

ELEVATION CERTIFICATE

IMPORTANT: Follow the instructions on pages 1-9.

OMB No. 0660-0008
Expiration Date: July 31, 2015

SECTION A - PROPERTY INFORMATION

A1. Building Owner's Name <u>DAVCO CONSTRUCTION INC.</u>	Policy Number:
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. <u>17 S. CEDAR GROVE AVENUE</u>	Company NAIC Number:
City <u>MARGATE</u>	State <u>FL</u>
A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) <u>LOT 221 BLOCK 123</u>	ZIP Code <u>08402</u>
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) <u>RESIDENTIAL</u>	
A5. Latitude/Longitude: Lat. <u>39.32305°</u> Long. <u>-74.51097°</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>1340</u> sq ft b) No. of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade <u>7</u> c) Total net area of flood openings in A8.b <u>3904</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 _____ sq ft b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade _____ c) Total net area of flood openings in A9.b _____ sq in d) Engineered flood openings? <input type="checkbox"/> Yes <input type="checkbox"/> No

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. NFIP Community Name & Community Number <u>CITY OF MARGATE CITY 345304</u>	B2. County Name <u>ATLANTIC</u>	B3. State <u>FL</u>
B4. Map/Panel Number <u>345304 0001</u>	B5. Suffix <u>C</u>	B6. FIRM Index Date <u>10/18/83</u>
B7. FIRM Panel Effective/Revised Date <u>10/18/83</u>	B8. Flood Zone(s) <u>A8</u>	B9. Base Flood Elevation(s) (Zone AO, use base flood depth) <u>10.0</u>
B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9: <input type="checkbox"/> FIS Profile <input checked="" type="checkbox"/> FIRM <input type="checkbox"/> Community Determined <input type="checkbox"/> Other/Source: _____		
B11. Indicate elevation datum used for BFE in Item B9: <input checked="" type="checkbox"/> NGVD 1929 <input 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		

SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: <input type="checkbox"/> Construction Drawings* <input type="checkbox"/> Building Under Construction* <input checked="" type="checkbox"/> 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: <u>RM 4</u> Vertical Datum: <u>NGVD 1929</u> Indicate elevation datum used for the elevations in items a) through h) below. <input checked="" type="checkbox"/> NGVD 1929 <input type="checkbox"/> NAVD 1988 <input type="checkbox"/> Other/Source: _____ Datum used for building elevations must be the same as that used for the BFE.	
a) Top of bottom floor (including basement, crawlspace, or enclosure floor) <u>8.4</u> b) Top of the next higher floor <u>13.39</u> c) Bottom of the lowest horizontal structural member (V Zones only) <u>N/A</u> d) Attached garage (top of slab) <u>N/A</u> e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) <u>13.4</u> f) Lowest adjacent (finished) grade next to building (LAG) <u>6.8</u> g) Highest adjacent (finished) grade next to building (HAG) <u>7.1</u> h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support <u>6.8</u>	Check the measurement used. <input checked="" type="checkbox"/> feet <input type="checkbox"/> meters <input checked="" type="checkbox"/> feet <input type="checkbox"/> meters <input type="checkbox"/> feet <input type="checkbox"/> meters <input type="checkbox"/> feet <input type="checkbox"/> meters <input checked="" type="checkbox"/> feet <input type="checkbox"/> meters <input checked="" type="checkbox"/> feet <input type="checkbox"/> meters <input checked="" type="checkbox"/> feet <input type="checkbox"/> meters <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.

☐ Check here if comments are provided on back of form. Were latitude and longitude in Section A provided by a licensed land surveyor? ☐ Yes ☐ No
☐ Check here if attachments.

Certifier's Name <u>HOWARD A. TRANQUE</u>	License Number <u>GS 33541</u>
Title <u>PROFESSIONAL LAND SURVEYOR</u>	Company Name <u>SCHAEFFER NASSAR SCHEIDT & CO, LLC</u>
Address <u>1425 CANTILLON BOULEVARD</u>	City <u>MAYS LANDING</u>
Signature <u>H.A.T.</u>	Date <u>4/30/2014</u>
	State <u>FL</u>
	ZIP Code <u>08330</u>
	Telephone <u>1609.625.7400</u>

GS 33541
H.A.T.
PLACE
SEAL
HERE
4/30/2014

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. 17 S. CEDAR GROVE AVENUE		Policy Number:	
City MARGATE	State NJ	ZIP Code 08402	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 ITEM A8b 3 VENTS ARE CRAWL SPACE DOOR SYSTEM RATED AT 1240 SQ. IN. EACH AND THE OTHER 4 VENTS ARE LOUVERED.
ITEM C2e IS THE HEATING SYSTEM.

Signature [Signature] Date 4/30/2014

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 13-113

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
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- G7. This permit has been issued for: ☐ New Construction ☐ Substantial Improvement
- G8. Elevation of as-built lowest floor (including basement) of the building: _____ ☐ feet ☐ meters Datum _____
- G9. BFE or (in Zone AO) depth of flooding at the building site: _____ ☐ feet ☐ meters Datum _____
- G10. Community's design flood elevation: _____ ☐ feet ☐ meters Datum _____

Local Official's Name T. J. Calabrese Title CEM/CAE

Community Name Margate Telephone _____

Signature [Signature] Date 5/15/14

Comments _____

☐ Check here if attachments.

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 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.

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.

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

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 **WILLIAM S. SWIDERSKI, P.E.**

Title **ENGINEER**

Company **SWIDERSKI ASSOCIATES**

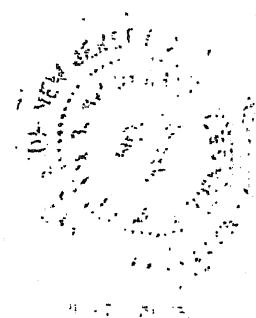
Address **599 SHORE ROAD SOMERS POINT, NJ**

License **PROFESSIONAL ENGINEER**

License No. **24GE02048200**

Signature: 

Date:



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