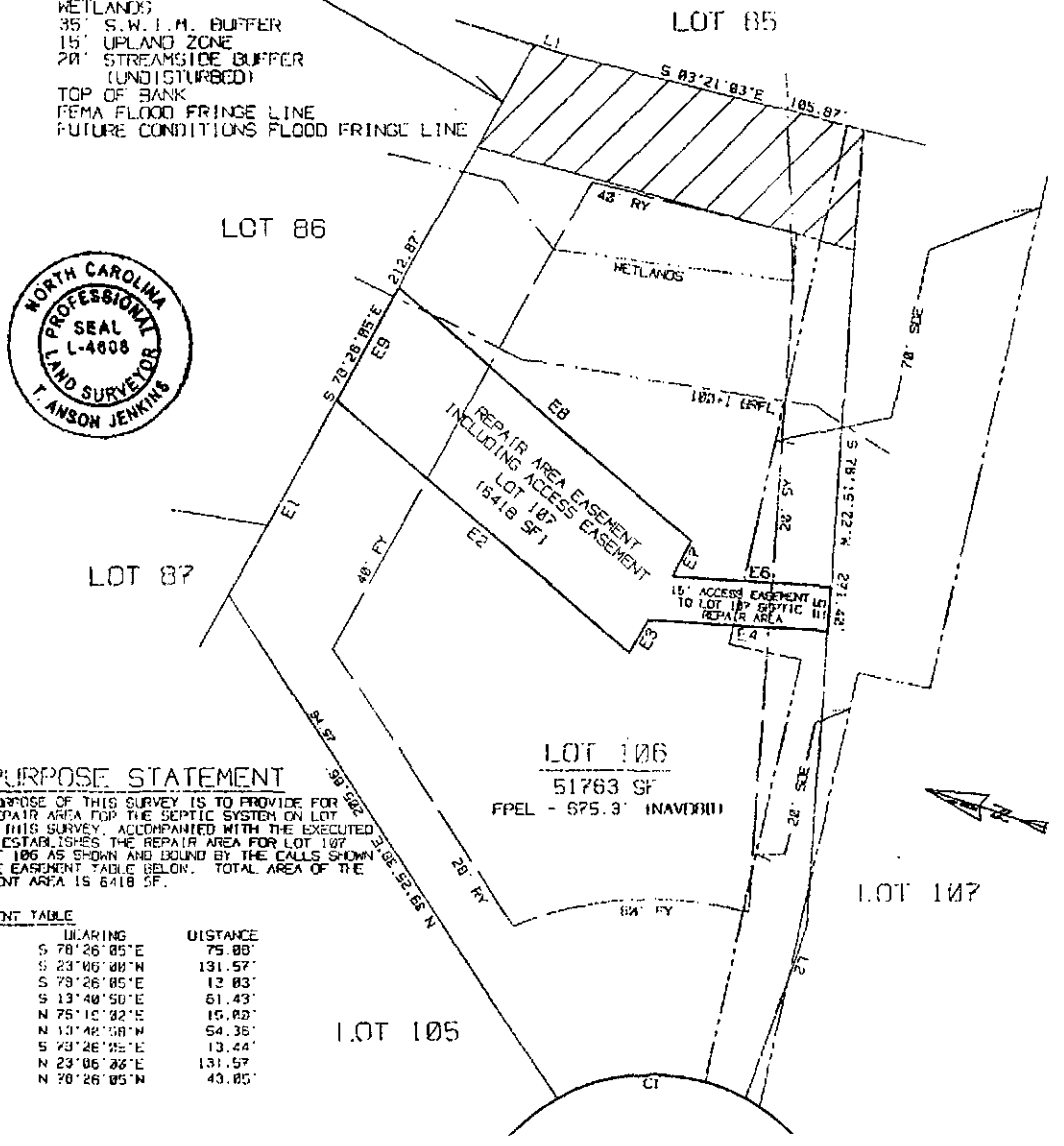
(to be attached)

"I CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT THE BOUNDARIES NOT SURVEYED ARE INDICATED AS DRAWN FROM REFERENCED MAP; THAT THE RATIO OF PRECISION OR POSITIONAL ACCURACY EXCEEDS 1:10000; AND THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56.1600)."

DSK JL556
FTD106ES

SIGNED .....
T. ANSON JENKINS, NCPLS L-4608
DATE: DECEMBER 18, 2013

HATCHED AREA CONTAINS:
WETLANDS
35' S.W.I.M. BUFFER
15' UPLAND ZONE
20' STREAMSIDE BUFFER (UNDISTURBED)
TOP OF BANK
FEMA FLOOD FRINGE LINE
FUTURE CONDITIONS FLOOD FRINGE LINE



PURPOSE STATEMENT

THE PURPOSE OF THIS SURVEY IS TO PROVIDE FOR THE REPAIR AREA FOR THE SEPTIC SYSTEM ON LOT 107. THIS SURVEY, ACCOMPANIED WITH THE EXECUTED DEED, ESTABLISHES THE REPAIR AREA FOR LOT 107 ON LOT 106 AS SHOWN AND BOUND BY THE CALLS SHOWN ON THE EASEMENT TABLE BELOW. TOTAL AREA OF THE EASEMENT AREA IS 6418 SF.

EASEMENT TABLE

LINE	BEARING	DISTANCE
E1	S 78°26'05"E	75.00'
E2	S 23°06'00"W	131.57'
E3	S 78°26'05"E	13.03'
E4	S 13°40'50"E	61.43'
E5	N 75°15'02"E	15.00'
E6	N 13°40'58"W	54.36'
E7	S 78°26'05"E	13.44'
E8	N 23°06'00"E	131.57'
E9	N 78°26'05"W	43.85'

NORTHERN RED OAK DRIVE

60' PUBLIC R/W

LINE	BEARING	DISTANCE
L 1	S 00°11'52"W	9.92'
L 2	N 87°58'02"W	62.51'

CURVE	DELTA ANGLE	RADIUS	ARC	TANGENT	CHORD	CHORD BEARING
C 1	59°00'16"	65.00'	66.94'	36.78'	64.02'	N 17°31'26"W

NOTE: U.G. UTILITIES IN AREA SERVING OTHER PROPERTIES
THIS PROPERTY SUBJECT TO EASEMENTS AND OR RIGHT-OF-WAYS OF RECORD. SEE RECORD PLAT FOR FURTHER NOTES.

FY - FRONT YARD SETBACK
RY - REAR YARD SETBACK
SY - SIDE YARD SETBACK
IPF - IRON PIN FOUND
IPS - IRON PIN SET
BC - BACK OF CURB
CM - CONCRETE MONUMENT
PSDE - PUBLIC STORM DRAIN EASEMENT
S.T. - SIGHT TRIANGLE

SCALE - 1" = 50'

0 25 50 75 100

SEPTIC EASEMENT SURVEY

OF

6304 NORTHERN RED OAK LANE
LOT 106 OF FAIRINGTON OAKS PHASE 3 MAP 4
TOWN OF MINT HILL, MECKLENBURG COUNTY, N.C.
PROPERTY OF TRUE HOMES

MAP REFERENCED RECORDED IN BOOK 54 AT PAGE 284

JENKINS & LOWERY PLS PA
P.O. BOX 1169
WAXHAW, NC 28173
PHONE: (704) 821-3356
NC FIRM # C-3167

EXHIBIT B

Description of Septic Repair Area and Access Easement
Located on Lot 106 to Serve Lot 107, Fairington Oaks, Phase 3, Map 4

Beginning at the Northernmost common corner of Lot 105 and Lot 106 of Fairington Oaks, Phase 3, Map 4, as shown on plat recorded in Map Book 54, Page 284, Mecklenburg County Public Registry (the "Registry"); and from said point, proceeding along a tie line, South 78-26-05 East 75.08 feet to the POINT AND PLACE OF BEGINNING; thence South 23-06-00 West 131.57 feet to a point; thence South 78-26-05 East 13.03 feet to a point; thence South 13-40-58 East 61.43 feet to a point on the common boundary line of Lot 106 and Lot 107 of Fairington Oaks, Phase 3, Map 4, as shown on plat recorded in Map Book 54, Page 284 in the Registry; thence along the common boundary line of Lot 106 and Lot 107, North 76-19-02 East 15.00 feet to a point; thence North 13-40-58 West 54.36 feet to a point; thence South 78-26-05 East 13.44 feet to point; thence North 23-06-00 East 131.57 feet to a point in the Northern boundary line of Lot 106; thence along the boundary line of Lot 106, North 78-26-05 West 43.05 feet to the POINT AND PLACE OF BEGINNING, containing 6,418 square feet, more or less, as shown on a survey entitled "Septic Easement Survey of 6304 Northern Red Oak Lane" prepared by Jenkins & Lowery PLS PA, certified by T. Anson Jenkins, NCPLS (L-4608) dated December 18, 2013 and attached hereto for illustrative purposes as Exhibit A.

County

STEVENS

SEPTIC SERVICE

CONTRACT

3317 New Salem Rd.
Monroe N.C. 28110

Work # (704) 289-7637

Cell#(704) 201- 9849

E-mail Address
Stevenstruckin@aol.com

Terry Stevens

Chris Stevens

STEVENS TRUCKING
& SEPTIC TANK SERVICE

MONITORING & INSPECTION PLAN

1. COSTS: INITIAL CONTRACT YEAR: $ 300 (*_____ required inspections)
   $_____ (required labs)
   $ 300 Total Initial Year

   RENEWAL YEARS: $_____ (*one required inspections)
   $_____ (required labs)
   $ 300 Total Renewal Year

A. The above cost will be paid at the time the sum of the first year. Contract is entered for the whole. The Owner shall pay to the ORC the aforementioned sums for each parcel listed above. Annual billings will be made thereafter and payable within 30 days of billing. The annual billings will be made on the anniversary dates. The annual renewal fees may increase no more than 10% per year. The Owner shall pay to the ORC his normal and customary fees for any authorized work performed on the System as a result of nonscheduled service or maintenance calls. These fees are due and payable within 30 days if billing. Payments due to the ORC and unpaid by the Owner after 30 days shall be assesses be late payment fee of $25.00 per month for every month thereafter.

2. PERFORMANCE DUTIES:

- Inspections and services that meet state requirements, i.e.. inspections of System using an itemized check list, monitoring "septic tanks" to insure proper operation, and make adjustments of imbalances to systems through the distribution devices.
- Inspections and required lab work performed as per Attachment
- Inspection report copies are sent to the environmental regulatory agency (if applicable) and homeowner
- New Homeowner Package (educational material about their septic system) is provided
- The Owner will be advised of any repairs needed and estimated cost or repairs. Repairs will not be made without Owner authorization.
- The Owner will be advised when pumping is recommended
- To inspect system twice a year
- Inspection of the septic tank for influent and effluent line blockage, tank leakage, and level of solids accumulation on the discharge side.
- Inspection of the pump tank, including visual inspection of the unit and testing of the units pump, float switches, and control panel operations.
- The system shall be manually operated for a complete cycle to verify operation.
- Visual inspection of the area while under a normal dosing cycle, to check for seepage, unusual ground saturation, broken or damaged lines, and pipes. The field shall also be checked for any areas of erosion, proper vegetation cover, protection from traffic, and diversion of surface water.
- Check and set head pressures and flush lines if needed.

STATE OF NORTH CAROLINA
COUNTY OF Mecklenburg

STEVENS TRUCKING
& SEPTIC TANK SERVICE CONTRACT

This Contract is entered into this 28th day of April, 2015 by and between Stevens Septic Service, a North Carolina Corporation/Company of Union County, North Carolina (hereinafter the "ORC" or Operator in Responsible Charge) and True Homes (hereinafter "The Owner").

Property Address 6306 Northern Red Oak Dr. Mint Hill, NC 28227

Preamble

The ORC is contracting with The Owner to provide inspection services as described on Page 1 for the fees or charges also shown in Page 1.

The Owner owns or controls the property upon which a ground absorption sewage treatment system ("System") is installed, such System being designated as a type II. III. IV or V system under the Rules for Sanitary Sewage Collection. Treatment and Disposal found at 15A N.C. Admin. Code 18A. 1900 et seq.; and 15A N.C. Admin. Code 18A. 1961 requires that a condition of the Operation Permit for Type IV & V systems be that a properly executed inspection contract between the System Owner and a management entity shall be in effect for as long as the System is in use. The ORC is a management entity which employs certified operators of a type authorized by 15A N.C. Admin. Code 18a. 1961 to manage and inspect type II. III. IV. and V systems.

In consideration of the premises and of the mutual covenants and promises contained in this Agreement. it is hereby agreed by and between the Owner and the ORC as stipulated below.

Conditions of the Contract

A. The ORC. in consideration of the payment by the Owner as set out in the schedule of services and charges in Attachment A. incorporated herein. agrees:

1) To provide the services set out in Page 1 according to the minimum schedule of inspections/services required by regulations for the lots or parcels set above.

2) To report results of the inspections to the local environmental regulatory agency having jurisdiction as required by applicable laws or regulations.

3) If inspections indicated the need for System repairs:

a) To notify the local environmental regulatory agency within 48 hours.
b) To give notice to the "Owner" of needed repairs, and if the necessary repairs are outside the scope of the routine maintenance described in Page 1 then The Owner may request the ORC to provide an estimate. At the authorization of The Owner the ORC will perform the necessary repairs at the ORC's then-prevailing charges for services and materials.

4) If the ORC's services are terminated, the ORC will notify the local environmental regulatory agency within 48 hours.

B. The Owner, in consideration of the services performed, agrees:

1) To pay the ORC for its services according to the schedule of charges as set out in Page 1.

2) Within 30 days of receipt of notice of repairs under A (3) above, the Owner(s) must provide proof that repairs have been performed by a licensed or qualified entity and the System is functioning properly or request and authorize the ORC to complete the needed repairs.

3) To notify the ORC promptly of any emergency or malfunction known to it which may violate environmental, health, or other laws and regulations, and to authorize immediate repair as necessary to restore the System to proper function and operation.

4) To use reasonable efforts to provide and to maintain at all times, such access to the System as is reasonably necessary for the ORC to comply with its obligations under this Agreement.

C. **Terms of the Agreement**

1) This Agreement shall be effective for one year from the date of this contract, and will be automatically renewed from year-to-year thereafter, unless written notice of termination and non-renewal is given to the party not less than 60 days prior to the end of the then current annual contract year.

2) The real property to be serviced under this contract is listed on Page 2.

3) This Agreement automatically terminates if the Operation Permit for the system is revoked and all appeals of the revocation are exhausted or time for making an appeal has passed.

4) The parties may terminate at the end of the then current term by consent of each party or by not less than 60 days written notice to the party prior to the end of the then current contract year, and not less than 30 days written notice to the local environmental regulatory agency.

5) This Agreement may be terminated for cause for breach which remains unremedied after 15 days written notice to the defaulting party.

D. Limited Warranty

THE ORC'S SOLE DUTIES AND RESPONSIBILITIES UNDER THIS AGREEMENT IS TO PROVIDE INSPECTION AND ROUTINE MAINTENANCE ONLY AS SPECIFIED IN THIS AGREEMENT. INSPECTIONS WILL COMPLY WITH APPLICABLE CODES, LAWS, AND REGULATIONS IN FORCE AT THE TIME OF THE INSPECTION AND REPORT. WORK AND MATERIALS USED IN REPAIRS ARE WARRANTED ONLY TO BE OF GOOD WORKMANSHIP, FREE OF DEFECTS, AND CONFORM TO THE SYSTEMS SPECIFICATIONS AND EQUALS TO THE ORIGINAL PARTS AND EQUIPMENT. THE OWNER'S SOLE REMEDY UNDER THIS EXPRESS WARRANTY IS REPAIR OR REPLACEMENT AND CONSEQUENTIAL DAMAGE OR DAMAGES FOR DELAY ARE LIMITED TO TOTAL SUMS PAID THE ORC UNDER THIS AGREEMENT FOR THE PARTICULAR LOT OR PARCEL FOR THE THEN CURRENT YEAR. ALL OTHER WARRANTIES. EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE, ARE EXPRESLY AND SPECIFICALLY EXCLUDED. REPAIRS, REPLACEMENTS.ADDITIONS AND CHANGES BY OTHERS TO THE SYSTEMS COVERED BY THIS AGREEMENT WITHOUT PRIOR NOTICE TO THE ORC OR ACCEPTANCE OF THE WORK BY THE ORC DURING THE TERM OF THIS AGREEMENT VOIDS ANY WARRANTY GRANTED HEREIN AS TO THE ORC.

E. Miscellaneous

1) Transfer of rights, responsibilities, and duties under this Agreement by any party shall be valid only on written notice and consent signed by all parties, which consent shall not be unreasonably or arbitrarily withheld.

2) The ORC may perform its duties and responsibilities by subcontract but the ORC will remain directly liable and responsible to the Owner under the terms of this Agreement.

3) Waiver of default or a breach of the Agreement by any party shall not operate nor be construed as a waiver of further or subsequent defaults or breach of this Agreement. Failure to take action in any default or breach does not bear action on such default at any time subsequent to such breach or default.

4) This agreement constitutes the entire agreement of the parties, incorporating, and superseding all prior representations and negotiation and may not be changed or amended except in writing signed by the parties. The Agreement shall be interpreted under North Carolina law. Any part of the Agreement declared void, illegal, or unenforceable will not affect other provisions of the Agreement.

5) Disputes arising under this Agreement shall be determined by any method of Alternative Dispute Resolution the parties choose, including but not limited to, mediation or arbitration, under the Uniform Arbitration Act of North Carolina or its equivalent, or such means or methods as the parties agree to in writing.

Items not covered by this contract include the following:

A. The repair or replacement of any system component after expiration of the stated warranty.
B. Removal of obstructions in sewer pipes, supply , and LPP Laterals.
C. Repair or replacement of any system piping.
D. Repair of replacement of pumps, floats, and control panel components.
E. Laboratory Analysis of effluent samples as required by the State after the first year.
F. Other special requests by the homeowner.

Each party has executed this Agreement with full power, authority, and legal right to enter into; to bind itself to the rights, duties and responsibilities under this Agreement, which is binding on the parties, their successors and assigns, heirs and personal representatives, on the date first above written.

ATTEST:

_____

OWNER:

Tom Hamm S

Company Name

ATTEST:

_____

By: Stevens Septic Service

Title: Justin McDaniel

License numbers: 996735

THOMPSON ENVIRONMENTAL CONSULTING, INC.
WATER ♦ WASTEWATER ♦ WETLANDS

April 29, 2015

Bradley Hallman, REHS
Mecklenburg County Groundwater and Wastewater Services
700 N. Tryon Street, Suite 211
Charlotte, NC 28202

Dear Mr. Hallman,

The purpose of this letter is to inform you that I have performed an inspection of the wastewater treatment and disposal system installed for Lot 107 in the Fairington Oaks subdivision. I am satisfied that the installation meets the intent of the original proposal submitted to your office, however, the driveway as constructed has encroached upon the approved drainfield area forcing the system to be shifted further to the left property line.

In addition, the original proposal depicted a 70 foot repair line just in front of the house and sidewalk area. Due to the adjustments required in response to the driveway installation, that 70 foot repair drainline is no longer available for future use.

Please feel free to call on me if you have any further questions or concerns regarding this project.

Sincerely,

Larry B. Thompson, Jr.

PO BOX 541 • MIDLAND, NC • 28107-0541
PHONE: 704-301-4881 • FAX: 206-350-8895
E-MAIL: LARRY@THOMPSONENV.COM
WEB: WWW.THOMPSONENV.COM

FEE: 200.00
DATE:9/30/2014

MECKLENBURG COUNTY
GROUNDWATER & WASTEWATER SERVICES

FILE NUMBER: 8633B

PERMIT NUMBER: 30005930

PARCEL NUMBER: 19521338

JOB LOCATION INFORMATION

ADDRESS: 6306 NORTHERN RED OAK DR

CITY: CHARLOTTE **STATE: NC** **ZIP:** 28227

ISSUED TO: True Homes

CONSTRUCTION AUTHORIZATION ISSUANCE DATE: 1/24/2014

CONSTRUCTION AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NUMBER 30005930, 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 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.
   ***CONSTRUCTION AUTHORIZATION EXPIRATION DATE:** 1/24/2019

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St., Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

Septic System Pre-Construction Meeting Checklist

File # 863313 App # 5930 Tax Parcel # 195-213-38

Property Owner: True Homes

Job Location Address: 6306 Northern Red Oak

City: Mint Hill State: NC Zip Code: 28227

1. Does System design match facility, flow & wastewater characteristics?

   ☑ YES ☐ NO

   Comments: _____

2. Is there sufficient available space for the septic systems initial and repair areas?

   ☑ YES ☐ NO

   Comments: _____

3. Can the septic system be installed per the permit conditions and drawing on file?

   ☑ YES ☐ NO

   Comments: Note: Gas line had to be relocated. Hydraulic concrete barrier placed where gas line trench was located

   * If "NO" is checked for any of the above the existing permit may need to be revoked.

Permission is hereby given to ☑ install ☐ alter ☐ repair an on-site wastewater treatment & and disposal system, with subsurface soil absorption and effluent discharge meeting all of the construction requirements of 15A NCAC 18A .1900 which are in effect on the date of granting this approval. **System shall not be installed while soils are in wet condition.**

Bradley W. Hallman
Authorized Agent

4/28/15
Date

Stevens Septic Svc.
Others Present

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St., Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DHHS
Division of Environmental Health
On-Site Wastewater Section

OPERATION PERMIT for an ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 863313 Permit #: 5930 Tax Parcel #: 195-213-38

Property Owner: True Homes

Job Location Address: 6306 Northern Red Oak

City: Mint Hill State: NC Zip Code: 28227

Operation Permit Issuance Date: 4/29/15 Contractor Name: Chris Stevens

Permitted Design Flow: 360 GPD Liquid Capacity of Dosing Tank: 1000 gallons

Liquid Capacity of Septic Tank: 1500 gallons Manufacture Dellinger Effluent Pump Model: Liberty EL61 1/2hp

Drainfield Installation ☐ N/A

Trench Depth: 30" inches

Trench Width: 3 feet

Line Spacing: 9 feet (O.C.)

Total line length: 219' feet

# of Lines: 5 @ various feet lengths

Depth of Media: NA inches (Type) PPBPS IIa

Depth of Cover: 12"+ inches

Distribution Device: Press. Valve Box

Bed Installation *(For Repair Installations ONLY.)* ☒ N/A

Bed Depth: _____ inches

Bed Width: _____ feet

Total line length: _____ feet

# of Lines: _____ @ _____ feet

Depth of Media: _____ inches (Type) _____

Depth of Cover: _____ inches

Distribution Device: _____

Water Supply Source

☒ Municipal ☐ Private Well ☐ Community Well

☐ Other _____

System Installation Setbacks

Distance from Building Foundation: 6' feet

Distance from Property Line: _____ feet

Distance from Water Supply Source: 104 feet from water line

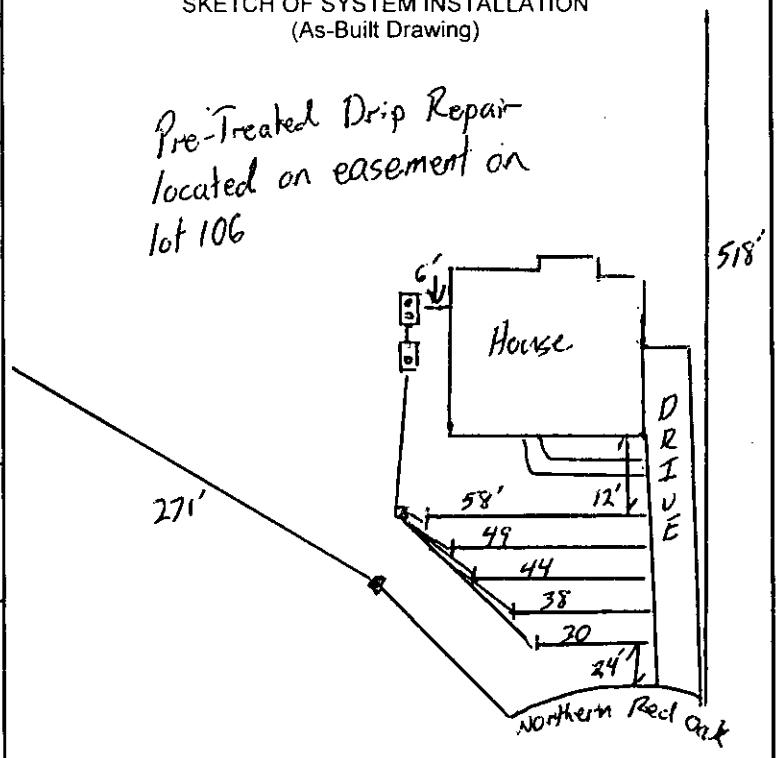
Inspection Dates STB 338 2/4/15 PT 27 1/23/15

Tank(s) Inspected: 3/19/15

Excavation Inspected: 4/28/15

Pump & Controls Inspected: 4/28/15

SKETCH OF SYSTEM INSTALLATION
(As-Built Drawing)



The undersigned has inspected the Septic Tank System described above, and certifies it has been ☒ installed ☐ altered ☐ repaired ☒ as detailed in the plot above ☐ in accordance with the permit issued 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. The issuance of this 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 or Revocation of this permit.

Comments: System Classification & Type: IIa PPBPS / P / NA / NA

Draw Down Run time, 3:00 min @ 3.25" = 21gal x 3.25 = 68.25gal

DENR Authorized Agent: Bradley W. Hallman Signature: _____

Mecklenburg County Groundwater & Wastewater Services
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

OPERATION PERMIT for an
ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 8633B Permit #: 5930 Tax Parcel #: 195-213-38

Property Owner: True Homes

Job Location Address: 6306 Northern Red Oak

City: Mint Hill State: NC Zip Code: 28227

OPERATION PERMIT CONDITIONS:

I. Performance: System shall perform in accordance with 15A NCAC 18A .1961.

II. Monitoring: System shall be monitored as required by 15A NCAC 18A .1961.

III. Maintenance: Ground absorption sewage treatment and disposal systems shall be checked, and the contents of the septic tank removed, periodically from all compartments, to ensure proper operation of the system. The contents shall be pumped whenever the solids level is found to be more than 1/3 of the liquid depth in any compartment.

IV. Operation: System shall be operated in accordance with 15A NCAC 18A .1961.

System Classification: IVa

*Operation Permits for Type V and VI systems expire five (5) years from the date of issuance (in accordance with Table V(a)). The system owner must contact GWS six (6) months prior to expiration for permit renewal.

Subsurface system operator required: Yes ☒ No ☐

☐ This type of system requires the system owner to maintain a contract with a certified operator to perform system inspection, maintenance, and reporting as required in 15A NCAC 18A .1961. and Table V(a). The system owner is responsible for all fees associated with these services.

☐ System does not require inspection by GWS on a routine frequency.

☐ System requires inspection by GWS once every five (5) years. The system owner is responsible for all fees associated with the inspection.

☒ System requires inspection by GWS once every three (3) years. The system owner is responsible for all fees associated with the inspection.

☐ System requires inspection by GWS once every twelve (12) months. The system owner is responsible for all fees associated with the inspection.

☐ System requires inspection by GWS once every six (6) months. The system owner is responsible for all fees associated with the inspection.

V. Other:

DENR Authorized Agent: Bradley W. Hallman Date: 4/29/15

Signature:

MECKLENBURG COUNTY

E. Winters Mabry, MD
Director

Health Department

(704) 432-3199

Febuary 11, 2013

Re: Application for improvement permit for:
Property Location: 6306 Northern Red Oak Drive Mint Hill, NC 28227
Health Department File Number: **8633B**
Fairington Oaks Lot 107

Dear Property Owner or Owner's Agent:

The Mecklenburg County Health Department, Environmental Health Division on January 18, 2013 evaluated the above-referenced property at the site designated on the site plan that accompanied your improvement permit application. According to your application the site is to serve a 4 bedroom residence, with a daily design flow of 480 gallons per day. The evaluation was done in accordance with the laws and rules governing wastewater systems in North Carolina General Statute 130A-333 and related statutes and Title 15A, Subchapter 18A, of the North Carolina Administrative Code, Rule .l900 and related rules.

Based on the criteria set out in Title 15A, Subchapter 18A, of the North Carolina Administrative Code, Rules .1940 through .1948, the evaluation indicated that the site is **UNSUITABLE** for a ground absorption sewage system. Therefore, your request for an improvement permit is **DENIED.** A copy of the site evaluation is enclosed. The site is unsuitable based on the following:

- ☐ Unsuitable soil topography and/or landscape position (Rule .1940)
- ☐ Unsuitable soil characteristics (structure or clay mineralogy) (Rule .1941)
- ☒ Unsuitable soil wetness condition (Rule .1942)
- ☐ Unsuitable soil depth (Rule .1943)
- ☐ Presence of restrictive horizon (Rule .1944)
- ☒ Insufficient space for septic system and repair area (Rule .1945)
- ☐ Unsuitable for meeting required setbacks (Rule .1950)
- ☐ Other (Rule .1946)

These severe soil or site limitations could cause premature system failure, leading to the discharge of untreated sewage on the ground surface, into surface waters, directly to ground water or inside your structure.

The site evaluation included consideration of possible site modifications, and modified, innovative or alternative systems. However, the Health Department has determined that none of the above options will overcome the severe conditions on this site. A possible option might be a system designed to dispose of sewage to another area of suitable soil or off-site to additional property.

For the reasons set out above, the property is currently classified **UNSUITABLE,** and an improvement

MECKLENBURG COUNTY
Health Department

E. Winters Mabry, MD
Director

(704) 432-3199

permit shall not be issued for this site in accordance with Rule .1948 (c).

However, the site classified as **UNSUITABLE** may be classified as **PROVISIONALLY SUITABLE** if written documentation is provided that meets the requirements of Rule .1948(d). A copy of this rule is enclosed. You may hire a consultant to assist you if you wish to try to develop a plan under which your site could be reclassified as **PROVISIONALLY SUITABLE.**

You have a right to an informal review of this decision. You may request an informal review by the soil scientist or environmental health supervisor at the local health department. You may also request an informal review by the N. C. Department of Environment and Natural Resources regional soil specialist. A request for informal review must be made in writing to the local health department.

You also have a right to a formal appeal of this decision. To pursue a formal appeal, you must file a petition for a contested case hearing with the Office of Administrative Hearings, 6714 Mail Center, Raleigh, NC 27699-6714. To get a copy of a petition form, you may write the Office of Administrative Hearings or call the office at (919) 733-0926 or from the OAH web site at www.oah.state.nc.us/form.htm. The petition for a contested case hearing must be filed in accordance with the provision of North Carolina General Statutes 130A-24 and 150B-23 and all other applicable provisions of Chapter 150B. N. C. General Statue 130A-335(g) provides that your hearing would be held in the county where your property is located.

Please note: If you wish to pursue a formal appeal, you must file the petition form with the Office of Administrative Hearings **WITHIN 30 DAYS OF THE DATE OF THIS LETTER.** The date of this letter is Febuary 11, 2013. Meeting the 30-day deadline is critical to your right to a formal appeal. Beginning a formal appeal within 30 days will not interfere with any informal review that you might request. Do not wait for the outcome of any informal review if you wish to file a formal appeal.

If you file a petition for a contested case hearing with the Office of Administrative Hearings, you are required by law (N.C. General Statute 150B-23) to send a copy of your petition to the North Carolina Department of Environment and Natural Resources. Send the copy to: Office of General Counsel, N. C. Department of Environment and Natural Resources, 1601 Mail Service Center, Raleigh, NC. 27699-1601. Do **NOT** send the copy of the petition to your local health department. Sending a copy of your petition to the local health department will **NOT** satisfy the legal requirement in N.C. General Statute 150B-23 that you send a copy to the Office of General Counsel, NCDENR.

You may call or write the local health department if you need any additional information or assistance.

Sincerely,

Eric Bailey

Eric Bailey, REHSI
Environmental Specialist

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

Sheet: 1 of 2
Property ID: 195-213-38
Lot #: 107
File #: 8633B
AppID: 5930

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

Owner: True Homes
Address: 2649 Brekonridge Centre Dr Monroe, NC 28110
Proposed Facility: Residence
Design Flow (.1949): 480
Location of Site: 6306 Northern Red Oak Dr. Mint Hill, NC 28227
Water Supply: [X] Public [ ] Individual [X] Well
Evaluation Method: [X] Auger Boring [ ] Pit
Type of Wastewater: [X] Sewage [ ] Industrial Process

Applicant: Ture Homes
Date Evaluated: 1/18/2013
Property Size: 131353
Property Recorded:
[ ] Spring [ ] Other
[ ] Cut
[ ] Mixed

PROFILE #	1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY 1941 .1941 Structure/ Texture	.1941 Consistence Mineralogy	b PROFILE FACTORS .1942 Soil Wetness/ Color	.1943 Soil Depth (IN.)	.1956 Sapro Class	.1944 Restr Horiz	General Comments	Profile Class & LTAR	Maximum Trench Bottom Depth for 3' Wide Conventional Trench
1	FP	0-2	wfg SL	ss sp fr sexp	10YR 7/1	46	NA	PS		PS IV	34"
	3%	2-29	mfsbk C	ss sp fi sexp	@ 42"					0.275	
		29-46	wfsbk CL	ss sp fr sexp							
2	FP	0-8	wfg SL	ss sp fr sexp	10YR 7/1	40	NA	PS		PS IV	20"
	4%	8-40	mfsbk C	s p fi sexp	@32"					0.25	
3	FP	0-3	wfg SL	ss sp fr sexp	10YR 7/1	25	NA	PS		US	NA
	4%	3-25	wfsbk SCL	ss sp fr sexp	@ 21"						
4	LS	0-2	wfg L	ss sp fr sexp	>48	48	NA	S		PS IV	34
	6%	2-38	mmsbk C	ss sp fi sexp						0.3	
		38-48	wfsbk CL	ss sp fr sexp							

Description	Initial System	Repair System
Available Space (.1945)	US	US
System Type(s)		
Site LTAR	0.25	0.25

Other Factors (.1946): PS
Soil Evaluation By: Eric Bailey LSS Eric Bailey
Others Present:
Site Classification (.1948): US
Site Evaluation By:
Others Present:

COMMENTS:

Landscape Position
R-Ridge
SS-Shoulder Slope
LS-Linear Slope
FS-Foot Slope
NS-Nose Slope
HS-Head Slope
CC-Concave Slope
CV-Convex Slope
T-Terrace
FP-Flood Plain
D-Drainage Way

Group	Texture	.1955 LTAR
I	S-Sand	1.2 - 0.8
	LS-Loamy Sand	
II	SL-Sandy Loam	0.8 - 0.6
	L-Loam	
III	Si-Silt	0.6 - 0.3
	SiCL-Silty Clay Loam	
	CL-Clay Loam	
	SCL-Sandy Clay Loam	
	SiL-Silt Loam	
IV	SC-Sandy Clay	0.4 - 0.1
	SiC-Silty Clay	
	C-Clay	

Structure
sg-Single Grain
mass-Massive
cr-Crumb
gr-Granular
sbk-Subangular Blocky
abk-Angular Blocky
pl-Platy
pr-Prismatic

Structure Prefixes

w-weak
m-moderate
s-strong
f-fine
m-medium
c-coarse

Consistence
Moist

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

Consistence
Wet

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

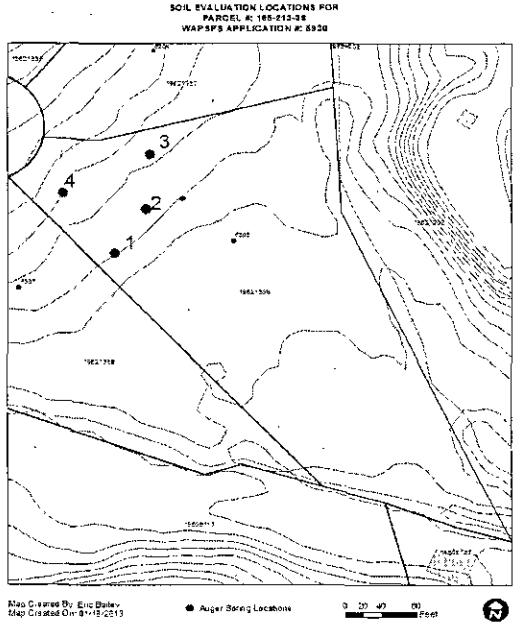
Mineralogy

SEXP-Slightly Expansive
EXP-Expansive

Classification

US-Unsuitable
PS-Provisionally Suitable
S-Suitable
NA-Not Applicable

Sketch of Soil Evaluation Locations



Bailey, Eric

From: Larry Thompson [larry@thompsonenv.com]
Sent: Friday, February 08, 2013 10:43 AM
To: Bailey, Eric
Subject: Re: Fairington Oaks

Eric,

There's not enough flexibility with the house site.

Larry

Sent from my Verizon Wireless 4G LTE DROID

"Bailey, Eric" <Eric.Bailey@mecklenburgcountync.gov> wrote:

Larry did you come up with anything on lot 107 of Fairington Oaks or do I need to deny the lot?

Eric Bailey, LSS

Mecklenburg County

Environmental Specialist

704-336-5575

eric.bailey@mecklenburgcountync.gov

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	12/04/12	**Amount:**	250.00
Receipt #:	80755	**Tendered:**	250.00
Check / Auth #:	CHECK 3120	**Returned:**	0.00
Received By:	SADERLW		

Account Information

Account #: 200000
Contractor: TRUE HOMES
Attn:
Address: 2649 BREKONRIDGE CENTRE DR
Address:
City/State/Zip: MONROE, NC 28110

Item	Description	Permit#	Quantity	Unit Price	Total Price
0701	Improvment Permit App-Residen 6306 NORTHERN RED OAK, LOT 107		1	250.00	250.00

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
60.00	10.00	1,347.15			

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	12/04/12	**Amount:**	200.00
Receipt #:	80767	**Tendered:**	200.00
Check / Auth #:	CHECK 3120	**Returned:**	0.00
Received By:	SADERLW		

Account Information

Account #:	200000
Contractor:	TRUE HOMES
Attn:	
Address:	2649 BREKONRIDGE CENTRE DR
Address:	
City/State/Zip:	MONROE, NC 28110

Item	Description	Permit#	Quantity	Unit Price	Total Price
0703	Installation/Final Approval 6306 NORTHERN RED OAK, LOT 107		1	200.00	200.00

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
60.00	10.00	1,347.15			

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	12/04/12	**Amount:**	200.00
Receipt #:	80768	**Tendered:**	200.00
Check / Auth #:	CHECK 3120	**Returned:**	0.00
Received By:	SADERLW		

Account Information

Account #: 200000
Contractor: TRUE HOMES
Attn:
Address: 2649 BREKONRIDGE CENTRE DR
Address:
City/State/Zip: MONROE, NC 28110

Item	Description	Permit#	Quantity	Unit Price	Total Price
0734	Auth for Waste Wtr Sys Constr 6306 NORTHERN RED OAK, LOT 107		1	200.00	200.00

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
60.00	10.00	1,347.15			

8633B

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	12/03/13	**Amount:**	100.00
Receipt #:	86252	**Tendered:**	100.00
Check / Auth #:	CHECK 4142	**Returned:**	0.00
Received By:	SADERLW		

Account Information

Account #: 200000
Contractor: TRUE HOMES
Attn:
Address: 2649 BREKONRIDGE CENTRE DR
Address:
City/State/Zip: MONROE, NC 28110

Item	Description	Permit#	Quantity	Unit Price	Total Price
0710	Additional Trips 6306 NORTHERN RED OAK DR		1	100.00	100.00

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

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
		422.50	95.00	1,547.15	

Sader, Linda

From: Michael Lash, PE. <mikel@lashengineering.com>
Sent: Monday, November 25, 2013 9:01 AM
To: Presley, Jacob; larry@thompsonenv.com; Hallman, Bradley
Cc: David Kost; Jackie Dracup; Jeff Gerdes; Sader, Linda
Subject: Re: Fairington Oaks - Lot 106/107

Lash Engineering, Inc.
Michael Lash, PE.
704-847-3031
mikel@lashengineering.com

On 11/22/2013 8:37 AM, Presley, Jacob wrote:

> For Lot 107 a $100 site revisit fee is all that is required (no application) to evaluate the new proposed repair area and the proposal. Please make sure when the $100 fee is paid that our administrator knows that it is for Lot 107 (PID 19521338).
>
> Is Mike Lash going to submit a new design for Lot 106 based on a 0.15 LTAR or is he going to use his original 0.1 design?
>
> Thanks
> Jacob

10306 Northern Red Oak Dr
8633B

> -----Original Message-----
> From: Larry Thompson [mailto:larry@thompsonenv.com]
> Sent: Thursday, November 21, 2013 7:07 PM
> To: Presley, Jacob; Hallman, Bradley
> Cc: David Kost; Jackie Dracup; Jeff Gerdes
> Subject: Fairington Oaks - Lot 106/107
>
> Jacob,
>
> Per my email dated 11/15/13, True Homes would like to pursue permitting on Lot 106 for a 4-bedroom system based upon Mike Lash's design and a 3-bedroom system on Lot 107 based upon the attached revised proposal.
>
> If you should require anything further from me, please let me know.
>
> Thanks!
>
> Larry

No virus found in this message.
Checked by AVG - www.avg.com
Version: 2014.0.4158 / Virus Database: 3629/6847 - Release Date: 11/18/13