

DEPARTMENT OF HOMELAND SECURITY

Federal Emergency Management Agency

ELEVATION CERTIFICATE OMB Control Number: 1660-0008 **IMPORTANT: FOLLOW THE INSTRUCTIONS ON PAGES 9-16** Expiration: 11/30/2018 Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner. FORM INSURANCE COMPANY USE SECTION A - PROPERTY INFORMATION A1. Building Owner's Name Policy Number: JEFF and LISA DeMATTE A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Company NAIC Box No Number: 32 N 32nd Avenue State N.I. Zip Code 08403 City Borough of Longport A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) Lot No. 12, Block 75, of the Borough of longport Tax map. A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) Residential Long.74d31m21.7s Horizontal Datum: A5. Latitude/Longitude: Lat. 39d19m07.34s NAD 1927 C 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 8 A8. For a building with a crawlspace or enclosure(s): A9. For a building with an attached garage: a) Square footage of attached garage a) Square footage of crawlspace or enclosure(s) 1,614 sq ft sa ft b) Number of permanent flood openings b) Number of permanent flood openings in the 9 crawlspace or enclosure(s) within 1.0 foot in the attached garage within 1.0 foot above adjacent grade above adjacent grade c) Total net area of flood openings in A9.b c) Total net area of flood openings in A8.b 1.800 sa in sa in CNO CNo d) Engineered flood openings? SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION B3. State NJ B1. NFIP Community Name & Community Number B2. County Name Borough of Longport Atlantic 345302 B6. FIRM Index Date B7. FIRM Panel Effective/ B8. Flood Zone(s) B4. Map/Panel Number B5. Suffix B9. Base Flood Elevation(s) 345302 0001 (Zone AO, use base flood Revised Date A-B Aug 15, 1993 depth 8/15/1993 10.00 B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9: CFIS Profile @ FIRM Community Determined Cother/Source: B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? (Yes Designation Date: CBRS COPA SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED) C Building Under Construction* C1. Building elevations are based on: Construction Drawings* 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. A new Elevation Certificate will be required when construction of the building is complete Vertical Datum: NGVD 1929 Benchmark Utilized: GPS Static Sit 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 (e) feet O meters a) Top of bottom floor (including basement, crawlspace, or enclosure floor) 6.88 13.38 (feet **O** meters b) Top of the next higher floor NA (feet C meters c) Bottom of the lowest horizontal structural member (V Zones only) (feet d) Attached garage (top of slab) NA C meters e) Lowest elevation of machinery or equipment servicing the building C meters 13.38 (Describe type of equipment and location in Comments) f) Lowest adjacent (finished) grade next to building (LAG) (e) feet O meters 6.58 g) Highest adjacent (finished) grade next to building (HAG) () meters (feet h) Lowest adjacent grade at lowest elevation of deck or stairs, including STEP 7.25 (feet Cmeters structural support

ELEVATION CERTIFICATE

OMB Control Number: 1660-0008 Expiration: 11/30/2018

32 N. 32nd Avenue

Borough of Longport

NJ

08403

SECTION D -	SURVEYOR, ENGINE	EER, OR A	RCHITECT CER	RTIFICATION
This certification is to be signed and sealed by a that the information on this Certificate represent punishable by fine or imprisonment under 18 U.S.	s my best efforts to inc	terpret the		
Check here if attachments.	Were latitude and lo provided by a licens			
		0	**	
Certifier's Name William B. Reale		cense Num '433	ber	
Title Land Surveyor	Company Name Reale Associates, LLC			PLACE SEAL HERE
Address 1068 E. Landis Avenue	City Vineland	State NJ	Zip Code 08360	
Signature	Date	Teleph	one	
William B. Realo	Apr 6, 2016	+1 (8	56) 692-4342	
Copy both sides of this Elevation Certificate for (1) community official,	(2) insurar	ce agent/compa	ny, and (3) building owner.
All Vents are smart vents model # 1540 510 cert work runs between upper and lower floor at elev		300 303,13		
Signature				Date
SECTION E - BUILDING ELEVATION INFO	ORMATION (SURVE)	/ NOT REC	QUIRED) FOR Z	
For Zones AO and A (without BFE), complete Ite Sections A, B,and C. For Items E1 -E4, use natu				
E1. Provide elevation information for the following highest adjacent grade (HAG) and the lowest			es to show whet	her the elevation is above or below the
 a) Top of bottom floor (including basement, or enclosure) is 	rawlspace,	-	C feet C n	neters above or below the HAG.
 b) Top of bottom floor (including basement, or enclosure) is 	rawlspace,	(E)	C feet C m	eters above or below the LAG.
E2. For Building Diagrams 6 -9 with permanent fl higher floor (elevation C2.b in the diagrams) of th		d in Sectio		or 9 (see pages 8 -9 of Instructions), the next meters above or below the HAG.
E3. Attached garage (top of slab) is			C feet C m	eters above or below the HAG.
E4. Top of platform of machinery and /or equipme servicing the building is	ent		C feet C m	eters above or below the HAG.
E5. Zone AO only: If no flood depth number is av management ordinance? Yes C No C	ailable, is the top of th Unknown. The local of			
SECTION F - PROPER	RTY OWNER (OR OW	VNER'S RE	PRESENTATIV	E) CERTIFICATION
The property owner or owner's authorized repres community-issued BFE) or Zone AO must sign he Property Owner or Owner's Authorized Represer	ere. The statements in			
Address	City		State	ZIP Code
Signature	Date		Telephone	
Comments				Check here if attachments.

BUILDING PHOTOGRAPHS

Continuation Page

OMB Control Number: 1660-0008 Expiration: 11/30/2018

IMPORTANT: In these spaces, copy the corresponding information from Section A.			FORM INSURANCE COMPANY USE Policy Number:
Building Street Address (including Apt., Un 32 N. 32nd Avenue			
City	State	Zip Code	Company NAIC Number:
Borough of Longport	NJ	08403	

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.



FRONT VIEW 4/4/2016



REAR VIEW 4/4/16



RIGHT VIEW 4/4/16

BUILDING PHOTOGRAPHS

See instructions for Item A6

OMB Control Number: 1660-0008 Expiration: 11/30/2018

	Expendence: - modification
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.	
32 N. 32nd Avenue	Policy Number:
State Zip Code	Company NAIC
08403	Number:
If using the Elevation Certificate to obtain NFIP flood insurance, affix at least 2 building photographs below according to the instructions for	below according to the instructions for
Itom An Identifical short and the date to be a second of the second of t	total view and mark of the view and the view

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.



LEFT SiDE 4/4/16



VEZT (SMAT)



Most Widely Accepted and Trusted

ICC-ES Report

ICC-ES | (800) 423-6587 | (562) 699-0543 | www.icc-es.org

ESR-2074 Valid: 02/15 to 02/17

DIVISION: 08 00 00—OPENINGS

SECTION: 08 95 43—VENTS/FOUNDATION FLOOD VENTS

REPORT HOLDER:

SMARTVENT PRODUCTS, INC.

430 ANDBRO DRIVE, UNIT 1 PITMAN, NEW JERSEY 08071

EVALUATION SUBJECT:

SMART VENT® AUTOMATIC FOUNDATION FLOOD VENTS: FLOODVENT™ MODEL #1540-520; FLOODVENT™ STACKING MODEL #1540-521; SMARTVENT™ MODEL #1540-510; SMARTVENT™ STACKING MODEL #1540-511; WOOD WALL FLOOD MODEL #1540-570; WOOD WALL FLOOD OVERHEAD DOOR MODEL #1540-574; FLOODVENT™ OVERHEAD DOOR MODEL #1540-514



Look for the trusted marks of Conformity!

"2014 Recipient of Prestigious Western States Seismic Policy Council (WSSPC) Award in Excellence"



A Subsidiary of CODE COL

ICC-ES Evaluation Reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as to any finding or other matter in this report, or as to any product covered by the report.



mounting straps allow mounting in wood, masonry and concrete walls up to 12 inches (305 mm) thick. In order to comply with the engineered opening design principle noted in Section 2.6.2.2 of ASCE/SEI 24, the Smart Vent® AFFVs must be installed as follows:

- With a minimum of two openings on different sides of each enclosed area.
- With a minimum of one AFFV for every 200 square feet (18.6 m²) of enclosed area, except that the SmartVENT™ Stacking Model #1540-511 and FloodVENT™ Stacking Model #1540-521 must be installed with a minimum of one AFFV for every 400 square feet (37.2 m²) of enclosed area.
- Below the base flood elevation.
- With the bottom of the AFFV located a maximum of 12 inches (305.4 mm) above grade.

5.0 CONDITIONS OF USE

The Smart Vent® AFFVs 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 Smart Vent® AFFVs must be installed in accordance with this report, the applicable code and the manufacturer's installation instructions. In the event of a conflict, the instructions in this report govern.
- **5.2** The Smart Vent® AFFVs 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.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Automatic Foundation Flood Vents (AC364), dated October 2013 (editorially revised May 2014).

7.0 IDENTIFICATION

The Smart VENT[®] models recognized in this report must be identified by a label bearing the manufacturer's name (Smartvent Products, Inc.), the model number, and the evaluation report number (ESR-2074).



ICC-ES Evaluation Report

ESR-2074

Reissued February 2015

This report is subject to renewal February 2017.

www.icc-es.org | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

DIVISION: 08 00 00-OPENINGS

Section: 08 95 43-Vents/Foundation Flood Vents

REPORT HOLDER:

SMARTVENT PRODUCTS, INC. 430 ANDBRO DRIVE, UNIT 1 PITMAN, NEW JERSEY 08071 (877) 441-8368 www.smartvent.com info@smartvent.com

EVALUATION SUBJECT:

SMART VENT® AUTOMATIC FOUNDATION FLOOD VENTS: FLOODVENT™ MODEL #1540-520; FLOODVENT™ STACKING MODEL #1540-521; SMARTVENT™ MODEL #1540-510; SMARTVENT™ STACKING MODEL #1540-511; WOOD WALL FLOOD MODEL #1540-570; WOOD WALL FLOOD OVERHEAD DOOR MODEL #1540-574; FLOODVENT™ OVERHEAD DOOR MODEL #1540-524; SMARTVENT™ OVERHEAD DOOR MODEL #1540-514

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2009 and 2006 International Building Code® (IBC)
- 2009 and 2006 International Residential Code® (IRC)
- 2013 Abu Dhabi International Building Code (ADIBC)[†]
 [†]The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Properties evaluated:

- Physical operation
- Water flow

2.0 USES

The Smart Vent® units are automatic foundation flood vents (AFFVs) employed to equalize hydrostatic pressure on nonfire-resistance-rated foundation walls, rolling-type overhead doors and building walls subject to rising or falling flood waters. The Smart Vent® units are intended for use where flood hazard areas have been established in accordance with IBC Section 1612.3 or IRC Section R3222.1. Certain models also allow natural ventilation in accordance with Section 1203 of the IBC or Section 408.1 of the IRC.

3.0 DESCRIPTION

3.1 General:

When subjected to pressure from rising water, the Smart

Vent® AFFVs disengage, then pivot open to allow flow in either direction to equalize water level and hydrostatic pressure from one side of the foundation to the other. The AFFV pivoting door is normally held in the closed position by a buoyant release device. When subjected to rising water, the buoyant release device causes the unit to unlatch, allowing the plate to rotate out of the way and allow flow. The water level stabilizes, equalizing the lateral forces. Each unit is fabricated from stainless steel. The SmartVENT™ Stacking Model #1540-511 and FloodVENT™ Stacking Model #1540-521 units each contain two vertically arranged openings per unit.

3.2 Engineered Opening:

The AFFVs comply with the design principle noted in Section 2.6.2.2 of ASCE/SEI 24 for a maximum rate of rise and fall of 5.0 feet per hour (0.423 mm/s). In order to comply with the engineered opening requirement of ASCE/SEI 24, Smart Vent AFFVs must be installed in accordance with Section 4.0.

3.3 Model Sizes:

The FloodVENT™ Model #1540-520, SmartVENT™ Model #1540-510, FloodVENT™ Overhead Door Model #1540-524, and SmartVENT™ Overhead Door Model #1540-514 units measure 15^3 /₄ inches wide by 7^3 /₄ inches high (400 by 196.9 mm). The Wood Wall Flood Model #1540-570 and Wood Wall Flood Overhead Door Model #1540-574 units measure 14 inches wide by 8^3 /₄ inches high (355.6 by 222.25 mm). The SmartVENT™ Stacking Model #1540-511 and FloodVENT™ Stacking Model #1540-521 units measure 16 inches wide by 16 inches high (406.4 by 406.4 mm).

3.4 Ventilation:

The SmartVENT® Model #1540-510 and SmartVENT® Overhead Door Model #1540-514 both have screen covers with ¹/₄-inch-by-¹/₄-inch (6.35 by 6.35 mm) openings, yielding 51 square inches (32 903 mm²) of net free area to supply natural ventilation. The SmartVENT™ Stacking Model #1540-511 consists of two Model #1540-510 units in one assembly, and provides 102 square inches (65 806 mm²) of net free area to supply natural ventilation. Other AFFVs recognized in this report do not offer natural ventilation.

4.0 INSTALLATION

SmartVENT[®] and FloodVENT[™] are designed to be installed into walls or overhead doors of existing or new construction from the exterior side. Installation of the vents must be in accordance with the manufacturer's instructions, the applicable code and this report. The



ICC-ES Evaluation Report

ESR-2074 FBC Supplement

Issued February 2015

www.icc-es.org | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

DIVISION: 08 00 00-OPENINGS

Section: 08 95 43—Vents/Foundation Flood Vents

REPORT HOLDER:

SMARTVENT PRODUCTS, INC. 430 ANDBRO DRIVE, UNIT 1 PITMAN, NEW JERSEY 08071 (877) 441-8368 www.smartvent.com info@smartvent.com

EVALUATION SUBJECT:

SMART VENT® AUTOMATIC FOUNDATION FLOOD VENTS: FLOODVENT™ MODEL #1540-520; FLOODVENT™ STACKING MODEL #1540-521; SMARTVENT™ MODEL #1540-510; SMARTVENT™ STACKING MODEL #1540-511; WOOD WALL FLOOD MODEL #1540-570; WOOD WALL FLOOD OVERHEAD DOOR MODEL #1540-574; FLOODVENT™ OVERHEAD DOOR MODEL #1540-524; SMARTVENT™ OVERHEAD DOOR MODEL #1540-514

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Smart Vent® Automatic Foundation Flood Vents, recognized in ICC-ES master report ESR-2074, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2010 Florida Building Code—Building (FBC)
- 2010 Florida Building Code—Residential (FRC)

2.0 CONCLUSIONS

The Smart Vent® Automatic Foundation Flood Vents, described in Sections 2.0 through 7.0 of the master evaluation report ESR-2074, comply with the FBC and the FRC, provided the design and installation are in accordance with the International Building Code® provisions noted in the master report.

Use of the Smart Vent® Automatic Foundation Flood Vents has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the FBC and the FRC for structures not subject to FBC Section 2326.3.1 or FRC Section 4409.13.3.1, as applicable.

For products falling under Florida Rule 9N-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the master report reissued February 2015.

Certification of Engineered Flood Openings

In accordance with NFIP, FEMA TB 1-08, and ASCE/SEI 24-05

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 NFIP "Flood Insurance Manual" (2011) 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. This certification follows the design requirements and specifications established in FEMA Technical Bulletin 1-08, "Openings in Foundation Walls and Walls of Enclosures Below Elevated Buildings in Special Flood Hazard Areas", and the ASCE Standard for "Flood Resistant Design and Construction" (ASCE/SEI 24-05).

Design Characteristics

Section 2.6.2.2 of ASCE 24 provides an equation to determine the required <u>net area</u> of engineered openings (A_o) for a given <u>enclosed area</u> (A_o). 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 respected flow rate through the individual openings between louvers; 2) the flow rate through the main frame opening in case the louver is blown out during a flood event; and 3) the flow rate of water flowing through louver blades following hydraulic short tube theory. The ultimate maximum total enclosed area (A_o) 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 with 5 feet/hour;
- The (maximum) difference between the exterior and interior floodwater levels has been assumed with 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 (A₀) 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;
- The bottom of each required opening shall be no more than 1ft above the adjacent ground level;
- A_e [ft²] Model [in²] [in] П 816CS 8 x 16 105 205 1220CS 12 x 20 235 500 1232CS 12 x 32 305 645 1616CS 16 x 16 180 395 1624CS 16 x 24 310 670 1632CS 16 x 32 405 835 2032CS 20 x 32 630 1240 2424CS 24 x 24 570 1230 2436CS 24 x 36 850 1765

Table 1 Maximal total <u>enclosed area</u> (A_e) that can be served by each individual model based on the given net area of engineered openings (A_o)

- 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 analysis indicates rates of rise and fall greater than 5 ft/hr, the total enclosed area as given in Table 1 shall be reduced accordingly to account for the higher rates of rise and fall.

Identification of the Building and Installed Flood Vents

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

Certifying Design Professional

Name	WILLIAM S. SWIDERSKI, P.E.
Title	ENGINEER
Address	599 SHORE ROAD, SOMERS POINT, NJ 08244
Type of License	PROFESSIONAL ENGINEER
License #	20482 Signature
Issuing State	NEW JERSEY

