# GRAVITY ACCEPTED SYSTEM FOR WASTEWATER TREATMENT

**Owner/Applicant:** Grande Homes, LLC

**Address:** grandehomes@icloud.com

**Phone:** 704.400.1710
**County:** Iredell
**Location:** BAY VIEW ESTATES LOT 29

**Source of Wastewater Flow:** 4 Bedroom Single Family Residence
**Estimated Gallons Per Day Flow:** 480
**System Flow:** N/A

## Design Specifications

**Drainfield Size:** 400
**Loading Rate (gpd/ft.$^2$):** 0.3
**Depth of Gravel in Trench:** N/A
**Gravel Size:** N/A
**Trench Depth:** 30 in.
**Trench Width:** 36 in.
**Septic Tank Size:** 1000

**Estimated Supply Line Length:** 30
**Supply Line Diameter:** 4 in. SCH 40 PVC
**Supply Line Volume:** 19.59
**Dosing Volume:** N/A
**Supply Manifold:** N/A
**Supply Manifold Length:** N/A
**Supply Manifold Volume:** N/A

**Recommended Float Controls:** N/A

**Recommended Control Panel:** N/A

**Pressure Head:** N/A
**Friction Head:** N/A
**Elevation Head:** N/A
**Total Dynamic Head:** N/A

**Threaded Union:** N/A
**Gate Valves:** N/A

**Check Valves:** N/A
**Anti-Siphon Hole:** N/A
**Additional Comments:** Soil suitability was performed by Rollans Soil & Environmental Services

## BAY VIEW ESTATES LOT 29

### ACCEPTED SYSTEM

| | |
|---|---|
| **DESIGN FLOW (gpd):** | 480 |
| **SOIL APPLICATION RATE (gpd/ft.$^2$):** | 0.3 |
| **TOTAL AREA TRENCH BOTTOM:** | 1200 |
| **TOTAL LATERAL LENGTH:** | 400 |
| **NUMBER OF FIELDS:** | 1 |
| **LATERAL LENGTH REQUIRED PER FIELD:** | 400 |
| **SUPPLY LINE LENGTH:** | 30 |
| **TOTAL DYNAMIC HEAD:** | N/A |
| **MANIFOLD SIZE:** | N/A |
| **DOSING VOLUME:** | N/A |
| **PUMP TANK DRAW DOWN*:** | N/A |
| **SEPTIC TANK SIZE:** | 1000 |

# BAY VIEW ESTATES LOT 29

Project #: 01-1932

LAYOUT FOR 4 BEDROOM HOME

March 28, 2014

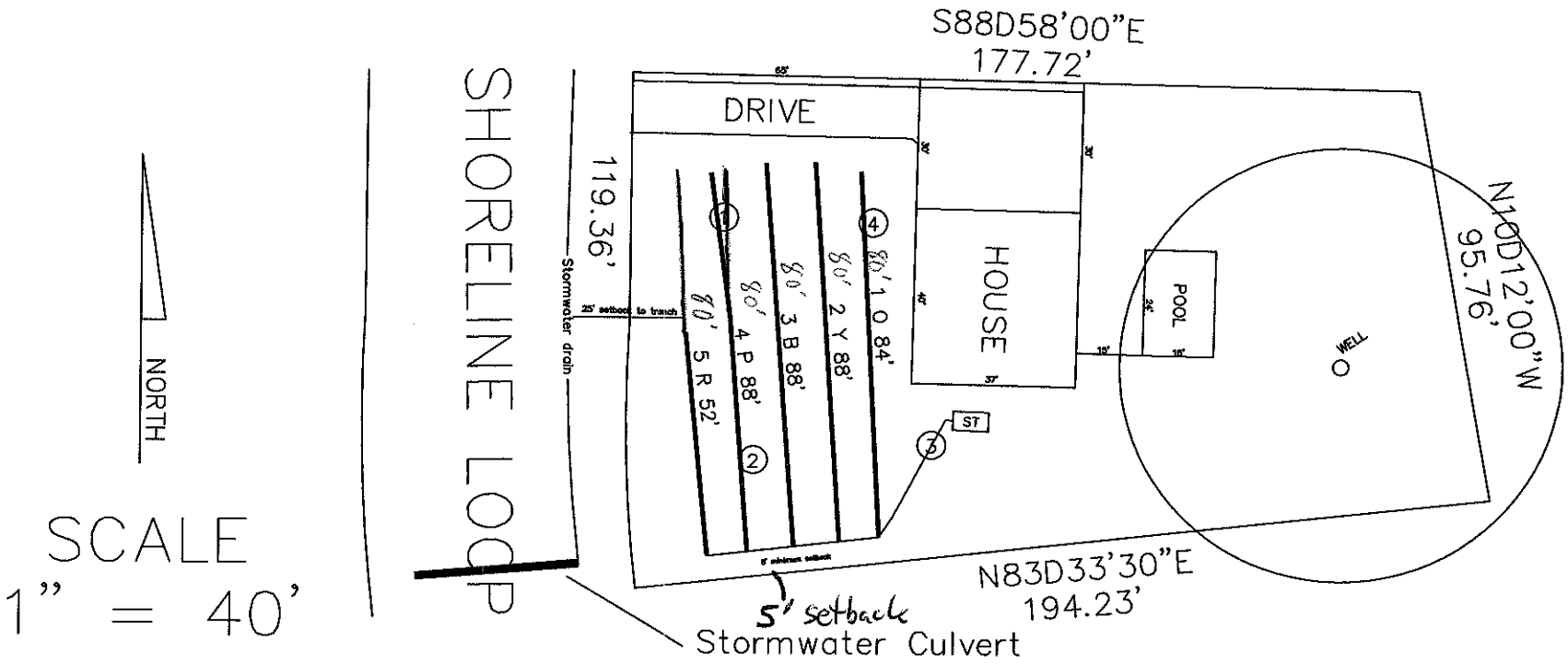
| LINE # | FLAG COLOR | BS | HI | FS | ELEVATION | FLAGGED LINE LENGTH (Originally) | DESIGN LINE LENGTH |
|---|---|---|---|---|---|---|---|
| TBM | | | | | | | |
| INSTR. 1 | | | | | | | |
| *1* | ***ORANGE*** | | | | | *92* | *84* |
| *2* | ***YELLOW*** | | | | | *93* | *88* |
| *3* | ***BLUE*** | | | | | *94* | *88* |
| *4* | ***PINK*** | | | | | *96* | *88* |
| *5* | ***RED*** | | | | | *52* | *52* |
| | | | | | **Total** | **427** | **400** |

| | LINE LENGTH | LTAR GPD/FT2 | SYSTEM TYPE | SOIL LTAR GPD/FT2 | TRENCH SYSTEM | DISTRIBUTION |
|---|---|---|---|---|---|---|
| * *System* | *400* | *0.300* | *ACCEPT.* | *0.300* | *25% RED* | *GRAVITY* |
| Repair (see attached plat) | Exempt | NA | *NA* | NA | *NA* | *NA* |

Notes: **All measures in feet

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

**BS, HI, and FS indicate rod readings


S88D58'00"E
177.72'
DRIVE
65'
HOUSE
POOL
WELL
N10D12'00"W
95.76'
119.36'
Stormwater drain
25' setback to trench
80' 1 O 84'
80' 2 Y 88'
80' 3 B 88'
80' 4 P 88'
80' 5 R 52'
ST
5' minimum setback
5' setback
N83D33'30"E
194.23'
Stormwater Culvert
SHORELINE LOOP
NORTH
SCALE
1" = 40'

## CALCULATIONS

Location Bay View Estates

Project Number 01-1932

Lot No: Lot 29

No. of Bedrooms 4

Design Flow 480 $^{gal}/_{day}$

LTAR 0.300 $^{gal}/_{ft^2\,day}$

PPBPS? (YES OR NO) NO

Supply Line Length 30 ft.

Supply Line Volume 19.59 gal.

Required Feet of Line 400 ft.
Amount of Line from Layout 402 ft.

Gallons per Minute N/A $^{gal}/_{min}$

Required Septic Tank Capacity 1000 gal.
Septic Tank Size 1000 gal.

Panel Volume N/A gal.
# of Panels N/A
Dosing Volume N/A gal.

Tank Draw Down N/A

Pump Run Time

Elevation Head N/A ft.
Pressure Head N/A ft.
Friction Factor N/A ft./100 ft. *(From the interpolater.)*
Friction Head N/A ft.

Total Dynamic Head (+15%) N/A ft.

FRICTION FACTOR
INTERPOLATER
2" SCH 40 PVC

| GPM | *f* |
|---|---|
| 20 | 0.84 |
| | -0.88 |
| 25 | 1.27 |
| | -1.28 |
| 30 | 1.78 |
| | -1.76 |
| 35 | 2.37 |
| | -2.25 |
| 40 | 3.03 |
| 43.07 | 3.48 |
| 45 | 3.77 |
| 48.14 | 4.28 |
| 50 | 4.58 |
| 57.11 | 5.89 |
| 60 | 6.42 |

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

Sheet 1 of 1
PROPERTY ID #: 463582038
COUNTY: Iredell

# SOIL/SITE EVALUATION
## *for* ON-SITE WASTEWATER SYSTEM

OWNER: Matt Merrill / Grande Homes
ADDRESS: Bayview Estates Lot 29 193 Shoreline Loop
APPLICATION DATE
DATE EVALUATED: 11/12/13
PROPOSED FACILITY: 4BR PROPOSED DESIGN FLOW (.1949): 480 GPD
PROPERTY SIZE: ± 0.5ac
LOCATION OF SITE: Brumley, Lt on Stutts, Rt on Shoreline Loop, Lot on Left
PROPERTY RECORDED: ~ 1965 ?
WATER SUPPLY: ☑ Private ☐ Public ☑ Well ☐ Spring ☐ Other
EVALUATION METHOD: ☑ Auger Boring ☐ Pit ☐ Cut TYPE OF WASTEWATER: ☑ Sewage ☐ Industrial Process ☐ Mixed

| PROFILE # | .1940 LANDSCAPE POSITION/ SLOPE % | HORIZON DEPTH (IN.) | SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE | SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE/ MINERALOGY | OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR | .1943 SOIL DEPTH | .1956 SAPRO CLASS | .1944 RESTR HORIZ | PROFILE CLASS & LTAR |
|---|---|---|---|---|---|---|---|---|---|
| B 1 | L/6% | 0-7 | B, l sr/wsbk | FrSSSPSExP | | 48 | – | – | PS 0.3 |
| | | 7-38 | Rcmmsbk | " " " " | | | | | |
| | | 38-48 | Rcl wfsbk | " " " " | f sap | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| B 2 | L/10% | 0-5 | Blgr | FrSSSPSExP | | 48 | – | – | PS 0.3 |
| | | 5-30 | Rcmmsbk | " " " " | | | | | |
| | | 36-48 | RYcl wfsbk | " " " " | f sap | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| B 3 | L/3% | 0-3 | Blgr | FrSSSPSExP | | 48 | – | – | PS 0.3 |
| | | 3-14 | Bcl wsbk | " " " " | | | | | |
| | | 14-36 | Rcmmsbk | " " " " | | | | | |
| | | 36-48 | RYcl wsbk | " " " " | f-cs ap | | | | |
| | | | | | | | | | |
| B 4 | L/4% | 0-4 | Blgr | FrSSSPSExP | | 48 | – | – | PS 0.3 |
| | | 4-20 | Bcl wsbk | " " " " | | | | | |
| | | 20-48 | Rcmmsbk | " " " " | f sap | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| DESCRIPTION | INITIAL SYSTEM | REPAIR SYSTEM |
|---|---|---|
| Available Space (.1945) | PS | Exempt |
| System Type(s) | Accepted | |
| Site LTAR | 0.3 | |

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948): PS
EVALUATED BY: S. Ashley Rollins
OTHER(S) PRESENT: Chad Wagner

Approved by ICHD ALP 1-17-14

COMMENTS:

# IREDELL COUNTY

PO Box 788
349 North Center St.
Statesville, NC 28677

**APPLICATION NUMBER**

**201137**

Issue Date: 01/13/2014

## Permit Type: IMPROVEMENT PERMIT APPLICATION

| Parcel Number | Street Address | Jurisdiction |
|---|---|---|
| 4635582038.000 | 193 SHORELINE LOOP | MOORESVILLE |

| Owner Information | Applicant Information | Contractor Information |
|---|---|---|
| Owner: HOLLAR CORA LEE<br>Address: 27<br>IREDELL CO, NC 28625<br>Phone: | Applicant: GRANDE HOMES COMPANY<br>Address: 555 DELBURG STREET<br>DAVIDSON, NC 28036<br>Phone: 704-895-1379 | Contractor: GRANDE HOMES COMPANY<br>Address: 555 DELBURG STREET<br>DAVIDSON, NC 28036<br>Phone: 704-400-1710<br>License Type: BLDG<br>License Number: 61594 |

**Project Description**

NEW SINGLE FAMILY - IREDELL

**Scope of Work**

SFD

**Permit Details:**

Paid 2/24/14

| | | |
|---|---|---|
| AUTHORIZATION CONSTRUCT | Amount: | 100.00 |
| AUTHORIZATION CONSTRUCT | Amount: | 75.00 |
| IMPROVEMENT PERMIT FEE | Amount: | 350.00 |
| | Amount: | |
| | Amount: | |
| | Amount: | |
| | Amount: | |

I hereby certify that all information in this application is correct and all work will comply with the state code and all other applicable state and local laws, ordinances and regulations. The respective department will be notified of any changes in the approved plans, a change of contractor, and/or specifications for the project permitted herein. This application becomes a permit only when validated and approved.

**Date:** 01/13/2014

Signature of Owner/Contractor

***ANY PERMIT ISSUED EXPIRES SIX (6) MONTHS AFTER ISSUANCE IF NO INSPECTIONS HAVE BEEN MADE. ANY PERMIT ISSUED SHALL EXPIRE TWELVE (12) MONTHS AFTER LAST INSPECTION IF THE WORK IS DISCONTINUED.***

| Permit Number | 4450 | TOTAL FEES: | $ 525.00 |
|---|---|---|---|

Matt McMullen
(704) 400-1710

Fast Track - Paid $350.00 Statesville
New Well Paid $495.00 Statesville
1-14-13 PD

# IREDELL COUNTY HEALTH DEPARTMENT

## *ENVIRONMENTAL HEALTH DIVISION*

**PAGE 1: *APPLICATION FORM***

Paid $110.00 Site Revisit 1-21-14

**Application For:**
(✓) New Well Permit ( ) Well Repair Permit ( ) Well Abandonment
(✓) Septic Improvement Permit (✓) Authorization to Construct ( ) Existing System Inspection ( ) Septic System Repair

*THE ABOVE PERMIT DOCUMENTS WILL BECOME INVALID IF INFORMATION PROVIDED ON THIS APPLICATION IS FALSIFIED OR CHANGED, OR IF THE SITE IS ALTERED. THE IMPROVEMENT PERMIT IS VALID FOR EITHER 60 MONTHS OR WITHOUT EXPIRATION DEPENDING UPON DOCUMENTATION SUBMITTED APPLICATION WITH SITE PLAN 60 MONTHS, APPLICATION WITH COMPLETE, SCALED PLAT WITHOUT EXPIRATION. SEE 15A NCAC 18A .1937(f) FOR DETAILS.*

**Page 2: *Site Plan Worksheet* form MUST accompany this application**

The following optional attachments may also be submitted: ( ) Survey Plat, scaled no more than 1 inch = 60 feet
*Place an (X) beside whichever is submitted if applicable* (✓) Custom Site Plan, scaled no more than 1 inch = 60 feet

**Applicant Information:**

Applicant Name: Grande Homes Address: 555 Delburg St. Davidson NC 28036 Phone: (704) 400-1710

Owner Name: Same Address: _____ Phone: _____

**Property Information:**

Street Address: 193 Shoreline Loop

Subdivision Name: Bayview Estates Section/Phase: _____ Lot Number: 29

Driving Directions: Brawley School Rd west, (L) on Stotts Rd, Right on Shoreline Loop, lot on left by 2 lived in houses (before Imperial Rd.)

**Site Development Information:** *(check or complete ALL that apply)*

(✓) New Single Family Residence
( ) New Multi-Family Residence
( ) Accessory Building
( ) Bedroom(s) Addition

Maximum Number of Bedrooms: 4
Maximum Number of Occupants: 8
(✓) Swimming Pool
( ) Other Addition/Structure: _____

(✓) Crawl Space Foundation
( ) Concrete Slab Foundation
( ) Basement with Plumbing
( ) Basement without Plumbing

**Non-Residential Site Development:**
Type of Business: _____
Square Footage of Building: _____
Maximum Number of Employee: _____
Maximum Number of Seats/Beds/Other: _____

**Water Supply:**

(✓) New Well ( ) Existing Well ( ) Community Well ( ) City Water ( ) Other Public Water

**Desired Septic System Type:** *(you may rank in order of preference)* Year existing system installed: _____
( ) No Preference ( ) Alternative (✓) Conventional ( ) Innovative ( ) Modified Conventional (✓) Other: Accepted

**Please answer the following to the best of your ability:**

( ) Yes (✓) No Does the site contain any jurisdictional wetlands?
( ) Yes (✓) No Is any non-domestic sewage (i.e. industrial) to be generated?
( ) Yes (✓) No Is the site subject to approval by any other public agency?

*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.*

**Signature:** _____ 1-14-14
Property owner or owner's legal representative signature (SIGNATURE REQUIRED) DATE

# IREDELL COUNTY HEALTH DEPARTMENT

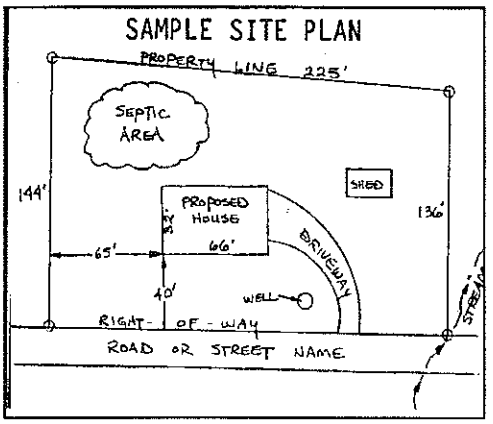
*ENVIRONMENTAL HEALTH DIVISION*

**PAGE 2:** ***SITE PLAN WORKSHEET***

**SEE THE "SAMPLE SITE PLAN" BELOW.** ***INCOMPLETE SITE PLANS WILL BE RETURNED TO YOU FOR COMPLETION AND MAY RESULT IN A DELAY IN THE ISSUANCE OF YOUR SEPTIC SYSTEM PERMIT!!!***

**Place an (X) beside each item as you complete the site plan:**

- (✓) Property Line measurements are clearly identified
- (✓) All proposed structures are indicated
- (✓) Front and side setbacks from property line
- (✓) Preferred driveway location and well location
- (✓) Area you prefer your septic system to be placed
- (✓) North arrow, or other sufficient indicator of direction

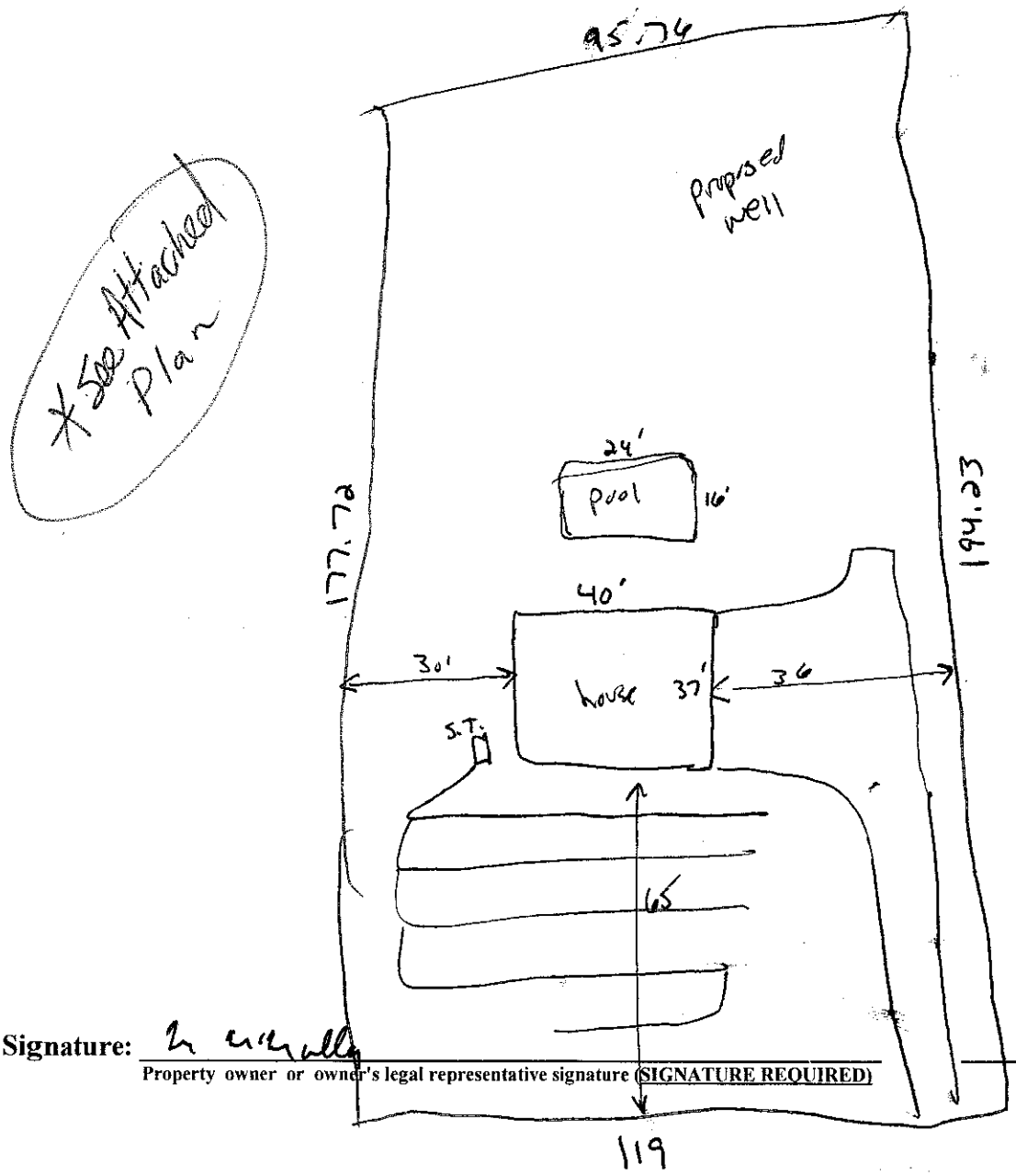



**Circle N/A on the following if appropriate:**

| | |
|---|---|
| Location of septic systems and wells within 100' of your property | N/A |
| Location of easements and rights of ways on your property | N/A |
| Location of any designated wetlands on the property | N/A |

## USE THIS SPACE TO DRAW YOUR SITE PLAN

***Show: proposed house or business footprint, wells, water lines, patios, pools and decks, and any other item that will occupy space on the site***




**Signature:** L McNally

Property owner or owner's legal representative signature (SIGNATURE REQUIRED)

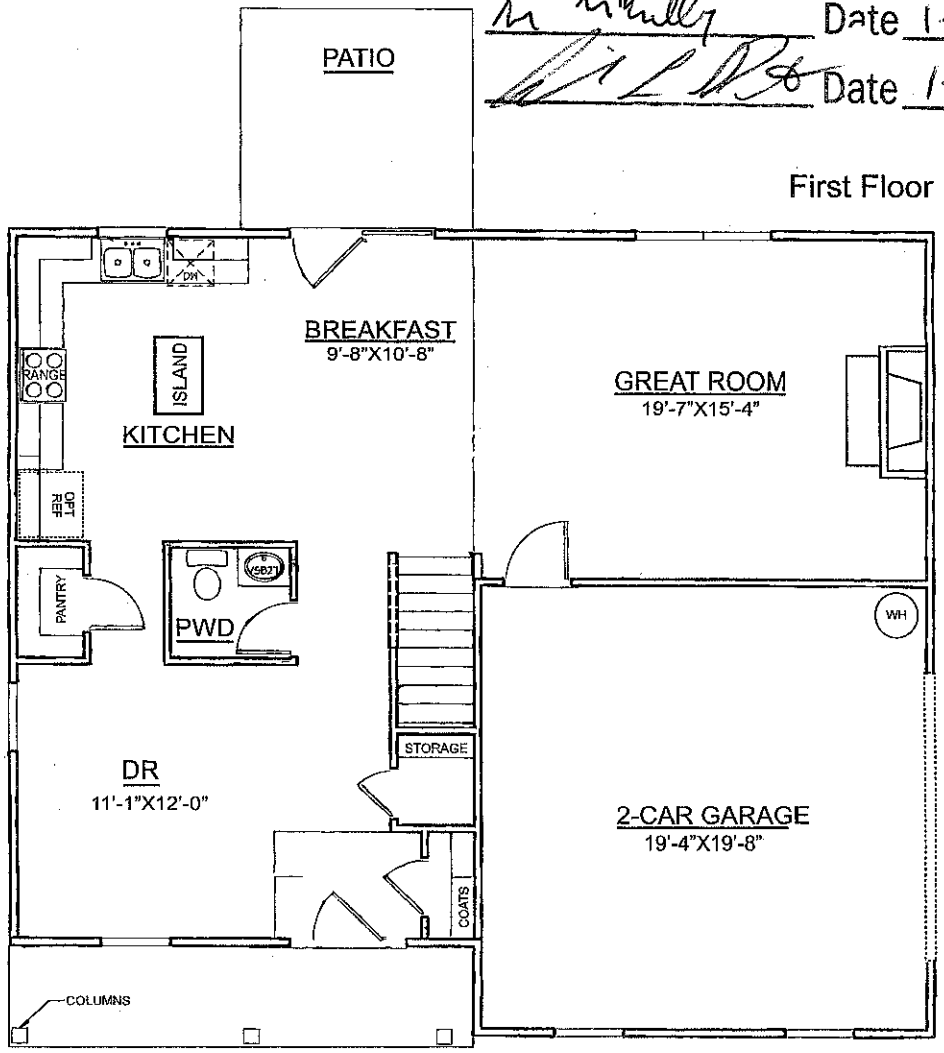
1-14-14

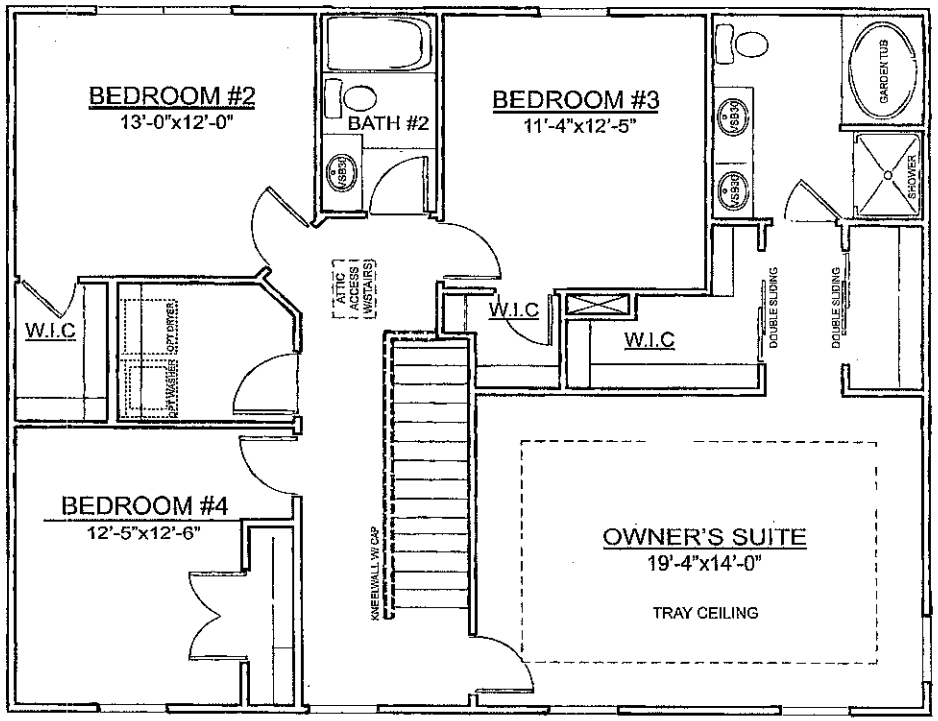
DATE

# Grande Homes

704-400-1710

Acknowledgement Of
Plans Submittal ONLY!
Date 1-14-14
Date 1-17-14




2,257 Finished SF
4 Large Bedrooms!
2.5 Baths (Includes Deluxe Master Bath)
Lots of Closet Space!
Large Kitchen with Island!
Tray Ceiling in Master Bedroom!
& MUCH, MUCH MORE!

This marketing diagram is for illustrative purposes only and isn't intended, nor to be used as part of the contract. Dimensions displayed are approximate. Grande Homes reserves the right to make changes without notification.

# IREDELL COUNTY

PO Box 788
349 North Center St.
Statesville, NC 28677

| APPLICATION NUMBER |
|---|
| 201137 |
| Issue Date: 01/13/2014 |

## ZONING PERMIT

Open Space

| Parcel Number | Street Address | Jurisdiction |
|---|---|---|
| 4635582038.000 | 193 SHORELINE LOOP, MOORESVILLE, NC 28117 | MOORESVILLE |

| Owner Information | Applicant Information |
|---|---|
| Owner: HOLLAR CORA LEE | Applicant: GRANDE HOMES COMPANY |
| Address: 27<br>IREDELL CO, NC 28625 | Address: 555 DELBURG STREET<br>DAVIDSON, NC 28036 |
| Phone: | Phone: 704-895-1379 |

| Use Requested | Zone Code |
|---|---|
| SFD | |

| Lot Acreage | F Setback | B Setback | Setback | R Setback | Watershed | Flood Zone |
|---|---|---|---|---|---|---|
| | 35.00 | 50.00 | 15.00 | 15.00 | CA | X |

**Remarks:**

The applicant certifies that there are no deed restrictions, contractual agreements or governmental regulations of any kind that interfere with or prohibit the use of the property or the use for which this permit is requested. The applicant further acknowledges that enforcement of deed restrictions, plat conditions and other contractual agreements will not be undertaken by Iredell County and is the sole responsibility of the affected parties.

Applicant: _____ Date: 1-14-14

| Permit Number | 4448 | TOTAL FEES: | $ 77.25 |
|---|---|---|---|