# Carolina Soil & Septic Consulting, PLLC

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NC Licensed Soil Scientist, SC Professional Soil Classifier,
Certified Septic System Operator, Licensed Septic Installer,
Certified Septic Inspector

**Design proposal for a PPBPS Septic System with low pressure distribution for a 3 bedroom single family residence on Lot 129 of Mallard Head Country Club , Iredell County, North Carolina.**

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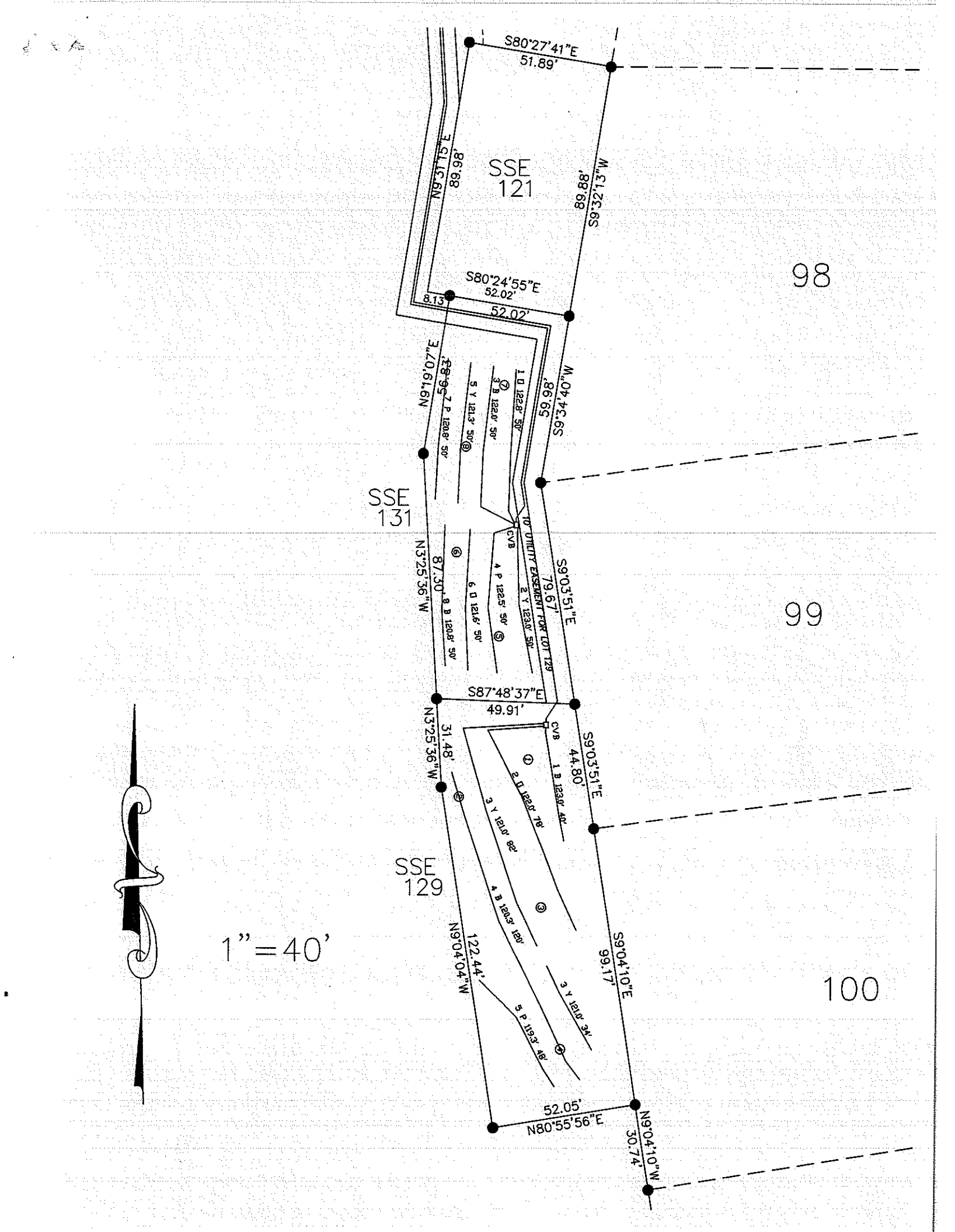
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**August 22, 2013**
**Design By: Adrian L. Pruett LSS**


S80°27'41"E
51.89'
N9°37'15"E
89.98'
SSE
121
S9°32'13"W
89.68'
98
S80°24'55"E
52.02'
8.13'
52.02'
N9°37'15"E
89.98'
S9°34'40"W
89.98'
1 D 122.8' 50'
3 B 122.0' 50'
5 Y 121.3' 50'
7 P 120.8' 50'
SSE
131
10' UTILITY EASEMENT FOR LOT 129
CVB
2 Y 123.0' 50'
4 P 122.5' 50'
6 D 121.6' 50'
8 B 120.8' 50'
N3°25'36"W
87.50'
S9°03'51"E
79.67'
99
S87°48'37"E
49.91'
N3°25'36"W
31.48'
CVB
1 B 123.0' 40'
2 D 122.8' 78'
3 Y 121.0' 64'
4 B 120.3' 120'
SSE
129
S9°03'51"E
44.80'
N9°04'04"W
122.44'
S9°04'10"E
99.17'
3 Y 121.0' 34'
5 P 119.3' 48'
100
52.05'
N80°55'56"E
N9°04'10"W
30.74'
1"=40'

# LOW PRESSURE PPBPS SYSTEM
# INSTALL SPECIFICATIONS

**Location:** MALLARD HEAD COUNTRY CLUB, LOT 129

**Source of Wastewater Flow:** 3 Bedroom Single Family Residence
**Estimated Gallons Per Day Flow:** 360
**System Flow:** 18.86

## Design Specifications

**Drainfield Size:** 200
**Required Drainfield Size:** 200
**Loading Rate (gpd/ft.$^2$):** 0.3
**Depth of Gravel in Trench:** NA (PPBPS )
**Gravel Size:** NA (PPBPS )
**Trench Depth:** 36 in.
**Trench Width:** 24 in.

**Septic Tank Size:** 1000
**Pump Tank Size:** 1000

**Estimated Supply Line Length:** 1898
**Supply Line Diameter:** 2 in. SCH 40 PVC
**Supply Line Volume:** 330.25
**Dosing Volume:** 110.95

**Recommended Pump:** Iredell County approved.

**Recommended Float Controls:** Iredell County approved.

**Recommended Control Panel:** Iredell County approved.

**Pressure Head:** 2 ft.
**Friction Head:** 15.94
**Elevation Head:** 24.50
**Total Dynamic Head:** 50.93

**Threaded Union:** In Tank
**Gate Valves:** 1 in Tank
1 per lateral
**Check Valves:** In Tank
**Anti-Siphon Hole:** N/A
**Additional Comments:** Soil suitability performed by Carolina Soil & Septic Consulting, PLLC

**Owner/Applicant Information**
**Owner/Applicant Name:** Jenaper Loma Hill, LLC
**Address:** Cliff Hecht
PO Box 5351
Mooresville, NC 28117
**Phone Number:** 704-962-6694

**Pump tank draw down based on a volume basis of 21 gallons per inch. Draw down may vary among pump tank manufacturers.*

# MALLARD HEAD COUNTRY CLUB, LOT 129
# FIELD LAYOUT SPECIFICATIONS

LAYOUT FOR 3 BEDROOM HOME

August 22, 2013

| LINE # | FLAG COLOR | IH | FS | ELEVATION | FLAGGED LINE LENGTH | DESIGN LINE LENGTH |
|---|---|---|---|---|---|---|
| TBM | | | 94.90 | 94.90 | | |
| INSTR. 1 | | | | | | |
| HOUSE CNR | | | 101.20 | 101.20 | | |
| P. TANK | | | 103.50 | 103.50 | | |
| *1* | *BLUE* | | *123.00* | *123.00* | *40* | *40* |
| *2* | *ORANGE* | | *122.00* | *122.00* | *78* | *78* |
| *3* | *YELLOW* | | *121.00* | *121.00* | *82* | *82* |
| 4 | YELLOW | | 121.00 | 121.00 | 34 | 34 |
| 5 | BLUE | | 120.30 | 120.30 | 120 | 120 |
| 6 | PINK | | 119.30 | 119.30 | 48 | 48 |
| | | | | **Total** | **402** | **402** |

| | LINE LENGTH | SYSTEM TYPE | SOIL LTAR GPD/FT2 | TRENCH SYSTEM | DISTRIBUTION |
|---|---|---|---|---|---|
| ** System* | *200* | *MOD.* | *0.300* | *PPBPS* | *LOW PRESSURE* |
| Repair | 202 | MOD. | 0.300 | PPBPS | LOW PRESSURE |

Notes:
** TBM located top of ground at EIP at corner of lot (see site plan)
**All measures in feet
**Nitrification lines are demonstrated on contour via colored pin flags
**IH, and FS indicate rod readings

# LOW PRESSURE PPBPS TAPSHEET -MALLARD HEAD COUNTRY CLUB, LOT 129

## SYSTEM

| Line # | Color | Elevation | Length | Hole Size | Flow/hole | Trench Area | Number of Panels |
|---|---|---|---|---|---|---|---|
| *1* | *BLUE* | *123.00* | *40* | 0.156 | **0.41** | 120 | 9 |
| *2* | *ORANGE* | *122.00* | *78* | 0.156 | **0.41** | 234 | 18 |
| *3* | *YELLOW* | *121.00* | *82* | 0.156 | **0.41** | 246 | 19 |
| | | | | | | | 46 |
| | **total** | **feet =** | **200** | **gal/min =** | **18.86** | | |
| | | | **Des. Flow** | **360** | | | |
| | | | **Pump Run=** | **5.88** | | | |
| | | | **soil LTAR** | **0.3** | | | |

**.156 equals 5/32 inch hole**

## DOSING CALCULATIONS

Location Mallard Head Country Club

Lot No: Lot 129

| | | |
|---|---|---|
| No. of Bedrooms | 3 | |
| Design Flow | 360 | $^{gal}/_{day}$ |
| LTAR | 0.300 | $^{gal}/_{ft^2\,day}$ |
| PPBPS? (YES OR NO) | YES | |
| Supply Line Length | 1898 | ft. |
| Supply Line Volume | 330.252 | gal. |
| Required Feet of Line | 200 | ft. |
| Amount of Line from Layout | 200 | ft. |
| Gallons per Minute | 18.86 | $^{gal}/_{min}$ |
| Required Septic Tank Capacity | 1000 | gal. |
| Minimum Standard Tank Size | 1000 | |
| Panel Volume | 3.6 | gal. |
| # of Panels | 46 | |
| Dosing Volume | 110.95 | gal. |

*Note: Dosing Volume based on 67% of # of panels times 3.6 gal/panel*

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 |

| | | |
|---|---|---|
| Tank Draw Down | 5.3 | *Generic Draw Down of 21 gal.per in.* |
| Pump Run Time | 5.88 | minutes |
| Elevation Head | 24.5 | ft. |
| Pressure Head | 2 | ft. |
| Friction Factor | 0.84 | ft./100 ft. *(From the interpolater.)* |
| Friction Head | 15.94 | ft. |
| Total Dynamic Head (+20%) | 50.93 | ft. |

)ENR/DEH

)N-SITE WASTEWATER SECTION

*Sheet* __1__ *of* __1__
PROPERTY ID #: 4636759717
COUNTY: Iredell

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

)WNER: Jenaper Loma Hill, LLC APPLICATION DATE 8/2013
\DDRESS: PO Box 5351 Mooresville, NC 28117 DATE EVALUATED: 8/14/2013
'ROPOSED FACILITY: 3 Brm PROPOSED DESIGN FLOW (.1949): 360 gpd PROPERTY SIZE: 0.46 ac
.OCATION OF SITE: Mallard Head Country Club Lot 129 Offsite area located behind Lots 99 & 100 PROPERTY RECORDED: No
VATER SUPPLY: X Private ☐ Public ☐ Well ☐ Spring ☐ Other
:VALUATION METHOD: X Auger Boring ☐ Pit ☐ Cut TYPE OF WASTEWATER: X Sewage ☐ Industrial Process ☐ Mixed

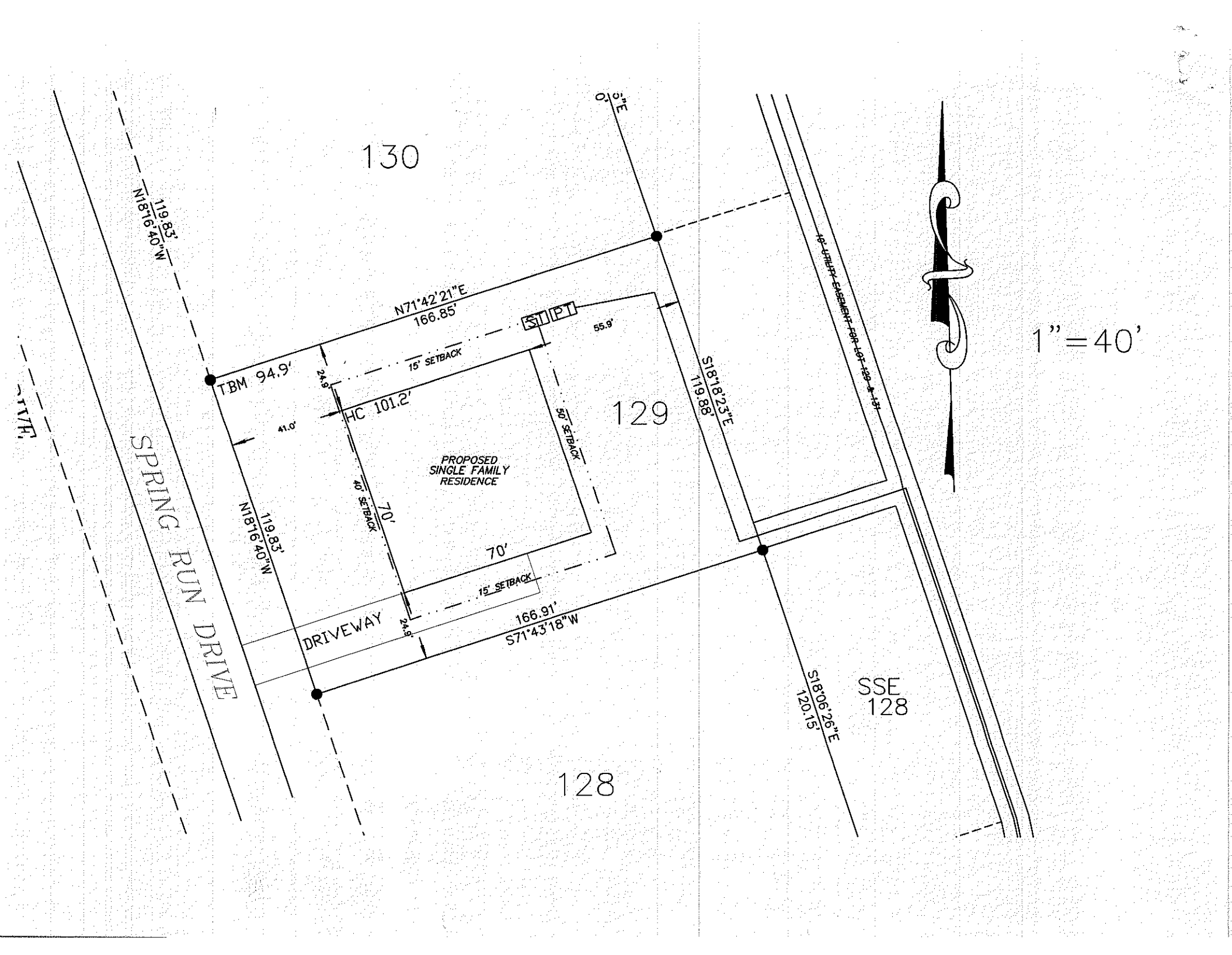
| PROFILE # | .1940 LANDSCAPE POSITION/ SLOPE % | HORIZON DEPTH (IN.) | SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE | .1941 CONSISTENCE/ MINERALOGY | OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR | .1943 SOIL DEPTH | .1956 SAPRO CLASS | .1944 RESTR HORIZ | PROFILE CLASS & LTAR |
|---|---|---|---|---|---|---|---|---|---|
| B 1 | LSS 5% | 0-24 | R C WFSBK | FR, SS, SP, SEXP | -Com. Sap. | 48" | - | - | PS |
| | | 24-48 | R CL WFSBK | FR, SS, SP, SEXP | | | | | 0.3 gpd/sqft |
| B 2 | LSS 3% | 0-16 | R C WFSBK/ABK | FR, SS, SP, SEXP | -Com quartz gravel | 48" | - | - | PS |
| | | 16-48 | YR CL WFSBK | FR, SS, SP, SEXP | -Many sap, com. quartz gravel <30" | | | | 0.3 gpd/sqft |
| B 3 | LSS 5% | 0-23 | R C WFSBK | FR, SS, SP, SEXP | -Com./many sap. | 48" | - | - | PS |
| | | 23-48 | R CL WFSBK | FR, SS, SP, SEXP | | | | | 0.3 gpd/sqft |
| B 4 | LSS 8% | 0-32 | R C WFSBK | FR, SS, SP, SEXP | -Com. sap. | 48" | - | - | PS |
| | | 32-48 | R CL WFSBK | FR, SS, SP, SEXP | | | | | 0.3 gpd/sqft |

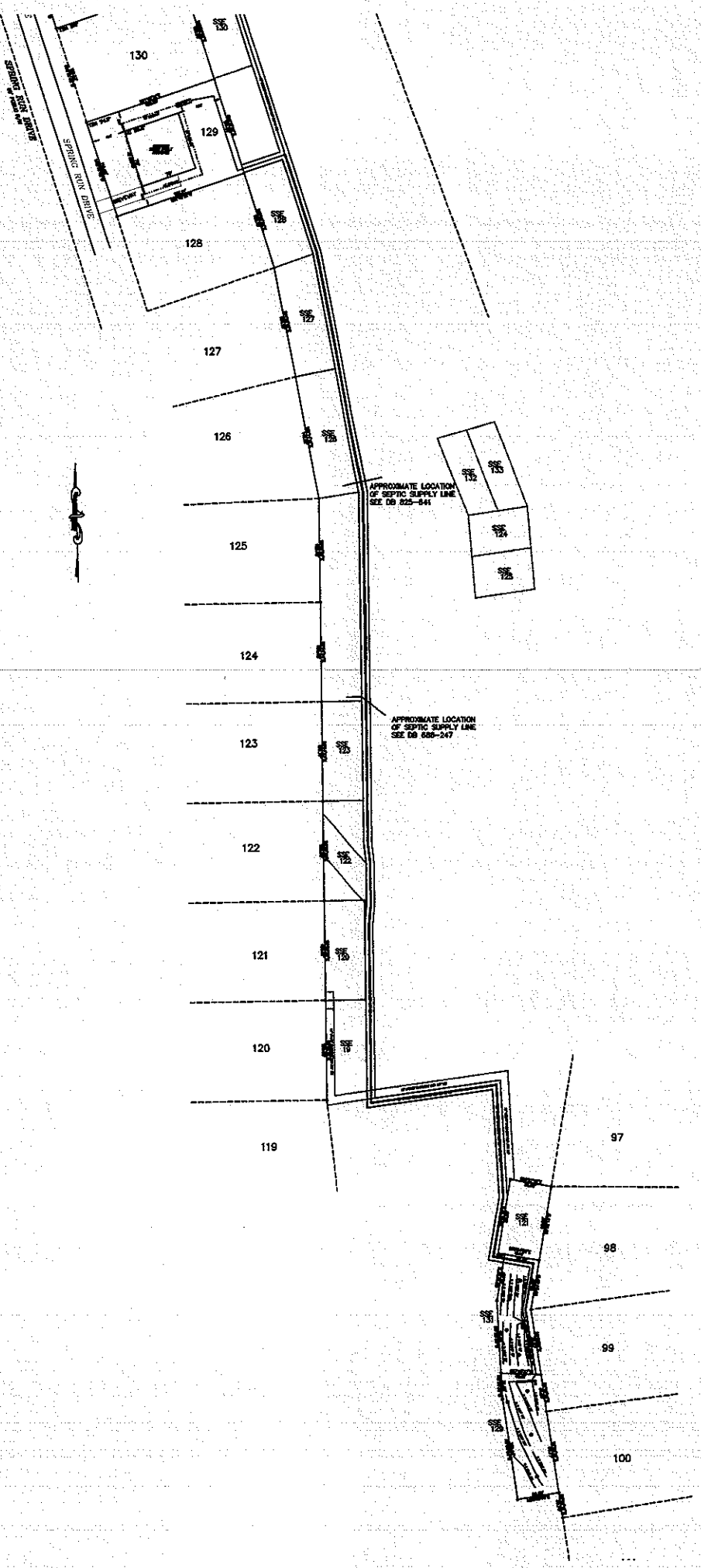
| DESCRIPTION | INITIAL SYSTEM | REPAIR SYSTEM |
|---|---|---|
| Available Space (.1945) | PS | PS |
| System Type(s) | LP PPBPS | LP PPBPS |
| Site LTAR | 0.3 GPD/SQFT | 0.3 GPD/SQFT |

OTHER FACTORS (.1946): NONE
SITE CLASSIFICATION (.1948): PS

EVALUATED BY: ADRIAN L. PRUETT
OTHER(S) PRESENT: NONE

COMMENTS:


130
129
128
SSE
128
SPRING RUN DRIVE
119.83'
N18°16'40"W
N71°42'21"E
166.85'
TBM 94.9'
24.9'
15' SETBACK
ST
PT
55.9'
HC 101.2'
41.0'
50' SETBACK
PROPOSED
SINGLE FAMILY
RESIDENCE
40' SETBACK
70'
70'
119.83'
N18°16'40"W
15' SETBACK
DRIVEWAY
24.9'
166.91'
S71°43'18"W
S18°18'23"E
119.88'
S18°06'26"E
120.15'
1"=40'


SPRING RUN DRIVE
130
129
128
127
126
125
124
123
122
121
120
119
97
98
99
100
APPROXIMATE LOCATION OF SEPTIC SUPPLY LINE SEE DB 625-541
APPROXIMATE LOCATION OF SEPTIC SUPPLY LINE SEE DB 686-247