



FEMA

NATIONAL FLOOD INSURANCE PROGRAM

ELEVATION CERTIFICATE

AND

INSTRUCTIONS

2015 EDITION

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

ELEVATION CERTIFICATE AND INSTRUCTIONS

Paperwork Reduction Act Notice

Public reporting burden for this data collection is estimated to average 3.75 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and submitting this form. You are not required to respond to this collection of information unless a valid OMB control number is displayed on this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing the burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 1800 South Bell Street, Arlington, VA 20598-3005, Paperwork Reduction Project (1660-0008). **NOTE: Do not send your completed form to this address.**

Privacy Act Statement

Authority: Title 44 CFR § 61.7 and 61.8.

Principal Purpose(s): This information is being collected for the primary purpose of estimating the risk premium rates necessary to provide flood insurance for new or substantially improved structures in designated Special Flood Hazard Areas.

Routine Use(s): The information on this form may be disclosed as generally permitted under 5 U.S.C. § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA-003 – National Flood Insurance Program Files System or Records Notice 73 Fed. Reg. 77747 (December 19, 2008); DHS/FEMA/NFIP/LOMA-1 – National Flood Insurance Program (NFIP) Letter of Map Amendment (LOMA) System of Records Notice 71 Fed. Reg. 7990 (February 15, 2006); and upon written request, written consent, by agreement, or as required by law.

Disclosure: The disclosure of information on this form is voluntary; however, failure to provide the information requested may result in the inability to obtain flood insurance through the National Flood Insurance Program or the applicant may be subject to higher premium rates for flood insurance. Information will only be released as permitted by law.

Purpose of the Elevation Certificate

The Elevation Certificate is an important administrative tool of the National Flood Insurance Program (NFIP). It is to be used to provide elevation information necessary to ensure compliance with community floodplain management ordinances, to determine the proper insurance premium rate, and to support a request for a Letter of Map Amendment (LOMA) or Letter of Map Revision based on fill (LOMR-F).

The Elevation Certificate is required in order to properly rate Post-FIRM buildings, which are buildings constructed after publication of the Flood Insurance Rate Map (FIRM), located in flood insurance Zones A1–A30, AE, AH, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, and AR/AO. The Elevation Certificate is not required for Pre-FIRM buildings unless the building is being rated under the optional Post-FIRM flood insurance rules.

As part of the agreement for making flood insurance available in a community, the NFIP requires the community to adopt floodplain management regulations that specify minimum requirements for reducing flood losses. One such requirement is for the community to obtain the elevation of the lowest floor (including basement) of all new and substantially improved buildings, and maintain a record of such information. The Elevation Certificate provides a way for a community to document compliance with the community's floodplain management ordinance.

Use of this certificate does not provide a waiver of the flood insurance purchase requirement. Only a LOMA or LOMR-F from the Federal Emergency Management Agency (FEMA) can amend the FIRM and remove the Federal mandate for a lending institution to require the purchase of flood insurance. However, the lending institution has the option of requiring flood insurance even if a LOMA/LOMR-F has been issued by FEMA. The Elevation Certificate may be used to support a LOMA or LOMR-F request. Lowest floor and lowest adjacent grade elevations certified by a surveyor or engineer will be required if the certificate is used to support a LOMA or LOMR-F request. A LOMA or LOMR-F request must be submitted with either a completed FEMA MT-EZ or MT-1 package, whichever is appropriate.

This certificate is used only to certify building elevations. A separate certificate is required for floodproofing. Under the NFIP, non-residential buildings can be floodproofed up to or above the Base Flood Elevation (BFE). A floodproofed building is a building that has been designed and constructed to be watertight (substantially impermeable to floodwaters) below the BFE. Floodproofing of residential buildings is not permitted under the NFIP unless FEMA has granted the community an exception for residential floodproofed basements. The community must adopt standards for design and construction of floodproofed basements before FEMA will grant a basement exception. For both floodproofed non-residential buildings and residential floodproofed basements in communities that have been granted an exception by FEMA, a floodproofing certificate is required.

Additional guidance can be found in FEMA Publication 467-1, Floodplain Management Bulletin: Elevation Certificate, available on FEMA's website at <https://www.fema.gov/media-library/assets/documents/3539?id=1727>.

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 MARK S. WHITE				Policy Number:	
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 302 SCARY CREEK ROAD				Company NAIC Number:	
City SCOTT DEPOT		State West Virginia		ZIP Code 25560	
A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) 1.86 ACRES SCARY CREEK ROAD, SCOTT DISTRICT (10) TAX MAP 223, TAX PARCEL 4 DEED BOOK 487 PAGE 814					
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.)				RESIDENTIAL	
A5. Latitude/Longitude: Lat <u>38.4863610</u> Long. <u>-081.8854880</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>1,800</u> sq ft					
b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade <u>9</u>					
c) Total net area of flood openings in A8.b <u>1,800</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>0</u> sq ft					
b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade <u>0</u>					
c) Total net area of flood openings in A9.b <u>0</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 PUTNAM COUNTY 540164			B2. County Name PUTNAM		B3. State West Virginia
B4. Map/Panel Number 54079C0251	B5. Suffix D	B6. FIRM Index Date 02/02/2012	B7. FIRM Panel Effective/ Revised Date 02/02/2012	B8. Flood Zone(s) A	B9. Base Flood Elevation(s) (Zone AO, use Base Flood Depth) 585.7
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 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					

ELEVATION CERTIFICATE

OMB No. 1660-0008
Expiration Date: November 30, 2018

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. 302 SCARY CREEK ROAD			Policy Number:
City SCOTT DEPOT	State West Virginia	ZIP Code 25560	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: GPS TIE TO RM #3 Vertical Datum: NGVD 1929 - 700.99

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.

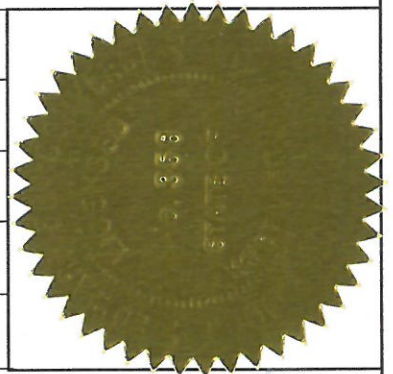
- | | | | |
|---|---------------|--|---------------------------------|
| a) Top of bottom floor (including basement, crawlspace, or enclosure floor) | <u>587.84</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| b) Top of the next higher floor | <u>592.59</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| c) Bottom of the lowest horizontal structural member (V Zones only) | <u>N/A</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| d) Attached garage (top of slab) | <u>N/A</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| e) Lowest elevation of machinery or equipment servicing the building
(Describe type of equipment and location in Comments) | <u>589.84</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| f) Lowest adjacent (finished) grade next to building (LAG) | <u>587.67</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| g) Highest adjacent (finished) grade next to building (HAG) | <u>588.11</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support | <u>587.32</u> | <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 EDWARD BEN CONVERSE		License Number WV RPS 356
Title REGISTERED PROFESSIONAL SURVEYOR		
Company Name CONVERSE SURVEYING		
Address 58 MISSION WAY SUITE 202		
City SCOTT DEPOT	State West Virginia	ZIP Code 25560
Signature 	Date 09/10/2018	Telephone (304) 757-8424



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)
 C2(e) HVAC UNITS AT ELEVATION 589.84

ATTACHED PHOTOS AND EXHIBITS ARE ATTACHED AND MADE A PART HEREOF.

THIS PROPERTY QUALIFIES FOR A "L.O.M.A." IN THAT THE L.A.G. IS 587.32 WHICH IS 1.62 FEET ABOVE THE "B.F.E."

ELEVATION CERTIFICATE

OMB No. 1660-0008
Expiration Date: November 30, 2018

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. 302 SCARY CREEK ROAD			Policy Number:
City SCOTT DEPOT	State West Virginia	ZIP Code 25560	Company NAIC Number

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.

ELEVATION CERTIFICATE

OMB No. 1660-0008
Expiration Date: November 30, 2018

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. 302 SCARY CREEK ROAD	Policy Number:
City SCOTT DEPOT	State West Virginia
ZIP Code 25560	Company NAIC Number

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–G10) is provided for community floodplain management purposes.

G4. Permit Number	G5. Date Permit Issued	G6. Date Certificate of Compliance/Occupancy Issued
-------------------	------------------------	---

- 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	Title
Community Name	Telephone
Signature	Date

Comments (including type of equipment and location, per C2(e), if applicable)

Check here if attachments.

BUILDING PHOTOGRAPHS

See Instructions for Item A6.

OMB No. 1660-0008
Expiration Date: November 30, 2018

ELEVATION CERTIFICATE

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. 302 SCARY CREEK ROAD			Policy Number:
City SCOTT DEPOT	State West Virginia	ZIP Code 25560	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



Photo Two

Photo Two Caption

BUILDING PHOTOGRAPHS

Continuation Page

OMB No. 1660-0008
Expiration Date: November 30, 2018

ELEVATION CERTIFICATE

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. 302 SCARY CREEK ROAD			Policy Number:
City SCOTT DEPOT	State West Virginia	ZIP Code 25560	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 One

Photo One Caption



Photo Two

Photo Two Caption

Building Diagrams

DIAGRAM 7

All buildings elevated on full-story foundation walls with a partially or fully enclosed area below the elevated floor. This includes walkout levels, where at least 1 side is at or above grade. The principal use of this building is located in the elevated floors of the building.

Distinguishing Feature – For all zones, the area below the elevated floor is enclosed, either partially or fully. In A Zones, the partially or fully enclosed area below the elevated floor is with or without openings** present in the walls of the enclosure. Indicate information about enclosure size and openings in Section A – Property Information.

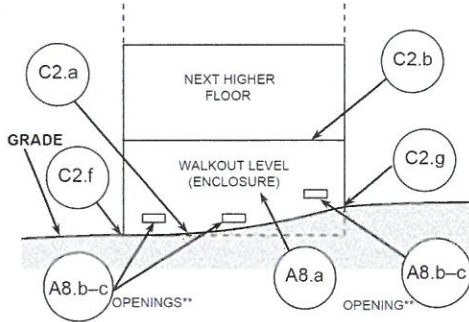


DIAGRAM 8

All buildings elevated on a crawlspace with the floor of the crawlspace at or above grade on at least 1 side, with or without an attached garage.

Distinguishing Feature – For all zones, the area below the first floor is enclosed by solid or partial perimeter walls. In all A Zones, the crawlspace is with or without openings** present in the walls of the crawlspace. Indicate information about crawlspace size and openings in Section A – Property Information.

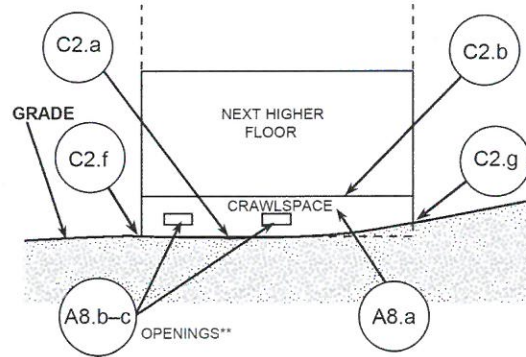
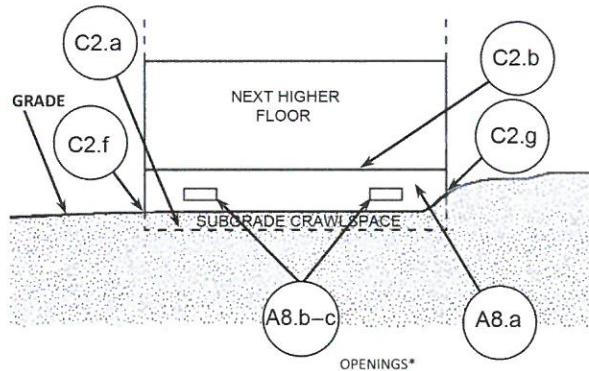


DIAGRAM 9

All buildings (other than split-level) elevated on a sub-grade crawlspace, with or without attached garage.

Distinguishing Feature – The bottom (crawlspace) floor is below ground level (grade) on all sides.* (If the distance from the crawlspace floor to the top of the next higher floor is more than 5 feet, or the crawlspace floor is more than 2 feet below the grade [LAG] on all sides, use Diagram 2A or 2B.)

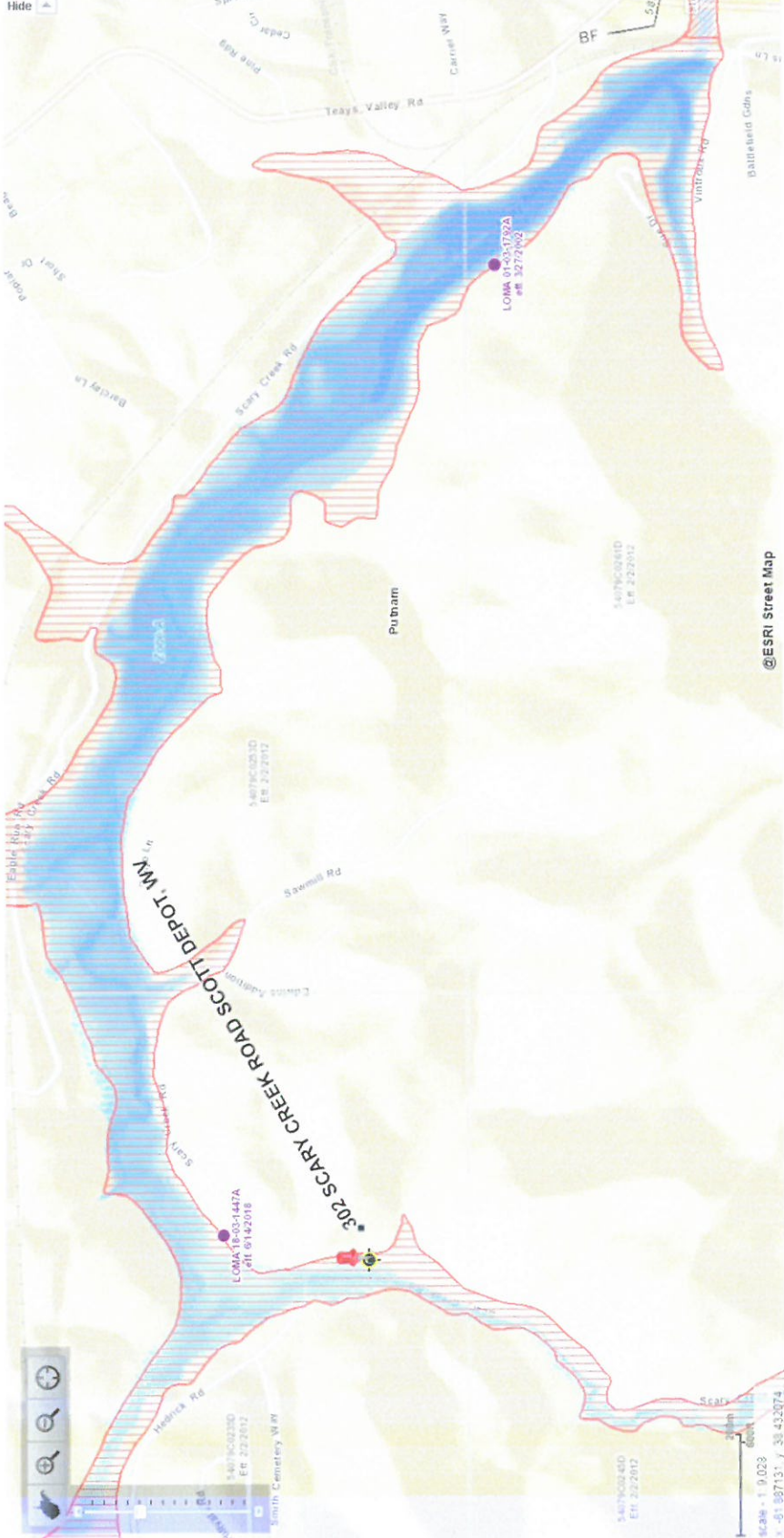


* A floor that is below ground level (grade) on all sides is considered a basement even if the floor is used for living purposes, or as an office, garage, workshop, etc.

** An "opening" is a permanent opening that allows for the free passage of water automatically in both directions without human intervention. Under the NFIP, a minimum of 2 openings is required for enclosures or crawlspaces. The openings shall provide a total net area of not less than 1 square inch for every square foot of area enclosed, excluding any bars, louvers, or other covers of the opening. Alternatively, an Individual Engineered Flood Openings Certification or an Evaluation Report issued by the International Code Council Evaluation Service (ICC ES) must be submitted to document that the design of the openings will allow for the automatic equalization of hydrostatic flood forces on exterior walls. A window, a door, or a garage door is not considered an opening; openings may be installed in doors. Openings shall be on at least 2 sides of the enclosed area. If a building has more than 1 enclosed area, each area must have openings to allow floodwater to directly enter. The bottom of the openings must be no higher than 1.0 foot above the higher of the exterior or interior grade or floor immediately below the opening. For more guidance on openings, see NFIP Technical Bulletin 1.

Flood Hazard Area: Location is WITHIN the FEMA 100-year Floodplain
 Flood Zone: A
 Stream: Scary Creek
 Watershed (HUC8): Lower Putnam (15050003)

FEMA Issued Flood Map: 54079C023D ± 0
 Map Effective Date: 2/22/12
 Contacts: Putnam
 Flood Height: N/A
 Water Depth: N/A
 HEC-RAS Model: ScaryCr
 Flood Profile: N/A
 Community: Putnam County
 CID: 540764
 CRS Class: 9
 Location (long, lat): (-81.880387, 38.439218)
 Location (UTM 17N): 423124, 4255916
 External Viewers:
 Elevation: About 552 ft. (Source: USACE 2009)
 Address: 1891 SCARY CREEK RD., WV, 25560
 Parcel ID: 40-10-0224-0113-0004
 Disclaimer: Related Resources



©ESRI Street Map

Flood Zone: A
Stream: Scary Creek
Watershed (HUC8): Lower Kanawha (6050003)

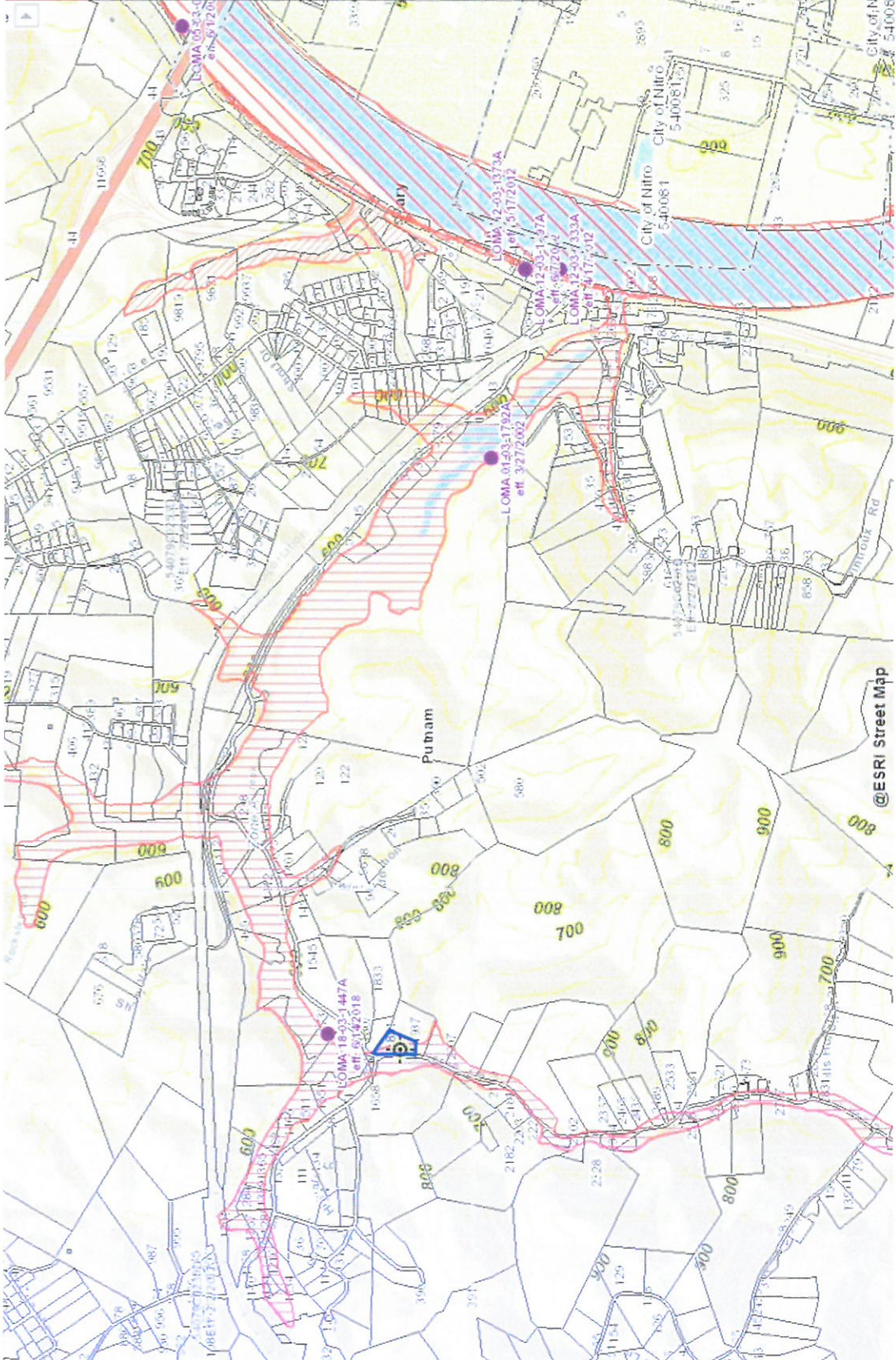
FEMA Issued Flood Map: 54079C0235D
Map Effective Date: 2/2/2012
Contacts: Putnam

Flood Height: N/A
Water Depth: N/A
HEC-RAS Model: ScaryCr
Flood Profile: N/A

Community: Putnam County
CID: 540164 CRS Class: 9
Location (long, lat): (-81.880938, 38.439626)
Location (UTM 17N): (423120, 4254961)

External Viewers:
Elevation: About 589 ft (Source: USACE 2009)
Address: 1891 SCARY CREEK RD., WV, 25560
Parcel ID: 40-10-0224-0113-0004

Flood Risk Information
Related Report



@ESRI Street Map

Flood Hazard Area: Location is **WITHIN** the FEMA 100-year floodplain.
Flood Zone: A
Stream: Scary Creek
Watershed (HUC): Lower Kanawha (5050008)

FEMA Issued Flood Map: 54079C0235D

Map Effective Date: 2/2/2012

Contacts: Putnam

Flood Height: N/A [More info](#)

Water Depth: N/A

HEC-RAS Model: ScaryCr

Flood Profile: N/A

Community: Putnam County

CID: 540164 **CRS Class:** 9

Location (long, lat): (-81.880940, 38.439627)

Location (UTM 17N): (423119, 4254967)

External Viewers:

Elevation: About 589 ft (Source: USACE 2009)

Address: 1891 SCARY CREEK RD., WV, 25566

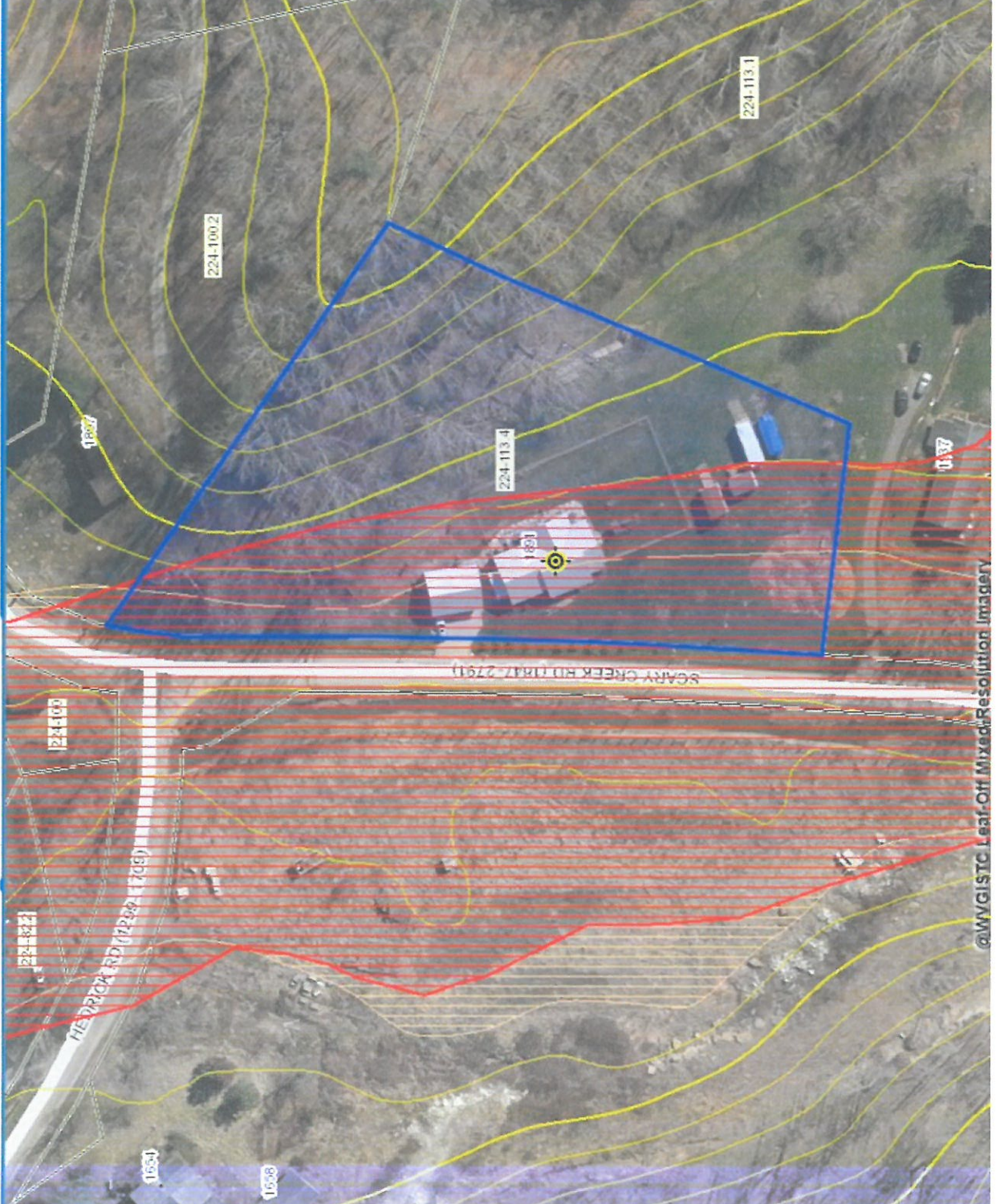
Parcel ID: 40-10-0224-0113-0004 [Disclaimer](#)

Flood Risk Information [Related Resources](#)

Flood Risk Assessment: N/A

3D Flood Visualization: No Depth Grid Available

Hide



@WVGIS/C Leaf-Off Mixed-Resolution Imagery



ICC
EVALUATION
SERVICE

In Cooperation with



Most Widely Accepted and Trusted

ESR-2074

Reissued 02/2017

Revised 10/2018

This report is subject to renewal 02/2019.

ICC-ES Evaluation Report

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

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"*



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ICC-ES Evaluation Report

ESR-2074

Reissued February 2017

Revised October 16, 2018

This report is subject to renewal February 2019.

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:

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:

- 2018, 2015, 2012, 2009 and 2006 *International Building Code*® (IBC)
- 2018, 2015, 2012, 2009 and 2006 *International Residential Code*® (IRC)
- 2018 *International Energy Conservation Code*® (IECC)
- 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 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 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 FVs recognized 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 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 FV for every 400 square feet (37.2 m²) 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 October 2017).
- 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 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).
- 7.2 The report holder’s contact information is the following:

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

TABLE 1—MODEL SIZES

MODEL NAME	MODEL NUMBER	MODEL SIZE (in.)	COVERAGE (sq. ft.)
FloodVENT [®]	1540-520	15 ³ / ₄ " X 7 ³ / ₄ "	200
SmartVENT [®]	1540-510	15 ³ / ₄ " X 7 ³ / ₄ "	200
FloodVENT [®] Overhead Door	1540-524	15 ³ / ₄ " X 7 ³ / ₄ "	200
SmartVENT [®] Overhead Door	1540-514	15 ³ / ₄ " X 7 ³ / ₄ "	200
Wood Wall FloodVENT [®]	1540-570	14" X 8 ³ / ₄ "	200
Wood Wall FloodVENT [®] Overhead Door	1540-574	14" X 8 ³ / ₄ "	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 = m²

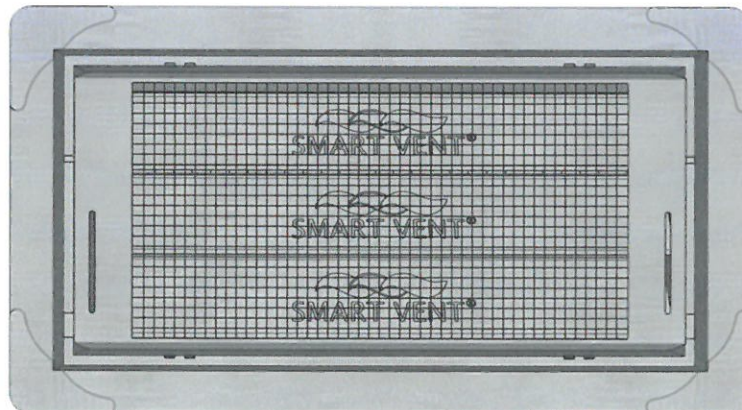


FIGURE 1—SMART VENT: MODEL 1540-510

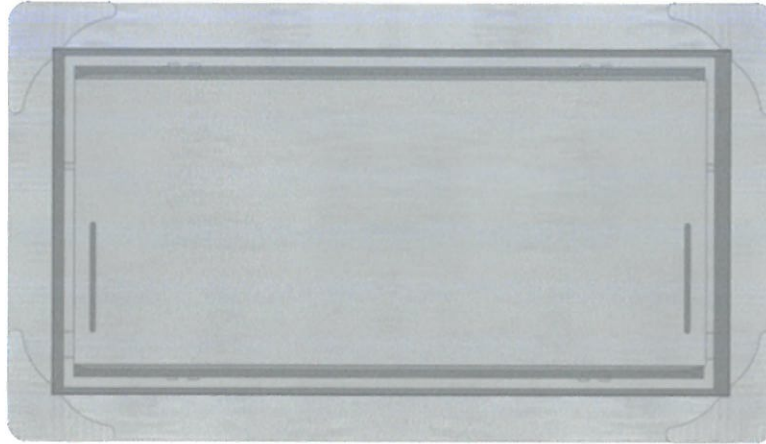


FIGURE 2—SMART VENT MODEL 1540-520

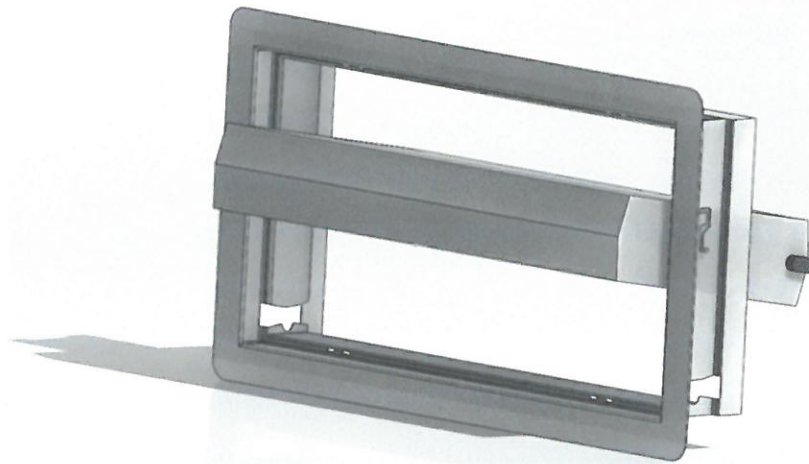


FIGURE 3—SMART VENT: SHOWN WITH FLOOD DOOR PIVOTED OPEN

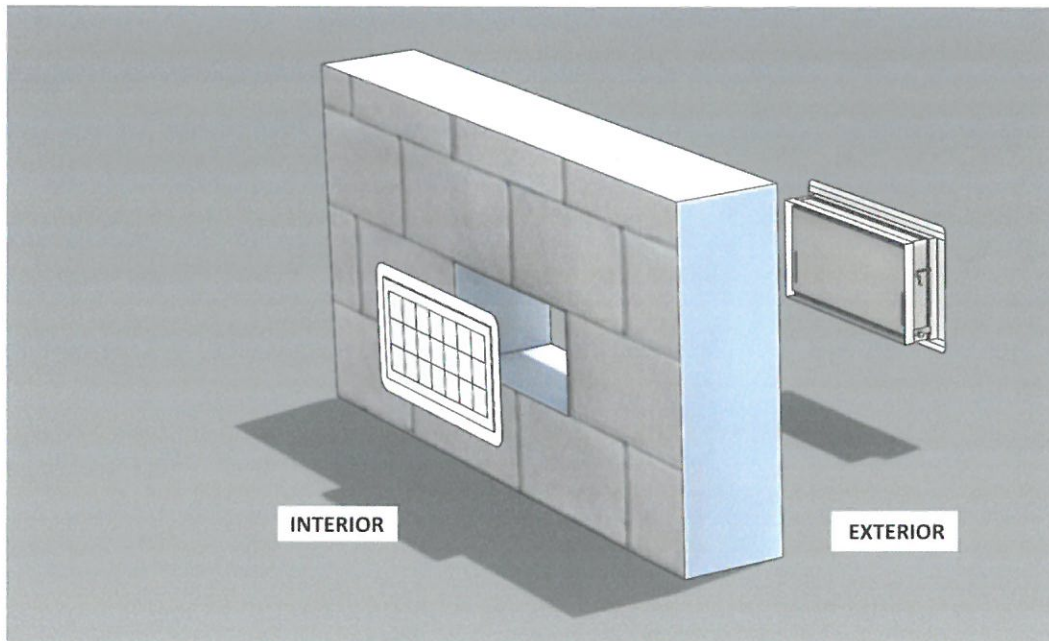


FIGURE 4—FLOOD VENT SEALING KIT

ICC-ES Evaluation Report

ESR-2074 CBC and CRC Supplement

Issued February 2017

Revised October 16, 2018

This report is subject to renewal February 2019.

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A Subsidiary of the International Code Council®

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, recognized in ICC-ES master evaluation report ESR-2074, have also been evaluated for compliance with codes noted below.

Applicable code edition:

- 2016 California Building Code (CBC)
- 2016 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 master evaluation report ESR-2074, comply with 2016 CBC Chapter 12, provided the design and installation are in accordance with the 2015 *International Building Code*® (IBC) provisions noted in the master report and the additional requirements of CBC Chapters 12, 16 and 16A, as applicable.

The products recognized in this supplement have not been evaluated under CBC Chapter 7A for use in the exterior design and construction of new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area.

2.2 CRC:

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 2016 CRC, provided the design and installation are in accordance with the 2015 *International Residential Code*® (IRC) provisions noted in the master report.

The products recognized in this supplement have not been evaluated under 2016 CRC Chapter R337, for use in the exterior design and construction of new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area.

The products recognized in this supplement have not been evaluated for compliance with the International Wildland-Urban Interface Code®.

This supplement expires concurrently with the master report, reissued February 2017 and revised October 16, 2018.

ICC-ES Evaluation Report

ESR-2074 FBC Supplement

Reissued February 2017

Revised October 16, 2018

This report is subject to renewal February 2019.

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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, recognized in ICC-ES master report ESR-2074, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2017 *Florida Building Code—Building*
- 2017 *Florida Building Code—Residential*

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 *Florida Building Code—Building* and the FRC, provided the design and installation are in accordance with the 2015 *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 *Florida Building Code—Building* and the *Florida Building Code—Residential*.

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 2017 and revised October 16, 2018.