



## Floodplain Use Permit- Case History

**RECORD: P22FC01124**

Building/Floodplain Use Permit

**Case Name:**NHF, OSS, FEN

**Issue:** Existing Detached Storage Building (BWOP), perimeter fencing, and open-sided structures

10/3/2022 Application Intake - Submitted: Application successfully submitted

Case Reviewer:Rodrigo Morales

10/5/2022 Review - Note: Submitting RFC for review.

Case Reviewer:JUSTIN WARLICK

10/5/2022 Review - Note: Permit assumed to be in response to RFC letter from JC re solar permit 21-809 for unpermitted detached structure.

Case Reviewer:JUSTIN WARLICK

10/5/2022 Review - Note: Submitting RFC for review. Added comments about RHMP requirement and grading in a wash.

Case Reviewer:JUSTIN WARLICK

10/11/2022 Review - Note: Requested feedback from Andy S. on draft RFC.

Case Reviewer:Francisco Ramirez

10/13/2022 Review - Request for Corrections: RFC email sent. Requested meeting with Owner & Applicant.

Case Reviewer:JUSTIN WARLICK

12/6/2022 Application Intake - Note: I with the property owner, Mr. Duncan. I believe he is at the point where he will pay the ILF in order to move forward with this permit. His words suggested that he is going to continue to keep the cleared area cleared and I said that the fee mitigates that disturbance, I made it clear that he could not disturb additional RRH without District approval. He talked about livestock use and I told him that livestock would need to be excluded from the remaining RRH. I also made it clear that our conversation was strictly limited to the RRH disturbance issue, and not any other issues there might be on the property.



Case Reviewer: Brian Jones

12/22/2022 Application Intake - Resubmit: No Comments

Case Reviewer: JUSTIN WARLICK

12/22/2022 Review - Note: Justin please move forward with calculating 13,847 sq ft of RHH disturbance for this permit. Thank you. Patricia Gilbert, CFM

Case Reviewer: JUSTIN WARLICK

12/27/2022 Review - Note: Conducting site visit 12/28/2022 @ 930 AM to determine any channel disturbance.

Case Reviewer: JUSTIN WARLICK

12/29/2022 Review - Request for Corrections: Redlined plan set emailed.

Case Reviewer: JUSTIN WARLICK

1/13/2023 Application Intake - Resubmit: No Comments

Case Reviewer: JUSTIN WARLICK

1/17/2023 Review - Note: Plan set shows 4 flood vents but general notes call out 2, left vm with applicant to call back and clarify.

Case Reviewer: JUSTIN WARLICK

1/18/2023 Review - Request for Corrections: Permit prepped and ready for FC1 once applicant updates floodproof materials requirement on plan set.

Case Reviewer: JUSTIN WARLICK

1/20/2023 Application Intake - Resubmit: No Comments

Case Reviewer: JUSTIN WARLICK

1/20/2023 Review - Note: Updated plan set submitted.

Case Reviewer: JUSTIN WARLICK

1/20/2023 Review - Note: Ready for review pending ADS' review of FC1.

Case Reviewer: JUSTIN WARLICK



2/2/2023 Review - Note: Ready for review.

Case Reviewer:JUSTIN WARLICK

2/3/2023 Review - Approved: D1FC1 uploaded to DSD.

Case Reviewer:Francisco Ramirez

2/6/2023 Issuance - Note: FPUP, el cert, & covenants emailed.

Case Reviewer:JUSTIN WARLICK

2/17/2023 Issuance - Issued - Documents Required: FPUP returned. P2F hold for covenants and elevation certificate.

Case Reviewer:JUSTIN WARLICK

10/8/2024 Inspection - Note: I spoke with Mr. Carl Duncan (owner) on 10/4/24 regarding his property and permits. On 10/8/24 I followed up with an email that included revised covenants for the property owners to sign that only included the specific covenant regarding the use of the detached garage. Access and general covenants had been signed and recorded for a previous property owner. The new covenants do not include the covenant regarding riparian habitat. I also provided Mr. Duncan with a copy of the previously signed covenants and maps showing both the 1999 and 2005 riparian mapping, which have an identical footprint, to demonstrate that his property was mapped partially within riparian habitat when he purchased the property in 20003. Looking through the permit records it appeared that we also needed to have an Elevation Certificate returned for the detached garage. A blank Elevation Certificate was provided to Mr. Duncan for his surveyor to complete. I also directed staff to add the open-sided structures and fence to the permit for the detached garage and reissue it so we would have a permit for all of the improvements. I stated that the building permit for the solar system would be sufficient since the home is a conforming use.

Case Reviewer:Brian Jones

10/14/2024 Inspection - Note: Per discussion between owner and Brian Jones (see e-file for correspondence), FPUP condition 025 updated to reflect existing perimeter fencing and open sided structures. Updated FPUP emailed to owner for signature.

Case Reviewer:Stefanie Matthews

1/23/2025 Inspection - Note: Received P2F el-cert from surveyor David Rhine. Some corrections required. Emailed David and applicant to let them know.

Case Reviewer:Irene Castillo

2/4/2025 Inspection - Documents Received: 2/4/2024 P2F - El-cert reviewed and approved. FFE = -.45' below BFE. Flood vents = 500 sqft per 400 sqft of enclosed space. IC



Case Reviewer:Irene Castillo

2/4/2025 Inspection - Note: 02/04/2025 - Spoke with property owner Carl about pending documents for his permit. Printed the covs for him and his wife to sign and return.

Case Reviewer:Sydney Aguirre

2/4/2025 Inspection - Documents Received: No Comments

Case Reviewer:Sydney Aguirre

2/4/2025 Inspection - Documents Approved: Covenants received at the counter 02/04/2025. SA

Case Reviewer:Sydney Aguirre

3/10/2025 Close Out - Complete: No Comments

Case Reviewer:Valerie Gonzales

FPUP # P22FC01124

DSD # P22BP11673

### ELEVATION CERTIFICATE

**IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 1-11**

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>Carl Edward Duncan &amp; Connie Virginia Duncan</u>		Policy Number: _____
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: <u>11420 W Eagles Wings Wy</u>		Company NAIC Number: _____
City: <u>Tucson</u> State: <u>Arizona</u> ZIP Code: <u>85735</u>		
A3. Property Description (e.g., Lot and Block Numbers or Legal Description) and/or Tax Parcel Number: <u>209-04-003G 15S 11E 3</u>		
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.): <u>Accessory: Non-habitable Structure</u>		
A5. Latitude/Longitude: Lat. <u>32.160380</u> Long. <u>-111.210620</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). <i>Pima County Regional Flood Control District requires four (4) photographs</i>		
A7. Building Diagram Number: <u>1B</u>		
A8. For a building with a crawlspace or enclosure(s):		
a) Square footage of crawlspace or enclosure(s): <u>400</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 <input type="checkbox"/> 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>0</u> Engineered flood openings: <u>2</u>		
d) Total net open area of non-engineered flood openings in A8.c: <u>0</u> sq. in.		
e) Total rated area of engineered flood openings in A8.c (attach documentation – see Instructions): <u>500</u> sq. ft.		
f) Sum of A8.d and A8.e rated area (if applicable – see Instructions): <u>500</u> sq. ft.		
A9. For a building with an attached garage:		
a) Square footage of attached garage: <u>N/A</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>N/A</u> Engineered flood openings: <u>N/A</u>		
d) Total net open area of non-engineered flood openings in A9.c: <u>N/A</u> sq. in.		
e) Total rated area of engineered flood openings in A9.c (attach documentation – see Instructions): <u>N/A</u> sq. ft.		
f) Sum of A9.d and A9.e rated area (if applicable – see Instructions): <u>N/A</u> sq. ft.		
SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION		
B1.a. NFIP Community Name: <u>Pima County</u>		B1.b. NFIP Community Identification Number: <u>040073</u>
B2. County Name: <u>Pima County</u>		B3. State: <u>Arizona</u> B4. Map/Panel No.: <u>04019C 2240</u> B5. Suffix: <u>L</u>
B6. FIRM Index Date: <u>09/28/2012</u>		B7. FIRM Panel Effective/Revised Date: <u>6/16/2011</u>
B8. Flood Zone(s): <u>AO Depth 1</u>		B9. Base Flood Elevation(s) (BFE) (Zone AO, use Base Flood Depth): <u>1.0</u>
B10. Indicate the source of the BFE data or Base Flood Depth entered in Item B9: <input type="checkbox"/> FIS <input type="checkbox"/> FIRM <input type="checkbox"/> Community Determined <input checked="" type="checkbox"/> Other: _____		
B11. Indicate elevation datum used for BFE in Item B9: <input type="checkbox"/> NGVD 1929 <input type="checkbox"/> NAVD 1988 <input checked="" type="checkbox"/> Other/Source: <u>Highest Adjacent Natural Grade (=100.0 ft)</u>		
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: <u>N/A</u> <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

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 1-11

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:

11420 W Eagles Wings Wy

City: Tucson

State: Arizona

ZIP Code: 85735

## FOR INSURANCE COMPANY USE

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: N/A Vertical Datum: LOCAL

PCRFCD Note: When HANG is used as Datum, fill out "Vertical Datum" as "LOCAL"

Indicate elevation datum used for the elevations in items a) through h) below.

NGVD 1929  NAVD 1988  Other: Highest Adjacent Natural Grade = 100.0 ft

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.

Check the measurement used:

a) Top of bottom floor (including basement, crawlspace, or enclosure floor): 100.55  feet  meters

b) Top of the next higher floor (see Instructions): N/A  feet  meters

c) Bottom of the lowest horizontal structural member (see Instructions): N/A  feet  meters

d) Attached garage (top of slab): N/A  feet  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): N/A  feet  meters

f) Lowest Adjacent Grade (LAG) next to building:  Natural  Finished 99.70  feet  meters

PCRFCD Note: Indicate lowest adjacent natural grade (LANG) in Section D.

g) Highest Adjacent Grade (HAG) next to building:  Natural  Finished 100.00  feet  meters

PCRFCD Note: Indicate highest adjacent natural grade (HANG) in Section D.

h) Finished LAG at lowest elevation of attached deck or stairs, including structural support: 100.00  feet  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.

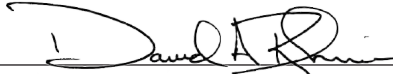
Certifier's Name: David Rhine License Number: AZ # 24530

Title: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: 15505 E Ocotillo Road

City: Gilbert State: Arizona ZIP Code: 85298

Signature:  Date: 1/28/2025

Telephone: 520-490-2027 Ext.: \_\_\_\_\_ Email: AZTECLS@aol.com



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):

The lowest service equipment (C2.e) is the Electric Panel . No other service equipment is above this elevation.

Highest adjacent natural grade is 100.00 . Lowest adjacent natural grade is 99.70 .

Lowest floor elevation of the existing structure 100.55 .

ENGINEERED FLOOD VENT = SMART PRODUCT INNOVATIONS/FREEDOM FLOOD VENT FFV-1608 - 250 SQ FT, ESR4332

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### 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 1-11

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:

11420 W Eagles Wings Wy

City: Tucson

State: Arizona

ZIP Code: 85735

## FOR INSURANCE COMPANY USE

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: P22FC01124 G6. Date Permit Issued: 2/17/2023
- 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: 1.0  feet  meters Datum: HANG
- G10.b. Community's minimum elevation (or depth in Zone AO) requirement for the lowest floor or lowest horizontal structural member: 2.0  feet  meters Datum: HANG
- 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: Irene Castillo

Title: CFM

NFIP Community Name: Pima County

Telephone: 520-724-4600

Ext.: \_\_\_\_\_

Email: irene.castillo@pima.gov

Address: 201 N Stone Ave 9th Fl

City: Tucson

State: AZ

ZIP Code: 85701

Signature: Irene Castillo

Date: 1/23/2025

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):

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Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:

11420 W Eagles Wings Wy

City: Tucson

State: Arizona

ZIP Code: 85735

## FOR INSURANCE COMPANY USE

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 5–8.** 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 higher floor (i.e., the floor above basement, crawlspace, or enclosure floor) is: \_\_\_\_\_  feet  meters  above the LAG

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 1-11**  
**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.:  
 11420 W Eagles Wings Wy

City: Tucson State: Arizona ZIP Code: 85735

**FOR INSURANCE COMPANY USE**

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

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

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: SOUTH FACE (FRONT VIEW)

Clear Photo One



Photo Two

Photo Two Caption: EAST FACE (RIGHT SIDE VIEW)

Clear Photo Two

**ELEVATION CERTIFICATE**  
**IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 1-11**  
**BUILDING PHOTOGRAPHS**

Continuation Page

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:

11420 W Eagles Wings Wy

City: Tucson

State: Arizona

ZIP Code: 85735

**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: NORTH FACE (REAR VIEW)

Clear Photo Three



Photo Four

Photo Four Caption: WEST FACE (LEFT SIDE VIEW)

Clear Photo Four

# ICC-ES Evaluation Report

ESR-4332

Reissued March 2024

This report also contains:


- CBC Supplement

Subject to renewal March 2026

- FBC Supplement

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<p><b>DIVISION: 08 00 00— OPENINGS</b></p> <p><b>Section: 08 95 43— Vents / Foundation Flood Vents</b></p>	<p><b>REPORT HOLDER: SMART PRODUCT INNOVATIONS, INC.</b></p>	<p><b>EVALUATION SUBJECT: FREEDOM FLOOD VENT® AUTOMATIC FOUNDATION FLOOD VENT: MODEL FFV-1608</b></p>	
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## 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® \(IRC\)](#)

### Properties evaluated:

- Physical operation
- Water flow
- Weathering

## 2.0 USES

The model FFV-1608 Freedom Flood Vent® is used to equalize hydrostatic pressure on walls of enclosures subject to rising or falling floodwaters. With the cover removed, the model FFV-1608 also provides natural air ventilation.

## 3.0 DESCRIPTION

### 3.1 General:

The model FFV-1608 Freedom Flood Vent® is an engineered mechanically operated in-wall flood vent (FV) that automatically allows floodwater to enter an enclosed area and exit. The FV is comprised of a polycarbonate frame with mounting flange and a polycarbonate horizontally pivoting door. When subjected to rising water, the model FFV-1608 Freedom Flood Vent® door is activated and pivots to allow water and debris to flow in either direction to equalize hydrostatic pressure from one side of the enclosure to the other. The FV features a removable polycarbonate cover. The FV door will activate and pivot when subjected to rising water with or without the polycarbonate cover installed.

### 3.2 Engineered Opening:

The FV complies with the design principle noted in Section 2.7.2.2 and Section 2.7.3 of ASCE/ SEI 24-14 (2021, 2018 and 2015 IBC and IRC) [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, Freedom Flood Vent® FVs must be installed in accordance with Section 4.0 below. See [Table 1](#) for vent size and maximum allowable area coverage for a single vent.

## 4.0 DESIGN AND INSTALLATION

The model FFV-1608 Freedom Flood Vent® is designed to be installed into walls or overhead doors of existing or new construction. Installation of the vent must be in accordance with the manufacturer’s instructions, the applicable code, and this report. In order to comply with the engineered opening design principle noted in Sections 2.7.2.2 and 2.7.3 of ASCE/ SEI 24-14 (2021, 2018 and 2015 IBC and IRC) [Section 2.6.2.2 of ASCE/ SEI 24-05 (2012, 2009, 2006 IBC and IRC)], the Freedom

Flood Vent® 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 250 square feet (23.2 m2) of enclosed area.
- Below the base flood elevation.
- With the bottom of the vent located a maximum of 12 inches (305.4 mm) above the higher of the final interior grade or floor and the finished exterior grade immediately under each opening.

## 5.0 CONDITIONS OF USE:

The Freedom Flood Vent® described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The model FFV-1608 Freedom Flood Vent® unit must be installed in accordance with this report, the applicable code and the manufacturer’s published installation instructions. In the event of a conflict, the instructions in this report shall govern.
- 5.2 The model FFV-1608 Freedom Flood Vent® unit must not be used in place of “breakaway walls” in coastal high hazard areas, but are permitted for use in conjunction with breakaway walls in other areas.
- 5.3 Use of the Freedom Flood Vent as under-floor space ventilation is outside the scope of this report.
- 5.4 FFV-1608 Freedom Flood Vent® is manufactured in Gastonia, North Carolina under a quality control program with inspections by ICC-ES.

## 6.0 EVIDENCE SUBMITTED

Data in accordance with the [ICC-ES Acceptance Criteria for Mechanically Operated Flood Vents \(AC364\)](#), dated August 2015 (editorially revised February 2021).

## 7.0 IDENTIFICATION

- 7.1 The Freedom Flood Vent® model described in this report must be identified by a label bearing the manufacturer’s name (Smart Product Innovations, Inc.) and the evaluation report number (ESR-4332).
- 7.2 The report holder’s contact information is the following:

**SMART PRODUCT INNOVATIONS, INC.**  
**19 MANTUA ROAD**  
**MOUNT ROYAL, NEW JERSEY 08061**  
**(800) 507-1527**  
[www.freedomfloodvent.com](http://www.freedomfloodvent.com)  
[info@freedomfloodvent.com](mailto:info@freedomfloodvent.com)

**TABLE 1—FREEDOM FLOOD VENT®**

MODEL NAME	MODEL NUMBER	MODEL SIZE	COVERAGE (sq. ft.)
Freedom Flood Vent®	FFV-1608	15 <sup>3</sup> / <sub>4</sub> " X 8 <sup>1</sup> / <sub>16</sub> "	250

For SI: 1 inch = 25.4 mm

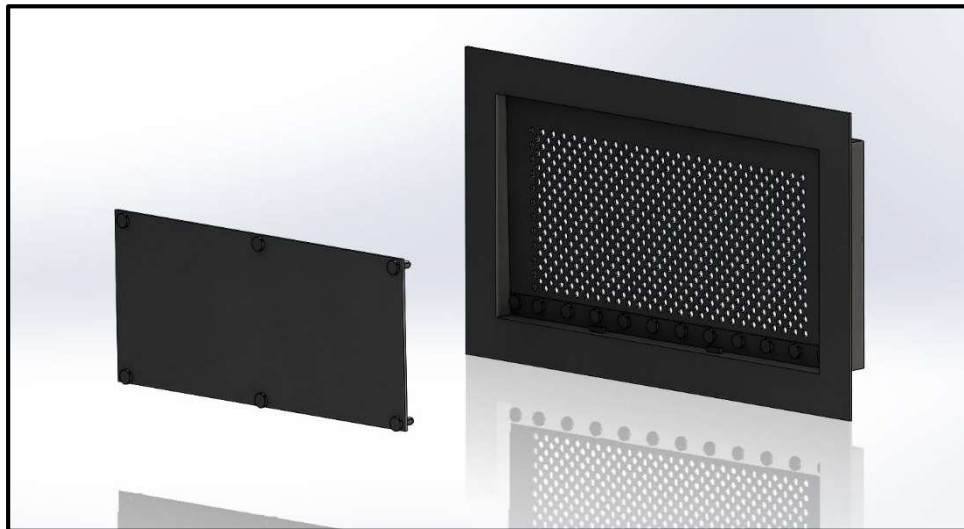


FIGURE 1—MODEL FFV-1608 FREEDOM FLOOD VENT<sup>®</sup>: SHOWN WITH COVER REMOVED



FIGURE 2—MODEL FFV-1608 FREEDOM FLOOD VENT<sup>®</sup>: SHOWN WITH FLOOD DOOR PIVOTED OPEN

DIVISION: 08 00 00—OPENINGS

Section: 08 95 43—Vents/Foundation Flood Vents

## REPORT HOLDER:

SMART PRODUCT INNOVATIONS, INC.

## EVALUATION SUBJECT:

FREEDOM FLOOD VENT® AUTOMATIC FOUNDATION FLOOD VENT: MODEL FFV-1608

## 1.0 REPORT PURPOSE AND SCOPE

**Purpose:**

The purpose of this evaluation report supplement is to indicate that the Freedom Flood Vent® Automatic Foundation Flood Vent: Model FFV-1608, described in ICC-ES evaluation report ESR-4332, has 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 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 Freedom Flood Vent® Automatic Foundation Flood Vent: Model FFV-1608, described in Sections 2.0 through 7.0 of the evaluation report ESR-4332, complies with 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 Freedom Flood Vent® Automatic Foundation Flood Vent: Model FFV-1608, described in Sections 2.0 through 7.0 of the evaluation report ESR-4332, complies 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 March 2024.

DIVISION: 08 00 00—OPENINGS

Section: 08 95 43—Vents/Foundation Flood Vents

## REPORT HOLDER:

SMART PRODUCT INNOVATIONS, INC.

## EVALUATION SUBJECT:

FREEDOM FLOOD VENT® AUTOMATIC FOUNDATION FLOOD VENT: MODEL FFV-1608

## 1.0 REPORT PURPOSE AND SCOPE

## Purpose:

The purpose of this evaluation report supplement is to indicate that Freedom Flood Vent® Automatic Foundation Flood Vent: Model FFV-1608, described in ICC-ES evaluation report ESR-4332, has 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 Freedom Flood Vent® Automatic Foundation Flood Vent: Model FFV-1608, described in Sections 2.0 through 7.0 of the evaluation report ESR-4332, complies 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* and the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-4332 for the 2018 *International Building Code*® (IBC) meet the requirements of *Florida Building Code—Building* and the *Florida Building Code—Residential*, as applicable.

Use of the Freedom Flood Vent® Automatic Foundation Flood Vent: Model FFV-1608 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 March 2024.