U.S. DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY
National Flood Insurance Program

ELEVATION CERTIFICATE

IMPORTANT: Follow the instructions on pages 1–9.

OMB No. 1660-0008
Expiration Date: July 31, 2015

SECTION A – PROPERTY INFORMATION

FOR INSURANCE COMPANY USE
Policy Number:
Company NAIC Number:

A1. Building Owner's Name: Bradford R. & Marilyn A. Bates

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 233 Preserve Trail

City: Waverly | State: CAMDEN COUNTY, GEORGIA | ZIP Code: 31565 | JOB #14-176 | PARCEL ID 125F 0225A

A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.): Lot 25, Replat of Block A, Ph 1-B, Sanctuary Cove at St. Andrews Sound

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.): RESIDENTIAL

A5. Latitude/Longitude: Lat. N31° 10.365' Long. W081° 38.372' Horizontal Datum: ☐ NAD 1927 ☒ NAD 1983

A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.

A7. Building Diagram Number: 1B

A8. For a building with a crawlspace or enclosure(s):
- a) Square footage of crawlspace or enclosure(s): NA sq ft
- b) No. of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade: NA
- c) Total net area of flood openings in A8.b: NA sq in
- d) Engineered flood openings? ☐ Yes ☒ No

A9. For a building with an attached garage:
- a) Square footage of attached garage: 656 sq ft
- b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade: 2
- c) Total net area of flood openings in A9.b: 312 sq in
- d) Engineered flood openings? ☒ Yes ☐ No

SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. NFIP Community Name & Community Number: CAMDEN COUNTY 130262

B2. County Name: CAMDEN COUNTY

B3. State: GEORGIA

B4. Map/Panel Number	B5. Suffix	B6. FIRM Index Date	B7. FIRM Panel Effective/ Revised Date	B8. Flood Zone(s)	B9. Base Flood Elevation(s) (Zone AO, use base flood depth)
13026 20155	F	12-16-08	12-16-08	AE	13'

B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9:
☐ FIS Profile ☒ FIRM ☐ Community Determined ☐ Other/Source:

B11. Indicate elevation datum used for BFE in Item B9: ☐ NGVD 1929 ☒ NAVD 1988 ☐ Other/Source:

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? ☐ Yes ☒ No

Designation Date: ____ / ____ / ____ ☐ CBRS ☐ OPA

SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: ☐ Construction Drawings* ☐ Building Under Construction* ☒ Finished Construction
*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations – Zones A1–A30, AE, AH, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO. Complete Items C2.a–h below according to the building diagram specified in Item A7. In Puerto Rico only, enter meters.

Benchmark Utilized: BRO 356 Vertical Datum: NAVD 1988

Indicate elevation datum used for the elevations in items a) through h) below. ☐ NGVD 1929 ☒ NAVD 1988 ☐ Other/Source:

Datum used for building elevations must be the same as that used for the BFE.

		Check the measurement used.	
a) Top of bottom floor (including basement, crawlspace, or enclosure floor)	14.2	☒ feet	☐ meters
b) Top of the next higher floor	N.A	☒ feet	☐ meters
c) Bottom of the lowest horizontal structural member (V Zones only)	N.A	☒ feet	☐ meters
d) Attached garage (top of slab)	11.6	☒ feet	☐ meters
e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments)	14.2	☒ feet	☐ meters
f) Lowest adjacent (finished) grade next to building (LAG)	10.3	☒ feet	☐ meters
g) Highest adjacent (finished) grade next to building (HAG)	10.8	☒ feet	☐ meters
h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support	10.5	☒ feet	☐ meters

SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information. *I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.*

☒ Check here if comments are provided on back of form.
☐ Check here if attachments.

Were latitude and longitude in Section A provided by a licensed land surveyor? ☒ Yes ☐ No

Certifier's Name	License Number
NORMAN G. BLOOD	2360

Title	Company Name		
PROFESSIONAL LAND SURVEYOR	SOUTHEASTERN LAND SURVEYORS, INC.		
Address: 805 OAK BLUFF ROAD	City: BRUNSWICK	State: GA	ZIP Code: 31523
Signature:	Date: 11-7-14	Telephone: 912-262-0001	

GEORGIA REGISTERED No. 2360 PROFESSIONAL LAND SURVEYOR NORMAN G. BLOOD
11-7-14

ELEVATION CERTIFICATE, page 2

IMPORTANT: In these spaces, copy the corresponding information from Section A.

FOR INSURANCE COMPANY USE

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 233 Preserve Trail

Policy Number:

City: Waverly | State: CAMDEN CO., GA | ZIP Code: 31565 | JOB # 14-176 | PARCEL ID 125F025A

Company NAIC Number:

SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION (CONTINUED)

Copy both sides of this Elevation Certificate for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments

THIS IS A 1STORY RESIDENCE ON A SLAB WITH NO CRAWL SPACE. THE PORCHES HAVE 789 SQ.FT. WITH 9 ENGINEERED VENTS RATED AT 1116 SQ. FT. WITH A NET AREA OF 459 SQ.IN. THE GARAGE HAS 656 SQ. FT. WITH 2 VENTS RATED AT 724 SQ. FT. & NET OPENING 312 SQ.IN.

Signature | Date: 11-7-14

SECTION E – BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO AND ZONE A (WITHOUT BFE)

For Zones AO and A (without BFE), complete Items E1–E5. If the Certificate is intended to support a LOMA or LOMR-F request, complete Sections A, B, and C. For Items E1–E4, use natural grade, if available. Check the measurement used. In Puerto Rico only, enter meters.

E1. Provide elevation information for the following and check the appropriate boxes to show whether the elevation is above or below the highest adjacent grade (HAG) and the lowest adjacent grade (LAG).

a) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ . _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

b) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ . _____ ☐ feet ☐ meters ☐ above or ☐ below the LAG.

E2. For Building Diagrams 6–9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 8–9 of Instructions), the next higher floor (elevation C2.b in the diagrams) of the building is _____ . _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

E3. Attached garage (top of slab) is _____ . _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

E4. Top of platform of machinery and/or equipment servicing the building is _____ . _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? ☐ Yes ☐ No ☐ Unknown. The local official must certify this information in Section G.

SECTION F – PROPERTY OWNER (OR OWNER'S REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without a FEMA-issued or community-issued BFE) or Zone AO must sign here. The statements in Sections A, B, and E are correct to the best of my knowledge.

Property Owner or Owner's Authorized Representative's Name

Address | City | State | ZIP Code

Signature | Date | Telephone

Comments

☐ Check here if attachments.

SECTION G – COMMUNITY INFORMATION (OPTIONAL)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Sections A, B, C (or E), and G of this Elevation Certificate. Complete the applicable item(s) and sign below. Check the measurement used in Items G8–G10. In Puerto Rico only, enter meters.

G1. ☒ The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)

G2. ☐ A community official completed Section E for a building located in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.

G3. ☐ The following information (Items G4–G9) is provided for community floodplain management purposes.

G4. Permit Number	G5. Date Permit Issued	G6. Date Certificate Of Compliance/Occupancy Issued
BP2014-008	3-4-2014	11-19-2014

G7. This permit has been issued for: ☒ New Construction ☐ Substantial Improvement

G8. Elevation of as-built lowest floor (including basement) of the building: 14 . 20 ☒ feet ☐ meters Datum 1988

G9. BFE or (in Zone AO) depth of flooding at the building site: 13 . 00 ☒ feet ☐ meters Datum 1988

G10. Community's design flood elevation: 14 . 00 ☒ feet ☐ meters Datum 1988

Local Official's Name: SCOTT BRAZELL | Title: CRS E&S COORDINATOR

Community Name: CAMDEN COUNTY | Telephone: 912-510-4320

Signature | Date: 11-19-2014

Comments

☐ Check here if attachments.

Building Photographs

Continuation Page

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.				For Insurance Company Use:
233 Preserve Trail (Bradford R. & Marilyn A. Bates) 14-176				Policy Number
City Waverly, Camden County, GA 31565	State	PARCEL 125F 0225A	ZIP Code	Company NAIC Number

If submitting more photographs than will fit on the preceding page, affix the additional photographs below. Identify all photographs with: date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View."

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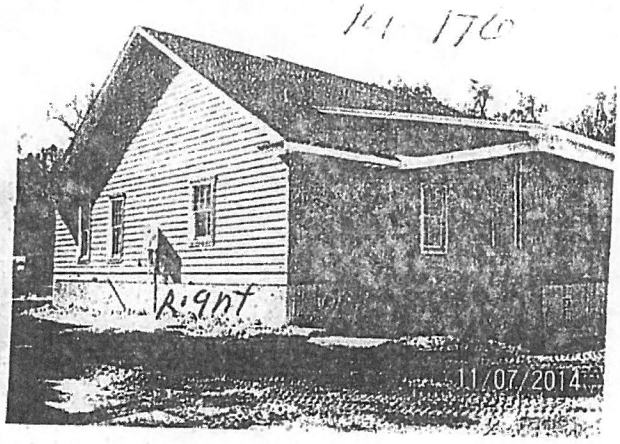

BACK PORCH - 5 EACH
FRONT PORCH - 4 EACH
9

124 SQUARE INCHES

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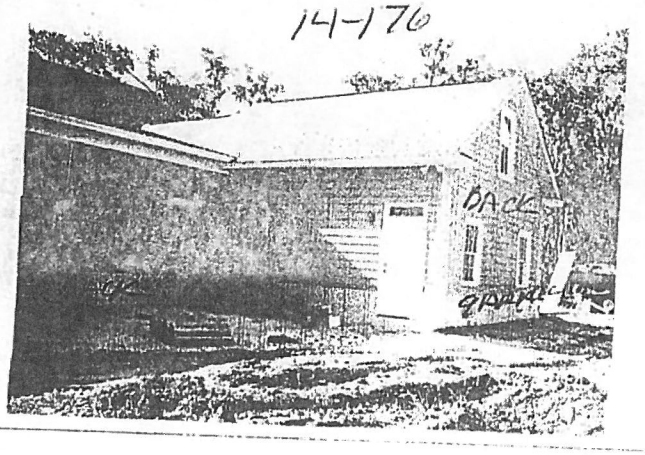
GARAGE - 2 EACH

302 INCHES

14-176



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CERTIFICATION OF ENGINEERED FLOOD OPENINGS (FEMA TB-1 August 2008)

hereby certify that the **FLOOD SOLUTIONS LLC** Flood Vent properly installed and sized in accordance with Federal Emergency Management 's (FEMA's) National Flood Program regulations is designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for entry and oodwater during floods up to and including the base 100-year flood.

o do hereby certify that I calculated the Non Engineered Net Free Air and Engineered Opening size for each model and size of FLOOD SOLUTIONS LLC flood ts. The results of the calculations are recorded in the table below. The Engineered size opening calculation was performed using the formula in FEMA hnical Bulletin 1 – August 2008, Openings in Foundation Walls for Buildings Located in Special Flood Hazard Areas in accordance with the National Flood rance Program (NFIP) and ASCE/SEI 24-05, Flood Resistance Design and Construction.
easured the Non Engineered Net Free Air by calculating the minimum distance between the top blade and the top of the vent times the clear opening width he vent; plus the minimum distance between the bottom blade and the bottom of the vent the clear opening width of the vent; plus the minimum distance ween each blade times the number of spaces between the blades in vent times the clear opening width of the vent.

sed the formula in TB 1 – August 2008 ($A^o = 0.033\ [1/C]\ RA\hat{e}$) to determine the Engineered Opening size for each model listed below. I used the following umptions: A^o = total net area of openings required (in^2); 0.033 = coefficient corresponding to a factor of safety of 5.0 ($in^2\ hr/ft^3$); c = 0.40 opening efficient (ASCE 24 Table 2-3 "rectangular, long axis horizontal, short axis vertical unobstructed during design flood") or C = 0.35 (square unobstructed during sign flood); R = 5 ft/hr worst case rate of rise and fall; and $A\hat{e}$ = 1 ft^2 total enclosed area.

te: When the horizontal dimension is twice or more the vertical dimension, use 0.4; as the dimensions approach a square, interpolate from 0,4 to 0.35.

$$A^o / A\hat{e} = 0.033\ [1/C]\ R = 0.033\ [1/0.40 \text{ for rectangle, long axis horizontal}]\ R = 0.4125\ in^2 \text{ per } ft^2$$
$$\text{or } A^o / A\hat{e} = 0.033\ [1/C]\ R = 0.033\ [1 / 0.35 \text{ for square}]\ R = .4719\ in^2 \text{ per } ft^2$$

ch individual opening, and any louvers, screens, or other covers, shall be designed to allow automatic entry and exit of floodwaters during design flood or ser flood conditions; there shall be a minimum of two openings on different sides of each enclosed area; if a structure has more than one enclosed area ow the DFE, each area shall have openings; openings shall not be less than 3 inches in any direction in the plane of the wall; the bottom of each required ning shall be no more than 1 ft. above the adjacent grade; the difference between the exterior and interior floodwater levels shall not exceed 1 ft. during e flood conditions; in the absence of reliable data on the rates of rise and fall, assume a rate of rise and fall of 5ft/hr; where data or analysis indicated more ld rates of rise and fall, the total net area of the required openings shall be increased to account for the higher rates of rise and fall.

MODEL Number Flood Solutions:	SIZE of WALL OPENING: (WIDTH X HEIGHT)	Net Free Air (square inches):	ENGINEERED OPENING (square inches) Each vent covers: (square ft.)
1412-F	14-1/2" x 12"	67	145
1509-F	16"x 9-1/4"	55	131
1608-F	16" x 8"	51	124
1608-D	16" x 8"	51	124
1608-C	16" x 8"	65	158
1616-F	16" x 16"	104	221
1616-D	16" x 16"	102	216
2412-F	24" x 12"	113	274
2412-D	24" x 12"	110	267
2416-F	24" x 16"	156	362
2416-D	24" x 16"	154	357
3208-F	32" x 8"	104	252
3208-D	32" x 8"	104	252

BACKPORCH 5 VENTS

FRONT PORCH 4 VENTS

GARAGE 2 VENTS

TURE: _____

: DANIEL G. FARABAUGH

F LICENSE: PROFESSIONAL ENGINEER

GEORGIA LICENSE NUMBER: 19406

RABAUGH, P.E.
UGH ENGINEERING AND TESTING, INC.
E DR., McKEESPORT, PA 15135

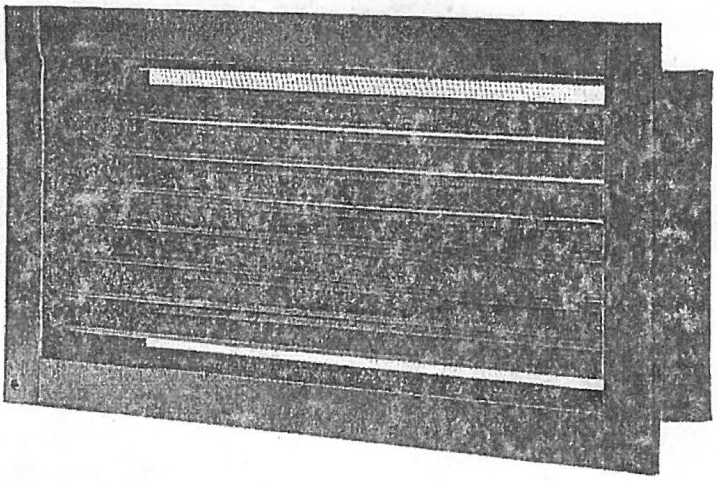
233 PRESERVE TRAIL
LOT 25 A
PHASE 1-B
SANCTUARY COVE
BRAD & MARILYN BATES
BUILDER - TODD HOPE

GEORGIA REGISTERED No. 19406 PROFESSIONAL ENGINEER DANIEL GILBERT FARABAUGH

2/22/13

INSTALLATION INSTRUCTIONS

'F' Models: 1608-F / 1616-F / 2412-F / 2416-F / 3208-F



INCLUDED HEREIN:

-Concrete screws
-Anchors

What you'll need:

-Power Drill
-1/4" Masonry Bit
-Philips Head Screwdriver
-Hammer
-Level
-Exterior Caulking
-Adhesive Caulking (optional)

Note: If you are NOT installing vent into a concrete/brick wall please provide the correct fasteners for the material that you are fastening the flood vent into.

NOTE: BE SURE THAT BOTTOM OF OPENING IS NO MORE THAN 12" ABOVE GRADE.

Step 1: PROVIDE A CLEAN, SQUARE AND LEVEL ROUGH OPENING
Step 2: INSERT VENT INTO OPENING
Step 3: MAKE SURE VENT IS LEVEL
Step 4: MARK HOLES ON WALL AND THEN REMOVE VENT FROM OPENING
Step 5: DRILL HOLES 1-1/4"DEEP INTO CONCRETE/BLOCK WALL.
Step 6: FULLY INSERT ANCHORS INTO WALL, TAPPING ANCHORS INTO PLACE USING A HAMMER MAKING SURE ANCHORS ARE FLUSH TO THE WALL
Step 7: APPLY ADHESIVE CAULKING AROUND THE REAR SIDE OF OUTER FLANGE (optional)
Step 8: REPLACE VENT INTO OPENING
Step 9: SECURE ALL SCREWS THROUGH HOLES IN VENT INTO ANCHORS SET IN WALL
Step 10: CAULK AROUND PERIMETER OF VENT TO HELP PREVENT WATER FROM SEEPING BEHIND THE FLANGE FRAME

FLOOD Solutions
FEMA Compliant Engineered Flood Vents

FLOOD SOLUTIONS, LLC.
One Industrial Park Drive
Bldg. 27
Pelham NH, 03076
Toll Free: 1-800-325-9775
In NH: 603-595-5222
Fax: 603-595-4778
www.floodsolutions.com
info@floodsolutions.com

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