



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

DEP File Number:

WPA Form 8A – Request for Certificate of Compliance

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by DEP

A. Project Information

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Upon completion of the work authorized in an Order of Conditions, the property owner must request a Certificate of Compliance from the issuing authority stating that the work or portion of the work has been satisfactorily completed.

1. This request is being made by:

Name Fred M Studley
Mailing Address 185 Downer Ave
City/Town Hingham State MA Zip Code 02043
Phone Number 781 801 0562 (Fred) 781 801 0538 (Sandy)

2. This request is in reference to work regulated by a final Order of Conditions issued to:

Applicant Fred and Sandy Studley
Dated _____ DEP File Number 034-1416

3. The project site is located at:

Street Address 185 Downer Ave City/Town Hingham MA 02043
Assessors Map/Plat Number _____ Parcel/Lot Number _____

4. The final Order of Conditions was recorded at the Registry of Deeds for:

Property Owner (if different) _____
County _____ Book _____ Page _____
Certificate (if registered land) _____

5. This request is for certification that (check one):

- ☒ the work regulated by the above-referenced Order of Conditions has been satisfactorily completed.
☐ the following portions of the work regulated by the above-referenced Order of Conditions have been satisfactorily completed (use additional paper if necessary).

- ☐ the above-referenced Order of Conditions has lapsed and is therefore no longer valid, and the work regulated by it was never started.



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A. Project Information (cont.)

6. Did the Order of Conditions for this project, or the portion of the project subject to this request, contain an approval of any plans stamped by a registered professional engineer, architect, landscape architect, or land surveyor?

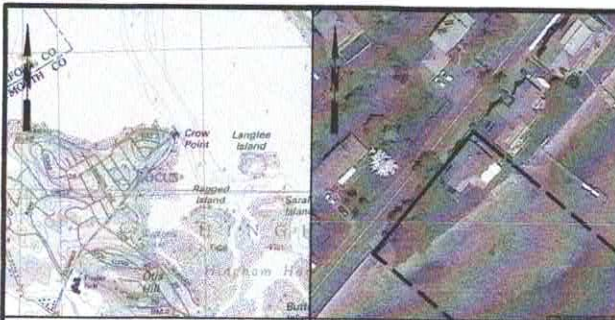
☒ Yes

If yes, attach a written statement by such a professional certifying substantial compliance with the plans and describing what deviation, if any, exists from the plans approved in the Order.

☐ No

B. Submittal Requirements

Requests for Certificates of Compliance should be directed to the issuing authority that issued the final Order of Conditions (OOC). If the project received an OOC from the Conservation Commission, submit this request to that Commission. If the project was issued a Superseding Order of Conditions or was the subject of an Adjudicatory Hearing Final Decision, submit this request to the appropriate DEP Regional Office (see <http://www.mass.gov/eea/agencies/massdep/about/contacts/find-the-massdep-regional-office-for-your-city-or-town.html>).



GENERAL NOTES

1. Record Property Owner: Fred M. & Sandy W. Studley
2. Property Location: 185 Downer Avenue, Hingham MA
3. Hingham Assessors Parcel ID 17-0-145, Zoned Residence A.
4. Plymouth County Registry of Deeds: Book 53562, Page 310.
5. Elevations are based upon NAVD 88.
6. FEMA Flood Zone VE (Elev.=13') Panel 19 of 650: 250268 0019 J August 14, 2015.
7. Location of all utilities is approximate. Call 1-800-dig-safe before commencing any work.
8. All buildings locations are to the outside edge of the exterior walls.

Project Address

185 Downer Avenue
Hingham
Massachusetts

Drawing Title

FOUNDATION AS-BUILT PLAN

Prepared For

Fred & Sandy Studley
185 Downer Avenue
Hingham, MA 02043



David G. Ray #35412



46 Edgewater Road, Hull, MA 02045
(781) 773-1701 (781) 773-1702 (fax)
www.nantasketsurvey.com

Scale: 1"=10'

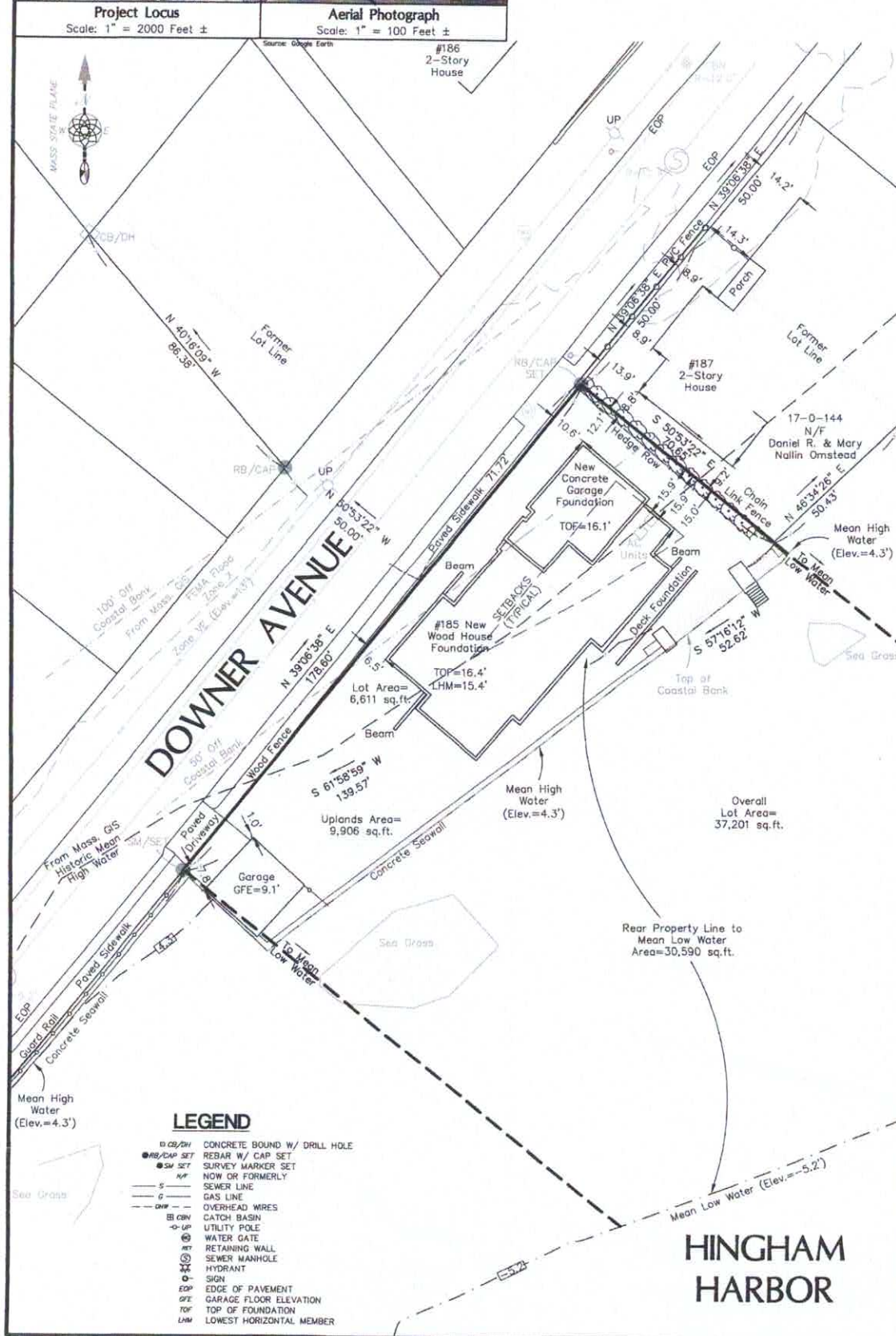


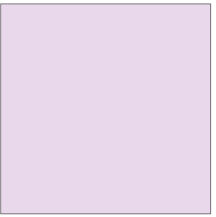
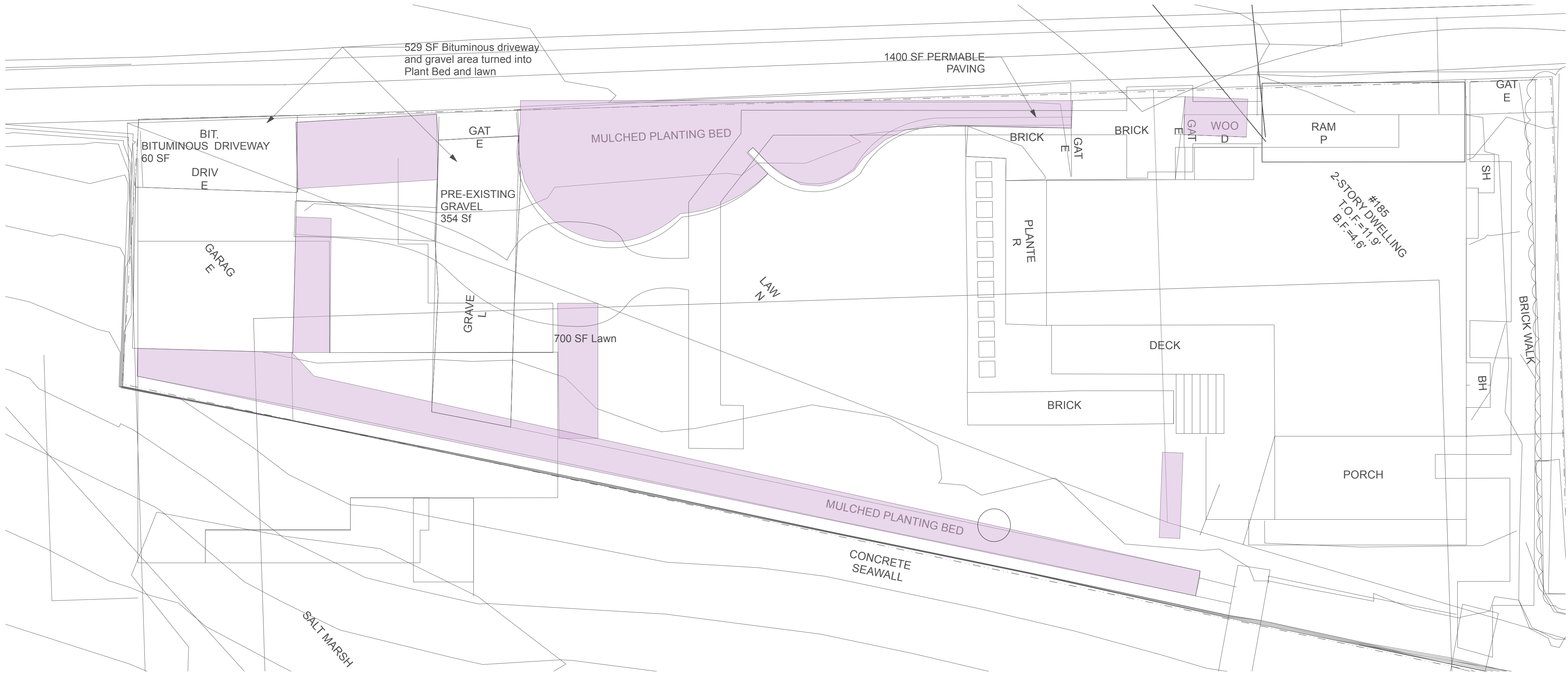
Revisions

5-24-2024 ADD AC UNITS

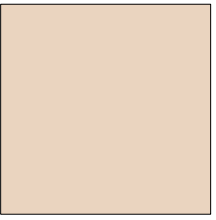
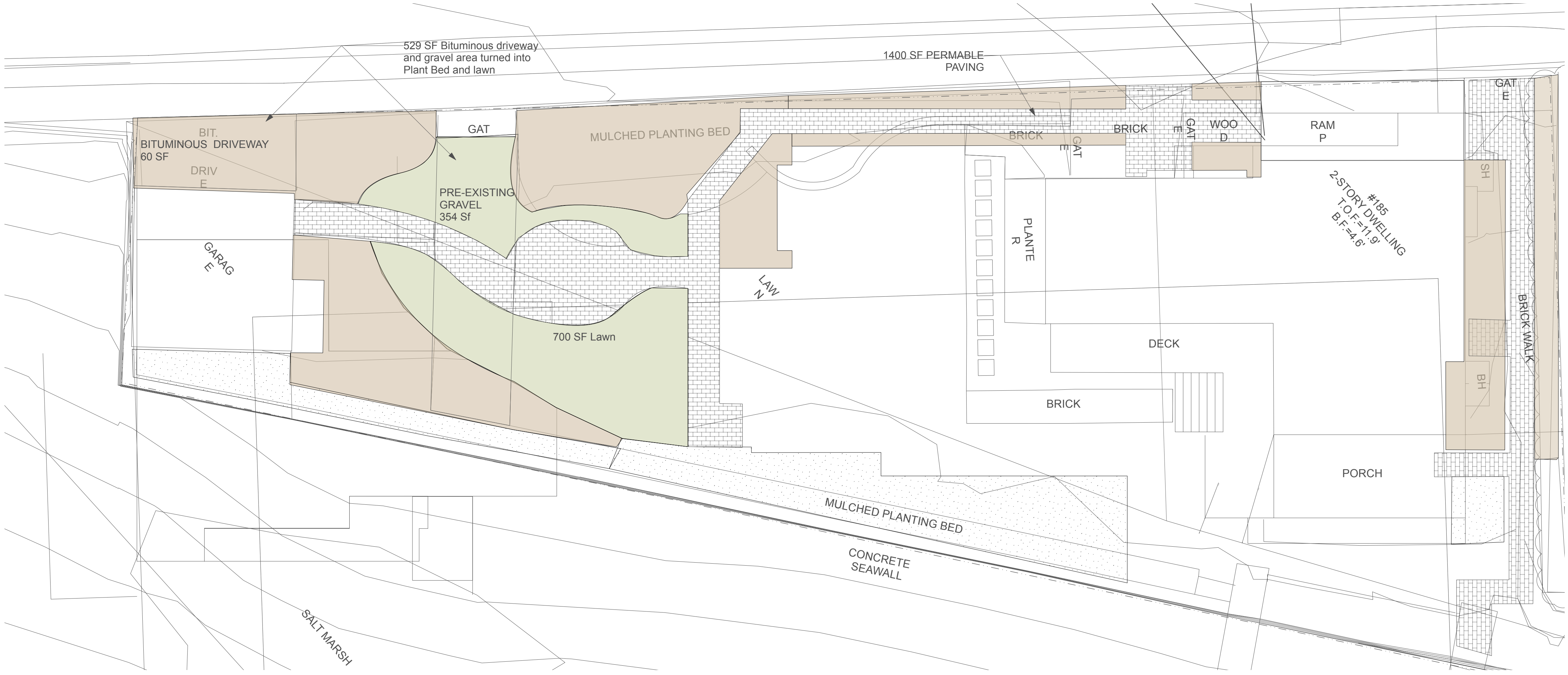
Date	3-29-2023	Drawing
Proj. Mgr.	DGR	
Design	N/A	
Check	DGR	
Drawn	AMS/DGR	
Job #	1-2697	of 1

1-2697 185 Downer Avenue, Hingham, MA 02043





EXISTING PLANT BEDS
1,461 sq.ft.



NEW PLANT BEDS
2,733 sq.ft.



STONE
MULCH
PLANT
BEDS

Revisions	No.	Date

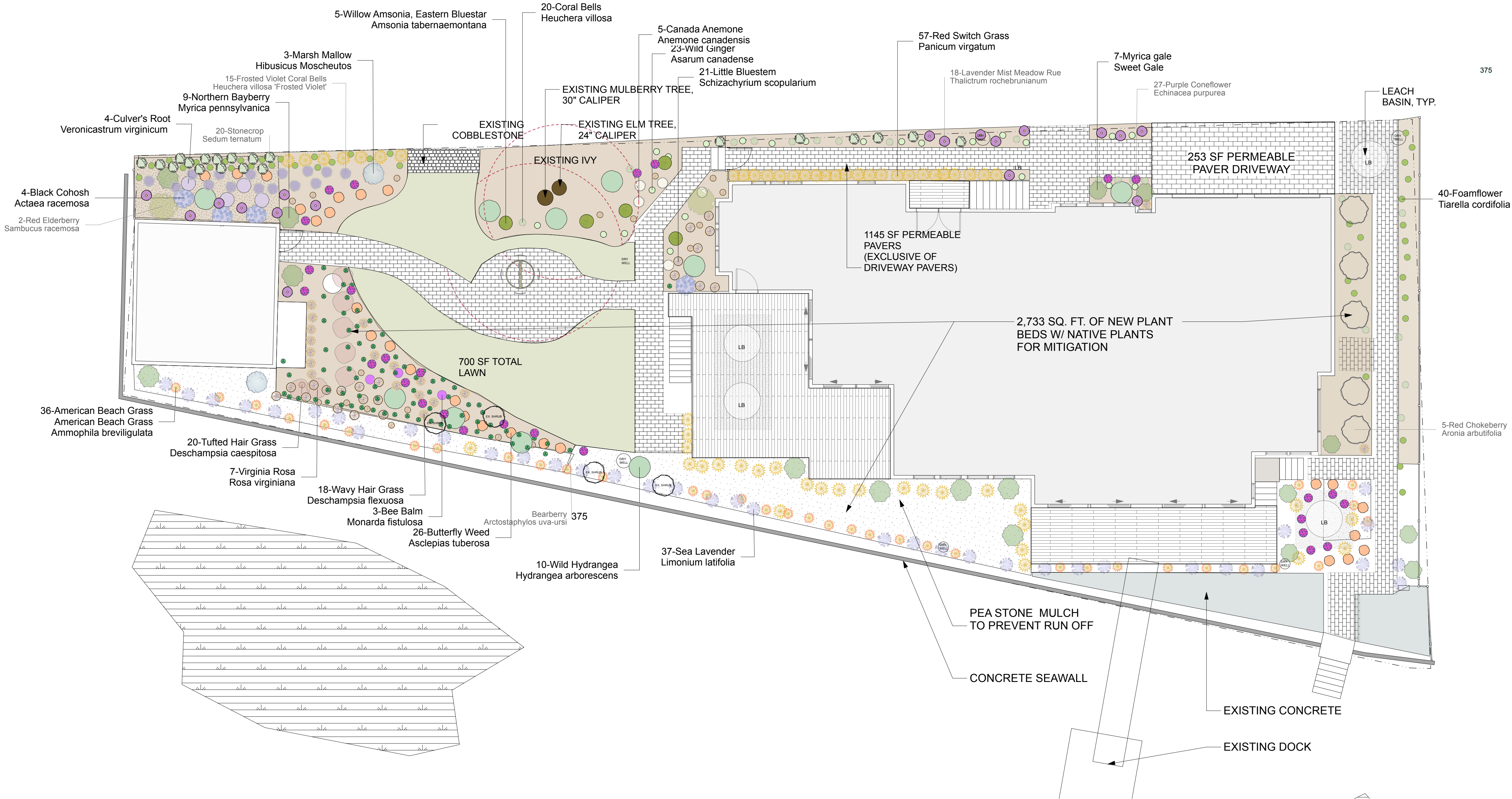
Scale	1/8" = 1'
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Drawn By	AM/ES
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Date Created	11/22/24
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PLANT LIST :

Qty	Botanical Name	Common Name
4	Actaea racemosa	Black Cohosh
23	Asarum canadense	Wild Ginger
28	Asclepias tuberosa	Butterfly Weed
20	Deschampsia caespitosa	Tufted Hair Grass
40	Tiarella cordifolia	Foamflower
3	Hibiscus Moscheutos	Marsh Mallow
4	Veronicastrum virginicum	Culver's Root
7	Rosa virginiana	Virginia Rosa
10	Hydrangea arborescens	Wild Hydrangea
18	Deschampsia flexuosa	Wavy Hair Grass
3	Monarda fistulosa	Bee Balm
5	Amsonia tabernaemontana	Willow Amsonia, Eastern Blue
5	Anemone canadensis	Canada Anemone
21	Schizachyrium scopularium	Little Bluestem
9	Myrica pennsylvanica	Northern Bayberry
57	Panicum virgatum	Red Switch Grass
20	Heuchera villosa	Coral Bells
36	Ammophila brevifolulata	American Beach Grass
37	Limonium latifolia	Sea Lavender
78	Arctostaphylos uva-ursi	Bearberry
7	Myrica gale	Sweet Gale
5	Aronia arbutifolia	Red Chokeberry
2	Sambucus racemosa	Red Elderberry
27	Echinacea purpurea	Purple Coneflower
15	Heuchera villosa 'Frosted Violet'	Frosted Violet Coral Bells
18	Thalictrum rochebrunianum	Lavender Mist Meadow Rue
20	Sedum ternatum	Stoncrop
4	Existing Shrub to Remain	



STUDLEY RESIDENCE

185 DOWNER ST.
HINGHAM, MA

NOT FOR
CONSTRUCTION

Revisions	No.	Date

Scale 1/8" = 1'

Drawn By AM/ES

Date Created 11/22/24

AS_BUILT

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>Fred M. & Sandy W. Studley</u>		Policy Number: _____
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: <u>185 Downer Avenue</u>		Company NAIC Number: _____
City: <u>Hingham</u> State: <u>MA</u> ZIP Code: <u>02045</u>		
A3. Property Description (e.g., Lot and Block Numbers or Legal Description) and/or Tax Parcel Number: <u>Hingham Assessor's Parcel 17-0-145</u>		
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.): <u>Residential</u>		
A5. Latitude/Longitude: Lat. <u>42°15'38.27"N</u> Long. <u>70°53'40.74"W</u> Horizontal Datum: ☐ NAD 1927 ☒ NAD 1983 ☐ 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>2,637</u> sq. ft.		
b) Is there at least one permanent flood opening on two different sides of each enclosed area? \ Yes ☒ No \ 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: _____ Engineered flood openings: _____		
d) Total net open area of non-engineered flood openings in A8.c: _____ sq. in.		
e) Total rated area of engineered flood openings in A8.c (attach documentation – see Instructions): _____ sq. ft.		
f) Sum of A8.d and A8.e rated area (if applicable – see Instructions): _____ sq. ft.		
A9. For a building with an attached garage:		
a) Square footage of attached garage: <u>784</u> sq. ft.		
b) Is there at least one permanent flood opening on two different sides of the attached garage? ☒ Yes ☐ No ☐ N/A		
c) Enter number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade: Non-engineered flood openings: _____ Engineered flood openings: <u>7</u>		
d) Total net open area of non-engineered flood openings in A9.c: _____ sq. in.		
e) Total rated area of engineered flood openings in A9.c (attach documentation – see Instructions): <u>1,400</u> sq. ft.		
f) Sum of A9.d and A9.e rated area (if applicable – see Instructions): _____ sq. ft.		
SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION		
B1.a. NFIP Community Name: <u>Hingham</u>		B1.b. NFIP Community Identification Number: <u>250268</u>
B2. County Name: <u>Plymouth</u>	B3. State: <u>MA</u>	B4. Map/Panel No.: <u>2502680019</u>
B5. Suffix: <u>J</u>		
B6. FIRM Index Date: <u>07-17-2012</u>		B7. FIRM Panel Effective/Revised Date: <u>08-14-2015</u>
B8. Flood Zone(s): <u>VE</u>		B9. Base Flood Elevation(s) (BFE) (Zone AO, use Base Flood Depth): <u>13'</u>
B10. Indicate the source of the BFE data or Base Flood Depth entered in Item B9: ☐ FIS ☒ FIRM ☐ Community Determined ☐ Other: _____		
B11. Indicate elevation datum used for BFE in Item B9: \ NGVD 1929 ☒ NAVD 1988 \ Other/Source: _____		
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? ☐ Yes ☒ No Designation Date: _____ ☐ CBRS \ OPA		
B13. Is the building located seaward of the Limit of Moderate Wave Action (LiMWA)? \ Yes ☒ No		

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.:

185 Downer Avenue

City: Hingham

State: MA

ZIP Code: 02045

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: MaCORS Network GPS

Vertical Datum: NAVD88

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?

If Yes, describe the source of the conversion factor in the Section D Comments area.

☐ Yes ☒ No

Check the measurement used:

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

17.5

☒ feet ☐ meters

b) Top of the next higher floor (see Instructions):

27.5

☒ feet ☐ meters

c) Bottom of the lowest horizontal structural member (see Instructions):

15.4

☒ feet ☐ meters

d) Attached garage (top of slab):

11.1

☒ 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):

15.2

☒ feet ☐ meters

f) Lowest Adjacent Grade (LAG) next to building: ☒ Natural ☐ Finished

7.8

☒ feet ☐ meters

g) Highest Adjacent Grade (HAG) next to building: ☒ Natural ☐ Finished

11.0

☒ feet ☐ meters

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

7.6

☒ 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 G. Ray

License Number: 35412

Title: Managing Principal

Company Name: Nantasket Survey Engineering, LLC

Address: 46 Edgewater Road

City: Hull

State: MA

ZIP Code: 02045

Signature: _____

Date: 6-20-2024

Telephone: 781-773-1701

Ext.: _____ Email: dray@nantasketsurvey.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):

This building is on wood piles with a garage enclosure that has concrete walls & flood vents. The lowest machinery servicing the building is the outside electric meter which is elevated to 15.2'. The outside AC units are elevated to 27.8'. The electric control panel, located on the second floor is elevated to 30.8'. The furnace & hot water combo, also on the second floor is elevated to 31.5'. The flood vents used are Smart Vent Model #1540-510 which are certified to cover 200 square feet. Photographs were taken by the surveyor on June 20, 2024.

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.:

185 Downer Avenue

City: Hingham

State: MA

ZIP Code: 02045

FOR INSURANCE COMPANY USE

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.:

185 Downer Avenue

City: Hingham

State: MA

ZIP Code: 02045

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: _____ 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.:

185 Downer Avenue

FOR INSURANCE COMPANY USE

Policy Number: _____

City: Hingham

State: MA

ZIP Code: 02045

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.:

185 Downer Avenue

City: Hingham

State: MA

ZIP Code: 02045

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: **Front View**



Photo Two

Photo Two Caption: **Left Side View**

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

Continuation Page

185 Downer Avenue

City: Hingham

State: MA

ZIP Code: 02045

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: **Rear View**



Photo Four

Photo Four Caption: **Right Side View**

Typical Smart Vent Model #1540-510





Most Widely Accepted and Trusted

ICC-ES Evaluation Report

ESR-2074

Reissued 02/2023

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

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"*



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A Subsidiary of the International Code Council®

ICC-ES Evaluation Report ESR-2074

Reissued February 2023

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)[†]

[†]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 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 Hornasote 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 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
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

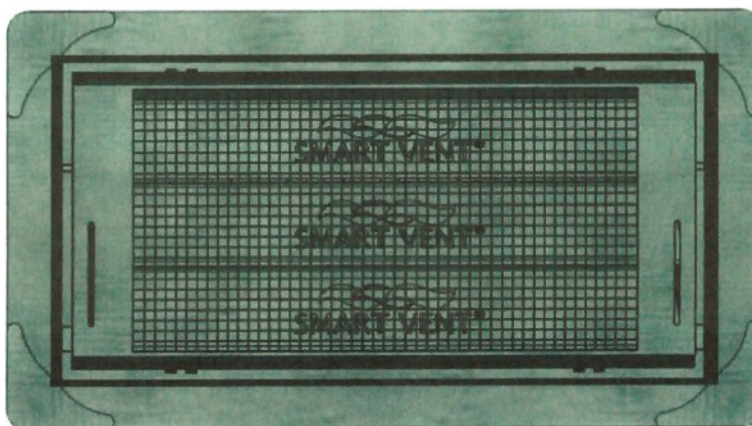


FIGURE 1—SMART VENT: MODEL 1540-510

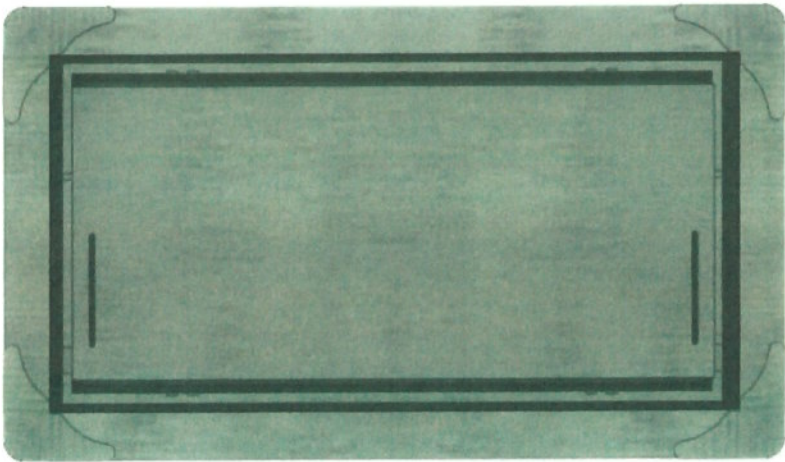


FIGURE 2—SMART VENT MODEL 1540-520

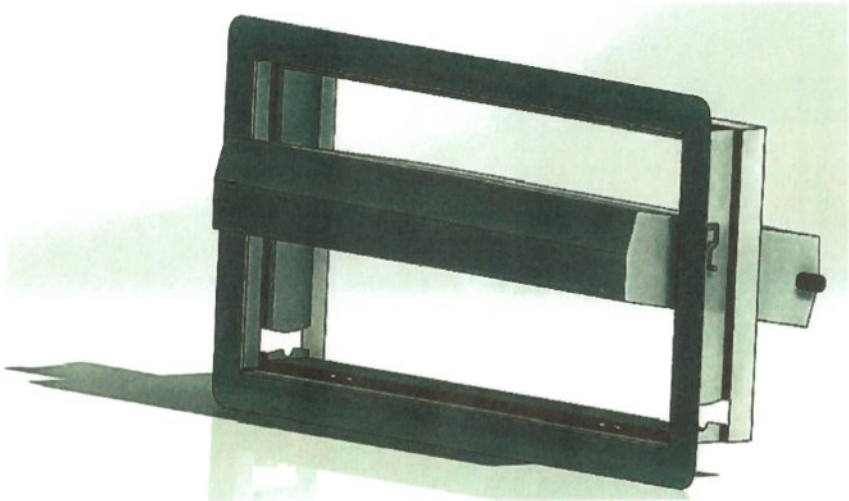


FIGURE 3—SMART VENT: SHOWN WITH FLOOD DOOR PIVOTED OPEN

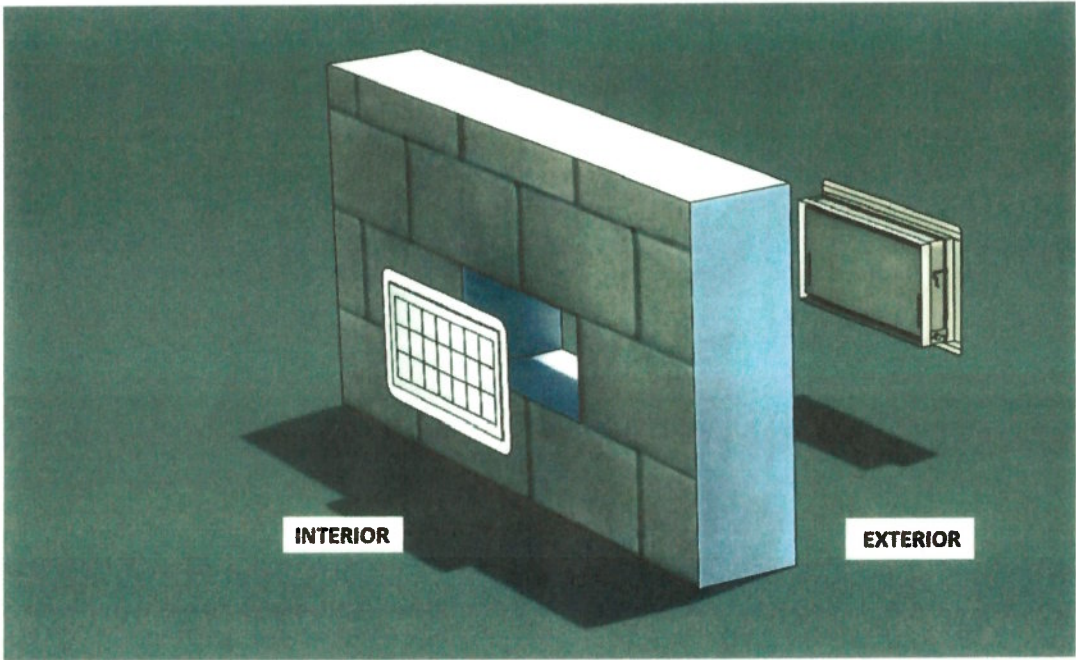


FIGURE 4—FLOOD VENT SEALING KIT

ICC-ES Evaluation Report

ESR-2074 CBC and CRC Supplement

Reissued February 2023

This report is subject to renewal February 2025.

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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, 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.

ICC-ES Evaluation Report

ESR-2074 FBC Supplement

Reissued February 2023

This report is subject to renewal February 2025.

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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.