Delaware BASIC Model Floodplain Management Ordinance for Communities with Inland (Zone A) and Coastal High Hazard Areas (Zone V)

INSTRUCTIONS AND NOTES – December 18, 2013

ORDINANCE REVISION RESOURCES:

http://www.dnrec.delaware.gov/swc/Pages/Ordinance-Revision-Resources.aspx

TECHNICAL SUPPORT:

call: 1-800-971-3037

email: DE.FloodOrd@gmail.com (include community name in subject line)

Please use <track changes>

This document contains instructions and some explanatory notes for the Delaware Model Flood Damage Reduction Ordinance that includes provisions for all flood zones (Zone A & Zone V). The notes are keyed to the sections of the model ordinance. They are not intended to explain every provision, but to highlight those that clarify administration and enforcement and those that may be new to many communities.

The following are important aspects of the new model ordinance:

1. The model is written in regulatory language, rather than permissive and unenforceable language that appears in some local regulations.
2. The Floodplain Administrator's responsibilities are written to satisfy the community's commitment and responsibilities to the NFIP.
3. The model ordinance includes specific requirements for development other than buildings that may appear to be "new," but that are based on the overall performance expectation of the NFIP for any development, including activities other than buildings. The specific requirements come from FEMA guidance publications and ASCE 24 *Flood Resistant Design and Construction* (a standard referenced by the International Code Series). The specificity is intended to help both the local official and the applicant understand what constitutes resistance to flood damage for such activities.
4. The model ordinance includes requirements for all development, including buildings and structures. Communities that enforce building codes based on the 2009 or later editions of the International Code Series may rely on the flood provisions of those codes to meet the NFIP requirements. A list of communities and adopted codes posted by the Delaware Building Officials Association (www.deboa.org) indicates only a small number of communities use the 2009 or later edition. This list may be incomplete and it might not reflect the most recent edition of adopted codes. DNREC is preparing a separate, code-coordinated version of the model ordinance for consideration by these communities.

5. The basic model ordinance does not include "higher standards," which are provisions that exceed the NFIP minimum requirements. It does include some provisions that were recommended by the Floodplain and Drainage Advisory Committee, not because the provisions are "higher standards," but because they clarify the basic requirements of the NFIP. DNREC will help communities incorporate other higher standards, whether already adopted in currently effective regulations or proposed for new adoption. Examples of higher standards are listed below the Step-by-Step Instructions.

Step-by-Step Instructions and General Notes:

Please read the complete model ordinance, following along with the notes below that are keyed to the same sections.

> If your community also enforces a building code based on the International Code Series, you may want to consider the code-coordinated version of the model ordinance. You will find it useful to download the flood excerpts (2009 and 2012 editions) from FEMA's web page: http://www.fema.gov/building-science/building-code-resources. We encourage the Floodplain Manager and the Building Official to get together to do this review.

Step One. Review the Basic Model Ordinance and the SB 64 Model Ordinance. A document that shows the differences is available on the website.

Step Two. Determine which flood zones are identified on your community's Flood Insurance Rate Maps. If your FIRM has zones that start with the letter "A" and zones that start with the letter "V," these notes and the model ordinance that are identified <Zone AE and Zone VE Version> are the correct documents. If your FIRM only has zones that start with the letter "A," you should download the notes and model ordinance that are identified <Zone A Version>. Please check your current FIRMs – and the revised FIRMs – first and call DNREC/Technical Support if you need help making this determination (email and phone number listed above).

Step Three. Please use <track changes>. Complete the community-specific information to be inserted where noted in [BLUE BRACKETS]:

1. [COMMUNITY NAME] is the legal name of the county, city, village, or town
2. [DATE OF ENTRY] is the date the community was accepted – or entered – the NFIP. See the last page of these instructions where we provide the date of entry that is in FEMA's database. If you have documentation that your community adopted floodplain management regulations before the date in FEMA's database, you may use that date, but first check with DNREC/Technical Support.
3. [COMMUNITY'S GOVERNING BODY] is the city commission, board of county commissioners, town council, etc.
4. In Sections 1.4(A) and (B), insert the [COUNTY] to complete the titles of the FIS and FIRM. See the instructions for this section if you're adopting the ordinance before FEMA establishes the effective date for the revised FIS/FIRM.
5. In Sections 1.4(A) and (B), [INSERT DATE ON STUDY], which is the effective date established by FEMA, and [INSERT DATE ON INDEX], which is the effective date established by FEMA.

6. In Section 1.4, [MAP STORAGE LOCATION NAME/ADDRESS, COMMUNITY NAME, DELAWARE].
7. In Section 3.1, [TITLE OF POSITION]. Identify the specific position of the person who is responsible, not an entire department.
8. [CHIEF EXECUTIVE OFFICER] County Administrator, City Manager, Mayor, etc.
9. [BODY WITH AUTHORITY TO GRANT VARIANCES] see note for Section 7.0.

Step Four. Carefully consider any modifications you may wish to make to the model ordinance. Remember the model was written to satisfy NFIP requirements and it has been reviewed by FEMA Region III. This means we must be very careful when making changes. Please contact Technical Support if you have questions or would like a preliminary review of changes you're considering. All ordinances must be reviewed before adoption.

Step Five. Please have Technical Support review your tailored ordinance in <track changes> mode before you get too far along in your adoption process – definitely before first reading. This is especially important if you propose to modify, delete, or add any provisions. Final review and approval by DNREC and FEMA will be much easier – and faster – if Technical Support has reviewed it first.

Step Six. Upon adoption and execution, send Technical Support a digital copy of the adopted ordinance, with all signatures. At that time, DNREC will do a final review and forward to FEMA to complete the approval process.

Higher Standards

We will help you incorporate into the model ordinance any higher standard that is already in your existing regulations or any provision your communities would like to adopt as a new requirement. You must review your existing regulations to identify these provisions and any requirements that are unique to your community. Technical Support will help you incorporate your specific provisions into the model. Certain higher standards are eligible for points under the NFIP Community Rating System, including:

1. Additional elevation above minimum (freeboard). Both the Basic and the SB 64 version of the model ordinance are written to allow you to select freeboard. Both 18" and 12" are shown in brackets, but any amount of additional elevation may be selected. The higher the freeboard, the greater the degree of protection, the lower the flood insurance premiums, and the more points CRS communities will achieve. If you elect to not adopt freeboard, simply remove the text in brackets.
2. Repetitive Loss, modify the definition for "substantial damage," and track costs to repair flood damage and trigger compliance. Doing this qualifies property owners with NFIP flood insurance policies for coverage called "Increased Cost of Compliance" that pays a policyholder up to $30,000 towards the cost of bringing a building into compliance.
3. Coastal A Zone if Limit of Moderate Wave Action is delineated on the revised FIRM, to regulate the Coastal A Zone like Zone V.
4. Manufactured Homes, options to prohibit new units in (a) floodways and Zone V; (b) floodways; (c) Zone V.

5. Enclosures below the lowest floor, options to (a) prohibit enclosures; (b) limit the size of enclosures; (c) require nonconversion agreement/deed restriction.
6. Accessory structures, options to (a) require full elevation; (b) limit size even in Zone A; (c) require nonconversion agreement/deed restriction.
7. Floodway, prohibit encroachment (even if engineering analysis demonstrates no rise).
8. Compensatory storage, require for fill in (a) floodways; (b) special flood hazard areas.
9. Subdivision, require buildable residential lots outside of floodway.
10. Cumulative Substantial Improvement (track the cost of improvements over a specific period of time and trigger compliance when 50% threshold met).
11. Critical and essential facilities: several options could be considered, including (a) do not allow in SFHA; (b) require higher level of protection than in ASCE 24 (which is 2 to 3 ft above BFE); (c) require protection to 500-year flood elevation.

Recommended Forms:
Some states and communities have developed forms that facilitate administration by communities and help applicants understand and meet the requirements. DNREC has these forms on the webpage listed above.

1. SI/SD Sample Notice for Property Owners, Contractors, and Design Professionals (from FEMA P-758). FEMA's sample is based on the NFIP minimum requirements (i.e., it does not show cumulative SI/SD). Communities that use a similar packet should ensure their materials are consistent with this sample. There is no need to reference this packet in local regulations. DNREC encourages the use of this packet to facilitate administration of the SI/SD requirements.
2. Zone V Design Certificate. The NFIP and building codes both require that a registered professional engineer or architect develop or review the structural design, specifications and plans for buildings in Zone V to certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the requirements. DNREC encourages use of this form, which also makes it easier to retain the documentation in the community's permanent records.
3. Agreement to Submit an Elevation Certificate. The applicant signs this form to agree to have an Elevation Certificate prepared and submitted twice. The model ordinance is not written to require use of this agreement. The model ordinance must be modified to make its use mandatory. Contact Technical Support for assistance.
4. Declaration of Land Restriction (Nonconversion Agreement). The applicant signs this form to acknowledge the use limitations for accessory structures and enclosures below elevated buildings and to agree to not block/modify/cover flood openings; to not alter breakaway walls; to not convert the enclosures without a permit; to acknowledge that any alteration constitutes a violation; and to agree to record the declaration on the deed. The model ordinance is not written to require use of this agreement. The model ordinance must be modified to make its use mandatory. Contact Technical Support for assistance.

Resources: The model ordinance and the following notes refer to some FEMA Technical Bulletins. The TBs, available online, provide guidance to help with interpretation, compliance,

and enforcement of the NFIP requirements. Be sure you have the most recent editions of the TBs http://www.fema.gov/plan/prevent/floodplain/techbul.shtm:

- Openings in Foundation Walls and Walls of Enclosures (2008)
- Flood Damage-Resistant Materials Requirements (2008)
- Non-Residential Floodproofing -- Requirements and Certification (1993)
- Elevator Installation (2010)
- Free-of-Obstruction Requirements (2008)
- Below-Grade Parking Requirements (1993)
- Wet Floodproofing Requirements (1993)
- Corrosion Protection for Metal Connectors in Coastal Areas (1996)
- Design and Construction Guidance for Breakaway Walls Below Elevated Coastal Buildings (2008)
- Ensuring that Structures Built on Fill In or Near Special Flood Hazard Areas are Reasonably Safe From Flooding (2001)
- Crawlspace Construction for Buildings Located in Special Flood Hazard Areas (Interim guidance, 2001)

FPM ORDINANCE SECTION	GUIDANCE NOTES
SECTION 1.0 GENERAL PROVISIONS	
1.1 Findings	See last page of this document for the "Date of Entry" that is in FEMA's database. The same date is used in four definitions.
1.2 Statement of Purpose	
1.3 Areas to Which These Regulations Apply	
1.4 Basis for Establishing Special Flood Hazard Areas	Note that the model ordinance is written so that it "auto-adopts" subsequent amendments and/or the most recent revisions. DNREC advises that there is no State law that directly addresses whether "auto-adoption" is acceptable. The effective of auto-adopt is that legislative action is not required every time FEMA issues a map revision or revises the FIS/FIRMs. Communities should determine if it acceptable and consistent with their policies and procedures to retain the "auto-adopt" language. (A) and (B) Insert the title and date of the FIS: • Flood Insurance Study for **Kent County**, Delaware and Incorporated Municipalities, dated July 7, 2014 *[at the end of 2013 this is the anticipated date; Technical Support will verify]* • Communities in **Sussex County** and New **Castle County** may either wait until FEMA establishes the effective date (anticipated mid-2014), or insert the title and date of current effective FIS and FIRM Index and either (a) rely on the "auto-adopt"

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	language to implicitly refer to the revised FIS/FIRMs, or (b) pass an ordinance for the sole purpose of modifying these items to refer to the revised FIS/FIRMs. (D) Communities may adopt a flood hazard map other than the FIRM provided that map shows flood hazard areas that are larger than the SFHA. If your community uses another map, even if the other flood hazard map is for only a portion of the community (e.g., for only one watershed or a part of a waterway), contact DNREC for help modifying this section.
1.5 Abrogation and Greater Restrictions	
1.6 Interpretation	
1.7 Warning and Disclaimer of Liability	
1.8 Severability	
SECTION 2.0 DEFINITIONS	
Accessory Structure:	
Area of Shallow Flooding:	
Base Flood:	
Base Flood Discharge:	
Base Flood Elevation:	
Basement:	
Breakaway Wall:	
Coastal High Hazard Area:	
Development:	
Elevation Certificate:	Licensed professional land surveyors are authorized to perform elevation surveys in Delaware: http://dpr.delaware.gov/boards/landsurveyors/landsurveyor.shtml http://delcode.delaware.gov/title24/c027/sc01/index.shtml
Enclosure Below the Lowest Floor:	
Federal Emergency Management Agency (FEMA):	
FEMA Technical Bulletin:	
Flood *or* Flooding:	
Flood Damage-Resistant Materials:	
Flood Insurance Rate Map (FIRM):	Revised FIRMs that have been prepared in digital format or converted to digital format are referred to as Digital FIRMs (DFIRM). The term "Flood Insurance Rate Map (FIRM)" refers to flood hazard data provided by FEMA, regardless of whether the data are shown on printed products or in digital

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	format.
Flood Insurance Study:	
Floodplain:	
Dry Floodproofing:	
Floodproofing Certificate:	
Floodway:	
Freeboard:	The Basic model is written to allow communities to select a freeboard to add to the BFE – both 18 inches and 12 inches are suggested in several places, as follows: [plus 18 inches/12 inches] shown. DNREC, FEMA, and others strongly endorse the addition of freeboard to reduce vulnerability to future flooding. Buildings that are elevated higher than the BFE will qualify for lower flood insurance rates. The minimum requirement of the NFIP for lowest floors is measured relative to the BFE. To adopt only the minimums, remove [plus 18 inches/12 inches] in every location where it appears.
Functionally Dependent Use:	
Highest Adjacent Grade:	
Historic Structure:	
Hydrologic and Hydraulic Engineering Analysis:	
Letter of Map Change:	
Lowest Floor:	
Manufactured Home:	
New Construction:	See note for Section 1.1; use the same date here.
Person:	
Recreational Vehicle:	
Special Flood Hazard Area:	This term refers to (1) the mapped Special Flood Hazard Area shown on FIRMs, or (2) a larger area if the community adopts another map that covers the same area as the FIRM or legally designates an area. Some communities may adopt studies that cover streams that do not have SFHA on the FIRMs. FEMA typically does not map streams that have watersheds less than 1 square mile, while some communities may have drainage studies that extend above the FEMA limit.
Start of Construction:	
Structure (or Building):	
Substantial Damage:	For guidance, see *Substantial Improvement/Substantial Damage Desk Reference* (FEMA P-758).
Substantial Improvement:	For guidance, see *Substantial Improvement/Substantial Damage Desk Reference* (FEMA P-758).

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	This definition varies from the basic NFIP definition in that it does not exclude "historic structures." Instead, the model ordinance is written so that applications for improvements and repairs of historic structures, if determined to be Substantial Improvement or Substantial Damage, may be handled by variance. See Section 7.0 Variances. The benefit of handling historic structures by variance is the requirement that variances be the minimum necessary, which provides the opportunity to require some measures to minimize future flood damage, even if the structures are not brought into full compliance (as is required for SI/SD of all other structures). This approach is consistent with the overall intent of preserving cultural and historic resources.
Violation:	
SECTION 3.0 ADMINISTRATION	
3.1 Designation of the Floodplain Administrator	Communities are required to designate an official deemed appropriate to enforce the ordinance as part of meeting the requirements to participate in the NFIP. The Floodplain Administrator may be a department manager, the building official, or another position. It should never be two positions, even if phrased "and/or". Small municipalities often designate the town manager. Delegation of performance of work is standard, especially in departments where staff members perform functions under the authority of the designated manager. This authority also allows reviews by other departments where those departments already review or approve certain activities. For example, grading plans may be approved by a public works department; subdivision requests typically are approved by the planning department. Regardless of which department or person performs the work, the Floodplain Administrator has overall responsibility. <u>Interlocal Agreements and Contracts with Private Sector:</u> This section also explicitly provides for written agreements with another jurisdiction or agency and for written contracts with private sector entities. When a community initially joins the NFIP, the elected officials in office at that time passed a resolution that made certain specific commitments to the NFIP. While functions such as plan review and inspection may be assigned to another entity, the responsibility may not be delegated. Each community engaging in such agreements or contracts needs to determine legal requirements. Contact DNREC for guidance to develop written agreements and

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	contracts.
3.2 Duties and Responsibilities of the Floodplain Administrator	The listed responsibilities are not new and should appear in most existing local regulations, although perhaps not with this level of detail. Items (N) and (O): an important responsibility is to made SI/SD determinations; another is to notify the applicant/owner if the work is determined to be SI or SD. See FEMA P-758: • Appendix E has sample letters of determination • Appendix D has sample notices to property owners, sample affidavits, and other material.
3.3 Permits Required	The definition of "development" is very broad. Communities that participate in the NFIP agree to regulate all development. While most of our attention is on buildings in SFHAs, communities are expected to also pay attention all development, including activities that do not involve buildings.
3.4 Application Required	
(A) Application Contents.	It is implicit that any information not pertinent to a particular proposed project does not have to be submitted.
(B) Right to Submit New Technical Data	FEMA requires applicants for LOMCs to obtain the community's acknowledgement of the submission.
(C) Requirement to Submit New Technical Data	Applies when the applicant elects to have engineering done to show different boundaries or BFEs, in which case the community can only use the new data if it is approved by FEMA. This is not equivalent to Sec. 3.8(A) or 4.2(D) which apply in SFHAs without BFEs, in which case the additional data are submitted for unnumbered zones to determine the BFE of the existing SFHA, not to redelineate the SFHA or to refute the BFE.
3.5 Review, Approval or Disapproval	
(A) Review.	Requires the Floodplain Administrator to determine if design certifications and documentation of elevations are complete (e.g., that appropriate fields of the Elevation Certificate are completed by the surveyor and that certain foundation designs are certified by a registered design professional). (A)(3) is required by NFIP regulations 44 CFR 60.3(a)(2).
(B) Expiration of Permit	
3.6 Inspections	An important part of fulfilling responsibilities to the NFIP is to inspect permitted development, including development other than buildings and structures.
3.7 Submissions Required Prior to Issuance of a Certificate of	Submission of elevation documentation is required as part of the final inspection. Having the Elevation Certificate in hand

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Occupancy	allows the inspector to verify compliance and have the data necessary to determine if mechanical and electrical equipment and flood openings are compliant.
3.8 Flood Insurance Rate Map Use and Interpretation	
SECTION 4.0 REQUIREMENTS IN ALL SPECIAL FLOOD HAZARD AREAS	
4.1 Application of Requirements	
4.2 Subdivisions and Developments	If the FIRM does not show BFEs, the applicant must include BFE data in subdivision proposals and development proposals containing at least 50 lots or at least 5 acres. While some data may be available from other sources, typically this requires the applicant to have a study prepared.
4.3 Protection of Water Supply and Sanitary Sewage Systems	
4.4 Buildings and Structures	Item (A) is the NFIP general performance statement. Even if engineering design is not required (i.e., Zone A), buildings are expected to be built in ways that result in this level of flood resistance. Current construction techniques for buildings and conventional light frame construction result in a load path intended to resist wind load. As long as buildings are elevated as required, and are attached to their foundations, conventional foundations are expected to resist flood loads except in SFHAs where flood velocities exceed 10 fps (based on ASCE 24). Item (D) specifically includes “duct systems” among utilities and equipment that are required to be elevated to or above the lowest floor elevation of the building. If the lowest floor is well above the BFE (e.g., by choice of the owner/builder), duct systems may be permitted below the lowest floor, as long as they are not below the BFE, plus freeboard, if any (unless they meet the requirement in Item (E)).
4.5 Fill	The intent of this section is to minimize the placement of fill in flood hazard areas, especially fill that is not intended to support buildings. Because of adverse impacts on flooding, flood hazard areas should not be used to dispose of excess fill. In addition, applicants who intend to fill an area and then seek a map change to “remove” the area from the mapped SFHA should be required to properly compact the fill when it is initially placed.
4.6 Historic Structures	For guidance, see *Substantial Improvement/Substantial Damage Desk Reference* (FEMA P-758). See notes for the definition of “historic structure.” The primary benefit of handling SI/SD of historic structures by variance is the requirement that variances be the minimum necessary, which provides the opportunity to require some

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	measures to minimize future flood damage. This approach is consistent with the overall intent of preserving cultural and historic resources.
4.7 Recreational Vehicles	
4.8 Gas or Liquid Storage Tanks	The NFIP definition of "development" is broad, and includes tanks. Floodplain management regulations have always covered tanks. This model includes specific provisions so that neither the applicant nor the local official has to figure out what is necessary to comply with the general performance expectation.
SECTION 5.0 REQUIREMENTS IN SPECIAL FLOOD HAZARD AREAS OTHER THAN COASTAL HIGH HAZARD AREAS	
5.1 General Requirements	
5.2 Residential Structures and Residential Portions of Mixed Use Structures	The NFIP and this model use, but do not define, the terms "residential" and "nonresidential." Thus, the implication is that "mixed use" structures areas within them that are designated for residential uses and some areas that are for nonresidential uses. Dwellings are "residential," and the concept of mixed use does not apply to portions of dwellings. The following are definitions in ASCE 24-05 *Flood Resistant Design and Construction*, a standard that is referenced by the International Code Series. Although these definitions are not in the NFIP regulations, FEMA deems the flood provisions of the I-Codes to be consistent with the NFIP, which means the definitions can be used in interpret the intent of the NFIP where the terms "residential" and "nonresidential" are used: **Residential** – (1) buildings and structures and portions thereof where people live, or that are used for sleeping purposes on a transient or non-transient basis; (2) residential structures, including but not limited to one- and two-family dwellings, townhouses, condominiums, multi-family dwellings, apartments, congregate residences, boarding houses, lodging houses, rooming houses, hotels, motels, apartment buildings, convents, monasteries, dormitories, fraternity houses, sorority houses, vacation timeshare properties; and (3) institutional facilities where people are cared for or live on a 24-hour basis in a supervised environment, including but not limited to board and care facilities, assisted living facilities, halfway houses, group homes, congregate care facilities, social rehabilitation facilities, alcohol and drug centers, convalescent facilities, hospitals, nursing homes, mental hospitals, detoxification facilities, prisons, jails, reformatories, detention centers, correctional centers, and prerelease centers. **Non-residential** – any building or structure or portion thereof that is not classified residential.
(A) Elevation Requirements	

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(B) Enclosures Below the Lowest Floor	Item (B)(4) is included because lack of attention to the level of the finished ground level inside of crawlspace foundation walls has caused problems. If the interior ground level is below grade on all sides, the building does not comply and may have high flood insurance premiums.
(C) Manufactured Homes	See *Protecting Manufactured Homes from Floods and Other Hazards* (FEMA P-85, 2009) http://www.fema.gov/library/viewRecord.do?id=1577. FEMA P-85 includes a number of pre-engineered foundation solutions that take into account both flood loads and wind loads. Be sure you're using the most recent edition of FEMA P-85. The 2009 edition refers to the bottom of the lowest horizontal supporting member (longitudinal chassis frame beam) as the reference level. 5.2(C) Note that the model ordinance does not have the NFIP option that certain replacement units may be elevated on foundations that are only 36" high. MFHs are much more vulnerable to flooding than are other types of dwellings. FEMA's depth-damage analyses indicates MFHs are essentially 100% damaged when water rises only 4 ft above the floor in Zone A and only 2 ft above the floor in Zone V.
5.3 Nonresidential Structures and Nonresidential Portions of Mixed Use Structures	See the notes for Section 5.1 for the definition and discussion about "nonresidential."
(A) Elevation Requirements	
(B) Dry Floodproofing Requirements	Designers should be advised to consult ASCE 24-05 *Flood Resistant Design and Construction*, Chapter 6, requirements for dry floodproofing. ASCE 24 is the "standard of practice" for dry floodproofing and should be used even if the community does not enforce a building code.
5.4 Accessory Structures	FEMA Technical Bulletin #5 indicates accessory structures are "for parking (two-car garages or smaller) or limited storage (small, low-cost sheds)," and states that communities should establish the meaning of low-cost and small, with the expectation that they represent "a minimal investment and are designed to have a low damage potential with respect to the structure and contents." The model limits the size to 200 square feet, with the implication that size also affects cost.
5.5 Protection of Flood-Carrying Capacity	
(A) Development in Floodways	Floodways are areas where obstructions may divert flow or increase BFEs. FEMA delineates floodways for many waterways by using computer models to estimate the impacts

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	on flood elevations associated with potential development in floodway fringe areas. The floodway boundary is drawn when the computer model determines the fringe development would cause the water surface elevation to go up no more than 1 foot.
(B) Development in Areas with Base Flood Elevations but No Floodways	Addresses situations where SFHAs are shown <u>with</u> BFEs but <u>without</u> floodways. The potential impact of encroachments has not been evaluated and the NFIP regulations require that hydrologic and hydraulic analysis be performed when applications are submitted (equivalent to delineating a floodway). This requirement is found in NFIP regulations at 44 CFR 60.3(c)(10). Communities should contact DNREC for guidance.
(C) Deliberate Alterations of a Watercourse	
SECTION 6.0 REQUIREMENTS IN COASTAL HIGH HAZARD AREAS (ZONE VE)	
6.1 General Requirements	FEMA Technical Bulletin #5 includes both specific guidance for meeting the free-of-obstruction requirements for buildings (see Section 6.3(B)((3), and some general guidance for development that may obstruct the free passage of floodwaters and waves, including walls and fences.
6.2 Location and Site Preparation	FEMA Technical Bulletin #5 suggests that the placement of up to 2 feet of site-compatible, non-structural fill under or around an elevated building for drainage and landscaping can be assumed to be acceptable.
6.3 Residential and Nonresidential Structures	
(A) Foundations	
(B) Elevation Requirements	
(C) Enclosures Below the Lowest Floor	
(D) Manufactured Homes	
(E) Certification of Design	
SECTION 7.0 VARIANCES	
7.1 Variances	Variances are official permission to undertake an activity that is otherwise prohibited or not approvable. Documentation for each variance considered is to be retained in permanent records [see Section 3.2(J)]. A pattern and practice of issuing variances may prompt scrutiny by FEMA and DNREC. It is inappropriate to use variances to resolve violations or to attempt to solve problems discovered after construction is completed. Delaware communities designate a variety of bodies to hear variances: planning and zoning board, board of appeals and adjustments, board of adjustment, city commission, city council, or board of zoning appeals.

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(A) Application for a Variance	
(B) Considerations for Variances	Documentation to support issuance of variances should include technical evaluations, relevant factors, and should address each of the considerations listed.
(C) Limitations for Variances	Documentation to support issuance of variances should include documentation of each of conditions listed. For FEMA Guidance on variances, see FEMA P-758 (Section 5.6.7).
SECTION 8.0 ENFORCEMENT	
8.1 Compliance Required	
8.2 Notice of Violation	
8.3 Violations and Penalties	

Comm Name	Reg-Emerg Date (CSB)
BOWERS	07/02/1980
CAMDEN	09/16/1981
CHESWOLD	01/07/1977
CLAYTON	06/01/1977
DOVER	09/16/1982
FELTON	01/07/1977
FREDERICA	01/02/1981
HARRINGTON	06/01/1977
KENT COUNTY *	03/15/1978
LEIPSIC	09/29/1978
LITTLE CREEK	01/17/1979
SMYRNA	06/01/1977
WYOMING	03/16/1981
WOODSIDE	Not Particip
BETHANY BEACH	04/06/1973
BETHEL	01/16/1981
BLADES	01/16/1981
BRIDGEVILLE	01/07/1977
DAGSBORO	06/01/1981
DELMAR	02/28/2007
DEWEY BEACH	06/18/1982
ELLENDALE	04/19/2011
FENWICK ISLAND	03/23/1973
FRANKFORD	09/16/1981
GEORGETOWN	05/05/2003

GREENWOOD	02/24/1978
HENLOPEN ACRES	08/15/1978
LAUREL	01/16/1981
LEWES	03/15/1977
MILLSBORO	09/01/1978
MILLVILLE	09/25/1981
MILTON	08/01/1978
OCEAN VIEW	09/03/1980
REHOBOTH BEACH	03/30/1973
SEAFORD	02/01/1979
SELBYVILLE	07/16/1991
SLAUGHTER BEACH	07/02/1980
SOUTH BETHANY	10/6/1976
SUSSEX COUNTY*	10/6/1976
MILFORD	06/01/1977
ARDENTOWN	01/28/1997
DELAWARE CITY	02/16/1977
ELSMERE	12/31/1976
MIDDLETOWN	01/07/1977
NEW CASTLE CO	12/3/1971
NEW CASTLE	12/26/1975
NEWARK	03/29/1974
NEWPORT	06/15/1978
ODESSA	04/27/2012
WILMINGTON	05/02/1977
ARDEN	Not particip