Supervisor/Administrative Professional Checklist

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

New Septic Fees Paid:

IP ($250.00) lws 9/3/13 Initials/Date

CA ($200.00) LE 8/7/17 Initials/Date

OP ($200.00) LE 8/7/17 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 ☑ JM 8/7/17
ok to issue CA when fees are paid.

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. ☑ 3/10/14

Applicant needs to initial for change in Bedrooms

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#: 8791B WASPS App #: 6419

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: 4			
	Were sufficient auger borings made?	Yes ☑	No ☐	N/A ☐
.1939(d), .1955, .1956, .1957	LTAR 0.3	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: _____

OP issued date: _____

Review performed by: JAM _____ Date performed: _____

FEE: 200.00

DATE: 8/7/2017

CONSTRUCTION AUTHORIZATION FOR AN ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

MECKLENBURG COUNTY

GROUNDWATER & WASTEWATER SERVICES

FILE NUMBER: 8791B

PERMIT NUMBER: 30006419

PARCEL NUMBER: 13903383

JOB LOCATION INFORMATION

ADDRESS: 7832 DEERBRIDGE ST

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

ISSUED TO: Redus Charlotte Housing LLC

CONSTRUCTION AUTHORIZATION ISSUANCE DATE: 8/7/2017

CONSTRUCTION AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NUMBER 30006419, 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, AND MAY BE ISSUED AT THE SAME TIME THE IMPROVEMENT PERMIT IS ISSUED.

Authorized Agent Signature Jeremy Mitchell

8791B

MECKLENBURG COUNTY HEALTH DEPARTMENT App#6419

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: 13903383

STREET ADDRESS: 7832 DECKBRIDGE ST

CITY: MINT HILL

STATE: NC ZIP: 28227

SUBDIVISION NAME: STONEBRIDGE

LOT #: 81 LOT SIZE (acres): .1745

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.CONTI@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

879/B

MECKLENBURG COUNTY
HEALTH DEPARTMENT

App #6419

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: 13903383
STREET ADDRESS: 7832 DEERBRIDGE ST
CITY: MINT HILL
STATE: NC ZIP: 28227
SUBDIVISION NAME: STONEBRIDGE
LOT #: 81 LOT SIZE (acres): .1745
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.CONTY@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: lws

GWS FILE NUMBER ASSIGNED: 8791B

APPLICATION ID NUMBER ASSIGNED: 6419

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

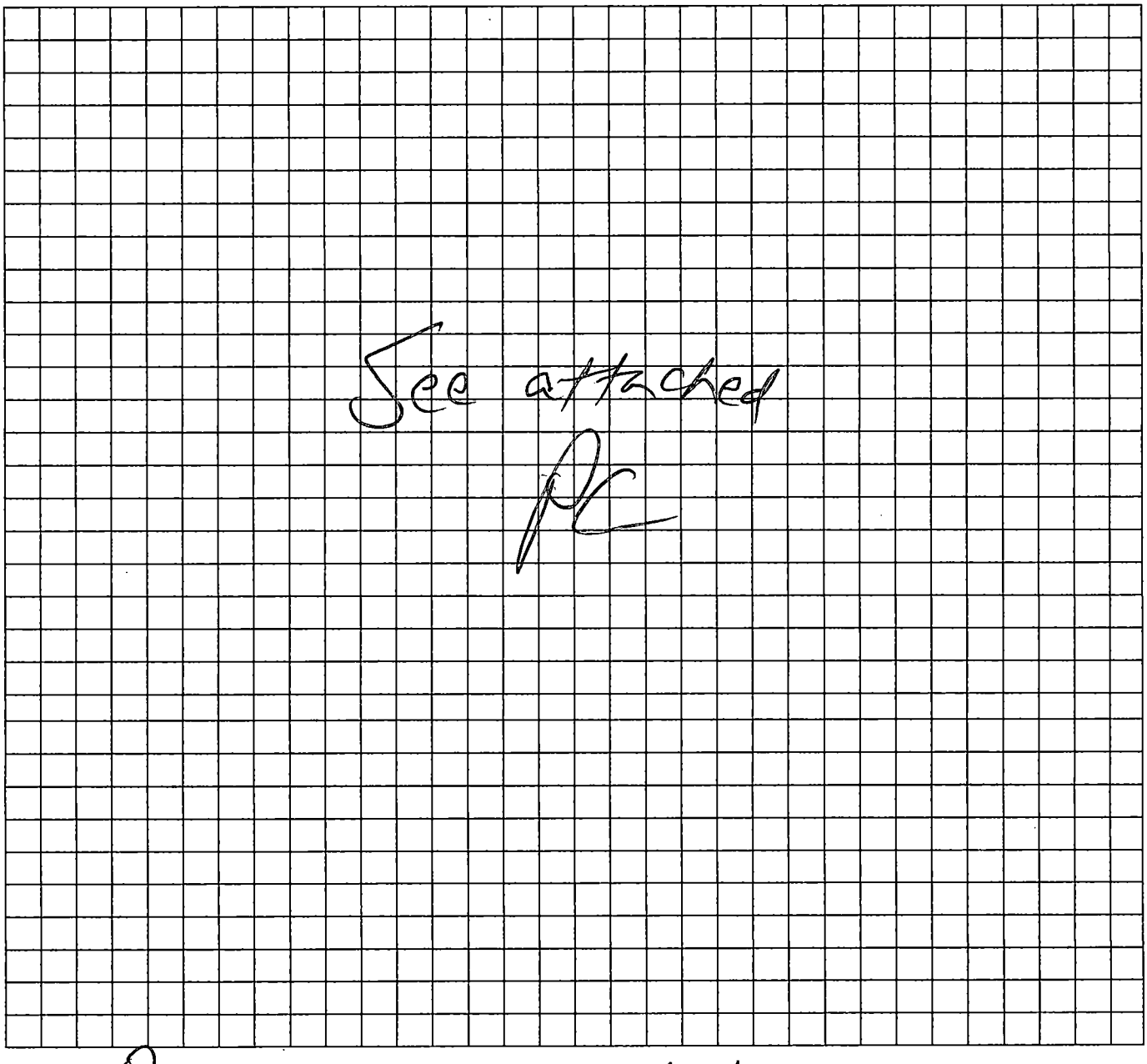
A drawing showing the locations of the following items is required: existing and proposed property lines with dimensions, easements or right-of-ways, proposed building pad(s) or existing building footprint(s), all appurtenances (garage, driveway, deck, pool, etc.), location of existing or proposed well(s), 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: 7832 DOORBRIDGE ST

Tax Parcel #: 13903383

Subdivision Name: STONEBRIDGE

Lot #: 81



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

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 #: **30006419** GWS File #: **8791B** Tax Parcel #: **139-033-83**

- 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):** 3/5/2019

Type of Installation: Residential - New System Lot Number: 81

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

Building Foundation: Crawl Space Water Supply: Municipal

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

Repair 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		

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: Paul Carty
Print Name

Signature: Jeremy Michael Signature: Paul Carty

Date Issued: 3/5/2014

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 #: **30006419** GWS File #: **8791B**

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 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.
- 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.

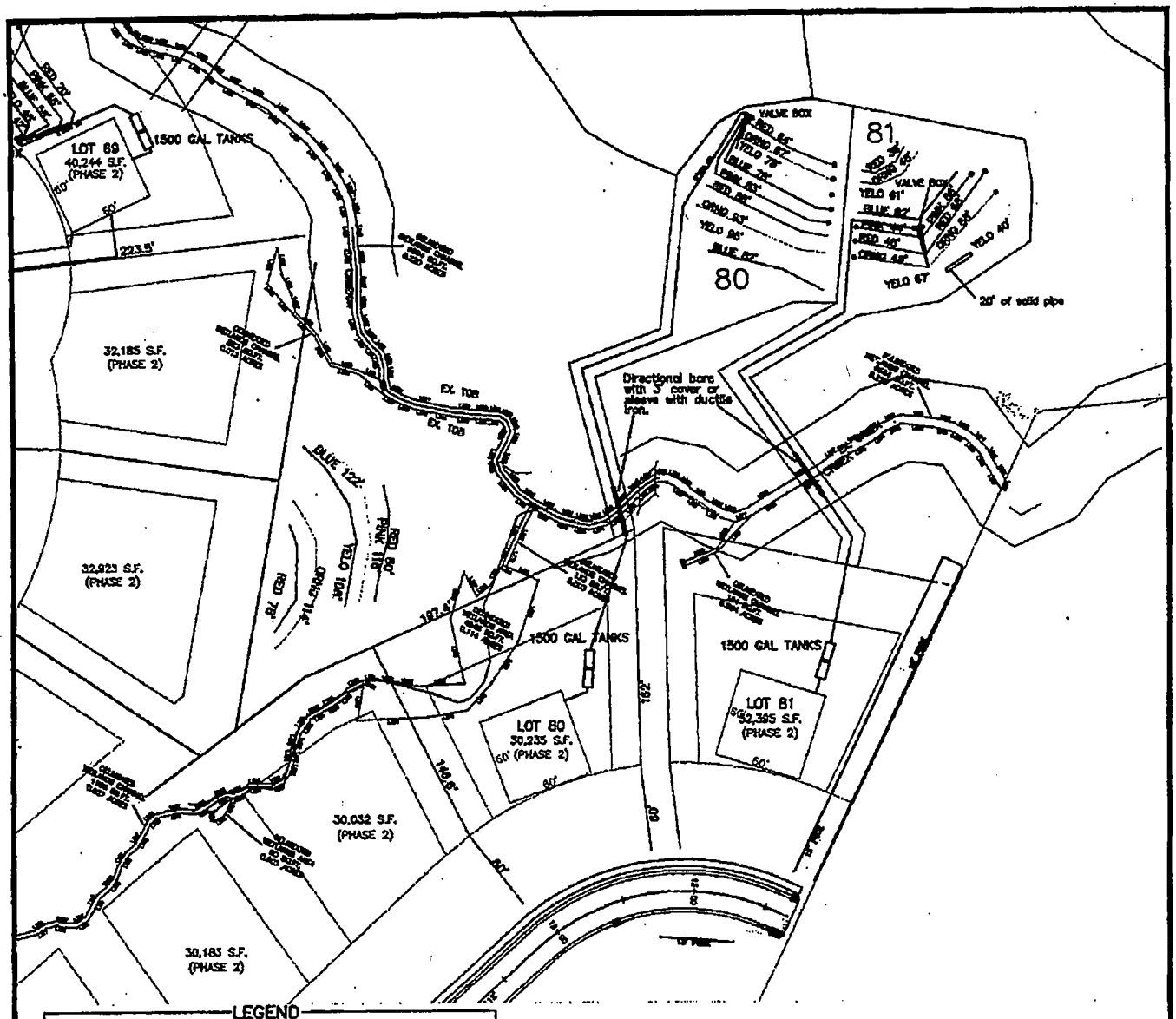
DENR Authorized Agent: Jeremy Michael

Signature: Jeremy Michael

Date Issued: 3/5/2014

Owner/Legal Agent: Paul Carty
Print Name

Signature: Paul Carty



LEGEND

LINE #	COLOR	LENGTH
1	RED	36'
2	ORANGE	48'
3	YELLOW	61'
4	BLUE	82'
5	PINK	100'
6	RED	116'
7	ORANGE	117'
8	YELLOW	167'

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

GRAPHIC SCALE
1" = 100'

100' 0 100' 200'

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.

Figure 1. Septic System Layout and House Plan Layout performed by S&FS

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

PROJECT NAME:
REDUS CHARLOTTE HOUSING
STONEBRIDGE LOT 81
MECKLENBURG COUNTY, NORTH CAROLINA

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

PROJECT NO.

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 #: **30006419** GWS File #: **8791B** Tax Parcel #: **139-033-83**

- 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):** 3/5/2019

Type of Installation: Residential - New System Lot Number: 81

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

Building Foundation: Crawl Space Water Supply: Municipal

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

Repair 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		

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: 3/5/2014

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 #: **30006419** GWS File #: **8791B**

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 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.
- 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: 3/5/2014

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: 139-033-83 (offsite easement)
Lot #: 81
File #: 8791B
AppID: 6419

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: 5BR House
Design Flow (.1949): 600 GPD
Location of Site: 7832 Deerbridge St., 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: 9/26/2013
Property Size: 0.745 ac + easement
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 #29	LS 9%	0 - 5	wmsbk CL	FR SEXP	>45"	45	NA	NA		PS IV 0.3	30"
		5 - 23	wmsbk C	FI SEXP							
		23 - 45	wmsbk CL	FR SEXP							
Pit #30	LS 16%	0 - 4	wfsbk CL	FR SEXP	>45"	45	PS	NA		PS IV 0.3	30"
		4 - 30	wmsbk C	FI SEXP							
		30 - 45	wfsbk CL	FR SEXP							
		45 - 52	mass L Sap	VFR SEXP							
Pit #32	LS 17%	0 - 8	wfsbk SCL	FR SEXP	>45"	21	PS	NA		PS IV 0.3	33"
		8 - 21	wfabk C	FR SEXP							
		21 - 60	mass L Sap	FR SEXP							
Pit #33	LS 17%	0 - 6	gr L	VFR SEXP	>50"	46	PS	NA		PS IV 0.3	30"
		6 - 35	mfabk C	FI SEXP							
		35 - 46	wfabk CL	FR SEXP							
		46 - 50	mass L Sap	VFR SEXP							

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

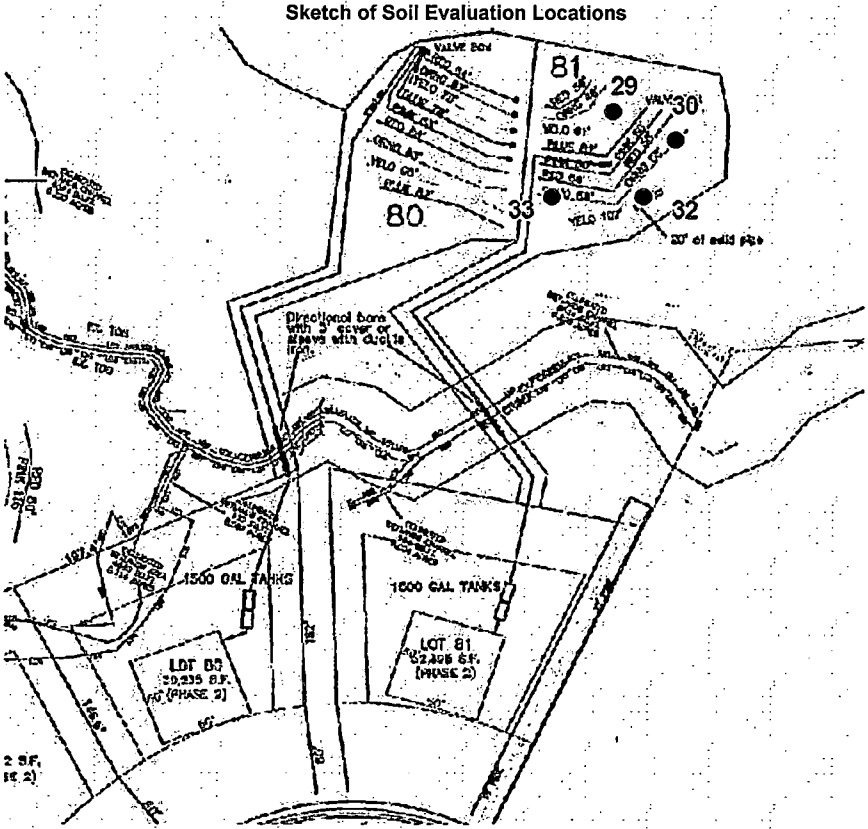
Other Factors (.1946):
Soil Evaluation By: Jacob Presley, LSS
Others Present: W. Overby, LSS
Site Classification (.1948): PS
Site Evaluation By: Jeremy Michael Jeremy Michael
Others Present:

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
	IV	SC-Sandy Clay	0.4 - 0.1	s-strong
		SiC-Silty Clay		f-fine
		C-Clay		m-medium
				c-coarse

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



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

Sheet: 1 of 2
Property ID: 139-033-83 (offsite easement)
Lot #: 81
File #: 8791B
AppID: 6419

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: 5BR House
Design Flow (.1949): 600 GPD
Location of Site: 7832 Deerbridge St., 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: 9/26/2013
Property Size: 0.745 ac + easement
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 #29	LS 9%	0 - 5	wmsbk CL	FR SEXP	>45"	45	NA	NA		PS IV 0.3	30"
		5 - 23	wmsbk C	FI SEXP							
		23 - 45	wmsbk CL	FR SEXP							
Pit #30	LS 16%	0 - 4	wfsbk CL	FR SEXP	>45"	45	PS	NA		PS IV 0.3	30"
		4 - 30	wmsbk C	FI SEXP							
		30 - 45	wfsbk CL	FR SEXP							
		45 - 52	mass L Sap	VFR SEXP							
Pit #32	LS 17%	0 - 8	wfsbk SCL	FR SEXP	>45"	21	PS	NA		PS IV 0.3	33"
		8 - 21	wfabk C	FR SEXP							
		21 - 60	mass L Sap	FR SEXP							
Pit #33	LS 17%	0 - 6	gr L	VFR SEXP	>50"	46	PS	NA		PS IV 0.3	30"
		6 - 35	mfabk C	FI SEXP							
		35 - 46	wfabk CL	FR SEXP							
		46 - 50	mass L Sap	VFR SEXP							

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

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

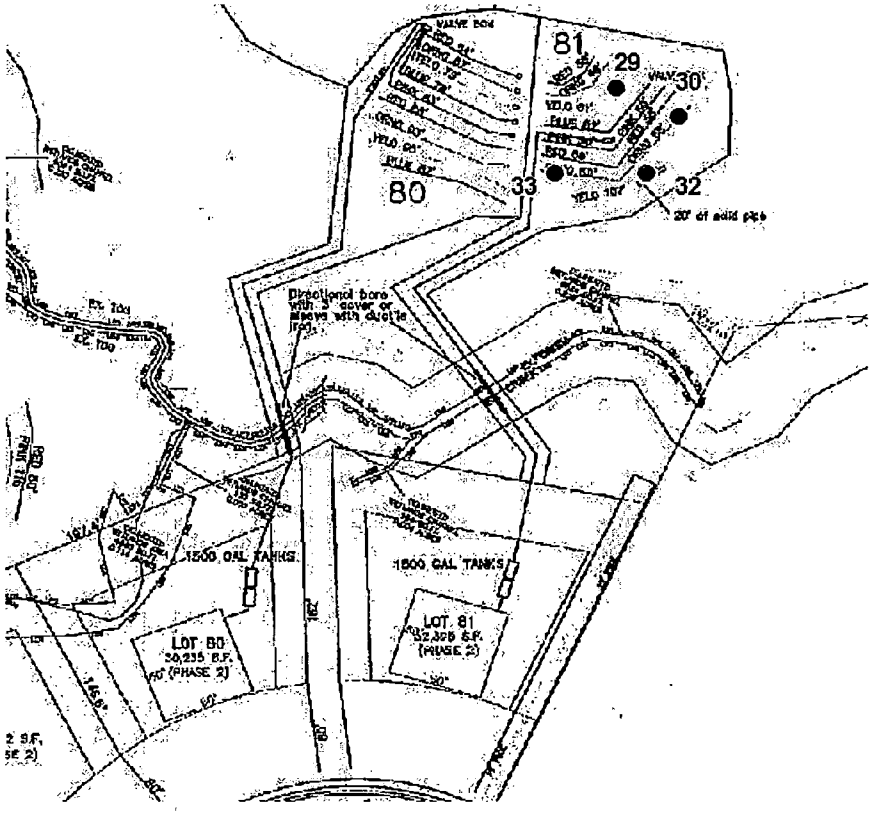
COMMENTS:

File #: 8791B
AppID: 6419

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



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 lot 81 of Stonebridge Subdivision
7832 Deerbridge Street, Mint Hill

Contents: **Page**

Information for the Installer ——— 1

Design Information
- Design Specifications ——— 2-3
- Layout Specifications ——— 4
- System Flow ——— 5
- Repair Flow ——— 6

Site Plan ——— 7

Septic Tank Diagram ——— 8

Pump Tank Diagram ——— 9

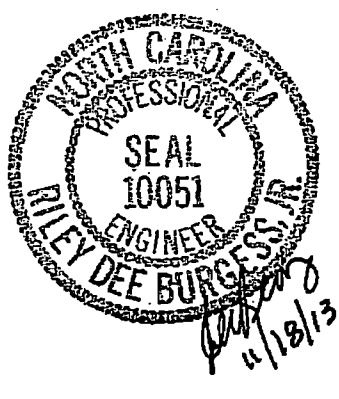
Control Panel Specifications ——— 10-13

Pump Specifications ——— 14-15

Calculations ——— 16

Valve Box Specifications ——— 17

November 2013
Design By: W. Overby



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
- 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.
- 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 and repair specified as PPBPS type using LPP distribution
- **System trench depth specified at 30"**
- **System trenches installed on 9' minimum; 3' wide trenches**
- **See Figure 1. Septic System Layout and House Plan**
- **System and repair proposed in easement to be recorded with Meck Co.**
- **Directional bore supply line or install with 3' cover under stream (.1951h)**

PPBPS PRESSURE DOSED SYSTEM
FOR WASTEWATER TREATMENT

Owner:	Redus Charlotte Housing LLC
Contact:	Paul Carty
Phone:	704 715-5282
County:	Mecklenburg
Location:	Stonebridge Lot 81

Source of Wastewater Flow:	5 Bedroom Single Family Residence
Estimated Daily Wastewater Production:	600 gpd
System Flow:	30.34 gpm

Design Specifications

Drainfield Size:	333 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:	400 lf
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	69.60 gal
Dosing Volume:	267.00 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:	7.12 ft
Elevation Head:	12.00 ft
Total Dynamic Head:	25.55 ft
Threaded Union:	In Tank
Gate Valves:	1 in Tank 6 in valve box
Check Valves:	In Tank
Anti-Siphon Hole:	n/a
Recommended Pump:	Myers Model ME50 or County Approved Effluent Rated Pump Capable of Delivering 25 ft.of Head at 30 gpm Total Flow

Stonebridge Lot 81
PPBPS Design

DESIGN FLOW:	600	gpd
SOIL APPLICATION RATE:	0.3 gpd/ft.^{2}	
TOTAL AREA TRENCH BOTTOM:	999	sf
TOTAL LATERAL LENGTH:	333	lf
NUMBER OF FIELDS:	1	
LATERAL LENGTH REQUIRED PER FIELD:	333	lf
SUPPLY LINE LENGTH:	400	lf
TOTAL DYNAMIC HEAD:	25.55	gpm
DOSING VOLUME:	267.00	gal
PUMP TANK DRAW DOWN*:	9.2	in
SEPTIC TANK SIZE:	1500 gal.	
PUMP TANK SIZE:	1500 gal.	
RECOMMENDED PUMP:	Myers Model ME50 or County Approved Effluent Rated Pump Capable of Delivering 25 ft.of Head at 30 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 Lot 81

Layout for a 5 bedroom home — Nov 2013

LINE #	FLAG COLOR	BS	HI	FS	ELEV	FLAGGED LINE LENGTH	DESIGN LENGTH
TBM		3.4			100.0		
INSTR. 1			103.4				
			REPAIR				
1	Red			3.00	100.4	36	36
2	Orange			3.90	99.5	48	48
3	Yellow			5.30	98.1	61	61
4	Blue			6.50	96.9	82	82
			SYSTEM				
5A	Pink			7.90	95.5	100	44
5B	Pink			7.90	95.5		56
6A	Red			9.10	94.3	116	48
6B	Red			9.10	94.3		68
7A	Orange			10.60	92.8	117	49
7B	Orange			10.60	92.8		68
			REPAIR				
8	Yellow			12.60	90.8	167	107

	LINE LENGTH	LTAR GPD/FT	SYSTEM TYPE	REDUCTION TYPE	STRIBUTION
SYSTEM	333	0.300	MOD	50%	LPP
REPAIR	334	0.300	MOD	50%	LPP

Notes:

** TBM located at base of flagged cedar stump

**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

** Soil areas = Pits 28, 29, 30, 32, 33

Stonebridge Lot 81

System (PPBPS)

DESIGN SPECIFICATIONS

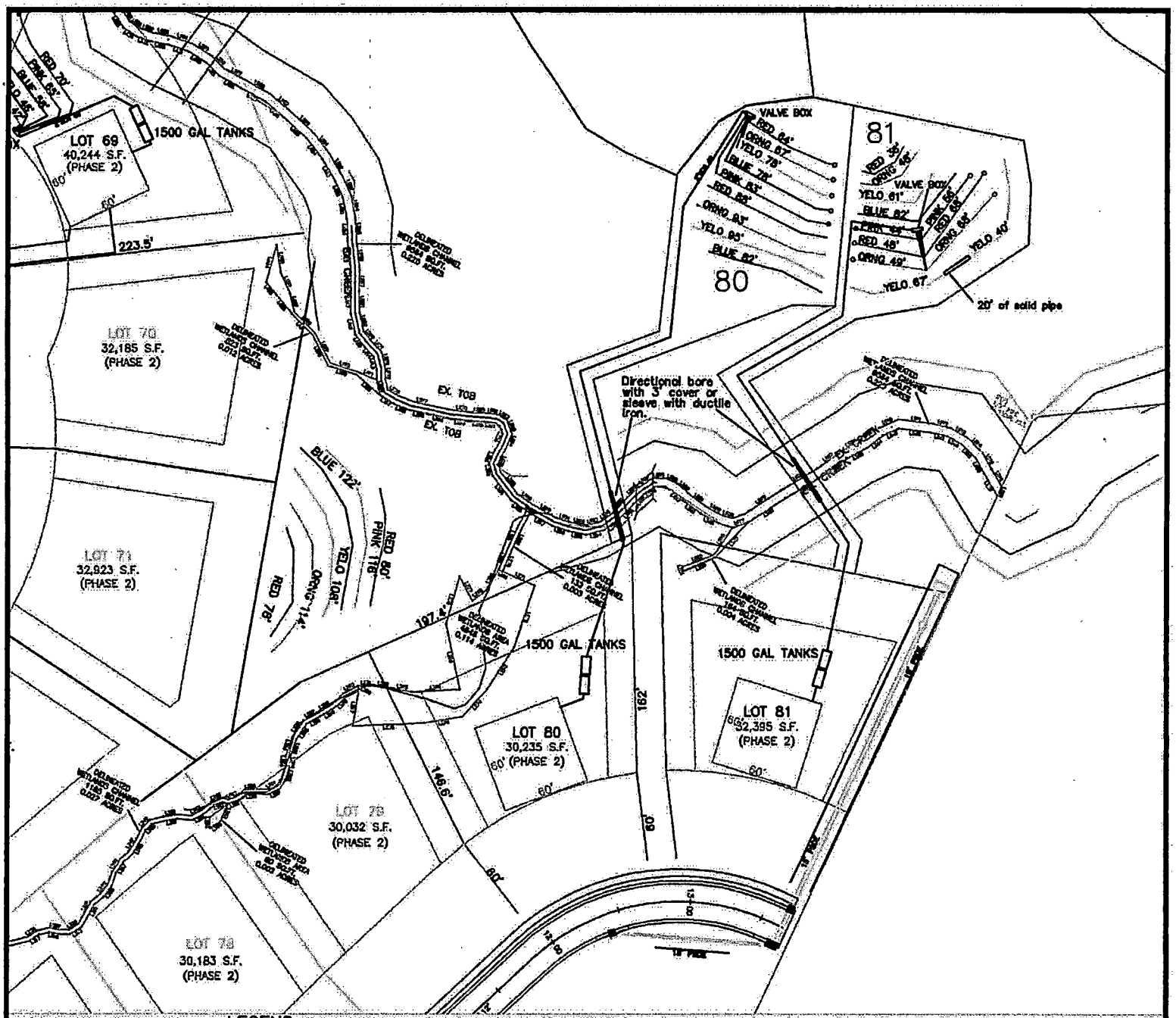
Line #	Color	#Panels	#Holes Panel	ft Line Length	Hole Size	ft Line Head	gpm Line Flow
5A	Pink	10	1	44	5/32"	2	4.10
5B	Pink	12	1	56	5/32"	2	4.92
6A	Red	11	1	48	5/32"	2	4.51
6B	Red	15	1	68	5/32"	2	6.15
7A	Orange	11	1	49	5/32"	2	4.51
7B	Orange	15	1	68	5/32"	2	6.15
		74		333			30.34

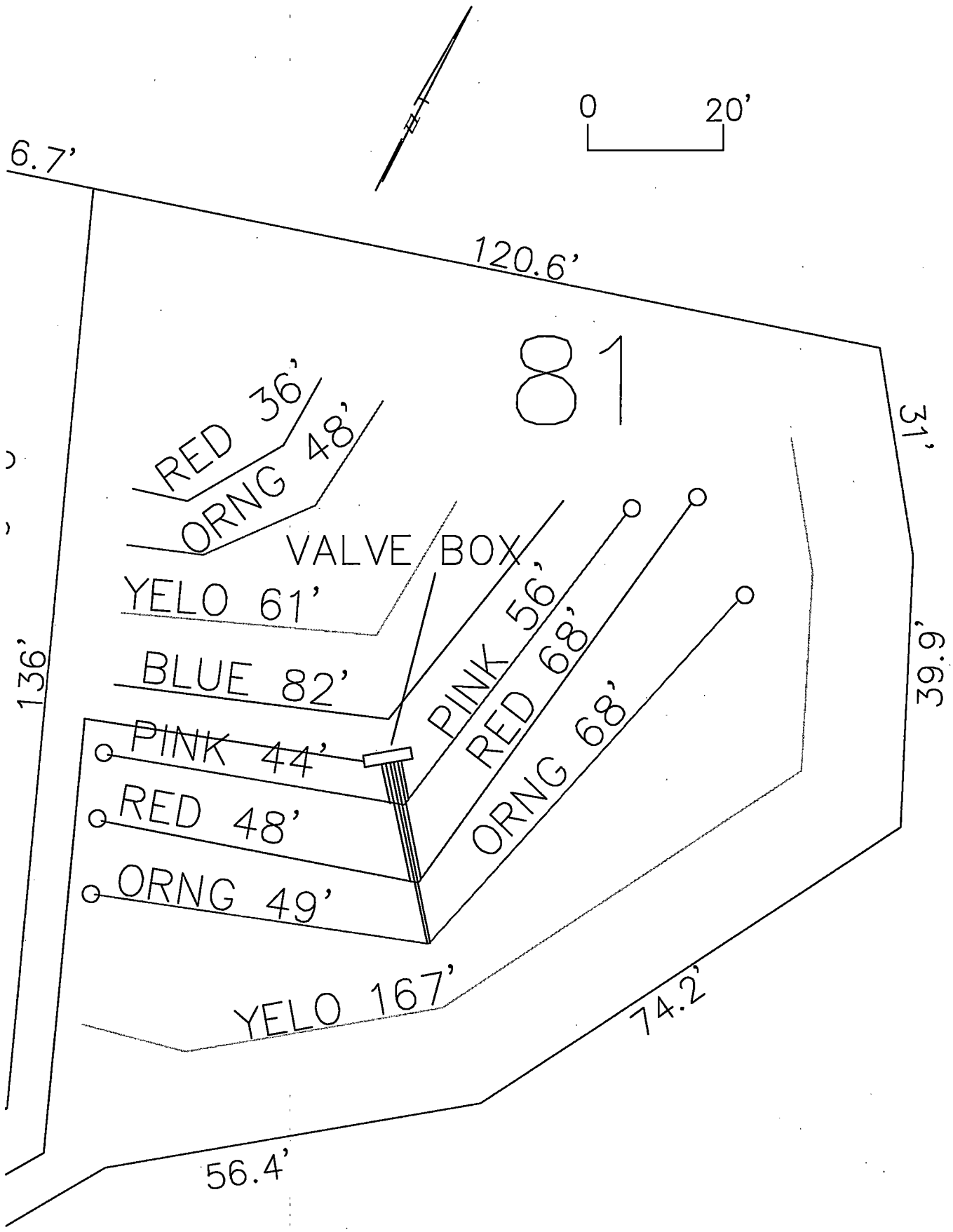
Stonebridge Lot 81

Repair (PPBPS)

DESIGN SPECIFICATIONS

Line #	Color	#Panels	#Holes Panel	ft Line Length	Hole Size	ft Line Head	gpm Line Flow
1	Red	8	1	36	5/32"	2	3.28
2	Orange	11	1	48	5/32"	2	4.51
3	Yellow	14	1	61	5/32"	2	5.74
4a	Blue	9	1	41	5/32"	2	3.69
4b	Blue	9	1	41	5/32"	2	3.69
8a	Yellow	9	15	67	5/32"	2	3.69
8b	Yellow	9	1	40	5/32"	2	3.69
		69		334			28.29

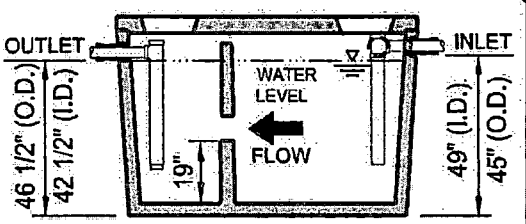

LOT 69
40,244 S.F.
(PHASE 2)
1500 GAL TANKS
223.5'
LOT 70
32,185 S.F.
(PHASE 2)
LOT 71
32,923 S.F.
(PHASE 2)
LOT 72
30,183 S.F.
(PHASE 2)
LOT 73
30,032 S.F.
(PHASE 2)
LOT 80
30,235 S.F.
(PHASE 2)
LOT 81
32,395 S.F.
(PHASE 2)
80
81
VALVE BOX
RED 84'
ORNG. 67'
YELO. 78'
BLUE 78'
PINK 83'
RED 82'
ORNG. 93'
YELO. 93'
BLUE 82'
VALVE BOX
YELO. 61'
BLUE 82'
PINK 83'
RED 48'
ORNG. 49'
YELO. 67'
YELO. 40'
20' of solid pipe
Directional bore with 3' cover or sleeve with ductile iron.
Ex. 10g
Ex. 10g
BLUE 122'
RED 78'
ORNG. 114'
YELO. 101'
PINK 118'
RED 60'
197.4'
1500 GAL TANKS
1500 GAL TANKS
162'
146.6'
60'
60'
60


0
20'
6.7'
120.6'
81
31'
RED 36'
ORNG 48'
VALVE BOX
YELO 61'
BLUE 82'
PINK 44'
RED 48'
ORNG 49'
PINK 56'
RED 68'
ORNG 68'
136'
39.9'
YELO 167'
74.2'
56.4'

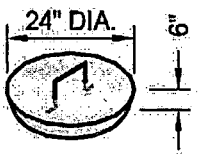
© 2008 Details Provided by APPIAN Consulting Engineers www.appianengineers.com

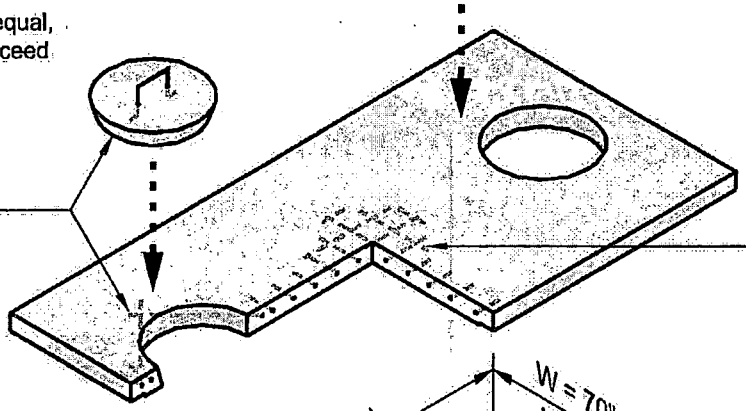
GENERAL NOTES:

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. 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



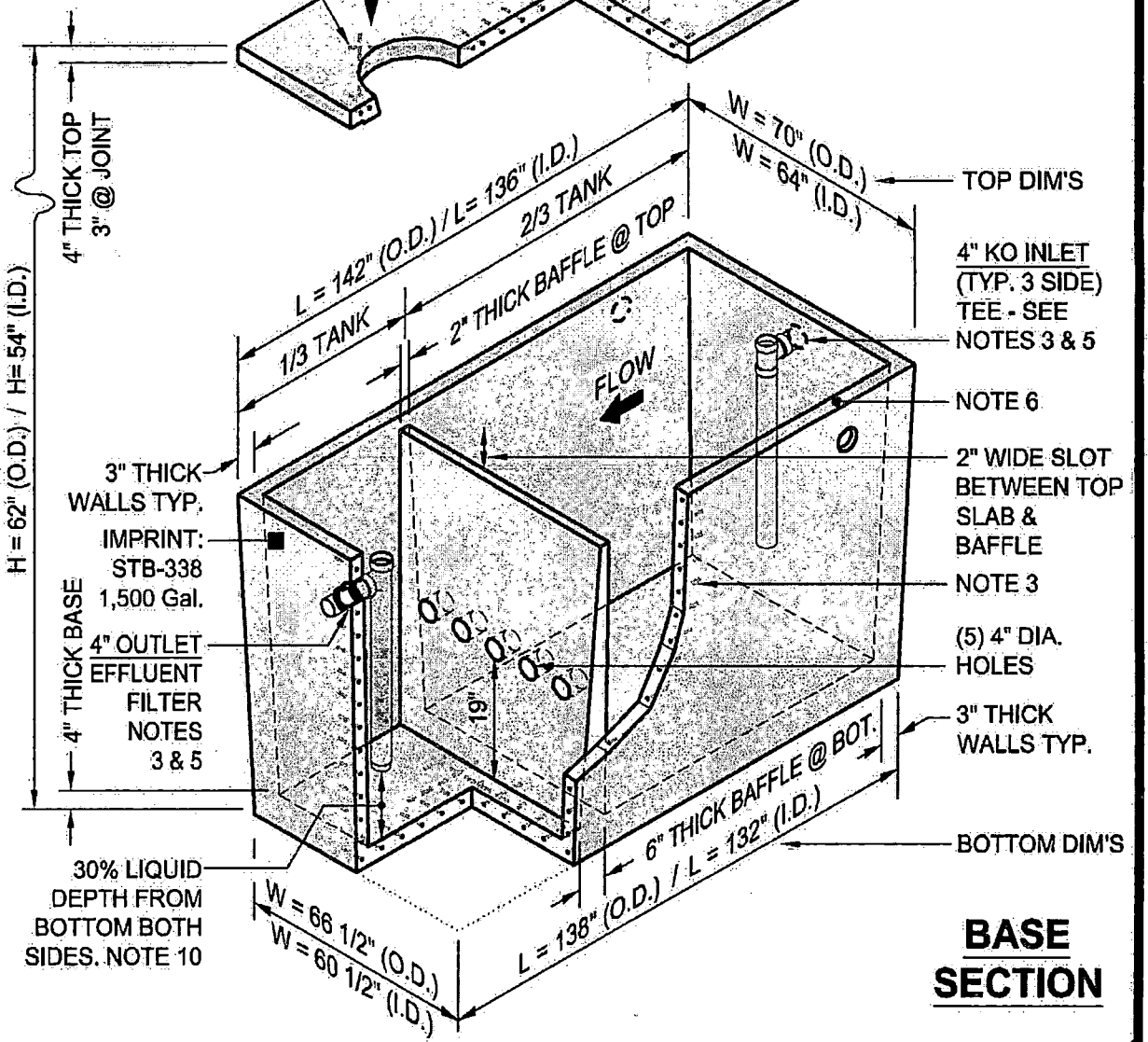
ELEVATION





TOP SLAB





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

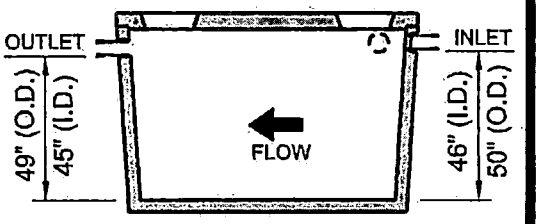
Revision Date: February 2008

Detail # ST-1,500-TS

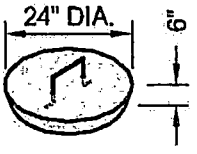
© 2008 Details Provided by APPIAN Consulting Engineers www.appianengineers.com

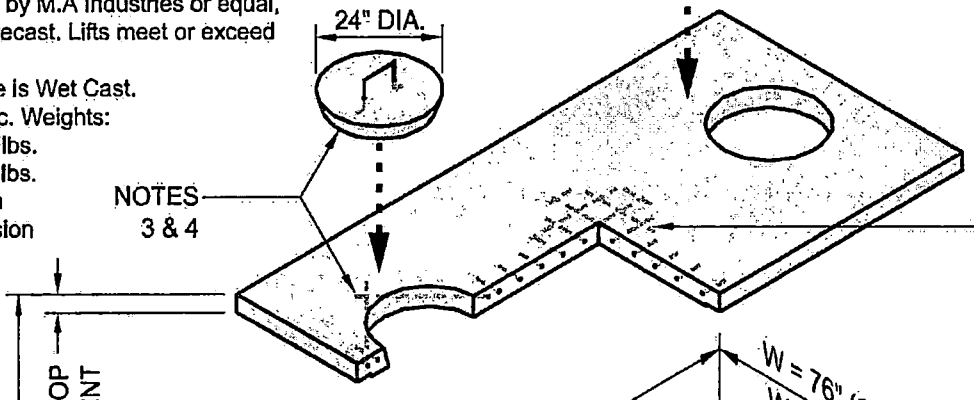
GENERAL NOTES:

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

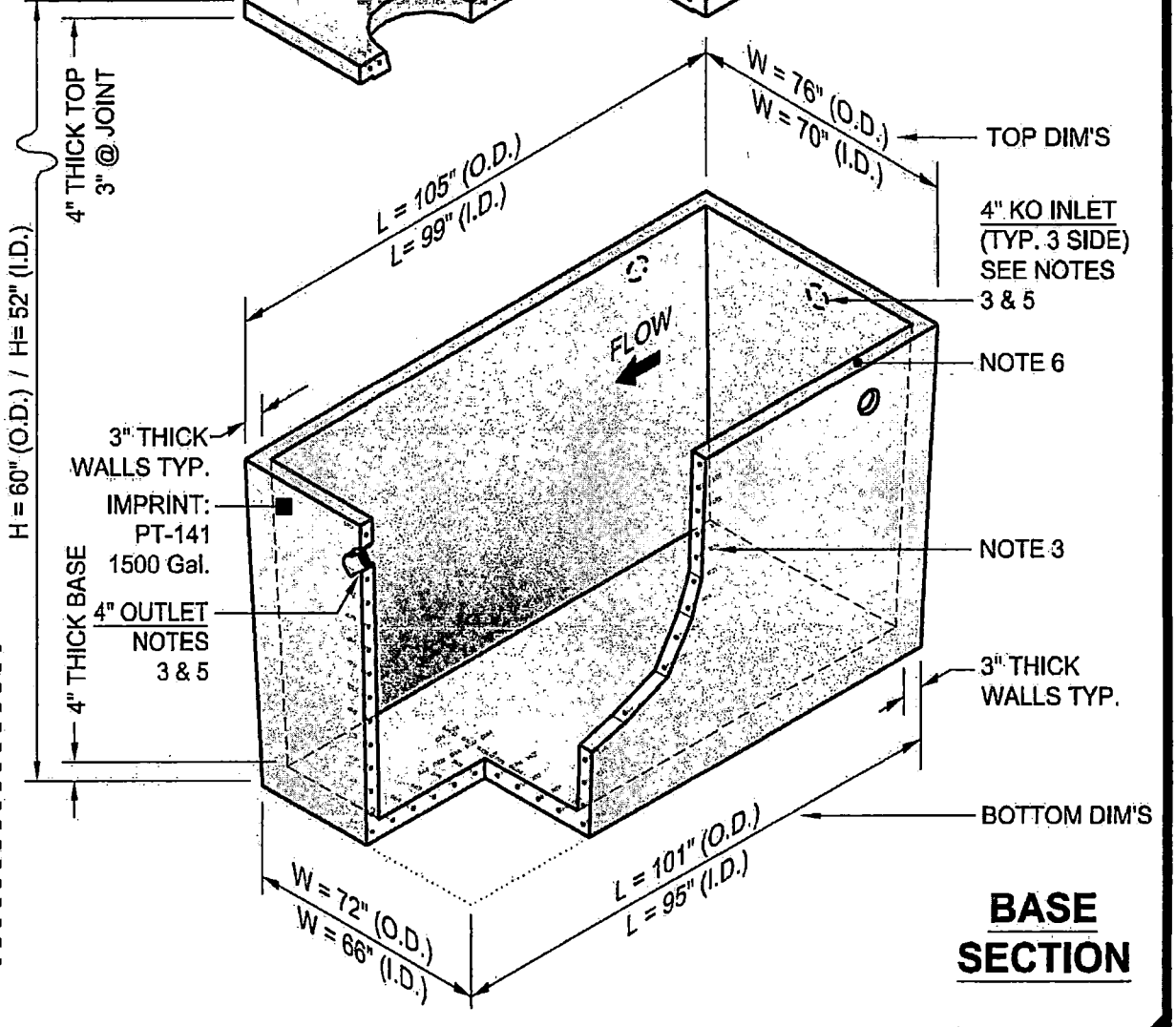


ELEVATION





TOP SLAB



BASE SECTION

OPTIONAL ROUND LID



1,500 Gallon (Top Slab) PUMP TANK

Scale: Not To Scale

Revision Date: February 2008

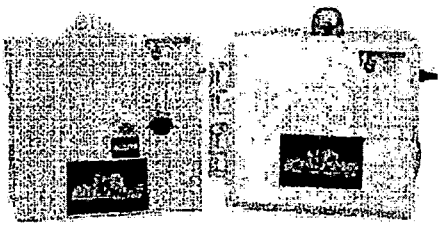
Detail # PT-1,500-TS

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

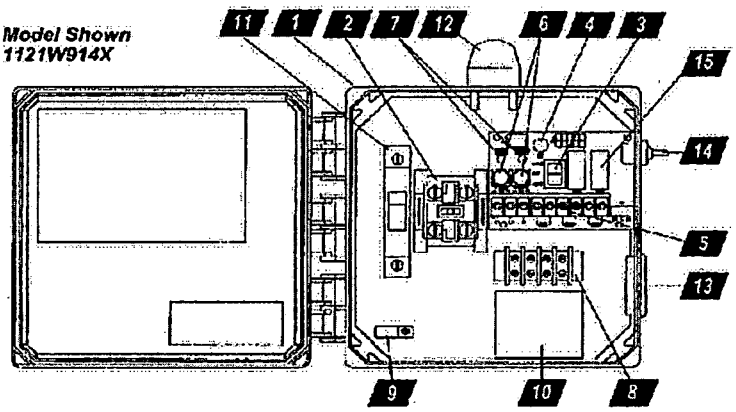
Single phase, simplex motor contactor control.

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.

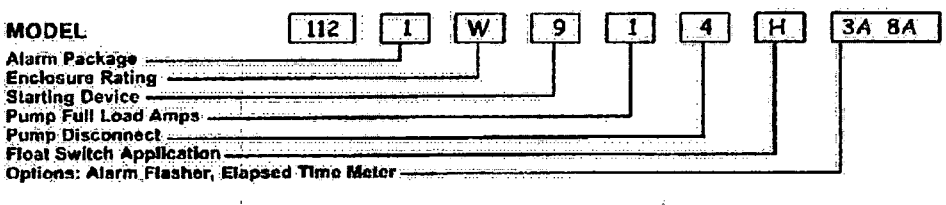
If additional features are required, call the factory for a quote on either a Pro-Line or Engineered Custom control panel system.

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

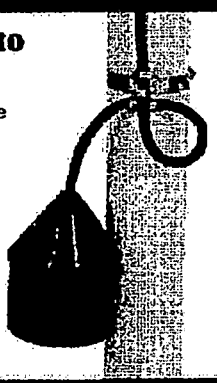
SAMPLE



© 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 LISTED 83H3

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

CONTROLS 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

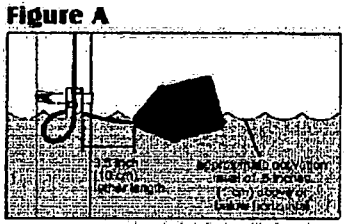
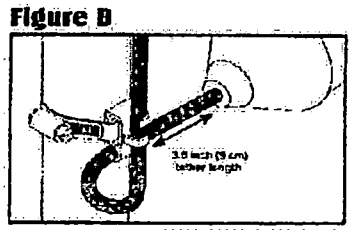


Figure B



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

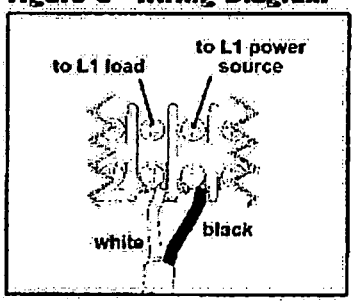
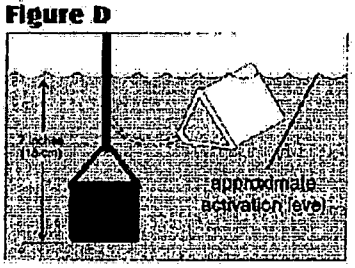


Figure D



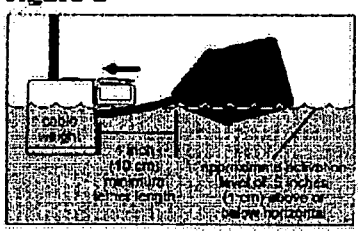
CABLE WEIGHT

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 lightest possible position.

Figure E



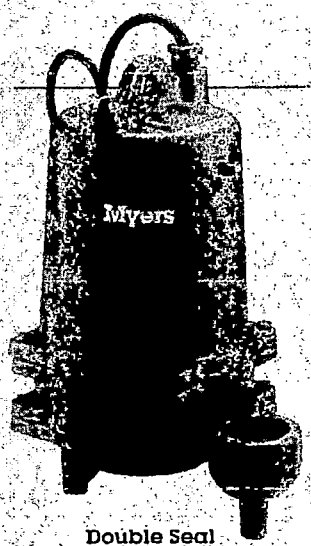
CONTROLS SJE-Rhombus
SJ ELECTRO SYSTEMS, INC.
22650 County Highway 6 ■ P.O. Box 1708 ■ Detroit Lakes, Minnesota 56502 USA
1-888-DIAL-SJE (1-888-342-5753) ■ Phone: 218-847-1317 ■ Fax: 218-847-4617
E-mail: sjc@sjcrhombus.com

Instl. Instr. PN 1009040A
Cat. Page PN 1009503A

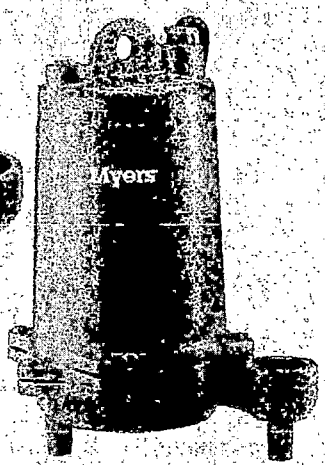
©SJE-Rhombus
Printed in USA 03/00

ME SERIES

1/2 through 1-1/2 HP
Effluent Pumps



Double Seal



Single Seal

THE MYERS ME SERIES EFFLUENT PUMPS ARE DESIGNED SPECIFICALLY FOR TODAY'S EFFLUENT PRESSURE DISTRIBUTION MOUNDS, TRENCHES AND HIGH FLOW DRAINAGE APPLICATIONS. The ME Series effluent pumps with their efficient two vane, enclosed impellers, provide the ideal performance for optimum dosing. ME Series pumps are constructed of only corrosion resistant materials like cast iron, stainless steel and thermoplastics to assure that they will perform for years to come in the harsh effluent environment and drainage applications. For more information, call your Myers distributor today or the Myers Ashland, Ohio sales office at 419/289-1144.

ADVANTAGES BY DESIGN

IDEAL FOR USE IN MOUND AND TRENCH PRESSURE DISTRIBUTION SYSTEMS

- High efficiency, two vane, enclosed impeller provides ideal performance for most efficient dosing.
- Impeller passes full ¾ inch solids.
- Enclosed impeller design eliminates possibility of jamming or corrosion between impeller and volute.

DURABLE MOTOR WILL DELIVER MANY YEARS OF RELIABLE SERVICE

- Oil-filled motor for maximum heat dissipation and constant bearing lubrication.
- High torque, permanent split capacitor (PSC), single phase motors. No starting switches or relays to wear out.
- Optional seal leak probe warns of seal leak condition. (Dual seal motors only.) Helps prevent costly motor damage.
- Motors have on winding current and temperature sensitive overload. (Single phase only.)

THE ME SERIES EFFLUENT PUMPS ARE DESIGNED FOR YEARS OF MAINTENANCE FREE OPERATION

- Volute seal ring is replaceable. Restores pump to original performance if wear should occur.
- Motor is held in place by 4 screws. Easily removed if service is ever needed.

PRODUCT CAPAILITIES

Capacities To	120 GPM	454 LPM
Heads To	95 ft.	28.9 m
Max. Spherical Solids	¾ in.	19 mm
Liquids Handling	domestic effluent & drain water	
Intermittent Liquid Temp.	up to 140° F	up to 60° C
Motor Electrical Data	1/2 HP 115 volts, 1 ph 1/2 to 1-1/2 HP 230 volts, 1 ph 208, 230, 460, 575 volts, 3 ph oil-filled, permanent split capacitor type, 1 ph, 3450 rpm, 60 Hz.	
Motor Insulation	Class B (130° C)	
Third Party Approvals	UL, CSA	
Acceptable pH Range	6-9	
Specific Gravity	9-1.1	
Viscosity	28-35 SSU	
Discharge, NPT	2 in.	50.8 mm
Min. Sump Dia. Simplex	24 in.	61 cm
Duplex	36 in.	91.4 cm

Construction Materials	
Motor Housing, Volute	cast iron, Class 30, ASTM A48-76
Enclosed Two Vane Impeller Standard	engineered thermoplastic
Optional	bronze
Impeller Wear Ring	304 SST
Volute Sealing Ring	Buna-N
Shaft	416 SST
Power Cord 1/2 HP 1 Ph	20 ft. 16/3 SJOW/SJOW-A
3/4 - 1-1/2 HP 1 Ph	20 ft. 14/3 SJOW/SJOW-A
All 3 Ph	20 ft. 14/4 SOW/SOW-A
Shaft Seals Standard	single carbon & ceramic
Optional	tandem carbon & ceramic
Opt. Lower	tungsten carbide
Fasteners	300 Series SST

WHERE INNOVATION MEETS TRADITION

ISO 9001 Certified Company

Myers
PENTAIR PUMP GROUP

ME SERIES

1/2 through 1-1/2 HP
Effluent Pumps

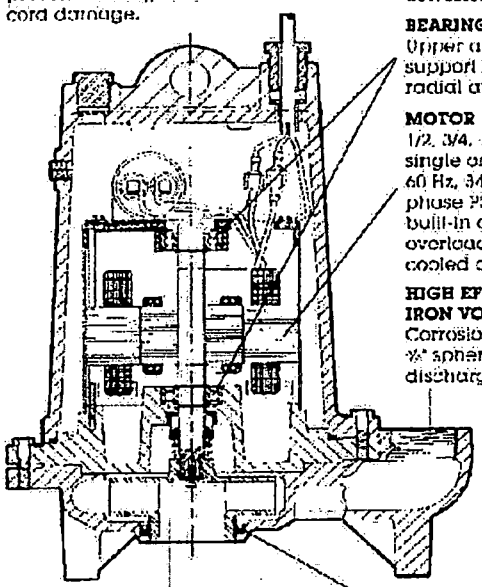
POWER CORD
Jacket sealed with compression fittings. Individual wires potted with epoxy to prevent wicking in case of cord damage.

MOTOR HOUSING
Cast iron for efficient heat transfer and corrosion resistance.

BEARINGS
Upper and lower ball support rotor. Take radial and thrust loads.

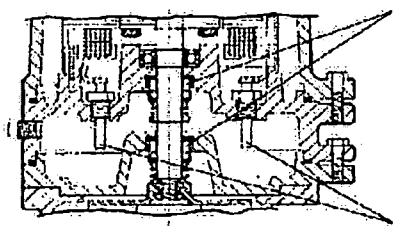
MOTOR
1/2, 3/4, 1 and 1-1/2 HP single or three phase. 60 Hz, 3450 RPM. Single phase PSC motors have built-in on winding overload protection, oil-cooled and lubricated.

HIGH EFFICIENCY CAST IRON VOLUTE
Corrosion resistant. Passes ⅝" spherical solids. 2" NPT discharge.



ENCLOSED TWO VANE IMPELLER
High efficiency. Passes ⅝" spherical solids with stainless steel wear ring. Optional bronze construction available

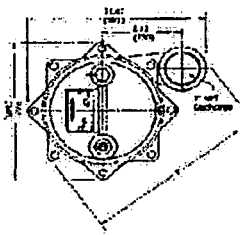
VOLUTE/IMPELLER SEAL RING
Maintains high efficiency and reduces recirculation. Replaceable.

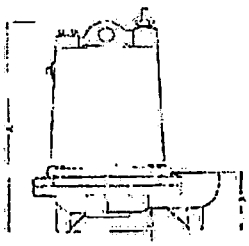


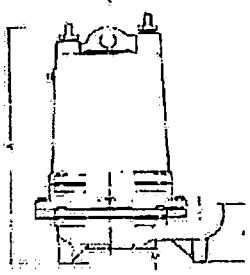
SHAFT SEAL(S)
Carbon and ceramic faces. Optional dual tandem seals. Extends motor life.

SEAL LEAK PROBES
Optional probes (dual seal only) detect water leakage in seal housing. Activates warning light.

DIMENSIONS

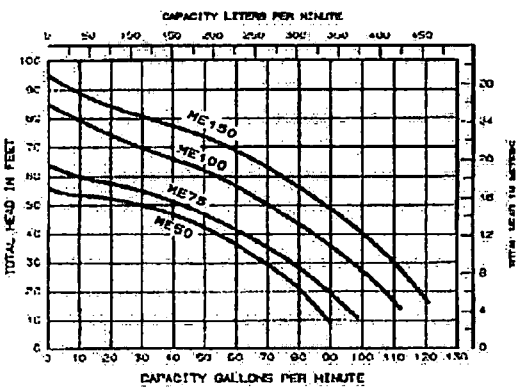






Model Series	Inches (millimeters) A	B	C	F
ME50S	16.8 (427)	4.09 (104)	1.03 (26)	12.13 (308)
ME50D	18.6 (472)	4.09 (104)	1.03 (26)	12.13 (308)
ME75S, ME100S, ME150S	16.8 (427)	4.0 (102)	1.06 (27)	12.5 (318)
ME75D, ME100D, ME150D	18.6 (472)	4.0 (102)	1.06 (27)	12.5 (318)

PERFORMANCE CURVE



K3320 9/98
Printed in U.S.A.

Myers
PENTAIR PUMP GROUP

F. E. Myers, 1101 Myers Parkway, Ashland, Ohio 44805-1969
419/289-1144, FAX: 419/289-6658, www.femyers.com
Myers (Canada), 269 Trillium Drive, Kitchener, Ontario N2G 4W5
519/748-5470 FAX: 519/748-2553

CALCULATIONS

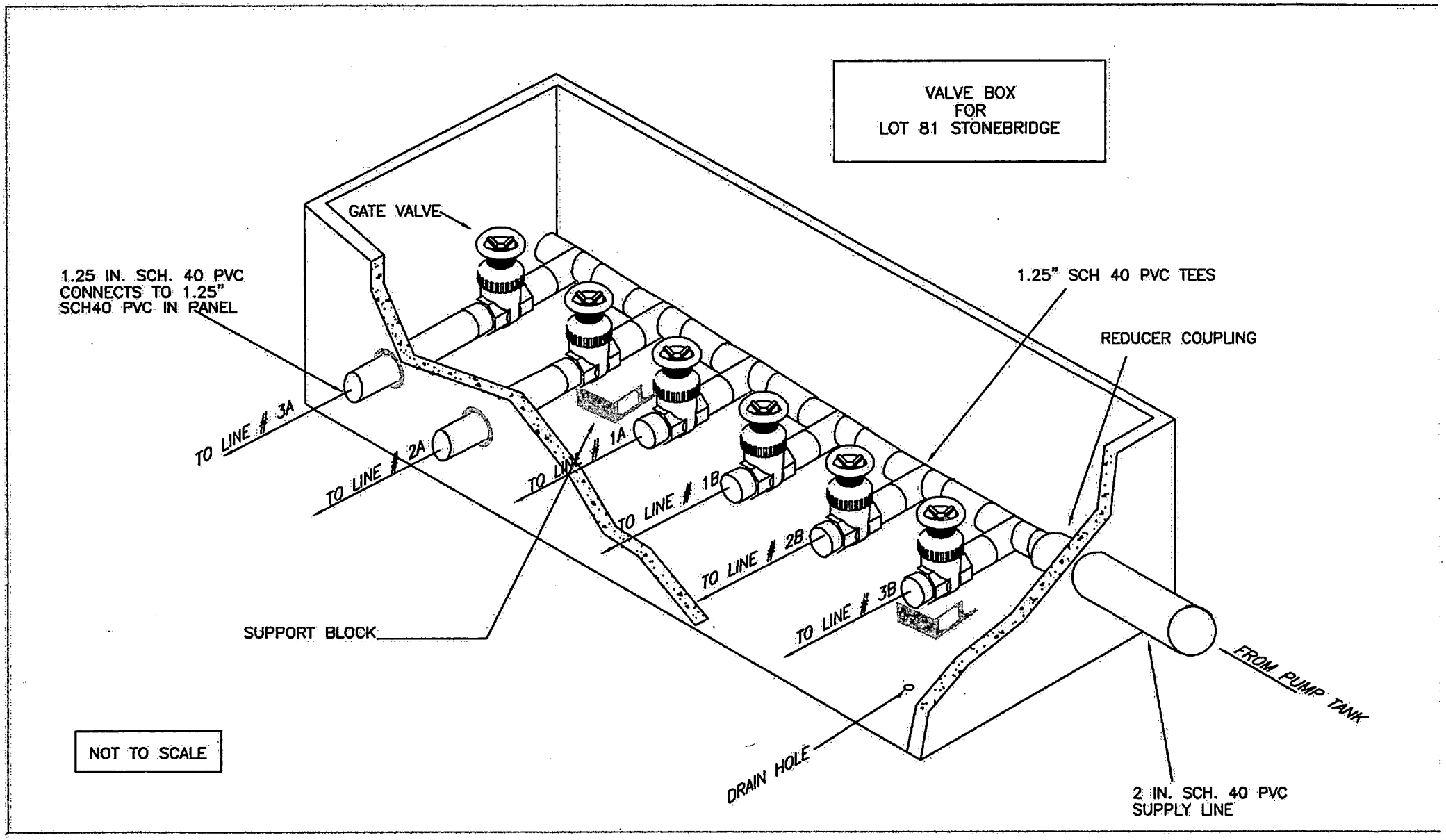
Location	Stonebridge	
Project Number	13-1025	
Lot No:	81	
No. of Bedrooms	5	
Design Flow	600	$^{gal}/_{day}$
LTAR	0.3	$^{gal}/_{ft^2\ day}$
Innovative? (YES OR NO)	NO	
Supply Line Length	400	ft.
Supply Line Volume	69.6	gal.
Required Feet of Line	333	ft.
Amount of Line from Layout	333	ft.
Gallons per Minute	30.34	$^{gal}/_{min}$
Required Septic Tank Capacity	1500	gal.
Minimum Standard Tank Size	1500 gal.	
Lateral Line Volume	217.449	gal.
Dosing Volume	267.00	gal.

Note: Dosing Volume=74 panels x 3.6g

FRICTION FACTOR INTERPOLATER
2" SCH 40 PVC

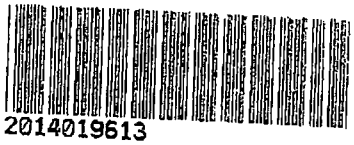
GPM	f
20	0.84
	-0.88
25	1.27
26	1.37
30	1.78
	-1.76
35	2.37
37	2.63
40	3.03
42.4	3.39
45	3.77
46.51	4.01
50	4.58
57.11	5.89
60	6.42

Tank Draw Down	9.2	in.
		Generic Draw Down of 29 gal.per in.
Pump Run Time	8.80	minutes
Elevation Head	12	ft.
Pressure Head	2	ft.
Friction Factor	1.78	ft./100 ft. *(From the interpolater.)*
Friction Head	7.12	ft.
Lateral Friction	1.1	
Total Dynamic Head (+15%)	25.55	ft.


VALVE BOX
FOR
LOT 81 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 # 3A
TO LINE # 2A
TO LINE # 1A
TO LINE # 1B
TO LINE # 2B
TO LINE # 3B
SUPPORT BLOCK
FROM PUMP TANK
DRAIN HOLE
2 IN. SCH. 40 PVC
SUPPLY LINE
NOT TO SCALE

FOR REGISTRATION
J David Granberry
REGISTER OF DEEDS
Mecklenburg County, NC
2014 FEB 25 03 37.50 PM
BK.29014 PG 668-673
FEE:$26.00
INSTRUMENT # 2014019613

PHETSL



2014019613

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

SEPTIC SYSTEM
EASEMENT AGREEMENT

This EASEMENT made this _____ day of _____, 20_____, by and between

GRANTOR	GRANTEE
REDUS CHARLOTTE HOUSING, LLC 3563 PHILIPS HWY MAC Z3058-060 CLA-ORE JACKSONVILLE, FL 32207	REDUS CHARLOTTE HOUSING, LLC 3563 PHILIPS HWY MAC Z3058-060 CLA-ORE JACKSONVILLE, FL 32207

Enter in appropriate block for each party: name, address, and, if appropriate, character or entity, e.g., corporation or partnership.

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by Grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee an easement as hereinafter described, to run with the land upon that certain lot or parcel of land owned by Grantor and located in the city of _____, MINT HILL Township, Mecklenburg County, North Carolina, and more particularly described as follows:

This instrument was prepared by: THE ISAACS GROUP

Mail after recording to: WELLS FARGO BANK, N.A.
ATTN: PAUL CARTY
301 S. COLLEGE ST., 15TH FLOOR
MAC 1053-048
CHARLOTTE, NC 28288

Mecklenburg Tax Parcel No. 139-033-84 as shown on a page of the County Tax Map attached hereto as Exhibit A

Lot COS Block _____ of Stonebridge Phs 2-Map 3 recorded In Map Book 50 Page 512 (if applicable)

See the plat attached hereto as Exhibit B and the parcel shown thereon identified with Grantor's name for the legal description of Grantor's parcel and of the Septic System Easement Area located thereon, said parcel labeled threon and hereinafter referred to as the "Easement Parcel."

Grantor hereby imposes said easement for the benefit of Grantee as the present owner and for the benefit of future owners of the following lot or parcel of land, situated in the City of _____, MINT HILL Township, Mecklenburg County, North Carolina, and more particularly described as follows:

Mecklenburg Tax Parcel No. 139-033-83 as shown on a page of the County Tax Map attached hereto as Exhibit A

Lot 81 Block _____ of Stonebridge Phs 2-Map 3 recorded In Map Book 50 Page 512 (if applicable)

See the plat attached hereto as Exhibit B and the parcel shown thereon identified with Grantee's name for the legal description of Grantee's parcel, said parcel labeled thereon and hereinafter referred to as the "Benefited Parcel."

Said Easement shall enable the Grantee to place, if, as and when needed, such need to be determined by the Grantee in his sole discretion, a septic tank and drain field or portions thereof, upon the Septic System Easement Area on the Easement Parcel and to inspect, maintain, repair and replace components of said septic system at any time and from time to time. If the Easement Area also includes a connector strip for ingress and egress, Grantee shall have the right to use said connector strip for access as needed. *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 Benefited Parcel to a public or community sanitary sewage system but shall otherwise be perpetual.

Grantor acknowledges that the Septic Tank System 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

IN WITNESS WHEREOF, the Grantor and Grantee have hereunto set their hands and seals, or if corporate, have caused this instrument to be signed in their corporate names by their duly authorized officers and their seals to be hereunto affixed by authority of their Boards of Directors, the day and year first above written.

GRANTOR

REDUS CHARLOTTE HOUSING, LLC, by Redus Properties, INC, its Sole Member (SEAL)
(Corporate Name)

BY: Paul Carty (SEAL)
Vice President

ATTEST: (SEAL)

Asst. VP Secretary (Corporate Seal) (SEAL)

SEAL-STAMP

North Carolina, Mecklenburg County

I, Lynda W Mauney, a Notary Public of the Davie County and State aforesaid, certify that Paul Carty, Grantor, personally appeared before me this day and acknowledged the execution of the foregoing instrument. WITNESS my hand and official stamp or seal, this 24 day of February, 2014.

My Commission Expires: 10-24-17 Lynda W Mauney
(Notary Public)

LYNDA W MAUNEY NOTARY PUBLIC DAVIE COUNTY, NC My Commission Expires 10-24-17

SEAL-STAMP

North Carolina, Mecklenburg County

I, Lynda W Mauney, a Notary Public of the Davie County and State aforesaid, certify that Kevin Sullivan personally came before me this day and acknowledged the he is Asst. V P ~~Secretary~~ of REDUS Properties, Inc., a corporation, and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its Vice President, sealed with its corporate seal, and attested by Kevin Sullivan as its Asst. V P. ~~Secretary.~~ WITNESS my hand and official stamp or seal, this 24 day of February, 20 14.

My Commission Expires: 10-24-17 Lynda W Mauney (Notary Public)

LYNDA W MAUNEY NOTARY PUBLIC DAVIE COUNTY, NC My Commission Expires 10-24-17

GRANTEE

REDUS CHARLOTTE HOUSING, LLC, by Redus Properties, Inc., Its Sole Member (SEAL)
(Corporate Name)

BY: Paul Canty (SEAL)
Vice President

ATTEST: (SEAL)

Asst. VP ~~Secretary~~ (Corporate Seal) (SEAL)

SEAL-STAMP

North Carolina, Mecklenburg County

I, Lynda W Mauney, a Notary Public of the Davie County and State aforesaid, certify that Paul Canty, Grantee, personally appeared before me this day and acknowledged the execution of the foregoing instrument. WITNESS my hand and official stamp or seal, this 24 day of February, 20 14.

My Commission Expires: 10-24-17 Lynda W Mauney (Notary Public)

LYNDA W MAUNEY NOTARY PUBLIC DAVIE COUNTY, NC My Commission Expires 10-24-17

SEAL-STAMP

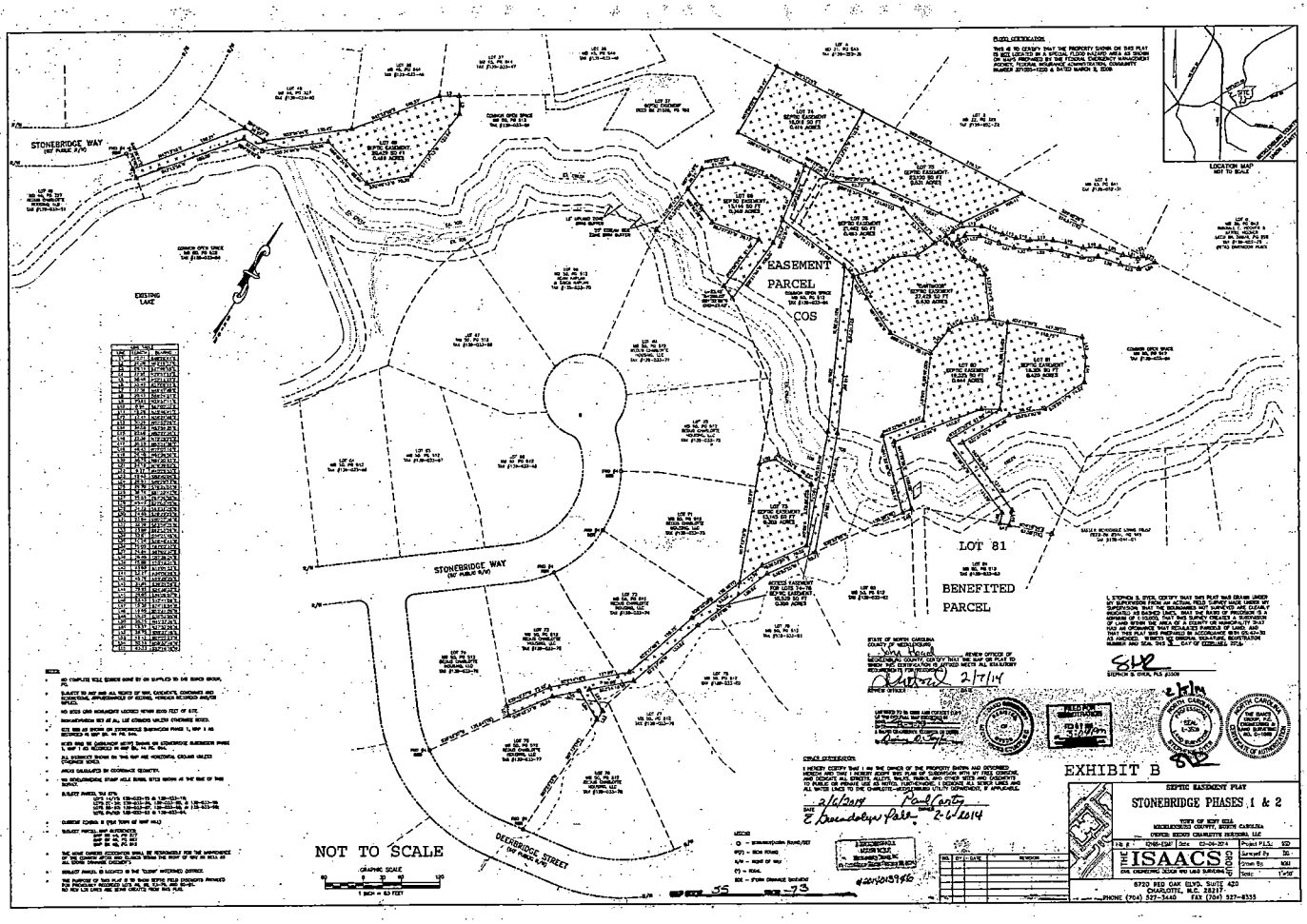
North Carolina, Mecklenburg County

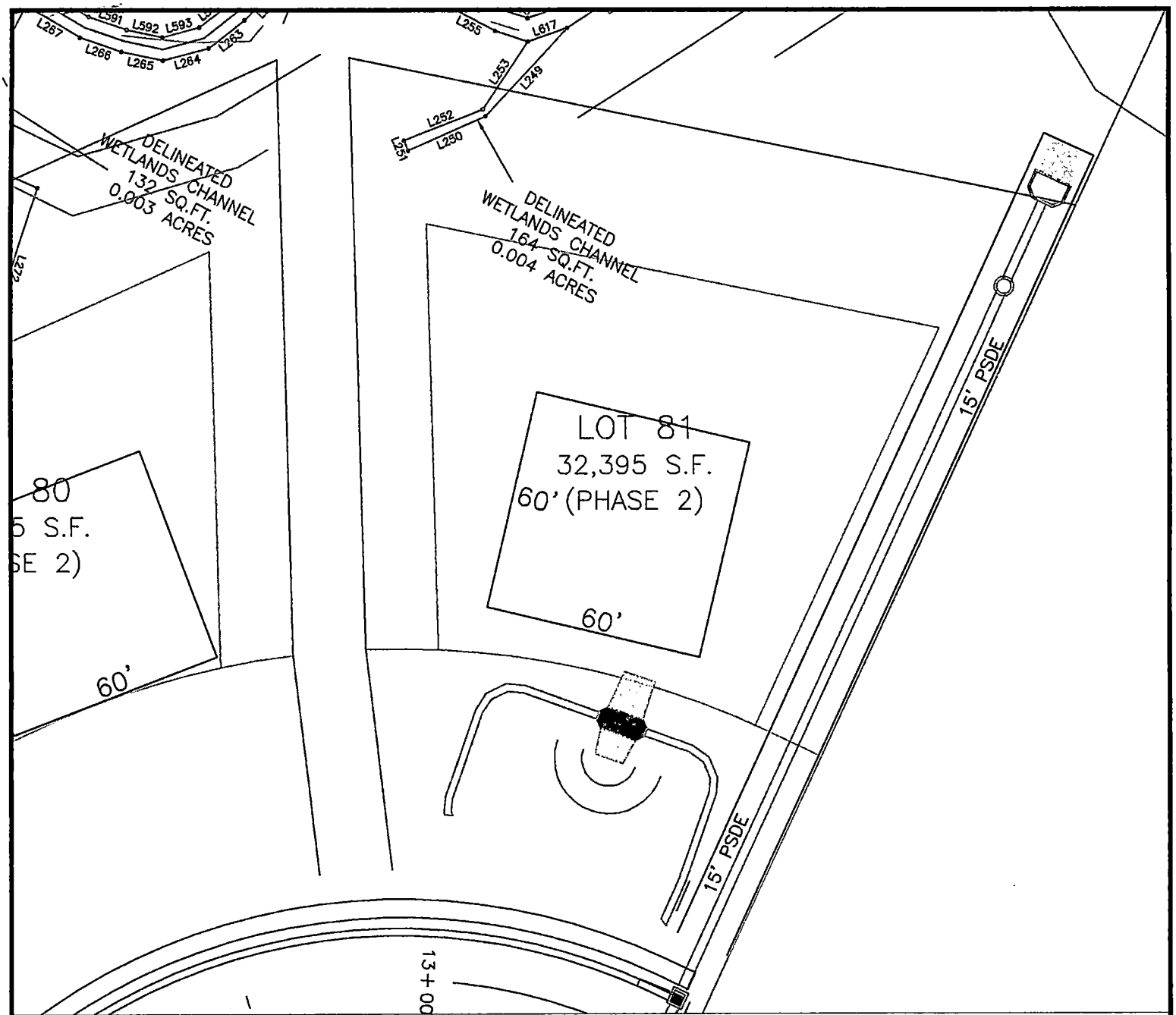
I, Lynda W Mauney, a Notary Public of the Davie County and State aforesaid, certify that Kevin Sullivan personally came before me this day and acknowledged the he is Asst. V.P ~~Secretary~~ of REDs Properties, Inc, a corporation, and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its Vice President, sealed with its corporate seal, and attested by Kevin Sullivan as its Asst. V.P. ~~Secretary~~. WITNESS my hand and official stamp or seal, this 24 day of February, 20 14.

LYNDA W MAUNEY NOTARY PUBLIC DAVIE COUNTY, NC My Commission Expires 10-24-17

My Commission Expires: 10-24-17 Lynda W Mauney
(Notary Public)

Approval by the Mecklenburg County Health Department does not certify or extend to matters of title. The purchaser of property subject to or affected by this easement is responsible for ascertaining all matters affecting the validity and enforceability of this instrument.


STONEBRIDGE WAY
(50' PUBLIC R/W)
EXISTING LAKE
EASEMENT PARCEL
COS
LOT 81
BENEFITED PARCEL
STONEBRIDGE WAY
(50' PUBLIC R/W)
DEERBRIDGE STREET
(50' PUBLIC R/W)
NOT TO SCALE
GRAPHIC SCALE
1 INCH = 60 FEET
LOCATION MAP
NOT TO SCALE
EXHIBIT B
SEPTIC EASEMENT PLAT
STONEBRIDGE PHASES 1 & 2
TOWN OF MINT HILL
MECKLENBURG COUNTY, NORTH CAROLINA
CROFTER RIDGE CHARLOTTE REGIONAL, LLC
THE ISAACS GROUP
8720 RED OAK BLVD. SUITE 420
CHARLOTTE, N.C. 28217
PHONE (704) 527-3440 FAX (704) 527-8335



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

PROJECT NO. 13-1025
SCALE 1" = 40'

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	09/13/13	**Amount:**	250.00
Receipt #:	85271	**Tendered:**	250.00
Check / Auth #:	CHECK 6633	**Returned:**	0.00
Received By:	SADERLW		

Account Information

Account #: 200000
Contractor: REDUS CHARLOTTE HOUSING LLC
Attn:
Address: 301 S COLLEGE ST, D1053-04B
Address:
City/State/Zip: CHARLOTTE, NC 28202

Item	Description	Permit#	Quantity	Unit Price	Total Price
0701	Improvment Permit App-Residen 7832 DEERBRIDGE ST		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
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date: 08/07/17
Receipt #: 106956
Check / Auth #: CHARGE
Received By: ELLISLW

Amount: 200.00
Tendered: 200.00
Returned: 0.00

Account Information

Account #: X44709
Contractor: LIVE WELL HOMES LLC
Attn:
Address: 501 SPRINGCREST DR
Address:
City/State/Zip: FORT MILL, SC 29715

Item	Description	Permit#	Quantity	Unit Price	Total Price
0734	Septic Construction Authorizat 7832 DEERBRIDGE ST		1	200.00	200.00

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
2,469.83					

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date: 08/07/17
Receipt #: 106955
Check / Auth #: CHARGE
Received By: ELLISLW

Amount: 200.00
Tendered: 200.00
Returned: 0.00

Account Information

Account #: X44709
Contractor: LIVE WELL HOMES LLC
Attn:
Address: 501 SPRINGCREST DR
Address:
City/State/Zip: FORT MILL, SC 29715

Item	Description	Permit#	Quantity	Unit Price	Total Price
0703	Septic Operational Permit 7832 DEERBRIDGE ST		1	200.00	200.00

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

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
2,269.83					