

U.S. DEPARTMENT OF HOMELAND SECURITY  
Federal Emergency Management Agency  
National Flood Insurance Program

OMB Control No 1660-0008  
Expiration Date 06/30/2026

**ELEVATION CERTIFICATE**

**IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19**

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: <u>NALU TOWNHOMES</u>	Policy Number: _____
A2 Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: <u>408 (UNITS 1-4) CANAL DRIVE</u>	Company NAIC Number: _____
City: <u>CAROLINA BEACH</u> State: <u>NC</u> ZIP Code: <u>28428</u>	
A3 Property Description (e.g., Lot and Block Numbers or Legal Description) and/or Tax Parcel Number: <u>PARID: R08818-015-004-000</u>	
A4 Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.): <u>RESIDENTIAL</u>	
A5 Latitude/Longitude: Lat <u>34.038624 N</u> Long <u>-77.890944W</u> Horizontal Datum: <input type="checkbox"/> NAD 1927 <input checked="" type="checkbox"/> NAD 1983 <input type="checkbox"/> WGS 84	
A6 Attach at least two and when possible four clear photographs (one for each side) of the building (see Form pages 7 and 8).	
A7 Building Diagram Number: <u>6</u>	
A8. For a building with a crawlspace or enclosure(s):	
a) Square footage of crawlspace or enclosure(s): <u>192.00</u> sq. ft.	
b) Is there at least one permanent flood opening on two different sides of each enclosed area? <input checked="" type="checkbox"/> Yes No <input type="checkbox"/> N/A	
c) Enter number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade: Non-engineered flood openings: <u>4</u> Engineered flood openings: <u>4</u>	
d) Total net open area of non-engineered flood openings in A8.c: <u>500</u> sq. in.	
e) Total rated area of engineered flood openings in A8.c (attach documentation – see Instructions): <u>200.00</u> sq. ft.	
f) Sum of A8.d and A8.e rated area (if applicable – see Instructions): <u>1,300.00</u> sq. ft.	
A9. For a building with an attached garage:	
a) Square footage of attached garage: <u>0.00</u> sq. ft.	
b) Is there at least one permanent flood opening on two different sides of the attached garage? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
c) Enter number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade: Non-engineered flood openings: <u>0</u> Engineered flood openings: <u>0</u>	
d) Total net open area of non-engineered flood openings in A9.c: <u>0.00</u> sq. in.	
e) Total rated area of engineered flood openings in A9.c (attach documentation – see Instructions): <u>0.00</u> sq. ft.	
f) Sum of A9.d and A9.e rated area (if applicable – see Instructions): <u>0.00</u> sq. ft.	

SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION	
B1.a. NFIP Community Name: <u>TOWN OF CAROLINA BEACH</u>	B1.b. NFIP Community Identification Number: <u>375347</u>
B2. County Name: <u>NEW HANOVER</u>	B3. State: <u>NC</u> B4. Map/Panel No.: <u>3720313000</u> B5. Suffix: <u>K</u>
B6. FIRM Index Date: <u>08/28/2018</u>	B7. FIRM Panel Effective/Revised Date: <u>08/28/2018</u>
B8. Flood Zone(s): <u>AE</u>	B9. Base Flood Elevation(s) (BFE) (Zone AO, use Base Flood Depth): <u>11'</u>
B10. Indicate the source of the BFE data or Base Flood Depth entered in Item B9: <input type="checkbox"/> FIS <input checked="" type="checkbox"/> FIRM <input type="checkbox"/> Community Determined <input type="checkbox"/> Other: _____	
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	
B13. Is the building located seaward of the Limit of Moderate Wave Action (LiMWA)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

# ELEVATION CERTIFICATE

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City: <u>CAROLINA BEACH</u> State: <u>NC</u> ZIP Code: <u>28428</u>	Policy Number: _____ 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, AO, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO, A99 Complete Items C2 a–h below according to the Building Diagram specified in Item A7. In Puerto Rico only, enter meters.  
Benchmark Utilized: NC-VRS Vertical Datum: NAVD88-NC11

Indicate elevation datum used for the elevations in items a) through h) below.  
 NGVD 1929  NAVD 1988  Other: \_\_\_\_\_

Datum used for building elevations must be the same as that used for the BFE. Conversion factor used?  Yes  No  
If Yes, describe the source of the conversion factor in the Section D Comments area.

- |   |              |  |
|---|--------------|--|
| a) Top of bottom floor (including basement, crawlspace, or enclosure floor):  | <u>7.50</u>  | <input checked="" type="checkbox"/> feet <input type="checkbox"/> meters |
| b) Top of the next higher floor (see Instructions):   | <u>16.60</u> | <input checked="" type="checkbox"/> feet <input type="checkbox"/> meters |
| c) Bottom of the lowest horizontal structural member (see Instructions):  | <u>N/A</u>   | <input type="checkbox"/> feet <input type="checkbox"/> meters            |
| d) Attached garage (top of slab):   | <u>N/A</u>   | <input type="checkbox"/> feet <input type="checkbox"/> meters            |
| e) Lowest elevation of Machinery and Equipment (M&E) servicing the building (describe type of M&E and location in Section D Comments area): | <u>N/A</u>   | <input type="checkbox"/> feet <input type="checkbox"/> meters            |
| f) Lowest Adjacent Grade (LAG) next to building: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Finished              | <u>5.00</u>  | <input checked="" type="checkbox"/> feet <input type="checkbox"/> meters |
| g) Highest Adjacent Grade (HAG) next to building: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Finished             | <u>5.50</u>  | <input checked="" type="checkbox"/> feet <input type="checkbox"/> meters |
| h) Finished LAG at lowest elevation of attached deck or stairs, including structural support:   | <u>N/A</u>   | <input 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 state 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 and describe in the Comments area.

Certifier's Name: L. SCOTT BAGGIE, PLS License Number: L-3450

Title: PROFESSIONAL LAND SURVEYOR

Company Name: PROGRESSIVE LAND DEVELOPMENT CONSULTANTS, PLLC

Address: P.O. BOX 1028

City: Carolina Beach State: NC ZIP Code: 28428

Signature: [Handwritten Signature] Date: 07/28/2023

Telephone: 910-367-0066 Ext.: \_\_\_\_\_ Email: LSBAGGIE@PLDCPA.COM



Place Seal Here

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

Comments (including source of conversion factor in C2; type of equipment and location per C2.e; and description of any attachments).  
**HVAC UNITS LOCATED ON ROOF TOP  
PROPANE TANKS ARE SECURED WITH STEEL STRAPS INTO CONCRETE  
ENGINEERED FLOOD OPENINGS ARE SMART VENT MODEL (4) LF #1540-520 CERTIFIED TO COVER 200 SQFT.**

# ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 408 (UNITS 1-4) CANAL DRIVE	<b>FOR INSURANCE COMPANY USE</b>
City: CAROLINA BEACH State: NC ZIP Code: 28428	Policy Number: _____
	Company NAIC Number: _____

## SECTION E – BUILDING MEASUREMENT INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO, ZONE AR/AO, AND ZONE A (WITHOUT BFE)

For Zones AO, AR/AO, and A (without BFE), complete Items E1–E5. For Items E1–E4, use natural grade, if available. If the Certificate is intended to support a Letter of Map Change request, complete Sections A, B, and C. Check the measurement used. In Puerto Rico only, enter meters.

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

E1. Provide measurements (C 2.a in applicable Building Diagram) for the following and check the appropriate boxes to show whether the measurement is above or below the natural HAG and the 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 (C2.b in applicable Building Diagram) 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 AUTHORIZED REPRESENTATIVE) CERTIFICATION

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

Check here if attachments and describe in the Comments area.

Property Owner or Owner's Authorized Representative Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Telephone: \_\_\_\_\_ Ext.: \_\_\_\_\_ Email: \_\_\_\_\_

Comments: \_\_\_\_\_

# ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19

Building Street Address (including Apt , Unit, Suite, and/or Bldg No ) or P.O. Route and Box No 408 (UNITS 1-4) CANAL DRIVE	<b>FOR INSURANCE COMPANY USE</b>
City: CAROLINA BEACH State: NC ZIP Code: 28428	Policy Number: _____ Company NAIC Number: _____

## SECTION G – COMMUNITY INFORMATION (RECOMMENDED FOR COMMUNITY OFFICIAL COMPLETION)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Section A, B, C, E, G, or H of this Elevation Certificate. Complete the applicable item(s) and sign below when:

- 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 state law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)
- G2.a.  A local official completed Section E for a building located in Zone A (without a BFE), Zone AO, or Zone AR/AO, or when item E5 is completed for a building located in Zone AO.
- G2.b.  A local official completed Section H for insurance purposes.
- G3.  In the Comments area of Section G, the local official describes specific corrections to the information in Sections A, B, E and H.
- G4.  The following information (Items G5–G11) is provided for community floodplain management purposes.
- G5. Permit Number: \_\_\_\_\_ G6. Date Permit Issued: \_\_\_\_\_
- G7. Date Certificate of Compliance/Occupancy Issued: \_\_\_\_\_
- G8. This permit has been issued for:  New Construction  Substantial Improvement
- G9.a. Elevation of as-built lowest floor (including basement) of the building: \_\_\_\_\_  feet  meters Datum: \_\_\_\_\_
- G9.b. Elevation of bottom of as-built lowest horizontal structural member: \_\_\_\_\_  feet  meters Datum: \_\_\_\_\_
- G10.a. BFE (or depth in Zone AO) of flooding at the building site: \_\_\_\_\_  feet  meters Datum: \_\_\_\_\_
- G10.b. Community's minimum elevation (or depth in Zone AO) requirement for the lowest floor or lowest horizontal structural member: \_\_\_\_\_  feet  meters Datum: \_\_\_\_\_
- G11. Variance issued?  Yes  No If yes, attach documentation and describe in the Comments area.

The local official who provides information in Section G must sign here. *I have completed the information in Section G and certify that it is correct to the best of my knowledge. If applicable, I have also provided specific corrections in the Comments area of this section.*

Local Official's Name: \_\_\_\_\_ Title: \_\_\_\_\_

NFIP Community Name: \_\_\_\_\_

Telephone: \_\_\_\_\_ Ext: \_\_\_\_\_ Email: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Comments (including type of equipment and location, per C2.e; description of any attachments; and corrections to specific information in Sections A, B, D, E, or H):

# ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 408 (UNITS 1-4) CANAL DRIVE	<b>FOR INSURANCE COMPANY USE</b>
City: CAROLINA BEACH State: NC ZIP Code: 28428	Policy Number: _____ Company NAIC Number: _____

## SECTION H – BUILDING'S FIRST FLOOR HEIGHT INFORMATION FOR ALL ZONES (SURVEY NOT REQUIRED) (FOR INSURANCE PURPOSES ONLY)

The property owner, owner's authorized representative, or local floodplain management official may complete Section H for all flood zones to determine the building's first floor height for insurance purposes. Sections A, B, and I must also be completed. Enter heights to the nearest tenth of a foot (nearest tenth of a meter in Puerto Rico). **Reference the Foundation Type Diagrams (at the end of Section H Instructions) and the appropriate Building Diagrams (at the end of Section I Instructions) to complete this section.**

H1. Provide the height of the top of the floor (as indicated in Foundation Type Diagrams) above the Lowest Adjacent Grade (LAG):

a) For Building Diagrams 1A, 1B, 3, and 5–9. Top of bottom \_\_\_\_\_  feet  meters  above the LAG floor (include above-grade floors only for buildings with subgrade crawlspaces or enclosure floors) is:

b) For Building Diagrams 2A, 2B, 4, and 6–9. Top of next \_\_\_\_\_  feet  meters  above the LAG higher floor (i.e., the floor above basement, crawlspace, or enclosure floor) is:

H2. Is all Machinery and Equipment servicing the building (as listed in Item H2 instructions) elevated to or above the floor indicated by the H2 arrow (shown in the Foundation Type Diagrams at end of Section H instructions) for the appropriate Building Diagram?  
 Yes  No

## SECTION I – PROPERTY OWNER (OR OWNER'S AUTHORIZED REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and H must sign here. *The statements in Sections A, B, and H are correct to the best of my knowledge.* **Note:** If the local floodplain management official completed Section H, they should indicate in Item G2.b and sign Section G

Check here if attachments are provided (including required photos) and describe each attachment in the Comments area.

Property Owner or Owner's Authorized Representative Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Telephone: \_\_\_\_\_ Ext.: \_\_\_\_\_ Email: \_\_\_\_\_

Comments: \_\_\_\_\_

**ELEVATION CERTIFICATE**  
**IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19**  
**BUILDING PHOTOGRAPHS**  
 See Instructions for Item A6.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 408 (UNITS 1-4) CANAL DRIVE City: <u>CAROLINA BEACH</u> State: <u>NC</u> ZIP Code: <u>28428</u>	<b>FOR INSURANCE COMPANY USE</b> Policy Number: _____ Company NAIC Number: _____
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Instructions: Insert below at least two and when possible four photographs showing each side of the building (for example, may only be able to take front and back pictures of townhouses/rowhouses). Identify all photographs with the date taken and "Front View," "Rear View," "Right Side View," or "Left Side View." Photographs must show the foundation. When flood openings are present, include at least one close-up photograph of representative flood openings or vents, as indicated in Sections A8 and A9.



Photo One

Photo One Caption:

FRONT VIEW & RIGHT SIDE VIEW

Clear Photo One



Photo Two

Photo Two Caption:

REAR VIEW

Clear Photo Two

**ELEVATION CERTIFICATE**  
**IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19**  
**BUILDING PHOTOGRAPHS**

Continuation Page

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:  
408 (UNITS 1-4) CANAL DRIVE

City: CAROLINA BEACH State: NC ZIP Code: 28428

**FOR INSURANCE COMPANY USE**

Policy Number: \_\_\_\_\_

Company NAIC Number: \_\_\_\_\_

Insert the third and fourth photographs below. Identify all photographs with the date taken and "Front View," "Rear View," "Right Side View," or "Left Side View." When flood openings are present, include at least one close-up photograph of representative flood openings or vents, as indicated in Sections A8 and A9.



Photo Three

Photo Three Caption:

LEFT SIDE VIEW

Clear Photo Three

Photo Four

Photo Four Caption:

RIGHT VIEW

Clear Photo Four



ICC  
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# ICC-ES Evaluation Report

## ESR-2074

ICC-ES | (800) 423-6587 | (562) 699-0543 | [www.icc-es.org](http://www.icc-es.org)

Reissued 02/2023

This report is subject to renewal 02/2025.

**DIVISION: 08 00 00—OPENINGS**

**SECTION: 08 95 43—VENTS/FOUNDATION FLOOD VENTS**

**REPORT HOLDER:**

**SMART VENT PRODUCTS, INC.**

**EVALUATION SUBJECT:**

**SMART VENT® AUTOMATIC FOUNDATION FLOOD VENTS: MODELS #1540-520;  
#1540-521; #1540-510; #1540-511; #1540-570; #1540-574; #1540-524; #1540-514  
FLOOD VENT SEALING KIT #1540-526**



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



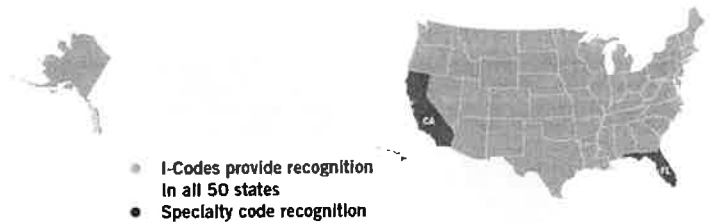
A Subsidiary of

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- I-Codes provide recognition in all 50 states
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## ICC-ES Evaluation Report

Reissued February 2023

### ESR-2074

This report is subject to renewal February 2025.

**DIVISION: 08 00 00—OPENINGS**

**Section: 08 95 43—Vents/Foundation Flood Vents**

**REPORT HOLDER:**

**SMART VENT PRODUCTS, INC.**

**EVALUATION SUBJECT:**

**SMART VENT® AUTOMATIC FOUNDATION FLOOD VENTS:  
MODELS #1540-520; #1540-521; #1540-510; #1540-511;  
#1540-570; #1540-574; #1540-524; #1540-514  
FLOOD VENT SEALING KIT #1540-526**

#### 1.0 EVALUATION SCOPE

**Compliance with the following codes:**

- 2021, 2018, 2015, 2012, 2009 and 2006 *International Building Code*® (IBC)
- 2021, 2018, 2015, 2012, 2009 and 2006 *International Residential Code*® (IRC)
- 2021 and 2018 *International Energy Conservation Code*® (IECC)
- 2013 *Abu Dhabi International Building Code* (ADIBC)<sup>†</sup>

<sup>†</sup>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 engineered mechanically operated flood vents (FVs) employed to equalize hydrostatic pressure on walls of enclosures subject to rising or falling flood waters. Certain models also allow natural ventilation.

#### 3.0 DESCRIPTION

##### 3.1 General:

When subjected to rising water, the Smart Vent® FVs internal floats are activated, 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 FV 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 door to rotate out of the way and allow flow. The water level stabilizes, equalizing the lateral forces. Each unit is fabricated from stainless steel. Smart Vent® Automatic Foundation Flood Vents are available in various models and sizes as described in Table 1. 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 FVs comply with the design principle noted in Section 2.7.2.2 and Section 2.7.3 of ASCE/SEI 24-14 [Section 2.6.2.2 of ASCE/SEI 24-05 (2012, 2009, 2006 IBC and IRC)] 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 FVs must be installed in accordance with Section 4.0.

##### 3.3 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 mm<sup>2</sup>) 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 mm<sup>2</sup>) of net free area to supply natural ventilation. Other FVs described in this report do not offer natural ventilation.

##### 3.4 Flood Vent Sealing Kit:

The Flood Vent Sealing Kit Model #1540-526 is used with SmartVENT® Model #1540-520. It is a Homasote 440 Sound Barrier® (ESR-1374) insert with 21 – 2-inch-by-2-inch (51 mm x 51 mm) squares cut in it. See Figure 4.

#### 4.0 DESIGN AND INSTALLATION

##### 4.1 SmartVENT® and FloodVENT®:

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. Installation clips allow mounting in masonry and concrete walls of any thickness. In order to comply with the engineered opening design principle noted in Section 2.7.2.2 and 2.7.3 of ASCE/SEI 24-14 [Section 2.6.2.2 of ASCE/SEI 24-05 (2012, 2009, 2006 IBC and IRC)], the Smart Vent® FVs must be installed as follows:

- With a minimum of two openings on different sides of each enclosed area.
- With a minimum of one FV for every 200 square feet (18.6 m<sup>2</sup>) 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 FV for every 400 square feet (37.2 m<sup>2</sup>) of enclosed area.
- Below the base flood elevation.
- With the bottom of the FV located a maximum of 12 inches (305.4 mm) above the higher of the final grade or floor and finished exterior grade immediately under each opening.

**4.2 Flood Vent Sealing Kit**

The Flood Vent Sealing Kit Model 1540-526 is used in conjunction with FloodVENT® Model #1540-520. When installed and tested in accordance with ASTM E283, the FV and Flood Vent Sealing Kit assembly have an air leakage rate of less than 0.2 cubic feet per minute per lineal foot (18.56 l/min per lineal meter) at a pressure differential of 1 pound per square foot (50 Pa) based on 12.58 lineal feet (3.8 lineal meters) contained by the Flood Vent Sealing Kit.

**5.0 CONDITIONS OF USE**

The Smart Vent® FVs 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® FVs 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® FVs 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**

- 6.1 Data in accordance with the ICC-ES Acceptance Criteria for Mechanically Operated Flood Vents (AC364), dated August 2015 (editorially revised February 2021).
- 6.2 Test report on air infiltration in accordance with ASTM E283.

**7.0 IDENTIFICATION**

- 7.1 The Smart VENT® models and the Flood Vent Sealing Kit described 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).

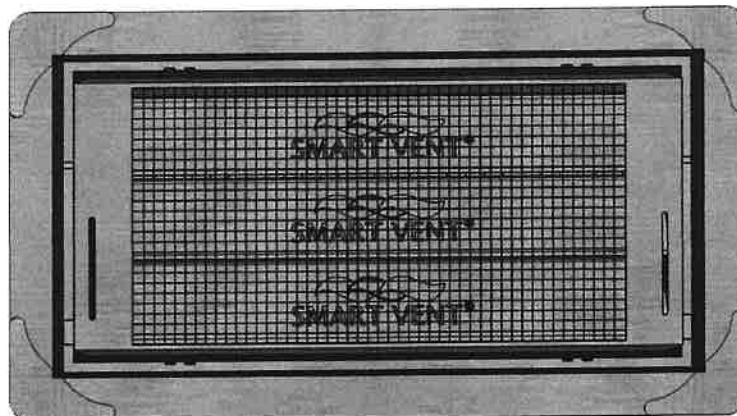
- 7.2 The report holder’s contact information is the following:

**SMART VENT PRODUCTS, INC.**  
**19 MANTUA ROAD**  
**MOUNT ROYAL, NEW JERSEY 08061**  
**(877) 441-8368**  
[www.smartvent.com](http://www.smartvent.com)  
[info@smartvent.com](mailto:info@smartvent.com)

**TABLE 1—MODEL SIZES**

MODEL NAME	MODEL NUMBER	MODEL SIZE (in.)	COVERAGE (sq. ft.)
FloodVENT®	1540-520	15 <sup>3</sup> / <sub>4</sub> " X 7 <sup>3</sup> / <sub>4</sub> "	200
SmartVENT®	1540-510	15 <sup>3</sup> / <sub>4</sub> " X 7 <sup>3</sup> / <sub>4</sub> "	200
FloodVENT® Overhead Door	1540-524	15 <sup>3</sup> / <sub>4</sub> " X 7 <sup>3</sup> / <sub>4</sub> "	200
SmartVENT® Overhead Door	1540-514	15 <sup>3</sup> / <sub>4</sub> " X 7 <sup>3</sup> / <sub>4</sub> "	200
Wood Wall FloodVENT®	1540-570	14" X 8 <sup>3</sup> / <sub>4</sub> "	200
Wood Wall FloodVENT® Overhead Door	1540-574	14" X 8 <sup>3</sup> / <sub>4</sub> "	200
SmartVENT® Stacker	1540-511	16" X 16"	400
FloodVent® Stacker	1540-521	16" X 16"	400

For SI: 1 inch = 25.4 mm; 1 square foot = m<sup>2</sup>



**FIGURE 1—SMART VENT: MODEL 1540-510**

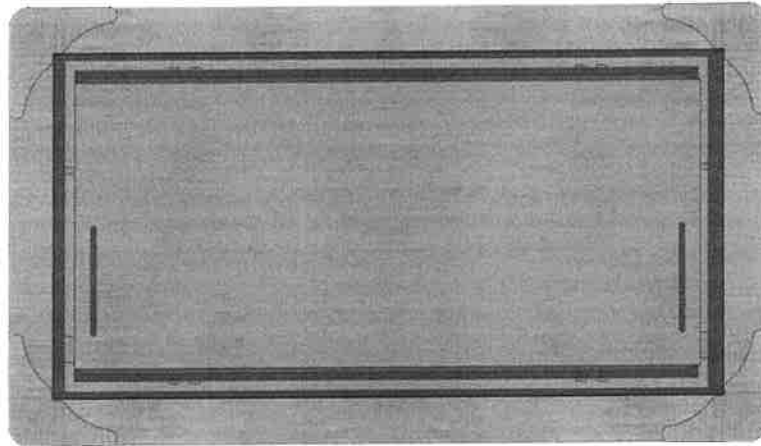


FIGURE 2—SMART VENT MODEL 1540-520

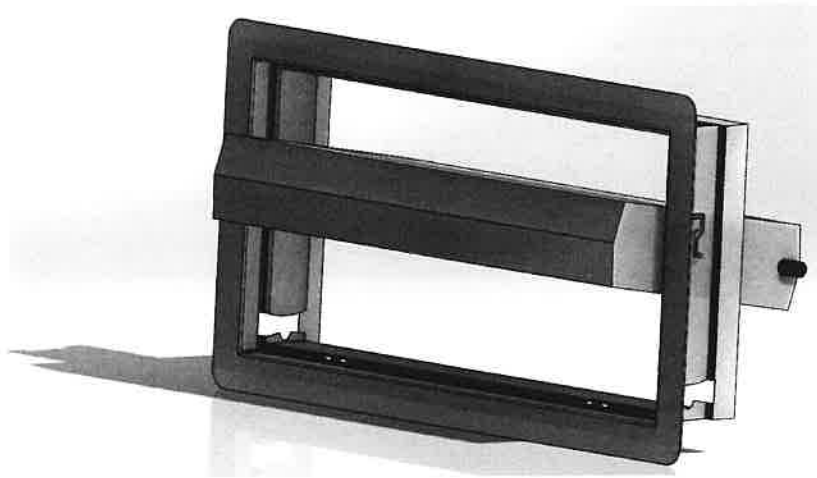


FIGURE 3—SMART VENT: SHOWN WITH FLOOD DOOR PIVOTED OPEN

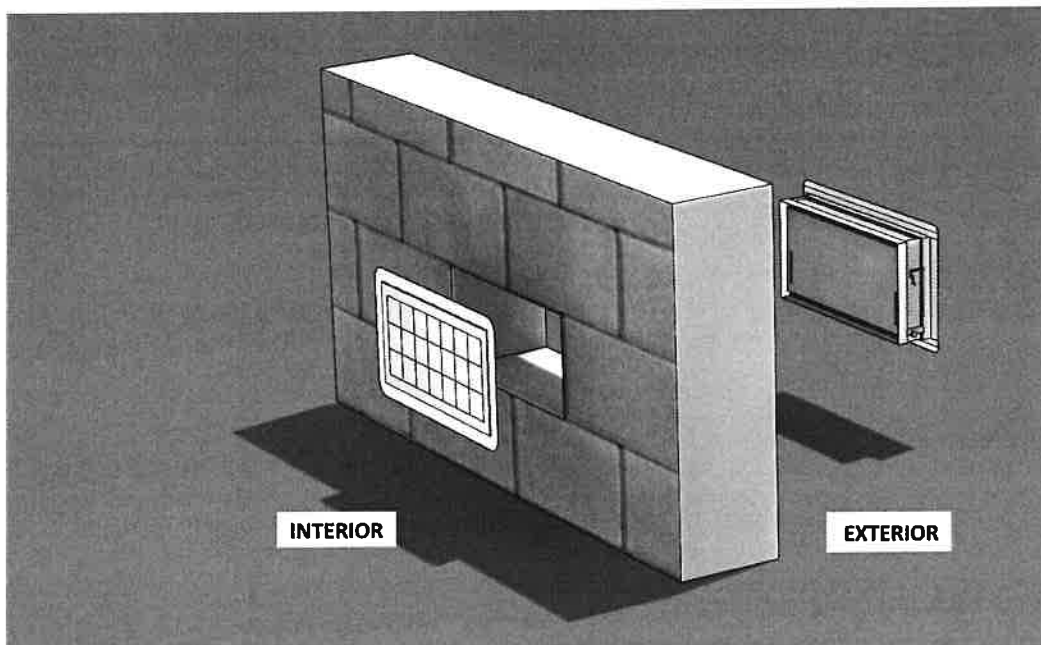


FIGURE 4—FLOOD VENT SEALING KIT

**DIVISION: 08 00 00—OPENINGS****Section: 08 95 43—Vents/Foundation Flood Vents****REPORT HOLDER:****SMART VENT PRODUCTS, INC.****EVALUATION SUBJECT:****SMART VENT® AUTOMATIC FOUNDATION FLOOD VENTS: MODELS #1540-520; #1540-521; #1540-510; #1540-511; #1540-570; #1540-574; #1540-524; #1540-514  
FLOOD VENT SEALING KIT #1540-526****1.0 REPORT PURPOSE AND SCOPE****Purpose:**

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

**Applicable code editions:**

- 2019 *California Building Code (CBC)*

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2019 *California Residential Code (CRC)*

**2.0 CONCLUSIONS****2.1 CBC:**

The Smart Vent® Automatic Foundation Flood Vents, described in Sections 2.0 through 7.0 of the evaluation report ESR-2074, comply with 2019 CBC Chapter 12, provided the design and installation are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 12 and 16, as applicable.

**2.1.1 OSHPD:**

The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

**2.1.2 DSA:**

The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

**2.2 CRC:**

The Smart Vent® Automatic Foundation Flood Vents, described in Sections 2.0 through 7.0 of the evaluation report ESR-2074, comply with the 2019 CRC, provided the design and installation are in accordance with the 2018 *International Residential Code*® (IRC) provisions noted in the evaluation report.

This supplement expires concurrently with the evaluation report, reissued February 2023.

**DIVISION: 08 00 00—OPENINGS****Section: 08 95 43—Vents/Foundation Flood Vents****REPORT HOLDER:****SMART VENT PRODUCTS, INC.****EVALUATION SUBJECT:****SMART VENT® AUTOMATIC FOUNDATION FLOOD VENTS: MODELS #1540-520; #1540-521; #1540-510; #1540-511; #1540-570; #1540-574; #1540-524; #1540-514  
FLOOD VENT SEALING KIT #1540-526****1.0 REPORT PURPOSE AND SCOPE****Purpose:**

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

**Applicable code editions:**

- 2020 *Florida Building Code—Building*
- 2020 *Florida Building Code—Residential*

**2.0 CONCLUSIONS**

The Smart Vent® Automatic Foundation Flood Vents, described in Sections 2.0 through 7.0 of the evaluation report ESR-2074, comply with the *Florida Building Code—Building* and the *Florida Building Code—Residential*, provided the design requirements are determined in accordance with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-2074 for 2018 *International Building Code*® meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable.

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 *Florida Building Code—Building* and the *Florida Building Code—Residential*.

For products falling under Florida Rule 61G20-3, 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 evaluation report, reissued February 2023.