

# ELEVATION CERTIFICATE

**Important:** Follow the instructions on pages 1–9.

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

SECTION A – PROPERTY INFORMATION				FOR INSURANCE COMPANY USE	
A1. Building Owner's Name Sicario Properties, Inc.				Policy Number:	
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 145 Beechnut Avenue				Company NAIC Number:	
City South Mills		State North Carolina		ZIP Code 27976	
A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) Being Lot 3, Maranatha Island, Section 3, as recorded on Plat Cabinet 2, Slide 43A					
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) <u>Residential</u>					
A5. Latitude/Longitude: Lat. <u>36.40514</u> Long. <u>-76.28725</u> Horizontal Datum: <input type="checkbox"/> NAD 1927 <input checked="" type="checkbox"/> 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 <u>8</u>					
A8. For a building with a crawlspace or enclosure(s):					
a) Square footage of crawlspace or enclosure(s) <u>2440.00</u> sq ft					
b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade <u>2</u>					
c) Total net area of flood openings in A8.b <u>2480.00</u> sq in					
d) Engineered flood openings? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
A9. For a building with an attached garage:					
a) Square footage of attached garage <u>730.00</u> sq ft					
b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade <u>4</u>					
c) Total net area of flood openings in A9.b <u>1220.00</u> sq in					
d) Engineered flood openings? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION					
B1. NFIP Community Name & Community Number Camden County 370042			B2. County Name Camden County		B3. State North Carolina
B4. Map/Panel Number 3720798600	B5. Suffix K	B6. FIRM Index Date 12-21-2018	B7. FIRM Panel Effective/ Revised Date 12-21-2018	B8. Flood Zone(s) AE	B9. Base Flood Elevation(s) (Zone AO, use Base Flood Depth) 5.8'
B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9: <input checked="" type="checkbox"/> FIS Profile <input type="checkbox"/> FIRM <input type="checkbox"/> Community Determined <input type="checkbox"/> Other/Source: _____					
B11. Indicate elevation datum used for BFE in Item B9: <input type="checkbox"/> NGVD 1929 <input checked="" type="checkbox"/> NAVD 1988 <input type="checkbox"/> Other/Source: _____					
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Designation Date: _____ <input type="checkbox"/> CBRS <input type="checkbox"/> OPA					

# ELEVATION CERTIFICATE

OMB No. 1660-0008  
Expiration Date: November 30, 2022

<b>IMPORTANT: In these spaces, copy the corresponding information from Section A.</b>			<b>FOR INSURANCE COMPANY USE</b>
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 145 Beechnut Avenue			Policy Number:
City South Mills	State North Carolina	ZIP Code 27976	Company NAIC Number

## 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: Leica RTK Network                      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) _____   | 4.5 | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| b) Top of the next higher floor _____   | 8.1 | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| c) Bottom of the lowest horizontal structural member (V Zones only) _____   | N/A | <input type="checkbox"/> feet            | <input type="checkbox"/> meters |
| d) Attached garage (top of slab) _____  | 4.5 | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| e) Lowest elevation of machinery or equipment servicing the building<br>(Describe type of equipment and location in Comments) _____ | 8.2 | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| f) Lowest adjacent (finished) grade next to building (LAG) _____  | 3.9 | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| g) Highest adjacent (finished) grade next to building (HAG) _____   | 4.6 | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support _____                                  | 3.9 | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> 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.

Were latitude and longitude in Section A provided by a licensed land surveyor?     Yes     No                       Check here if attachments.

Certifier's Name Jason A. Mizelle, PLS	License Number L-4917		
Title Professional Land Surveyor			
Company Name Timmons Group			
Address 1805 West City Drive, Unit E			
City Elizabeth City	State North Carolina		ZIP Code 27909
Signature 	Date 03-23-2021	Telephone (252) 621-5028	Ext.

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

Comments (including type of equipment and location, per C2(e), if applicable)  
 A8) There are (2) engineered flood vents with 1240 sq. inches each.  
 A9) There are (4) engineered flood vents with 305 sq. inches each.  
 C2e) Lowest equipment servicing the structure is exterior HVAC unit.

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## 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 1–2 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.



# BUILDING PHOTOGRAPHS

See Instructions for Item A6.

OMB No. 1660-0008

Expiration Date: November 30, 2022

## ELEVATION CERTIFICATE

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Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 145 Beechnut Avenue			Policy Number:
City South Mills	State North Carolina	ZIP Code 27976	Company NAIC Number

If using the Elevation Certificate to obtain NFIP flood insurance, affix at least 2 building photographs below according to the instructions for Item A6. Identify all photographs with date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View." When applicable, photographs must show the foundation with representative examples of the flood openings or vents, as indicated in Section A8. If submitting more photographs than will fit on this page, use the Continuation Page.



Photo One

Photo One Caption Front View 3-23-2021

Clear Photo One



Photo Two

Photo Two Caption Rear View 3-23-2021

Clear Photo Two

# BUILDING PHOTOGRAPHS

Continuation Page

OMB No. 1660-0008  
Expiration Date: November 30, 2022

## ELEVATION CERTIFICATE

<b>IMPORTANT: In these spaces, copy the corresponding information from Section A.</b>			<b>FOR INSURANCE COMPANY USE</b>
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 145 Beechnut Avenue			Policy Number:
City South Mills	State North Carolina	ZIP Code 27976	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." When applicable, photographs must show the foundation with representative examples of the flood openings or vents, as indicated in Section A8.



Photo Three

Photo Three Caption Engineered Crawlspace Vent 3-23-2021

Clear Photo Three



Photo Four

Photo Four Caption Engineered Garage Vent 3-23-2021

Clear Photo Four

# Certification of Engineered Flood Openings

In accordance with the Code of Federal Regulations for the National Flood Insurance Program

I hereby certify that the **Crawl Space Door Systems flood vents 816CS, 1220CS, 1232CS, 1616CS, 1624CS, 1632CS, 2032CS, 2424CS, and 2436CS** are **designed** are designed in accordance with the requirements of the Code of Federal Regulations for the National Flood Insurance Program (NFIP) **to provide automatic equalization of hydrostatic flood forces by allowing for the entry and exit of floodwaters**, when properly installed and sized as set forth below. Vent opening measurements were measured and certified by Mr. Christopher Mark Loney, Virginia P.E. NO. 029000. Detailed calculations were prepared as outlined in "Review of certification of Engineered Flood Openings," prepared by Dr. Georg Reichard, Associate Professor of Building Construction, Virginia Tech (available upon request from Crawl Space Door Systems, Inc. billy@crawlspacedoors.com)

## Design Characteristics

Section 2.6.2.2 of ASCE/SEI 24-05 provides an equation to determine the required net area of engineered openings ( $A_o$ ) for a given enclosed area ( $A_e$ ). This equation is based on the hydraulic formula for the flow rate across sharp edged orifices. I have utilized this equation to calculate 1) the restricted flow rate through the main frame opening in case the louver is blown out during a flood event; 2) the flow rate through the individual openings between louver blades; and 3) the flow rate through projected openings between louver blades following hydraulic short-tube theory. The maximum total enclosed area ( $A_e$ ) that can be serviced by a single vent has then been determined by utilizing the lowest flow rate of the three assessed scenarios for each vent and is listed in Table 1.

These values are based on the following assumptions:

- In absence of reliable data, the rates of rise and fall have been assumed at a minimum rate of 5 feet/hour;
- The (maximum) difference between the exterior and interior floodwater levels shall not exceed 1 foot during base flood conditions;
- A factor of safety of 5 has been assumed, which is consistent with design practices related to protection of life and property;
- The net area of openings ( $A_o$ ) as provided by the manufacturer.

*)	Model	H x W [in]	$A_o$ [in <sup>2</sup> ]	$A_e$ [ft <sup>2</sup> ]
<input type="checkbox"/>	816CS	8 x 16	105	<b>205</b>
<input type="checkbox"/>	1220CS	12 x 20	235	<b>500</b>
<input type="checkbox"/>	1232CS	12 x 32	305	<b>645</b>
<input type="checkbox"/>	1616CS	16 x 16	180	<b>395</b>
<input type="checkbox"/>	1624CS	16 x 24	310	<b>670</b>
<input type="checkbox"/>	1632CS	16 x 32	405	<b>835</b>
<input checked="" type="checkbox"/>	2032CS	20 x 32	630	<b>1240</b>
<input type="checkbox"/>	2424CS	24 x 24	570	<b>1230</b>
<input type="checkbox"/>	2436CS	24 x 36	850	<b>1765</b>

## Installation Requirements and Limitations

This certification will be voided if the following installation requirements and limitations are not enforced:

- There shall be a minimum of two openings on different sides of each enclosed area subject to flooding;
- The bottom of all openings shall be no higher than one foot above the higher of the interior or exterior grade that is immediately under each opening;
- No temporary (e.g. during cold weather) or permanent solid cover may be placed into or over the flood vent that would block the automatic entry or exit of floodwaters at any time;
- Where data or analyses indicate more rapid rates of rise and fall, the required number of openings shall be increased to account for those different conditions. The number or size of the openings may be decreased if data or analyses indicate rates of rise and fall are less than 5 feet per hour.

**Table 1** Maximum total enclosed area ( $A_e$ ) that can be serviced by each individual model based on the given net area of engineered openings ( $A_o$ )

## Certifying Design Professional

Name	Frederick Allen House	Title	President
Company	House Engineering P.C.		
Address	PO Box 466, Kitty Hawk, NC 27949		
License	North Carolina	License No.	24740
Signature:	<i>Frederick Allen House P.E.</i>	Date:	11/17/2017

PLACE SEAL HERE

## Identification of the Building and Installed Flood Vents (By Others)

The flood vent models marked in Table 1\*) are being installed at the following building:

Building Address 145 Beechnut Avenue, South Mills, NC 27976

- With a minimum of one vent for the square footage of enclosed area noted in Table 1.
- Below the base flood elevation.
- With the bottom of the vent located a maximum of 12 inches (305 mm) above grade.

**5.0 CONDITIONS OF USE**

The Crawl Space Door Systems flood vents described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The Crawl Space Door Systems flood vents must be installed in accordance with this report, the applicable code and the manufacturer’s published installation instructions. In the event of a conflict, the instructions in this report govern.
- 5.2 The Crawl Space Door Systems flood vents must not be used in the place of “breakaway walls” in coastal high hazard areas but are permitted for use in conjunction with breakaway walls in other areas.
- 5.3 The Crawl Space Door Systems flood vents are manufactured under a quality control system with inspections by ICC-ES.

**6.0 EVIDENCE SUBMITTED**

Data in accordance with the ICC-ES Acceptance Criteria for Mechanically Operated Flood Vents (AC364), dated August 2015 (Editorially revised October 2017).

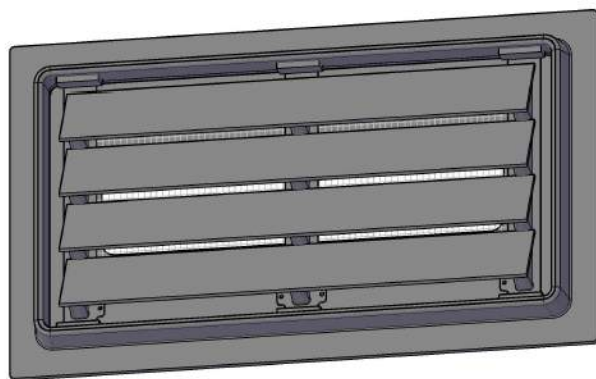
**7.0 IDENTIFICATION**

- 7.1 The Crawl Space Door Systems flood vents recognized in this report must be identified by a label bearing the manufacturer’s name (Crawl Space Door Systems), the model number, and the evaluation report number (ESR-3851).
- 7.2 The report holder’s contact information is the following:

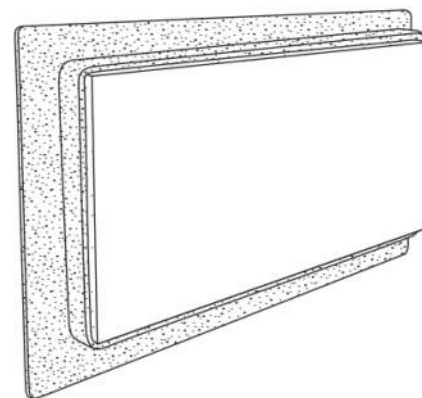
**CRAWL SPACE DOOR SYSTEMS, INC.**  
**3669 SEA GULL BLUFF DRIVE**  
**VIRGINIA BEACH, VIRGINIA 23455**  
**(757) 363-0005**  
[www.crawlspacedoors.com](http://www.crawlspacedoors.com)

**TABLE 1—CRAWL SPACE DOOR SYSTEMS FLOOD VENTS**

MODEL	OVERALL VENT SIZE (Width x Height x Depth) (in)	ROUGH OPENING SIZE (Width x Height) (in)	ENCLOSED AREA COVERAGE (ft <sup>2</sup> )
CSBA816	18 <sup>1</sup> / <sub>4</sub> x 10 <sup>1</sup> / <sub>2</sub> x 1 <sup>3</sup> / <sub>4</sub>	16 x 8 <sup>1</sup> / <sub>4</sub>	305
ICCINSULATED	18 <sup>1</sup> / <sub>4</sub> x 10 <sup>1</sup> / <sub>2</sub> x 1 <sup>3</sup> / <sub>4</sub>	15 <sup>3</sup> / <sub>4</sub> x 8	300
ICCSTACKED2	30 x 30 x 2 <sup>3</sup> / <sub>4</sub>	24 x 24	610
ICCSTACKED4	40 <sup>1</sup> / <sub>2</sub> x 24 <sup>3</sup> / <sub>4</sub> x 2 <sup>3</sup> / <sub>4</sub>	35 <sup>1</sup> / <sub>4</sub> x 19 <sup>1</sup> / <sub>2</sub>	1,220



**FIGURE 1—CRAWL SPACE DOOR SYSTEMS FLOOD VENT**



**FIGURE 2—FLOOD VENT INSULATED KIT**