Supervisor/Administrative Professional Checklist

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

New Septic Fees Paid:

IP ($250.00) lwa 9/13/13 Initials/Date

CA ($200.00) lwa 1/22/15 Initials/Date

OP ($200.00) lwa 1/22/15 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 ☑ YAM 1/26/15

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. ☑ 6/26/14

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

Certified operator contract is on file. ☐ _____

Groundwater & Wastewater Services
Septic Project File & Data Review Worksheet

GWS File #: 6583B WASPS App #: 6409

Primary ES assigned to project: Jeremy Michael

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: 8			
	Were sufficient auger borings made?	Yes ☑	No ☐	N/A ☐
.1939(d), .1955, .1956, .1957	LTAR 0.3 initial 0.1 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 ☐

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: 7/26/15

OP issued date: 8/3/15

Review performed by: JAM Date performed: _____

STATE OF NORTH CAROLINA
COUNTY OF Mecklenburg

THIS AGREEMENT is made and entered into this 28 day of July 2015 by and between Lowell Howes (hereinafter the "Owner") and R.C.S., Inc., Joe R. Hudson (hereinafter the "Contractor").

WITNESSETH

WHEREAS, the Owner owns or controls the property upon which a ground absorption sewage treatment (hereinafter the "system") is installed, such system being designated a Type Ipp system under the Rules for Sanitary Sewage Collection, Treatment and Disposal found at 15A N.C. Admin. Code 18A.1900 et seq.; and

WHEREAS, 15A N.C. Admin.Code 18A.1961 requires a contract to be executed between the system owner and a management entity prior to the issuance of an Operation Permit for said system; and

WHEREAS, 15A N.C. Admin. Code 18A.1961 requires that a condition of the Operation Permit for said system be that a properly executed contract between the system owner and a management entity shall be in effect for as long as the system is in use; and

WHEREAS, the Contractor is a management entity of a type authorized by 15A N.C. Admin. Code 18A.1961 to manage a Type IVa System.

NOW THEREFORE, 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 Contractor as stipulated below.

1. The Contractor's Obligations. The Contractor shall perform the following services on the Owner's system located at 9439 Stoneridge Way Huntersville, NC 28227 Lot 52 Stoneridge

a. The Contractor shall inspect the system at least at the frequency required in Table V(b) of 15A N.C. Admin. Code 18A.1961(b) for a Type IVa system.

b. The Contractor shall perform th following routine maintenance procedures in accordance with the conditions of the Operation Permit:

(1) (from the operation permit)
(2)
(3)

c. The Contractor shall report the results of its inspections to the local health department at the frequency specified in Table V(b) of 15A N.C. Admin. Code 18A.1961(b) for a Type IVa system.

d. If an inspection indicates the need for system repairs, the Contractor shall notify the local health department within 48 hours of the inspection.

e. The Contractor shall notify the Owner of needed repairs which are outside of the scope of routine maintenance described in subparagraph (b) above. The Contractor shall perform necessary repairs to the system at the request of the Owner and shall be entitled to payment therefor at the

STATE OF NORTH CAROLINA
COUNTY OF Mecklenburg

Contractor's normal charge for services and materials.

f. The Contractor shall employ of shall contract with a certified operator(s) if required by Table V(b) of 15A N.C. Admin. Code 18A.1961(b) for a Type IVa system.

g. The Contractor shall respond to a request for a nonscheduled service or maintenance call within 24-48 hours after receipt of such request depending on the urgency of the request.

2. The Owner's Obligations.

a. The Owner shall pay to the Contractor the sum of $ 200.00 per year for periodic inspections, routine maintenance procedures and periodic reports. The annual fee may be amended upon sixty(60) days advance notice to the Owner but may not be increased more than 20 percent per year. The Owner shall pay to the Contractor his normal and customary fees for any work performed on the system as a result of nonscheduled service or maintenance calls. All fees are due and payable within thirty (30) days shall accrue interest from the due date until paid at a rate of 15 percent per month.

b. Within 10 days of receipt of notice of needed repairs pursuant to paragraph 1.e. above, the Owner shall request the Contractor to complete needed repairs or shall provide to the Contractor evidence that the needed repairs were satisfactorily completed by another entity.

c. The Owner shall provide the Contractor with such access to the system as is reasonably necessary for the Contractor to comply with the terms of this Agreement.

3. Term. This Agreement shall remain in effect until terminated.

a. Automatic Termination.
This agreement shall automatically terminate if the Operation Permit for the system is revoked and all appeals of the revocation are exhausted or time for taking an appeal has passed.

b. Termination by Mutual Consent.
The Parties may mutually agree to terminate this Agreement by giving written notice of termination by mutual consent to the local health department thirty (30) days in advance of the date of termination.

c. Termination by the Owner.
The Owner may terminate this Agreement by giving notice to the Contractor and to the local health department thirty (30) days in advance to the date of termination.

d. Termination by the Contractor.
(1.) The Contractor may terminate this Agreement for cause by giving written notice of interit to terminate this Agreement to the Owner and to the local health department thirty (30) days is advance of the date of termination. Cause shall be defined as:

(a) failure to remit payment for any bill for services performed under

and in accordance with this Agreement if said bill is not is not paid within thirty (30) days of receipt by the Owner of the bill. If said bill is paid after notice of termination is given but prior to the date of termination of this Agreement, this Agreement shall continue in effect: or

(b) failure of the Owner to provide to the Contractor authorization to complete needed repairs or satisfactory evidence that needed repairs the system were completed by another entity within 10 days of receipt of notice of needed repairs pursuant to paragraph 3.c. above. If said authorization to complete needed repairs or evidence of completion of said repairs is provided after notice of termination is given but prior to the date of termination of this Agreement, this Agreement shall continue in effect;

(c) failure of the Owner to allow the Contractor such access to the system as is reasonably necessary in order for the Contractor to comply with the terms of this Agreement.

(2) The Contractor may not terminate this Agreement without cause, but may assign its rights and duties under this Agreement as provided in paragraph 4, below.

4. Assignment.

a. Assignment by the Owner. The Owner shall notify the Contractor of the name and address of any purchaser of the property on which the system is located. The Owner shall also notify any purchaser of the property on which the system is located of the existence of this Agreement and shall assign all rights and duties under this Agreement to said purchaser.

b. Assignment by the Contractor. The Contractor may assign its rights and duties under this Agreement to another management entity which is qualified pursuant to 15A NC Admin. Code 18A.1961 to manage a Type Ipp system upon thirty (30) days written notice to the Owner and to the local health department.

5. Use of Subcontractors. The Contractor may subcontract with such manufacturers, suppliers and contractors as it deems desirable to perform any of the Contractor's duties under this Agreement. The Contractor shall at all times remain responsible for the performance of and payment for all work performed by all subcontractors.

6. Representations. The Parties represent to each other that each has the power, authority and legal right to enter into and perform its obligations as set forth in this Agreement.

7. Regulatory Amendments. References in this Agreement to sections of the Administrative Code shall include such rules as they may be amended in the future.

8. No Implied Waiver. The waiver by either Party of a default or a breach by the other Party of any provision of this Agreement shall not operate or be construed to operate as a waiver of any subsequent default or breach. The failure at any time of either Party to enforce any provision of this Agreement (a) shall not be construed to be a waiver of such provisions, or of any other provision; and (b) shall not in any way affect the validity of this Agreement, or any part of this Agreement, or the right of either

STATE OF NORTH CAROLINA
COUNTY OF Mecklenburg

Party thereafter to enforce each and every provision of this Agreement.

9. Notice. Every notice required under this Agreement shall be in writing and shall be deemed sufficiently given if delivered in person or sent by certified or registered mail, return receipt requested, postage prepaid to the Party to be notified and addressed as follows:

To the Owner: Livewell Homes
P.O. Box 1345
Ft. Mill, SC 29716

To the Contractor:
R.C.S. Inc.
Joe R. Hudson
PO Box 708
Monroe, NC 28111

To the Local Health Department:
Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St, Suite 211
Charlotte, N.C. 28202

The date of any Notice shall be the date of personal delivery or the date shown on the return receipt as the date of delivery of attempted delivery, as the case may be. Changes in the respective addresses to which notice may be directed may be made form time to time by either Party by notice to the other party.

10. Place of Agreement. This Agreement and any questions concerning its validity, construction or performance shall be governed by the laws of the State of North Carolina, notwithstanding the place of execution, or the order in which the signatures of the Parties are affixed.

11. Entire Agreement and Amendment. This Agreement supersedes all prior negotiations, agreements and understandings between the Parties with respect to the subject matter hereof. To be effective, any amendment or modification to this Agreement must be in writing and must be signed by the Parties.

12. Solvability. In the event that any provision of this Agreement shall, for any reason, be determined to be invalid, illegal or unenforceable in any respect, the Parties shall negotiate in good faith and agree to such amendments, modifications or supplements of or to this Agreement of such other appropriate actions as shall to the maximum extent practicable in light of such determination, implement and give effect to the intentions of the Parties as reflected in this Agreement, and the other provisions of this Agreement shall, as so amended, modified, supplemented or otherwise affected by such action, remain in full force and effect.

IN TESTIMONY WHEREOF, the Parties hereto have executed this Agreement in duplicate originals, one of which is retained by each of the Parties, the day and year first above written.

STATE OF NORTH CAROLINA
COUNTY OF Mecklenburg

LiveWell Homes
Owner

Attest: - agent

Contractor

Attest:

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

Sheet: 1 of 2
Property ID: 139-033-55
Lot #: 53
File #: 6583B
AppID: 6409

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

Owner: Redus Charlotte Housing, LLC
Applicant: Paul Carty
Address: 302 S. College St., D1053-04B, Charlotte, NC 28202
Date Evaluated: 9/18/2013
Proposed Facility: 4BR House
Design Flow (.1949): 480 GPD
Property Size: 2 ac
Location of Site: 9503 Stonebridge Way, Mint Hill, NC 28227
Property Recorded: Unknown
Water Supply: [X] Public [X] Individual [ ] Well [ ] Spring [ ] Other
Evaluation Method: [ ] Auger Boring [X] Pit [ ] Cut
Type of Wastewater: [X] Sewage [ ] Industrial Process [ ] Mixed

PROFILE #	.1940 Landscape Position/ Slope%	Horizon Depth (IN)	SOIL MORPHOLOGY .1941 .1941 Structure/ Texture	.1941 Consistence Mineralogy	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	LS	0 - 16	wfsbk CL	FR SEXP						PS IV	
#1	10%	16 - 48	mmabk C	FR SEXP	>48"	48	NA	PS		0.3	32"
Pit	LS	0 - 15	wfsbk CL	FR SEXP						PS IV	
#2	14%	15 - 48	mmabk C	FI SEXP	>48"	48	NA	PS		0.3	31"
Pit	LS	0 - 7	wfsbk CL	FR SEXP						PS IV	
#3	10%	7 - 50	mmabk C	FR SEXP	>50"	50	NA	S		0.3	34"
Pit	TS	0 - 22	wfsbk CL	FR SEXP	2 chroma					PS IV	
#4	5%	22 - 42	wmabk C	FR SEXP	mottles @ 44"	54	NA	S		0.25	30"
		42 - 54	wmabk C	FI SEXP							
Pit	TS	0 - 12	wmsbk CL	FR SEXP						PS IV	
#5	8%	12 - 45	wmabk C	FI SEXP	>45"	45	NA	PS		0.275	30"
Pit	TS	0 - 12	wmsbk CL	FR SEXP	2 chroma					PS IV	
#6	8%	12 - 44	wmabk C	FI SEXP	mottles @ 32"	44	NA	PS		0.25	17"
Pit	LS	0 - 23	wmsbk C	FR SEXP	2 chroma					PS IV	
#7	15%	23 - 40	wmsbk CL	FI SEXP	mottles @ 36"	40	NA	PS		0.25	19"
Pit	LS	0 - 10	wmsbk CL	FR SEXP						PS IV	
#8	15%	10 - 44	mmabk C	FI SEXP	>44"	44	NA	PS		0.275	27"

Description	Initial System	Repair System
Available Space (.1945)	PS	PS
System Type(s)	Iva	V
Site LTAR (gpd/sq ft)	0.3	0.1

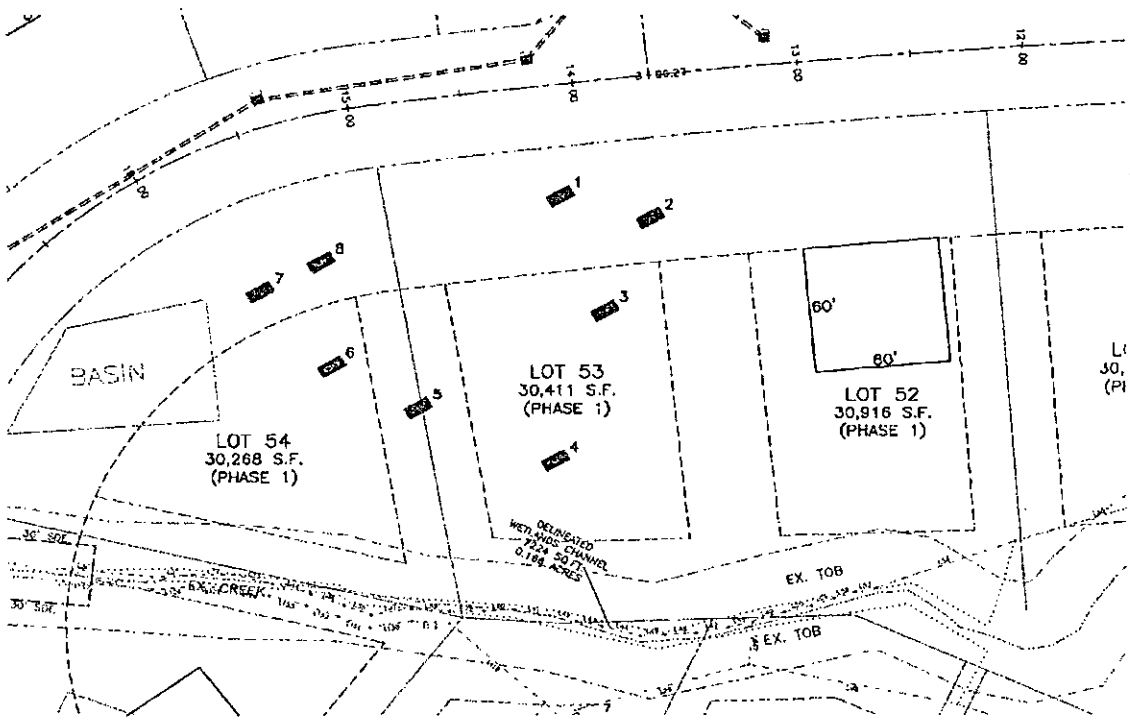
Other Factors (.1946):
Soil Evaluation By: Jacob Presley, LSS
Others Present: W. Overby & A. Rollins
Site Classification (.1948):
Site Evaluation By: Jeremy Michael
Others Present: Jeremy Michael

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		Sap-Saprolite
FP-Flood Plain		SCL-Sandy Clay Loam		**Structure Prefixes**
D-Drainage Way		SiL-Silt Loam		w-weak
				m-moderate
				s-strong
				f-fine
	IV	SC-Sandy Clay	0.4 - 0.1	m-medium
		SiC-Silty Clay		c-coarse
		C-Clay		

Consistence Moist	Consistence Wet	Mineralogy
VFR-Very Friable	SS-Slightly Sticky	SEXP-Slightly Expansive
FR-Friable	S-Sticky	EXP-Expansive
FI-Firm	VS-Very Sticky	
VFI-Very Firm	NP-Non-Plastic	**Classification**
EFI-Extremely Firm	SP-Slightly Plastic	US-Unsuitable
	P-Plastic	PS-Provisionally Suitable
	VP-Very Plastic	S-Suitable
		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 #: **30006409** GWS File #: **6583B** Tax Parcel #: **139-033-54**

- 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):** 2/19/2019

Type of Installation: Residential - New System Lot Number: 53

Structure Type: HOUSE Size (ft^2): 3600 # Bedrooms: 5 # Occupants: 4

Building Foundation: Crawl Space Water Supply: Municipal

II. Initial System Type: Pump to Approved **System Classification:** IVa

Initial System Specifications:

Design Flow (gpd):	600	LTAR (gpd/ft^2):	0.3	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1500
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	1000	Total Trench Length (ft):	333
Maximum Trench Depth (in):	30	Depth of Media (in):	N/A	Distribution Device:	Manifold (LPP Distri		

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

Repair System Specifications:

Design Flow (gpd):	600	LTAR (gpd/ft^2):	0.1	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1500
Trench Width (ft):	1	Trench Spacing (ft):	2	Absorption Area (ft^2):	6000	Total Trench Length (ft):	6000
Maximum Trench Depth (in):	6	Depth of Media (in):	N/A	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: Jeremy Michael

Signature: Jeremy Michael

Date Issued: 2/19/2014

Owner/Legal Agent: Paul Carty (Print Name)

Signature: Paul Carty

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 #: **30006409** GWS File #: **6583B**

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.
- 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 components of the septic system must be located a minimum distance from the normal pool elevation or mean high water mark for the nearby body of water. See plot plan for minimum setback requirements.
- 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.
- The septic system shall be located at least 10 feet from any foundation drain.

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: Jeremy Michael

Signature: Jeremy Michael

Date Issued: 2/19/2014

Owner/Legal Agent: Paul Carty
Print Name

Signature: Paul Carty

GWS Septic System Design Review

GWS File #: 6583B

	Approved	Disapproved
Design Review:	☑	☐
Field Review: JAM	☑	☐

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

Soil & Forestry Services of the Carolinas, PA
PO Box 832
Mooresville, NC 28115

A design for a 5 Bedroom PPBPS Septic System using LPP distribution for combined lot 52_54 of Stonebridge Subdivision
Parcel #'s 13903354,13903355,13903356

Contents: **Page**

Information for the Installer ---- 1

Design Information
- Design Specifications ---- 2-3
- Layout Specifications ---- 4
- System Flow ---- 5

Site Plan ---- 6

Septic Tank Diagram ---- 7

Pump Tank Diagram ---- 8

Control Panel Specifications ---- 9-12

Pump Specifications ---- 13-14

Calculations ---- 15

Valve Box Specifications ---- 16

October 2013
Design By: W. Overby

NORTH CAROLINA PROFESSIONAL SEAL 10051 ENGINEER RILEY DEE BURGESS JR.

11/2/13

GWS Septic System Design Review

GWS File #:_____ Approved Disapproved

Design Review:_____ ☐ ☐

Field Review: _____

*Pre[illegible] are not considered "APPROVED" [illegible]

INFORMATION FOR THE INSTALLER:

- The permit should be read very carefully prior to bidding. The following are details that must be considered along with all other considerations.
- Tanks shall be approved by DEHNR, and certification supplied by the manufacturer.
- Tanks shall be water tested prior to installation.
- The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original natural grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement.
- Installation of the system shall be during dry conditions in order to protect the soil structure.
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied glue applied to weld all joints.
- Where required by the county health department, post installation inspections by the designer must be scheduled 5 week days in advance.
- Trenches shall be carefully excavated so the bottom is within 2" from the highest to the lowest points of elevation within the trench. If the bottom elevation needs adjusting after it has been trenched, it will be done by removing high points rather than filling low points. It is extremely important to insure that trenches are not over excavated during initial trenching. All fine grading within the trench will be hand done with a shovel. No loose material will be left in the trench
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral.
- No heavy equipment shall be used on the field during or after installation. The use of a small loader (i.e. Bobcat) or a trencher (i.e. Ditch Witch 2300/2310) may be used for installation.
- Elevations at pinflag locations should be checked by the installer prior to beginning
- Pumptank riser should be 6" above grade, control panel should be 12" above grade.
- Septic tank riser shall be a minimum of 6" above finished grade.
- System is specified as PPBPS type using LPP distribution
- Repair is specified as subsurface drip irrigation
- **System trench depth specified at 30"**
- **See Figure 1. Septic System Layout and House Plan**

PPBPS PRESSURE DOSED SYSTEM
FOR WASTEWATER TREATMENT

Owner:	Redus Charlotte Housing LLC
Contact:	Paul Carty
Phone:	704 715-5282
County:	Mecklenburg
Location:	Stonebridge (combined) Lots 52-54

Source of Wastewater Flow:	5 Bedroom Single Family Residence
Estimated Daily Wastewater Production:	600 gpd
System Flow:	30.75 gpm

Design Specifications

Drainfield Size:	337 lf
Loading Rate:	0.3 gpd/ft.^{2}
Depth of Gravel in Trench:	n/a
Gravel Size:	n/a
Trench Depth:	30 in
Trench Width:	36 in.
Septic Tank Size:	1500 gal.
Pump Tank Size:	1500 gal.
Estimated Supply Line Length:	130 lf
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	22.62 gal
Dosing Volume:	270.00 gal

Recommended Float Controls:	SJE Sensor Float Control Switches as Required for Control Panel or County Approved Equivalents
Recommended Control Panel:	SJE-Rhombus Model 112 (NEMA 4x) Control Panel or County Approved Control Panel.
Pressure Head:	2 ft.
Friction Head:	2.47 ft
Elevation Head:	18.00 ft
Total Dynamic Head:	28.72 ft
Threaded Union:	In Tank
Gate Valves:	1 in Tank 7 in valve box
Check Valves:	In Tank
Anti-Siphon Hole:	n/a
Recommended Pump:	Myers Model ME40 or County Approved Effluent Rated Pump Capable of Delivering 28 ft.of Head at 31 gpm Total Flow

Stonebridge (combined) Lots 52-54

PPBPS Design

DESIGN FLOW:	600	gpd
SOIL APPLICATION RATE:	0.3 gpd/ft.^{2}	
TOTAL AREA TRENCH BOTTOM:	1011	sf
TOTAL LATERAL LENGTH:	337	lf
NUMBER OF FIELDS:	1	
LATERAL LENGTH REQUIRED PER FIELD:	333	lf
SUPPLY LINE LENGTH:	130	lf
TOTAL DYNAMIC HEAD:	28.72	gpm
DOSING VOLUME:	270.00	gal
PUMP TANK DRAW DOWN*:	9.3	in
SEPTIC TANK SIZE:	1500 gal.	
PUMP TANK SIZE:	1500 gal.	
RECOMMENDED PUMP:	Myers Model ME40 or County Approved Effluent Rated Pump Capable of Delivering 28 ft.of Head at 31 gpm Total Flow	

**Pump tank draw down based on a volume basis of 29 gallons per inch. Draw down may vary among pump tank manufacturers.*

Stonebridge (combined) Lots 52-54

Layout for a 5 bedroom home — Oct 2013

LINE #	FLAG COLOR	BS	HI	FS	ELEV	FLAGGED LINE LENGTH
TBM		2.2			100.0	
INSTR. 1			102.2			
			SYSTEM			
1	Pink			5.60	96.6	70
2a	Red			6.10	96.1	50
2b	Red			6.10	96.1	50
3	Orange			7.90	94.3	54
4	Yellow			10.00	92.2	45
5	Blue			11.50	90.7	37
6	Pink			13.50	88.7	31
						337

	LINE LENGTH	LTAR GPD/FT	SYSTEM TYPE	REDUCTION TYPE	DISTRIBUTION
SYSTEM	337	0.300	MOD	50%	LPP
REPAIR	area	0.100	drip	n/a	drip

Notes:

**TBM located at top of ground at stake

**TBM is assumed to be 100'

**All measures in feet

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

**BS and FS indicate rod readings

Stonebridge combined Lot 52-54

System (PPBPS)

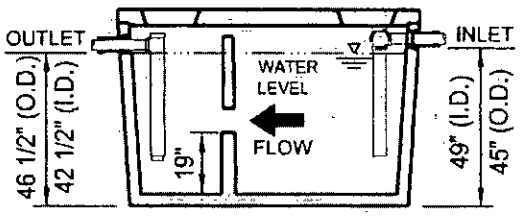
DESIGN SPECIFICATIONS

Line #	Color	#Panels	#Holes Panel	ft Line Length	Hole Size	ft Line Head	gpm Line Flow
1	Pink	16	1	70	5/32"	2	6.56
2a	Red	11	1	50	5/32"	2	4.51
2b	Red	11	1	50	5/32"	2	4.51
3	Orange	12	1	54	5/32"	2	4.92
4	Yellow	10	1	45	5/32"	2	4.10
5	Blue	8	1	37	5/32"	2	3.28
6	Pink	7	1	31	5/32"	2	2.87
		75		337			30.75

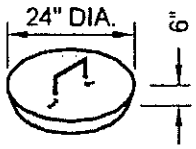
©2008 Details Provided by APPIAN Consulting Engineers www.appionengineers.com

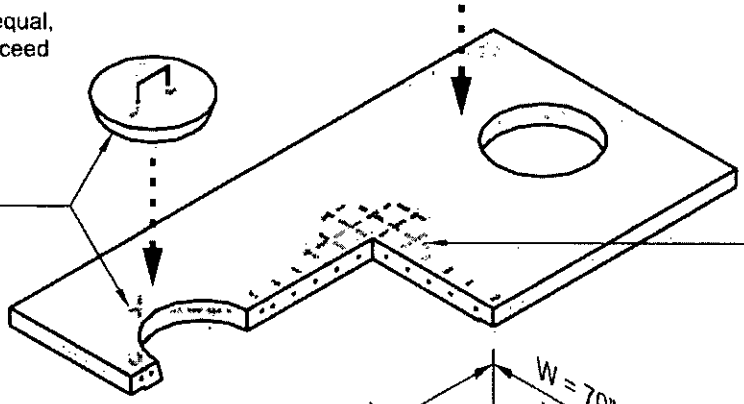
GENERAL NOTES:

1. Design specifications conform to latest ASTM C1227 specifications "Precast Concrete Water and Wastewater Structures"
2. Concrete compressive strength 4,000 psi minimum.
3. Steel reinforcing design to conform to the requirements of ASTM C890 specifications for "Structural Design Loading for Water and Wastewater Structures" and shall utilize grade 60 re-bars conforming to the requirements of ASTM A615 or WWF conforming to the requirements of ASTM A185 or both. Place Additional reinforcing at all openings.
4. Optional EZ set lid cast in place. Supplied by Dellinger Precast. To be field adjusted using approved methods by contractor.
5. Pipe penetration locations as per job requirements. Pipe inlet and outlet locations to have PSX Direct Drive boots or equal. Pipe Inlet locations (typical 3 sides) to be knock out pannels. Effluent Filter supplied by Dellinger. Inlet Tee & Pipe supplied by contractor.
6. Joints to be sealed with ConSeal CS102. butyl rubber joint sealant or equal. Sealant meets or exceeds the requirements of latest federal specification SS-S-0021(210-A), AASHTO M-198B, and ASTM C-990-91.
7. Lift Insert / Lift Eye Pin by M.A Industries or equal, Cast-in by Dellinger Precast. Lifts meet or exceed OSHA requirements.
8. Method of namufacture is Wet Cast.
9. Sections are monolithic. Weights:
   Top Slab 3,134 ± lbs.
   Base Section 9,751 ± lbs.
10. I.D. = Inside dimension
    O.D. = Outside dimension
    L = Length
    W = Width
    H = Height



ELEVATION

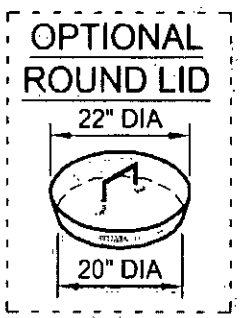


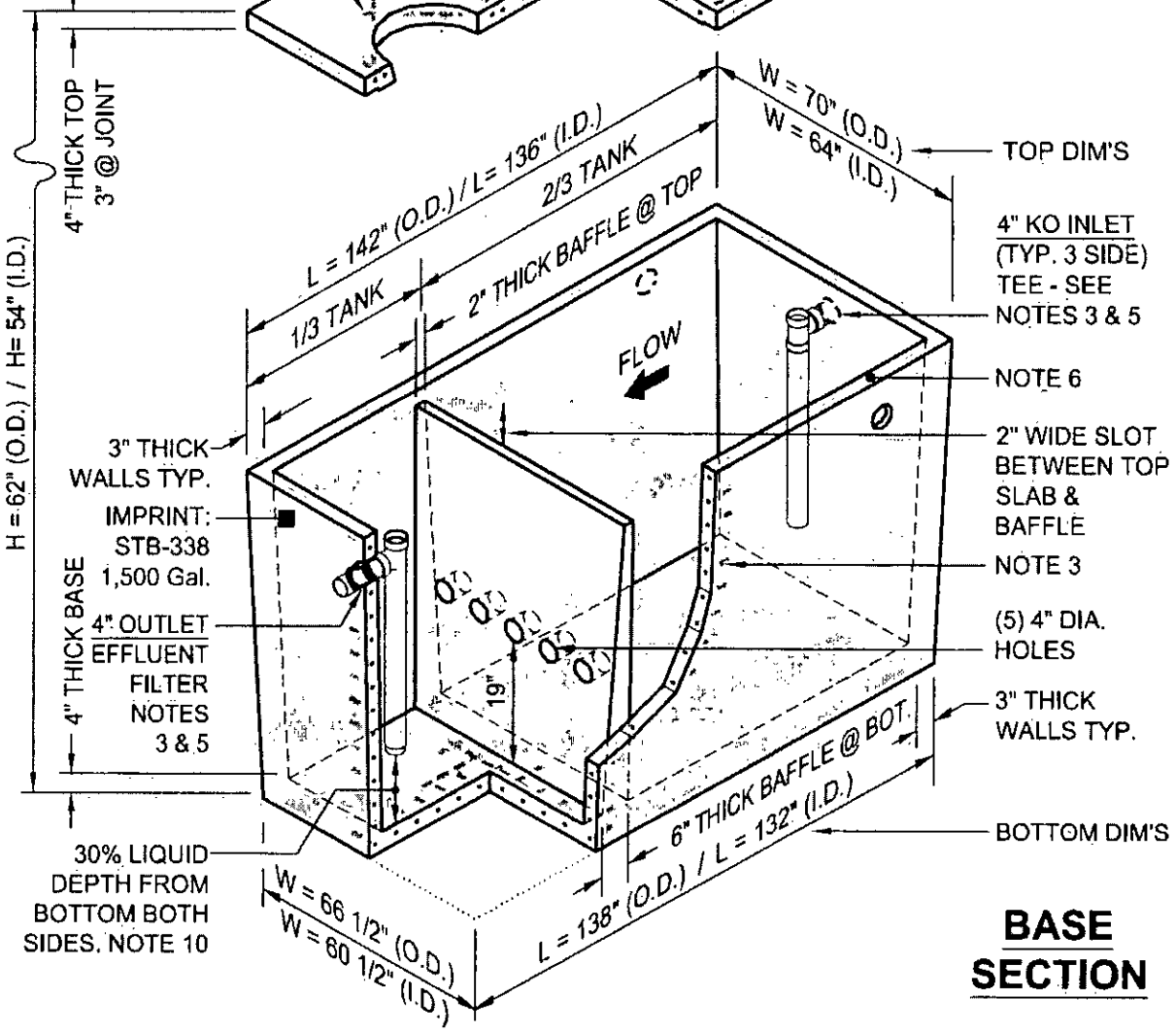


TOP SLAB

NOTES 3 & 4

NOTE 3





BASE SECTION

DELLINGER PRECAST
4531 North Hwy 16 • Denver, N.C. 28037 • Phone: 800-948-1666 • 704-483-2868 • Fax: 704-483-2363

1,500 Gallon (Top Slab) SEPTIC TANK

Scale: Not To Scale

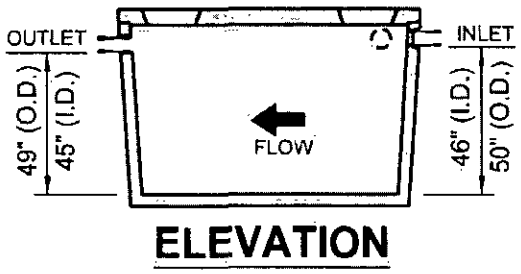
Revision Date: February 2008

Detail # ST-1,500-TS

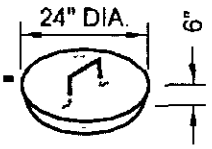
© 2008 Details Provided by APPIAN Consulting Engineers www.oppionengineers.com

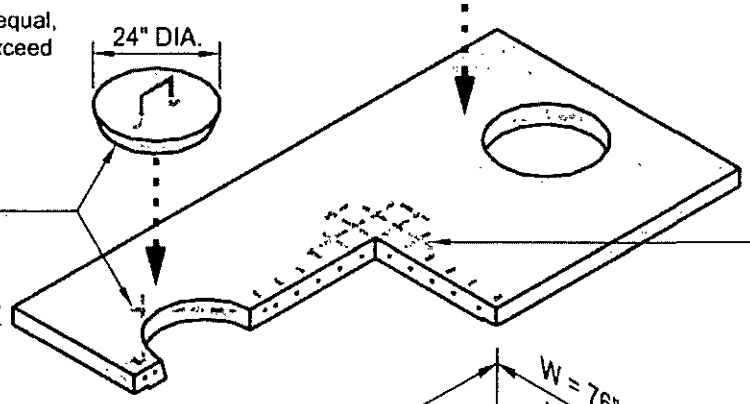
GENERAL NOTES:

1. Design specifications conform to latest ASTM C1227 specifications "Precast Concrete Water and Wastewater Structures"
2. Concrete compressive strength 4,000 psi minimum.
3. Steel reinforcing design to conform to the requirements of ASTM C890 specifications for "Structural Design Loading for Water and Wastewater Structures" and shall utilize grade 60 re-bars conforming to the requirements of ASTM A615 or WWF conforming to the requirements of ASTM A185 or both. Place Additional reinforcing at all openings.
4. Optional EZ set lid cast in place. Supplied by Dellinger Precast. To be field adjusted using approved methods by contractor.
5. Pipe penetration locations as per job requirements. Pipe inlet and outlet locations to have PSX Direct Drive boots or equal. Pipe Inlet locaions (typical 3 sides) to be knock out pannels. Pipe supplied & installed by contractor.
6. Joints to be sealed with ConSeal CS102. butyl rubber joint sealant or equal. Sealant meets or exceeds the requirements of latest federal specification SS-S-0021(210-A), AASHTO M-198B, and ASTM C-990-91.
7. Lift Insert / Lift Eye Pin by M.A Industries or equal, Cast-in by Dellinger Precast. Lifts meet or exceed OSHA requirements.
8. Method of namufacture is Wet Cast.
9. Sections are monolithic. Weights:
   Top Slab 2,636 ± lbs.
   Base Section 7,453 ± lbs.
10. I.D. = Inside dimension
    O.D. = Outside dimension
    L = Length
    W = Width
    H = Height

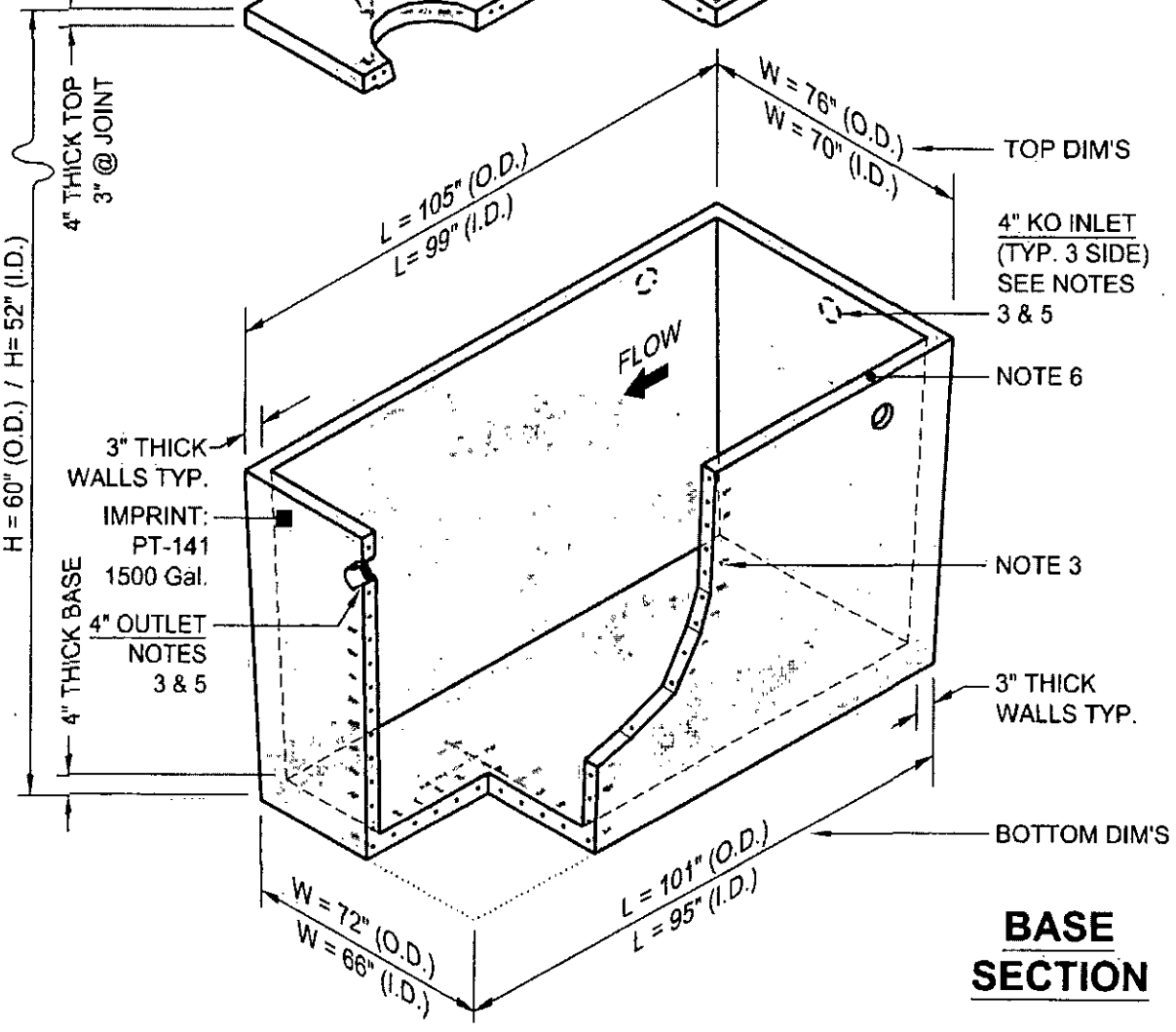


ELEVATION



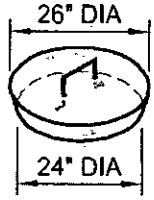


TOP SLAB



BASE SECTION

OPTIONAL ROUND LID



1,500 Gallon (Top Slab) PUMP TANK

Scale: Not To Scale

Revision Date: February 2008

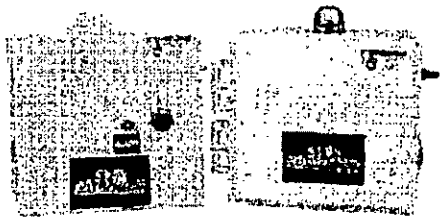
Detail # PT-1,500-TS

DELLINGER PRECAST
4531 North Hwy 16 • Denver, N.C. 28037 • Phone: 800-948-1666 • 704-483-2868 • Fax: 704-483-2363

MODEL 112 Control Panel

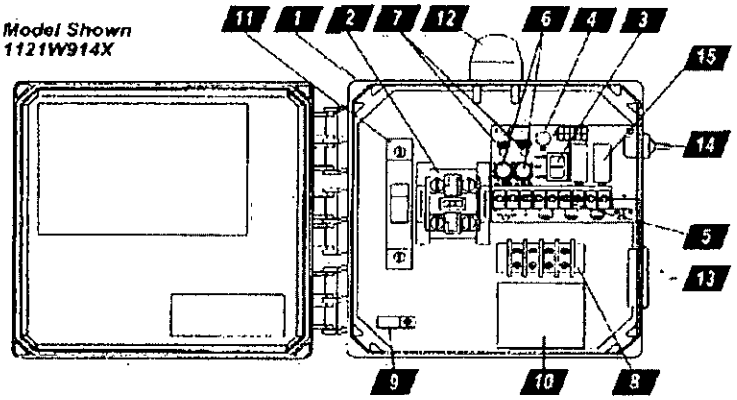
Single phase, simplex motor contactor control.

The Model 112 control panel provides a reliable means of controlling one 120, 208, or 240 VAC single-phase pump in pump chambers, sump pump basins, irrigation systems and lift stations. Two control switches activate a magnetic motor contactor to turn the pump on and off. If an alarm condition occurs, an additional alarm switch activates the audio/visual alarm system.



Indoor *Indoor/outdoor*

Model Shown
1121W914X



1. **Enclosure** measures 8 x 8 x 4 inches (20.32 X 20.32 X 10.16 cm). Choice of NEMA 1 (steel for indoor use), or NEMA 4X (ultraviolet stabilized thermoplastic with removable flanges for outdoor or indoor use).

   * Options selected may increase enclosure size and change component layout.

2. **Magnetic Motor Contactor** controls pump by switching hot electrical lines.
3. **HOA Switch** for manual pump control (mounted on circuit board).
4. **Green Pump Run Indicator Light** (mounted on circuit board).
5. **Float Switch Terminal Block** (mounted on circuit board).
6. **Alarm and Control Fuses** (mounted on circuit board).
7. **Alarm and Control Power Indicators** (mounted on circuit board).
8. **Pump Input Power and Pump Connection Terminal Block**
9. **Ground Lug**
10. **Terminal Block Installation Label**
11. **Circuit Breaker** (optional) provides pump disconnect and branch circuit protection.

STANDARD ALARM PACKAGE (other options available)

12. **Red Alarm Beacon** provides 360° visual check of alarm condition. **Note:** NEMA 1 style utilizes a door mounted indicator in lieu of a beacon.
13. **Alarm Horn** provides audio warning of alarm condition (83 to 85 decibel rating). **Note:** NEMA 1 style utilizes an internally mounted buzzer (83 to 85 decibel) in lieu of horn.
14. **Exterior Horn Test/Normal/Silence Switch** allows alarm horn to be silenced and testing of horn and light to ensure proper operation of alarm system.
15. **Horn Silence Relay** automatically resets alarm after alarm condition has been resolved (mounted on circuit board).

FEATURES

- Entire control system (panel and switches) is UL Listed to meet and/or exceed industry safety standards
- Dual safety certification for the United States and Canada
- Standard package includes three 20' Sensor Float® control switches
- Complete with step-by-step installation instructions
- Three-year limited warranty

c UL us
LISTED

SJE Rhombus CONTROLS
SJ ELECTRO SYSTEMS, INC.
PO Box 1708, Detroit Lakes, MN 56502
1-888-DIAL-SJE • 1-218-847-1317
1-218-847-4617 Fax
email: sje@sjerhombus.com
www.sjerhombus.com



MODEL 112

ALARM PACKAGE
0 = select options or no alarm package
1 = alarm package (includes test/normal/silence switch, fuse, red light, horn & float)

ENCLOSURE RATING
I = *Indoor, NEMA 1 (metal)*
W = Weatherproof, NEMA 4X (engineered thermoplastic)

STARTING DEVICE
1 = magnetic motor contactor 120/208/240V
9 = magnetic motor contactor 120V only

PUMP FULL LOAD AMPS
0 = 0-7 FLA
1 = 8-15 FLA
2 = 16-20 FLA
3 = 21-30 FLA

PUMP DISCONNECTS
0 = no pump disconnect
1 = pull-out with safety deadfront in a 10"x8" enclosure
4 = circuit breaker

FLOAT SWITCH APPLICATION
H or L = pump down or pump up
X = no floats

OPTIONS *Listed below*

★ Options selected may increase enclosure size and change component layout.

If additional features are required, call the factory for a quote on either a Pro-Line or Engineered Custom control panel system.

	CODE	DESCRIPTION
☐	1A	Red beacon only / no audio *must select 1E if floats included*
☐	1C	Horn only / no visual *must select 1E if floats included*
☐	1E	Alarm float
☐	3A	Alarm flasher
☐ ★	4A	Low level cutout *select option 4D if floats included*
☐ ★	4B	Red low-level indicator & alarm *must select 4A also*
☐	4D	Low-level float
☐	6A	Auxiliary alarm contact, form C type
☐ ★	8A	Elapsed time meter
☐ ★	8C	Event (cycle) counter
☐	10E	Lockable latch - NEMA 4X
☐	10E	Lockable latch - NEMA 1
☐ ★	10F	Lightning arrester
☐ ★	10K	Anti-condensation heater

	CODE	DESCRIPTION
☐	11C	NEMA 1 alarm panel *must select option 6A*
☐	11D	NEMA 4X alarm panel *must select option 6A*
☐	15A	Control / alarm circuit breaker *Does not include the circuit board as in standard.*
☐	16A	10' cord in lieu of 20'
☐	16B	15' cord in lieu of 20'
☐	16C	30' cord in lieu of 20'
☐	16D	40' cord in lieu of 20'
☐	17A	SJE SignalMaster® / mounting strap ●
☐	17B	SJE SignalMaster® / externally weighted ●
☐	17C	Sensor Float® / internally weighted ▲
☐	17D	Sensor Float® / externally weighted ▲
☐	17E	Sensor Float® Mini / pipe clamp ▲
☐	17F	Sensor Float® Mini / externally weighted ▲
☐	19X	Door mounted pump run indicator
☐	21A	Pumpmaster® in lieu of on/off switches ●
☐	21B	PumpMaster® Plus in lieu of on/off switches ●
☐	21C	Super Single® in lieu of on/off switches ▲
☐	21D	Double Float™ in lieu of on/off switches ▲

● Mechanically-activated ▲ Mercury-activated

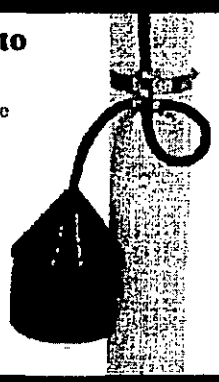
SAMPLE

MODEL	112	1	W	9	1	4	H	3A 8A
Alarm Package								
Enclosure Rating								
Starting Device								
Pump Full Load Amps								
Pump Disconnect								
Float Switch Application								
Options: Alarm Flasher, Elapsed Time Meter								

© SJE-Rhombus Printed in USA 01/00

SENSOR FLOAT® control switch

Mercury-activated, narrow-angle float switch designed to activate pump control panels and alarms.



This narrow-angle sensing device is used to accurately monitor liquid levels in sewage and non-potable water applications. The Sensor Float® control switch is not sensitive to rotation and is suitable for use with intrinsically safe circuits. Contact SJE-Rhombus regarding specific intrinsically safe applications.

Normally Open Model (high level)
The control switch turns on (closes) when the float tips slightly above horizontal signaling a high level, and turns off (opens) when the float drops slightly below horizontal.

Normally Closed Model (low level)
The control switch turns on (closes) when the float drops slightly **below** horizontal signaling a low level, and turns off (opens) when the float tips slightly above horizontal.

FEATURES

- Suitable for use with intrinsically safe circuits.
- Not sensitive to rotation.
- Control differential of .5 inches (1 cm) above or below horizontal.
- UL Listed for use in non-potable water and sewage.
- CSA Certified.
- Three-year limited warranty.

LR54245 USTED E3442

SJ-hydraulic

OPTIONS

This switch is available:

- for normally open (high level) applications or normally closed (low level) applications.
- in standard cable lengths of 10, 15, 20, or 30 feet and 3, 5, 6, or 10 meters.
- with three mounting options that allow for flexibility in installation:

  Mounting Clamp: for applications where the switch can be attached to a discharge pipe or similar mounting device.

  Internally Weighted: for applications where the switch can be suspended from above.

  Externally Weighted: for applications where the switch can be suspended from above.

SPECIFICATIONS

CABLE: flexible 18 gauge, 2 conductor (UL,CSA) SJOW, water-resistant (CPE) jacket

FLOAT: 3.38 inch diameter x 4.55 inch long (8.58 cm x 11.56 cm), high-impact, corrosion resistant, PVC housing for use in sewage and non-potable water up to 140°F (60°C)

MAXIMUM WATER DEPTH: 30 feet (9 meters), 13 psi

MERCURY TILT SWITCH: single pole, single throw, mercury-to-mercury contacts, hermetically sealed in a steel capsule and epoxy sealed in the float housing

ELECTRICAL: 5 amp, 120/230 VAC, 50/60 Hz

SJE-Rhombus
SJ Electro Systems, Inc.
PO Box 1708, Detroit Lakes, MN 56502
1-888-DIAL-SJE (1-218-847-1317
1-218-847-4617 Fax
email: sje@sjerhombus.com
www.sjerhombus.com

Sensor Float® control switch installation instructions

⚠WARNING ELECTRICAL SHOCK HAZARD
Disconnect power before installing or servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.

⚠WARNING EXPLOSION OR FIRE HAZARD
Do not use this product with flammable liquids. Do not install in hazardous locations as defined by National Electrical Code, ANSI/NFPA 70.

Failure to follow these precautions could result in serious injury or death. Replace product immediately if switch cable becomes damaged or severed. Keep these instructions with warranty after installation. This product must be installed in accordance with National Electric Code, ANSI/NFPA 70 so as to prevent moisture from entering or accumulating within boxes, conduit bodies, fittings, float housing, or cable.

MOUNTING THE SWITCH

1. Place the cord into the clamp as shown in Figure B.
2. Locate clamp at desired activation level and secure the clamp to the discharge pipe as shown in Figures A and B. **Note:** Do not install cord under hose clamp.
3. Tighten the hose clamp using a screwdriver. Over tightening may result in damage to the plastic clamp. Make sure the float cable is not allowed to touch the excess hose clamp band during operation.
4. Bring cable leads back to control device and wire according to Figure C.
5. Check installation. Allow system to cycle to insure proper operation.

Note: All hose clamp components are made of 18-8 stainless steel material. See your SJE-Rhombus supplier for replacements.

Figure A

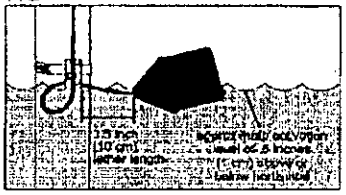
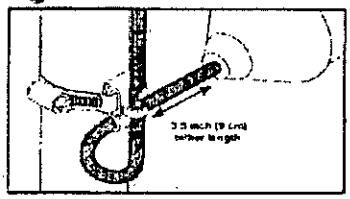


Figure B



INTERNAL WEIGHT

1. Determine desired activation level.
2. Suspend switch 7 inches (18 cm) below desired activation level as shown in Figure D. Switch remains partially submerged during the "on" tipping action. Switch can be totally submerged and still continue to operate properly.
3. Wire cable leads directly into control device as shown in Figure C.
4. Check installation. Allow system to cycle to insure proper operation.

Figure C - Wiring Diagram

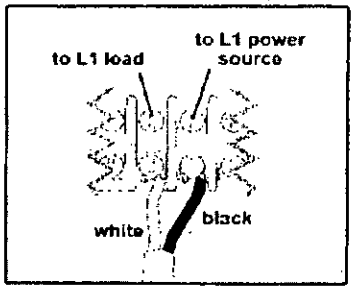
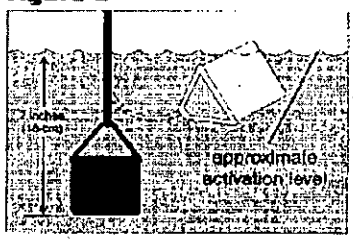


Figure D



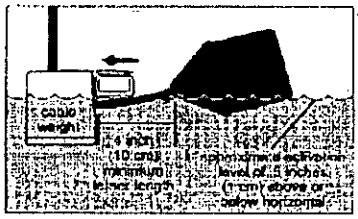
CABLE WEIGHT

1. Determine desired activation level.
2. Suspend switch and cable weight at desired activation level as shown in Figure E.
3. Wire cable leads directly into control device as shown in Figure C.
4. Check installation. Allow system to cycle to insure proper operation.

Cable weight is attached to switch cable at the factory. To adjust:

1. Release clip.
2. Adjust cable weight to desired position.
3. Lay switch cable in weight channel.
4. Align clip with weight channel and slide towards switch cable as shown in Figure E.
5. Snap clip snugly up to cable, moving clip to tightest possible position.

Figure E



CONTROLS
SJE-Rhombus
SJ ELECTRO SYSTEMS, INC.
22650 County Highway 6 ■ P.O. Box 1708 ■ Detroit Lakes, Minnesota 56502 USA
1-888-DIAL-SJE (1-888-342-5753) ■ Phone: 218-847-1317 ■ Fax: 218-847-1617
E-mail: sjc@sjerhombus.com

Inst. Instr. PN 10C9640A
Cat. Page PN 10C0567A

©SJE-Rhombus
Printed in USA 03/00

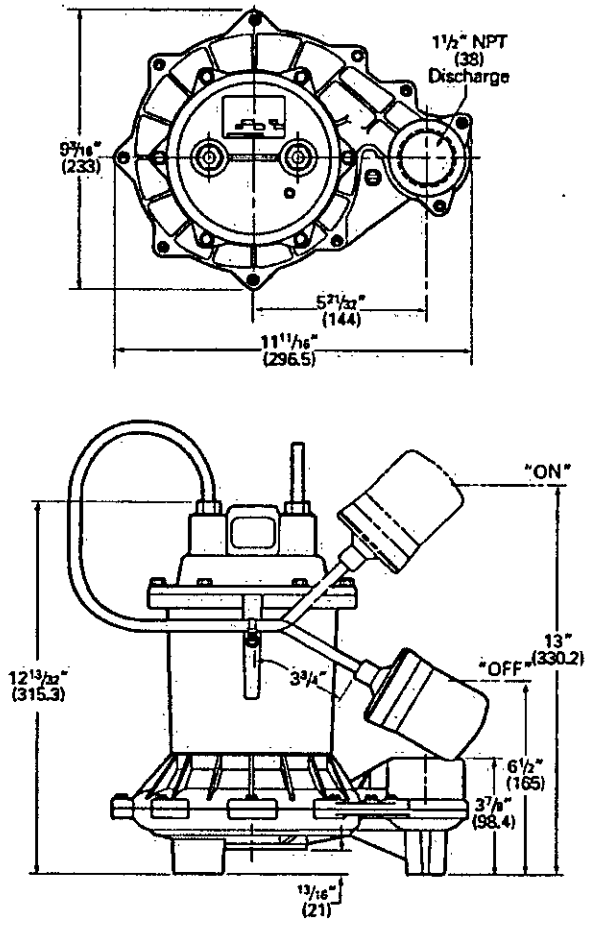
MYERS® ME40 SERIES

ORDERING INFORMATION

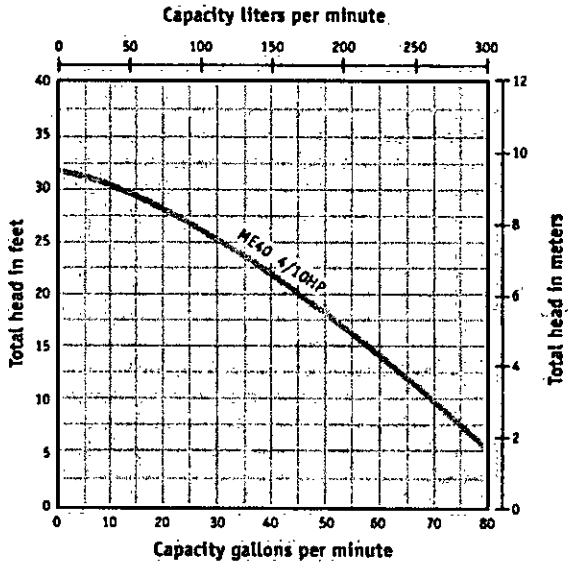
Catalog Number	HP	Volts	Phase/ Cycles	Amps	Discharge Size	Switch Type	Approx. Cord Length	Wt. Lbs.
ME40A-11	4/10	115	1/60	12.0	1-1/2"	Tethered Automatic	10'	27
ME40AC-11	4/10	115	1/60	12.0	1-1/2"	Tethered Automatic	20'	28
ME40M-11	4/10	115	1/60	12.0	1-1/2"	Manual	10'	26
ME40MC-11	4/10	115	1/60	12.0	1-1/2"	Manual	20'	27
ME40AC-21	4/10	230	1/60	6.0	1-1/2"	Tethered Automatic	20'	28
ME40MC-21	4/10	230	1/60	6.0	1-1/2"	Manual	20'	27
ME40P-1	4/10	115	1/60	6.0	1-1/2"	Tethered Automatic*	10'	28
ME40PC-1	4/10	115	1/60	6.0	1-1/2"	Tethered Automatic*	20'	29
ME40PC-2	4/10	230	1/60	6.0	1-1/2"	Tethered Automatic*	20'	29

*Piggyback

DIMENSIONS



PUMP PERFORMANCE



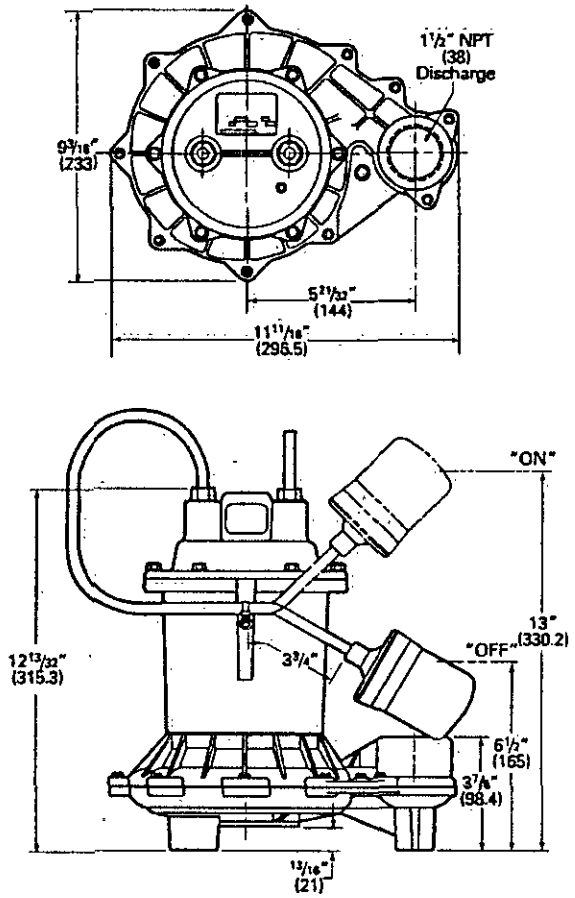
MYERS® ME40 SERIES

ORDERING INFORMATION

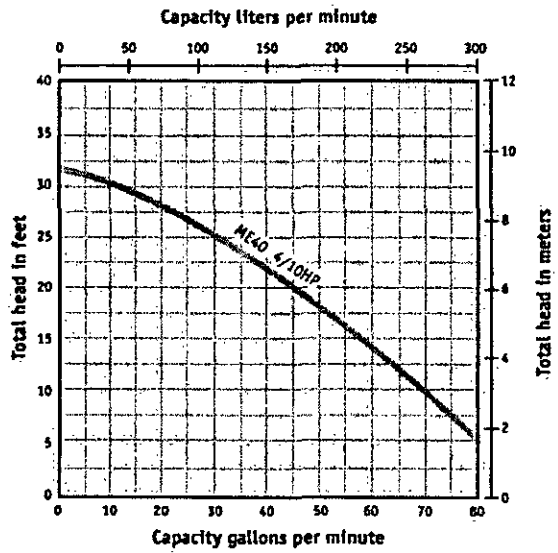
Catalog Number	HP	Volts	Phase/ Cycles	Amps	Discharge Size	Switch Type	Approx. Cord Length	Wt. Lbs.
ME40A-11	4/10	115	1/60	12.0	1-1/2"	Tethered Automatic	10'	27
ME40AC-11	4/10	115	1/60	12.0	1-1/2"	Tethered Automatic	20'	28
ME40M-11	4/10	115	1/60	12.0	1-1/2"	Manual	10'	26
ME40MC-11	4/10	115	1/60	12.0	1-1/2"	Manual	20'	27
ME40AC-21	4/10	230	1/60	6.0	1-1/2"	Tethered Automatic	20'	28
ME40MC-21	4/10	230	1/60	6.0	1-1/2"	Manual	20'	27
ME40P-1	4/10	115	1/60	6.0	1-1/2"	Tethered Automatic*	10'	28
ME40PC-1	4/10	115	1/60	6.0	1-1/2"	Tethered Automatic*	20'	29
ME40PC-2	4/10	230	1/60	6.0	1-1/2"	Tethered Automatic*	20'	29

*Piggyback

DIMENSIONS



PUMP PERFORMANCE

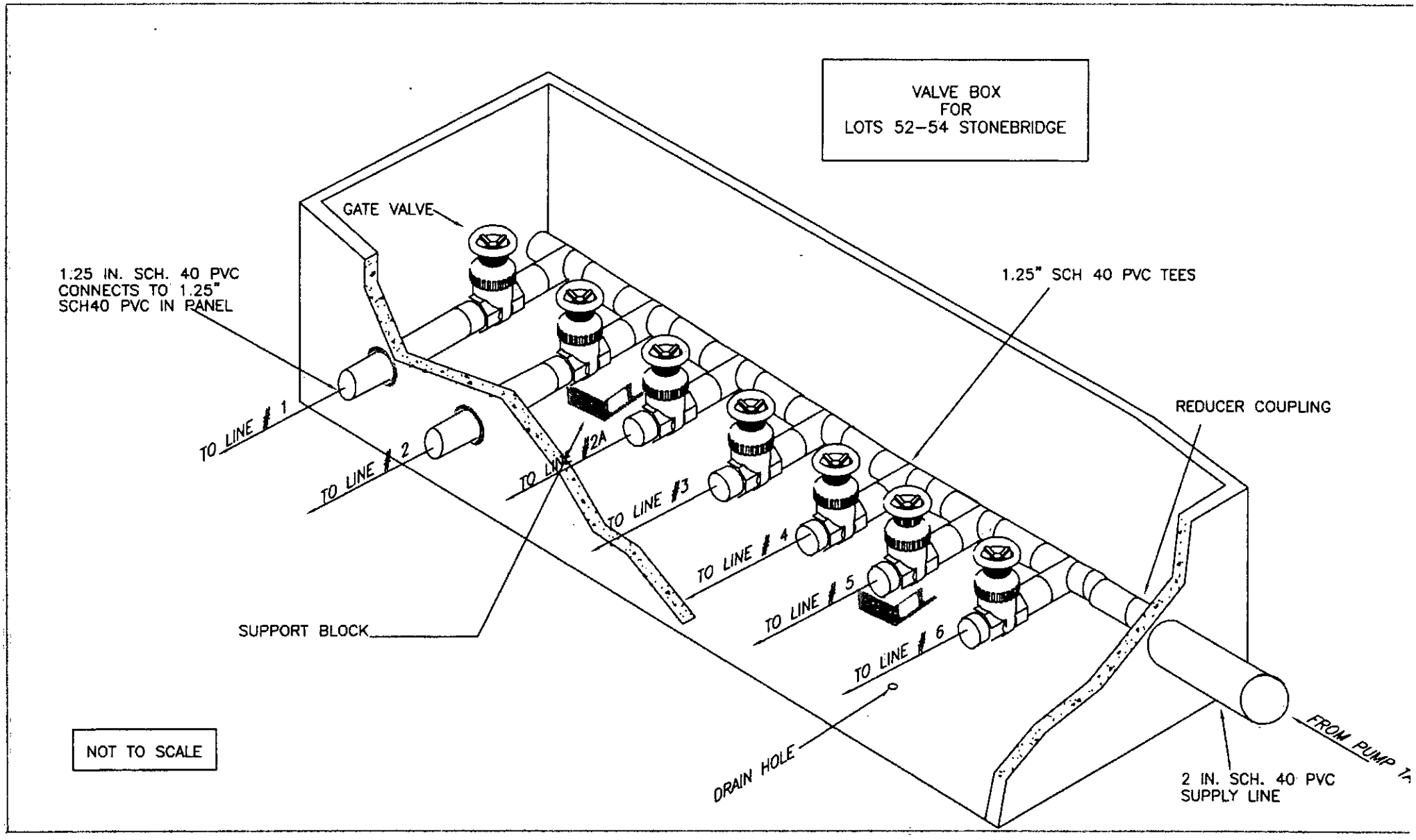


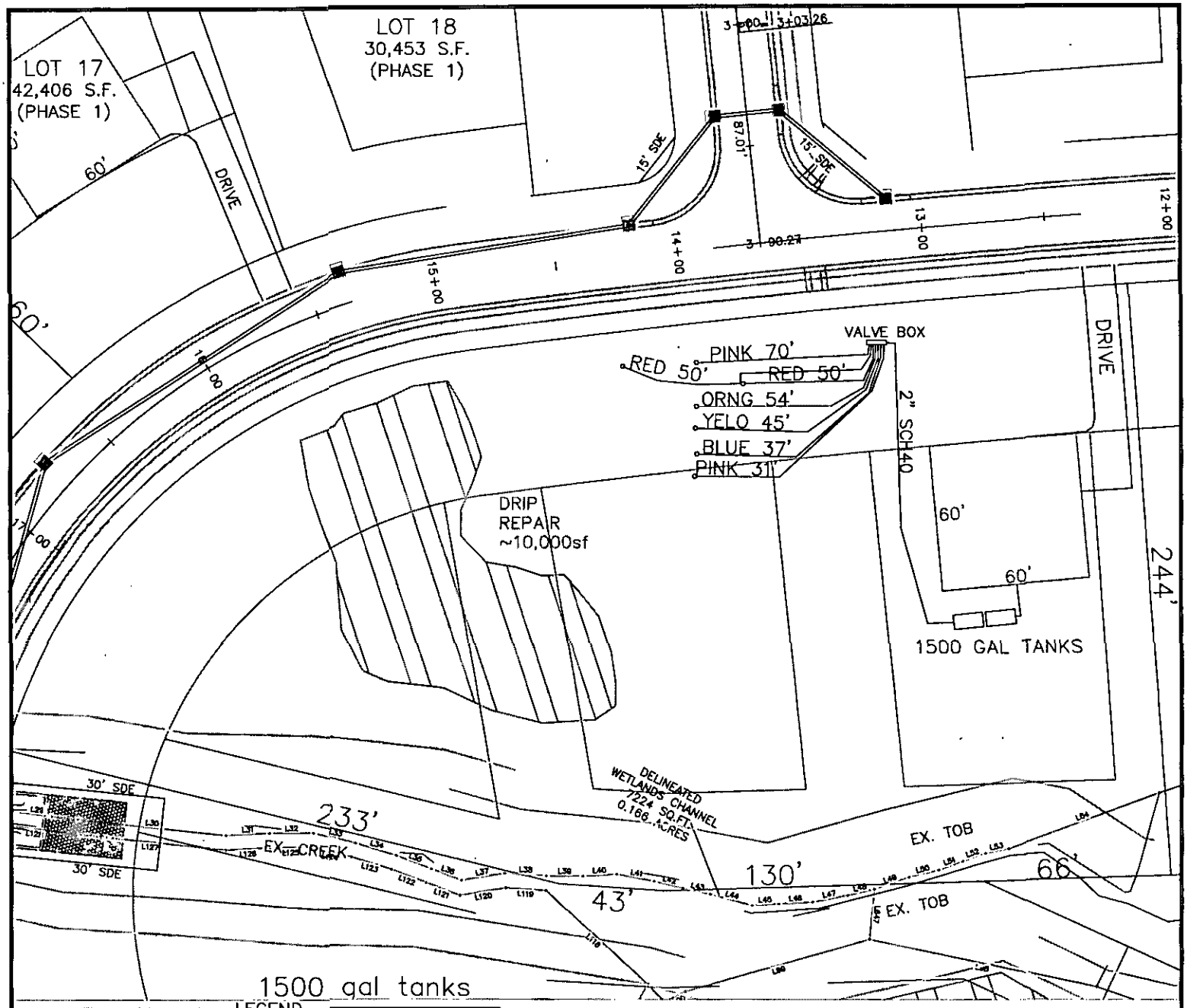
CALCULATIONS

Location	Stonebridge	
Project Number	13-1025	
Lot No:	52-55	
No. of Bedrooms	5	
Design Flow	600	$^{gal}/_{day}$
LTAR	0.3	$^{gal}/_{ft^2\ day}$
Innovative? (YES OR NO)	NO	
Supply Line Length	130	ft.
Supply Line Volume	22.62	gal.
Required Feet of Line	333	ft.
Amount of Line from Layout	337	ft.
Gallons per Minute	30.75	$^{gal}/_{min}$
Required Septic Tank Capacity	1500	gal.
Minimum Standard Tank Size	1500 gal.	
Lateral Line Volume	220.061	gal.
Dosing Volume	270.00	gal.
	Note: Dosing Volume=75 panels x 3.6g	
Tank Draw Down	9.3	in.
	Generic Draw Down of 29 gal.per in.	
Pump Run Time	8.78	minutes
Elevation Head	18	ft.
Pressure Head	2	ft.
Friction Factor	1.9	ft./100 ft. *(From the interpolater.)*
Friction Head	2.47	ft.
Lateral Friction	2.5	
Total Dynamic Head (+15%)	28.72	ft.

FRICTION FACTOR INTERPOLATER
2" SCH 40 PVC

GPM	*f*
20	0.84
	-0.88
25	1.27
28	1.58
30	1.78
31	1.90
35	2.37
37	2.63
40	3.03
42.4	3.39
45	3.77
46.51	4.01
50	4.58
57.11	5.89
60	6.42


VALVE BOX
FOR
LOTS 52–54 STONEBRIDGE
GATE VALVE
1.25 IN. SCH. 40 PVC
CONNECTS TO 1.25"
SCH40 PVC IN PANEL
1.25" SCH 40 PVC TEES
REDUCER COUPLING
TO LINE # 1
TO LINE # 2
TO LINE #2A
TO LINE #3
TO LINE # 4
TO LINE # 5
TO LINE # 6
SUPPORT BLOCK
DRAIN HOLE
FROM PUMP
2 IN. SCH. 40 PVC
SUPPLY LINE
NOT TO SCALE



LEGEND

LINE #	COLOR	LENGTH
1	PINK	70'
2	RED	50'
2a	RED	50'
3	ORANGE	54'
4	YELLOW	45'
5	BLUE	37'
6	PINK	31'

SYSTEM INFO: PANEL BLOCK; .3 LTAR
REPAIR INFO: DRIP; .1 LTAR

GRAPHIC SCALE
1" = 60'

60' 0 60' 120'

FOR PRELIMINARY PLANNING PURPOSES ONLY. ALL LOTS WILL REQUIRE FINAL APPROVAL BY THE COUNTY HEALTH DEPARTMENT ON A LOT BY LOT BASIS. THIS MAP SHOULD BY USED AS A GENERAL GUIDE, SOME ADJUSTMENTS WILL BE NECESSARY IN THE FIELD DUE TO SOIL VARIABILITY AND COMPLEX TOPOGRAPHIC FEATURES. THIS MAP ONLY REFLECTS EXISTING SOIL SUITABILITY FOR ON-SITE SEPTIC TANK SYSTEMS.

PLEASE REFER TO ATTACHED SOIL REPORT FOR ADDITIONAL SITE SPECIFIC INFORMATION

FIGURE 1. SEPTIC SYSTEM LAYOUT AND HOUSE PLAN
SEPTIC SYSTEM LAYOUT BY S&FS

SHEET TITLE:
SEPTIC SYSTEM LAYOUT/PRELIM SITE PLAN SKETCH MAP

PROJECT NAME
WELLS FARGO
STONEBRIDGE LOTS 52-54
MECKLENBURG COUNTY, NORTH CAROLINA
October 2013

Soil & Forestry Services of the Carolinas, PA
P.O. Box 832
Mooresville, NC 28115

PROJECT NO. 13-1075
SCALE 1" = 60'

S

FEE: 200.00
DATE:8/10/2015

MECKLENBURG COUNTY
GROUNDWATER & WASTEWATER SERVICES

FILE NUMBER: 6583B

PERMIT NUMBER: 30006409

PARCEL NUMBER: 13903354

JOB LOCATION INFORMATION

ADDRESS: 9439 STONEBRIDGE WAY

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

ISSUED TO: Redus Charlotte Housing LLC

CONSTRUCTION AUTHORIZATION ISSUANCE DATE: 8/10/2015

CONSTRUCTION AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NUMBER 30006409, 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. A PRE-CONSTRUCTION MEETING MUST BE SECURED PRIOR TO INSTALLATION OF THE SEPTIC TANK SYSTEM. THE INSTALLER OF THE SYSTEM SHALL BE A LICENSED SEPTIC TANK CONTRACTOR WITH THE NORTH CAROLINA ONSITE WASTEWATER CONTRACTOR INSPECTOR CERTIFICATION BOARD.

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.

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 # 6583B App # 6409 Tax Parcel # 139-033-55

Property Owner: Live Well

Job Location Address: 9503 Stonebridge Way

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: _____

* 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

6/26/15 — Date

RCS — Others Present

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

www.soilandforestryservices.com

Mecklenburg County Groundwater and Wastewater Services
Attn: Brad Hallman
700 N. Tryon Street, Suite 211
Charlotte, NC 28202

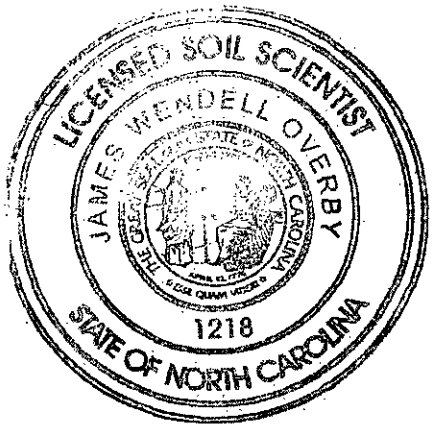
Re: Lot 52 Stonebridge

Dear Mr. Hallman,

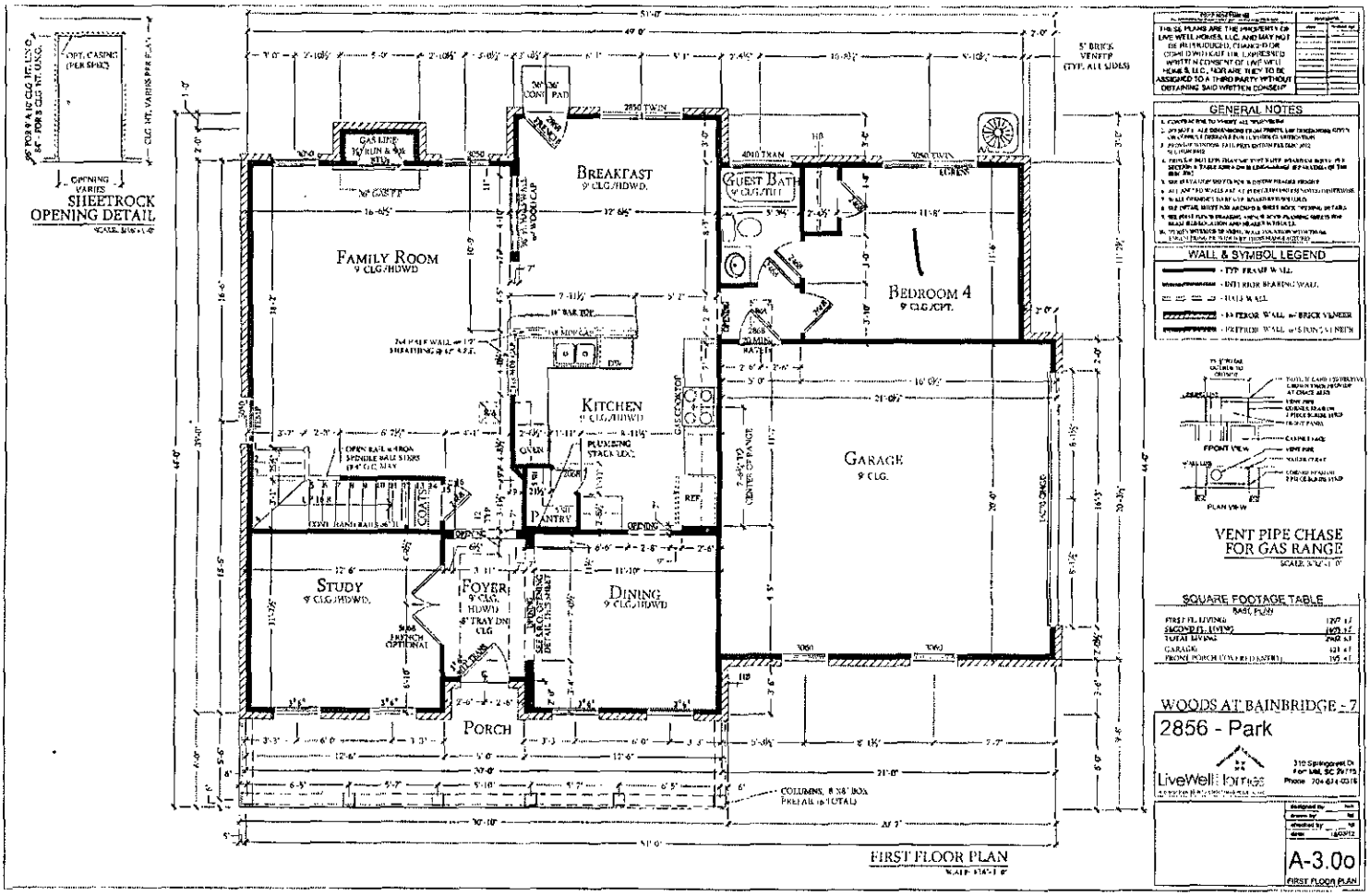
We have reviewed the 5-bedroom LPP panel block system install at Lot 52 of Stonebridge. The install was performed by RCS, Inc. The installation differed from our design in that the upper 2 trenches were transposed (2x50' above 70'). The remaining components of the install appeared to follow our design. Please note we did not meet the installer prior to starting to validate our layout flags. In summary the installation was performed satisfactorily with our design.

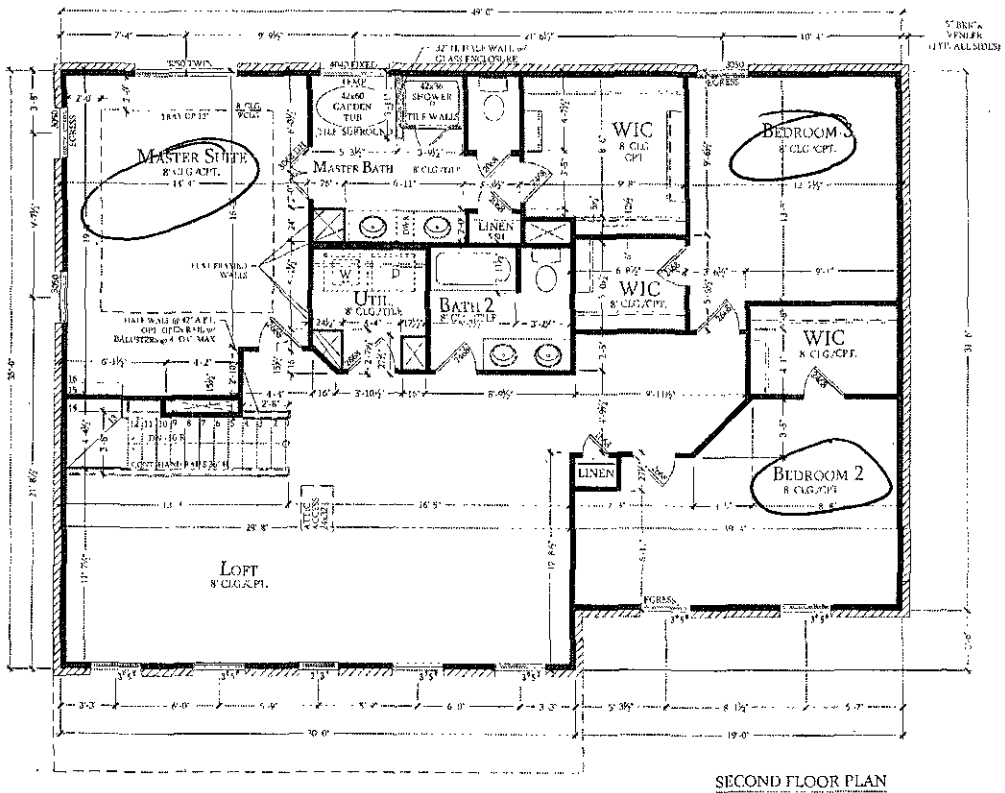
Sincerely,

Wendell Overby
NC Licensed Soil Scientist
NC Registered Forester



9439 Stonebridge Way
File 6583B





SECOND FLOOR PLAN

SCALE: 1/4" = 1'-0"

THESE PLANS ARE THE PROPERTY OF LIVE WELL HOMES, LLC, AND MAY NOT BE REPRODUCED, CHANGED OR COPIED WITHOUT THE EXPRESSED WRITTEN CONSENT OF LIVE WELL HOMES, LLC., NOR ARE THEY TO BE ASSIGNED TO A THIRD PARTY WITHOUT OBTAINING SAID WRITTEN CONSENT

GENERAL NOTES

1. GO OVER PLAN TO VERIFY ALL DIMENSIONS
2. DO NOT SCALE DRAWINGS FROM PRINTS. USE DIMENSIONS GIVEN OR PARTIAL LEGIBLE TYP. FOR DIMENSIONAL CLARIFICATION
3. PROVIDE WINDOW AND DOOR HEADERS PER SCHEDULE
4. PROVIDE INSULATION AT TUB AND SHOWER AS REQUIRED BY THE MECHANICAL CODE AND ENERGY CODE AS DESIGNATED FOR THE AREA
5. INSULATION SHALL BE R-49 IN ATTIC AND R-21 IN FLOOR
6. ALL ANGLES IN WALLS ARE AT 45 DEGREE UNLESS NOTED OTHERWISE
7. ALL DIMENSIONS ARE TO FACE OF STUD, UNLESS NOTED
8. SEE DETAIL SHEETS FOR ADDITIONAL SHEET ROCK CONSTRUCTION NOTES
9. SEE FIRST FLOOR PLAN FOR ADDITIONAL NOTES PLUMBING, ELECTRICAL, HEATING, VENTILATION, AND DOOR SCHEDULE
10. VERIFY OPTIONS SELECTED WITH CUSTOMER BEFORE ORDERING. PROVISIONS MAY VARY BY MANUFACTURER

WALL & SYMBOL LEGEND

- TYP FRAME WALL
- INTERIOR BEARING WALL
- HALF WALL
- EXTERIOR WALL w/ BRICK VENEER
- EXTERIOR WALL w/ STONE VENEER

WOODS AT BAINBRIDGE - 7

2856 - Park

LiveWell Homes, LLC
319 Donegal Dr
Fort Mill, SC 29715
Phone: 704-574-0316

Designed by	
Drawn by	RJ
Approved by	
Date	12/9/13

A-5.0o

SECOND FLOOR PLAN

Proj 350145

6583B

MECKLENBURG COUNTY HEALTH DEPARTMENT Cust #6409

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: 13903355 54
STREET ADDRESS: 9503 STONEBRIDGE WAY
CITY: MINT HILL 9439
STATE: NC ZIP: 28227
SUBDIVISION NAME: STONEBRIDGE
LOT #: 352 LOT SIZE (acres): .698
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: 3600+
NUMBER OF BEDROOMS: 4 5
NUMBER OF OCCUPANTS: 4
FOUNDATION TYPE:

○ CONCRETE SLAB ○ BASEMENT WITH PLUMBING
● CRAWL SPACE ○ BASEMENT WITH NO PLUMBING

5. **IF PLANNING TO EXPAND OR ALTER THE EXISTING SEPTIC SYSTEM PLEASE COMPLETE THE FOLLOWING SECTION:** ☐ N/A

NUMBER OF BEDROOMS TO BE ADDED: _____ NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE: _____

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

7. **PROPOSED USE OF WELL:** ○ N/A ○ IRRIGATION ○ POTABLE (DRINKING WATER) ○ OTHER _____

8. **PLEASE INDICATE AND RANK DESIRED SEPTIC SYSTEM TYPE(S) IN ORDER OF PREFERENCE** *(1-MOST DESIRED 5-LEAST DESIRED)*:

☐ N/A ☒ ANY TYPE ☐ CONVENTIONAL ☐ ACCEPTED ☐ INNOVATIVE ☐ ALTERNATIVE ☐ OTHER _____

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: REDUS CHARLOTTE HOUSING, LLC
ADDRESS: 301 S. COLLEGE ST, D1053-04B
CITY: CHARLOTTE
STATE: NC ZIP: 28202
WORK PHONE: 704 715-5282
MOBILE PHONE: 704 264-9197
FAX: 704 383-4315
E-MAIL: PAUL.CARTY@WELLSFARGO.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.

PC (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.

Paul Carty
Property Owner's or Owner's Legal Representative Signature

9/13/2013
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: 9/13/13

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

APPLICATION PROCESSED BY: Lwa

GWS FILE NUMBER ASSIGNED: 6583B

APPLICATION ID NUMBER ASSIGNED: 6409

COMMENTS:

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

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: 9503 STONEBRIDGE WAY Tax Parcel #: 13903355

Subdivision Name: STONEBRIDGE Lot #: 53

See attached

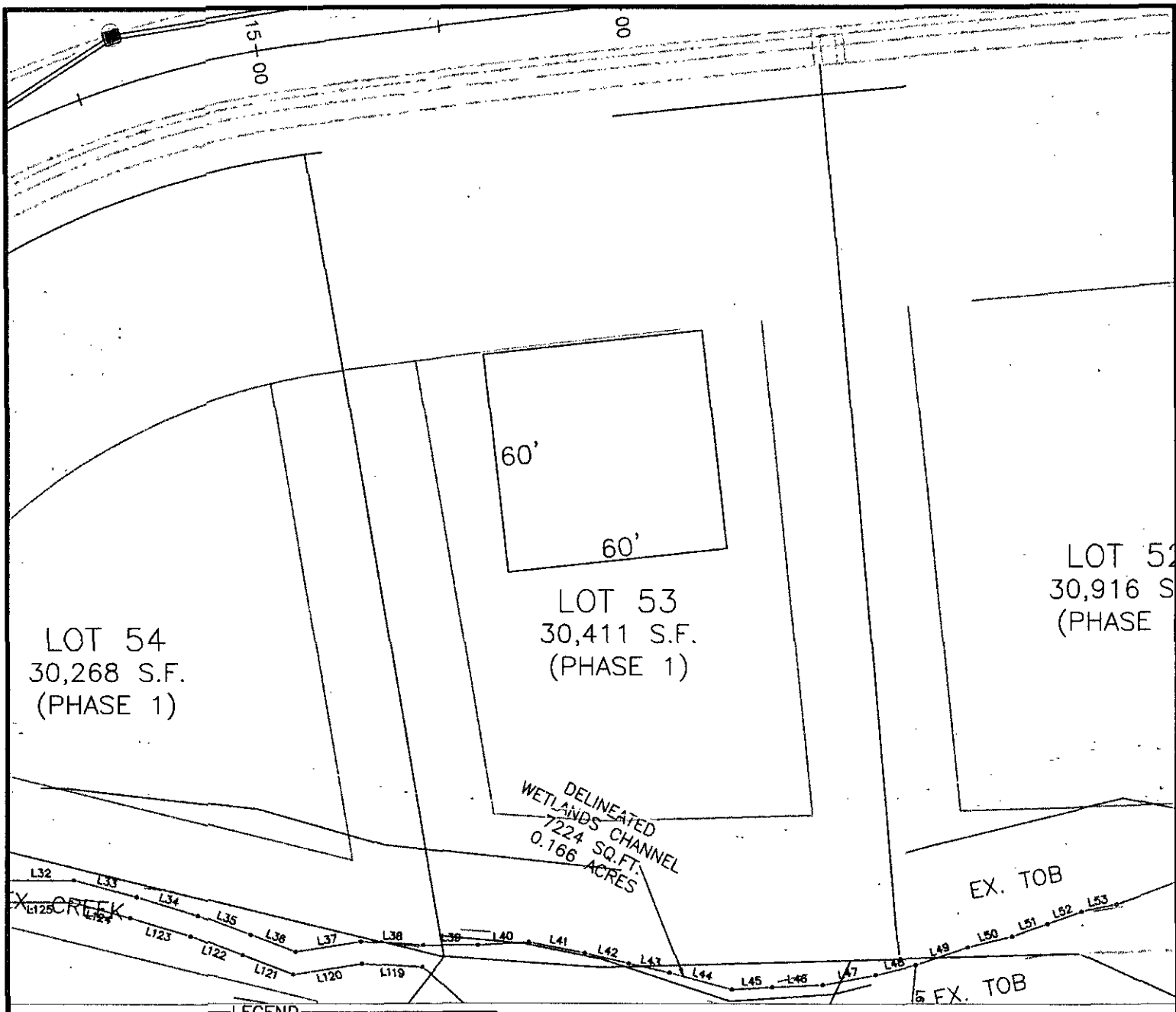
PC

Paul Carty
Property Owner's or Owner's Legal Representative Signature

9/13/2013
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



LEGEND

BORINGS	PITS
DRIP IRRIGATION	DRIP IRRIGATION
LOW PROFILE CHAMBER	LOW PROFILE CHAMBER
AT-GRADE INNOVATIVE	AT-GRADE INNOVATIVE
INNOVATIVE	INNOVATIVE
PANEL BLOCK	PANEL BLOCK

SOIL AREAS

DRIP IRRIGATION	LOW PROFILE	AT-GRADE INNOVATIVE	INNOVATIVE/ CONVENTIONAL	PANEL BLOCK

GRAPHIC SCALE
1" = 40'

40 0 40 80

FOR PRELIMINARY PLANNING PURPOSES ONLY. ALL LOTS WILL REQUIRE FINAL APPROVAL BY THE COUNTY HEALTH DEPARTMENT ON A LOT BY LOT BASIS. THIS MAP SHOULD BY USED AS A GENERAL GUIDE, SOME ADJUSTMENTS WILL BE NECESSARY IN THE FIELD DUE TO SOIL VARIABILITY AND COMPLEX TOPOGRAPHIC FEATURES.
THIS MAP ONLY REFLECTS EXISTING SOIL SUITABILITY FOR ON-SITE SEPTIC TANK SYSTEMS.

PLEASE REFER TO ATTACHED SOIL REPORT FOR ADDITIONAL SITE SPECIFIC INFORMATION

SHEET TITLE:
PRELIMINARY SITE/SOILS SUITABILITY SKETCH MAP

PROJECT NAME:
WELLS FARGO
STONEBRIDGE
MECKLENBURG COUNTY, NORTH CAROLINA
JULY 11, 2013

Soil & Forestry Services of the Carolinas, PA
P.O. Box 832
Mooresville, NC 28115

SCALE: 1" = 40'
PROJECT NO. 13-1405

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	09/13/13	**Amount:**	250.00
Receipt #:	85261	**Tendered:**	250.00
Check / Auth #:	CHECK 6633	**Returned:**	0.00
Received By:	SADERLW		

Account Information

Account #: 200000
Contractor: REDUS CHARLOTTE HOUSING LLC
Attn:
Address: 201 S COLLEGE ST, D1033-04B
Address:
City/State/Zip: CHARLOTTE, NC 28202

Item	Description	Permit#	Quantity	Unit Price	Total Price
0701	Improvment Permit App-Residen 9503 STONEBRIDGE WAY, LOT 53		1	250.00	250.00

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
40.00	305.00	100.00	40.00	1,207.15	

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 #: 6583 B Permit #: 6409 Tax Parcel #: 139-033-55

Property Owner: Live Well

Job Location Address: 9503 Stonebridge Wy

City: Mint Hill State: NC Zip Code: 28227

Operation Permit Issuance Date: 8/3/15 Contractor Name: RCS

Permitted Design Flow: 600 GPD Liquid Capacity of Dosing Tank: 1500 gallons

Liquid Capacity of Septic Tank: 1500 gallons Manufacture Ballingers Effluent Pump Model: WE0511 3/4hp

Drainfield Installation ☐ N/A

Trench Depth: 30" inches

Trench Width: 3 feet

Line Spacing: 9 feet (O.C.)

Total line length: 337 feet

# of Lines: 7 @ various feet

Depth of Media: NA inches (Type) PPBPS IIIa

Depth of Cover: 12"+ inches

Distribution Device: Press Man. LPP Dist.

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: _____ feet

Distance from Property Line: _____ feet

Distance from Water Supply Source: _____ feet

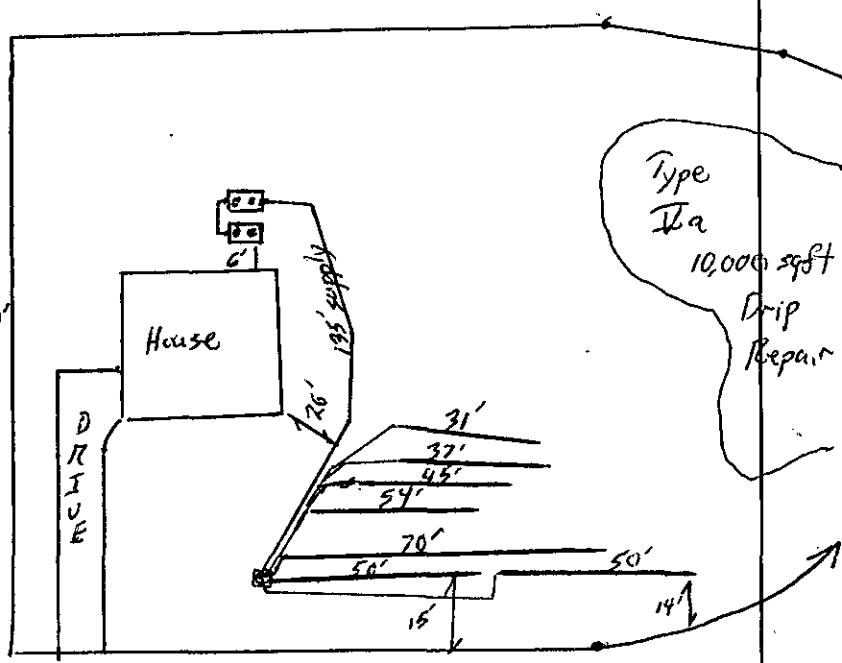
Inspection Dates

Tank(s) Inspected: 07/1/15

Excavation Inspected: 7/1/15

Pump & Controls Inspected: ~~Goulds WE0511 3/4hp~~ 7-23-15 ESP

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: IIIa PPBPS / P / NA / NA

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 #: 65833 Permit #: 6409 Tax Parcel #: 139-033-55

Property Owner: Live well

Job Location Address: 9503 Stonebridge Wy.

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: IIIa

*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: 8/3/15

Signature:

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	01/22/15	**Amount:**	200.00
Receipt #:	92296	**Tendered:**	200.00
Check / Auth #:	CHARGE	**Returned:**	0.00
Received By:	SADERLW		

Account Information

Account #:	X44709
Contractor:	LIVE WELL HOMES LLC
Attn:	
Address:	310 SPRINGCREST DR
Address:	
City/State/Zip:	FORT MILL, SC 29715

Item	Description	Permit#	Quantity	Unit Price	Total Price
0734	Septic Construction Authorization 9439 STONEBRIDGE WAY, LOT 52		1	200.00	200.00

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
10,402.09	4,360.03				

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date: 01/22/15
Receipt #: 92295
Check / Auth #: CHARGE
Received By: SADERLW

Amount: 200.00
Tendered: 200.00
Returned: 0.00

Account Information

Account #: X44709
Contractor: LIVE WELL HOMES LLC
Attn:
Address: 310 SPRINGCREST DR
Address:
City/State/Zip: FORT MILL, SC 29715

Item	Description	Permit#	Quantity	Unit Price	Total Price
0703	Septic Operational Permit 9439 Stonebridge Way, lot 52		1	200.00	200.00

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
10,202.09	4,360.03				

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 #: **30006409** GWS File #: **6583B** Tax Parcel #: **139-033-54**

- 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):** 2/19/2019

Type of Installation: Residential - New System Lot Number: 53

Structure Type: HOUSE Size (ft^2): 3600 # Bedrooms: 5 # Occupants: 4

Building Foundation: Crawl Space Water Supply: Municipal

II. Initial System Type: Pump to Approved **System Classification:** IVa

Initial System Specifications:

Design Flow (gpd):	600	LTAR (gpd/ft^2):	0.3	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1500
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	1000	Total Trench Length (ft):	333
Maximum Trench Depth (in):	30	Depth of Media (in):	N/A	Distribution Device:	Manifold (LPP Distri		

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

Repair System Specifications:

Design Flow (gpd):	600	LTAR (gpd/ft^2):	0.1	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1500
Trench Width (ft):	1	Trench Spacing (ft):	2	Absorption Area (ft^2):	6000	Total Trench Length (ft):	6000
Maximum Trench Depth (in):	6	Depth of Media (in):	N/A	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: Jeremy Michael Owner/Legal Agent: _____
Print Name

Signature: Jeremy Michael Signature: _____

Date Issued: 2/19/2014

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 #: **30006409** GWS File #: **6583B**

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.
- 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 components of the septic system must be located a minimum distance from the normal pool elevation or mean high water mark for the nearby body of water. See plot plan for minimum setback requirements.
- 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.
- The septic system shall be located at least 10 feet from any foundation drain.

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: Jeremy Michael

Signature: Jeremy Michael

Date Issued: 2/19/2014

Owner/Legal Agent: _____
Print Name

Signature: _____

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

Sheet: 1 of 2
Property ID: 139-033-55
Lot #: 53
File #: 6583B
AppID: 6409

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Owner: Redus Charlotte Housing, LLC
Address: 302 S. College St., D1053-04B, Charlotte, NC 28202
Proposed Facility: 4BR House
Design Flow (.1949): 480 GPD
Location of Site: 9503 Stonebridge Way, Mint Hill, NC 28227
Water Supply: [X] Public [X] Individual [ ] Well [ ] Spring [ ] Other
Evaluation Method: [ ] Auger Boring [X] Pit [ ] Cut
Type of Wastewater: [X] Sewage [ ] Industrial Process [ ] Mixed

Applicant: Paul Carty
Date Evaluated: 9/18/2013
Property Size: 2 ac
Property Recorded: Unknown

PROFILE #	1940 Landscape Position/ Slope%	Horizon Depth (IN)	SOIL MORPHOLOGY 1941 Structure/ Texture	SOIL MORPHOLOGY 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 10%	0 - 16 16 - 48	wfsbk CL mmabk C	FR SEXP FR SEXP	>48"	48	NA	PS		PS IV 0.3	32"
Pit #2	LS 14%	0 - 15 15 - 48	wfsbk CL mmabk C	FR SEXP FI SEXP	>48"	48	NA	PS		PS IV 0.3	31"
Pit #3	LS 10%	0 - 7 7 - 50	wfsbk CL mmabk C	FR SEXP FR SEXP	>50"	50	NA	S		PS IV 0.3	34"
Pit #4	TS 5%	0 - 22 22 - 42 42 - 54	wfsbk CL wmabk C wmabk C	FR SEXP FR SEXP FI SEXP	2 chroma mottles @ 44"	54	NA	S		PS IV 0.25	30"
Pit #5	TS 8%	0 - 12 12 - 45	wmsbk CL wmabk C	FR SEXP FI SEXP	>45"	45	NA	PS		PS IV 0.275	30"
Pit #6	TS 8%	0 - 12 12 - 44	wmsbk CL wmabk C	FR SEXP FI SEXP	2 chroma mottles @ 32"	44	NA	PS		PS IV 0.25	17"
Pit #7	LS 15%	0 - 23 23 - 40	wmsbk C wmsbk CL	FR SEXP FI SEXP	2 chroma mottles @ 36"	40	NA	PS		PS IV 0.25	19"
Pit #8	LS 15%	0 - 10 10 - 44	wmsbk CL mmabk C	FR SEXP FI SEXP	>44"	44	NA	PS		PS IV 0.275	27"

Description	Initial System	Repair System
Available Space (.1945)		
System Type(s)		
Site LTAR (gpd/sq ft)	0.3	0.25

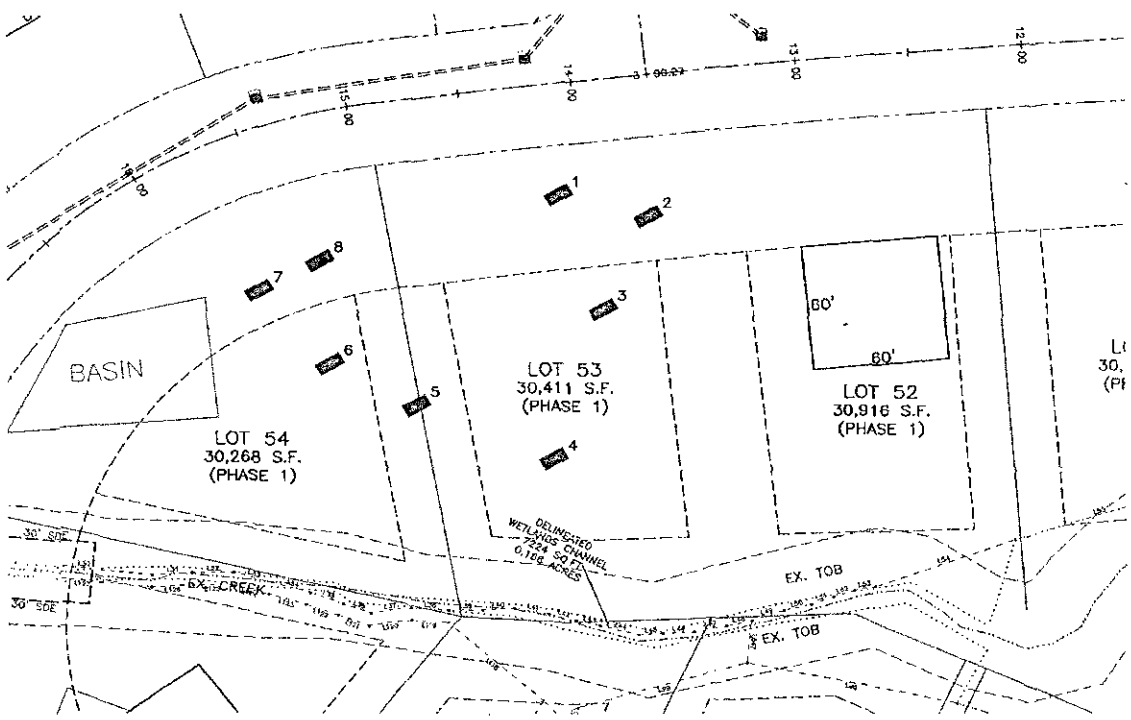
Other Factors (.1946):
Soil Evaluation By: Jacob Presley, LSS
Others Present: W. Overby & A. Rollins
Site Classification (.1948):
Site Evaluation By:
Others Present:

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		Sap-Saprolite
FP-Flood Plain		SCL-Sandy Clay Loam		**Structure Prefixes**
D-Drainage Way		SiL-Silt Loam		w-weak
				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





9503 STONEBRIDGE WY

13903355

1/10/2008

duponbj

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

#979

GWS – RES. APP 12/04

SEPTIC FEE: 200.00 cash
DATE: 4/13/06
CRT [ ] GC

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

FILE # 6583B

WELL FEE: _____
DATE: _____
CRT [ ]

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

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

JOB LOCATION INFORMATION:

TAX/PARCEL #: 139-03 355
STREET ADDRESS: 9503 Stonebridge Way
CITY: Mint Hill
STATE: NC ZIP:
SUBDIVISION OR MOBILE HOME PARK NAME: Stonebridge of Mint Hill
LOT #: 53
TOWNSHIP:
☐ 0-MECKLENBURG ☐ 4-PINEVILLE
☐ 1-CHARLOTTE ☐ 5-MATTHEWS
☐ 2-DAVIDSON ☐ 6-HUNTERSVILLE
☐ 3-CORNELIUS ☒ 7-MINT HILL

BUILDING INFORMATION:

TYPE OF BUILDING:
☐ SINGLE MOBILE HOME (S) ☐ MODULAR HOME (M)
☐ DOUBLE WIDE (D) ☐ MULTIPLE FAMILY (U)
☒ HOUSE (H) ☐ OTHER
HEATED SQUARE FOOTAGE: 3,500
NUMBER OF BEDROOMS: 4,5,6
NUMBER OF OCCUPANTS: 4

FOUNDATION FOR RESIDENCE:
☐ CONCRETE SLAB ☒ BASEMENT WITH PLUMBING
☐ CRAWLSPACE ☐ BASEMENT WITH NO PLUMBING

IF PLANNING TO EXPAND/ALTER THE EXISTING SYSTEM INDICATE THE FOLLOWING CHANGES:
NUMBER OF BEDROOMS TO BE ADDED: NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE:
WILL THERE BE A HOME BUSINESS IN THE RESIDENCE? ☐ YES ☐ NO TYPE:

WATER SUPPLY:

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

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

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

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

PROPERTY OWNER:

NAME: NVR, INC.
ADDRESS: 10815 David Taylor Dr., Ste 100
CITY: Charlotte
STATE: NC ZIP: 28262
HOME PHONE: WORK PHONE: 704-548-3534
MOBILE PHONE: FAX:

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:

NAME: Kim Stanley
ADDRESS: PO Box 176
CITY: Stanfield
STATE: NC ZIP: 28163
HOME PHONE: 704-782-9639 WORK PHONE:
MOBILE PHONE: 704-791-6852 FAX: 704-785-8721

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED?
WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY? May 2006

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

Kim Stanley 5/22/06
Owner's/Agent's Signature Date

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

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

Owner's/Agent's Signature Date

MECKLENBURG COUNTY HEALTH DEPARTMENT
GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST., SUITE 211
CHARLOTTE, NC 28202
704-336-5103 / FAX: 704-336-6864

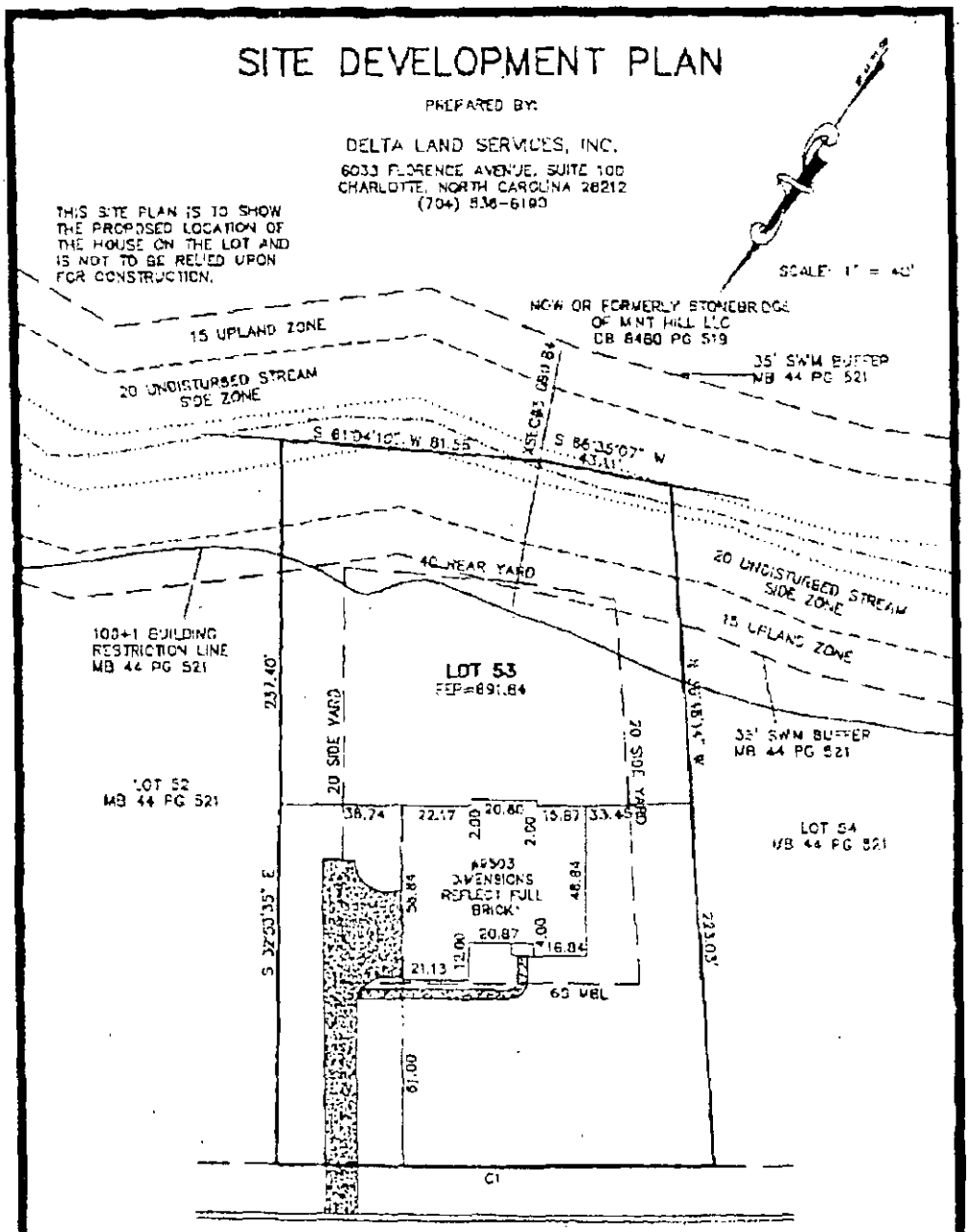
SITE DEVELOPMENT PLAN

PREPARED BY:

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

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

SCALE: 1" = 40'



ESTIMATED DRIVEWAY AREA = 1521 SQ.FT.±

STONEBRIDGE WAY
60' PUBLIC R/W

CURVE					
CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C1	4488.82'	139.0	139.10	S56°15'09"W	1°46'32"

STAKEOUT

NOT FOR RECORDATION, CONVEYANCES OR SALES

Subdivision STONEBRIDGE SUBDIVISION PHASE 1 MAP 1 County MECKLENBURG
Address #9203 STONEBRIDGE WAY Owner RYAN HOMES
Lot 53 Block ___ Plan AMBERCREST Elevation A Drive (Left) SIDE (Right) ___ (Courtyard) ___ Deck ___
Patio ___ Fireplace ___ Garage (1 Car) ___ (2 Car) ___ (3 Car) X Brick FULL Basement X Curtain Wall ___
Crawl ___ Slab ___ Other ___

REVISED: DWN: EHD CKD: DATE: 03 / 28 / 06